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Project no. 619347

## **EAGLE – EnhAnced Government LEarning**

Objective ICT-2013.8.2 Technology-enhanced learning;  
c) Holistic learning solutions for managing, reaching and engaging  
learners in the public administrations

Small-scale Collaborative Project (STREP)

FP7-ICT-2013-11

[www.eagle-Learning.eu](http://www.eagle-Learning.eu)

### **Deliverable No. D2.2.A.**

#### **Resubmission**

**[Requirements Documentation And Recommendations With Accessibility Guidelines]**

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## List of abbreviations

ATPD	Agencija za Telekomunikacije i Poštansku Djelatnost [EN: Agency for Telecommunication and Postal Services]
BYOD	Bring Your Own Device
CC-License	Creative Commons License
EAGLE	Enhanced Government Learning
ECDL	European Computer Driving Licence
FAQ	Frequently Asked Questions
GIS	Geographic Information System
HR(M)A/ HR	Human Resource (Management) Agency
ICT	Information and Communication Technology
INAP	Institut national d'administration publique, Luxembourg
IPA	Instruments for Pre-Accession Assistance
IPR	Intellectual Property Rights
IT	Information Technology
LS	Local Self-Government
MOOCS	Mass Open Online Courses
NGO	Non Governmental Organization
NTS	National Training Strategy
OER	Open Educational Resources
OLP	Online Learning Platform
OS	Operating System
PA(R)	Public Administration (Reform)
PSI	Public Sector Information
RE	Requirements engineering
RLG	Rural Local Governments
TEL	Technology Enhanced Learning
VLE	Virtual Learning Environment
WP	Work Package

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## EXECUTIVE SUMMARY


The following deliverable will present the **background and results of the study of barriers to the introduction and use of technology enhanced learning** in public administration across the countries Luxembourg, Ireland, Montenegro and Germany. **68 employees of more than thirty participating municipalities** in the public sector took part in numerous workshops and interviews.

For the shared barriers found across countries, interventions and enabler statements are defined. They will provide the base for other work packages in the project including the construction of the EAGLE platform. Defined enabler statements will be subject to the validation and to check which targets have been achieved throughout the project.

One **goal of the requirements elicitation** was to explore the unique culture and public administrative context since e-Learning has been developed mainly for educational contexts so far. What was found for all countries **on the organizational level** is that a lack of knowledge about technology enhanced learning as well at the user level as at the manager level incident to a lack of managerial organization of training efforts is a perceived barrier to the introduction of the platform. **On the individual level**, a lack of trust in digital information is a major barrier which results of concerns about the validity and relevance of data for the use at the workplace. Given previous but generally low experiences with e-Learning, a low motivation towards change needs to be considered. Also a lack of rewards will shape the design of a self-regulated e-Learning strategy in the project. Regarding **the context and resource specific barriers**, one bottleneck will be the usability of the EAGLE platform, for example, the ease of use and time spent for learning to use the platform. Additionally, a learning environment (where and when during work-hours) public employees can spend time for learning will be a major point to consider for the introduction of the EAGLE platform. Furthermore there is a lack of platform resources across countries. Administrations need guidance to content development to develop OER and learning materials. Another cluster in **context barriers** in public administrations **addresses policy-specific issues**. For instance, the regulation of access to OER is seen as a critical point which embraces both a technical (log-in) solution as well as regulatory approach to access, create and disseminate resources.

Apart from exploring these barriers and related interventions for the project, another goal during the requirements elicitation was to engage with prospective participants and secure on-going commitment for the forthcoming project. In this regard workshop-leaders reported success and **welcoming feedback of interviewees and workshop participants** in the sector. In some countries also higher ministries outlined interest to follow and support the project.


Another theme for this deliverable is the **definition of accessibility guidelines** for the forthcoming EAGLE platform. The workshops in the countries offered little insight on accessibility rules and regulations, so specific expert workshops and discussions were held. Main targets are identifying main requirements, existing guidelines that can be followed and

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experts to be invited to join the Advisory Board of the EAGLE project. In particular experts from the following organisations got involved through the initial workshop: W3C Task Force Web Accessibility Initiative, National Disability Authority (Ireland) and Human Ability and Accessibility Center IBM. The initial guide on accessibility was separated into an own document, D2.2b – as we aim at following a dynamic approach, this document will be continuously extended and improved in a wiki leading to a comprehensive accessibility guideline based on the project experiences.

Both the requirements (D2.2a) and accessibility guidelines (D2.2b) are transformed and thus formulated as **enabler statements** to secure that the rich insight of the qualitative study is exploited and systematically followed up throughout the project.

To facilitate the reading of the extensive research, the following document provides “**executive summaries**” in each chapter and highlights most important points visibly from the text. What has resulted from this deliverable so far is the development of a global EAGLE scenario which will guide the development of use-cases and personas (roles) for the platform. Furthermore, engagement scenarios for each country were developed which will be taken back to participants. On base of that a further validation and user-engagement for the forthcoming EAGLE project will be maintained and secured.

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## 1 INTRODUCTION

The project EAGLE aims at introducing e-Learning and in particular Open Educational Resources (OER) in public administration and institutions. Public administrations (PA) need to cope with various challenges: new regulations, managing workforce and the need for adopting their ICT. Technology-enhanced learning (TEL) represents a sensible option notably for rural local governments (RLG) that need to keep up with such changing environments, but do have limited access to training courses.

EAGLE will significantly advance the state of the art in public administration learning and introduce the technology through our validation and associated partners in real-life rural local government environments. More particularly this project will:


- **Stimulate the take-up of learning technologies in local government;**
- **Reinforce the evidence-based assessment of learning technologies' effectiveness;**
- **Encourage the innovative use of learning technologies;**
- **Allow employees in public administrations to acquire skills more timely and effectively;**
- **Increase awareness on the benefits of the adoption of learning technologies.**

To build a sustainable technical solution, EAGLE conducted a requirements elicitation (RE) that relies on agile and participatory methods. Generally user involvement is a key to successful adoption and implementation of OER.

In this deliverable, considerations and the conduct of **the RE method** on base of the barrier frame (Barrier Framework) will be explicated and **results** will be presented and discussed. Based on the results this deliverable will further **define particular requirements and interventions** including enabler statements apart from providing the **definition of accessibility guidelines**.

The deliverable is divided in eight chapters. The first part serves for the orientation and provides the executive summary and the introduction (**chapter one**). Following the introduction the second part **between chapter two and five** will present and discuss the approach to the barrier and the context analysis. This includes reporting the results for each country and presenting a harmonized aggregation and priority list of barriers for the EAGLE project. Subsequently a third part in **chapter six** will specifically address the theme accessibility of OER in the public sector which includes presenting guidelines for the forthcoming EAGLE project. **Chapter seven** will then address the specification of requirements and interventions on base of the findings. This will include the presentation and discussion of change enablers. Finally, **the conclusion** will provide a short summary and outlook on the forthcoming project steps.



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### Executive Summary Chapter 2

A variety of studies on barriers, challenges, and success factors of Open Educational Resources (OER) has been done, few of them in Public Administration. Within EAGLE, we build on known barriers and experiences in the field and from the pre-study ‘initial barriers for e-Learning / OER in Public Administration’. Amongst barriers from the pre-study is: (a) there is lack of timely learning and (b) established learning processes. (c) The motivation to spend working time on learning is often low, not at last because (d) learning is hardly to integrate in the work process, and (e) training plans are missing. Relatedly there is a lack of (e) available learning content, and (f) digital literacy skills.

## 2 BACKGROUND – BARRIER AND CONTEXT STUDY

In the following, we describe how we approach the requirements elicitation. Furthermore, we describe how our approach is embedded in the overall EAGLE project and current findings on Technology Enhanced Learning (TEL) in our main context: Public Administration (PA). The following section starts giving an overview about the requirements elicitation and will outline the approach and background knowledge about OER and e-Learning in public administrations. On this base, the harmonized requirements method for the EAGLE project (based on workshops and interviews) is defined. Prior to presenting the results of the EAGLE approach, the overview of conducted workshops and interviews per each country is outlined.

### 2.1. OVERVIEW OF THE REQUIREMENTS ELICITATION IN EAGLE

User engagement is crucial for the EAGLE project in order to understand the requirements of the unfamiliar context of public administrations. Related to this the requirements planning, analysis and dissemination is a core foundation for the EAGLE project and it systematically feeds into later phases and work packages of EAGLE as outlined in the figure below.

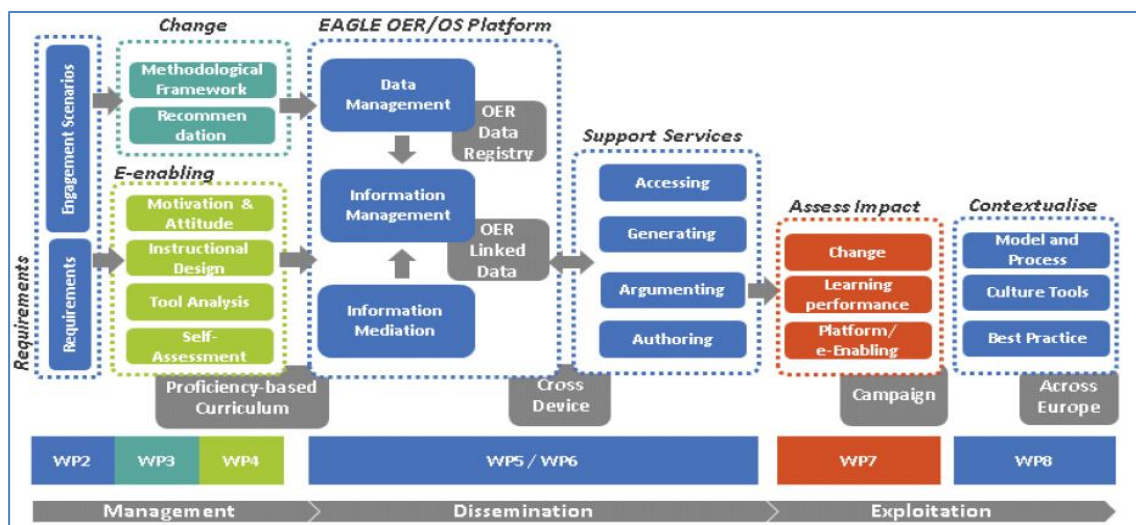



Figure 1: Schematic overview of the EAGLE RTD components and objectives (EAGLE DoW, Part B, p.8)

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In the planning document for the requirements elicitation (Deliverable D2.1., 2014) we considered how in particular barriers may have consequences for work packages.

Barrier / Challenge	Requirement statement	Priority	Related WP
No established learning processes	The project should support planning and the adoption of learning and training processes.	High	WP3, WP4, WP5, WP6
No availability of learning content	The project should provide access to high quality learning content to enable better learning opportunities	High	WP4, WP6, WP7
Changes but no change management	The project should enable change management processes.	High	WP3
Lack of digital literacy skills	The project should provide learning opportunities to improve ICT and information literacy.	High	WP4, WP6

**Table 1: EAGLE’s identified barriers, requirements, priorities and related WPs**


Table 1 summarizes these considerations based on findings of our pre-study for the EAGLE project. One outcome of this deliverable will be thus be to refine the consideration, knowledge of barriers and priority challenges and how to respond to the difficulties in which relate work package.

## 2.2. BACKGROUND OF THE BARRIER APPROACH AND ANALYSIS OF REQUIREMENTS

Research on OER is an emerging field and both research and practice of professional training in public administrations is not commonly conducted yet. Therefore a literature review and experience was assembled from associated fields to provide a main background for designing the requirements method. Correspondingly to this, the meaning and role of the barrier framework (Pirkkalainen & Pawlowski 2010, 2013, 2014) for the requirements engineering will be discussed in a first step. Subsequently insights into e-Learning, OER and results from a pre-study on online learning in public administrations will be presented as they frame the development of the study design.

### *2.2.1. Literature review*

In the following, we briefly describe existing findings on key areas related to the barrier study, in particular current findings on e-Learning barriers as well as OER, in general as well as for PA.

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### **Barriers to e-Learning**


The term e-Learning embraces a broad spectrum of studies of implementation or using technology to support learning processes in a variety of modalities and educational contexts. E-Learning has been mainly reported to be used in academic context; for enhancing PA education only as linking pre-service students or academic networks with in-service practitioners (Naidoo, 2012; Neubauer, Hug, Hamon, & Stewart, 2011; Schweik, Mergel, Sandfort, & Zhao, 2011). Although there is evidence of e-Learning uses at the PA workplace, they are essentially implemented as a redesign of existing training programs in different modalities (open or blended learning) or to extend the offer and availability of training courses (Casagrande, Colazzo, Molinari, & Tomasini, 2010; Interrreg IIIA Greece-Cyprus, 2008; Martins & Martins, 2013; Silvestru, Bere, & Nemes, 2013). However, these studies do not focus on the local government level with its very specific requirements and constraints.

As stated in the DoW, there are no reported uses of open education for self-regulated learning in PA and it is not yet considered as a mainstream development. Therefore systematic research and high quality studies are needed to enhance understanding of reasons and explore solutions to overcome them. The EAGLE project team knows that the acceptance and adoption of TEL in this context is rather low (in contrast to e-government solutions). Barriers which need to be explored in this respect reside on a general level including issues about self-regulated learning, the use and familiarity of OER and OER content.

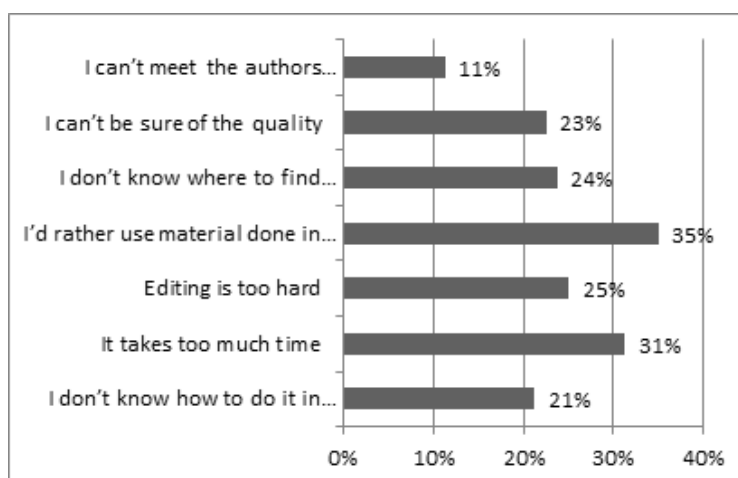
Related to issues of the use e-Learning/self-regulated learning in general are mental reservations. Often they are multi-faced and may relate to (a) fear about unknown matters, (b) lack of expectation to use the OER medium, (b) lack of incentives (motivation) and (d) strategic concept for deployment and encouragement to use the medium apart from a misfit of offers due to (e) institutional routines or (f) contents, didactics, or usability wise. These initial considerations shaped the refinement of the Barrier Framework as can be seen in the [Appendix](#). Further considerations on OER specific barriers are defined in the following.

### **Open Educational Resources**

Open Educational Resources (OER) are any digital object which can be freely accessed, (re-) used, adapted and distributed for educational purposes with a certified open license (e.g. Creative Commons, GNU Public License). Research on OER development and use has received increasing attention from educators, policy makers and academics. Yet the uptake of OER has not reached the expected level, particularly in the context of public administrations. This is surprising given the wide range of resources, OER cover, for example, different types of learning materials such as learning objects, online (internet-based) courses, slide sets, simulations, educational e-books or educational games. Also other educational materials are part of OER in a broad sense, e.g. learning scenarios, syllabi or experiences and practices.

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Reasons why OER lack a rapid uptake are researched from various perspectives though studies are concentrated on educators' communities. Hylén (2006) as well as Atkins et al. (2007) approached from a broad perspective and studied issues ranging from issues about sustainability, access to resources, IPR (Intellectual Property Rights) to quality and infrastructural concerns. Similar research and findings can be found in Agarwal et al. (2007), Humbert et al. (2008), Chen (2010). To exemplify particular responses and priority of OER-




barriers, the following graph (Figure 2) outlines particular concerns and their occurrence.

Also in the school context several personal and motivational aspects can be identified (Pirkkalainen, Jokinen & Pawlowski, 2014). Among them are a lack of motivation to share resources or information; lack of time for producing and localizing OER, need for rewards and acknowledgement; lack of trust towards unknown authors or systems where resources retrieved from; apart from hard to assess the quality and relevance issues.

Though these issues stem from the educational context, they resemble and complement issues found in the literature review on public administrations presented beforehand. Correspondingly it is necessary to integrate considerations from barrier studies on educational context for the Barrier Framework refinement in EAGLE as well. This point is supported by results of a pre-study (Clements and Pawlowski, 2012) its will be reported in the following.

### **OER-Learning in Public Administrations from the PRE-Study**

Prior to the EAGLE project a pre-study with RLG in 5 European countries was made (namely Luxembourg, Montenegro, Germany, Austria and Ireland). As indicated in the previous section it was found that potential barriers address the difficulties (a) there is lack of timely

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learning and (b) established learning processes. (c) The motivation to spend working time on learning is often low, not at last because (d) learning is hardly to integrate in the work process, and (e) training plans are missing. Relatedly there is a lack of (e) available learning content, (f) digital literacy skills. Furthermore and relevant to EAGLE there may be a lack of change management.


Apart from these issues, specifics in the use of computer and mobile devices, communication and collaboration skills among public employees also need to be explored and considered for establishing enhanced government learning. Potential barriers thus far range from cultural to contextual issues on the organizational, individual and technological level. In reference to this the country reports and the Barrier Framework (pattern matching) will be refined.

### 2.2.2. *Approaching the Barrier Framework*

The EAGLE project will follow the Barrier Framework in the elicitation of requirements. The **Barrier Framework** denotes a grounded list and generic cluster of difficulties which appear in the conduct, development or implementation of virtual learning systems, global collaboration – or knowledge management systems (Pirkkalainen & Pawlowski 2010, 2013, 2014). ‘**Barriers**’ more particularly defines ‘**any challenge in the diffusion and appropriation process of technologies**’ (Pirkkalainen & Pawlowski, 2013, p.5). Not only is the Barrier Framework grounded on previous requirements engineering and OER-projects. A further strength is its sensibility to cross-cultural issues which can be valuable for approaching the unfamiliar context and culture public administrative sphere.

To implement the Barrier Framework, the overall list of barriers is refined with hindsight to the EAGLE project in a first step. Hence, the frame represents a generic proposition what difficulties may need to be explored. Through expert discussions among EAGLE researchers this proposition was then refined for the EAGLE project. Hence, particular aspects and difficulties were defined. They build the initial base for our requirements engineering process. So the Barrier Framework was tailored to domain (public administrative) specific challenges which may appear and challenge the project (cf. Nuseibeh & Easterbrook, 2000, referring to Finkelstein).

During the groundwork also *processes* for the RE were defined (cf. Nuseibeh & Easterbrook, 2000) which means that the overall set of activities for the information gathering and analysis of findings was decided. Related to this elicitation *techniques* were defined (cf. Nuseibeh & Easterbrook, 2000, referring to Finkelstein) which represents the sequence of questions, reporting steps and responsibilities. Particular thoughts to the overall, harmonized research design for EAGLEs RE will be presented in Chapter 3.1, which follows the literature review.

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All in all, the RE in the EAGLE project thus bases on the Barrier Framework and represents an exploratory, qualitative approach. It embeds with traditional, contextual requirements technique given the groundwork, elicitation techniques (interviews, analysis of literature) and questions defined for the user engagement (unstructured, open questions) (cf. Nuseibeh & Easterbrook, 2000; Potts, 1997). Correspondingly to this the analysis of RE-country reports follows a pattern<sup>1</sup> matching technique. Pattern matching serves as method to synthesise either mixed (qualitative-quantitative) or multi-method (different qualitative) approaches (Hak & Dul, 2010; Almutairi et al., 2014). As the country reports in of themselves are multi-methods pattern matching has particular advantages.

Matching as a process means that findings from country reports are compared to Barrier Framework as it was tailored in early discussions. Hence, initial propositions about the unfamiliar context are tested (ibid.) but not only on the instance (presence of any specific barrier) but their interrelation and conditionality is reflected (Hak & Dul, 2010, referring to Campbell and Yin, 2003). Overall, pattern matching thus not only allows for testing and systemizing findings for the emerging field OER in the public sector but also for synthesizing and comparing findings among the EAGLE countries (cf. Almutairi et al., 2014).

To facilitate following deliverable, the pattern matching technique is further explicated in Section 3. In this point focus will shift back to groundwork and path to generating country reports. Hence, literature review will be briefly outlined, followed by the harmonized elicitation processes, techniques and overview of outcomes.

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<sup>1</sup> Pattern defines an arrangement of entities, behavioral action or outcomes (Hak & Dul, 2010; Almutairi et al., 2014) and in in this case refers to barriers.



### Executive Summary to Chapter 3

The main starting point for EAGLE is the requirements elicitation. We explore barriers in a two-step qualitative approach: **Focus groups (face to face and online workshops)** aim at identifying the context and barriers by main stakeholder. This also covers potential solutions (interventions) identified by stakeholders. As a side effect, workshops also create awareness and an initial dialogue about OER and EAGLE in particular. **Interviews** aim at deepening the analysis by interviewing key stakeholders.

Based on the qualitative approach, we identify requirements expressed as enabler statements. These are the main requirements to be considered and later validated by other work packages in the project. We derive both, common requirements for all participating countries / organizations as well as specific requirements for certain contexts.

During the project execution continuous evaluation of the requirements specification will be carried out through UX-based validation. This will provide regular updates of the requirements, as well as fulfil basic tasks of requirements such as necessity checking, consistency, traceability, correctness and completeness, feasibility and prioritization of the initially elicited requirements.


## 3 HARMONIZED EAGLE METHOD OF BARRIER AND REQUIREMENTS ELICITATION

The harmonized requirement elicitation method is a qualitative, exploratory approach and extends traditional requirements elicitation methods. It is essential for the EAGLE project that the approach is participatory and integrates both awareness and engagement activities. In that way, we aim to better explore the field, and initiate the participatory stakeholder's commitment.

### 3.1. OVERVIEW OF THE EAGLE APPROACH

The processes more particularly refer to the information gathering approach based on **focus Groups (face to face and online workshops)**: We perform both online and face to face workshops to do the RE and engagement activities with our stakeholders. The workshops resemble a focus group approach (Kitzinger, 1994). Face to face workshops are organized in the administrative context first, then online workshops are conducted for particular issues like accessibility concerns. In that way, we can deepen the barriers and requirements iteratively.

Furthermore, information gathering and validation was conducted through **in depth interviews**: We explore barriers through interviews by focusing on the key barriers and related interventions. From the outset it was considered to integrate technology probes (Dörner et al., 2008), depending on the technology awareness and the time frame of participating stakeholder. As indeed the resources, time and timing of stakeholder meetings and discussions were scarce the use of technology probes was abolished and postponed to later phases of the project.

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In view of the different qualitative information gathering processes the meaning of ‘harmonized’ can be explained. Given time and resource constrains in the public sector EAGLE workshop-leaders were met with **difficulties to mobilize relevant administrative stakeholder to take part in workshops or interview**. Apart from that also EU wide and regional elections claimed time so public employees, managers and ministries had only few time to respond or spend time with workshops and interviews. Now, depending on the availability of resources like personnel and time also the choice and balance of the elicitation process was set. Hence, in some countries interviews preceded workshops while in other countries mainly workshops were conducted or vice versa. Details on this point are reported in Section [3.2]. Coming back to the meaning of harmonized, then, a harmonized method shall emphasize that despite variations among countries in terms of balancing information gathering processes, **the technique and conduct of both focus-group workshops and interviews was streamlined and coherent** in terms of questions, the reporting of results and set of template power-point presentations [Appendix]. The major coherent steps of the conduct are exemplified in the following.


### 3.1.1. Workshops

The workshops oriented on the focus group method (Kitzinger, 1994). The conduct was geared to inform stakeholders about the project’s goals, to inform about EAGLE and OER opportunities as well as to generate knowledge about the barriers and requirements in the public administrative context and culture. Thus, each workshop included the standard phases:

- **Awareness building: Present the meaning of e-Learning, open education resources, introduce technology enhanced learning, discuss good practices, as well as potential organizational and individual benefits**
- **Context elicitation: Capture the contextual and cultural information on behalf of the questions which were collaboratively defined on base of the Barrier Framework [Appendix]**
- **Requirements/barrier elicitation: Capture the main contextual and cultural barriers on behalf of the questions which were collaboratively defined on base of the Barrier Framework groundwork [Appendix]**
- **Prioritization of findings: For each barrier ask for potential solutions and interventions (*depending on time*)**
- **Scenario/action planning: For each barrier ask for scenarios and actions (*depending on time*)**
- **Close the workshop: ask for open questions, define forthcoming steps in EAGLE and agree on the manner of the on-going, participatory user-engagement with participants**

The experience of workshop-leaders was shared in the EAGLE team. One major finding concerned the group constellation; in case public staff was present with their superiors, groups



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were separated to avoid ethical conflicts such as group or hierarchical pressure (cf. Kitzinger, 1994). Another finding concerned the kind and responses to the unstructured elicitation questions. In most workshops participants provided rich and extensive answers wherefore some questions were redundant; i.e., a number of questions were answered by extensive response by participant discussions right away. To refine the Barrier Framework methodology this finding is noted and will be reconsidered in forthcoming studies. Otherwise it was found that the approach provided suitable and rich, contextual insight on the present state of e- and open learning in the public sector. Similarly this was the case for the interview approach.


### *3.1.2. Interviews: Data collection and analysis*

The conduct of interviews was semi-structured, oriented on the same questions and goals as defined for the workshops beforehand [[Appendix](#)]. Depending on the sequence and balance of interview and workshops, elicited issues from previous discussions were discussed in more detail and were prioritized, refined and clustered. Apart from the sequencing of the conduct interviews comprised the standard phases:

- **Start of the interview: Explain the idea of EAGLE, the idea of the interview; introduce resent the meaning of e-Learning, open education resources, technology enhanced learning, discuss good practices, as well as potential organizational and individual benefits.**
- **Move to context: Ask the questions which were collaboratively defined on base of the Barrier Framework groundwork. Depending on the sequence of workshop/interviews: Ask for relevant experiences and context factors.**
- **Discuss barriers: Capture the main contextual and cultural barriers on behalf of the questions which were collaboratively defined on base of the Barrier Framework groundwork Depending on the sequence of workshop/interviews: Ask if there are additional important barriers or why the priority list has evolved, because facilitators and participants may have different ideas on the issue.**
- **Prioritization: Try to identify priority barriers and ask for ways to overcome those barriers (depending on time).**
- **Scenario: Ask for an ideal solution how EAGLE may enhance RLG OER learning (depending on time).**
- **Close the interview: Ask for final remarks, interest in on-going participatory integration in the EAGLE project.**

The experience with interviews was shared among workshop- leaders similar as before whereby often, the same aspects and difficulties were discussed and resolved.

Following the definition of the harmonized approach to information gathering techniques in EAGLE (for the requirements engineering on base of the Barrier Framework), the following section will outline the outcome of conducted interviews and workshops for each country.

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Particularities concerning the depth or the dominance of any qualitative information gathering process, for example, will be addressed in this point as well.

### 3.2. OVERVIEW OF THE REQUIREMENT ELICITATIONS

As part of the requirement elicitation, 33 communities with a total of 68 representatives participated in the numerous interview and 9 workshops in the four study areas. Both the workshops and interviews were conducted between April and July 2014.

#### Overall: participants in workshops

Overall about 68 employees in the public sector took part in the workshops for the requirements gathering across all countries. The positions of employees vary across the countries as shown in the table below (Table 2) which will be elaborated further in the description of country workshops below.

Position	Luxembourg	Germany	Ireland	Montenegro	sum
Employee (including front-line staff)	5	8	5	2	20
Civil servant (high positions such as executives, specialized positions)	16	14	1	5	36
Training related positions		2	3		5
Others	6			1	7
sum	27	24	9	8	68

Table 2: Overview participants in workshops

Comparing the positions of employees (and front line staff), civil servants (and higher, specialized positions), training related positions and others across the countries, the figure below (Figure 3) shows that mainly civil servants and specialized employees took part in the workshops. This is followed by general employees including front-line staff, others (such as independent employees and lobbyists to mention just a few) and employees in training related positions.

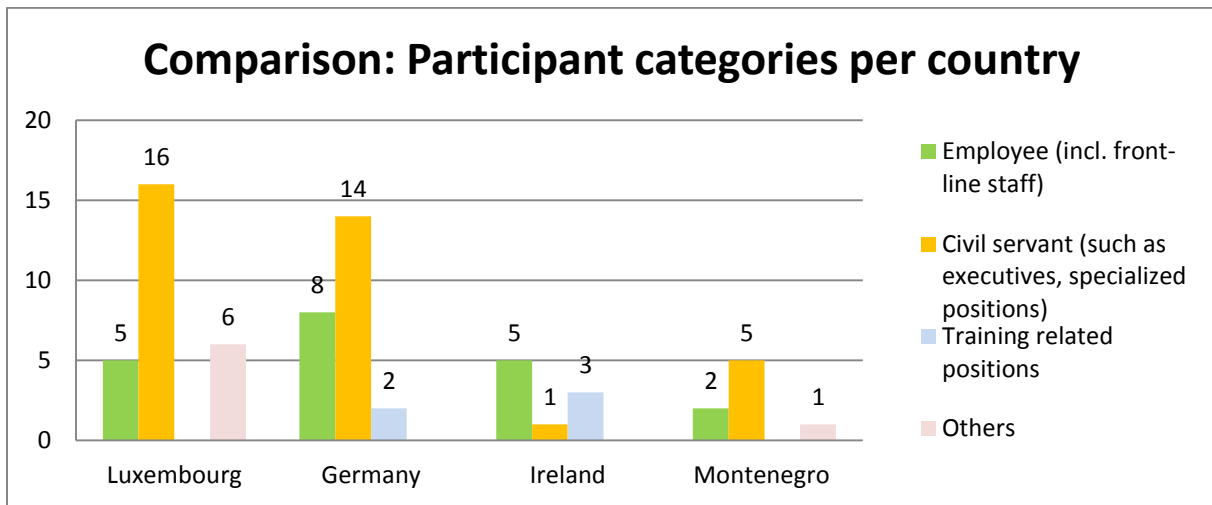


Figure 3: Comparison: Participant categories per country

### Luxembourg

In Luxembourg four workshops with one to five communities taking part were held on the 15th May 2014, 27th May 2014, 26th June 2014, 3rd July 2014. **Municipalities that were included** are Municipalities of Bertrange, Diekirch, Ettelbrück, Parc Hosingen, and Wormeldange, Municipality of Pétange, Municipality of Differdange, Municipality of Winrange (8 communities).

**Participants obtained the position from** civil servants to workers with the following work-profile. Civil servants typical lead a service or team of employees, higher educational degree than employees. Employees support civil servants to ensure the different services of a commune, workers accomplish more technical, maintenance related tasks.

Luxembourg	no.
Employee	5
Politician / Government agent	4
Civil servant	12
Worker	4
Lobbyist	2
<b>sum</b>	<b>27</b>

Table 3: Participants in Luxembourg

All participants were well informed about the EAGLE project because they have either been involved from the very beginning of the proposal writing phase or they have attended separate events where EAGLE has been presented and where first discussion took place. During these events a lot of context information was already provided on the different context dimensions by the decision makers.

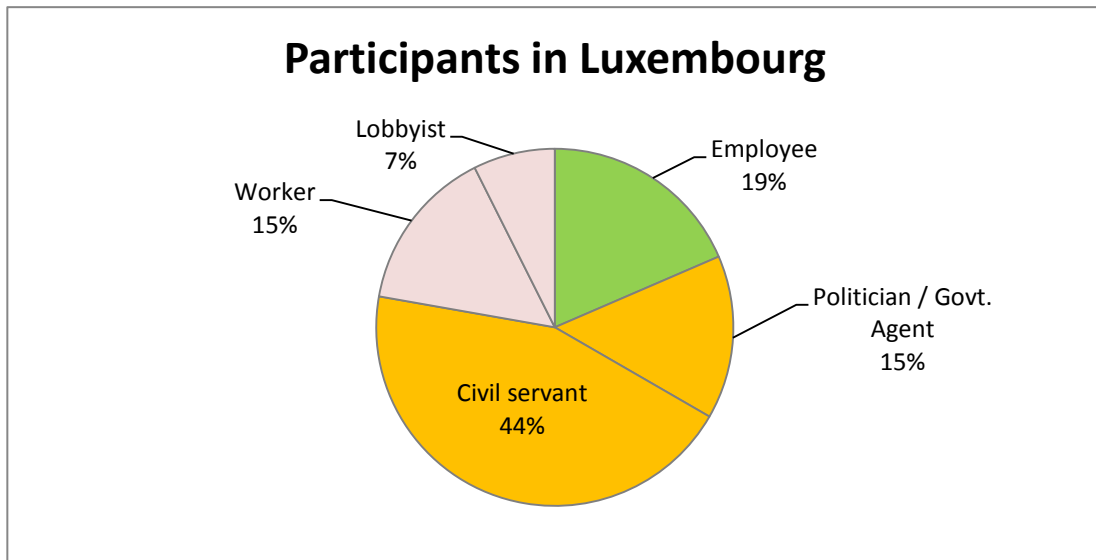


Figure 4: Participants in Luxembourg

Interviews were conducted in the beginning, afterwards only a focus group was conducted. The focus group took place at two different days with a total duration of 6,5 hours. During the last phase of the focus group the barriers have been prioritised and validated. High ranking state officers from two national ministries and a stakeholder of an association responsible for the link between government and municipalities were part of the focus group interview.

Given the unique role of the Luxembourg country for the EAGLE project, the report and conduct of requirements elicitation is more extensive than for other countries (below). The unique role results to the fact that Luxembourg was defined as the preceding country to test the change-management plans.

### Ireland

In Ireland one workshop was held in the Donegal County Council (1 municipality). Thereby participants from Human resources, engineers, front-line staff have taken part. Ireland had difficulties to get in contact with public managers in the beginning. Workshops were held and offered a rich contextual insight.

Participants obtained the position of front line staff, engineers as well as training executives. Also employees working in the area of human resources participated in the workshops.

Ireland	no
Front-line staff	5
Engineers	1
Training executive	1
Human resources	2
<b>sum</b>	<b>9</b>

Table 4: Participants in Ireland

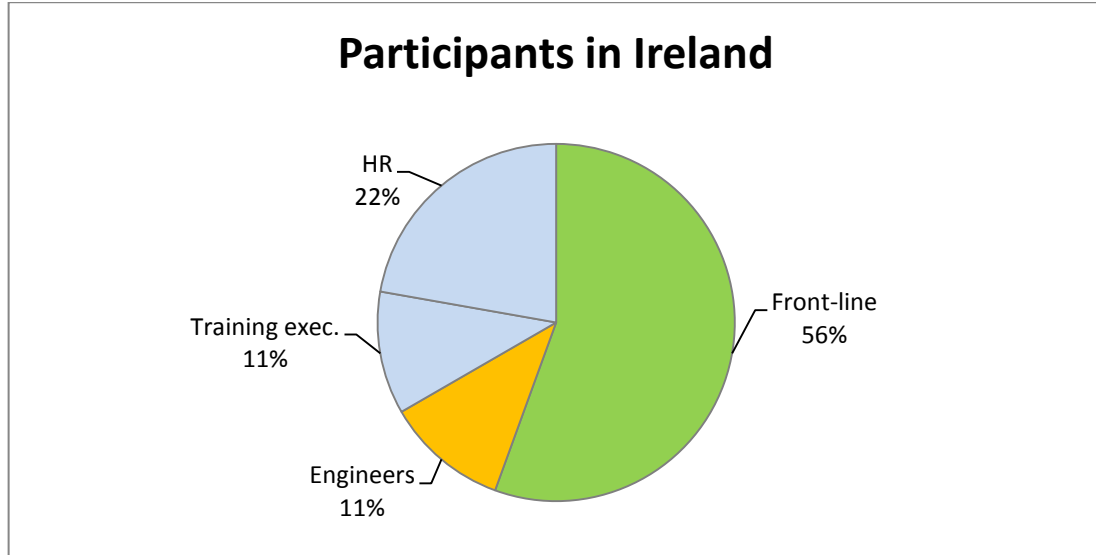


Figure 5: Participants in Ireland

### Montenegro

In Montenegro workshops have been conducted with 10 different municipalities and 2-3 in each workshops between 3<sup>rd</sup> and 8<sup>th</sup> April 2014. **Municipalities which have participated** are Administrative Capital of Podgorica, Niksic Municipality, Zabljak Municipality, Pljevlja Municipality, Danilovgrad Municipality, Budva Municipality, Bijelo Polje Municipality, Kolasin Municipality, „Mojkovac Municipality and Bar Municipality (10 municipalities).

**Participants were** Managers of secretariats and other services; 2 independent advisors in the local self-government authority; 1 senior advisor in the local self-government authority; 1 independent employee (University degree); 2 employee (High School degree); 2 authorized officers/communal police officers.

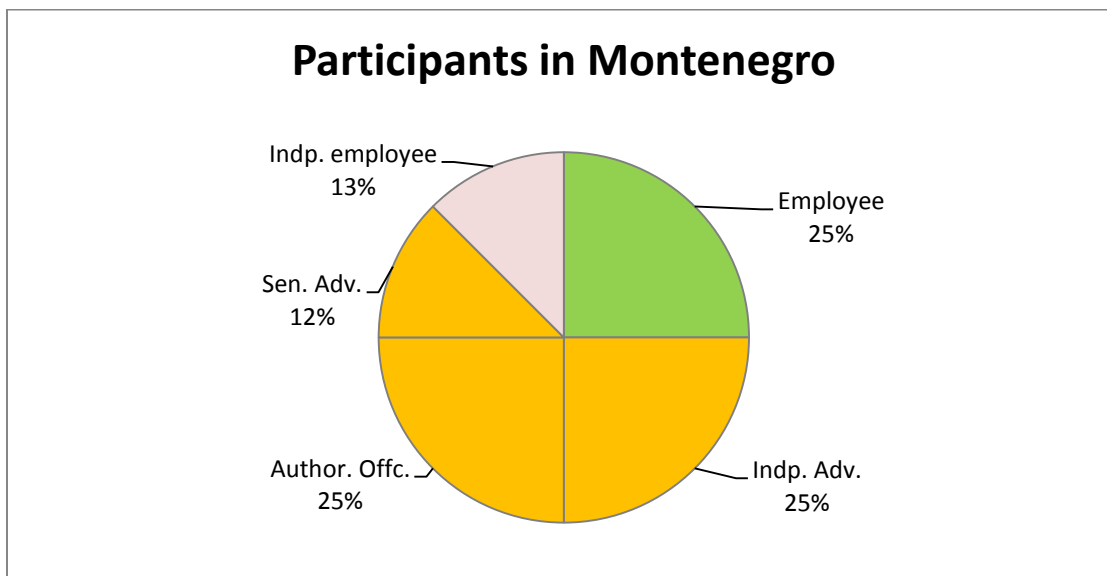
Montenegro	no.
Employee	2
Independent advisory in LSGA	2
Authorized officers	2
Senior advisor	1
Independent employee	1
Managers of secretariats, other services	# <sup>2</sup>
<b>sum</b>	<b>8</b>

Table 5: Participants in Montenegro

Also several interviews were conducted whereby the following **institutions were included**: Training and Development of HRMA, Advisor of the Director of HRMA, Chief Officer in the Sector for Training and Development of HRMA of the Department for Planning and

<sup>2</sup> 2 participants to be confirmed.

Development of Professional Training, Chief Officer in the Sector for Training and Development of HRMA of the Department for Preparation and Implementation of Trainings, Independent Advisor in the Department for Planning and Development of Professional Training, Independent Advisor in the Department for Planning and Development of Professional Training, Independent Advisor in the Department for Preparation and Implementation of Trainings. Deputy of Director of HRMA for ICT Sector, Director general for Information infrastructure, Ministry of Information Society and Telecommunication.



**Figure 6: Participants in Montenegro**

Montenegro conducted interviews and workshops as a pioneering country in EAGLE. To get in contact with relevant personnel some interviews preceded workshops. Apart from the elections on the European level, general country specific elections were held in Montenegro whereby irregularities occurred in some municipalities. Thus elections in Montenegro have to be re-organized again after national holiday. Due to this the contact and feedback from involved relevant stakeholder in the Montegrin public sector is frozen.

### Germany

Due to local elections in Germany and due to elections for the European Parliament, municipalities' willingness to spend time and effort on engaging in the EAGLE barrier analysis was low. Moreover, despite some municipalities were involved in the pre-study of EAGLE, it proved to be difficult to organize workshops through multipliers such as IT providers or communal umbrella associations. To overcome this situation, municipalities were approached personally by the German EAGLE team. In this way, it was possible to get the commitment of 14 municipalities either for participating in a workshop or in numerous interviews, once the elections were over.

In particular, one workshop was held in Britz-Chorin with several municipalities on the 2<sup>nd</sup> July 2014 in which the Mayor, Deputy mayor, Head of organizational department, Head of IT, Deputy head of organizational department Finance director, Administrative officers from several municipalities nearby were participating.

Germany	no.
Employee	8
Mayor	5
Deputy mayor	1
Head of department	7
Treasurer	1
Head of training academy (TA)	1
Dept. head of TA	1
<b>sum</b>	<b>24</b>

Table 6: Participants in Germany

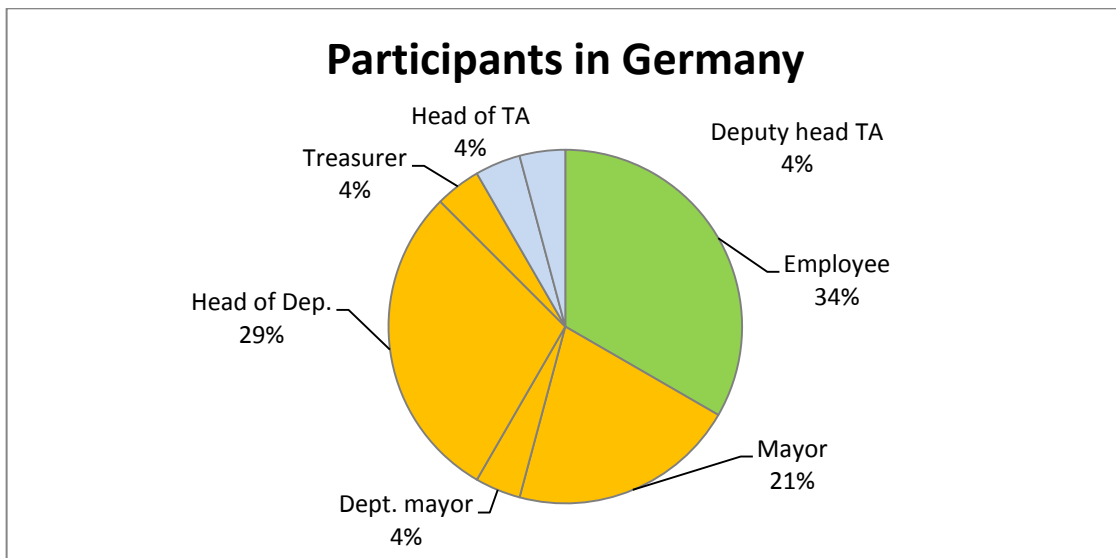



Figure 7: Participants in Germany

Apart from the workshop, interviews to elicit barriers were held with 13 municipalities and one potential content provider: Municipalities of Ruhland, 17<sup>th</sup> June 2014, Nuthe-Urstromtal, 9<sup>th</sup> July 2014, Lambrecht, 11<sup>th</sup> July 2014, Wachenheim, 21<sup>st</sup> July 2014, Hirschhorn, 15<sup>th</sup> July 2014, Neckarsteinach, 15<sup>th</sup> July 2014, Brühl, 16<sup>th</sup> July 2014, Gerstetten, 23<sup>rd</sup> July 2014, Nattheim, 4<sup>th</sup> July 2014, Neresheim, 1<sup>st</sup> July 2014, Eberswalde, 2<sup>nd</sup> July 2014, Biesenthal-Barnim, 2<sup>nd</sup> July 2014, Administrative district Ludwigslust-Parchim, 23<sup>rd</sup> June 2014, Public sector academy, Pfalz-Akademie, 11<sup>th</sup> July 2014.

In the workshop and interviews, interest and commitment was outlined for taking part in validation activities.

### Short summary of the overview


Not to anticipate the country results in this place, it is to emphasize that despite initial delay the conduct of workshops and interviews in each country went well. The contact to individual, diverse communities and administrations resulted in a welcoming feedback and willingness to

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take part in the forthcoming EAGLE project. In this vein one major target of the conduct of EAGLEs requirements engineering namely informing, raising awareness and engaging prospective stakeholders, is initiated and likely to be sustained for the successful, forthcoming project conduct.

So far the approach of the barrier and requirements elicitation is presented and discussed. The following section will now present the qualitative results of the gathered information.



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### **Executive Summary Chapter 4**

Based on the qualitative study, it was possible to define a shared set of barriers across countries. Main categories distinguish between organizational (administrative and managerial aspects), individual (trust and experiences) as well as contextual aspects (which differ between resources specific and policy specific barriers). Subcategories are provided and a shared perspective of the countries is discussed.

## **4 RESULTS AND ANALYSIS OF THE BARRIER STUDIES – HARMONIZED EAGLE REPORT**


The initial requirement elicitation has shown commonalities as well as differences in the participating countries and administrations. In the following the harmonized EAGLE report on barriers and requirements will be presented on base of the workshop results. In a first step, we refine the initial description of the RE approach for EAGLE (chapter three [\[3.1.\]](#)) and the method of the synthesis (pattern matching). Subsequently, the clustering and prioritization of harmonized barriers for the EAGLE project is presented. This analysis is the main base for common requirements across the countries and organizations in EAGLE.

### **4.1. METHOD FOR ANALYSING AND AGGREGATING COUNTRY BARRIERS**

Pattern matching is a technique to synthesize results from mixed and multi-method approaches. The technique suits a comparative approach that is sought in view of the four EAGLE country reports. The strength of the method is thus that not only the proposed challenges of the initially refined barrier-frame will be ‘tested’ for each country but also that findings will be systematically compared and aggregated (Hak & Dul, 2010; Almutairi et al., 2014). The systematic of the aggregation will now be briefly explained.

While writing the reports, workshop leaders were asked to formulate and to analyse their text and define particular barriers i.e., patterns and findings that may intervene and pose a challenge to the forthcoming EAGLE project. (For this means a particular column was dedicated next to the reported text, see [Appendix](#)). These findings were labelled and prioritized among each other and thus informed the prioritization.

Relevant for the pattern matching and synthesis is that the results of this process (defining barriers and intervening issues in each country) were compared to the analysis of another marker who oriented on the barrier frame. Hence, the analysis of country barriers was iterated to provide for a validation step while matching the country findings with the proposed barrier frame.

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In most cases the results of the country reports corresponded or diverging aspects were discussed. One result of this process is therefore one main barrier list for each country [Appendix]. Based on the four lists of country specific challenges, difficulties were compared i.e. matched and aggregated to one harmonized EAGLE barrier frame. The result of this aggregation is presented in the next section.

The aggregation of barriers which was proposed on base of the background work of the project into organizational, individual (employee) and technology context clusters was sustained (see chapter two [2.2.1.]). However, the aspect context was refined and extended into technical and policy focused barriers. In the following, the aggregated EAGLE barriers will be defined. Firstly, ‘a shared perspective’ of country results on the barrier categories will be defined, and secondly, aggregated EAGLE barriers with a high priority will be discussed.

## 4.2. RESULTS OF THE ANALYSIS

In the first step the organizational context and barriers will be defined. We distinguish three perspectives: One is the **organisational culture** which focusses on administrative and managerial aspects. A second is the **individual culture** which refers to demands and experiences of employees and social interaction. A third perspective focusses on the **socio-technical** context. It has a subcategory for *resource specific* barriers like technology as well as for *policy specific* barriers. For each of these three barrier perspectives we start with a summary of barriers and describe which are common to all / most administrations and countries. Subsequently, we report on priorities of barriers which will guide the recommendations for interventions and requirements for the forthcoming project.

### 4.2.1. Organisational level

The following categories and subcategories of barriers were found on the level of organisational culture.

No	Category	Subcategories	Reference No Subcategories
1.1.	<b>Lack of managerial organisation</b>	Lack of systemised education, planning and practice of training, lack of feedback loops (knowledge management) in the current organization	1.1.a.
		Lack of coordinated change management	1.1.b.
		Lack of support to learning efforts given a lack of responsible coordinators for training as well as low political support	1.1.c.
1.2.	<b>Lack of knowledge about TEL</b>	Lack of awareness, experiences, digital skills and e-Learning comprehension and the demand for guidelines of OER use and	1.2.a.



	provision of introductory courses	
<b>1.3. Lack of knowledge sharing</b>	Lack of systemized knowledge multiplication and exchange, competition on the international, national and inter-sectorial level	1.3.a.
	Perceived differences in administrative culture, regional boundary, perceived contractual distance	1.3.b.
<b>1.4. Language issues</b>	Concerns regarding the communication and language of content	1.4.a.

Table 7: Categories and subcategories of barriers: organisational level

The first category of barriers is the **lack of managerial organization** of learning and knowledge management. One subcategory of this barrier describes that the current **managerial conduct** is weakly systemized and there is a **lack of planning and organizing training courses in organizations** [1.1.a.]. In most countries is a lack of communication about existing courses and offered training plans among the regions. A common conduct is that higher ministries launch annual plans. Either staff or higher employees may outline their interest and needs in this moment. But as the awareness of national facilities and programs is overall low, the fit of learning demand and offer is low, too. Immediate needs to enhance knowledge may not be covered<sup>3</sup>. Rather courses are oriented (and restricted) to particular themes instead of a comprehensive, up-to date offer. Due to the low exchange about existing training plans and processes how to initiate courses, people also tend to miss a coordinated process for planning education and building of strategic (knowledge sharing) capacity. Further challenges which seem to exacerbate the mentioned points is the retirement of employees as well as the rotation of job positions which leads to a loss of knowledge within the administration.


Another subcategory of the first barrier is the **lack of coordinated change management** [1.1.b.]. Changes are handled reactively; so amended law and administrative processes are not subject to controlled adaptation but are introduced ad hoc, as coping strategies when needed. Related to a lack of guidance on change management, participants fear about the compliance of their change with overall, national laws which can impede the turn to offer e-Learning.

A third subcategory of the first barrier category is the **lack of support by responsible persons** [1.1.c.]. This covers tutors and persons in charge to organize (e-)Learning.<sup>4</sup> This can also result due to the lack of occupied positions or that people do not identify the need, or with their role to elicit and come after the learning demand. From another perspective this relates to political support of superiors or central ministries to realize initiatives and realize learning courses.

A second barrier category is a common **lack of knowledge about e-Learning** [1.2.]. This includes a low awareness as well as understanding of the meaning of e-Learning. Different

<sup>3</sup> This may also depend on the financial resources and size of the particular administration.

<sup>4</sup> Persons in charge may be located both at municipalities or higher, central Government administrations.

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facets of e-Learning, blended learning or Open Educational Resources were unknown. As a corollary the judgement about available open educational materials was uncertain, as digitized information and learning contents were not perceived as possible OER. To the lack of knowledge also the low digital literacy and e-skills were pointed out. In some cases the lack of knowledge about technology enhanced learning intersects with a low motivation to experience a new way of digital learning.


A third barrier category is the **lack of knowledge sharing** [1.3.]. This point relates **to the lack of systemized knowledge management** but more particularly focuses on the multiplication of learned experiences [1.3.a.]. For instance, most administrations reported that employees who were sent to training courses did not (were not required to) share their insights. Apart from internal knowledge sharing, also the dissemination of information across departments, not to speak of federal or national borders, raises concerns whereby the role of competition was mentioned. Another subcategory of the barrier is the **perceived differences in administrative culture** [1.3.b.]. While neighbouring administrations may collaborate, collaboration of administrations across municipalities (like in countries with lower population densities and thus a higher dispersion of administrations) is less common and may even be actively opposed. Furthermore, concerns were outlined regarding differences in administrative processes and missing contracts for collaboration which would make an exchange difficult.

A final category of organizational barriers is the diversity of **languages** [1.4.]. Mainly the country language is commonly spoken like German in Germany but often countries have two or more main languages like French and Luxembourgish in Luxembourg or Irish and Gaeilge in Ireland. Correspondingly to this, administrations have to cater for regional particularities and slangs what needs to be considered in the project and OER resources as well.

### **Prioritized barriers**

Comparing and aggregating country priorities, one main, shared priority is to solve the **lack of managerial education, planning and practice of training** [1.1.a.]. Unless there is no general conduct and encouragement of advanced training of public employees, the provision of a program may find no high sustainable resonance. Maybe related to that, most of the countries demand to streamline EAGLE offers with the nationally provided training offers (if present). No duplication of efforts is countenanced. But also motivational reasons demand for an overall managerial organization of learning, like the interest in accreditation of learning efforts. In this regard also the managerial commitment and political support by responsible persons in charge [1.1.c.] is commonly prioritized in order to realize the changes during the (e-)Learning implementation.

Another barrier of high priority across countries is the **lack of awareness and low understanding** of the meaning and scope of TEL [1.2.]. Having no or a particularly diverging

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idea of the meaning, the scope, potential benefits of the EAGLE project, or e-Learning and OER more generally, is likely to raise misunderstanding and fail to engage and motivate stakeholder to take part.

The interventions for the priorities as well as the other discussed barriers will be outlined in [chapter seven](#).


#### 4.2.2. Individual (intra-departmental) level

Coming to the barriers addressing the individual (intra-departmental) level the following barriers and subcategories were found:

No	Category	Subcategories	Reference No Subcategories
2.1.	<b>Trust and relevance of information/knowledge</b>	Immediate application of knowledge at the workplace, orientation on expert knowledge	2.1.a.
		Lack of trust in information, need for authentication and validation of OER and learning resources	2.1.b.
2.2.	<b>Lack of internal knowledge sharing</b>	Lack of internal knowledge sharing among employees due to bad climate, reluctance, mistrust or competition	2.2.a.
		Dominance of informal knowledge sharing among close friends, rejection of compulsory learning	2.2.b.
2.3.	<b>Low motivation to change towards e-Learning</b>	Low motivation to start e-Learning both in general or as the only training method, general reluctance to learning	2.3.a.
		Demography issues, the older people get, the less they are interested in continuous (e-)Learning	2.3.b.
		Lack of motivation due to missing rewards and feedback to (self-) learning efforts and concerns about long-lasting accomplishments	2.3.c.
2.4.	<b>Aversion to digitalization trends</b>	Preference for traditional, non-digital learning for personal and for social-interactive preferences	2.4.a.
		Perceived misfit of e-Learning within the daily routine	2.4.b.
		Low acceptance of e-Learning at the workplace within daily routine and among colleagues Rejection of learning at the workplace due to low or bad experiences and knowledge of advanced examples with good content and usability	2.4.c.

Table 8: Categories and subcategories of barriers, individual level

On the individual level, the first barrier category relates to the **trust and relevance of information/knowledge [2.1.]**. One subcategory describes the demand that learning contents need to be **immediately applicable for the daily work [2.1.a.]**. The relevance and value of information and knowledge can be raised if the insight helps to perform better at the workplace. Staff in the public sector commonly referred to the paradigm ‘learning by doing’ so information is trusted when its applicability is tested and experienced by trial and error.

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Related to this point was the demand to acquire expert based information. Knowledge becomes relevant when information stems from experts or experiences made in work-life or projects. Need for enhancing knowledge raises when there is a particular work-related issue. Learning is often enquiry based, and seeks for simple instructional guidance that can be easily internalized for personal use.

Another subcategory of the barrier is the **lack of trust in the quality of information** [2.1.b.] including possible OER and other non-print learning resources. One reason is the format of information; reliability of information depends on knowing the source and that the origin is authentic and trustworthy. It is required that employees provide reliable information to their citizens and correspondingly their need for reliable, valid information is high.

Another barrier category on the individual level is the **lack of internal knowledge sharing** [2.2.]. In most workshops it was outlined that knowledge sharing is not commonly practiced which seems to reflect the managerial lack of guidance to learning and information exchange. In this section, however, the sub-barrier relates to the **administrative culture and experienced bad climate and mistrust among colleagues** that reliable resources are disseminated [2.2.a.]. Another potential sub-barrier relates to the dominant **practice of informal knowledge exchange** [2.2.b.]. Some employees discuss difficulties only with close friends or with superiors instead of colleagues more generally, which may reflect a hierarchical structure. Another point of the country results was the role of commitment to share knowledge. It was outlined across countries that knowledge and expertise form over time. Thus, also knowledge sharing is a natural process so compulsory collaboration for knowledge acquisition or information sharing raised reservations and was rejected.

Another barrier category is the **low motivation to change and e-Learning**. [2.3.] Workshop-participants emphasized that e-Learning in general need to be a **complementary but substituting** training offer [2.3.a.]. This does not mean that there is a low motivation to enhance knowledge and to attend advanced education in general; this is rather a minority position. Rather a low motivation stems from the experience of the current organization of learning and concern that fundamental organizational practices are not resolved but transferred to a digital version of training for the public sector. Another sub-barrier seems to relate to **demography issues** [2.3.b.]. The older people get, the more the interest in continuous learning and in shifting to e-Learning decreases; but this was touched upon only in few countries.

A third sub-barrier is relate to **missing rewards** for learning efforts as well as concerns about feedback to self-learning efforts online both as informal recognition and as formal accreditation [2.3.c.]. Currently, there is often a lack of feedback and recognition of efforts when someone invests in enhancing knowledge. More particularly learning achievements do not feed into personal career advancement, i.e., gathered competences are irrelevant for scaling up ones position in the workplace. Relate to this developing a long-lasting EAGLE platform was demanded to establish long-lasting accomplishments. All in all, it is met with

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low motivation to translate (or simply embed) EAGLE into the current educational training conduct.

Another barrier category is the **aversion to digitalization** trends [2.4. ]. One sub-barrier is that participants outline a **preference in traditional seminars** which may challenge the introduction of e-Learning processes [2.4.a.]. Participants perceive that personal, face-to-face training is preferred because direct, social interaction when asking colleagues or an expert is associated with the expectation to retrieve a quick and specific solution instead of time-intensive online searching and learning. Furthermore technology-mediated interaction and learning was met with concerns that personal relationships which are essential for learning and knowledge enhancing cannot be maintained or are disrupted.


Another sub-barrier is that e-Learning does not seem **compatible with the daily work routine** [2.4.b.]. To familiarize oneself with new technology and systems requires time, which is not given; the engagement with the computer for research disrupts the contact with citizens. Furthermore, there are considerable concerns that the task of feeding into an OER system cannot be fulfilled due to extremely limited time resources, or even disrupts the normal obligatory work.

Last but not least, the introduction of e-Learning for professional advancement needs to take care about the **low acceptance of learning at the workplace** [2.4.c]. Learning at the workplace, for instance, can have a negative reputation and e-Learning is rather negatively connoted in general. Due to rotation also taking time for learning means to disrupt work and leave tasks to colleagues. Also this point results from low and single bad experiences made. Though workshop participants have little or no experiences with e-Learning, the reports emphasized their lack of clarity about the facilities and practices associated with e-Learning, which is met with reluctance.

### **Prioritised barriers**

Aggregating the priorities across countries, a dominant barrier for the forthcoming project refers to the **trust and relevance of information and knowledge** [2.1.] Unless the platform can provide information deemed relevant or worth learning for public agents' daily work and advancement, the platform will be of low value. Hereby, the knowledge paradigm becomes relevant, hence, that information and knowledge needs to be immediately applicable for the daily work.

Furthermore, shared considerations address the **need of information validation**. Workshop participants demand the authentication of authors and the origin of information. Unless information is validated a common use and reference to the platform may not be established. Another point of high priority on the individual level is the **low motivation to change and towards e-Learning** [2.3.]. The barriers which feed into this category stem from the current experience with learning practices and particularly the lack of recognition and rewards for the

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effort to enhance knowledge. To provide encouragement on a more informal level as well as to provide certificates or streamline EAGLE with the project may correspond to the need.

#### 4.2.3. Context and socio-technical aspects

In the following, barriers from the perspective of the administrative context and socio-technical aspects are resumed. In a first step, barrier and subcategories for **resource specific issues are discussed [4.2.3.a]**.

#### Resource specific issues [4.2.3.a].


No	Category	Subcategories	Reference No Subcategories
3.1.1.	<b>Lack of Learning environment</b>	Lack of budget, time, space, integrity home	3.1.1.a.
3.1.2.	<b>Lack of platform resources</b>	Lack of platforms, DMS, digitized contents lack of relevant educational, learning contents in depth, granularity, ease of understanding	3.1.2.a. 3.1.2.b.
3.1.3.	<b>Lack of digital networks</b>	Lack of Internet and broadband	3.1.3.a.
		Concerns about integration of systems and towards <b>secure</b> network technologies, blocked IPs, closed systems	3.1.3.b.
		Lack of digital facilities in general, DMS, lack of mobile devices, demand for repositories	3.1.3.c.
		Restriction of a BYOD policy, practice	3.1.3.d.
		Concerns towards maintenance of the platform	3.1.3.e.
3.1.4.	<b>Usability of the EAGLE platform, requirements</b>	Unless documents are easy to create, find, consume (read through 1-2h), they won't be used, visualization	3.1.4.a.
		Unless documents are rateable, receive quick responses and or personalized feedback, the use of OER is of low value	3.1.4.b.
		Unless OER are filtered easily on the federal level and for theme specific means in the particular language, OER are of low value	3.1.4.c.

Table 9: Categories and subcategories of barriers, context/resource specific perspective

One barrier category on the organizational level is the **lack of a suitable learning environment** [3.1.1.]. Learning environment concerns the compatibility of e-Learning with the workplace. This addresses the **lack the time and space** to sit aside and spend time for particular training sessions [3.1.1.a.]. Currently, employees have concerns that their high workload would keep them from learning during work-hours; so far only lull times are spend for researching the Internet. While some employees could imagine conducting e-Learning sessions at home, however, most participants rejected the idea to learn at home and demand for a workplace-based learning environment.

Related to this barrier category is to invest in resources to establish a learning environment. **Budgets are limited but not necessarily a k-o-criterion.** It was outlined in most countries, that they could gain financial support by central ministries in case that a critical mass of



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learners (high number of employees attending the courses) benefits from the investment. Thus, a lack of budget is not the most important barrier to establish a learning environment. But as the previous point indicates, if financial support is granted to municipalities, the learning need has to serve a legitimate reason; such as a critical mass of civil servants who received training.


Another point discussed as a current challenge is the **lack of platform resources** [3.1.2.]. In many workshops no e-Learning platform was known; no particular repositories to gather resources for advanced training are present and available. Correspondingly, digitized contents from which EAGLE may draw from are scarce. It was raised as a challenge for EAGLE to provide a sufficient number of relevant learning resources. However, due to the low understanding of e-Learning, potential resources like re-used and shared presentations were not recognized as potential OER. In other countries it was outlined that resources may be digitized but are owned by external providers and thus not accessible.

Another sub-barrier in this category refers to the **lack of relevant educational contents** [3.1.2.b.]. Currently, employees feel that courses and contents are not relevant for their professional advancement. In countries where training is regularly conducted it was unveiled that particularly youngsters and lateral entrants lack educational resources and orientation. More generally, relevant educational content refers to specific themes<sup>5</sup>. Educational contents cover topics or projects and do not deal with overarching theoretical domains. Theoretical means that contents have no practical impact and focus on academic issues. Interest in educational contents is mentioned with respect to task specific, or enquiry based learning. OER should present extended topics only on demand, and should be consumable in a quick manner. Overall, the evaluation of educational contents is thus shaped by the knowledge paradigm.<sup>6</sup>

Another context and resource specific barrier is the **lack of digital networks** [3.1.3.]. One first sub-barrier in this regard is the **lack of internet and broadband** to take part [3.1.3.a.]. Most rural local Governments do have Internet connection but this is not the case for all communities across countries. Also, access may have to be shared among employees. Particularly operational staff and staff working outside office (e.g., land surveyors) have no own or regular access to the internet. Apart from that, the bandwidth connection is low in some regions, which altogether impedes a smooth and comfortable use of websites.

<sup>5</sup> In the country reports (chapter five) links to country specific themes will be described in more detail.

<sup>6</sup> 'Knowledge paradigm' stands for the civil servant's classification of knowledge and the perceived value of information which appeared throughout the study. It was constantly emphasized by workshop-participants in all countries that knowledge needs to be work-specific and immediately applicable; information have relevance if they are grounded. Learning by doing, peer and experienced based information can enhance knowledge.

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A second subcategory is the demand for **integrating EAGLE into administrative networks** (3.1.3.b.). On the one hand this relates to security concerns but on the other hand this has to do with the need for an interoperable, ease-of-use platform. Given the diverging maturity states of digital networks across countries, this demand varies among stakeholders across as well as municipalities.


Another sub-barrier is the **lack of digital facilities** [3.1.3.c.]. Some administrations in Germany have PA have specific systems and programs which are heavily used while in Montenegro and Ireland new software may frequently be implemented but mobile and stationary computing facilities are outdated and have low functionality. Concerning the question if own devices may be used at the workplace and integrated in an EAGLE concept it was found in some workshops that there is often no legal provision to use or plug **private devices into the workplace network** [3.1.3.d.]. Not at last an additional barrier is the concern about the maintenance of an evolving e-Learning platform in the public sector [3.1.3.e.]. It is not clear what it takes to sustain and take care of the platform in terms of resource and who will provide it.

A final barrier category is the **usability of the EAGLE platform** [3.1.4.]. It was emphasized in workshops that the handling of OER needs to be easy and intuitive [3.1.4.a.]. OER need a clear documentation and should not mean an extra burden to the daily work of civil servants. The ease of use was compared to Google and Youtube; finding the buttons and learning how to use the platform should feel familiar and would be reduced to the most important functions. Another challenge refers to the usability of the platform to get together with colleagues for collaboration [3.1.4.b.]. Suggestions address the rating of OER or chat options to obtain a quick feedback once questions were posed. But also the creation of known groups to exchange knowledge and learn about particular themes was mentioned. A corresponding demand is therefore to provide applications to rate resources.

Since e-Learning, however, was often associated to virtual chat rooms and opinion not to be sufficient for training needs, a variability of learning formats was needed to enhance usability. Last but not least country reports outlined the fear to be drowned by a **mass of information** on the platform [3.1.4.c.]. To avoid difficulties, it is demanded to design search facilities mainly focused on themes and topics instead of competences. Another criterion for the ease of handling resources is a filter that separates educational contents according to its relevance for the national or the regional level. The interest to dip into other national resources was, generally, rather low.

### **Prioritized barriers**

The main priority barrier is the **usability of the platform** [3.1.4.]. Participants emphasized that the introduction of an additional platform which is difficult to handle would be unlikely

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to succeed in the normal, daily use. No particular difference was made between the handling, search mechanisms or collaborative facilities that are required.

The next priority barrier is the **lack of platform resources** [3.1.2.]. The lack of relevant digitized, educational contents raises major concerns. Educational content should be topic-oriented, not too detailed and immediately applicable at the workplace.

Another priority barrier is the **lack of learning environment** [3.1.1.]. Employees emphasize the need to find time and space to engage in learning during work-hours at the work place. Therefore not only particular resources like technical and spatial facilities are needed. Also it is asked for a dedicated policy which designs rules for a learning environment compatible with the daily routine.

In the following, barriers from the perspective of the administrative context are resumed now focusing on barriers and subcategories for **policy specific issues**.


#### [4.2.3.b] Policy specific issues

No	Category	Subcategories	Reference No Subcategories
3.2.1.	<b>Lack of learning oriented regulations</b>	Lack of regulation, obligation or advanced training guidelines, use or provision policy	3.2.1.a.
		Regulated (constraining) or not transparent access to training resources, facilities and programs, more related to managerial issues	3.2.1.b.
3.2.2.	<b>Lack of regulatory frame for OER</b>	restriction of contents due to missing or constraining intellectual property rights	3.2.2.a.
		Lack of legal security for the OER practice (use, development, dissemination, external platforms, opening contents)	3.2.2.b.
3.2.3.	<b>Access requirements</b>	Claim for regulating access to OER on both a regulatory and system based solution	3.2.3.a.

Table 10: Categories and subcategories of barriers, context/policy specific perspective

The first policy-specific barrier category is **the lack of learning-oriented policies** [3.2.1.]. The barrier builds upon the **lack of regulations for learning and advanced training** [3.2.1.a.] more generally. There are no rules for a learning atmosphere at the workplace, and no guidelines that organize or make a particular managerial practice mandatory. In most cases the lack was outlined for general advanced training but can be posed for the conduct of e- and OER-learning as well. Another sub-barrier is the **regulation of access to training and programs** [3.2.1.b.] Training is not granted in a systemized way and in few countries employees have concerns to depend on the decision of superiors.

Another barrier category is the **lack of a regulatory frame for OER** [3.2.2.]. Firstly this refers to the lack of clarity of intellectual property rights associated to OER [3.2.2.a.]. Also

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this embraces the lack of regulated Open Data issues in general. Correspondingly a general **lack of legal security** [3.2.2.b.] needs to be overcome.

Finally, barriers to open collaboration may relate to the demanded **access requirements** [3.2.3.]. Generally, this point reflects the current regulation of access to resources and systems in public administration, which needs to be translated into the forthcoming access to OER. Across countries, the lack of regulation of access to OER, as to who can create, who can read and consume OER, was discussed. But it was also mentioned that employees prefer to collaborate with peers in the same position and separate access and responsibilities on the platform accordingly. Hence, social structures, for instance in terms of hierarchical position would have to be mapped onto the platform, e.g., by defining access rights for groups and communities [3.2.3.a.]

### **Prioritized barriers**

In the category of policy issues, the highest rated priority was the **realization of access requirements**. It is important to secure both on the level of system and on the level of content that the access, use and consumption of OER is regulated. Regulation in this respect does not relate to security concerns but rather to the interest of employees to affiliate with peers in the same position and with the same interest. Both in terms of technical access and community group sites this demand may be met.

So far the chapter has aggregated and summarised the reports of Luxembourg, Ireland, Montenegro and Germany. The focus was on the qualitative reports and on the overall prioritization of country barriers. In the following, the country reports will be resumed in detail.

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### Executive Summary Chapter 5

Across countries, studies between March and July have elicited about thirty to forty barriers per country. In Luxembourg, the quality of contents is a high priority similar as one of first priorities of Ireland. In Montenegro, the lack of infrastructure and policy framework for OER is of major interest. Political framework and support is important to Germany, too. However, in the qualitative, participatory studies we have elicited a huge extent of country specific information to be considered in the EAGLE design.

## 5 RESULTS OF THE BARRIER STUDY – COUNTRY REPORTS


In the following the findings from the requirements elicitation process will be presented for each EAGLE country. The results base on the workshops and will be presented for each country in form of a written report. It begins introducing the reported context and proceeds to report findings for each reference section for Luxembourg, Ireland, Montenegro, and Germany. To facilitate reading and avoid explaining different methodological aspects, the approach and streamlining of the reporting is explicated in the [\[Appendix\]](#).

### 5.1. COUNTRY REPORT: LUXEMBOURG

#### *5.1.1. Context description*

Luxembourg is a country with **strong traditional values** which is reflected in municipalities. There are quite a number of small municipalities without a critical mass of workforce which makes continuous learning in any form quite a challenge. While mergers have happened in the past and will happen in the future, municipalities will always remain rather small compared to many other European countries with only one municipality of Luxembourg, that of the capital, reaching a total of 3000 staff while the rest only manages to reach 600 staff at most.

**Staff is split into three large categories: civil servants, employees, and workers.** While most of these three careers span many disciplines, these three tracks mainly influence the level of responsibility and managerial requirements as well as salary and access to continuous learning. Civil servants are the least in number but those carrying most of the responsibility. Their tasks range from representing the mayor and directly acting in his stead as officer of state to sitting on the municipal council. They usually manage strategic resources and head teams of employees or workers. The educational requirement of civil servants usually includes a higher education degree. Employees are the administrative and social staff of the municipalities. They usually completed at least secondary education and most often hold a specialisation from higher education related to management, education, pedagogy, or similar. Workers are the largest part of the workforce with lower educational requirements. They carry out support tasks and keep the infrastructure running.

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**Civil servants and employees have guaranteed access** to continuous learning from a specific platform provided by a government agency, INAP. **Workers are guaranteed access to continuous learning** by their contract rather than their function. As **no governmental body shepherds their learning activity**, it is up to their superiors, usually the one civil servant designated to carry out these tasks as a liaison to INAP, to organise their learning activity. In most cases, this activity is directly related to their needs in terms of work description or standards (e.g. safety regulations). **Different ministries and three precincts** (Fr. Commissariats de District) **support the municipalities to implement laws and regulations.**

With Luxembourg being mostly traditional, **it is slow to take on new trends.** Only municipalities with a critical mass have begun integrating IT on their own to facilitate their workflows and even then are quite cautious and focus on optimisation rather than being on the forefront of technology.


### *5.1.2. Workshop results*

#### **Meaning of e-Learning**

Several participants stated that **learning means for them being up-to-date**, being aware of the **current state of practice** and **knowing the latest information for their work.** Changes in laws were mentioned as a typical situation where learning was essential. Learning means to acquire knowledge, which is relevant for daily work and which can be immediately used at work. **E-learning is seen as suited for acquiring pragmatic competences rather than to learn inter-human skills.** Learning should ideally be possible at the workplace. A majority stated that learning at home would not be looked upon to kindly but would be possible. Several participants stated that the learned need to be applicable immediately at the workplace. A cluster of responses refers to “**learning from doing**” and “**learning from experience**” – learning activities which rely strongly on learning from experience either on an individual basis or by sharing knowledge with others.

Online learning takes place mostly with external resources, that is, resources which have not been developed or provided by the local educational authorities for civil servants. **The Web is the most common source where external learning resources are consumed.** Only a Windows 7 course was known as an internal online learning resources and a course about memorisation was mentioned. External language learning courses were assessed as well.

Sharing knowledge about administrative activities or specific functionality (software) with peers was mentioned as daily practice and very important. **The knowledge in question is, however, not knowledge gained through courses but mainly gained by experience over**

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**time.** Further, learning was described as an extensive activity of information search and evaluation. Specific platforms (e.g. Legilux<sup>7</sup>) or concrete solutions for a problem are very helpful. For more formal topics (e.g. related to laws, regulation etc.), French is preferred as language. For more practical topics German is the preferred language. German is understood by almost all employees, whereas French becomes difficult for certain people. Regarding specific topics refer to the [Appendix](#).

**A good example for e-Learning is Luxembourg is the online test** provided by the Société Nationale de Contrôle Technique which offers the possibility for studying **for your theoretical driver's license with dedicated software**. A mixed approach has been taken by one municipality which proposed INAP to organise a course on a specific law with an expert. Prior to the course, the expert would collect questions from a forum so he could prepare with the specificities of the attendants.

### **Policy**


Access to **continuous learning is fixed by legislation for civil servants and employees**. Both are required to attend several classes to be able to advance their careers. Failure to comply will result in belated career advancements. Workers do not see their career tied to the participation in continuous learning. However, their field of work evolves as well with new procedures, machines, products, etc., being introduced into their daily work. Therefore, they have an equal need to acquire knowledge. This has been recognised by the communal bodies and unions.

**Workers are able to educate themselves in classes organised by the unions or requested by the communes themselves.** The latter establishes a continuous learning plan for workers to give them access to strategic knowledge depending on the commune's needs. Unions have pushed for recognition of the workers' rights to continuous learning by writing them into statutes or collective agreements. These continuous training plans are established typically during the annual appraisal interview. However, the latter are scheduled by human resources and might leap a year or „be forgotten“.

More **progressive municipalities have elaborated processes and formulated plans** and attributed responsibilities according to these processes. These form the basis for all work-related continuous learning offers as they explicitly include competences in the job description that need to be acquired and refreshed. Nevertheless, for specific activities (e.g. driving fork lifters, trucks, using a chain saw) courses are mandatory before workers enter the job or start with new working activities.

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<sup>7</sup> <http://www.legilux.public.lu/>.

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Municipalities have **limited budget to sponsor continuous learning**. While the offer from the national body and unions is free, learning offers from external agents need to be purchased and are often not free. Due to the availability of free offers organised by INAP, the budget is often not very high. However, the quality of training is often of importance and budget will be sought if a training is deemed necessary or desirable. If the interest for a specific training is high and highly relevant for work, municipalities can request a budget from INAP which is usually granted.

Furthermore, **size matters when it comes to access to continuous learning**; not for matters of budget but because of **a lack of human resources**. Small municipalities have to guarantee the same services as bigger municipalities, yet it is easier for the latter to send some staff off-site (which is often necessary) or block some of their work time to participate as staff can more easily split tasks or cope without a small portion of the work force of their service. In smaller municipalities, it is typical to only have one or two people per administrative task or service. Up to 80 days can be used for training for the whole career. Staff is exempt from work for those days.

### Projects

So far **only one e-Learning platform exists (hosted by INAP)** and its usability and available offer was questioned by a few participants. During the second workshop this offer was mentioned again in a more positive light. However, learning in the office where interruptions are frequent, was put under scrutiny. When asked to name learning platforms and technologies many offered knowledge repositories such as Guichet.lu<sup>8</sup> and MaCommune<sup>9</sup>. Also, forums seem to be rather popular. These revelations seem to indicate a **lack of projects and/or knowledge**, to some degree, about existing offers in regard to e-Learning, related technologies and platforms. Furthermore, a general misconception about learning platforms seems to exist as they are used synonymously to knowledge repositories.


Digital literacy skills (ICT and information literacy) are gained by participating in continuous learning courses. However, only rudimentary courses such as those required for word processors, tabulation and calculation software, as well as a basic handling of operating systems is offered in the first place. This leads to **a lack of digital literacy and the skills needed to identify specific information needs and handle information** in general.

During a second workshop with a technological forerunner municipality that is quite forward-thinking in most matters we could identify a **segregation of the work force when it comes to promoting e-literacy**. This affects mainly workers even if it was not explicitly mentioned but

<sup>8</sup> <http://www.guichet.public.lu/home/fr/index.html>.

<sup>9</sup> <http://www.macommune.lu/en>.



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the conclusion follows from the argument: only staff that needs access to technology (machines and software for the most part) will get the necessary training. Specific examples were cited where there is **no need for support staff like cleaning personnel to be trained** in the use of a laptop or smart phone in order to increase their digital literacy. It was outlined that the municipal council would not support and sign off on such trainings but that they would encourage, support, and even impose it wherever it was needed, no matter the staff's employment contract.

### Process


Municipalities are **left on their own when it comes to implementing change**. Changes are triggered by the legislative body through either laws or royal decrees. Usually these get reworked by the ministry before being dispatched to the municipalities. They are given examples and guidelines on how to implement the change but the quality of this dispatch varies largely by ministry. More often than not, municipalities are **required to elaborate forms and processes by gathering necessary information themselves**. This leads to the problem that forms and processes are highly likely to differ by municipality and are not guaranteed to be compliant with legislation as no control or feedback loop is implemented. In some cases experts either from the different ministries or from one of the three precincts (Diekirch, Grevenmacher, or Luxembourg) can help out.

**Training methods involve mostly practical and theoretical training sessions** organised by a governmental body (INAP). Exceptionally, Syvicol, a syndicate of all communes, organises courses (e.g., regulation traffic at building sites or accidents). Many participants insisted that, independent of the topic, it would be nice if staff from **a similar working context and interest would attend those sessions**. They are complemented by the few targeted offers provided by unions which are quite specific in their topics. Furthermore, some municipalities seek out offers from industry or interregional partners. These are less formal trainings but seem to have the best acclaim among participants, hence, should be considered as favourable learning methods. **E-Learning platforms and other novel technologies were not mentioned**. It has been mentioned, by a minority of participants, that the offer in courses from INAP is insufficient and that space is limited. These participants identified the reason for the shortcoming as the courses giving right to career advancement resulting in an overcrowding by design rather than necessity or interest.

For the last question we asked the participants to answer anonymously by placing a dot on a continuous scale from "individual"  $\leftrightarrow$  "collaborative". It has been found that most participants prefer to learn collaboratively.

### Roles

Roles that have been identified are (1) learners; (2) managers; (3) experts. **Learners** are workers, employees, or civil servants. **Managers** are dedicated staff members of

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municipalities who have been, either voluntary or by appointment, put in charge of organising and identifying needs regarding continuous learning. **Experts** are those that offer knowledge and expertise in the scope of classes organised by either of the bodies noted in previous paragraphs or by offering their knowledge on a request basis: by disseminating knowledge when asked for it by, for example, phone, email, or a face-to-face meeting.

It is of note that the **culture of multiplication**, i.e., sending a learner off to get schooled on a topic to later disseminate his knowledge among the remainder of the staff, **is not common** for Luxembourg. If multiplication is to take place, it is because it is rooted in the job description or organisational structure; it is **not deemed a favourable practice** for a specific learning offer. Even a more progressive municipality mentioned in the second workshop that they would rather **hire an expert** to teach than to use internal multipliers to transfer knowledge acquired by external trainings. An **exception is basic IT knowledge** related to office or specific municipal software like GesCom.

**Practical skills are acquired by intensive face-to-face hands-on tutorials.** i.e., an internal expert/colleague helps beginners by showing with real example how new/updated software systems work. Another exception was that a **technical staff member acted as multiplier** after having participated in an external fire prevention course. The person afterwards transferred the knowledge to other municipality members by means of organising an internal course.

**Courses are typically organised by the INAP or unions** and cover the needs of most staff. Concerning needs of staff: While the law provides guidelines for an annual staff evaluation, they are not always performed. **Needs are usually identified by superiors or the staff on their own** and brought to attention, respectively, **needs are tied to their work description or legal requirements.** Due to the tie of career advancement to course participation, it has been commented that a noticeable amount of people are satisfied with participating in basic and easy courses to be granted their career advancement. The other extreme are participants engaging with the topics due to personal interest or passion with the topic. This user group's motivation leads to the organisation of out of the ordinary courses, usually bypassing official bodies. This also explains the low demand in targeted, specific courses where the demand either stems from municipalities and are aimed at addressing specific needs or from staff that does not want to fall in with the stereotype and is more idealistic about continuous learning. **INAP staff acts just in a few exceptions as trainers** (trainings about software). Some courses are given by people working at ministries. Hence, in most cases, external trainers conduct trainings.

Due to the size of Luxembourg and the centralised institutions, **word of mouth is the primary source of information regarding existing courses.** Hence, colleagues are the main

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source of information on the offer and its quality. It has also been deplored that there are no forums or other venues to leave direct feedback to the INAP and for future learners to see.

### Knowledge

In general, the level and need of knowledge was difficult to answer, but all civil servants working at offices are supposed to be **able to work with typical word or spreadsheet processors**, such as Microsoft Excel and the like. In addition, using Web browsers and email clients belong to standard skills. **No prior technology skills are required before working at a public administration.** In general, the use of smart devices such as tablet and smart phones is quite common, so we assume that those skills are sufficiently available at least for the work force (civil servants, and employees).


For the workers the situation is different, **many workers are not familiar with ICT** and smart devices because their work does not require using them. But there is another group, **older colleagues who are not motivated** to move on to the “next” generation of smart phones for the last working years before their retirement.

**Typical skills mentioned** as very relevant to be learned, which were not in particular related to skills to realise online learning, were: **leadership, moderation of meetings, skills to motivate colleagues, team management, HR skills, conflict resolution.** As mentioned previously topics such as urban planning and safety at building sites, safety in the context of using machines and tools were mentioned as very relevant knowledge, respectively, skills.

### Curricula

**Career development is tightly coupled to continuous learning for employees and civil servants.** Both are grouped into three tiers (lower, medium, and higher) and competency levels after which the offer of courses changes. However, **some basic courses are always available**, especially those targeted at ICT literacy. **Almost all courses are face-to-face seminars.** Career advancements are only granted after a certain number of courses have been successfully taken.

**The curriculum for workers is different.** They have to undergo **basic training** after which they are considered full employees. These trainings are given by the same body (INAP) but should be considered distinct as they are a requirement and linked to the prerequisites to a full position rather than continuous learning. Workers **only have access to the latter once their basic training is complete.** Then, their managers can decide to provide them with additional training opportunities, most of the time mandatory, to further their skills to serve the need of the municipality. However, these are most likely aimed to satisfy increasing safety regulations or for the use of specific tools rather than the wish of the worker. Also, the **career of a worker** is, after their initial training, **tied to their age** and not the participation in any courses.

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Trainees seem to **prefer the traditional seminar** or practical session with an expert, especially if they are **closed to their own field of expertise**. Many comments suggested that it is the **exchange with colleagues from the same profession or speciality** that is most important. Opinions on the courses offered by INAP vary. Some are satisfied while others deplore the quality. Some note that the current structure is a step forward while others note several lacks and their dissatisfaction.

Post-its were used to gather those domains and topics where a high need for information exists, i.e., where the staff spends a substantial amount of time to search for relevant information to solve the issues. The following **domains have been identified** [[Appendix](#)]: Generally, participants from the building authority mentioned that a lot of **information is required with regard to development plans or legally binding land-use plans and the decisions** they have to take daily related to building permission/licences. PAP and PAG are two complex procedures related to land-use plans and building permissions, which seem to be a topic where a lot of information is needed. Topics in the domain of sustainability are eMobility for which information is even searched across borders or the implementation of the climate pact, which is a contract signed between municipalities and the state (Ministry of Sustainable Development and Infrastructures) to create sustainable solutions.

Also **new laws and regulations require that employees and civil servants invest a lot of time** to study the elaboration of the above given by the ministry. Often these contain but guidelines which are not applicable as is to the municipality. Additional effort is required to **draft forms and templates** to offer to citizens. These forms then need to be checked carefully in regard to compliance and content. Furthermore, new processes usually incite citizens to ask questions which front-desk personnel needs to be able to answer. As the topics in question often relate to regulations or laws, personnel must spend additional effort to comprehend the, usually quite voluminous, documentation on the topic.

In Luxembourg, in addition to the documentation provided by the ministries (circular letter), all laws are published in so called **Memorials and documented in an online platform called Legilux** which is also accessible by the Guichet.lu platform. The latter also documents several processes and is one of the major resources for citizens and staff of the PA. The SIGI is the main body for software and IT resources for municipalities. They usually provide **ample documentation with their software which is, as reported, sometimes not adequate for the use as intended**. This leads to deficits in usability which have to be compensated by staff.

During the second workshop the municipality noted that they were in a process of changing the definition of curricula and had recently abolished so called “Notes de service” which is basically a task or job description holding what specific staff had to do. The abolition was in favour of the creation of an internal order which elaborates processes rather than jobs. The

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processes are more detailed, holding the organisational structure and defining interactions, as well as having a tighter legal framework. These documents are also shared with other municipalities.

### **Culture and collaboration**

On an individual basis, most participants seem to share more or less the same conviction and experiences. **Intra-collaboration in municipalities usually works** quite well as does the **inter-municipal communication with similar offices** but the latter is **often more complicated** especially if ministries or governmental agents are involved. **Strong ties with colleagues should be encouraged** as the exchange of experiences and knowledge is best done among friends in closed circles.


For some of the older staff, who attended the workshops, the **strategy of the government body** responsible for training (INAP) is **perceived as to be destroying this culture**. They highlighted that **knowing your peers is an important part of your job** as they are often the first person you can ask for advice. Furthermore, participants said that ambience is an important factor of feeling at ease and being receptive to learning. In the more densely populated south where municipalities have more staff, personally knowing your peer from neighbouring municipalities usually does not hold true for workers while it is mostly true for employees and especially civil servants.

An important comment was that several participants think that the INAP **underestimates the importance of the values** mentioned above and often intermingling municipal staff with governmental agents. It was said that **continuous learning courses should not be held in shared sessions mixing government and municipal staff** (see also above). Furthermore it was noted that INAP courses try to give a detailed picture about a topic, focussing on details that are not necessary in staff's day to day work, hence basics are neglected. Another municipality mentioned that courses often do only address updates of a particular topic which makes it very difficult for beginners to follow since they lack the basics.

The knowledge sharing culture is good but **the problem is that the workers for example do not know whether other workers have similar problems**. Some associations like the one for all secretaries host a mailing list which is used when open question arise. Unfortunately, only 1/3 of all secretaries make use of it and, in some cases, **spamming** is an issue.

### **Technologies**

**Internet access is not guaranteed for all staff members as is the access to IT resources**. Especially workers may not have access to IT resources at all times. The success of mobile devices has, however, lead to the fact that most workers have Internet access by phone even if it is their private phone. More progressive municipalities have equipped some of their staff with tablets. However, they highlighted that they will oppose handing out overly

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technological benefits to all staff as technology should always complement the work task; **many workers do not require any IT device or related competences.** But in general, introducing **technology is not opposed.**

Common software includes a version of the Windows operating system as well as the Office suite. In addition, specialised software such as GesCom, a program allowing civil servants to input and commit data. As of now, no participant mentioned a codex or guideline as to how to use IT resources.


Online resources include several platforms which had been created by personal initiative or the LegiLux, Guichet.lu and MaCommune. These offer limited resources in regard to legal matters and processes. These are sometimes complemented by mailing lists hosted by associations such as the association of municipal secretaries (ASC)<sup>10</sup>.

The only e-Learning platform known is hosted by INAP. **No municipality seems to use an Intranet of any kind.** The system EASY supports the PA to document and to store all kind of mailings or decisions taken during council meetings. The system SIGCOM provides access to all detailed plan for streets, canals, gas pipes, communication lines including all land register maps and photos of important spots.

The moderators also asked about the use of software and devices for work related tasks as well as for the private context: **For private activities most participants are familiar with smart devices and use also classical desktop software with PCs at home.** Some participants even emphasised that they would like to shift completely to mobile (smart) devices in their private environment but this is not yet possible. Internet use is daily practice at home. For the work context most participants use PC and either desktop software or specific software for their daily services (e.g. EASY, GesCom). A few exceptions show that some municipalities explicitly bought smart devices recently (e.g. iPads) which are used for accessing information and documents during weekly meetings. These devices are used by managers/groups leaders or elected people (council incl. major) of a rural PA.

**In fact each municipality decides on their own to buy new devices, or give access to specific platforms or the Internet.** This is not decided on a centralised basis (e.g. by a regulation of the government). Municipalities sometimes develop (or ask for development of) specific software. In this case EASY, a **ticketing tool for tracking activities** and work in the municipality has been developed by one municipality and shared with another. Training is done by multiplication of knowledge and targeted training sessions with internal tutors. The software led to the uptake of technology by some staff not having access to it previously.

<sup>10</sup> <http://www.fgfc.lu/online/www/content/9/207/288/FRE/index.html>.

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Following the outline and description of the context the focus will now shift to barriers and considerations about interventions more precisely.

### *5.1.3. Description of barriers and interventions*

Barriers in Luxembourg are tightly coupled and a direct result of its size and conservative way of life. Municipalities are **reluctant to embrace change** although they acknowledge the need for it, they want to set the pace and remain in control of all times. This introduces mostly organisational, individual, and technological barriers. The latter are, or should be easy to fix as the technological infrastructure is given throughout the country and budget to finance technological projects can be come by. Hence, **technological barriers are mostly a direct result of access restrictions** or direct need: why add technology if work can be done just fine as-is? Therefore, in a sense, most of the **technological barriers are related to** or are a direct result of **policy barriers**, too.

However, due to the size of most municipalities and the local character, with the help of agents willing to introduce change, most barriers related to policy, technology, or organisational, can be overcome. Individual barriers can be addressed with education and information provided their gain is encouraged by policy makers. This is a process that takes time as individuals seem to view education as a mean to an end and not as personal gain for themselves.


#### **Policy barriers**

The following barriers can be seen as having more or less impact on the overall quality and availability of continuous learning. Due to the **lack of time** [3.1.1.]<sup>11</sup> dedicated time slots to participate in continuous learning need to be developed: Even though classes given by the INAP or other institutions have a fixed schedule, employees still **need to make room in their daily routines** to attend those

Furthermore, learning at the workplace is deemed nearly impossible by some due to the **weight of the workload**, the **inability to set aside time** dedicated to participate in any workplace learning activity, or simply the office **environment where participants seem to find it difficult to concentrate** and focus on learning activities. Sometimes, especially for front-desk staff, **interruptions are frequent** and learning almost impossible.

Concerning the **course offer and quality** [1.1.a], e-Learning should complement the monolithic offer by INAP. It is deemed to offer **not enough small and specialised, more**

<sup>11</sup> This is a barrier reference number to chapter 4.2.. The respective analysis and barrier list for Luxembourg is in the Appendix “Analysis Luxembourg report”.

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**practical courses that complement daily work routines** to remedy short-comings or recent gaps. Moreover, concerns related to the **learning paradigm** that offered solutions and information need to be **immediately applicable** [2.1.a.] to gain relevance for prospective learners.

Workers also face the problem that their work **seldom** has them **reside at the office** for extended periods of time. This **makes learning activities more difficult for workers** due to accessibility of location and devices. Furthermore, their trainings typically involve a lot of practical topics. Their needs are also often related to the reacquisition or renewal of knowledge. With a need to supervise work in regard to security and execution, they are also required to acquire **knowledge on topics and procedures that are typically, due to cost, externalised**. A further issue is that workers are dependent on the whims of municipalities as they decide on learning plans for workers. While municipalities are usually forthcoming, this is not guaranteed. Workers, while having a legal right to continuous learning, might be forced or see themselves at an inability to attend classes of their choosing with municipalities only supporting courses that are of immediate use to their work description. The participants also mentioned that it happens that **appropriate courses exist** but they are **not aware of them** [1.2.a]. The salary of workers depends on their educational level and competency profile when they enter the PA. The collective agreement defines the entry salary. However, **salary raises do not occur because workers develop or improve their competences** during their employment. Concerning the **planning of courses, not all municipalities were aware** that INAP provides a budget for relevant courses which are not in the official course catalogue [1.1.a.].

**Ethics and privacy** can become an important issue [2.1.b.]. Participants expressed that a future e-Learning platform would require a **closed system** [3.1.3.b.], i.e. login-locked and only accessible to specific communities. Another point is the **low collaboration among communes** [1.3.a.]. It would be more interesting to keep communities localised to regions or countries rather than to expend across the border. However, this seems to be a point of controversy as municipalities closer to the border did not express this requirement.

Furthermore, it was mentioned that some **resources are acquired from international sources**. Insights from the second workshop suggest that a system might need to label resources for their national respectively international relevance. It might be interesting to **browse OER of international partners** but searches should be contextualised and resources **filtered for the national context** as that would be the most, and probably only, relevant context [3.1.4.c.]. To be able to manage time allocation and manage administrative processes regarding learning, the system should provide a **role based access control** that delimits the application scenario [2.4.c.] and which is able to **handle OER consumption requests that can be validated or denied** [3.2.3.a].



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An important barrier was raised when it comes to sharing documents that are **work in progress**. As projects may take a long time to elaborate (sometimes years) sharing resources early could help save a lot of effort. However, employees have **concerns about the feedback culture** due to the documents being mere proposals, there needs to be a mechanism that prevents political repercussions from misinterpreted drafts [2.2.a.].

### **Organizational and individual barriers**


At organisational level, the **lack of learning culture is a big issue** [1.3.a.]. A substantial part of civil servants and staff participate in learning activities to further their career. Workers participate in activities allowing them to work with machines they **need a license for and related security trainings**. While there is a movement advocating that the previously mentioned coupling of career advancement to learning activities is severed, the governmental bodies in charge of the process have scheduled a revamp of the system.

As the INAP is the central structure for organising learning, most offers stem from them, respectively are organised by them (e.g., looking for external trainings providers, content providers, etc.). While unions and private companies might organise trainings, there is **a need to accredit courses** [2.3.c.] or to homogenise them in order for the INAP to recognise the course and have it count toward required courses for career advancement. While non-accredited courses might still be taken, depending on the municipalities' budget allocation, motivation might be impacted. A workshop participant mentioned that so far INAP has never rejected a request for accreditation if the value of the training for work is clear.

Structures for learning are clear, see Policy. However, the **continuous learning manager** (*délégué(e) à la formation*) **is attributed by the INAP**. This function is, in some cases, seen as additional work and for already over worked staff this constitutes a problem. In **some municipalities a deputy is appointed to compensate** but in **others this is not possible which leads to a lack of coordinators** [1.1.c.]. As the manager is in charge of diffusing the learning offers and inform staff, this function might not be lived fully, constituting a process, organisation, and role-related barrier for access to learning.

While non-manager staff have to issue requests for training to the manager and wait for his approval in most cases (the approval of another superior, i.e. the mayor, might be required depending of the delegation of power in the municipality), the access to training, even if information is acquired with personal effort, is related to the quality of the role as mentioned above. The process where non-manager staff can request trainings to their liking, which is perceived a good feature of the system as is, is tightly coupled to the manager role performance.

An additional barrier is **the lack of penetrating digitalisation**. While some systems function digitally, others still rely on paper documents and hand-written input. In particular **staff close**

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**to retirement is not willing to adapt** to the last generation of smart devices which feeds into a **demography** issue [2.3.b.]. The main reason is that they **lack of ICT skills** and do not know about the advantages of such technologies [1.2.a.]. Barriers regarding resources do not exist as such. All resources except time are usually available. Time is short due to workload and scarcity of staff in smaller municipalities.


A barrier would be the specificity of how **intellectual property** is handled [3.2.2.a.]. Currently there is a **lack of content developers** as the responsibility is not part of any work description [1.1.c.]. Participants expressed to retain intellectual property of authored content and to be able to clearly identify other authors. It was also expressed that qualitative comments would want to be left on OER such that future learners might judge the quality of items better. This outline **need for rating mechanisms** [3.1.4.b.] which constitutes a personal wish to express their judgement and pass it on to peers.

**Very limited e-Learning knowledge on ICT-based learning exists** [1.2.a.] and most is related to the use of knowledge repositories like online documents (found by googling) or Web 2.0 facilities such as FAQs or forums. Some seemed to have consumed video-based content such as cooking tips and recipes in the private context. A rather important barrier is that of actually **understanding OER and related rights**. Participants showed little knowledge of the subject but mentioned probably issues regarding intellectual property rights and author identification.

During the second workshop more barriers were mentioned. The **role of language** has been outlined [1.4.a.]. Some staff **only speaks one of three of Luxembourg's official languages** (Luxembourgish, French, and German) which would make their access to OER in different languages harder. Furthermore, workers, often those also facing the latter barrier, seem to be perceived as **having low ICT literacy**. However, due to their work description it is not deemed necessary to improve their IT skills. This could severely limit their access to e-Learning. Hence, it was proposed to allow workers (other than the foreman/woman) to participate rather than to force them. However, at the same time their trainings usually focus on manual tasks which do not require any IT skills.

In general, the overall feedback was that **learning outside working time** will not be accepted by most staff members [3.1.1.]. Exceptions will certainly happen, but more seldom. Some participants **feel afraid to be identified as expert for a specific topic** for fear of **being singled out and a heavier workload** or more requests for help [1.3.a.].

A resource related barrier is the **absence of educational resources** [3.1.2.] related to recent emerging jobs in municipalities, especially related to education or social workers. The reasons are twofold. Firstly, continuous learning offers of educative personnel was usually provided

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by the teacher's union which did not offer pre-kindergarten level, and secondly, the demand was practically non-existent a few years ago.

### **Technological barriers**

Not all staff members have equal access to IT resources and the Intra/Internet. In fact, there is a **constrained availability of technology** [3.1.3.]: In most municipalities that participated **Intranet seems to not be used or the term is unfamiliar but access is limited by access rights** for, most likely, security concerns. It should be possible to negotiate removing restrictions regarding access to the EAGLE platform. However, due to them being mostly out of office and their workplace not usually being equipped with IT equipment, **workers have the least access to IT resources** and sometimes it is by design that they do not have access to IT.

ICT training is limited to basic office skills and operating system literacy. Moderators could identify a consistent lack of qualification regarding abstraction of software concepts and modelling respectively content generation in the Web 2.0 exists. Mobile phones are usable and often the only (see elaboration on workers above) way to access IT resources. For **inexperienced users there is no continuous tutoring** [1.1.c.].


Specific software is provided by the SIGI (e.g., GESCOM) and comes with limited documentation. Employees, respectively civil servants, are required to use this software. An example is GesCom<sup>12</sup>. Some participants expressed that the system behaves in unexpected ways and that it takes time and effort to get to know how to use the system. Smart devices can be used to access emails but they cannot be used to access the specific tools such as GESCOM. It is up to the municipality to equip colleagues with devices.

All **local documents of a municipality are stored locally on own servers** (e.g., meeting minutes). There is a **lack of sharing basic resources** [3.1.2.b] as **access by other municipalities is not possible**. A limited number of older forums exist and they are not heavily frequented. **Most resources are out of date. No other system exists, also none for collaboration** and exchange, for instance, so communication is done verbally over phone or in person.

The **only e-Learning system**, provided by INAP **was mostly unknown** [1.1.a.] by participants and only a very few of them used the platform. Nobody remembered that the platform was introduced in the past.

If the solutions of EAGLE **lack of usability** [3.1.4.a.] and suffer of a high complexity, **the risk is high that staff will not use it**.

<sup>12</sup> <http://www.sigi.lu/services/gescom>.

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**Accessibility is regulated by law provided.** The legal body dictates that 5% of the municipal workforce be reserved to people with disabilities if possible. In reality, 1-2% of the staff employed at Luxembourgish municipalities have disabilities. They have the same working rights as staff without disabilities.

**Language is another accessibility barrier [1.4.a].** Luxembourg features three languages with a majority of first generation immigrants only fluent in one language if at all. There seems to be a correlation (intuitively, we do not have the data to back it up) between the lack of language and IT skills.<sup>13</sup> Furthermore, a general **barrier exists as to the use of technology by older generation.** As this is a common barrier, use should be encouraged through all generations but cannot be enforced. Hence, this barrier should not be considered.


#### Pedagogy barriers

**Open Education is not assessed by the governmental bodies in charge of continuous learning in governmental structures.** As such, Open Education is not viewed as an alternative. e-Learning courses are not homogenised with existing courses and are, therefore, unattractive to all but workers. Furthermore, **time spent on e-Learning is not accounted for.** There are **no prescribed models for e-Learning.** E-Learning offers are subcontracted by INAP.

**Cross-municipality learning would be welcome if it were topic oriented.** For the most part cross-border learning is viewed as bringing little benefit. However, some participants expressed that this is quite interesting when it comes to norms and standards, respectively the realisation of projects where international homologues already have collected experience. **In addition contractual distance** may impede cross-municipal cooperation due to a **lack of similarity regarding administrative processes** and the diversity of documents [1.3.b.].

Furthermore the **role of irrelevant contents** has been pointed out [3.1.2.b.]. It has been mentioned during the second workshop that some of the **current courses are unable to convey knowledge adequately.** They focus on conveying a maximum amount of information, elaborating on all nooks and crannies instead of focusing on knowledge that is required on a daily basis, sacrificing confidence with basics for fleeting knowledge of specificities. Nevertheless, INAP has started to provide new formats of training, such as workshops. For example, workshop participants are invited to send questions to the organiser, so that the course content will answer those questions.

<sup>13</sup> For further data see statistics <http://www.statistiques.public.lu/fr/enquetes/espace-menages/education-adultes/AES-Questionnaire-LUX.pdf>.

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**Some courses are overbooked** (e.g., back muscle training), rarely courses are cancelled because of low interest respectively subscriptions. More specific courses are generally better accepted (civil registry office). Currently, the courses are not provided on different levels of details/complexity, which would be good to address everybody .

**Learners** who attended a course do **never act as multiplier** so they do not explicitly transfer the learned by giving for example an internal course [1.3.a.]. It was emphasised that currently training events of an informal, open character for people with same interest does not takes place anymore. During these more or less informal events networking was done intensively and important contacts could be made.


Workshop participants also mentioned the need for **qualitative control of OER** to avoid low quality learning content (e.g. wrong information) and repetitions [2.1.b.]. The problem is that for some topics there is no expert who knows everything and who could **judge the maturity of OER and validate the content** [2.1.b.]. Some ministries have really good experts, but other ministries lack of expertise to answer very specific questions.

Based on the information presented so far, the barriers for Luxembourg were analysed iteratively; the list of barriers for Luxembourg is in the [Appendix](#). To refine the mass of information about barriers in Luxembourg further expert focus groups were conducted. The result is reported in the following section.

#### *5.1.4. Results from expert workshop-interviews*

The **workshop-interviews** were conducted with **ranking officers** of the local government and **stakeholders responsible for the link between government and municipalities**. The interviewees were chosen due to their ability to comment on barriers from a high-level perspective as they know the context across many municipalities and regional municipal unions as well as the national context. The idea was to **present the barriers** elaborated during the workshops **to discuss** and let them comment on these barriers and **to arrange them according to their severity / importance**.

The contact to experts led to a **better understanding of many policy-related barriers**. It also enabled to gather a second point of view regarding many of the criticised points and negative comments about the current continuous learning strategy. Further the exchange **raised confidence that most barriers can be addressed by municipal policy makers** and the **support and understanding of key players** who know the situation across many municipalities. Insights will be further explained.


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Firstly, the interviewees were able to **confirm most of the concerns expressed in the barriers**. They also **shared many opinions** expressed by municipal staff during workshops, especially that learning activities are merely used as career advancement is to deplore, it would be welcome if offers were seen as opportunity to gain competences. Secondly, some opinions which were **not shared** refer particularly to **negative opinions regarding the current offer and processes**. Some arguments were countered by providing statistics which falsify certain claims of workshop attendees. The results of yearly evaluations conducted by INAP using surveys revealed that some of the arguments are likely subjective and represent the opinion of a few outspoken individuals that has been popularised through word of mouth rather than by personal experience.

Thirdly, **facilitators and workshop participants have different ideas** on some topics but their analysis, except for the issues mentioned above, coincides. Hence, both parties see the same issues, that there is a common understanding about the barriers seen by municipal staff and by the interviewees.

Shifting to **scenarios** the interviewees presented **no ideal solution**. This is mainly **due to point that there is no real knowledge about platforms and their capabilities**. However, the following features or limitations were addressed. One concerns the support and need to make the EAGLE platform as a **complementary offer** to the existing continuous learning curricula and not try to replace them [1.1.c.]. OER that can be consumed as soon as a problem or a learning need is encountered [3.1.2.b.]. The EAGLE platform should be used to gather learning requests. Another point was outlined regarding the **detail of contents**. EAGLE should provide light-weight and practice oriented OER/Open Learning.

A point which was more thoroughly addresses is the reliability of information. It was **suggested that a validation committee is built, i.e., must exist that validates content** as it is added to the platform in order **to maintain a certain quality and rigour regarding content**. It would also give **more credibility** to included OER and offer a **certain level of security** regarding correctness of consumed OER. The interviewees discussed issues related to maintenance of the platform [3.1.3.e.] and the possibility to **continue using the EAGLE after the project lifecycle** and were **positive** that a solution could be found to host it. But **no decision was taken as its added value would first need to be established**. The barriers which were identified during the workshops in addition to those in workshops are outlined in the [Appendix](#). Based on the full set of mentioned barriers in both employee and expert workshops the priority list of barriers for Luxembourg was defined.

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### 5.1.5. Defining priority barriers for Luxembourg

The prioritisation for Luxembourg's barriers ended with twenty four high priority barriers and were arranged into six clusters (two to eight barriers each).

#### Quality of contents

The information on the platform needs to be **relevant, reliable and immediately applicable to the workplace**. A **validation of information** should be conducted on a **higher, responsible (or central) level; preferably by experts** for each topic and this process should preferably handle the validation of OER and learning requests. The corresponding infrastructure would be hosted nationally.

To resolve this point it is advocated to **create a validation committee** composed of **national stakeholders with links to experts** who can **monitor the quality** of OER.

#### Organisation and renown

The lack of organisational practice in the workplace needs to be overcome. This includes the lack of time, place, and peace to engage in learning activities while being at work; currently learning is not integrated into work processes. But the point touches upon **political acceptance of learning at the workplace**; the acceptance and permission to engage in continuous learning activities at the workplace.

To resolve this point one could **devise a strategy to increase awareness** and **convince** municipal stakeholders of changing their policies regarding learning at the workplace.

#### Platform requirements


Introduction of new software is **worsened by lacking or bad documentation**. Currently there is **an absence of FAQ- databases**. Also there is a **lack of platform resources**, a lot of content is too theoretical and removed from practice, leading to broad and untargeted courses. For collaboration on the platform an optimised exchange of knowledge between municipalities is **difficult by the lack of synchronised administrative processes and discrepancies in work documents**. Related to this there is **an absence of discussion forums**.

To resolve this point one could **focus on topics not competences** and **identify responsibilities of municipal staff** in order to improve system design the system

#### Content creation and motivation

To resolve this point one could devise a strategy to **form automatism to use EAGLE for content creation**. **Regulation of input and analysis of needs** should be handled by a validation committee. Devise a **pilot study and validate the system prior to deployment**.

#### Motivation for learners

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**Open Education currently plays no role for continuous learning** of municipal staff. In discussion reservations to upcoming changes were discussed which relate to the **missing understanding and experience with e-Learning**. For means of motivation an **accreditation and certification** of EAGLE learning activities would be beneficial. Another point associated to this cluster is that EAGLE should **not aim to replace formal continuous learning activities** of INAP. To resolve this point a **motivation strategy** is needed which provides **political support** and encouragement to learn with EAGLE.


### **EAGLE (technical) integration**

EAGLE should be **integrated into existing national infrastructures**. This would be achieved by integrating INAP, for example, in the consultation process, as well as other national players responsible for the technical infrastructure.

To resolve this point, one step is to **consult and integrate national entities** frequently and in the processes of EAGLE development.

Other points to reconsider for the EAGLE project in Luxembourg were that interviewees mentioned that a ministerial decision could be taken regarding the future of EAGLE after the end of the project, especially in regard to maintenance and future development. Again, the integration of national stakeholders becomes important and might ease the transfer of the platform once the project has run its course. But at this point of the project such a discussion was premature.



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## 5.2. COUNTRY REPORT: IRELAND

### 5.2.1. Context description

Ireland is a country which, due to the enormity of the economic crash, has undergone many **changes over the past number of years**. From the societal perspective, Ireland has always been a somewhat traditional, naturally conservative country dominated by the twin pillars of politics and religion. Latterly, an influx of non-nationals has changed the demographic makeup of the country contributing to legislative and societal changes.


The “unit” of local government is the County council. There are **31 local authorities** in the Republic of Ireland. Some counties (Dublin for example) have more than one local authority. Thus, though most counties are represented by one authority, some are represented by more than one authority. Currently there is focus on restructuring local government in relation to reduce the number of town councils. This restructuring will have an impact on the overall government structure in relation to local authorities and the legislative process.

The staff in the local authorities are divided into broadly defined categories. They can be generically defined as those holding senior positions (either management or those with a specialised qualification such as engineers), employees (front-office staff, technicians etc.) and “outdoor” staff who work on projects such as road maintenance, upkeep of public facilities etc. The **needs of these diverse groups are rather different**, however those working “indoors” would typically have the requisite technological literacy. It is difficult to assess the skillset of those working in an outdoors environment, as use of computing technology does not generally fall within their remit.

Ireland has **two official languages**; English and Irish (Gaeilge). This is of particular importance, as materials produced must be available in both languages. Though only a small minority of the citizens speak Gaeilge, all official materials must be produced in both languages.

There is **no culture of e-Learning within the public administration**. However, employees are encouraged, and in many cases required, to take courses in specialised training to advance their careers. Such courses are prescribed by management, and in many cases promotion can depend on their completion and the attainment of a relevant standard in subsequent exams. From a technological perspective, it is hard to quantify local government in Ireland. The reason is that geographically and demographically, the various authorities operate autonomously. Thus, the **infrastructure present in one might not be found in another**.

The rules of access (governing what an employee can or cannot do) is also different depending on the local authority. Also worth noting, is the almost total absence of high-quality broadband in rural areas of Ireland. Unlike some European countries which are well-served by broadband coverage, Ireland lags behind in this regard. One does not have to

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venture far from a town or satellite town before the only options are dial-up access, or indeed mobile (cellular) internet access.

### 5.2.2. Workshop Results

#### **Meaning of e-Learning**


Participants indicated that **learning in the workplace is generally the ability to gain appropriate information on work-based scenarios**. The ability to gain knowledge required in **fulfilling their tasks**, while having access to **up-to-date knowledge** on current regulations and practices.

Participants indicated that they had an awareness of e-Learning. For instance, regarding the use participants indicated that **e-Learning currently occurs through their use of social media**. They use common forums like YouTube video, for example. Other **types of forums that are used are generic** ones typically found by using a search engine and entering keywords. One participant noted that a bespoke community website had been developed to facilitate the exchange of information, however beyond this **no specific instances of e-Learning forums were mentioned**.<sup>14</sup> It can be inferred, therefore, that in the context of these participants e-Learning refers to using standard tools such as **Google, YouTube (etc.) for the purposes of information acquisition**.

Participants are broadly aware that **there are different types of e-Learning**. Whilst the terms **“blended learning”, “collaborative learning”**, or other such technical descriptions **were not used**, discussion elicited the fact that participants understood the distinction between attending a **face-to-face lecture or training course**, and taking a similar course in an online situation. None had used MOOCS, and none had attended a course delivered using any form of VLE.

The participants were aware of the role of newer technologies such as tablets and/or smartphones in online learning. However, when asked, they intimated that, given current work practises, they could **not envisage how newer technologies would be included in day-to-day activities**. Workshop participants agreed that **access to learning/learning facilities should be available within the work environment**. However, participants indicated that in most cases **access to online resources** is available to staff (YouTube videos, Google, forums etc.), but while learning activities are not discouraged the facility is not specifically for learning purposes. For example, research on policy, legislative changes, or specific technical

<sup>14</sup> It is to note, however, that recent reforms brought about e-Learning offers: <http://www.cstdc.gov.ie/mod/resource/view.php?id=1024>.

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queries were highlighted as use-cases. It is noteworthy that whilst **YouTube** was explicitly mentioned on several occasions, **no other social media sites** were alluded to. It is unclear whether this is due to the fact that these sites (Facebook, twitter) are blocked, or whether the participants did not utilise them as part of the investigatory activities. **Access to these facilities** are generally instantaneous but are currently confined to the ‘free’ time of the employee, where ‘free’ represents **lull periods within the working day**. Participants indicated that training courses need to be relevant and based on specific employee role, and also to related tasks.

Several participants stated that **learning needs to be available directly at the workplace**. Currently training courses provided to employees are mandatory however are located at considerable distance from the place of work. These courses are presented in a face-to-face environment, and **no online presentation is ever used**. In many cases these courses **do not result in competency building or career progression for staff** as they are non-representative of the employees’ job requirements.

Participants felt that **Blended learning/ online learning would be beneficial to motivate staff**. The comment was passed in the context of facilitating knowledge transfer. The example given was that by using online resources, staff would be more motivated to maintain the knowledge gained in the face-to-face component of the course. **Social media and interactive communication with colleagues through wikis, forums etc. would also be beneficial to facilitate** the transfer of knowledge between staff. This issue was highlighted by a participant who occupies a technical role within the organisation. It was explained to us that a forum has been established by another local authority Fingal (North County Dublin) which facilitated the **exchange of information between engineers**. However, moving solutions from this forum to a more easily available repository would be useful.

**Knowledge transfer is currently lacking across the organisation**, between colleagues both within departments and across departments. For example, a participant who has been responsible for training provision suggested that video content of colleagues giving experienced based opinion on specific work task related scenarios would be beneficial, i.e., how an emerging issue has been resolved in the past etc.. There is also a **need for a repository for ‘experience’**, that is **on-the-job learned scenario-based experience** held by individual employees. Generally also legal and procedural knowledge was indicated as a key area of importance.

It was indicated that there is a **difference between ‘indoor’ vs. ‘outdoor’ staff**. Before proceeding it should be clarified as to the meanings of these two terms. “Indoor” staff refers to those employees who work on tasks of a technical, administrative or managerial manner. “Outdoor” refers to more manually-oriented tasks. These might include road maintenance,

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upkeep of public facilities (gardening, repair etc.), equipment upkeep or waste disposal. The terms are those used by the participants themselves to differentiate between **those who are reliant on IT for their jobs, and those who are not**. It was suggested that the **needs of each category would differ in relation to e-Learning in a work environment**.

### Policy

**Continuous learning**, where it occurs, is **mandatory and assigned to the employee by the line manager**. There is **no specific fixed legislation for employees** in relation to training.<sup>15</sup> Participants did not indicate whether continuous learning was available. However, the nature of the courses in which they were obliged to participate was commented upon. The **lack of relevance to their day-to-day roles** was repeatedly cited, however it was not indicated that this issue would be overcome through the incorporation of an eLearning system.

**Staffs** are required to **attend courses off campus** as a **requirement of their terms of employment** and as seen to be required by management to facilitate the completion of the employees' role. In many cases the **training course attended does not represent an improvement in competencies or career advancement** for the employees. Workers do not see their career tied to the participation in continuous learning required by line management. In many cases training is not representative of the role of the employee and therefore is **not a productive use of organisation time or budget**. Whilst the organisation does reimburse travel and other expenses incurred and also pays for the courses, participants felt that their time and the budget would be better served by engaging on other courses. There is a lack of encouragement and motivation provided to the employee to encourage in the advancement of their careers through training.


**No encouragement is given to employees to take initiative** in pursuing training in external institutions (universities etc.) based on their own career requirements however, in most cases financial support (contribution to course fee) is provided

### Projects

So far **no e-Learning specific platform/program exists**. They have **heard of such things as online learning**, but do not really know what they are all about- As previously stated, their exposure to this has mainly taken the form of query-based solution-resolution, or information acquisition.

**Participants were generally unaware of specific learning platforms and technologies**. Social media and online platforms were popular among the participants. YouTube, Wikipedia,

<sup>15</sup> It is to note, however, that recent reforms introduced changes. How far legislative and strategic changes reach is about to be defined.

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forums etc. were used by many of the participants to gain knowledge related to specific tasks / procedures. In many cases this was spontaneous resolution-based research based on issues arising on the job.

While there was an awareness of e-Learning there was **unawareness of what Learning objects were**, including the definition of **open-source technologies and open educational resources. This lack of knowledge should not be mistaken for an aversion**; rather than a **lack of exposure to these technologies**. None of the participants were **opposed to engaging with online learning**, they had simply not encountered terms such as learning objects, open source technologies or OER.

In general there is a combination of **lack of projects and knowledge**, to some degree, **about existing offers** in regard to e-Learning and its technologies and platforms.

**Despite this lack of knowledge** concerning the specifics of learning technologies, **participants felt there is an appropriate level of digital literacy and the skills among staff**. When asked, they suggested that digital literacy was the requisite skill-set to use the software (and extension it can be inferred the desktop hardware) in order to accomplish their day-to-day tasks. Many would have completed the course requirements of the European Computer Driving Licence (ECDL) Foundation, and would have had to use in-house software to **manage timesheets, expenses or customer-focussed services**.

### Processes


There does **not seem to be any form of systematic process** in place to gather information and learning contents. Within the organisation, there exists a **culture of preserving knowledge individually** in order to ensure that said individual is seen as important/relevant.

Our participants indicated that **they tend to learn alone**, although the mandatory courses in which they **are obliged to participate do require group-based learning** in a face-to-face setting

### Roles

Within the organisation, the **Human Resources department have responsibility for providing training** on anything relating to the internal workings of the organisation. For example, courses surrounding changes to working arrangements caused by legislative changes are all provided by members of this department. An example of such courses would be changes to pension arrangements, alterations to the number of hours an employee is expected to work per week etc.

All **other courses** are provided **by agencies external to the Council**. Those present at the workshop indicated that their role (with the exception of one participant) was in taking courses. As no culture of online learning exists within the organisation, no satisfactory

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answers were gleaned with respect to responses should any participant wish to set up their own online courses. As stated earlier, managers require those in their teams to undertake courses which they recommend, or which they are required to ask their team members to do. Courses are mandatory, and promotion and/or job retention is often dependent on completing these prescribing courses.

### Knowledge

In general ICT or digital literacy skills are good across the organisation. **No formal exam** is required to gain employment, however the **feeling of the participants was that the skillset was at the requisite level**. The **age demographics indicate a mixed staff-base** with a **general awareness of internet** based on social medias such as Facebook, forums, wikis etc..


In general staff would have knowledge of the software tools required to complete their tasks. For example, there is a working knowledge across the board of tools such as those included in Microsoft office, for instance Microsoft Word, in house software tools are also used for example databases etc. Staffs have knowledge of web browsers and email clients.

In general, **technology such as smartphones, tablets is not provided to employees**. The **use of such technology is not encouraged**. For those working in an “indoors” capacity, their primary form of interaction is through desktop computing. Any smartphones which they use are those they provide themselves. **Knowledge from training is generally based on council requirements** based on job specifications. This **varies across departments and roles within the organisation** and a specific answer cannot be provided that meets knowledge required across the spectrum of the organisation. For example, finance personnel have different knowledge requirements to engineers.

Key areas of knowledge across the organisation which were frequently referenced were those pertaining to health-and-safety, and regulatory changes. These did not seem to be domain-specific, rather a generalised example of the type of knowledge required by various types of (particularly front-line) staff.

There is also a **difference existing between those categorised as ‘indoor’ (office-based) staff vs. ‘outdoor’ (road-based) staff**. This difference manifests itself in the fact that such staff do not have access (in general) to any form of computing, save to low-tech hand-held devices which they use for the purpose of data entry.

Participants speculated that the type of knowledge required by this category of staff would be much more vocational in nature. The example provided was that of using online learning to show groups of staff how to use a specific piece of equipment. They felt that this knowledge could be imparted during induction (that period of training which occurs at the commencement of employment) or in a group-learning setting in a depot where such groups of staff are based.

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### Curricula


There is **no connection in existence between career development and continuous learning** / training for staff. While some funding benefits are in place, there is no policy in place to encourage/motivate staff to attend external training through university bodies. **No motivation policy is in place** (for example career advancement) to advance from a Primary (Bachelors) Degree to Masters level. Furthermore there is reluctance to engage in further training based on the fear that this might lead to promotion to a job that would make it necessary to leave the county.

While ‘internally’ sourced training courses are provided **competency levels are not generally increased after training**. In all cases courses provided to staff are face-to-face sessions. Participants indicated that this is a **method of learning which takes staff member away from their tasks** is not preferable and **takes too much time away from their routine**. Participants indicated that this type of learning is not beneficial to them overall. ‘Snapshot’ type learning would be beneficial overall. ‘Snapshot’ learning might encompass short intensive courses in very specific areas which are relevant and/or improve competencies. This differs from longer more generalised courses which are not tailored to specific circumstances, but which rather force the person taking the course to extrapolate the knowledge they need from the morass of other information. This would be of particular benefit to specific services within the council for example the library service where employees need to remain at their post and in rural locations may be the only staff member employed in a specific capacity/location.

Participants indicated that a **high level of knowledge/expertise sharing would be beneficial** between employees. Participants indicated that such experience-based knowledge is lost when an employee leaves a department or the council. **A facility to record/store such individualised information/knowledge would be beneficial**. This is particularly the case where previous employees had researched legislative material or experienced court room setting in relation to specific topical issues relevant to a specific field. Again, the main areas of importance that emerged included policy and regulation and legislative changes.

Topics generally emerge in different departments based on issues that arise within tasks relevant to that department. For example, new topics/issues emerge generally in the engineering department. This could be a road-based issue for example which needs a researched solution. These issues can emerge on a regular basis in one department (for example engineering) while rarely emerge in another department (for example finance / library services).

### Culture and collaboration

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There is generally **no knowledge/learning or knowledge sharing culture across the organisation as a whole**. There is generally **little or no intra-collaboration between staff**, departments in the council other than mandatory role-specific training that takes place. However, there is a **face-to-face culture in place** where interactions between staff occur, there is generally a **need for reassurance of the validity of information** provided via technology, i.e. the financial-information system and other sites where specific relevant information may be obtained, and where information is clearly outlined. As these sites are internal to the organisation, it is not possible to provide links. However, the example cited was the case of a customer requiring information on various locally-charged “taxes”. Note: we use the word tax here as a generic term to avoid colloquialisms. When a customer calls to make this enquiry, the official looks up the relevant system. However, after this, it is frequently the practise to request confirmation from a superior. There is no culture for online learning, staff generally acquire information on organisational change via social media. There is no motivation provided to encourage self-directed learning.


### Technologies

In general, office-based (indoor) staff has access to a desktop terminal. There is a **general use of Windows based Operating Systems (OS)** and Microsoft office software. Differences may exist across departments in terms of specific departmental software, for example financial database vs. Library database software. Internet Explorer is generally used across the organisation as a web browser software tool, however, there may be a variation in the platform version used across the region.

**Staff in general may subscribe to relevant mailing lists** to keep up to date with information. Participants indicated that most staff would use online multimedia tools to gather information. Forums are a general tool used by staff. The **forums alluded to are general-purpose message boards** which appear when specific questions need to be answered. When asked for examples, places like Microsoft support sites, Stack Exchange (etc.) were indicated. Most however tend to ‘Google’ for results and gather the information given in the first number of search hits. YouTube being another popular tool for research issue purposes.

There is **no culture for the use of mobile/smart devices for work related tasks**. No motivation is provided to employees to use their own devices for work purposes. However, employees stated that they in their home or in their own time would use such devices. Therefore there is a level of competency existing around such devices. Those working in an outdoor environment do not typically have access to desktop computers. Whilst some do have small hand-held devices, participants stated that they are relatively low-powered and would lack functionality other than bespoke data entry, or specific information display. It was pointed out that permitting those working on projects outdoors, would most likely not be permitted to use smartphones as it might pose a health and safety risk.



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The **main system in place for the provision of information is Agresso**. This system is widely used across the Irish public sector. Regrettably it is not possible to provide a link as it is tailored to meet the needs of each individual organisation which uses it. However, it provides information on matters pertaining to various aspects of finance.

Social media such as Facebook and twitter, along with other sites<sup>16</sup> are used by employees to acquire answers to specific questions. The Donegal County Council website<sup>17</sup> contains a wealth of information, however employees tend only to use it to gain contact information for specific departments despite a large amount of relevant information being published on these systems.

Similar as in Luxembourg right insight has been gained by the context description of Ireland. In the following the report will address the description of barriers and potential interventions more precisely

### *5.2.3. Description of barriers and interventions*

For Ireland a **first set of barriers seems to address cultural issues**. There exist several barriers which inhibit the adoption of online learning. These can be summarised as a **conservative view of education**, and a **lack of knowledge of the benefits of online learning**. With some education, we feel the latter can be overcome, however the culture of viewing the undertaking of courses as something which must be done, rather than something which enhances career prospects or creates personal growth will be harder to overcome.


A **second cluster refers to technological issues**. Whilst our participants indicated the presence of the requisite level of digital literacy, the lack of supporting infrastructure poses a problem; one which we believe EAGLE can do nothing to solve, and which we as a consortium must take very seriously. Unlike many countries in Europe (e.g., Luxembourg) **Ireland lags some way behind in the provision of high-quality broadband**. Our backbone is still primarily based on old copper wiring. Given the highly rural demographic of our local authority partner, simply gaining access to the EAGLE platform could be a challenge. These considerations are refined in the following

### **Policy**

There is **no specific fixed legislation** for employees in relation to training. While this **lack of learning policies** is currently associated with face-to-face mandatory instruction, it could

<sup>16</sup> [www.citizensinformation.ie](http://www.citizensinformation.ie).

<sup>17</sup> [www.donegalcoco.ie](http://www.donegalcoco.ie).

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extend to e-Learning [3.2.1.]<sup>18</sup>. Related to this is a **lack of coordination** of learning processes [1.1.a.]. There is absence of processes in relation to the establishment and delivery of training and skill development.

### Culture and collaboration

There is a **lack of learning culture** [1.3.a.] within the organisation as a whole as well as a **lack of motivation to take on self-directed learning** [1.2.a.]. Whilst participants did not use terms associated with learning technology, the gist of their comments shows a perceived **need for quick, applicable solutions and Just in time (JIT) self-directed learning** [2.1.a.]. There is an **overall lack of culture towards online learning/ e-Learning** [2.3.]. Budget issues and **recent budget cuts have restricted the level of investment** in staff training [3.1.1.a.]. There needs to be a high requirement for a specific skill set before investment will be made.


Movement of **staff between departments** on a regular basis for short placement periods can lead to a **disinterest in task-specific learning** [3.1.2.b.]. For example, someone placed in finance for a period of two months will have no motivation to learn the necessary skills of finance, as they will be moving to a new department after the placement period. Low motivation further relates to a **lack of corporate support and direction** in relation to the implementation of learning/improvement of skill competencies [1.1.c.].

Vast **gaps/differences appear between office (indoor) staff and outdoor staff operational methods/requirements**. There is also a **difference in skills in technology and use** of such for work-based purposes. Another aspect is a **time constraint** [3.1.1.a] implied here in that operational (outdoor) staff in general is too busy to learn during work times. Yet **learning at the workplace is required** as **enforcing learning outside work hours would lead to disruption and potential resistance** [3.1.1.a.].

**Another point is the low technical availability** [3.1.3.c.]. **Not only the lack of available technology meets operational staff**. Health and safety issues would also arise should learning occur in work hours using technology due to for example location constraints etc. There is a general **diversity of work practices employed** across different departments for the implementation of similar services leading to a **lack of technical integration** [3.1.3.c.]. Furthermore there is a **lack of inter-departmental collaboration** in these organizational terms [1.3.b.].

**Culture for face-to-face interaction is low** and where collaboration occurs there is a **need for information validation** [2.1.b.]. **A general mistrust towards information provided on**

<sup>18</sup> This is a barrier reference number to chapter 4.2.. The respective analysis and barrier list for Ireland is in the Appendix “Analysis Ireland report”.

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**the web by the organisation or to staff via technology** such as the official social media sites and the internal management information systems (Agresso). Staffs **prefer informal communication** [2.2.b.] and **direct communication** [2.4.a.] via phone contact/face-to-face contact **with the expert to validate information communicated** to them. There is also a question surrounding the **correctness and validity of any information** provided through technology.

### Technological barriers

There are several technological barriers evident in the organisation regarding the **lack of e-Learning resources** [3.1.2.a]. Firstly, **the lack of integration of smartphones and other mobile technology** means that those who are not tied to a fixed location, and thus do not have a desktop computer at their disposal may not be able to access the platform. There are **no systems available for learning within the organisation**.


All public bodies are bound by the Persons with **Disabilities Act (2005)** which stipulates that all systems and services used or offered by a public body must be accessible. Thus, **systems within the municipality are supposed to be universal accessible** [3.2.3.a.]. In practise however, this is not always the case. Though when a tender is issued, prospective software vendors must outline their compliance with various recognised accessibility guidelines (Such as WCAG2.0) it is frequently the case that, from a practical standpoint, they do not do so.

### Pedagogy

**Content quality and reliability is a significant barrier** indicated by the workshop participants focused on the **quality and reliability** of content. While the participants had a **low familiarity with Open Educational Resources** [1.2.a.], they were concerned about the **relevance of contents** [3.1.2.b.] that learning-objects potentially would not be reflective of case-based situations or of the personal experiences and experience-gained knowledge of current/past employees.

The contribution of such gained knowledge however also reflects a potential weakness for employees when accessing such learning objects in that there could be a concern over the **authenticity of contents and information in relation to current policies and procedures** associated with the organization [2.1.b.]. Such information would also need to be reflective of the outcomes of any applied solutions on a case-by-case basis.

Employee collaboration and **lack of experience based knowledge sharing** [1.1.a.] could also represent a potential pedagogical barrier. Any implemented OER would benefit from a **linkage to expert employees** where staff could address specific questions to an experienced expert. This could be achieved through a forum facility for example. Such a facility would also provide a level of employee collaboration.

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Access to Information would need to be provided at an acceptable level yielding quick information and solutions to employees using the system, especially where a timely quality solution is required.

Motivation and **lack of rewards** could also reflect a pedagogical barrier in that the organization would need to **provide a motivation for employees to ‘learn’ through and access information from such an OER** if implemented [2.3.c.]. Where motivation is not provided employees may accept the status quo and reject accessing the system for existing ‘non-beneficial’ methods. To achieve motivation perhaps a system would require the incorporation of a **learner-monitoring tool to control/measure individual performance**. Employees would also need to be provided with facilities/motivation to update the any implemented OER with content based on individual cases and experiences

#### *5.2.4. Defining priority barriers for Ireland*

Based on the information gathered so far a barrier list for the country Ireland was defined [[Appendix](#)]. Out of the barriers the following priority barriers were defined for Ireland.

#### **Universal Access**

If we do not provide a universally usable solution, EAGLE will (in my mind) have failed.

To resolve this point one should identify guidelines and user scenarios which are relevant. It needs to be sure that not only the **tools themselves are accessible**, but that it is easy **for end-users to write accessible OER**. In WP5, the development takes place. This aspect is particularly relevant for this WP. In WPs where learning content is defined, (and the nature/structure of same) particular attention must be paid to ascertaining if standards and/or previous work exists in terms of accessibility.

#### **Usability**

As EAGLE must be used by a wide cross-section of local authority workers, it must be intuitive. To quote the old saying: “An interface is like a joke: If you have to explain it, then it isn’t working”.


#### **Relevance**

Information must be relevant to the users.

To resolve this point it is imperative that a structure be placed on the OER used in the project. Also, facility to tailor a search to meet diverse needs should be considered. WP7 needs to factor this in. Also, wp8 needs to carefully consider how this is to be evaluated.

#### **Management Engagement**

EAGLE needs to consider this in an Irish context. There are several related facets: 1. Providing means of tracking employee performance; 2. Providing time at work, and

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rewarding out-of-hours learning. Perhaps those looking at change management need to be made aware of this.

### **Information-Loss**

This is a problem in the Irish context. The nature of the structure of the local authority in Ireland is that staff are often re-deployed. It was very obvious from our workshop that there exists a problem whereby information is acquired, and then lost when an employee is re-deployed or leave the organisation. A peer-sharing mechanism needs to be considered.

### **Information-Validation**


One comment was that there exists a lack of trust in technology in the Irish context. There needs to be mechanisms which help the users to ascertain the reliability of the information they are being given. Perhaps (returning the previous point above), some kind of rating system be employed in the peer-sharing system.

### **How-To-Learn**

Many of the Irish participants simply do not know much about online learning. They see it as typing a term into Google and getting YouTube results back.

To resolve this point EAGLE needs to outline how to use online learning.

In the next section the report will consider findings in Montenegro.

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### 5.3. COUNTRY REPORT: MONTENEGRO

#### 5.3.1. *Context description*


Montenegro (meaning "Black Mountain") is a small country in South Eastern Europe with population of 625.266 (MONSTAT, 2011a). There are 20 municipalities in Montenegro and 11 of them are situated in high mountains at the Northern part of the Montenegro. The distance of Northern part from the capital city Podgorica is average 100 km but connection roads are not good, and it takes 3hr drive by car to get to capital. In all 11 Municipalities at the North part of country rural settlement of population is over 60% (MONSTAT, 2011b). All Municipalities in Montenegro are managed by Local self -government and there is a wide disparities between Montenegrin municipalities on management effectiveness in municipal administrations. Number of staff employees in municipalities is between 20 (in the Northern part) and 80 (Central and southern part). About 20 % of employees are part time workers.

In May 2006, Montenegro voted for independence in a referendum and the State Union of Serbia and Montenegro was dissolved. Montenegro officially applied to join the EU on 15 December 2008. The European Commission on 9 November 2010 recommended Montenegro as candidate country. This candidate status was officially granted on 17 December 2010.

Reforms in Montenegro started in 2008 with Agreements on trade and trade-related matters, visa facilitation and Stabilisation and Association Agreement (SAA). Country is experiencing ecological, judicial and crime-related problems and needs to meet many requirements for EU membership in following years. EU expects that Montenegro invest more effort in addressing these issues and implementing reforms in practice. State administration reform has been on-going for more than a decade in Montenegro. During this period, two strategies were adopted, legal and institutional frameworks for management of the reform have been changed, as well as the mere structure of the state apparatus. However, there has not been much progress. State administration is still, according to the remarks of European Commission, highly politicized, cumbersome, and with limited capacities. As such, it represents obstacle to the country's faster integration into the EU.

Montenegro received financial assistance from the EU under the Instruments for Pre-Accession Assistance (IPA) in the period from 2007 to 2013<sup>19</sup>. The IPA National Programme for Montenegro focuses on key political criteria such as judicial reform, public administration reform and institutional building, fight against corruption and organised crime. Financial support is also being provided to civil society. As regards economic and other membership criteria the IPA programme concentrates on supporting reforms and strengthening the administrative capacity in areas such as the internal market, environment, transport, statistics,

<sup>19</sup> The purpose of IPA is to help candidate and potential candidate countries to progress towards fully meeting the Copenhagen political and economic criteria as well as adopting and implementing the EU acquis communautaire (MUP, 2003; EC, 2010).

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education, employment and social inclusion. Only minor part in IPA funds has been dedicated to PA reform in Montenegro. This has led to a current situation where Municipalities in Montenegro are in lack for trained staff that could meet the demands of EU integration process (!).

In 2011 the Government of Montenegro adopted the Public Administration (PA) Reform Strategy for the period 2011-2016 (MUP, 2003). The Strategy defines objectives of PA Reform Strategy for local government and implementation of the strategic document – National Training Strategy (NTS) for Local Self-Government. Implementation of organizational changes, establishment a quality system of human resource development in local government and system of training in local government, development of training programmes, delivering training, and other activities have just begun in Montenegro. In that sense, Montenegro has established Human Resource Management Agency (HRMA) which is in charge to organize learning for PA employees at national level together with Ministry of Interior. Other relevant institutions in Montenegro that provide professional trainings for PA employees are Union of Municipalities, Confederation of Trade Unions of Montenegro and some NGO funded from EU. All of them offer only traditional “face to face” trainings and Municipalities need to cover expenditures for travel and accommodation of participants. Municipalities can organize additional learning courses for the employees according to their needs if they can provide budget from other sources than Government.

Due to economic crisis and demanding process of EU integration, the Government is not able to provide total substantial training budgets needed for training of PA employees. Information that are available from the final Municipality financial accounts for 2010, showed that in 10 municipality administrations budgeted is an average of €1,750 per year for training, or around €11.60 per staff member per year (!!). This leads to situation where Municipalities can send only one or two employees to trainings.

There are no initiatives or large-scale government supported projects on e-Learning. Like most countries in the Balkans, the potential of e-Learning is somewhat limited by a relatively low internet penetration rate of 5,8% in 2013 and mainly DSL connection (MONSTAT, 2013). This disadvantage is however somewhat mitigated by the fact that Montenegro is a small country, thus posing no significant geographic barriers to attending training courses. The Open Data policy in Montenegro is at very low level and the most of public information are not available online. There are no OD initiatives or any available OER in Montenegrin language.

Local self-government, as an integral part of the PA in Montenegro, is undergoing reform in the process of EU integration, characterized by substantial changes that need to be implemented in a short period of time. Montenegro is in “transition process of EU integration” with demand to change existing and adopt new laws. There is no lack of “desire

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for progress” in Montenegro, but we can see that there are no available Government funds that can support development of IT infrastructure and change management process needed for using e-Learning in professional training of PA employees.

### 5.3.2. Workshop Results

#### **Meaning of e-Learning**

Learning means acquisition or improvement of knowledge and skills for performing job. Participants described learning at work as “learning from doing” and “learning from experience”. They share knowledge and learn from senior colleagues or by doing concrete job. Their needs are mostly related to learning administrative procedures and how to implement new laws and regulation in practice. Workshops showed that most of the participants (two thirds or 67%) have attended some training before, while more than half of that number (65%) said that this training had no positive effect on their improved performance of duties at work. Most of the **participants have attended training programs organized by the HRMA and the Union of Municipalities of Montenegro.**


Employees are interested in gaining new knowledge and skills that can be applicable to work. Their dissatisfaction was expressed with regard to manner of organization of training programs, methods used and duration of training.

Web is not used for searching of learning materials or learning. There is **no available e-Learning system for PA administration or any other OER in Montenegrin language.** Also forums or mailing list are not used for communication and sharing information. Some of employees use websites of HRMA, Union of Municipality, Ministries to download new laws and regulations and to read news and announcements, but most of them are not trying to find any information using Internet. They receive information from supervisor or chef of organ during regular staff meetings at work...

Participants of workshops have **no experience with using e-Learning for professional training or self learning.** They are familiar with concept of e-Learning but they did not express any significant interest for individual e-Learning as a method of training (see Curriculum). It is important to note that participants are aware of budget limitations of their Municipalities regarding to training, and most of them believe that creation of national e-Learning platform for PA could improve current situation in trainings that not require practical examples and work (for example professional State exam).

Recommendation from participants regarding organization of future training programs on various topics resumed in the appendix [[Appendix](#)].



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Recommendation from participants regarding organization of future thematic training programs on new laws and bylaws: Law on general administrative procedure, Law on local self-government, misdemeanour law, Law on legalization of informal buildings, Law on physical planning and construction of buildings, Law on waste management, Law on state property, Law on free access to information, Law on inspection control, Law on prohibition of discrimination, Law on civil servants and state employees, Legal regulations in the field of culture, Law on housing and maintenance of residential buildings, Law on social and child protection, upon adoption, Public Procurement Law, Decree on office operations, Family Law, Public Private Partnership, Labour Law, Law on Tax Administration, Legal regulations for the adoption of local development plans.


When defining e-Learning resources or an online training program it is necessary to take into consideration the aforementioned circumstances [[Appendix](#)].

### **Policies**

Organization and manner of work of state administration in Montenegro are regulated by the Constitution of Montenegro, by laws and other acts. The right and responsibility of the local servants and employees to undergo professional training and development are derived from the Constitution of Montenegro, Law on civil servants and state employees (Gazette 27/4) and number of strategic documents. The basic principles of employees training are: training is both the right and obligation of every state employee and civil servant, regardless the tasks he/she perform of his/ her position function; training is a composed part of the human resources policy and serve to the interests both, the individuals and the body; training is a responsibility of all, the state employee and/or civil servant and body.

In July 2008, the Government of Montenegro adopted the strategic document – **National Training Strategy (NTS) for Local Self-Government**. It represents a key document for the development of a modern, professional and efficient local self-government, This document defines basic directions, entities and activities that need to be implemented in order to build the capacities in local self-government, establish and implement the training system, ensure its stability and sustainability, implement organizational changes and create a climate in which employees can develop new skills and knowledge. Until adoption of the NTS, training and advancement of civil servants and state employees were performed in an ad hoc manner and unequally, different from body to body.

In 2011, the Government of Montenegro adopted the Public Administration Reform (PAR) Strategy 2011-2016 and Law on civil servants and state employees. Strategy plans that **professional training and advancement of civil servants and state employees** should be conducted at all levels and in all public bodies according the general and special training programs that include the scholarships as well, and shall be directed towards acquiring new


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knowledge needed for better work performance and preparation for successful implementation of policy and rights of the European Union, including intensive foreign language learning of civil servants and state employees, being engaged in the legislative preparation for standardization with the EU (e.g. Gazette 58/13). The Strategy had envisaged that its application would lead to considerable budgetary savings and to the improvement of the system of wages in state administration, career promotion on the basis of good performance. Also, the Strategy should resolve another long-lasting problem in Montenegrin state administration—improvement of administrative capacities.

Pursuing the objective of getting the date for the start of the EU membership negotiations, all the activities related to state administration in 2011, envisaged by the Action Plan for the implementation of the recommendations from the European Commission Opinion, were realized. In line with that, new legislative framework which the reform is based on includes: Law Amending the Law on General Administrative Procedure (June 2011); Law Amending the Law on State Administration (July 2011); Law on Civil Servants and State Employees (July 2011) and Law on Internal Financial Control System in Public Sector (March 2011). The new Law on civil servants and state employees (LCSSE) which, on a substantially different basis, establishes the system of rights and obligations of employees in state authorities and has been applied since 1 January 2013. (Media Institute, 2013)

LCSSE introduced to the Montenegrin system the outlines of a “merit system.” The recruitment process is designed to consist of two phases: in the first phase, based on submitted application for announced vacancy, human resource management body makes a list of candidates, and in the second phase, the candidates from the list are subject to mandatory verification of ability to perform the tasks related to the job. Mandatory testing of ability is done according to the Rules on the form and manner of testing the candidate’s ability to perform the duties in state authorities, established by the Human Resource Management Administration, which as such have not been published in the Official Gazette of Montenegro (which is against the current LCSSE by which “the procedure, method and criteria for verification of abilities are determined by the Government, at the proposal of the Ministry in charge of administrative affairs (Law Article 23/3). After completion of this phase, the list of candidates for the selection is made and then submitted to the head of the state authority for the needs of which the recruitment is carried out, which selects the candidate from the list.

Based on current LCSSE, career promotion is carried out in two ways: advancing to a higher position and higher salary grade. Both ways are based on the annual performance appraisal of civil servants or state employee. Furthermore, the issues related to the appraisal as well as cases in which civil servants or state employees advance have been worked out. In the context of advancement topic, the classification of jobs in state administration must be taken into account and it implies classification of titles in five grades and grading titles within the grade

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against the conditions for their acquisition. This classification is also the basis for the allocation to salary grades. Civil servant or state employee is advancing into a higher degree title within the same grade in case when in the period of five years, he/she gets five times at least the mark “good” or when three consecutive times he/she gets the mark “excellent”. This may influence the decision on advancement of a civil servant. The improved normative and legislative framework for the area of state administration and the solutions incorporated in these laws are yet to show their scopes during the process of implementation. In national Strategies, Action plans or policies for PAR reform **e-Learning and open education initiatives are not mentioned.**

Unclear management structures in the PAR process in Montenegro by extension lead to a poorer reform performance. Management of the PAR processes presupposes a clear and a consistent division of tasks of policy and operational coordination, direct implementation and oversight which involves other interested parties (the parliament, local councils, civil society and citizens, etc.). The PAR management is a comprehensive horizontal process involving the widest range of actors.

Considering the time and budget limitations, minimum 6 days of training as per a civil servants and state employees annually should be achieved. This figure is composed of 4 days in average of general training “out-the- working post training” (seminars, conferences, etc.), per state employee and 2 days in average of less formal training and activities (teaching, mentoring, “learning from shadow” (from colleagues) as per state employees. This does not include foreign languages and computers training, as they require longer period of studying.


Equal rights for learning and employment to all people and nationalities in Montenegro are guaranteed by Constitution of Montenegro. Law on Employment of People with Disabilities (Gazette 49/08) dictates that each employer with more than 50 employees needs to employ 5% (of the total number of employees) people with disabilities. The people with disabilities have the same working rights as staff without disabilities. In reality, Law is not implemented<sup>20</sup> and people with disabilities are employed only in few municipalities.

### **Projects**

**E-learning is not introduced in training of PA.** There is no national electronic database with training materials or e- learning platform that would support continuous learning of PA

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<sup>20</sup> Montenegro has 65.000 people with disabilities. Total amount of annual national budget for salary of the people with disabilities is defined by Government of Montenegro. In general, this budget is not appropriately used because employers do not have conditions to provide accessible workplaces ( e.g. typical example are buildings that have only stairs, no available software at Montenegrin language needed for work to people with disabilities, etc..) . The Law defines that employers must pre-finance all expenditures related to adoption of working place to people with disabilities and then apply for refund from Government.

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in Montenegro. Electronic HR database was established in some municipalities, but it does not have the content and does not serve as a central HR record.

All of previous and current projects related to reform the PA system in Montenegro enabled creation of procedures, rule books and recommendation for the key actors when it comes to the implementation of the National Training Strategy.


In order to assist local self-governments in the implementation of the National Training Strategy, within IPA 2010-2013, the European Union approved the project “Support to local self-governments in the implementation of the National Training Strategy”. Besides the local self-governments, this project also includes the following entities: Union of Municipalities of Montenegro, Ministry of Interior and Human Resource Management Agency.

During IPA project, local self-government units are given guidelines how to implement new procedures with regard to organization and actual implementation of human resource management, human resource planning, employment and selection procedures, career development and skills development in local self-governments, management and work quality management, motivation, etc. All materials are available online at website of HRMA. The IPA project is finished in Dec. 2013 and local self-government units in Montenegro have recently started with implementation of new procedures and change management.

With IPA project "Implementation of the ECDL Standard into the Education System" (2012 - 2014) supported by the EU started. This IPA project aims to strengthen the ICT capacity in governmental and educational institutions by implementing the ECDL standard<sup>21</sup>, and through the establishment of ECDL Accredited Test Centres in the Examination Centre of Montenegro, and the Human Resources Administration of Montenegro. This centre will be able to continue ICT education (ICT and information literacy) of governmental and educational institution in Montenegro. During the project, 3,500 employees in public administration and educational institutions were trained and certified in accordance with the ECDL standard. The key stakeholders in conceiving and realising this project are: the Ministry of Education and the Ministry of the Information Society and Telecommunication of Montenegro. The implementing organisations are ECDL Foundation and the ECDL National Operator for Serbia and Montenegro. With this project (starting from 2011) Montenegro adopted ECDL certificate as obligatory for employment of staff working in governmental and educational institution. The process of ICT education will continue during next years.

## **Processes**


<sup>21</sup> EUPAN (European Public Administration Network) on 17 June 2009 adopted the ECDL standard as an international certificate of ICT skills (digital literacy) for PA administrative staff.

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HRMA is the central state administration body that works on realisation on professional advancement of public servants and state employees and ensures the access to public sector information through establishment of Central Personnel Register. With particular regard, the influence and efforts made by the HRMA in realization of the project of establishment of the regional school (ReSPA) for public administration in Danilovgrad (Montenegro) are to be mentioned. HRMA is in charge to organize learning for PA employees at national level together with Ministry of Interior. **The training process is organized in accordance to Law on civil servants and state employees** and Decree that regulates the type, more detailed contents, manner of preparing and adopting the methodology for developing professional training and development programme of civil servants and state employees [2]. HRMA defines thematic areas and creates Annual National training plan for PA (NTP) considering proposals for training needs received from municipalities, and by evaluation of implemented training and seminars in the past year. Also when creating NTP, current National Strategies and priority needs of the country in the process of EU integration are considered. In accordance to NTP, HRMA and Municipalities are planning amount of national annual budget (provided by Government) necessary for trainings. Regardless to previous, due to economic crisis and demanding process of EU integration, the Government is not able to provide total substantial training budgets to HRMA and Municipalities. Due to previous reason, HRMA choose to organise the training which have most priority to municipalities and reform in EU integration process.

**PA trainings in Montenegro are organized by HRMA** in accordance to NTP. Trainings are organised as “face to face”, one-two day classroom based training mainly in capital city Podgorica. Depending on available budget and number of participants, trainings are sometimes organized in other cities- one on the South Region at seaside (Bar) and one in the North Region (Bijelo Polje). The location of trainings requires that employees from other municipalities spend two-three days in other city for training. Since municipalities receive insufficient budget for trainings, they can send only one, maximum two participants to trainings. HRMA announces a public invitation to engage experts for trainings defined in National training plan for PA. Selected experts are in charge to prepare agenda, plan and “live presentation” for one-two day training course on specific theme. Selected experts are not obligated to provide learning materials to HRMA, since they have intellectual property right (IPR) on training materials.

**Professional training and development programmes** of civil servants or state employees are dived in two main categories: One is the general professional training and development programme, designed for the acquisition or improvement of basic knowledge and skills, and the second is specific professional training and development programmes, designed for the acquisition or improvement of knowledge and skills for performing the duties of the job post.

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Also, there is a special on-the-job training for newly employed for the work in public sector that is obligatory during first year of employment. Professional State exam is obligatory for permanent employment of public servants and state employees and procedure is defined by Decree on professional exam for civil servants or state employees (Gazette 39/11). HRMA organize preparation for professional State exam and examination. All information, procedures, guidelines and literature are published on the website of HRMA<sup>22</sup>


**HRMA performs training appraisal and particularly the evaluation of employees** who participated in trainings. The appraisal is conducted during and at the end of training for evaluation of effectiveness of learning process. Further evaluation is carried out some time afterwards, in order to appraise the use of acquired knowledge in practice and influence of related training, unit or office. Final results of evaluation are not published on HRMA website or disseminated to Municipalities. Montenegro is small traditional country with centralized government system and word of mouth is the primary source of information regarding existing trainings (similar to Luxemburg).

LCSSE defines that all municipalities (and public bodies) need to conduct analysis and define annual training plans for staff and budget for trainings according to their needs. But in reality situation is different. Namely, most of the municipalities do not have the annual training plan and are not planning, that is, allocating funds in their budgets for professional development of their staff. Since the total annual budget that municipalities receive from Government is insufficient, they often reallocate national budget for trainings to other more important activities (improving communal infrastructure, roads etc.). Municipalities can organize additional training courses for the employees according to their needs if they can provide budget from other sources than Government (like municipality taxes, services, EU funds etc).

On municipalities level human resource management is organized in various ways, and with various work concepts. In some cases units deal with issues in the field of labour relations only, while in other cases the context of HR management is wider. However, there is no local

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<sup>22</sup> Program of Professional State exam (UZK, no date): Program of Professional State exam depends on level of qualification (education) of employee. There are two programs based on seven levels of national qualification framework. One programme is for employees with higher education, managers etc (V, VI, VII level of qualification) and the other are for employees with high school (III, IV level of qualification). Both programs consist of 5 subjects (exams) and include knowledge on different National laws, finance and statistic. For example, program for employees with higher education includes knowledge of EU integration and NATO and program for employees with high school (mainly working with citizens on front desk) includes administrative law and basic IT knowledge needed for work with MS Office. The Decree on professional state exam for civil servants or state employees defines that employee need to cover expenditures for Professional state exam. Cost of professional state exam is defined as amount of 10% of average gross national salary for current year. In case that employee needs to take re-examination (e.g. employee did not pass exam first time) the cost is defined as amount of 5% of average gross national salary for current year. People with special needs and disabilities are excluded of this rule, for them professional state exam is free of charge.


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self-government unit that has HR management fully developed, which confirms that there is a lack of HR plans, specifically employment plans and training plans. Besides, it is obvious that in the local self-government units there is a different approach to HR management. Namely, in some cases the authority in charge is the Secretariat for General Affairs, that is, Local Self-Government Secretariats, while in some other municipalities this function is organized within the service managed by the Chief Administrator.

When asked about **coordination and communication** between various authorities in the municipality regarding training (who gives the initiative, to whom, in what way...), answers of participants vary – from those that coordination is satisfactory, to those that it is necessary to significantly improve that coordination and adopt internal procedures, with clearly defined rules. It should be mentioned that a small number of local self-government units have independently implemented training need assessment (by surveying the staff).

Municipalities receive guidelines from Government (e.g. Ministries in charge for implementing new laws, bylaws etc...) regarding to implementing changes. The Ministry of Interior has a very important role and responsibility in the development of relevant policies and creation of a legislative framework for local self-government, especially with regard to decentralization and full implementation of the European Charter of Local Self-Government. In cooperation with the Union of Municipalities of Montenegro, Ministry monitors and analyzes local self-government operations and propose amendments to legal acts regarding human resource management and all aspects of development in local self-governments. The Union of Municipalities of Montenegro represents the interests of all municipalities before state authorities, and various international and national organizations. The Ministry of Interior and Union of Municipalities (should) provide necessary assistance to local self-government units, in order to ensure their easier cooperation with other Ministries. Municipalities are required to elaborate laws and change processes, gather necessary information and create change management plans by themselves. Most of the participants from the local self-government management units have stated that it is necessary to upgrade the legal framework regarding HR involved in management changes in local self-government. Some of the participants said that these issues should be regulated by the Law on Local Self-Government, in a separate chapter that would tackle this issue only, while others felt that it is necessary to adopt a separate Law on local servants and employees that would regulate in a comprehensive manner all issues in the field of human resource management.

When asked about the **vision for improvement of learning process**, most of the participants have stated that it is necessary to create good working conditions for each employee, to motivate employees in order to perform better, to monitor performance of each and every employee and to introduce performance-based rewarding and promotion. There is also an interesting comment regarding “rotation” of staff, in order to avoid administrative fatigue, and

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to eliminate possible unethical behavior, as well as to offer employees an opportunity to achieve better work results. For an elaboration on favourable learning or training methods (see Curricula).

### **Roles**

In Montenegro the process of trainings of for civil servants or state employees is defined by national Law, Decrees and procedures (see Policies). HRMA together with Ministry of Interior is in charge to define annual National Training Plan (NTP) and organize trainings for PA as well as preparation and examination for obligatory professional state exam.


We have identified following roles: (1) national training program organizers; (2) experts; (3) superiors/managers; (4) learners.

(1) **National training program organizers** are: Human Resource Management Agency in coordination with the Ministry of Interior and the Union of Municipalities of Montenegro. **HRMA** has the necessary professional experience when it comes to organization of training for civil servants and state employees. HRMA can provide necessary assistance to the local self-government units with regard to developing training program, provision of quality trainers, necessary literature, training of trainer programs, etc. Role of HRMA is primarily to provide assistance to the local self-government units and the Union of Municipalities in staff training and development. The Ministry of Interior has a very important role and responsibility in the development of relevant policies and creation of a legislative framework for local self-government, especially with regard to decentralization and full implementation of the European Charter of Local Self-Government. In cooperation with the Union of Municipalities of Montenegro, they monitor and analyze local self-government operations and propose amendments to legal acts regarding human resource management and development in local self-governments. The Ministry of Interior should provide necessary assistance to local self-government units, in order to ensure their easier cooperation with other ministries.

**The Union of Municipalities of Montenegro** has an important role, as it represents the interests of all municipalities towards state authorities, and various international and national organizations. The Union of Municipalities of Montenegro should assist all municipalities, through joint projects, so that they can establish and develop their human resource management units in a quality assuring and standardized manner, and to assist further improvements in the work of those units. Role of the Union of Municipalities would be to use the NTS Unit and become one of the actors in the development of the Training Program and individual Training Plans

(2) **Experts** are those that create learning materials, offer knowledge and expertise in the training organised by the bodies noted in previous paragraph (or Municipalities individually). HRMA announces a public invitation to engage experts for every training course defined in



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National plan for PA trainings. Selected experts are in charge only to prepare Agenda, work plan and “live presentation” for one-two day training course for specific theme. Selected experts are not obligated to provide learning materials to HRMA, since they have Intellectual Property rights on training materials.

(3) **Superiors/Managers** are members of HR management in Municipalities. We have defined following roles and responsibilities:


The **Head of a State Authority** is responsible to: Determine the strategic training plan, that will be based on needs deriving from the competences of that particular body; appoint a person that will be responsible for planning and development of training within his/her body; Provide that managing persons of internal organization units perform effectively the tasks assigned to them in relation to training of civil servants and state employees under their responsibility; Ensure that the identified training needs of civil servants and state employees are regularly updated; Ensure that the Central Personnel Register is regularly updated with the information on the completed training per civil servant i.e. state employee on a yearly basis.

**Managing persons of organizational units** identify needs of their civil servants and/or state employees, taking account of the strategic framework for training; Give approval for the training of a civil servant and/or state employees under their responsibility; Keep the head of the administration authority and HR/training managers informed of needs as identified; Organize on-the-job training for sharing the knowledge and experiences gained at various international and local seminars and conferences, through coaching and “mentoring”, for both the newcomers and all other civil servants/state employees.

**Persons in charge of human resources development** propose the training plan for civil servants and/or state employees previously approved by the head of the state administration authority; Assist civil servants and line managers in specifying adequate training activities for meeting identified needs; Propose training for civil servants and state employees within their state administration authority; Keep the HRMA informed of newly identified needs for training which could be horizontally organized; Monitor progress and prepare reports on the training of civil servants and state employees in relevant state administration authority.

(4) **Learners** are workers, employees, or civil servants. They express the needs for their own training to their managers and apply knowledge in the workplace.

Most of the participants responded that there are several training providers for local self-government employees. According to their answers, HRMA and Union of Municipalities of Montenegro are the leaders in training and development of local self-government staff. This is understandable, having in mind that HRMA and the Union of Municipalities of Montenegro have direct communication with the local self-government units when it comes to planning and implementation of training programs. Most of participants favoured trainings organized

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by Union of Municipalities of Montenegro because training are organized in small groups for two or three municipalities that are geographically close and they get more “practical examples”.

### **Knowledge**


Besides necessary knowledge, having relevant skills is an imperative for each and every employee. Naturally, IT skills cannot go without adequate technical equipment at work. In order for the employees in the local self-government units to be able to perform their daily duties in a quality way, they need not only clearly defined knowledge, but some modern skills, as well, in order for the information they have to be able to freely flow through the communication chain. In reality, this is not the case.

It is encouraging that most of the participants **use computer in every day work**. Most of the participants **do not speak foreign languages<sup>23</sup> and need additional IT knowledge** - these are fields that participants identified as a weakness and need the greatest support. Participants explained that smart devices are not needed for work. Only smaller number of employees owns smart phones (they are expensive) and most of them are not familiar with use of smart devices. Citizens of Montenegro choose the “best offers” from mobile providers and often they have two or three “old models” of phone provided gratis by different mobile providers. Mobile phones are used mainly for sending free text messages and receiving free income calls and not for Internet, mail etc. None of participants use phone, for the Internet access. In general, cost of the mobile internet in Montenegro is one of the highest in EU.

**Digital literacy skills** of PA employees are at low level in Montenegro. Starting from 2011 Montenegro adopted ECDL certificate as obligatory for employment of staff working in governmental and educational institution (see Table Projects). Before 2011, no prior technology skills were obligatory for employees working in public administrations.

**Regarding to e-Learning**, participants stated that they have no experience in e-Learning. Most of them are not familiar with concept of e-Learning, and none of participants attend online training course or webinar. They expressed no significant interest for e-Learning as a method of learning (see Curriculum). The **concept of OER, self-regulated learning over web and creating learning resources was totally new for all participants** and most of them see EAGLE scenario as “futuristic” and not applicable to every day work of PA employees in Montenegro. Most of them stated that their organizations have no adequate knowledge and IT infrastructure that can support e-Learning. Typical skills defined by participants (see Meaning of learning) are more practical and do not require e-Learning.

<sup>23</sup> Knowledge of foreign languages is at very low level among PA employees. Knowledge of foreign language (English) is not obligatory for employment. Most of PA employees have basic level of English language knowledge needed only for simple *conversation but they do not have knowledge to read and write*.

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## Curricula

Workshops have revealed that employees are interested in gaining new knowledge. Their dissatisfaction was expressed with regard to manner of organization of training programs, methods used and duration of training. Participants stated that the programs on which training are based are often not adapted to the groups that attend them.

Most of the employees say that excessive workload makes their work more difficult. That is why it is unrealistic to expect them to be committed to training programs or similar forms of training and development, if they require several days of their time. Inability to leave work for more than a day, in order to attend training, creates dissatisfaction among employees and reduces their motivation to attend training programs.


Question regarding **methodology and forms of training** was aimed at understanding the views of the employees regarding methods/ forms of training programs that are most suitable for them. Results show that lectures with practical examples are suitable for most of the surveyed persons. It can also be concluded that lectures involving analyses, discussions, exchange of experience, practical examples – are more suitable for employees, as compared to distance learning and theoretical presentations.

**Training at work**, with peer support, represents another useful method in professional development. In some strategies, strengthening of administrative capacities through professional training can be efficiently achieved by training at work, mentoring, monitoring and guiding the work of the employee. These forms of training should be more promoted in the future.

**Learning based on the experience of others**, through best practices, were identified by two thirds of the surveyed persons as the best form of professional development. It can be concluded that networking between municipalities, and exchange of best practices, represent a positive way of sharing knowledge and experience. Participants are least interested in independent learning (on their own) and e-Learning. None of participants expressed interest to create OER. One can conclude from the aforementioned that the most ideally organized training program is the one that lasts from one to three days. When it comes to form of organization, the best results are achieved in interactive workshops or seminars, as well as visits to municipalities with the best practice in place, that is, the ones that ensure exchange of experiences and practical approaches.

## Culture and collaboration

All the local self-government units are members of various networks, either independently or through the Union of Municipalities of Montenegro. When asked about the benefits of the membership in various networks with regard to training, all the interviewees have said that

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there are significant benefits from membership in the Union of Municipalities, but not so much when it comes to membership in some other organizations or networks that they are members of. Surely, the benefits involve exchange of knowledge and experiences, good practices, and joint project proposals for donor support, etc.

With respect to cooperation with local partners and their expectations, participants have responded that they have good relations with the NGO's and with the private sector, as well as good relations and communication with the citizens. Sharing of knowledge with colleagues is present through informal consultation and exchange of materials. Most individual experiences showed that they ask for help or share knowledge only with few close colleagues at work. **Participants expressed dissatisfaction with organizational climate in municipalities** and most of them emphasize inadequate cooperation with superiors, frequent changes of HR staff and unclear distribution of tasks and responsibilities.

**Cooperation and communication between municipalities** (and municipalities and HRMA, Ministries etc) needs to be initiated by Mayors or Deputy Mayors. Usually, first official management coordination meeting is organized in the form of "face to face" meeting. After coordination meeting, inter-municipal communication within similar offices works well and it is always started by superiors. Employees are not allowed to start (by themselves) any official communication regarding working duties with employees from other municipalities. Participants stated that this procedure takes time and often have no effect at right time. Naturally, municipalities that are geographically close have similar problems and collaboration among them is more developed. Participants from small rural municipalities at the North part of country expressed that they are often left "alone in implementing changes" without regular support from Government and other municipalities.

### **Technologies**

All employees have **Internet access and official e-mail address** at work. Access to Internet is limited on work during security reasons and employees can use only software and e-mail clients installed on the computers. There is a Rule Book at the level of each state institutions - access to some social networks is limited due to **security reasons**. Drop box, YouTube, Face book, etc. are not available at work. Employees use PC and laptops for work. In smaller municipalities' staff members that are working mainly out of office (inspectors etc...) share the same office computer for work. Common software installed is Windows operating system with the Office suite. Often, the software is not updated ordinarily since municipalities do not have IT sector. In 2010, Government of Montenegro adopted the "Strategy for using Open Software" but implementation of this strategy is late and PA is still using only proprietary software. Depending of their work, employees are using internal databases to input data etc.. PC or laptops with MS Office software are used for work. Most of the participants do not speak foreign languages and they use version of Office software translated to Montenegrin

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language. Participants stated that they do not use any additional software for work (like GIS, database software etc.). Word or Excel are used for data collection depending on (level of) IT knowledge.

**Smart phones or tablets are not used for work.** Even staff members that spent most of working hours out of office (like inspectors etc.) are not provided with smart mobile devices or tablets for work<sup>24</sup>. They use official paper forms to collect data and create reports<sup>25</sup>. Usually they spent one or two weeks out of office and later they need to create electronic reports at work. Often these employees share same computer for work with one or two colleagues working out of office .Only few municipalities have IT department and most of them use external services of private companies for IT services ( e.g. network infrastructure, software installation, maintenance etc). **Information systems exist only in few most developed municipalities** (capital city and some tourist centres at seaside). There are no web information systems at national level which can enable sharing documents, online communication, sharing experiences (forum, chat, etc.) between municipalities or municipalities and HRMA and Ministries.

Also, it is important to mention that latest research on “Usage of Internet and Mobile phones” in Montenegro (ATPD, 2008, p.38), shows that only 15,4% of PA employees use Internet for professional learning and research. According to the study, only 34,9% are using Internet at work and 72,2 at home. Internet at work is used mainly for e-mail. At home, Internet is used for news, films, games, music and free Internet calls. Only social network popular in Montenegro is Facebook, but we see that Twitter is becoming more and more popular among politicians and younger population. Montenegro is very traditional country and the Blogs are not popular. Also, **there is no national electronic database with training materials or e-learning platform** that would support continuous learning of PA in Montenegro. New laws and regulation are published on the websites of relevant Ministries as well as websites of Municipalities.


Following the context description the barriers and related interventions are outlined more precisely.

### 5.3.3. *Barriers and interventions:*

All available government capacities in Montenegro – already limited – focus on development and adoption of the legislative framework. The municipalities need to apply PAR Strategy Action plan necessary for EU integration. Also, during the implementation municipalities

<sup>24</sup> Municipalities have special agreements with Mobile operators and they provide only free phone calls and messages between employees. Also, every employee has limited pre- paid monthly credit that can be spent for calls related to work.

<sup>25</sup> Participants stated reports need to be signed by inspector and representative of inspected institution and papers forms are obligatory.

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need to take into account the need for the rationalization of administrative structures and the strengthening of administrative capacities, especially in the area of European integrations, but also the ensuring of financial sustainability of state administration. The PAR Strategy included the adoption of European employment standards and the measures for the efficiency improvement of the state administration. It also constitutes a plan for the reduction of the number of employees, as well as social programmes for the redundant. In this way, the number of the employees at the central and local level should be rationalized.

Still, the Strategy is short of the explanation as to how to achieve the downsizing objective without affecting the quality and the efficiency of the administration (Montenegro, 2011). The text of the Strategy is largely determined by the external sources and solutions, which are not fully applicable in Montenegro. In most cases, the programmatic policy is made - i. e. a law is passed in order to solve a problem in the society. The problem can be solved only if the policy is implemented i.e. objectives are achieved. This is why implementation of programmatic policy is the key segment of the policy cycle.” (Donelan, 2009) However, implementation and monitoring of adopted regulations are less “successful” in Montenegro. Therefore, implementation of laws lags behind development and adoption of legislative framework.


Municipalities are facing number of problems in implementing PAR strategy: poor coordination among the institutions in charge of drafting and checking the quality and compliance of regulations; insufficient involvement of stakeholders in the early stage of law drafting; weak capacities and insufficient training for implementation of laws; guidelines mainly follow the practice of the countries in the region, causing difficulties in implementation. Therefore, although the Government undertakes the activities on the improvement of the efficiency and comparative reduction of state administration costs, they are not sufficiently comprehensive. Also, municipalities are faced with high rate of unemployment, social problems and old infrastructure.

Taking in mind all previous mentions it is understandable that using ICT in learning cannot be priority in implementation of PA reform in municipalities. Policies and instruments for the optimization of the current situation largely depends on the government.

### Policy

Number of Strategies, Laws and policies in Montenegro support life-long learning and training of employees. But as stated before there is a **lack of e-Learning policies** and national strategies, action plans or policies for PAR reform **do not include e-Learning and open education initiatives** [3.2.1.b.]<sup>26</sup>.


<sup>26</sup> This is a barrier reference number to chapter 4.2.. The respective analysis and barrier list for Montenegro is in the Appendix “Analysis Montenegro report”.

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Regardless to previous initiatives most of the workshop participants **lack awareness of facilities** [1.2.a.] of the National Training Strategy for local self-governments (LS) and of the Training Program for LS, which was adopted by the National Council for Training in LS. Based on the answers of participants we can conclude that **training plans and needs are usually identified by Head of Organisation and Superiors** of the staff on their own. Namely, most of the municipalities do not have the annual training plan and are not **allocating funds**[3.1.1.a.], that is, plan how to invest funds and their budgets for professional development of their staff. Small number of local self-government units has independently implemented training need assessment (by surveying the staff). Participants stated that **trainings offered in NTP are mainly theoretical and more suitable or management staff**. Also, participants mentioned that their local self-government never organize training independently.

Participants emphasize as a barrier **external learning contents** [3.1.2.a.] and the fact that **they are not provided with learning materials** after trainings. They receive only short presentations (.pptx) by e-mail. The reason for this are **intellectual property rights** on training materials [3.2.2.a.]. Often, employees state that they **lack further support** for implementation of new knowledge at work [1.1.c.]. Participants stated that municipalities should define **rules and procedures for dissemination of knowledge** to other employees that are not able to attend trainings [3.2.2.b.].

One of the barriers identified by all participants is that there is **no performance based rewarding and promotion** [2.3.c.]. Appraisal is not conducted in a large number of state administration bodies. However, especially when it comes to recruitment, legal mechanisms have not been established to ensure consistent application of this principle. Lack of a clearly defined system for checking capabilities of candidates for employment in state administration, combined with unlimited discretionary powers of the head of the authority (who is, at the same time, a political figure) often results in a choice that is not based on the valuation of the candidate's references. In this way, the usefulness of testing the capabilities preceding the selection is questioned, given the casualness of the testing results in relation to the decision of the head. The decision on advancement of a civil servant or state employee is brought by the head of the state authority, upon the superior's proposal. The central problem that causes the lack of "merit-based promotion" is the fact that "the system of assessment of civil servants and state employees" has never taken root in practice.

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Participants stated that **municipalities have insufficient number of employees with professional knowledge and skills for performance of duties** <sup>27</sup>. There is **no strategic capacity building**, no planned approach to creating high quality human resources [1.1.a.] because the system of permanent monitoring of individual civil servants' performance, which should result in reward or demotion in a career. In other words, work/ idleness of an individual is not evaluated properly but the logic of "the most important is to get the job done" prevails. This situation is the result of shortcomings in the evaluation and advancement as previously discussed, which all together leads to **low motivation to learn**, and for staff to conduct professional learning and work in state administration [2.3.a.].

Most of the participants agreed that it is necessary to **upgrade existing legal framework** regarding HR involved in management changes in local self-government [**3.2.1.b.**]. Some of the participants said that these issues should be regulated by the Law on Local Self-Government, in a separate chapter that would tackle this issue only, while others felt that it is necessary to adopt a separate Law on local servants and employees that would regulate in a comprehensive manner all issues in the field of human resource management.

Most of participants stated that procedures for **inter-municipality communication is low** because it is too formal (see Culture and Collaboration) and takes too much time [1.3.a.]. Some participants stated that they use mobile phone for personal and **informal communication** [2.2.b.]. The **location of learning** is with close colleagues from other municipalities to share knowledge or ask for assistance/advice how to implement new procedures in practice [1.3.b.].

During two workshops participant stated that preparation for obligatory professional State exam for civil servants and state employees should be organized at municipality level and in form of e-Learning (see Policies). Also, participants stated that employees prepare for State exam independently and out of work, usually with help of senior colleagues. HRMA organize trainings for State exam (only in capital city Podgorica) but most of employees **lack space**


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<sup>27</sup> According to the solutions from the valid LCSSE, it is not obligatory to adopt personnel plans neither on the level of a body nor at the level of overall state administration. Recruitment is more or less performed on an ad hoc basis, according to the current needs in certain organizational units of the state administration bodies. Basically, state administration system is not recognized as a unique system, therefore the mechanisms of horizontal mobility of staff are insufficiently used (assignment in line with needs of the working process within one or more bodies).

The current LCSEE leaves it to the discretion of the head to choose the way in which certain vacancy will be filled (reassignment within the body, internal announcement among the bodies, public announcement), where the heads mostly opt for public announcement. (Gazette 44/12).

Law on use of public information do not implement all aspects of European PSI Directive, including re-use of public information (e.g. publishing information in open format, license, etc.). Montenegro Government will need to adopt amendment on current Law on use of public information and start government open data initiatives in order to become EU member



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**and time for learning** and are not able to leave work and spend couple of days for training [3.1.1.a]. Learning materials for State exam (National laws, Regulation and Decrees) are published on the HRMA website and available for download. Participants mentioned **a lack of guidelines for exams** so that they would like to have more support for State exam at municipality and organisation level [1.1.a].

### Culture and Collaboration


Organization of learning activities in municipalities usually depends on how the HR management function is organized. HR management is organized in various ways, and with various work concepts. In some cases units deal with issues in the field of labour relations only, while in other cases the context of HR management is wider.

General guidelines for implementation of changes are received from Government (e.g. published on websites of Ministries in charge) Municipalities are required to elaborate laws and change processes, gather necessary information and create change management plans by themselves. Current LCSSE defines the requirement procedures, career promotion and system of professional advancements and training in state administration bodies. **Performance appraisal and performance based rewarding and promotion**, have not been introduced yet [2.3.c.].

From the aspect of budget and allocation of funds for training, most of the participants have mentioned the **problem in financing learning activities** that fall under the responsibility of the local self-government units [3.1.1.a.]. In most cases, funds for training have not been allocated.

Organization and structures for professional learning are clear. Superiors/Managers are members of HR management in Municipalities. They are in charge to inform employees about Municipality training plan and NTP and propose number of employees that can attend trainings (according to available budget) to Head of organisation. Participants stated that they can apply for specific training but the final decision is made by Managing persons of organizational units and head of authority. It was mentioned that often “the same people are selected for trainings” so there seems to be **a lack of HR coordination** [1.1.c.]. An exception are courses for basic ICT literacy (ECDL) which were organized for all employees (Projects - IPA project "Implementation of the ECDL Standard into the Education System" supported by the EU).

Participants of workshop stated that it is **very hard to organize time** for attend training courses [3.1.1.a]. One of the key factors is the locations of trainings (in most cases capital city Podgorica). But comments from participants about the training also addressed a **misfit of educational contents and suggested that contents can be too academic, and not practical**

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**enough** [3.1.2.b.]. Often it was too difficult for people to follow or understand, but that the participants are **uncomfortable to show that they do not understand** [2.2.a.]; and often participants said that they did not learn anything on a training course that they couldn't have learned from just reading a law.

Other reasons given for the poor motivation of staff to attend training included the feeling that attending training was not going to be of help in performing their jobs, or in leading to a promotion or increased pay. On the contrary, people are **afraid of more responsibility**, so learning will lead to more work and more responsibility, but without any of the rewards [2.3.c.]. Individuals (employees) do not see the system of professional training as a main element in the improvement of knowledge and in the promotion system. Participant mentioned a **lack of recognition** so that acquisition of additional levels of formal education such as a master's or doctoral degrees are not recognized or valued by the state institutions as well [2.3.c.]. Participants from municipalities with smaller number of employees stated that sometimes, even if they get a chance to go to training, they are not able to attend since they need to finish work on time. All of previous mentioned barriers cause that **employees are not motivated to learn** [2.3.a.].


During discussion about possibilities of EAGLE platform for learning, participants stated that they have "no time to search for problem solution on EAGLE platform" and they **lack technical equipment** [3.1.3.c.] and have "no IT". Another statement emphasized a **lack of foreign language knowledge** [1.4.a.] as well as **lack of digital learning skills** to create OER and use EAGLE platform [1.2.a.].

An additional barrier was a **perceived misfit of online learning at the workplace** [2.4.b.]. Participants would rather ask or call more experienced colleague in order to find quick solution for a problem than spending "time that they need for work" on searching for solution using EAGLE platform. Most of participants expressed a **lack of interest for e-Learning as a model of training**, and they have **no motivation to create OER** even if they have knowledge how to do that [2.3.a.]. They are **reluctant to change to self-regulated learning** [2.3.a.] and we have noted that "creation of OER" is seen as unpaid additional work for employees. Frequently asked question during workshops was "Why should I create OER?"

Besides basic knowledge about concept and model of e-Learning and OER, participants noted that they need additional knowledge and **IT support** how to use communication and other tools available on the EAGLE platform [3.1.3.e.]. The role of technical facilities will be discussed more precisely below.

### **Technology**

Technological barriers are complex and related to **lack of national IT infrastructure** for PA institutions as well as **lack of technical equipment** for e-Learning and accessible solutions [3.1.3.c.]. All employees have **access to Internet, and official e-mail address for**

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**communication at work** though **Wi-Fi Internet is not available** (not installed) on workplaces. Also smaller municipalities some employees **share PC with colleagues** [3.2.3.a.]. There is a Rule Book at the level of each public institution which **regulates access to social media** and the most of social networks is limited due to security reasons [3.1.3.b.]. For example Dropbox, YouTube, Face book, Flicker etc. are not available at work. Mobile phones are used only for communication related to every day work (calls, messages). Municipalities do not provide smart phones or tablets for work to employees. The participants stated that lack of technical equipment at work, IT support, and infrastructure represents one of the obstacles for using new ICT technologies in learning.


MS Office is used for work and MS Outlook for official mail. Web browser is Internet Explorer but none of participants knew what version of software they are using. Participants stated that office software is not regularly updated and outlined **problems with a limited Internet connection** so it is “very slow” [3.1.3.a.]. Most of them mention that during bad weather conditions Internet connection is often broken for hours. When describing available technologies at work, most of participants used terms “slow” and “old”. Municipalities use external services (e.g. private companies) for IT support and network maintenance. There is a **lack of e-Learning facilities** so there are no systems that enable online learning and training for PA. Internet/web 2.0 tools for sharing knowledge or communication are not used [3.1.2.a.].

Accessibility issues are regulated by Law on Employment of People with Disabilities. Participants stated that there are no staff with disabilities employed in their municipalities and there are no technologies for accessible workplaces Also participants **do not have any knowledge about web accessibility issues** (e.g. they do not know what this means).

### Pedagogy

Due to the lack of time, capacities or some other obstacles, the process of formal and informal education of PA employees ends with the end of the respective level of education. Most of **participants think that “practical skills cannot be learned over Internet”**. All participants stated that planning of e-Learning **initiatives should be initiated and organized on national or municipality level** [3.1.4.c.]. None of participants would like to spend free time or own money for Internet access from home for professional e-Learning there is a **need to locate learning at the workplace** [3.1.3.a.].

During workshops we have noticed a potential barrier related to **demography**. Younger employees express more interest for additional IT knowledge and language skills needed for e-Learning, but we have seen resistance to changes within older ones. The **employees close to**

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**retirement are not interested to learn new IT skills or share experience with young colleagues [2.3.b.].**


Participants have **no experience with e-Learning or OER**. Most of them are familiar with concept of e-Learning, but none of participants ever attended online training course or used any other form of online resource for learning (webinar, online repository, forums, web 2.0 tools etc...). They expressed no significant interest for e-Learning as a model of learning.

During workshops participants have identified **factors that can affects motivation to use e-Learning system/EAGLE platform:**

They consider that career development and **promotion plans** for PA staff is essential. Employees want to have clear vision how trainings can help them in getting promotion or higher salary [2.3.c.]. Employees further **require time during working hours** that is dedicated only for learning/ e-Learning activities [3.1.1.a]. Apart from time, e-learning system needs to **be easy for use** (with not to many options); interface, e-Learning materials and search options need to be available in Montenegrin language [3.1.4.]. Also there are demands concerning the e-learning content. It should be useful and provide **applicable insight** to enhance every day work [2.1.a.]. Need to have a **helpdesk to solve navigational problems** and problems concerning the download of learning material [3.1.4.a.]. More generally tools are demanded which enable to communicate and manage the information. Finally, participants defined a need to communicate and share information with peers/staff related to a **bad organizational climate** [2.2.a.]. Feeding into this is another important barrier namely the availability of frameworks to licence for publishing official materials, IPR and ownerships. Participants have no knowledge on this issue [3.2.1.a].

#### *5.3.4. Results from interviews*

Primary goal of the focus group was to get a picture of the state of affairs in the local self-government regarding external and organizational aspects, as well as to hear the individual views of the policy makers and executives with regard to the needs and priorities for professional training of staff. Participants have been introduced (by e-mail) with idea of the focus group and top ten barriers identified during workshops. On this way we have ensured that participants had more time to think about barriers and prepare for focus group discussion. We have organized focus group with key policy makers from HRMA and Ministry for Information Society and telecommunication. Legal framework in Montenegro is centralized and responsibilities of institutions are regulated by the Decree on the organization of Public Administration (Gazette 5/12). HRMA is central independent national body responsible for planning, development and implementation of professional trainings for PA employees. Ministry for Information Society and telecommunication is responsible for. All of **participants have long experience and participated in the creation of national strategies and laws**. All of them are involved in different Government Working groups for reform of PA in Montenegro.


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Participants agreed with top ten barriers and priorities identified during workshops. Suggestion from HRMA participants was related to the responsibility of institutions relevant for implementation of NTP. HRMA representatives stated that municipalities need to be more active in implementation of Training Strategy for public servant and state employees. The participants explained most important strategic priorities of Montenegro related to ICT and Public Administration. **Widespread use of ICT in public administration need provide opportunities for improving efficiency** of State's mechanisms, which affects the availability and quality of public services and increases chances for the citizens to participate in the decision-making processes (efficiency and transparency of the administration task) Increased efficiency and transparency of public sector while using ICT will change the way of public administration functioning and will cause changes in terms of skills that employees in the public administration and citizens, who want to take advantage of ICT supported services. Organizational changes, which are necessary for the effective functioning of public administration, must be thoroughly analyzed and systematically implemented.

Moreover, rapid development of technology and the paradigm of changes that come with it bring the necessity to increase the number of socio-economic researches in order to formulate the policy that will satisfy needs of the information society. ICT presents an effective tool that increases the number of citizens who join public debates and decision-making processes. Today, the web sites of public sector are mainly used for giving information and, in some cases, for giving eServices. Their role in the process of raising participation of citizens has yet to develop. In general, public information can be accessed easily, although they are spread. Participants emphasized the **need of integrated system approach for information management, information browsing and use of e-services**

Representatives from Ministry of Information Society and HRMA ICT sector mention that **priority of strategic goals** is following: 1) Broad-based access; 2) IT Security; 3) E-inclusion; 4) E-administration; 5) E-learning and 6) E-health. Participants explained that latest broadband services (education via Internet, social networking, high quality IP TV, work from home, etc.) require adequate transmission capacities (more than 20 Mbit/s) that can be achieved through optical access infrastructure and corresponding next-generation wireless technologies. Accordingly, it is necessary to create appropriate incentives for the investment in wire and wireless networks of new generation. Also, new and broader government bodies' services availability via the Internet will provide more efficient public institutions. But this is still not achieved in Montenegro.

Deputy of Director of HRMA for Training and Development explained that current model of PA trainings need to be improved with using ICT, but this process is planned to be done until 2020. Also, it was mention that current system of engaging trainers who have IPR on learning

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material cannot be changed before establishing National body responsible to prepare trainings and learning materials for PA. Most of National strategies and Acton plans are created for five year period (until 2016.), and Government funds are allocated mainly to legislation reform of PA system, establishing broadband services, improving communal infrastructure and ecological issues. **E-learning is not among priorities among previously mention strategic goals.** Participants agreed that the reforms in Montenegro have started recently and we will need some time to see results of institutional, organisational and cultural changes.

**Participants see EAGLE components and services as opportunity to raise awareness about e-Learning and OER in Montenegro** and promote examples of good practice. All of them agreed that Montenegrin PA system is still “not ready” for adopting OER and a lot of steps are needed before. After all, the discussion showed that solutions for the problems, such as the “lack of IT literacy and foreign language knowledge” and the “infrastructure problem”; are dependent on the target groups, their motivation and skills, on the financial and organizational background of the project, and on “real-world”, face-to-face communication and interaction with the government institution and municipalities. Mentioning personal initiative, motivation and willingness, it was stated by several of our interviewees that the climate in the municipalities (and public institutions), the activities and the educational results depend significantly on the ability of the Major and management of the institution and his or her knowledge, capacities and motivation. Conclusion was that Municipalities do not have necessary HR capacity, IT infrastructure or educated staff needed for e-Learning initiatives.

Montenegro has centralized system and “top down” approach is needed for starting any initiative or change in PA system. It was proposed that HRMA take a more active role in the project in terms of providing materials that can be published on the EAGLE platform, and to promote e-Learning and OER. University staff should provide IT support to HRMA representatives in learning how to use platform, create and maintain resources. Trained HRMA staff would later be able to transfer knowledge to other employees in PA administration.

Under the precondition that Montenegro has built the IT infrastructure needed for e-Learning the participants gave their **vision of establishing e-Learning in professional training for PA employees.**

Besides authorities or bodies are authorized to establish and develop policies, strategies and NTP for PA (information society), it is necessary to establish other authorities, bodies and institutions which are authorized for certain specific segments. **E-Development institutions should be able to accomplish/perform several basic functions:** (a) formulation of e-Learning strategy including integrated ICT strategies in overall development; (b) policy formulation and development of legal and regulatory ICT frameworks for e-Learning; (c)

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implementation, coordination ,partnerships and outsourcing of e-Learning program, (d) mobilization and allocation of resources between competition and interdependent ICT investments for e-Learning initiatives; (e) promotion of ICT, digital literacy, local contents, innovations, and (f) strategic communications, monitoring and evaluation.

In order to cope with current problems municipalities (and public institutions) **need to establish a policy for the use of e-Learning within the organization**, to ensure that the ideas behind e-Learning are understood at all levels of the organization and to establish related roles and responsibilities for implementation of e-Learning. Also it is important not to impose too advanced technical requirements on the users, to use scalable hardware and software, to integrate the course into the existing national training strategy, and to provide sufficient financial backing.


Simultaneously it is needed to organize continuous training of staff responsible for carrying out IT support, maintains of e-Learning system and security issues and builds capacity and knowledge for creating e-Learning materials, but also overcome a **lack of e-tutoring [1.1.c.]**, instructional design. Participants agree that **Montenegro needs integrated and systematic approach that will ensure sustainability and success of implementation of e-Learning**. At the end participants mention that first priority is creation of national e-Learning system which will be customized for needs of professional trainings of PA employees in Montenegro. National e-Learning system should be extended with additional options like web 2.0 tools and OER (integration with EAGLE platform).

Results of the discussion were very useful, besides meeting the primary goal of the focus group, to understand the actual situation in the state, local self-government units and the needs of the staff for professional development, they also provided information about the current problems in the work of local self-government authorities from the aspect of HR capacities. Participants have also provided relevant recommendations regarding the legal and financial framework for professional training, motivation of staff, and recommendations for specific professional training programs. During discussion a lot of questions related to EAGLE platform repository, content and assessment were raised [[Appendix](#)]. Participants would like to have clear picture of legal and ownership aspects of learning repository, sustainability of EAGLE platform and administration of repository.

From the view of the project, all the above mentioned political aims demand a appropriate PA staff training, to which EAGLE could make an efficient contribution. This should be communicated by the project to the persons in charge.

#### *5.3.5. Defining priority barrier for Montenegro*

#### **Lack of broadband infrastructure**

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The lack of broadband infrastructure is the most important barrier at this point of time. It is important to encourage Internet service providers to effectively improve speed of broadband access in accordance with national policy guidelines and vision. It is salient to encourage Internet service provider to enable symmetrical broadband access with guaranteed flow capacities for remote users. Relatedly an adequate, reliable, accessible international Internet connection needs to be provided which will allow for future broad access bands while maintaining the specified quality level;

To improve this point it is focal to identify optimal funding mechanisms (e.g., concessions, public-private partnership, direct public investments) which will contribute to the efficient development of accession broadband networks. While this point is crucial for EAGLE the responsibility lies with the Government, Ministry for information Society and Telecommunication but will be considered in the creation of interventions.

### **Lack of IT infrastructure at Municipalities**

The lack of information technology infrastructure at municipalities relates to the first priority. It will be crucial for the project that adequate, reliable, accessible IT infrastructure is available. Therefore it is important to create information system and provide employees with smart devices and tablets for work in order to make the EAGLE solution accessible. Though the point is mainly the responsibility of the Government and Municipalities as such, it will be considered in the definition of interventions.

### **Lack of policy framework for e-Learning and Open Education**


Regarding the elicited lack of policy frameworks for e-Learning and OER it is important to raise awareness about the Open Education and e-Learning among policy makers. Also to include e-Learning and open education initiatives for PA as a strategic goals in future national Strategies and Action plans is focal.

To improve this point one can provide examples of good practice or establishing agreement among all parties, including the social partners, which have still not recognised the value of investing in e-Learning, on the implementation of activities. This would be important for the sustainability of EAGLE project and further development of open education in regions. Responsibilities in this respect lie with the Ministry of Interior, HRMA, as well as EAGLE.

### **Lack of knowledge of e-Learning and OER**

Provide education for e-Learning and OER for different levels: learners, web developers, course developers, instruction designers, e-tutors, administrators, etc) Create guidelines for creating and licensing OER (CC licenses). Create necessary technical and other conditions for implementation of e-Learning; Identify optimal



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funding mechanisms (e.g., EU funds, concessions, public-private partnership, direct public investments) which will contribute to the efficient development of e-Learning; Strengthening the network of training offers among regions.  
Responsibilities for this goal lie at the HRMA, Municipalities, and EAGLE.

### **Lack of Digital Literacy and knowledge of foreign languages (English)**


Encourage activities aimed at further stimulation of utilization of ICT among all municipalities and all regions of the country; to organize advance ICT education of employees and encourage all the employed to use the Internet in accordance with standards, etc... Provide continuous ECDL trainings for PA employees; Provide additional knowledge on using Internet and web 2.0 tools. Provide high availability and use of ICT services among public administration;  
To resolve this point one can further adopt regulations on employment of PA staff regarding to knowledge of foreign languages (e.g. define levels of skills and competences in accordance to Common European Framework of Reference for Languages). Responsibility for this go with the Ministry of Interior, HRMA, Ministry of Information Society and Telecommunication, Municipalities.

### **Intellectual property rights**

Accredit at least some of training programs for PA employees at national level as OER. Adopt regulations for licences and intellectual rights related to learning materials used for national training programs. Learning materials must be available in their language trough electronic means when possible (where documents held by public sector bodies are made accessible, those documents must be reusable **either for commercial or non- commercial purposes** [PSI Directive Art. 3, General Principle]).  
To resolve this point EAGLE can propose guidelines for licensing OER; establish quality control and develop methodology for the assessment and quality control of professional trainings. Responsibilities go with the Ministry of Interior, HRMA, EAGLE

### **Need for training and carrier development plans in municipalities**

Apply consistently the provisions of LCSSE referring to merit-based recruitment and promotion; Strengthen activities of administrative inspection, with respect to supervision of the process of evaluation of working and professional qualities of public employees and the submission of data into central personnel records; Amend the Law on civil servants and state employees and lay down fully the scholarship principles in administrative authorities; Adopt, at the level of the Government, a five-year streamlining framework plan for the overall state administration; Adopt, at the level of the Government, a Strategy for attracting and retaining best quality staff in state administration bodies; Improve communication and coordination between local

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self-government authorities and the Secretariat of the Chief Administrator with regard to training;. Responsibilities go with the Ministry of Interior, HRMA, Municipalities


### **Motivation**

Provide clear guidelines how e-Learning and open education is going to be used and accredited in professional training of PA employees. Define roles and the competencies of the human capital for e-Learning and open education. Provide usability of EAGLE platform. Provide evident examples and information illustrating the benefits of the EAGLE concept. For these points the Ministry of Interior, HRMA, EAGLE , Municipalities are in charge.

### **Change management**

Define clear guidelines and deadlines for the PAR Strategy and the Action Plan. Align HR capacity-building plans on the part of local self-government bodies with development plans, especially the Strategy of human resource development and other national strategies; Set up an advisory body to the government to include researchers and professionals, the community, CSOs. Following the model of the same or similar bodies in other reform areas, this body should ensure more forceful change management process in PA.

In the following the focus will shift to Germany.

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## 5.4. COUNTRY REPORT: GERMANY

### 5.4.1. *Context description*

Germany has 80,4 mio. inhabitants and approximately 11300 municipalities with an average population of 700028. The political system reflects the principle of the separation of power by distributing the state power horizontal and vertical. On the horizontal axis state power is divided into the legislature, the executive and the judiciary. Vertically state power is distinguished by the federal level, the level of the 16 Länder (federal states) and the local level covering municipalities, district-free cities and districts.

The local governments enjoy a constitutional guarantee as institutions of local self-administration which lead to local autonomy, responsibility and democracy. Within this area of responsibility a distinction must be made between the voluntary and the mandatory self-government tasks. The most important mandatory self-government tasks are providing the citizens with water, electricity, district heating, gas, wastewater services and planning municipality territory (land use plans). These tasks have to be performed by the municipalities as a result of a Federal or Land law. To open a new museum or theatre is a voluntary self-government task and left to the discretion of the municipality in question whether it wants to perform these tasks or not.

E-learning offers are currently not common on the local level, but on the higher level of the Länder administrations. For example Lower Saxony, North Rhine-Westphalia or Berlin provide e-learning platforms for further education.


The «act to promote electronic government» (eGovernment act) from the 25th July 2013 created the legal foundation for further time and location independent services on all levels of the political system.

### 5.4.2. *Workshop results*

All surveyed municipalities assign **high importance to continuous learning**. Primarily, current learning needs exist and are met for “hard”, subject-specific administrative topics. “Soft” topics, such as presentation or communication skills, are requested, but hardly every subject of further education, mainly for lack of resources and time.

Concerning their understanding of e-Learning, most interviewed municipalities asked for **clarification of the concept** and of its coverage. Some associated negative connotations with the term because of negative experiences in the past. Practically no interviewed municipality conducts projects using modern ICT technology for further education. All interviewed

<sup>28</sup> See German Zensus (2011) for further information.

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municipalities, however, were open to new ICT-based forms of learning and mostly **agreed to validate project results and pilot the platform.**

When it comes to learning formats, **face-to-face classes and personal interaction** are, by far, the preferred learning methods. It was also pointed out, however, that this is mainly due to lack of experience with other learning formats, e.g. online learning. The necessity for self-assessment and feedback on learners' success was also pointed out. When asked what the next step towards e-Learning could be, most municipalities underlined the importance to identify and offer the **right topics for the right target groups**. There was no common understanding however, on what precisely these topics could be.


Overall, employees **welcome the opportunity to share knowledge** and (despite some concerns of competition amongst neighbouring municipalities in certain fields) to enter into exchange with other municipalities – as is already done today. Subject-specific applications and electronic knowledge bases (e.g., collections on legal information systems) are **silo systems**. Municipalities consider it important, however, that current knowledge sources and cross-domain services are integrated in future e-Learning solutions. The creation of **integration concepts** is, therefore, mandatory.

### Meaning of e-Learning

As a first step, the **role of "learning" in organisations** was discussed. All surveyed municipalities assign high importance to learning. Further education is generally considered as necessary. This is motivated by frequent changes of laws, ordinances, new procedures as well as by new IT systems. For these reasons, superiors have a clear interest in granting employees the possibility of further education within the limits of available resources (budget and time). Similarly, employees are generally willing to learn.

Secondly, it was discussed **what has been or needs to be "learned" in organizations**. Current learning needs exist mainly for subject-specific administrative topics. These are considered important due to the increasing degree of specialization and also because of European legislation. Learning needs exist mainly in the subject-specific departments (e.g., youth, welfare, environment) and authorities (public order, security, buildings). Often, learning needs are reported for kindergardens (e.g., questions concerning fees, personnel management in general and of childcare specialists in particular). There is also a need for cross-cutting themes, such as time management, personnel management, presentation and leadership skills. These "soft" topics, however, are hardly ever subject of further education for the following reasons: lack of resources, lack of time, lack of acceptance (problem of legitimacy pressure among peers).

**Topics of particular importance**, which should be addressed in future education activities are, e.g., double-entry accounting system, creation of regulations and statutes, calculation of

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fees, (public) procurement law, allowance law, waste water, public lighting, financial apportionment for residents. For different reasons, not all municipalities are concerned with all these topics; a clustering of target groups would, therefore, make sense. In offering further education for these topics, the distinction between federal and state law is important, as well as the consideration of state-specific ordinances and procedures, which can vary considerably. Which points were made by one or few respondents can be found in the [[Appendix](#)].


The **understanding of the concept of e-Learning** was elaborated. Some interviewed municipalities associate a negative connotation with the term „e-Learning“, because they had negative experiences with e-Learning in the past. Most had no experience with e-Learning at all. In general, municipalities also have **no clear understanding of the concept** and of its coverage. They ask for a delimitation of its scope and for a definition. For example, some associate with the term some kind of online tutorial, which informs about certain topics and presents questions. One municipality, on the other hand, also views search engines and other online sources of information as instances of e-Learning (e.g., Google or youtube). One municipality explicitly said, that at least 70 % of the employees would need to learn what e-Learning actually means.

Generally, a mixed attitude towards e-Learning prevails. On the whole, municipalities are open-minded, assuming that it delivers benefits and can be used without major efforts. One mayor is actually very open and optimistic towards e-Learning. He believes that 60 % of the municipality’s employees would be able to handle it. There would also be resources in terms of time and equipment. He would be very motivated to introduce his employees to e-Learning.

Others, however, are more sceptical about e-Learning (see also barriers). Some think that e-Learning cannot be established broadly, because current learning needs are covered by further education institutes on the one hand and because, on the other hand, personal contact and personal exchange between students and teachers/expert is needed. These factors are assumed to play a major role in today’s learning activities. According to these respondents, e-Learning solutions cannot replace this personal exchange

In addition, technical problems are mentioned as additional barrier: a minority of small municipalities do not always have access to the Internet or to sufficient bandwidth. However, this problem should be solved within the subsequent years and this pose only a minor problem.

When asked what the **next step towards e-Learning** could be, most municipalities say that it is important to identify and offer the right topics for the right target groups. They largely disagree, however, on what precisely these topics could be.

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On the one hand, there is uncertainty considering the suitability of topics for e-Learning and what appropriate learning units could be. On the other hand, there is also one municipality, which does not see any specific topics at all, because they think that everything could be relevant topics. Some, however, also think that cross-cutting topics would be particularly suitable for e-Learning, such as migration issues between MS Office Systems, which concern several administrative agencies. Generally important is the fact that topics are chosen for which there is a general demand.


Many think that „soft topics“ are not so suitable for e-Learning, because in this case personal interaction is considered necessary. Some think that special IT applications are less suitable for e-Learning because of their high degree of specialization. In general, respondents are afraid that e-Learning will lead to a loss of personal contact.

### **Policies**

Firstly, **key policies on learning** in the participating organizations were discussed. Currently, none of the interviewed municipalities has a key strategy for learning. In only one municipality, a concept for human resource development is currently being developed. Mainly, further education is granted when requested by employees or when there is a specific need. When employees express a requirement, their superiors decide taking into consideration the importance and the given resources. Mostly, all demands are approved. When a specific need arises, it could also be the superiors who initiate the learning process and make “recommendations” to employees.

Specific **scopes of job functions require mandatory training**. Further education itself is voluntary for employees. The difference of mandatory and voluntary further education needs to be reflected; generally, not only personal needs should be considered. The interview statements about methods range from loss of job threats up to missing methods for handling reluctant employees. Usage of existing further education offers depend strongly on the willingness of the specific employees. Committed employees have more interest on further education and manage the needed time and work arrangements to be involved. Overburdened employees avoid or block further education in general.

Further education agreements are a strategic element for most of the municipalities to temporarily bind an educated employee to the job at the municipality. Generally, further education is not directly linked to promotion or salary increase. Thus, high further education costs are only invested if the employee is bound to the job contract (e.g., the investment of app. 2500 € for a truck driving license of a volunteer fire-fighter is bound to a five year contract). Considering if there are policies and regulations in relation to accessibility **no specific policies and regulations concerning accessibility were reported**. Concerning technological issues, see question on “Technological Barriers”.

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**The budget of the includes a part for further education.** The control over this budget is either located centrally, or decentrally or in some instances in both ways, depending on the individual organization. One administration plans 20.000 € for 40 employees, meaning 500 € per employee and year.

### Projects

It was discussed whether / which **key projects related to technology use in (e-)learning** are running. Practically, no interviewed municipality conducts projects using modern ICT technology for further education. Only one municipality reported a further education activity on civil registration functions.


One municipality started a test with e-Learning nine years ago initiated by an ICT service provider. As no one produced content and maintained the solution, the test generated negative results in terms of usage and sustainability. Webcasts are used for some specific domain driven topics like the change to the double-entry accounting system.

The interviews discussed the question **where technology and e-literacy skills are acquired** related to the procedure of change management for software solutions. Further education on domain-driven solutions is done through face-to-face classes, usually in external locations and organized by the solution suppliers. Sometimes, trainings are also organized in-house, but usually these cost too much. Mainly, software trainings are realized on the job according to the learning-by-doing principle, supported by offered software tutorials and by knowledge transfer between employees. One administration organized a regional external education provider. Usability is not a key factor for the education solutions.

### Processes

Regarding **favourable learning/ training methods**, face-to-face classes are, by far, the preferred learning method. In some instances, webcasts and videos are used. Video conferences and online forums are considered adequate education options, but not for short-term problems. Furthermore, these methods are not always suitable for the needed knowledge transfer nor do they provide the required liability to meet legal expectations.

The usage of forums is time-consuming with regard to publishing and retrieving relevant educational content. As free work time for education seems to be a major issue, employees prefer to use Internet search engines. Furthermore, the response time is not appropriate for short-term issues. Forums are generally considered problematic because of missing legal certainty. If the forum is fed by a limited number of known persons, however, this problem is considered much less severe. The further education providers are mainly regional private businesses and publicly owned organizations specialized on the public sector. One municipality reported that it had a handbook for every job profile.

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Next, it was discussed which **different methods** like learning individually, with colleagues, or mainly when specific questions, are currently practiced. Most municipalities said, employees' method of learning is mainly direct communication with personal exchange and interaction within as well as between employees of the municipality. The preferred learning method is the face-to-face interaction.

Moreover, the individual learning method strongly depends on personal preferences. Some prefer learning in face-to-face situation, while others would indeed prefer learning on their own (self-learning). For one municipality, the self-learning principle is the main method of learning.

A crucial element is the competence of identifying and assessing sources of authentic reliable educational content.

One key issue were **processes to implement changes in institutions**. No municipality had any coordinated change management processes in place. Change is organized in an ad-hoc manner, depending on specific demands which arise. Some municipalities reported pilot activities for process and change analysis linked to current initiatives focusing on legal and organizational policies.

Changes concerning **legal and organizational issues** are mainly reported top-down; relevant information is forwarded to responsible stakeholders; these distribution processes are usually coordinated by the owner of the business allocation plan. The information is usually not seen in a broader legislative context, but mainly with a focus on execution-oriented issues. In particular, it is not seen as a potential learning content.


eMail is used for the fast provision of information, which is subsequently completed by a paper-based version of the information. There are no specific processes for enabling further education. Main processes are the planning and approval of further education (see strategy). In all interviewed municipalities, **change is organized in a reactive way and not as a proactive process**. Thus, process analysis is only a topic, if problems arise including an assessment of information transfer and of responsibilities within the processes. Change management is considered to be only an objective for larger administrations, as resources in smaller municipalities are used to deal with operative and reactive activities.

### Roles

There are **different roles in the learning process** depending on the structure of the municipality. Usually, there is the learner and the person to approve of a requested education offer, usually the department head and possibly the person responsible for central budgets.

Practically no municipality institutionalized the role of a multiplier in the sense of a person passing on newly obtained knowledge to his/her colleagues. However, knowledge transfer is



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organized in an informal ad-hoc way. Also small municipalities do not notice the need for a multiplier, as most of the specialized work is done by a single person.

Also, there are usually no contact persons to inform employees on available offer. The idea is that employees should be self-organized, seeking for suitable further education offers. This is mainly a provider market.

### **Knowledge**

In this part, **main skills needed to realize online learning** are discussed. As a general requirement, motivation for continuous learning has often been stated. This assumes that employees are able to determine their needs. They also have to be open to cope with new topics. Especially when dealing with the same processes for several years, it is important to be willing and to be aware of the fact that some things could also be done differently. Concerning e-Learning, respondents often say that there has to be a certain degree of openness for computers and IT. Employees also have to have a basic understanding of computers and a certain degree of IT affinity.


Some municipalities viewed self-discipline and the willingness to take on responsibility for oneself as major prerequisites. In the light of these observations, one municipality expressed the requirement that e-Learning solutions should provide feedback on learners' success to enable self-assessment and self-control.

The next question discussed **prior technology skills** when working in public administrations. Most municipalities said, that technological skills required for working in the public administration are stated in the vacancy notices. Usually, basic IT knowledge, e. g., on MS Office systems, is required. Knowledge for using subject-specific programs can be acquired later.

Respondents were generally positive about the technical skills of their employees. Basically, employees are considered „technically fit“. Some municipalities view employees' age as an important aspect. Especially, younger employees, trainees or graduates are said to have the required knowledge. Among elder employees, on the other hand, there is assumed to be less openness towards computers and IT. In one municipality, for example, the migration to Office 2010 was described as “difficult”. One pointed out: even younger people are not always “fit” concerning common office applications. The reason for this is seen in a lack of intrinsic motivation.

### **Curricula**

This part discussed **current curricula/ schemes for career development / learning** in the institution. Mostly, municipalities state that there are no curricula for the different topics in

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place. The planning of further education is closely related to budget planning. Concrete measures are taken in an ad-hoc manner, upon request and considering the needs of employees. (see also: the question on Policy). Most municipalities find orientation in the current offers of further education providers. One respondent stated that further education is treated differently, when it is required for ascending from the middle ranks to the higher ranks of public sector positions.


The interviews showed that the **acceptance of new approaches to learning will primarily depend on the availability of offers that meet current needs**. A large number of hard topics (clearly defined subject-specific themes), but also of soft (cross-cutting) themes (e.g., personnel and project management, communication with citizens) was given. Concerning soft topics, only little education is granted in most municipalities, because the need for hard topics largely exhausts the available financial and time resources. In one municipality, which was relatively well off in terms of finance, the ratio between hard and soft topics was assumed to be in a range between 80% and 20%. Some municipalities did not cater for soft topics at all. All agreed, that education activities on soft topics would increase, if these did not interfere with the financial and time budget of hard topics.

Part of the discussion went to **the topic level**, i.e. open questions or newly emerging topics in the work (in particular, during the last year, which required an extensive research ; taking at least an hour). Questions arise for known but rarely arising topics, as well as for new topics which are summarized in the appendix [[Appendix](#)]. There are also topics of limited regional scope, such as the status of sorbic minority after Germany's communal reform.

### **Culture and collaboration**

In this field, it was elaborated how comfortable people are to **share knowledge or discuss questions** that arise during the work. On the whole, employees welcome the opportunity to share knowledge. Only in some municipalities, reservations concerning the sharing of knowledge were reported. Knowledge as a means to preserve a superior status is kept to oneself. The more rigid hierarchical structures are, the more this tendency prevails. One respondent phrased it like this: public agents still need to get accustomed to the idea of discussing subject-specific questions not only with one's superior, but directly with one's colleagues.

Also, **collaborations with other institutions** (cross regional or cross border municipalities) were addressed. There is also a general willingness to enter into exchange on specific topics with other municipalities. One municipality explicitly emphasized that, is compulsory. Examples refer to the organization departments meet regularly to exchange experiences. Also IT experts have set up a working group that meets once a year. The mayor of one municipality currently attends a special training class for mayors. There, 6 mayors of his federal state meet every 6 months. Moderated by a coach, they work on individual cases. Exchange with the

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other mayors, who have similar needs, is considered very helpful. There is also cooperation on the operative level, but mostly in an ad-hoc, need-driven way, not in a coordinated way. If there is a need for training, other municipalities are asked whether they would like to participate. Small municipalities attend classes organized by larger municipalities or umbrella organizations. However, there is also a certain reservation to attend classes which are also attended by neighbouring municipalities.

One municipality pointed out that the possibility of cooperation between municipalities depends also on the administrative level. **Little problems are caused by the execution of federal laws.** Inter-communal cooperation becomes more difficult, when state law is at stake, because ordinances can vary hugely among federal states. As an example of a subject area with little state-specific regulation, tourism was mentioned.


Exchange with other municipalities is largely practiced in the context of personal meetings. Between colleagues, who know each other, newly arising problems are also discussed by phone. Examples of inter-communal cooperation can be found in the following areas: tourism, controlling, commonly used software (system EWO in Baden-Wuerttemberg)

One municipality reported that electronic tools are used to support exchange: a common electronic archiving system is jointly used with a municipality in another federal states. Besides this **general openness towards cross-communal exchange, negative attitudes can also be observed occasionally.** One municipality states that there is a certain degree of competition between municipalities, mostly with regard to specific topics, e.g., the introduction of the double-entry accounting system. It is considered problematic to admit a lack of knowledge and acknowledge that another municipality may know more than oneself. This causes a fear of looking foolish. As a possible solution, an anonymous forum was proposed. However, there is also a concern that such a forum lacks reliability and correctness.

### **Technologies**

The last aspect dealt with which **technologies and programs are used in the workplace** (Internet based tools and services, Intranet based tools and services, Shared databases, Knowledge & organization management tools, Decision-support tools, Expert systems to answer questions). All municipalities rely on **ICT service providers** at least for internet access. The network and access scope ranges from closed-up to open LAN and WLAN. Furthermore, internal and external hardware infrastructure can be supported. Most municipalities operate at least some database and application servers as well as the operating systems (esp. MS Windows) in-house.

For several municipalities, **bandwidth** is a burning problem. For example, one municipality reported that for the whole administration, there was only one 2Mbit line available currently.

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All municipalities offer **cross-domain applications**, e.g. office solutions (esp. MS Office), databases, document management and archive solutions.

Nearly all municipalities offer a **shared file and document storage** (file server). One municipality still offers no technology option for information transfer. **All municipalities use special IT applications** to fulfil the operative legal objectives.

All municipalities offer databases mainly combined with **special IT applications**, with support and access management carried out by their ICT administration. Only some municipalities use **document and workflow management**, including archiving solutions offered by regional ICT service providers for the public sector.


Internal **collaboration** (e.g., Wiki, Blog) and social network software is not used. The use of external collaboration and social network solutions is strongly restricted. Policies concerning private eMail and private Internet use vary, but usually also tend to be restrictive.

**Knowledge management** exists in a rudimentary form: practically all municipalities use solutions for distribution of legal information (esp. laws, policies, regulations, commentaries). The used systems differ depending on local aspects (federal state), on the subject-specific context, and on the ICT service provider agreements. Some municipalities use specialized information services related to municipality council decisions or requested citizen services. Special information services for municipalities are also used. They are provided by municipal umbrella organizations (only for paying members) or by the state government.

Generally speaking, **three approaches to information sharing** have been reported is that a common local net drive for storing documents with no or very limited search features. Otherwise a DMS or registry software exists with rudimentary knowledge management features. Not at last there is the so-called “council information systems” (a system supporting the municipal council and the administration preparing and executing its decisions). None of these services has been intended for knowledge transfer or e-Learning. Municipalities consider it important, however, that current knowledge sources and cross-domain services are integrated in future e-Learning solutions.

All special IT applications are operated as **stand-alone** solutions with common interfaces. The use of **mobile devices** is generally not supported or restricted to very few employees (e.g., mayor, department heads, technicians working off-site). BYOD is generally not possible. Some ICT service providers offer **software-as-a-service** solutions for special IT applications.

The **solution implementation concepts** range from remote legacy systems up to local server solutions. The selection of the solution is mainly based on provider offers taking into account

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the existing technical framework as well as financial, legal and organizational restrictions. Thus, most municipalities handle a heterogeneous application portfolio, working in a mixed environment with legacy, local and remote servers, excluding sustainable integration concepts.

**Not many municipalities have reported about an expert or decision support system.** Another point is that **no municipality officially supports tele-working**, but a few enable remote access to the communal network (access to file system and eMail). Finally, it was discussed which technologies and processes as well as tools are essential to integrate in an e-Learning course. However, the participants reported no experience with e-Learning technology and process integration. They also reported that there are no tools available.


#### *5.4.3. Describing barriers and interventions*

##### **Overall description**

When asked about barriers, respondents said that in principle they had no reservations concerning e-Learning. During the course of the interviews these statements were further qualified. If e-Learning is applied as an alternative for on-site classes, its suitability for communal employees, mainly for the following reasons. On the personal level, **the lack of ‘quality time’** which allows employees to concentrate on learning without being disturbed is a fundamental hindrance for all learning processes at the workplace. Employees want to acquire knowledge with reference to individual cases (doing case studies) and with the possibility to address specific questions to a human expert and enter into question-answer dialogues. They **prefer personal exchange and interaction** to the more impersonal learning conduct of e-Learning. In this context, it is important to note that laws, ordinances, and procedures vary largely from federal state to federal state; learning content has to be tailored to meet such particularities.

The possible **lack of legal certainty is considered a major issue**. As a minimal requirement the quality level and the reliability of information (e.g., created and validated by whom and when) has to be made transparent. Another point is **the creation of e-Learning content that is relevant to employees’ work practice** is seen as a major success factor. However, there are no convincing models which would ensure the creation of OERs on a broad scale. An interesting aspect in this context is the fact that learning activities exist, deeply embedded in daily routines, which are even not recognized as learning activities by employees (e.g., receiving agency-internal electronic notices forwarded by peers). This could be a starting point for joining knowledge acquisition with new ICT supported learning activities in a way that meets with sufficient acceptance.

In addition to these barriers, the following concerns and requirements were expressed: Even though, most employees are interested in further education, they might **have to be motivated**

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**to engage in e-Learning activities**, which may not yield tangible results. To convince political decision-makers to invest in e-Learning initiatives, success stories, which illustrate the benefits of e-Learning in the public sector, are needed. The **concept of e-Learning is often associated with negative connotations** [2.3.c.]<sup>29</sup>. One of the reasons for this is that initiatives in the past were usually one-shot actions that were not transferred into longer-lasting operation; another reason is that no learning contents were available.

### Policies


The municipalities generally welcome employees' requests and initiatives for further education. Within their budgetary limits and provided that the requested topics are task-relevant, municipalities try to fulfil employees' requests. Generally, there is a need to **establish long-term eLearning programs** [3.2.1.b.] as currently none of the municipalities has a key strategy for learning. Municipalities fulfil employees' request in a case-based way, not on the basis of policies or pre-defined strategies.

On the political level, the following problems have been stated by some municipalities: There is a demand for political support because of **argumentation** [1.1.c.] short-term success stories are needed. Education projects, however, yield mid-term benefits. This is a hindrance when convincing political stakeholders. Justifying expenses for education on "**soft topics**" is difficult which may restrict available budget for investment [3.1.1.a.]. Another barrier is related to **negative connotations**. The concept of e-Learning has negative connotations. One of the reasons for this is that initiatives in the past were one-shot actions that were not transferred into longer-lasting operation [2.4.c.]. Another reason is that no adequate learning content were available [3.1.2.a] and shall be provided in German **language** [1.4.a.] and shall be filtered [3.1.4.c].

### Organizational and individual barriers

On the organizational level, the following barriers are commonly expressed: Most workshop-participants outlined they have **no time for learning** [2.4.b.]. It is difficult to integrate e-Learning in the daily work routine, because of one's own workload, workload of colleagues, and part-time work, which leaves little room for additional learning activities. Department heads chronically suffer from a lack of time. On the other hand, the lack of time is not equally felt as a problem by everybody – some employees do succeed in creating slots of free time for learning. Another issue is the **lack of replacements** [2.4.b.]. Because of the municipalities' small size, topics are usually represented by no more than one person; if this person is not available, e. g., because of engaging in learning activities, there is nobody to replace him/her. This makes it difficult to let employees attend training classes. Furthermore employees lack of

<sup>29</sup> This is a barrier reference number to chapter 4.2.. The respective analysis and barrier list for Germany is in the Appendix "Analysis German report".

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**no quiet time** [3.1.1.a]. It is assumed difficult to close oneself off and create an undisturbed atmosphere and space, which would be needed for learning at work, e.g., e-Learning. Disruptions because of daily work routine, may pose a problems for concentrated learning. One municipality, however, thinks that employees would accept it, if peers close themselves off for e-Learning.


The following organizational barriers have been stated by some municipalities: One there is a **lack of recognition**. Employees expect to get recognition for their learning efforts. But there is a general **lack of feedback and recognition** [2.3.c]. In addition, **learning is generally not valued** as much as executing daily tasks [2.4.c]. Sometimes, employees also have the unjustified expectation that learning will automatically be rewarded with an increase in salary.

Moreover there is a **lack of general motivation** [2.3.a.]. Some employees have no motivation to attend further education classes, e. g., because they have no ambition in career development, because they are close to retirement age, or because of general resistance towards change. Relatedly there is **lack of self-motivation** [2.3.a.]: e-Learning requires more discipline than traditional classroom learning. Overall, however there is **no assignment of responsibility** [1.1.c]. There is nobody who feels responsible for further education in general, even though department heads should consider it their responsibility. Not at last another barrier is the **reluctance to share knowledge** [2.2.a.]. There are few who don't like to share knowledge and information. However, the majority is willing to share their knowledge.

With special regard to e-Learning, the following organizational (or general) barriers have been stated by some municipalities: One aspect is the **user experience** [3.1.4.c.]. Users may feel frustrated, if their first usage of the system presents a negative experience. Frustration is likely to occur, if search operations do not yield the desired results or if the system is complex and difficult to handle. Also **costs** are an issue, understood as insecurity regarding a cost-benefit aspect (not budget related). They are worried that the overall costs for the required software infrastructure are higher than training classes [2.3.a.]. For others, however, costs are no issue.

Interestingly German administrates outline **no need for e-Learning** [2.3.a.]. Respondents doubt that e-Learning can be established, because training needs are already covered by public sector academies. Maybe this is related to the barrier **ability to use e-Learning** [1.2.a]. One mayor was very positive about his employees' acceptance and ability to use e-Learning. He assumes that 60% of employees would be able to benefit from e-Learning, if they were given the time and the necessary IT equipment.

## Technological barriers

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On the technological level, the following barriers are often expressed are **Security** [3.1.3.b]. Municipalities are afraid of running security risks, if opening their Intranet for e-Learning resources. Another set of barriers was found related to **Tele-Working**. In many municipalities, tele-working is not possible for technical or policy reasons or not officially supported. Reasons are: issues of privacy, security and no demand for it [3.2.3.a]. Some respondents would actually welcome the possibility of tele-working, but also think that if it was granted, control mechanisms would be needed and working hours would need to be acknowledged.

For some, however the challenge is that **no e-Learning technology in place** [3.1.2.a.]. Apart from minor elements (e.g., common network drives, council information systems, access to legal information system JURIS) there are currently no IT systems / platforms in place which support further education.<sup>30</sup> Also, there are no authoring systems available for content creation. A related barrier in this context is accessibility, but accessibility issues do not play a large role in the context of further education. If there is a need for accessible devices, this is taken care of individually.

In some instances, the following barriers were reported: **No Internet access** [3.1.3.a.]. In some small communities, no Internet access may be available; this problem is assumed to be solved within the subsequent 3 years. In some municipalities, employee usage of the Internet is treated very restrictively, as long as its usage is limited to work tasks. If larger tasks are conducted, however, there may be constraints in terms of a **Lack of bandwidth** [3.1.3.a.]. In some areas, bandwidth is not sufficient. Also a way **handling of BYOD varies** [3.1.3.d.]: current policies range from “prohibited”, “not offered because there is no need for it”, “tolerated in specific cases” to “regularly allowed at work”. Finally social software may meet difficulties given the barrier **restricted instant messaging** [3.1.3.d] Skype is mostly not available.


### **Pedagogical barriers**

In principle, e-Learning is considered beneficial. However, its suitability for the public sector is questioned. One barrier which was often expressed is the **need for personal exchange** [2.4.a]. Employees want to acquire knowledge with reference to individual cases (doing case studies) and with the possibility to address specific questions to a human expert and enter into question-answer-dialogues. They prefer personal interaction rather than the (perceived) impersonal conduct of e-Learning. Some actually think, that for many themes particularly

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<sup>30</sup> This point tends to reflect the standpoint of included municipalities. It is to note, however, that some Universities of applied sciences for the public sector include e-Learning in their training offer which could be used for various sectors and municipalities; see: [https://www.elearning.fhoev.nrw.de/ilias.php?ref\\_id=1&cmdClass=ilrepositorygui&cmdNode=cu&baseClass=ilrepositorygui](https://www.elearning.fhoev.nrw.de/ilias.php?ref_id=1&cmdClass=ilrepositorygui&cmdNode=cu&baseClass=ilrepositorygui).



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„soft topics“, e-Learning may not be suitable at all. Some respondents even had emotional reservations against e-Learning, even if they had no relevant personal experiences.

Another barrier stated is the **visibility of results** [2.3.c.]. For acceptance by employees, it is important that e-Learning yields quick results and a sense of achievement at an early stage. However, not only results but **performance control is important** [2.2.b.]. A barrier, which is seldom explicitly addressed, but which may play a role has to do with the fact that the monitoring, controlling, and comparing of individual performance is not part of public sector culture.

Another aspect is the lack of **guaranteed quality** [2.1.b.]. Practically respondents were **not familiar with the concept of OER** and they could not draw on personal experiences [1.2.a.]. They were, however, concerned about the quality of OER. Another and related aspect is the **missing legal certainty** [3.2.2.b.]. In-transparency and lack of legal certainty of OER was a great concern for practically all respondents.

On the user site another barrier is the lack of **time for developing OER** [2.4.b.]. Respondents were worried that the users of OER, i. e., public agents, will not have time to also (further) develop OER. Not at last also a challenge may result due to the **lack of openness** [1.3.a.]. Some respondents think, that users of OER are afraid of expressing their need for / lack of knowledge towards colleagues in other municipalities because of competition among municipalities.

Of the few respondents who had made personal experiences with OER, the lack of adequate resources is criticized, especially for topics which are not covered by classic training classes. Information on relevant training products is no problem.

#### *5.4.4. Results from interviews*


In Germany, elicitation of barriers and requirements was mainly conducted on interviews with one municipality. The results of these interviews were described in the previous section.

#### *5.4.5. Defining priority barriers for Germany*

### **Political argumentation**

For argumentation on the political level, short-term success stories are needed. Therefore, provide information on the possibilities and benefits of e-Learning as well as plausible examples for currently relevant topics.

### **Contents**

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To achieve sustainability, ensure that a critical mass of content is created right at the start of an e-Learning initiative and ensure that there is a demand for the selected themes. To support this process, design new models for content creation and consider using electronically available material, which is already used in today's knowledge acquisition processes (not perceived as learning).

### Topic

To establish early success stories, make sure to select the right topics right from the start; this could, e.g. be done, by a systematic topic survey and prioritization process.

### Sustainability

For the success of e-Learning initiatives, it is critical that they are based on long-term perspectives. Therefore, long-term e-Learning programs should be established, e.g., by joining forces with other municipalities, by designing cross-communal programs and by securing support of federal states or of umbrella organizations of municipalities (e.g., "Deutscher Städte- und Gemeindebund").

### Learning culture

As an enabler for e-Learning, create a favourable climate; for example, design rules and provide the means for undisturbed learning (quiet time slots and special rooms) and strengthen employees' motivation to exchange knowledge.

### Human resource management


Learning activities are usually undertaken in an ad-hoc, need-driven manner. To reap the benefits of continuing education, it should become an element of **human resource management, including** the creation of incentives and the gap analysis of employee skills and trend analysis of demand.

### Personal exchange

Employees want to acquire knowledge with reference to individual cases (doing case studies) and with the possibility to address specific questions to a human expert and enter into question-answer-dialogues. To meet this requirement, it is important to provide the possibility for personal exchange and interaction between student and teacher/experts and among students.

### Reliability of information

Lack of legal certainty of OER was a great concern for practically all respondents. In cases where legal certainty cannot be guaranteed for the offered content, the information may still be useful as long as it is clear what its reliability is.

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### **Integration concepts**

Municipalities consider it important, that existing knowledge sources and cross-domain services are integrated in future e-Learning solutions. The creation of integration concepts is, therefore, mandatory.

### **Usability and user experience (including self-assessment)**

Users feel frustrated, if their first usage of the system presents a negative experience. Frustration is likely to occur, if search operations do not yield the desired results if the system is complex and difficult to handle. Therefore, a **user-centric design** approach should be applied to optimize usability and user experience.

At this point of the deliverable, the report and analysis of country reports will resume in order to approach the topic accessibility. Afterwards the focus will come back; interventions will be defined to overcome potential existing barriers as well as to prevent challenges to unfold.

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### **Executive Summary Chapter 6**

A forum in Dublin brought together 10 experts from Ireland, the UK and EAGLE partners from Switzerland, Germany, Luxemburg and Ireland to discuss aspects of accessibility throughout the project. The workshop itself proved the main point that accessibility does not have to come at an extra cost if considered in an early stage of preparation. Furthermore, accessibility measures more often than not improve the results for all users. The forum was the starting point for Accessibility Guidelines for EAGLE developers and authors. The guidelines will shape the development of the platform but will be handled as a wiki as part of the project so experiences and additional provisions to make EAGLE solutions accessible will be provided.

## **6 ACCESSIBILITY STUDY**


The following chapter will present one essential step to develop accessibility guidelines for the EAGLE project. The following section outlines considerations and the outcome of conducting online conferences and a World Café with experts in the field. Results and advice for initial accessibility guidelines be resumed and are further discussed in line with the requirements definition in chapter seven (section 7.6.).

### **6.1. ONLINE CONFERENCES AND ACCESSIBILITY FORA**

In general web-conferencing and online workshops pose challenges for accessibility by virtue of the associated real-time collaboration demands. The requirement of live streaming of content can cause issues for those who have visual, auditory and/or motor functions impairments. Such kinds of impairments need to be considered as part of the preparation of online workshops for the EAGLE project. It was valuable to experience that it can be difficult but feasible to translate dynamic multi-media-based content into text and/or to provide alternatives to rich content.

The online workshops were held to provide solutions to some of the main accessibility issues associated with web-conferencing. So it was decided that any platform chosen must represent an appropriate solution in that it needs to provide shortcuts for many key meeting features, including attendee management, navigation through interface features such as menus, windows and content-sharing. Keyboard shortcuts facilitate collaboration and interaction by both hosts and attendees with visual, auditory, and mobility disabilities during real-time meetings. Support also had to so be provided for screen readers etc. through the chosen software solution.

Therefore, a suitable platform for holding online workshops should be incorporated as a part of the data elicitation process. Participants should be informed about the associated accessibility features in advance of the workshops and provided with a detailed outline of accessibility features and their use along with directions to set-up prior to the workshop.

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## 6.2. APPROACH TO THE EXPERT FORUM

With these initial considerations in mind, the expert forum was conducted as a day event at Dublin City University in the format of a world cafe. The outcome of the method for eliciting expert perspectives will be outlined in the following.

For the World Cafe several tables for up to 4 people each were provided. At these tables, participants were asked to discuss questions in relation to the EAGLE project. The answers and results of the discussions were documented directly into a file in laptops provided at each table by project coordinators. After 15-20 minutes of discussion and resume of documentation, the participants moved on to another table and continued the discussion there about a different topic and questions. A host, who stayed at the table from the previous group, handed over the results from this previous group. In this manner, expert perspectives were gathered and synthesized in view of different salient questions about accessibility in the EAGLE project.


Why a small size of groups was chosen relates to the fact that a group size of four allows participants to have a more intense exchange of ideas, to get interested in each other's opinion and to listen to each other. Hence, a shared perspective was developed to consolidate different techniques and ideas for the forthcoming accessibility guidelines. In this respect, the results from the tables were presented to all and were discussed commonly in a final round at the end of the workshop. To illustrate the topic of discussion it was discussed about personas created for the development of the EAGLE platform. In advance of the discussion, personas were provided as print out versions up on the walls in the workshop venue to support the discussions. Furthermore, electronic copies send out to everybody, and particularly for blind participants ahead of the workshop. At the meeting the adequacy and use of personas was then discussed.

The workshop involved selected experts coming from a variety of relevant organisations such as: The National Disability Authority (Ireland), The Center for Inclusive Technology (Ireland), a member of the task force of the W3C Web Accessibility Initiative or the IBM Human Ability and Accessibility Center.

Following the resumed outcome of the World Café and Accessibility Workshop, the following section will present the most important topics and results of the discussion.

## 6.3. RESULTS FROM THE EXPERTS FORUM

A first important result relates to the **meaning of computer skills**. The participants requested that the notion of computer skills should be elaborated on. It was unclear to them what the

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**different skill levels equated to.** More precisely, this point was raised in relation to our World-Café question: what skill level vision impaired people have or can be expected to have? Related to the experts’ advice a thorough outline of skill levels leads to avoid that these notions are handled subjectively. Related to this, it was mentioned that **software names for accessibility means** should be made more apparent to avoid ambiguities. Overall, two requirements for the projects are to define the meaning of computer skills and different levels. Furthermore, a strategy for software names should be made more apparent. These points will be included in the guidelines defined in the next section.


A second important discussion related to the **usage of software** such as social media **by different application groups.** The World Café participants expressed a desire to understand more about **the motivation behind the different uses or disuses** of respective applications of **accessibility** software. For the use of technology more generally, it was outlined as important to **relate use and disuse to personalities and their preferences.** Following this advice means to integrate and describe **the general motivation, dispositions, specifically towards learning, and personal goals** when **sketching personas.** **Also the role of aversions,** such as resistance to change or the dislike of travelling, **should also be included.** Knowing what drives a person seems to be an important part of writing a persona and understanding the context the persona has been cast into. This point will be included in the guidelines defined in the next section.

A third salient topic was the discussion about **usage of terms like impairment.** Experts emphasized to take care and to avoid seeing impairment as an absolute disability as it can come in many forms and nuances. In the EAGLE project, guidelines and approaches to accessibility should annotate the role of impairment and disabilities with regard to the degree of disability. Related to this, **making inappropriate assumptions about the effect of disabilities should be avoided.** More particularly, this demand requires for developing personas, that assumptions have to be made explicit. For example, if a persona’s workplace has been set up to provide assistance this fact should be mentioned instead of assuming its meaning and consequences. Further related advice is: to tie roles in EAGLE to personas; to provide exhaustive job descriptions and to account for full-time and part-time employment. Finally, experts provided the advice that personas should also include an image and be accessible, e.g., not use colours to make distinctions. These points will be included in the guidelines defined in the next section.

Finally, a discussion point was the shared approach to accessibility in the project. The advice of World Café participants was to develop and use a framework to describe disabilities such as, for example, “the universal design toolkit”<sup>31</sup>. This would also allow describing disabilities

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<sup>31</sup> [www.universaldesign.ie/](http://www.universaldesign.ie/).

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better and more consistently. Apart from taking care about different kinds of disabilities it would ensure to include also associated, like age-related disabilities. Overall, this does not imply for the project that all personas shall have disabilities. However, aligning personas with the general demographics was considered as a desirable approach to integrated considerations about accessible design in the development of the platform. Furthermore, as we are dealing with different countries, personas with different language requirements would be recommendable. Overall, these considerations will be included in the guidelines defined in the next section.

#### 6.4. STEPS TO DEVELOP A GUIDELINE FOR THE PROVISION OF ACCESSIBLE LOCAL GOVERNMENT LEARNING SERVICES

Following the resume of the most important results of discussions in the World Café, the points to consider are listed the following. Overall, they sketch a general guideline defined together with experts how to approach the definition of accessibility requirements and interventions for the project and in the next chapter.

##### **Understand nuances of impairment**

It is important to take a nuanced view on the meaning and kinds of impairment. To resolve this point it is important to define different kinds of impairments. Furthermore, the develop a universal design toolkit to enable a shared approach to accessibility in the project.

##### **Precise on skills and usage of software technologies**

It is important to precise the different meaning of skill levels in general and for the EAGLE platform. To resolve this point it is important to define and categorized different levels of computer skills and skills to expect from people with impairments. In relation to this it is important to devise a strategy for software names and uses in regard to accessibility in the project.

##### **Development of Personas**

To secure that developers consider the theme accessibility in their design efforts of the EAGLE platform it is important to provide an overview of potential techniques and requirements. To resolve this point as advised, it is important to include / make explicit the assumptions about impairment and workplace contexts in the development of personas respect. In the development of personas, it is important to include the general motivation, disposition and aversion to learning in the development of personas to understand the personas context. Furthermore, personas shall be aligned to demographics and across country specific demands.

So far, these results outline the general advice of experts how to proceed in the EAGLE project. Similar to results and priority barriers of the country workshops and reports, these general guidelines will be integrated in the definition of interventions in the next chapter. In these respect more particular conclusions and requirements will be outlined.



### Executive Summary Chapter 7

Together with the elicitation of barriers, requirements and interventions have been defined for the project. The range from regulatory issues about the access, use and right to learn with OER at the workplace over awareness raising strategies to technical issues about the usability of the forthcoming EAGLE platform. Interventions provide a more detailed approach while enabler statements offer a statement to refer and validate the intended goals later on.


## 7 REQUIREMENTS, INTERVENTIONS AND ENABLER STATEMENTS: REQUIREMENTS AND INTERVENTIONS FOR THE EAGLE PLATFORM

In the following chapter, we summarize the findings of the comparative study. The initial findings and barrier-results have been transformed by experts who have suggested concrete interventions. Also workshop-leaders have asked participants for concrete activities to overcome barriers what provided details about requirements and how to design interventions. Not at least interventions and requirements are proposed by EAGLE researchers on base of state-of-the-art research in the e-Learning domain. Some solutions are based on previous studies in which success has been achieved. It is to keep in mind that other interventions are unique and have been suggested in the EAGLE context only. As for many barriers, no solutions exist currently, we will provide solutions by the project which seem promising and will be validated throughout the project.

From a methodological point of view, the section is guided by an Action Design Science paradigm to develop concrete solutions for practical problems in an organizational context (Sein et al., 2011). The following section will qualify the **action goal** and overall **intervention** including a description of the relation between intervention-requirements and barriers. Emphasis is put on enabler statements which are phrases to **follow up** throughout the project. Enabler statements are concrete statements which are important for the project to trace what has been achieved, how requirements change and to check with stakeholders for comprehension.

The results of this chapter is therefore a comprehensive list of interventions/requirements and enabler statements which shape efforts in the forthcoming project. Nevertheless, it should be noted that there are further **country specific requirements** which have been addressed in the country reports. Thus, **each work package needs to take the main enabler statements into account but also requirements for each country.**



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Furthermore similar interventions may target the same **barriers in more than one work-package. The coordination of interventions and strategies to resolve barriers need to be further coordinated among work-package leaders.**

### 7.1. INTERVENTIONS AND ENABLER STATEMENTS FOR WORK PACKAGE 3

The description of work defines as the main tasks of WP3 to introduce learning enhanced work processes and to develop change management processes. Therefore learning process models will be identified and a transfer of OLP as successful change will be modeled. One outcome of the work package 3 is to define guidelines to support changes, develop a framework of change and develop a model guide. Based on the workshop findings about barriers, these overall goals can now be more clearly defined. The following table provides an overview of key barriers and interventions relevant for WP 3.

Action goal	Intervention	Enabler statement (follow up)	Barrier nr.
Enhance managerial organization & change management	Lobby for political support for learning and for EAGLE from a central level	A training process and facilities for educational / training activities are introduced	1.1. 2.3.
		An overview of programs and courses to attend in everyday life is provided.	
	Support change management	Guidelines are in place to guide managerial changes.	
	Encouraging the streamlining of EAGLE	EAGLE is introduced as a complementary learning offer	
Enhance knowledge about TEL	Enhance understanding about benefits of e-Learning	Advice about the long-term use, cost-benefit and gap-trend analysis of e-Learning	1.2. 1.1.
		Booklet to delimit the scope and meaning of OER, OER characteristics, resources and types of learning, its relation to knowledge management, potential for experience exchange is developed	
		Guidelines are in place which delimit the efforts to define targets and goals of open e-Learning	
Develop regulatory frame for OER and learning	Advise about regulatory frames for OER	A framework for collaboration and learning is introduced	1.2. 3.2.1. 3.2.2
		A legal framework on open resources is devised	
		The CC-license and IP-charter is adopted (see WP4 guides the validation)	
Establish a LEV	Advise about learning policies	LEV policies are provided (fixed time slots, space and right to learn at the workplace is established)	3.1.1. 3.2.1.
		Policies suffice accessibility guidelines	section 7.6.
Establish a quality committee	Develop a certification of contents, valid, reliable, authentic, is a must	Guidelines are in place to certify OER	1.1.
		A committee is in place to validate OER authenticity	2.1. 2.3.

Table 11: Interventions, enabler statements and barriers WP3

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The first action goal is **to enhance managerial organization and change management**. One intervention is *to lobby* for political support for learning and for the EAGLE project from a central level what shall address the barrier lack of organizational practices [1.1.]. (E-)Learning processes needs to be accepted and developed in order to introduce a learning atmosphere in municipalities. An administration has to have a training processes and facilities for educational / training activities which can be joined and utilized. It should be clear which programs and courses can be attended and in everyday work life. A second intervention is *to enhance change management processes*. Often changes are dealt with ad hoc. To cope with difficulties of the implementation and secure a long-term success, guidelines need to be developed to guide managerial changes.

Another intervention is to *encourage the streamlining of EAGLE* with training programs. This addresses not only the lack of organizational practice but motivational barriers to streamline learning efforts in the organization [2.3.]. Both e-Learning and face to face activities are deemed as essential so a blended learning solution needs to be developed. An administration needs to introduce EAGLE as a complementary. There should be a clear process for knowledge management / sharing within an organization, both inside and to similar organizations. This process should be introduced allowing employees to work in collaborative ways. Many changes are necessary to introduce e-Learning and OER. It is necessary to provide guidance and support to enable change and support responsible actors.

A second action goal is **to enhance knowledge about TEL** and its benefits. Interventions *to enhance understanding* are important to motivate and gain commitment to managerial changes. Administrations demanded advice about the long-term use and cost-benefits of e-Learning. An administration needs to know about the scope and meaning of OER. Related to this guidelines to delimit the efforts and outcomes of open e-Learning need to be available. Overall the intervention addresses the lack of knowledge about TEL [1.2.] and lack of political support [1.1.]

A third action is **to develop a regulatory frame for OER and learning**. The intervention *to advise about regulatory frames* is required to enable employees a rights-based approach to the use of OER. Administrations have to provide a framework to secure the right to continuous learning and collaborative learning. A legal framework on the use of open resources need to be developed including guidance for CC-licensing must be provided so that users do not fear legal issues. The intervention therefore addresses the lack of regulatory frames for the right of learning [3.2.1.] and for using OER [3.2.2.] as well as the lack of knowledge about TEL [1.2.]

**A fourth action is to establish a learning environment**. Intervention is *to advise about learning policies* and thus targets to overcome the lack of learning oriented regulations

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[3.2.1.] and lack of learning environment [3.1.1.]. It is essential that learning environment policies are provided which means, space in the office, time slots during work as well as possibly mobile learning opportunities. Furthermore the learning environment has to suffice accessibility guidelines as developed in this deliverable.

A fifth action goal is to **establish a quality committee for the validation of learning resources**. The intervention is to *develop a certification mechanisms* of contents to tackle the concerns about trust and relevance of information [2.1.] and furthermore, it poses a step to enable the recognize and reward of self-learning efforts that are relevant for the workplace [2.3.]. In addition a committee would contribute to overcome the **lack of coordinators** for (e-)Learning [1.1.]. It is required that OER resources are valid, reliable and authentic of the original source. An administration has to have guidelines to certify OER. A committee is demanded to validate the authenticity of OER.

## 7.2. INTERVENTIONS AND ENABLER STATEMENTS FOR WORK PACKAGE 4

The description of work defines the main tasks of WP4 to define the learning needs in local Governments. Therefore motivational and attitudinal factors for cross-device learning and for autonomous learning will be delimited. The outcome is to develop a base and template for a proficiency based curriculum, develop a task mode for information literacy, and to provide an item template for the automatic item generation. Based on the barrier-results of the study, these overall targets can be more clearly defined. The following table provides an overview of interventions and barriers to consider in the work package 4.

Action goal	Intervention	Enabler Statement (follow up)	Barrier nr.
Introduce a Learning Environment	Refine Learning Environment guidelines	Rules for undisturbed learning, open-mindedness and knowledge exchange	2.2. 3.1.1.
		Training for soft skills is offered.	
		Rules for feedback-culture are in place	
Raise motivation	Raise awareness	Employees are informed about how EAGLE, e-Learning and OER can be part of training programs	1.1. 1.3. 2.3. 2.4.
		Responsible coordinators and HR are informed about how EAGLE, e-Learning and OER can be part of training programs	
		Rewarding systems and strategies are in place	
		Motivational strategies are launched	
		Improve reputation of "OER" and sharing information gathered from training as a good thing	
	Enhance familiarity	Practical and demonstrable examples are available	2.3.
		The portal offers tutorials how to use resources in worklife	2.4.
Map competences	Competence mapping	Guidance for adult-learner-demands are in place	2.3.
		Accordance of levels of skills and competences in accordance to Common European Framework of Reference for Languages is achieved	2.3.
Trust building	Devise an ethics	A guideline on creative commons conditions is available	1.2.

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	framework	A guideline for identifying quality / license of OER and comprehensive IPR charter is available	2.1. 3.2.2.
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Table 12: Interventions, enabler statements and barriers WP4

One first action goal is **to introduce a learning environment**. This action is related to goal of establishing a learning environment in WP3. However, the intervention will be *to refine learning environment guidelines* [3.1.1.] on a personal level and with regarding to motivational barriers of knowledge sharing like mistrust, competition and reluctance [2.2.]. An administration needs to establish rules for undisturbed learning, the meaning and conduct of open sharing to overcome bad climate in the workspace. In addition administrations need to offer training for soft skills to provide a starting point for change among employees including the development of rules to establish a feedback-culture.

A second action goal is **to raise motivation**. Interventions target *to raise awareness* Employees should be informed how E-Learning / OER can be used as part of training programs to overcome the lack of coordination and communication about programs [1.1.]. It is of particular importance that responsible coordinators and HR responsible units and supervisors are knowledgeable as well, as they are in most cases responsible for administrating trainings. Another motivational barrier elicited was the lack of rewards and promotion strategies [2.3.]. Feedback and rewarding systems need to be introduced in order to clarify the benefits of (e-)learning and training. Moreover motivational strategies need to be developed and launched which includes the need to improve the reputation of OER and understanding of sharing knowledge as a positive thing to overcome barriers to knowledge sharing in the sector [1.3.]. Another intervention is *to enhance familiarity* with e-Learning to raise motivation. Therefore practicable and demonstrable OER examples were demanded as well as clear tutorials how to use OER resources in every day work-life. Overall the intervention targets to overcome the low motivation to change and aversion to digitalization [2.3., 2.4.].

A third action goal is to **map competences**. The intervention *competence mapping* requires to address different motivational factors like age and external requirements. In particular older employees will show higher resistance to e-Learning than the younger generation. Specific interventions and guidance need to be designed to include all age groups at best. Also it is demanded that levels of skills and competences in accordance to Common European Framework of Reference for Languages is achieved. Overall the intervention addresses the motivation to change and recognition of self-learning efforts [2.3.] by integrating (accredited) standard (language) frameworks.

A fourth action goal is **trust building**. An intervention targets *to devise an ethics framework* for identifying the quality and licence of OER to overcome concerns about the validity of information [2.1.]. An administration needs to provide a guideline on creative commons conditions which builds upon the intervention of WP3 to develop legal frames. The CC-


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licences is considered as a suitable frame for the use of OER in EAGLE, as the project will not offer a single own developed licence but orient on a commonly used, interoperable licence system. Moreover a framework for identifying quality, licences and a comprehensive charter of intellectual rights was demanded. Overall the intervention will address the lack of regulatory frames for OER [3.2.2.] and lack of knowledge about TEL [1.2.].

### 7.3. INTERVENTIONS AND ENABLER STATEMENTS FOR WORK PACKAGE 5

The description of work defines the tasks of the WP5 to develop a registry, linked data, a user friendly search and navigation, rich learning services, as well as community services for enhancing learning in teams. Based on the workshop results these overall goals can be refined. The following table provides an overview.

Action goal	Intervention	Enabler Statement (follow up)	Barrier nr.
Facilitate information sharing	Develop multiplication tools	Functions to receive update about resources and the platform	2.4. 3.1.2.
		Selection option for different update and notification functions	3.1.3.
Enable knowledge sharing	Develop knowledge sharing tools	The portal offers social network functions	1.3.
		Collaboration space can be devised for communities/learning/ interest groups	2.4. 3.1.2.
		Resources can be shared within communities	
		Resources can be shared between selected users	
		Users can discuss in forums	
		Asynchronous and synchronous chat is offered	
Personalize the platform	Develop personal and community profiles	User can maintain personal profiles	2.1.
		User can follow other users	2.4.
		Users can see and delimit (groups of) followers	
Enable performance tracking	Develop evaluative technologies	The platform offers a rating mechanisms as peer support	2.1.
		Application to comment OER and learning resources	2.3.
		The platform offers a recommender system	3.2.3.
		The platform requires feedback mechanisms to self-assessment tasks	
Diversify learning formats	Offer different resource formats	OER in video-format can be acquired	2.1.
		Resources can be uploaded	3.1.2.
		Resources can be mashed-up	
Provide for access restriction	visualize, restrict availability to mature OER	A filter for trusted, certified and followed resources is in place	2.1. 3.2.3.
		Role based access control is in place	
		No offending content is available	
Meet security concerns	Comply with security networks	The key services are available through the browser	3.1.2.
		Integrate e-Learning within the secure state-networks	3.1.3.
		Target OER- and e-Learning platforms are integrated to suffice security standards	
Enhance usability of	Lower visual affordances	Users perceive a comfortable look-and feel	1.2.
		The portal shows CC-conditions with icons	2.1.

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learning platforms		Resources of national (municipal) and international view are visually separated	2.4.
	Develop intuitive navigation tools	The portal offers a help-desk	3.1.4.
		A simple semantic search for keywords is offered	
		An advanced semantic search is offered which enables to separate of national (local) and international view	
	The user shall be anywhere in the portal in max of 3 clicks		
Develop a platform sensible to accessibility demands	Comply with accessibility advice	EAGLE is open to multi-platform settings	3.1.3.
		The motivation, disposition, and aversion to learning is made explicit during the platform development	section 7.6.
		Personas are tied to roles and are aligned to demographics and country specific demands	


Table 13: Interventions, enabler statements and barriers WP5

The first action goal is **to facilitate information sharing**. The intervention is to *develop multiplication tools* to ensure that information can be easily spread. The EAGLE platform needs to offer functions to receive updates about resources, the platform and training events. However, it was demanded to avoid an information flood wherefore it is required to offer a selection option for different update and notification functions. Overall the information enables to overcome the lack of platform resources [3.1.2.] and lack of digital networks [3.1.3.] and shall come after the interest in allocating resources efficiently [2.4.].

A second action goal is **to enable knowledge sharing**. The intervention targets *to develop knowledge sharing tools* and bridge the current lack of collaboration and technical facilities to exchange knowledge [1.3., 3.1.2.]. The EAGLE platform needs to offer social network functions. Also collaborative space for communities needs to be established. It is required that resources can be shared between selected users as well as within the collaborative space. It is essential that users can discuss in forums and in an a-/synchronous chat to come after the demanded personal interaction among civil servants. Furthermore functions need to enable to send personal messages between single users. Overall the intervention will contribute to overcome concerns about losing social contacts due to e-Learning as well [2.4.].

The third action goal is **to personalize the platform**. The intervention shall enable *to develop personal and community profiles*. The platform needs to enable users to maintain personal profiles. It is required that users can follow other users. Furthermore users can see and delimit followers. Concerns about allocating the origin and knowing peers on the platform [2.1., 2.4.] shall be approached with this intervention.

The fourth action goal is **to enable performance tracking**. The intervention targets *to develop evaluative technologies* to overcome motivational barriers regarding self-regulated learning, lack of rewards and control over learning at the workplace. It is required to offer a rating mechanism as peer support to allocate expert-performer and resources in the platform. Also an application to leave comments about OER and learning resources are demanded. The

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platform needs to provide a recommender system for resources as well. Another demand is to offer feedback mechanisms to self-assessment tasks. Related to this it is demanded to provide an activity and performance tracker of about how civil servants learn at work to secure that time is spend as agreed upon. Overall trust and authentication of resources [2.1.] as well as access control [3.2.3.] and a base to reward self-regulated learning efforts [2.3.] will be approached.


A fifth action goal is to **diversify learning formats**. The intervention targets *to offer different resource formats* in order to overcome the barriers of different learning needs a relevance of learning formats for the workplace [2.1., 3.1.2.]. It is required that OER can be availed in video-format. More generally the platform needs to enable the upload of learning resources and the re-use (mash-up) of learning resources.

A sixth action goal is **to provide for access restrictions**. The intervention is *to visualize or restrict availability* of OER to mature and validated learning resources to correspond to the concerns of validity of OER and data privacy of administrative information more generally [2.1., 3.2.3.]. The platform needs to offer a role based access control. Furthermore a filter for trusted, certified and followed resources is in place. Not at last access restriction need to be secure that no offending content can be made available.

A seventh action goal is **to meet security concerns**. The intervention is *to make EAGLE compatible with the state security networks and standards* to overcome the barriers restricted IPs and security of networks [3.1.3.]. EAGLE needs to be integrated into secure state or other PA owned networks. Key services need to be available through the browser. Furthermore the retrieval or integration of OER and e-Learning resources from other platforms needs to suffice security standards as well.

An eighth action goal is **to enhance usability of learning platforms**. Due to the background of most users, simple and intuitive solutions must be provided so one intervention targets *to lower visual affordances*. It is required that users perceive a comfortable look- and feel. Furthermore the portal shall visualize creative-commons licences with icons to facilitate and motivate the use of OER. Similarly it is demanded to visually separate national (federal – if applicable, municipal) and international resources. Overall the intervention targets to facilitate the use of OER despite the low experience [2.4.], lack of knowledge [1.2.] and trust of handling OER [2.1.].

Usability in the public context also depends on the time invested to cope with the new technology and requires easy searching, filtering and retrieving OER [3.1.4.]. Another intervention therefore targets *the development of intuitive navigation tools*. The portal shall offer a help desk as well as to offer a simple and advance semantic search which separates

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national (municipal) and international resources. Furthermore it is also demanded to find resources quickly like to be anywhere in the portal within the maximum of three clicks.

A ninth action goal is to develop a platform sensible to accessibility demands. The intervention targets *to comply with accessibility advice* gathered in the accessibility workshop and on-going evaluation in this project. It is required that the EAGLE platform can be accessed from diverse platform settings and tools. Furthermore it is important to make explicit the motivation, disposition and aversion to learning during the platform development.<sup>32</sup> Not at last, personas need to be tied to roles and are aligned to demographics and country specific demands.

#### 7.4. INTERVENTIONS AND ENABLER STATEMENTS FOR WORK PACKAGE 6

The description of work devises WP6 the task to develop administrative services. This includes developing a set of tools supporting OER usage and learning, providing an authoring tool and by developing process map to facilitate exploring the resources apart from a semantic search. The goal is to develop an argumentation tool and a base of case decisions. The outcome will serve as a component for the automatic generation and storing of test items. Based on the barrier findings these points can be refined. An overview is provided by the following table.


Action goal	Intervention	Enabler statement (follow up)	Barrier nr.
Enable the authoring of resources	Develop/select/propose authoring tools	A state of the art authoring tool for the public sector	1.4.
		A variety of depth metadata is available	2.4.
		The platform provides OER-tutorials on authoring resources	3.1.2.
		Resources can be converted in all required languages	
Facilitate content retrieval	Devise a simple search mechanisms	The portal shall offer resources mapped to rather tasks and experts	2.3.
		Resources shall be linked to best practices resources	2.4.
		Physical and online training materials are linked	
Offer IT support	Devise IT support for errors and difficulties	The portal is moderated on a regular basis	1.2.
		Issues of runtime errors, service breakdowns and unreachable contents are solved	3.1.3.

Table 14: Interventions, enabler statements and barriers WP6

The first action goal is **to enable the authoring of resources**. The intervention *to develop and provide authoring tools respectively* targets the concerns about the time and efforts needed to create contents, to step towards self-regulated learning and knowledge sharing

<sup>32</sup> This point was considered in the development of country engagement scenarios. For example, for each person of the engagement scenario the personal context, constraints and setting was outlined. Not at last, personas were developed with regard to the scenarios.



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[2.4.]. The platform has to provide a state of the art authoring tool for the public sector. To facilitate the authoring by a variety of domain specific meta-data have to be available. To facilitate the application also OER-tutorials on authoring resources have to be developed. Not at least authoring facilities need to offer the chance to convert learning resources in required languages. Overall also the lack of e-Learning facilities [3.1.2.] and language issues [1.4.] will be approached with this intervention.


A second action goal is **to facilitate content retrieval**. Similar to WP 6 and the goal to enhance usability by providing intuitive navigation tools, this intervention targets *to devise alternative search mechanisms* and to overcome the demand for efficient and workplace relevant information retrieval [2.3., 2.4.]. The portal shall offer resources mapped to tasks and experts rather than competences. Resources shall be linked to best practice resources. Furthermore it is demanded to link physical and online training resources and events.

A third action goal is **to offer IT support**. The intervention is *to devise IT support for errors and difficulties* to overcome the barriers of concerns about maintenance of the platform [3.1.3.] and concerns about running the platform given the low knowledge about OER [1.2.]. The platform needs to be moderated on a regular basis. Mechanisms to avoid runtime errors and breakdowns are in place.

#### 7.5. INTERVENTIONS AND ENABLER STATEMENTS FOR WORK PACKAGE 7

The description of work devises the competence of WP7 to localize and contextualize resources to cultural needs. Therefore, requirements are defined to adapt processes, services and tools of the platform. The outcome is to develop guidelines for adapting and contextualizing OER for targeted users. Furthermore, support to develop and share resources outside the personal, administrative culture across borders will be offered. Based on the findings these overall goals can be refined. The following table provides an overview.

Action goal	Intervention	Enabler statement (follow up)	Barrier nr.
Facilitate collaboration	Design models of inter-communal cooperation	The portal provides resources with a balanced language distribution	1.3. 1.4. 2.2.
		Develop understanding of administrative (domain) languages	
		Employees can be temporarily replaced when engaging in learning activities	
Adapt collaborative culture	Develop a shared convention on multiplying knowledge	User share an understanding of trust and quality of OER	2.1.
		The portal offers OER how to adapt resources	2.3. 1.2.
		A shared vision about inter-administrative climate are in place	2.2.
		Services and guidelines for intergenerational learning culture are in place (relates to accessibility)	2.3. 2.4.

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		Guidance to integrate existing collaboration mechanisms is provided	
	Develop guidelines for collaborative implementation of the platform	Guidelines to collaborate and communicate needs among project developers and users are provided	

Table 15: Interventions, enabler statements and barriers WP7


The first action goal is to **facilitate collaboration**. The intervention targets *to design models of inter-communal cooperation* so the perceived regional distance and administrative culture barriers can be overcome [1.3.]. It is required to develop understanding of administrative (domain) languages. The portal needs to provide resources with a balanced language distribution. Furthermore models for temporary replacement need to be put in place to localize and adopt the EAGLE platform at the workplace. Overall the intervention targets overcome challenges given languages difficulties, too [1.4.].

The second action goal is to **adapt collaborative culture**. One intervention targets *to develop a shared convention on multiplying knowledge* across administrative borders. A shared understanding of trust and quality of OER need to be recognized. Further concrete guidance how to adapt resources need to be provided. A shared vision and steps to realize an intra-administrative climate are in place. Also services and guidelines for intergenerational learning culture need to be provided. Not at last, guidance how existing collaborative mechanisms can be integrated or transferred to the online platform need to be provided. Overall the intervention therefore aims at overcoming challenges given collaborative cultures and practices [2.2., 2.3.] and related motivational barriers, too [2.4.].

Another intervention focuses *to develop guidelines for collaborative implementation of the platform*. Guidelines to collaborate and communicate needs between project (and platform) developers and stakeholder in the public sector like forthcoming platform users need to be provided. They shall secure that the platform can be contextualized and adopted as a self-regulatory learning platform. How to collaborate, learn and share knowledge about and via the platform among administrations can be shaped in the early collaboration and guidance of developers as will be further elaborated in work package seven. Overall this intervention will address the culture of knowledge sharing as well as motivational barriers [2.2-2.4.] and will contribute to the sustainability of the collaborative platform solution.

## 7.6. INTERVENTIONS AND ENABLER STATEMENTS FOR ENSURING ACCESSIBILITY

In the previous sections, several enabler statements have already pointed out sensibility towards accessibility guidelines. For example, demands regarding the platform development and personas have been included (see 7.3.).Based on the general advice derived from the

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expert discussion in the World Café, it has been considered how to further refine the approach to secure that the EAGLE platform will comply with accessibility guidelines. To develop a coherent approach, the overall advice was translated as in the form of previous requirements in the following table.


Action goal	Intervention	Enabler statement (follow up)	Barrier
Develop a shared approach to accessibility	Develop a wiki (toolkit) to about accessibility	A categorization of kinds of impairments is developed	Accessi- bility
		Precise different skill levels, related technologies and their meaning for the project	
		Consider established accessibility guidelines in the field. <b>Minimum requirements so far are to provide...</b> : text alternatives, time based media, adaptable media, distinguishable media, keyboard accessibility, measure of time, seizures, navigation, readability, predictability, and compatibility of media	

**Table 16: Interventions, enabler statements and barriers regarding accessibility**


Apart from accessibility considerations presented in the previous sections, another dedicated action goal is **to develop a shared approach to accessibility**. The intervention is *to develop a wiki (toolkit) about accessibility* which includes different aspects as advised by experts in the field. For example, a categorization of the kinds of impairments needs to be developed. Different skill levels, related technologies and their meaning for the project have to be précised. Furthermore established guidelines for accessibility in the field need to be considered. The meaning of minimum requirements is further explained in the next paragraph.

One requirement was the creation of a dedicated wiki for accessibility to adapt the requirement continuously. Therefore, we created an initial base document “D2.2.B.” specifically showing accessibility guidelines and recommendations. It will evolve throughout the remainder of the project lifecycle. It informs about the approach to refine guidelines and advice derived in accessibility workshops with experts. Instead of presenting the steps which have been taken for accessibility in by the respective tasks leaders in this document so far, the addressed points will be sketched in the following.

- The meaning of Web Accessibility is defined
- Nuances of impartments (focusing on vision disabilities) are approached including related methods for interacting with computer technology
- Standard guidelines, technologies and media are introduced including a section on accessible documents
- Guidelines of the WCAG 2.0 are introduced more precisely with regard to
  - Text alternatives, time based media, adaptable media, distinguishable media, keyboard accessibility, measure of time, seizures, navigation, readability, predictability, and compatibility of media.

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So far, interventions and enabler statements have been defined for different work packages with regard to the barriers and themes relevant in the project. The tables presented in this section will be used to follow up what has been achieved and whether requirements have changed over time.

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## 8 CONCLUSION AND OUTLOOK

Deliverable D2.2. has outlined the approach to the requirements elicitation in EAGLE. Due to the poor knowledge until now on requirements for learning, education and training in Public Administration, in particular for Technology Enhanced Learning, we have performed a broad explorative study to better understand the context, needs, requirements and potential solutions.


Based on an initial Barrier Framework, several interviews and workshops in the countries Luxembourg, Ireland, Montenegro and Germany have enabled to gather insight on challenges and requirements to meet in the forthcoming EAGLE project. Furthermore the participant engagement has led to build ties and raise interest in taking part in the project in the future.

On base of the gathered data, barriers to resolve by the work packages in the EAGLE project have been defined from an organizational, individual and context-specific perspective (resource and policy specific issues). This deliverable documents the aggregated overview of barriers as well as the country reports, analysis and priority barriers.

Apart from the barrier study, we outlined the approach to the crucial topic of accessibility in the project. Based on expert workshops, accessibility guidelines to consider in the forthcoming project have been defined.


Based on the overview of barriers and accessibility demands, interventions and enabler statements have been defined. They will enable to follow up what has been achieved and whether (and how) requirements change in the project EAGLE over time.

To provide an outlook, one task which builds upon the deliverable is the development of engagement scenarios and further engagement with participants to clarify the understanding and priorities of the barriers (D2.3). Secondly, work packages in the EAGLE project will further specify their tasks and goals in the project. Not at last, the documentation of the barriers and interventions will serve the continuous UX-based validation of achievements and goals in the project.


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### Further websites in footnotes

- Example for content specific platforms in Luxembourg: <http://www.legilux.public.lu/>.
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- Institut providing technology in Luxembourg: <http://www.sigi.lu/services/gescom>.
- Further statistics on IT skills in Luxembourg: <http://www.statistiques.public.lu/fr/enquetes/espace-menages/education-adultes/AES-Questionnaire-LUX.pdf>.
- Examples of websites in Ireland: [www.citizensinformation.ie](http://www.citizensinformation.ie), [www.donegalcoco.ie](http://www.donegalcoco.ie), [www.agresso.com](http://www.agresso.com)
- Example for universal design toolkit: [www.universaldesign.ie](http://www.universaldesign.ie).
- Example for Irish e-Learning resources: <http://www.cstdc.gov.ie/mod/resource/view.php?id=1024>.



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## 10 ANNEXES

### BARRIER FRAMEWORK

The Barrier Framework (Pirkkalainen & Pawlowski, 2013)

Barrier Dimension	Barrier Category	Barrier Subcategory	Barrier examples
Context	Organizational	Financial	Inadequate resources (personnel, lack of time for using and evaluating open content/ Social Software, sustaining technologies)...
		Management / Coordination / Control / Support	Lack of leadership, Lack of training, lack of policy and guidelines for OER, how to reward contribution, benefits of adoption not easy to measure, Coordination breakdown...
		Technology fit	Incompatibility with existing work practices, Lack of evidence of similar cases of usage...
	Geographical / Temporal		Geographic distance (no physical collocation), temporal distance ...
	Contractual		Different contractual settings (regulations) – creates contractual distance
Social	Relational	Knowledge sharing	Lack of mutual trust, “Knowledge is the power” – loss of power through sharing, Unwillingness to receive (Preferring own ideas, doubt validity of received knowledge etc.)...
		Communication / collaboration / language	Loss of communication richness (geographical/temporal), Misunderstandings, Lack of informal communication, multi-lingual setting...
	Skills		Poor verbal/written communication and interpersonal skills, poor ICT skills...
	Cognitive / personal background / Preferences		Diversity setting (different backgrounds) – creates cognitive distance (source of misunderstanding), motivators that motivate individual differ, differences in experience levels...
Technical	Availability		Shortage of appropriate infrastructure supporting sharing practices, lack of broadband, content not available in own language...
	Interoperability		Multi-platform setting, Lack of interoperability of tools and systems...



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	<b>Functionality</b>		Lack of control the users have in what is displayed and how it is displayed, too open (anyone able to see or even modify the information)...
	<b>Usability /system quality</b>		Difficult to use interface, slow response, bugs, information bandwidth...
	<b>Conceptual / contextual</b>		Lack of common description (e.g. concepts, references, taxonomy), technology likely to change, role of technology...
	<b>Digital divide</b>		Social Software will not be adopted equally, Unbalanced technological usage and expertise...
	<b>Privacy / security</b>		Reliability and security of information exchange, Risk of viruses, hacking, stalking...
	<b>Misuse</b>		Faking identity, Plagiarism, staff members writing negatively about the firm...
<b>Quality</b>	<b>Information</b>		Lack of quality, Lack of trust for information (assessing quality hard), risk of relying on a few people to contribute to the content...
<b>Legal</b>	<b>Ownership</b>		Unclear IPR (not sure of details, lack of awareness), Fear breaking the law when sharing something, violation of copyrights...
<b>Culture</b>	<b>Organizational</b>		Differences in curriculums, content not fitting to the context of students, Hierarchical Organisation structure inhibits or slows down most sharing Practices, Lack of collaboration incentive...
	<b>National</b>		Differences in national culture or ethnic background; and values and beliefs, There is no common understanding in our culture what open content is...

## DOCUMENTATION TABLES

### Context Analysis

<p><b>Context Category</b> (Summary of questions; an initial question should be asked for open discussion in the workshop – further questions should be used for the interviews after the workshop)</p>	<p><b>Description / Summary of Workshops</b> (The main outcomes of workshops should be documented here)</p>
<p><b>Meaning of (e-)Learning</b> What is the role of “learning” in your organization?</p>	



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<p>What has been or need to be "learned" in your organization? How do you understand the concept of e-Learning? What could be next steps around e-Learning foreseen for your organization?</p>	
<p><b>Policy</b> What are key policies on learning in your organization? Are any conditions in place that make learning mandatory or obligatory? Are there policies and regulations in relation to accessibility? Is there a specific learning budget and how is it allocated?</p>	
<p><b>Projects</b> What are key projects related to technology use in (e-)learning? Where do/would you acquire technology and e-literacy skills?</p>	
<p><b>Processes</b> What are favourable learning/ training methods? What is your learning style? Are you learning individually, with colleagues, or mainly when specific questions arise? What are the processes to implement changes in institutions?</p>	
<p><b>Roles</b> Which role do you and your colleagues have in the learning processes? Who would you ask or encourage to develop a training /e-Learning project (course)? Who would you have to ask before enrolling in an e-Learning course?</p>	
<p><b>Knowledge</b></p>	



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<p>What are the main skills needed to realize online learning? (e.g. specific subjects, general software skills, ...)</p> <p>Are there prior technology skills you have to proof when working in public administrations?</p>	
<p><b>Curricula</b></p> <p>What are current curricula/ schemes for career development / learning in the institution?</p> <p>What are favourable learning / training methods?</p> <p>Did you have open questions or newly emerging topics in your work, during the last year, which required an extensive research (taking at least an hour)?</p> <p>For which topic in the context of your work did you have a need for information in the last year, which required an extensive research (taking at least an hour)? For example:</p> <ol style="list-style-type: none"> <li><b>1. Interpretation of regulations</b></li> <li><b>2. Information on tasks and responsibilities</b></li> <li><b>3. Tasks of cross-relevance, such as project management methods, procurement, controlling, statistics, etc.</b></li> </ol> <p>Which resources describing administrative products and processes are available in your country?</p>	
<p><b>Culture and Collaboration</b></p> <p>Are you comfortable to share knowledge or discuss questions that arise during your work?</p> <p>Do you like / have experience collaborating with other institutions (cross regional or cross border communes or else)?</p>	
<p><b>Technologies</b></p> <p>Please describe which technologies and programs you use in your workplace</p> <ul style="list-style-type: none"> <li><b>• Internet based tools and services?</b></li> <li><b>• Intranet based tools and services?</b></li> <li><b>• Shared databases?</b></li> <li><b>• Knowledge &amp; organization</b></li> </ul>	



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<p><b>management tools?</b></p> <ul style="list-style-type: none"> <li>• <b>Decision-support tools?</b></li> <li>• <b>Expert systems to answer questions?</b></li> </ul> <p>Which technologies and processes are essential to integrate in an e-Learning course?</p> <p>Are there tools for accessible use of ICT / learning and training offers?</p>	
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### Barrier Analysis

<b>Barriers</b> <i>(The barriers should be discussed. The examples can be given in case that participant needs an additional clarification.)</i>	<b>Description / Summary</b> (Summary of the workshop outcomes)	<b>Interventions</b> (Summary of opportunities to overcome learning barriers)
<p><b>Policy barriers</b> Which barriers can you see on the policy level (e.g. no policies for employee training)? Are there policies for supporting learning and training processes?</p>		
<p><b>Organizational and individual barriers</b> Which barriers can be identified at the <b>organizational level</b> (e.g. resistance to change, lack of learning culture, high costs of learning...): <b>Process-related barriers</b> (lack of learning / change processes...): Are processes for career development and learning in place? Are they well organized and clear? <b>Role-related barriers</b> (lack of responsible persons): Are there clear structures who initiates trainings? <b>Resource-related barriers:</b> Are there adequate resources for training (time, course fees, ...)</p> <p>Which barriers can be identified at the <b>individual level</b> (e.g., lack of time, lack of appreciation, lack of motivation ...) <b>Resource-related barriers:</b></p>		



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<p>Do individuals have time for learning?  <b>Motivation-related barriers:</b>          Do individuals have motivation to learn?  <b>Knowledge-related barriers:</b>          Do individuals have knowledge to use ICT for learning?</p>		
<p><b>Technological barriers</b>          What are technological barriers (complex/lack of systems for learning, lack of integration of mobile devices, lack of accessible solutions ...):  <b>Overall barriers:</b>          Are technologies useful and available?          Are you allowed to use mobile phones in your workplace?          What is the last technology or software that has been implemented?          Can everyone access internet or computer?          Are there guidelines and how are the offers provided?  <b>System-related barriers:</b>          Are there systems for learning and training? Authoring systems? Tools for communication? Tools for knowledge-sharing? Internet-based tools?  <b>Accessibility barriers:</b>          What is the role of accessibility in the organization? Are there technologies/guidelines for accessible workplaces, how are the offers provided?</p>		
<p><b>Pedagogy barriers</b>          Which barriers exist towards open education? Which barriers can occur regarding e-Learning?          Are there models how learning should be performed?</p>		

### INTERVIEW-TABLES

<p><b>Start of the interview:</b> Provide an introduction about the idea of the interview and reflect results of the workshop: Which salient issues were to</p>	
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discuss.	
<b>Move to context:</b> Choice of partner and questions relevant experiences and context factors: Who and why s/he was chosen as interviewee? Was the interviewee present in the workshop? (some interviewees might only answer selected categories, e.g. policy factors).	
<b>Discuss barriers:</b> Summarize responses to questions on barriers. Have additional important barriers evolved, your feeling of priorities identified in workshops have changed? Do facilitators and participants may have different ideas on the issue. Have you identified 1-2 barriers per category and ask for ways to overcome those barriers (“intervention”). With advanced users, it might already be possible to identify the possibilities how forthcoming EAGLE components and services (e.g. change process, repository, content, assessment) could be adopted.	
<b>Scenario:</b> What ideal solution was found (e.g., “if you were free to develop an Open Education / E-learning, how would you organize this?”; ask for the different aspects (e.g. learning activities, resources, etc).	
<b>Closure:</b> Final remarks or aspects the interviewee has not yet addressed and would like to express.	

## REPORTING RESULTS TO THE DOCUMENTATION TABLE

**Develop a context description.** Please describe the general situation and context in your country from your perspective. This short statement (maximum one-pager) should serve as an introduction so the reader can easily follow your further descriptions. Subsequently, please insert the documentation tables from your workshops into the tables below. Please consider adding a description on the right space of the main table. The description reflects on the priority and interventions defined from your and/or your participants perspective. The description can then be labeled in a convenient way. To further prioritize particular interventions please insert the label then into the final space below the two spaces of the written text. Here the labels from the right column can be ranked

**Develop a barrier description.** Please describe the general situation regarding barriers in your country from your perspective. This short statement (maximum one-pager) should serve as an introduction so the reader can easily follow your further descriptions. Subsequently, please insert the documentation tables from your workshops into the tables below. Please consider adding a description on the right space of the main table. The description reflects on the priority and interventions defined




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from your and/or your participants perspective. The description can then be labeled in a convenient way. To further prioritize particular interventions please insert the label then into the final space below the two spaces of the written text. Here the labels from the right column can be ranked

**Please write a brief summary and describe the key findings of the workshop.** As you have ranked and discussed the priority of findings above we ask you to decide about the top (10) context factors, barriers, and interventions overall that EAGLE will have to consider in the next weeks/months. Hence, from the priorities you defined in the previous sections please now decide (about) 10 main aspects. Possible criteria to define key findings: Most important shared, debated, forgotten aspects; people or aspects that are bottlenecks now or later in the project. Not only this serves as a summary and prioritization of the very important aspects again as we ask you to define related interventions that secure a follow up of the aspects. To emphasize this point responsibilities of persons including the relevance for other work packages will be defined as well

### REPORTING INTERVIEWS

Summarize the three interviews in the templates (their context, barriers and scenarios). Please prioritize the findings of the interviews just as in (3.2.1 etc) in the table below.

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## LUXEMBOURG (WORKSHOP RESULTS)

### Regarding specific topics


which could be developed as OER, participants mentioned the following: Renovation of buildings, safety at the workplace (e.g. domain of construction), fire prevention, usage of technical tools and machines, guidelines how to fulfil a tax declaration form, urban planning, soft skills (teamwork, communication, leadership), webinars which explain new laws or changes in law texts (incl. a comment function to support discussion), project management (with a link to documents and templates used, norms and standards, etc), immigration related laws. With regard to laws and legislation, the following topics have a higher complexity and require a lot of expertise from the staff: public procurement law, OAI (Fr. Ordre des architectes et des ingénieur-conseils) and laws related to construction and urban planning, topics related to obtaining subsidies, and laws governing servitude. For the construction domain, topics such as safety rules, energy efficiency and building technology, international construction norms, fire prevention regulations, or renovation of buildings ask for additional information.

### High information need themes

Laws and legislation (e.g., personal, urban planning, working right (budgetary, environmental, and ecological as grouped by the general study of sustainability), salaries, and migration), construction, sustainability.

As we do not want to lose information, we are reporting on all twenty four high priority barriers by theme in the form: Theme [Barrier ID]. For each team related interventions where discussed.

Top 10 Context, barriers and interventions	Related interventions	Responsibilities, other notes
Quality[A5, A7, B10, C5, D15] Organisation and renown [A1, A6] Platform requirements [C6, C7, D8, D10, D11, D19, D20, D22] Content creation and motivation [A9, B4, B11, D21] Motivation for learners [B3, B6, C7.1, D12] EAGLE integration into existing infrastructures [A2, A8]	<i>Quality:</i> Interviewees advocated the creation of a validation committee composed of national stakeholders with links to experts that can monitor the quality of OER. The same committee could manage categorisation of OER and handle learning requests. The infrastructure could be hosted by a national entity. <i>Organisation and renown:</i> A strategy should be devised to increase awareness of municipal stakeholders and do some convincing. <i>Platform requirements:</i> Focus on topics not competences and identify responsibilities of municipal staff in order to improve system design the system. <i>Content creation and motivation:</i> Devise a strategy to form automatisms to use EAGLE for	Interviewees mentioned that a ministerial decision could be taken regarding the future of EAGLE after the end of the project regarding maintenance and future development. But at this point of the project such a discussion was premature.

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	<p>content creation. Regulation of input and analysis of needs should be handled by a validation committee. Devise a pilot study and validate the system prior to deployment.</p> <p><i>Motivation for learners:</i> Political support must be lent and learning encouraged.</p> <p><i>EAGLE integration into existing infrastructures:</i> OER should be referred to by national entities (INAP) and they should be consulted frequently and integrated into processes.</p>	<p>Identification of municipal staff responsibilities should be related to the creation of personas and use cases.</p> <p>Integration of national stakeholders might ease the transfer of the platform once the project has run its course.</p>
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## MONTENEGRO (WORKSHOP RESULTS)

- Energy efficiency
- Standards in agriculture
- Good practice in the field of agriculture
- Database establishment
- Rescue from the air
- HR management
- Electronic communication of the archive and other authorities
- Prevention of addiction diseases
- Exchange of experiences between local self-government and state administration
- Foreign languages
- IPA project writing and implementation
- Adoption of planning documentation
- Use of ECDL program ( basic and advance IT skills)
- Auto-cad use
- Fire extinguishing in high buildings
- Exchange of good practice and its implementation
- Rescue at sea
- Fight against corruption
- Waste management


### **Recommendation from participants regarding organization of future thematic training programs on new laws and bylaws:**

- Law on general administrative procedure
- Law on local self-government
- Misdemeanor law
- Law on legalization of informal buildings
- Law on physical planning and construction of buildings
- Law on waste management
- Law on state property
- Law on free access to information
- Law on inspection control
- Law on prohibition of discrimination
- Law on civil servants and state employees
- Legal regulations in the field of culture
- Law on housing and maintenance of residential buildings
- Law on social and child protection, upon adoption
- Public Procurement Law
- Decree on office operations
- Family Law
- Public Private Partnership
- Labor Law
- Law on Tax Administration
- Legal regulations for the adoption of local development plans

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**Questions raised during interviews**

- 1 **“Who will be administrator of learning material repository?”**
- 2 **” Where repository will be hosted?”**
- 3 **“Who can access EAGLE database? “**
- 4 **“How do you plan to organize security issues and control rights and access?”;**
- 5 **“Who will control quality of OER?”**
- 6 **“How do you plane to ensure financial sustainability and administration of EAGLE platform after end of project?”;**

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## GERMANY (WORKSHOP RESULTS)

### Points discussed by participants

- **A wide understanding of learning and further education is necessary; learning should not only refer to “classroom teaching”, but to any kind of knowledge acquisition (“even newspaper reading”)**
- **Committed employees are interested in further education and will obtain the required time for themselves.**
- **Institutes for further training recruit administrative agents who do teaching as side-work. Such courses could also be made available on an e-Learning platform.**
- **An important issue in the context of learning is to preserve knowledge (“how did my predecessor go about a given task?”)**
- **e-Learning is possible in areas where there is little margin of discretion; otherwise, personal exchange with experts is required. But also when there is no margin of discretion, further education is also needed.**
- **No specific topics for learning can be identified. All could be of relevance.**

### Among the themes are:

- **preparation of local elections**
- **introduction of education and social inclusion package (e.g., education vouchers)**
- **new laws, especially related to unemployment benefits (e.g. „Harz IV“)**
- **cost and performance accounting system / controlling**
- **insolvency in combination with enforcements**
- **amendments of laws and regulations**
- **basic subject-specific skills**
- **use of new software**

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## ANALYSIS LUXEMBOURG REPORT

Barrier reference nr (see chapter 4)	Bold label in country reports (see chapter 5.1. (5.1.3.))this document	As defined in the country report	Any other descriptions, notes or about co-labels
1.1.a	Planning of courses- not all municipalities are aware	Miscommunication of given courses; participants are not aware of offers, misreporting of learning needs by municipalities, e-Learning system was mostly unknown	<i>In expert workshops Planning courses, B11, A4, C3</i>
1.1.a.	Course offer and quality	Choice of courses is made due to necessity rather than interest or use. Courses / contents depend on size and immediate needs	<i>Offer &amp; quality; D4, D13,D14</i>
1.1.b.	Compliance and content	<i>worry a lot about the efficiency of their implementation of the conformity or correctness of their change; currently Open education is not considered</i>	Lack of change management
1.1.c.	Lack of content developer	Who creates content, no responsible as it is currently not part of any work	<i>In expert-workshops A9*</i>
1.1.c	Political support, complementary efforts	An opportunity for EAGLE to serve as external experts to counsel decision makers on policy change and encourage the integration of ICT into this process; lobbying. EAGLE needs to be streamlined and complementary	<i>counsel</i>
1.1.c.	Lack of coordinators	The function of continuous learning manager poses a problem	
1.2.a.	Limited e-Learning knowledge / lack of ICT skills	Low awareness of e-Learning forms (facets), understanding of OER rights is low	<i>e-Learning knowledge B6, this includes digital skills B8</i>
1.2.a.	Not aware of them (learning offers and facilities)	There is a low state of e-Learning system awareness, also low perception	<i>Introduction Perception</i>
1.3.a.	Lack of learning culture	Knowledge multiplication is not commonly practiced among municipalities	<i>Knowledge multiplication, D5, D18</i>
1.3.b.	Contractual distance	Cross-municipal cooperation is hindered by a lack of similar administrative processes	
1.4.a.	Role of language	Use may be constrained due to language issues, only German / French / Luxembourgish is spoken, French is not included in the target group	<i>Language B7</i>
2.1.a.	Learning paradigm	Unless information are immediate applicable, EAGLE has no use	As knowledge repositories
2.1.b.	Qualitative control of OER	There are concerns about the reliability of resources (colleague oriented)	<i>Quality assurance</i>
2.1.b.	Ethics and privacy	Privacy and ethical concerns when posting OER; result: personal repercussions, disagreement users	<i>, B9 A5, C7.1, Mistrust in OER</i>
2.1.b.	Maturity of OER	OER and documents should be clearly marked, be restricted or be shown only by abstract until mature state is reached	<i>Maturity, mature read as validated information, too</i>
3.2.3.			
2.2.a.	Concerns about the feedback	prevents political repercussions from ill-understood drafts; related: fear to be known as	



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2.2.b	culture Dominance informal communication	expert and exploited/ disrupted from work Domain-experts form over time, disseminate their knowledge naturally instead of being told to. <i>Preference for word-by-mouth practices, Modus operandi</i>	<i>Exchange, D21</i>
2.2.b.	Compulsory learning (rejection)	Compulsory learning activities would oppose the current practice	<i>Compulsory learning, A3</i>
2.3.b.	Demography	Elderly may not be interested to learn new technologies (handling of new repositories)	<i>C4</i>
2.3.c.	Promotion of ICT learning	Lack of feedback to learning offers / efforts and promote accreditation frameworks for OER	<i>Promote</i>
2.3.c.	Need to in accredit courses	Unless employees get accreditation for their efforts the use may be constrained	<i>Accreditation clear image of career advancement, A2, D7</i>
2.4.a	Personalized learning	Unless passion and personal ties can be bound on the platform the use may raise disinterest. This is not only outlined for digital learning	<i>D2, D1</i>
2.4.a	Demotivation (self-)Learning	Heterogeneity of participants decreases sharing Preference in the conduct of traditional seminars (face2face) EAGLE as a supplementary approach	<i>Compulsory learning,  Motivation, EA6, B3, B4 A8*</i>
2.4.b. 2.4.a.	Misfit online presence	Major demand first is not digital or 1 <sup>st</sup> contact is f2f, personal relationship between colleagues is crucial for a good exchange of knowledge and experience	<i>Relation, D1, D17</i>
2.4.c.	Political acceptance of learning (reputation)	Acceptance of learning in the workplace is low. This is different than lack of space as a spatial arrangement	<i>Reputation A6, relation to permission to learn at the workplace, too</i>
2.4.c.	role based access control	Reservations regarding the introduction of technology. It needs to have a concrete application scenario	<i>Technologification, C7.2, C7</i>
3.1.1.	Cost/benefit concerns budget	There is a lack of budget to invest in continuous / specialized courses INAP provides a few courses for free, relatedly the rest is self-funded otherwise no budget-concerns	
3.1.1.	Principle of critical mass	INAP would not support projects / courses which reach no critical mass	<i>D3</i>
3.1.1.	Lack of time	Employees lack the time to sit down and do learning. (high workload)	<i>Time, A1, B2, B5</i>
3.1.1.	Lack of space	There is no room (space) for sitting down and learn	<i>Location, A1, B1</i>
3.1.1.	Learning outside work time	Participants do not want to learn at home, outside working time will not be accepted	<i>A1</i>
3.1.2.a.	lack of ICT skill resources	EAGLE has no resources to promote ICT literacy. It is important for the success of this project.	<i>ICT literacy, Training Part of label: usability</i>
3.1.2.a.	Absence of	Available content is scarce or externally provided	<i>Lack of resources</i>






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	educational resources		<i>including lack of relevance, by participants, D22</i>
3.1.2.b.	Role of irrelevant contents	The current state of learning-practices is not relevant for employees' advancement, immediate applicable	<i>Thematic relevance, , learning by doing, by experience</i>
3.1.2.b	Lack of (sharing) basic resources	Workers have no learning materials; courses are for experienced security or safety issue	<i>Relevance C8, D6, D9</i>
3.1.2.b.	Detail of contents	OER should not be too broad or elaborate on an extended topic. (immediate)	<i>Relevance and part of lack of resources and part of level of detail</i>
3.1.3.	Constrained availability of technology	Establish new IT infrastructure (rooms) is limited by access rights for, most likely, security concerns	<i>Infrastructure, none of EAGLEs tasks, otherwise D10, D11</i>
3.1.3.b.	Closed systems	Concerns about security and access to resources.	<i>RBAC</i>
3.1.3.b.	Blocked IPs	Current access policies may block certain IP ranges.	<i>Access</i>
3.1.3.a.	Lack of internet	Internet access is not guaranteed for all staff members as is to IT resources.	<i>C2</i>
3.1.3.e.	Maintenance of EAGLE	<i>Maintenance of the EAGLE platform</i>	<i>A7*</i>
3.1.4.a.	Lack of usability	Tricky handling and lack of documentation raises concerns	<i>Usability C5, C6</i>
3.1.4.b.	Rating of OER	Unless OER are rate-able concerns raise about evaluation of quality and validity	<i>Rating, to raise interactivity; B10, C6, D15</i>
2.1.b.			
3.1.4.c.	Filtered for the national context	There is concern that the multitude of resources constrains the search mechanisms When filtering focus and context (regional) is important.	<i>Filter.</i>
1.3.b.			
3.2.3.a.	Role based access control	There are concerns as to who can access OER and who creates OER	<i>RBAC - role based access control, A6 C1, (also forthcoming) permission to learn at the workplace, Part of technologification</i>
3.2.1.b.			<i>IP</i>
3.2.2.a.	Intellectual Property	The lack of transparency on intellectual property related issues and identification of authors raises concerns.	
3.2.3.a.	Resource differentiation	OER should be differentiable according to different work-profiles staff, worker and civ manager do not want to use the same resources	<i>Level</i>
3.2.3.a.	Expert training	Interest in training as long it is conducted with experts, within the own field of expertise	<i>As part of priorities</i>
2.1.a.			

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## ANALYSIS IRELAND REPORT

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1.1.a.	Information-Loss of knowledge	experience-based knowledge is lost when an employee leaves a department or the council	<b>Sharing</b> Information loss (part of priorities)
1.1.a. 1.3.	Lack of experience based knowledge sharing	there is a need to encourage, motivate knowledge sharing between staff, departments, in particular in relation to experience-based knowledge gained by employees within departments	
1.1.a.	Lack of coordination	No systematic process in place to establish learning practices or initiate a required learning process where the need arises	There is no procedural implementation around online leaning
1.1.b.	Lack of change management	There is also a lack of control over change. no process in place to initiate change where change is based on a requirement/issue as opposed to legislative change	Agreed in discussion Is part of priorities.
1.1.c. 3.2.1.a.	No specific fixed legislation for coordinated training	Currently line manager assign continuous learning, no specific fixed legislation which may be disrupted	Note: needs to be reassessed on site
1.1.c.	Lack of corporate support	Lack of corporate direction in relation to the implementation of learning/ improvement of skill competencies	From text
1.2.a.	Low familiarity with Open Educational Resources	Meaning, awareness and shared understanding of e-Learn, Open Learn is vague of what Learning objects are, open-source technologies and open educational resources, Not aware of facilities offered by learning systems	Part of label Introduce Learning, Part of label :how-to-learn
1.2.a.	Lack of motivation to self-directed learning	Lack of motivation to take on self-directed learning participants did not understand the nature of ELearning, they do not see what they do as learning. However, I did detect a motivation to solve problems, and resolve queries or gain knowledge in task-specific matters	Note: not a barrier yet See label “introduce learning”
1.3.a.	Lack of learning culture	No systematic process for communication between departments to facilitate information sharing.	Part of how-to-share
1.3.b.	Lack of partnerships	a lack of collaboration/ partnership with enterprise/ external corporations	This is to tease out more with our expert interviews ??
1.3.b.	Lack of inter-departmental collaboration	A lack of communication between organisational departments; the same question could be asked of legal advisors by several departments	Agreed
1.4.a.	Official languages	Ireland has two languages Irish and Gaeilge. Whilst the participants did not mention Gaeilge, it is important that EAGLE takes this into account.	Language
2.1.a.	Quick applicable	Unless knowledge enables to fulfil tasks the use of	Knowledge



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	solutions	EAGLE may be limited. learning was very much enquiry based facility to create simple instructional OER to assist staff would overcome this barrier	paradigm
2.1.b.	Information-Validation	There is a general mistrust of the information provided on by the organization to staff via technology A validation policy regarding correctness and reliability of information would also be beneficial. Also rating system was helpful	Also part of label usability Also part of informal-communications
2.1.b.	Authenticity of contents	accessing such learning objects in that there could be a concern over the authenticity of the information in relation to current policies and procedures	From text
2.3.	Lack of culture towards e-Learning	overall lack of culture towards online learning/ e-Learning	
2.3.c.	Lack of encouragement	No encouragement is given to employees to take initiative in pursuing training in external institutions (universities etc.) based on their own career requirements	!POLITICAL CONCERNS OUTLINING THIS ISSUE!
2.3.c.	Lack of rewards	There is no motivation provided to encourage self-directed learning. no systematic process in place to track user achievement/ engagement. no real connection in existence between career development and continuous learning / training for staff.	Employee reward Part of performance management
2.4.a.	(Preference) direct contact	Staff prefer to make phone contact/f2f contact with the expert to validate information	Agreed in discussion
2.4.	Prefer(ence) informal knowledge sharing	generally no knowledge/learning or knowledge sharing culture across the organisation as a whole there is a face-to-face culture in place where interactions between staff	Part of informal communication
3.1.2.a.	Lack of e-Learning resources	So far no e-Learning specific platform exists. Also there are plenty of resources available, they're not seen as learning resources however	agreed
3.1.2.b.	Relevance of contents	Currently concerns address the representativeness of courses of the employees job requirements	Part of label "No relevance" Relevance and "relevant courses"
3.1.3.d.	Phone limitation	those working on projects outdoors, would most likely not be permitted to use smartphones as it might pose a health and safety risks No motivation is provided to employees to use their own devices for work purposes	Agreed but not this is matter of one group specification not of core priority
3.1.1.a.	Recent budget cuts (cost/benefit issue)	Budget issues, recent cuts have restricted the level of investment. There needs to be a high requirement before investment will be made Budget will be found if the line manager perceives a course is mandatory and must be done	Disagreement, only partial: hard to quantify.
3.1.1.a. 2.3.	Council training	The council may provide learning environment, check specification on site	Label: ICT training Label:Convincing-management
3.1.1.a.	Time constraint	Lack of time, participants use media in 'lull' periods time constraint implied here in that	When learning takes place,



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		operational (outdoor) staff are in general too busy to learn during work times, A time facilitation polices is needed	Lack of time
3.1.1.a.	Learning at the workplace	Enforcing learning outside work hours would lead to disruption and potential resistance Learning facilities should be available in the work environment	no-onsite Convincing-management
3.1.2.b.	Disinterest in task-specific learning	Movement of staff between departments on a regular basis for short placement periods can lead to a disinterest in task-specific learning	Agree but EAGLE can overcome this one
3.1.3.c.	Lack of technical integration	Incorporation of existing/familiar systems would benefit staff.	Oriented on label familiarity
3.1.3.c.	Low technical availability	There is also a lack of technology available to operational staff	Agreed.
3.1.3.c.	Low functionality systems	Many sys are difficult to use and non functional.	Part of usability
3.1.3.d.	Low phone functionality	hand-held devices are relatively low-powered and would lack functionality other than bespoke data entry, or specific information display	This is rather a general point but a barrier.
3.1.4.	Usability	The ability to locate and utilise material that is deemed relevant is also a key intervention It is essential that EAGLE be easy to use, and not be considered a burden on local authority workers.	Agreed Part of label relevance
3.2.1.	Lack of learning policies	There are no given guidelines in place with regard to learning policies, obligation, regulation	Agreed after discussion
3.2.2.a.	Regulated social media	Regulate use of SocMedia is low but not very low because Social media is already used in administrations but we don't know yet if there are legal constrains about this issue irrespective of that	From text
3.2.3.a.	Requirement differentiation resources / work-categories	needs of each category would differ in relation to e-Learning in a work environment	Not a barrier but requirement
3.2.3.a.	Position dependent access	Not all staff members have equal access to online services, again this very much refers to the differences between office staff and operational staff	This is twofold: in/outdoor working staff is referred to, further this varies between adminstrations
3.2.3.a.	Regulated internet access	In some parts the use of internet is restricted or not allowed	Only a partial point in several but all municipalities
3.2.3.a.	Differentiation resources / tasks	Participants indicated that training courses need to be relevant and based on specific employee role tasks	Agreed in discussion
5.	Universal access(ible)	EAGLE should design all resources and tools such that they are usable and accessible by a wide range of people with and without disabilities.	Universal access
5	Red-green coloured blindness	red-green colored blindness would need to be incorporated into any learning objects used. Facilities would need to be put in place for vision-impaired staff and hard of hearing staff	EAGLE needs to ensure that all relevant guidelines pertaining to accessibility are adhered to.




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## ANALYSIS MONTENEGRO REPORT

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1.1.a.	No strategic capacity building	align development plans with, especially the Strategy of human resource development and other national strategies	<i>Part of HR capacity building Lack of e-Learning policies</i>
1.1.a.	Lack of guidelines for coordination	There is a lack of guidelines for state conduct of examines	
1.1.c.	Lack of political support	They have often no support in implementation of knowledge practice	Part of Support from policy maker
1.1.c.	Lack of HR coordination	often unclear or missing responsibilities, further there is no self-regulatory learning so far	<i>Part of HR capacity building</i>
1.1.c.	Lack of e-tutoring	The lack of tutors, supporting staff	<i>Part of user experience - UX</i>
1.2.a.	Not familiar with the concept of OER	Participants are not familiar / experienced with e- and/or OER learning, for example, they reject to contribute to OER portals but to e-Learning portals	<i>Oriented on label knowledge of e-Learning and OER,</i>
1.2.a.	Lack awareness of facilities	There is unawareness of national strategies and programs, evaluation varies from satisfactory to dissatisfaction due to lack of coordination with rules	As part from text
1.2.a.	Lack of digital learning skills	There is no experience with online learning, the knowledge skills for PA are in general low Additional knowledge on using Internet and web 2.0 tools	<i>Digital literacy skills, Internet information literacy</i>
1.3.a.	Low inter-municipality communication	Cooperation and communication is too formal, to time intensive	<i>Part of sharing knowledge Low sharing knowledge in the sector</i>
1.3.b.	Perceived distance	context of a non-EU country (i.e. a prospective or a candidate) is so different what makes stream-lining learning impossible	<i>From the text</i>
1.3.b.	Location of learning (community)	Training programs are limited to learning with close administrations	Part of Location of training
1.3.b. 3.1.4.c.	Planning of e-Learning initiatives	The national context would be the most and probably only relevant context for contents and learning initiatives	Oriented on initiatives for e-Learning
1.3.b.	Lack of sharing knowledge	Interest only for a “passive” use of the platform, only if knowledge and experience is transferred to Montenegro	
1.4.a.	Foreign language	No foreign languages are spoken	<i>Oriented on label foreign</i>



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2.1.a.	knowledge Applicable insight	Useful knowledge is only helpful if it enables to perform better in the workplace practical knowledge and experience cannot be conveyed online	<i>language knowledge Models for e-learning Oriented on label practical skills</i>
2.1.b.	Validity and quality of contents	Participants noted that in case of publishing any information related to work they need official approval and authorized persons for creating OER and quality control	Knowledge paradigm Part of label OER policies
2.2.a.	Bad organizational climate	Bad communication, interpersonal relations between municipalities	<i>Oriented on label change management,</i>
2.2.a.	Uncomfortable showing low understanding	Knowledge is exchanged only with close colleagues Often too difficult for people to follow or understand, participants are not comfortable to show that they do not understand; and often participants said that they did not learn anything	From text <i>Lack of discursive culture</i>
2.2.b.	Informal communication	Sharing of knowledge with colleagues is present through informal communication, (face to face or by phone)	<i>Part of sharing knowledge</i>
2.3.a.	Low motivation to learning/ not motivated to learn	There is no motivation to learn in general and with e-devices like creating contents	<i>From the text</i>
2.3.1.1.b.	Reluctan(t)ce to change to self-regulated learning	Montenegro is not adaptive to changes and IT trends	<i>From text and oriented on change management</i>
2.3.a.	No interest in e-Learning as a model of training	Even knowing how to handle the platform, motivation to contribute is low	
2.3.b.	Demography	PA employees mainly do not belong to the Internet, they have to use the new educational tools, with the problems that this implies	Oriented on label pedagogical model for adult learners in VLE
2.3.c.	No performance-based rewarding and promotion	No feedback to learning procedures as well as learning competences which leads to demotivation; knowledge and promotion are disconnected, no introduction of performance based rewards /promotion	Oriented on Performance-based rewarding and promotion Also consider: training need assessment; more open creation
2.3.c.	Fear more responsibility	afraid of more responsibility, so learning will lead to more work and more responsibility, but without any of the rewards	From the text
2.3.c.	Lack of recognition	acquisition of additional levels of formal education such as a master's or doctoral degrees are not recognized or valued by the state institutions	



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2.4.a.	Preference interactive learning	Learning format of employees in PA are mainly: visual, verbal and social; interaction is the focus of learning and the exchange of interactions among colleagues, colleagues and tutors as the process of acquiring knowledge	<i>Learning styles (formats), user experience-UX</i>
2.4.b.	Misfit online-Learning / workplace context	They see EAGLE as not applicable to every day work of employees in terms of location, contents	in text <i>Part of user experience - UX</i>
3.1.1.a.	Lack of time & space	Due to the excessive workload participants aspire learning during working hours	<i>Time for learning</i>
3.1.1.a.	Need to locate learning at the workplace	Rejection of learning from the home place	Integrity of home <i>Time for learning</i>
3.1.1.a.	Lack of (financial) support	Staff and Ministries are not willing to build and finance OD infrastructure,	Part of Learning resources
3.1.1.a. also 2.4.c.	problem in financing learning activities	Government has no substantial training budgets,	<i>Budget for training also depends on the nr. of beneficial users, considerations of cost-benefit issues (evaluation)</i>
3.1.2.a.	External learning contents	The experts hired do not provide training materials, only pptx	<i>Part of learning resources</i>
3.1.2.b.	Content specificity	Sources and information shall reflect the separation of field, skills and tasks among employees	<i>Oriented on learning content</i>
3.1.2.a.	Lack of e-Learning facilities	No e-database or platform to support continuous learning learning materials are not available	<i>learning resources</i>
3.1.2.b.	Misfit of educational contents	Unless contents are non-academic and practices people will not follow and understand issues	<i>Oriented on learning resources and part also of user experience -UX</i>
3.1.3.a.	Problems with limited internet connection	Municipalities don't have broadband Internet connection and only some of them provide Wi-Fi internet at workplace	<i>Broadband internet,</i>
3.1.3.b.	Regulate(s)d access to social media	Main use is email, social software is not popular employees have official emails address at work, all have internet access For security reasons social media and networks are not available	
3.1.3.c.	Lack of technical equipment and	Information systems, software and Internet are used for work only at basic level, only	<i>Part of broadband internet IT Infrastructure</i>






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	infrastructure	some municipalities have DMS for documents	
3.1.3.d.	Mobile phones	No use of mobile phones internet or else due to costs Free text messages or free income calls are received	From the text
3.1.3.e.	IT support	IT support and maintenance of technical artefacts needs to be organized and constantly available	Maintenance
3.1.4.a.	Usability	Unless fast search mechanisms reduce “spending work time on searching for solutions” use may be limited, time for familiarising is demanded	Motivation
3.2.1.b.	Upgrade existing legal framework	Provide Navigation Helpdesk Selection of training, trained persons is intransparent; call for rules to settle the issue Minimum of 6 days of training as per a civil servants and state employees annually should be achieved	<i>Oriented on: minimum days of training, annual training plan</i>
3.2.1.b.	<i>lack of e-Learning policies</i>	guidelines how e-learning and open education should be performed in professional training of PA employees needs to be	<i>Oriented on Part of label “lack of e-Learning policies”</i>
3.2.2.a.	Lack of IP-regulation	Contents are IPR based, need for guidelines on the national level	<i>OER policies</i>
3.2.2.b.	Lack of rules and procedures for sharing knowledge	define rules and procedures for dissemination of knowledge to employees that are not able to attend trainings	<i>Part of learning resources</i>
3.2.2.b.	No Open Data policy	There is no Open Data policy in Montenegro	<i>Part of OER policies</i>
3.2.3.a.	Share(d) PC	Depending on work description people share computers	<i>From text</i>

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## ANALYSIS GERMANY REPORT

<b>Barrier reference nr (see chapter 4)</b>	<b>Bold label in country reports (see chapter 5.4. (5.4.3.)) this document</b>	<b>As described in the country report</b>	<b>Any other descriptions, notes or about co-labels</b>
1.1.b.	Lack of change management	No change is coordinated but initiated once prevalent No “proactive process coordinated approach”	<i>Agreed in discussion</i>
1.1.c.	Political Argumentation	For argumentation on the political level, short-term success stories are needed. Education projects, however, yield mid-term benefits which are difficult to measure. This is a hinderance when convincing political stakeholders	Political support
1.1.c.	No assignment of responsibility	There is nobody who feels responsible for further education in general, even though department heads should consider it their responsibility	Lack of coordinators
1.2.a.	Ability to use e-Learning	Practically no respondents were familiar with the concept of OER nor could they draw on personal experience	Lack of experience skills LMS KMS
1.3.a.	Low collaboration among municipalities	municipalities do not collaborate due to competition; people fear to mention their lack of knowledge to colleagues in other municipalities	Lack of openness
1.3.b.	Regional boundary	cooperation between municipalities depends on the administrative level; execution of federal laws is easy; more difficult when state law is at stake, because ordinances can vary hugely among federal levels	Rights based distance
1.4.a.	Language issues	Language spoken in Germany is German	<i>Agreed in discussion</i>
2.1.b.	Lack of guaranteed quality	Concerns in quality of contents Doubt of accountable resources, Mistrust in digital contact and information, methods for certainty	Validity/Quality
2.1.a.	Expert orientation	Employees want to acquire knowledge with reference to a human expert and enter into	Part of barrier defined as: need for personal exchange
2.2.a.	Reluctance to share knowledge	There are few who don’t like to share knowledge and information. However, the majority is willing to share their knowledge Colleagues do not discusses theme specific difficulties, only with superiors	Lack of knowledge sharing
2.2.b.	Predominance of informal exchange	Knowledge is mainly shared ad hoc, informal between friends	<i>Agreed in discussion</i>
2.2.b.	Performance control	A barrier, which is seldom explicitly addressed, but which may play a role has to do with the fact that the monitoring, controlling, and comparing of individual performance is not part of public sector	




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2.3.a.	Lack of motivation	culture Some employees have no motivation to attend further education classes, e. g., because they have no ambition in career development, because they are close to retirement age, or because of general resistance towards change	Lack of general motivation,
2.3.a.	Lack of self-motivation	eLearning requires more discipline than traditional classroom learning	
2.3.a.	No need for eLearning	Respondents doubt that eLearning can be established, because training needs are already covered by public sector academies	
2.3.b.	Demography	With higher age and retirement in view, interest in acquiring digital skills seem to decline	Part of lack of general motivation.
2.3.c.	Visibility of results	Employees expect to get recognition for their learning efforts. But there is a general lack of feedback and recognition	Lack of rewards for learning
2.4.c.		Sometimes, employees also have the unjustified expectation that learning will automatically be rewarded and demand quick results and achievement	
2.4.b.	No time for learning	It is difficult to integrate eLearning in the daily work routine, because of one's own workload, workload of colleagues, and part-time work, which leaves little room for additional learning activities.	lack of time
2.4.a.	Need for personal exchange	They prefer personal interaction rather than the impersonal learning style of eLearning.	
2.4.b.	No time for developing OER	Respondents were worried that the users of OER, i. e., public agents, will not have time to also (further) develop OER	Doubt of suitability workplace
2.4.c.	Negative connotations due to low or bad experience with e-Learning	The concept of eLearning has negative connotations One of the reasons for [negative connotations] is that initiatives in the past were one-shot actions that were not transferred into longer-lasting operations	Negative connotations, is a point for larger admins, not for small, local ones
2.4.b. but also 3.1.1.a.	Lack of replacements	topics are usually represented by no more than one person; if this person is not available, e. g., because of engaging in learning activities , there is nobody to replace him/her [2.4.b.]. This makes it difficult to let employees attend training classes [3.1.1.]	
2.4.c.	Emotional reservation to e-learning	Even aversion to computer IA. Some respondents even had emotional reservations against eLearning, even if they had no relevant personal experiences	Part of "need for personal exchange"
2.4.c.	Learning is generally not valued	Continuous learning per sé is welcome but e-Learning is not; learning is generally not valued as much as executing daily tasks	Part of "lack of recognition":
3.1.1.a.	Lack of space	It is assumed difficult to close oneself off	no quiet time

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		and create an undisturbed atmosphere, which would be needed for learning at work	
3.1.1.a.	Learning space and environment	Disruption in the workplace, also like to learn at home	Related to barrier tele-learning: permit learning from home or other places
3.1.1.a. potentially 2.3.a.,	Soft topics	matter of cost / benefit calculation, legitimization of investment Justifying expenses for education on “soft topics“ is difficult	Concerns regarding budget feeds into <i>political argumentation</i> and “costs”: there are concerns about costs, not a barrier yet
3.1.2.a.	no e-Learning technology in place	there are currently no IT systems / platforms in place which support further education. Also, there are no authoring systems available for content creation	Lack of e-Learning technologies
3.1.2.a	Lack of resources	No facilities available for e-Learning, “no learning contents were available”	Part of description “negative connotation”,
3.1.2.b.	Content specificity	Learning need is only related to specific themes identify suitable topics for e-Learning; cross-cutting topics are considered more suitable, soft topics less suitable, Employees want to acquire knowledge with reference to individual cases (doing case studies) and with the possibility to address specific questions in a question-answer-dialogues	Part of “need for personal exchange”
3.1.2.b.	Lateral entrants	Content for lateral entrants is requested	Agreed that this barrier appeals to participants but note: this point is not of priority
3.1.3.b 3.2.3.a. .	Security	e-Learning should be offered within the secure state networks to address issues of information security Municipalities are afraid of running security risks, if opening their Intranet for eLearning resources	Also part of Tele-working: because issues of privacy and security are technical reasons why it is not possible
3.1.3.c., d	Handling of BYOD varies	current policies range from “prohibited”, “not offered because there is no need for it”, “tolerated in specific cases” to “regularly allowed at work”.	: lack of substituting facilities
3.1.3.d	Restricted instant messaging	Skype is mostly not available	Lack of social media
3.1.3.a.	No internet access	No internet is available in some communities	

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3.1.3.a.	Lack of bandwidth	In some communities the bandwidth raises concerns (some parts)	
3.1.3.e.	Maintenance and integration platform	working in a mixed environment with legacy, local and remote servers, excluding sustainable integration concepts	Part for intervention implementation concepts taking care about legacy systems, ensure sustainability across inter-communal region
3.1.4.c	Filtering	Staff doubts sharing of information raises an information explosion	Agreed in discussion but note this is not of priority
3.1.4.c.	user experience	Expectation that questions will be responded soon , feel frustrated, if their first usage of the system presents a negative experience, if search operations to not yield the desired results of if the system is complex and difficult to handle.	Usability
3.1.4.a.	User-centric designs	Complexity of the visual representation reduces the interest in the platform particularly user-centric design. Once learning for a system is required the disinterest raises	Visibility; supported by intervention user-centric design: optimize usability and user experience (remember: “less is more”); there should be clear structures, no overload of information, easy-to-use navigation tools
3.2.1.b, 1.1.a. 2.3.c.	establish long-term eLearning programs	From report: currently, none of the interviewed municipalities has a key strategy for learning. There is mandatory training for specific job functions but not for others	Lack of learning policies and part of demand for creating a learning culture: design rules for undisturbed learning, supported by intervention
3.2.2.b.	Missing legal certainty	Intransparency and lack of legal certainty of OER was a great concern for practically all respondent	Lack of legal security OER Also part of tele-working because on policy reason issues why tele-working is not possible relates to privacy, security issues
3.2.3.a.	Representation of authors	The authoring of contents needs to be regulated and represented (and known)	Agreed in discussion
3.2.3.a.	Control mechanisms	Some respondents would actually welcome the possibility of tele-working, but also think that if it was granted, control mechanisms would be needed and working	Part of Tele-Working



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Accessibility

hours would need to be acknowledged  
Accessibility issues do not play a large role  
in the context of further education. If there  
is a need for accessible devices, this is  
taken care of individual