

First Quality Management Report

A quick test on D4

Annex I to

Deliverable no. D13.1

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Work Package / Task:

WP5 Quality Management

Task 5.1

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Project Handbook (D1), LINKVIT proposal, Quality Management Plan (D12), Learning Path Specifications (D4)

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A quick test of deliverable D4 to assess methodology and procedures for quality assurance

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Table of contents

1. Introduction	4
2. Quality of D4 as DR	4
2.1 S1 Review of project documents, reports, plans, devices and actions	4
3. Thematic and cross-evaluation	5
3.1 S2 Training framework and e-Learning tools.....	5
3.2 S3 Dissemination material and web site	6
3.3 S4 metadata for training material classification	7
3.4 Learning paths: general	8
3.5 S5 Learning Paths for technicians in public administration and SMEs	9
3.6 S6 Learning Paths for decision makers	9
3.7 S7 Learning Paths for postgraduates.....	10
3.8 S8 External evaluation of project management and procedures (PM).....	10
3.9 Delivery and instruction styles	10
3.10 Expected impacts and semantics.....	11
3.11 Conclusion and recommendation.....	11

1. Introduction

This note is addressed to SC and EE as evaluators of the quality of the deliverables. It is not intended to replace the functions of SC and EE, its aim is to provide an example of a quick and partial quality assessment in accordance with the internal review boards contained in D12 Quality Management Plan (QMP). The purpose of this report is D4, a Document Report (DR) titled *Learning Paths Specifications* Deliverable No. D4, final draft, version 1.0.

For clarity, the assessment forms are numbered as indicated here-below, and in this first draft is limited to the internal review:

S1 Review of project documents, reports, plans, devices and actions

S2 training framework and e-Learning tool

S3 dissemination material and web site

S4 metadata for training material classification

S5 Learning Paths for technicians in public administration and SMEs

S6 Learning Paths for decision makers

S7 Learning Paths for postgraduates

S8 External evaluation of project management and procedures (PM)

The note is organized into three parts. The first part assesses the Deliverable D4 as DR, while the second assesses the contents in relation to the specific topics. QA refers to D4 as DR through form S1, while the topics are considered with S2-S8 forms. The forms are shown and compiled only when needed.

In a very introductory form, expected impacts are considered in the last part, some space is also dedicated to the discussion on delivery and instruction styles.

2. Quality of D4 as DR

2.1 S1 Review of project documents, reports, plans, devices and actions

The QA main objective related to documents and reports is to ensure the quality of the concerned production in terms of document layout, structure, content (text and appendixes) and sequence. The D4 aim is to summarize the results of analyses of existing training modules and related material, the gaps detected and the improvements needed to meet the INSPIRE and national training requirements following suitable learning paths.

Internal review	Project Co-ordinator (CO), Steering Committee (SC)
input	Learning Paths Specifications Deliverable n° D.4, final draft, version 1.0.
method	Review and content analysis
quality criteria	<p>D4 follows the project rules. It contains numeration, table of contents, the standard template defined by the Project Handbook (chapter 5.4) and by the 'Partner Area' Section templates as well as the agreed corporate design. Moreover, in D4 all modules are summarized according to a commonly agreed metadata template. The metadata for the 20 modules is listed in the Annex of the document and Table 2 provides an overview and explanation of the metadata elements. The list has been compiled based on discussions among the partners of the LINKVIT Consortium and it also considers the experience of other projects and metadata initiatives in the field of e-Learning. The comments of the LINKVIT Consortium partners are generally positive.</p> <p>The D4 content is presented clearly and the expected objectives are achieved. All the topics are in compliance with the Project work plan and time-table.</p>
output	Contribution to the development of EU and international standards.

3. Thematic and cross-evaluation

3.1 S2 Training framework and e-Learning tools

The aims of QA are to ensure the overall quality standards of the training framework and related infrastructures, including the e-Learning tools. The items to be tested are start-up (structure, content, and audience profile), updating (structure, content, and audience profile), usability/accessibility (delivery modes, instructional style, and delivery style).

Here, QA highlights the contribution that training paths and related modules provide to the training framework design.

Note that it is currently impossible to evaluate the e-learning tools that are likely to be produced by *ad-hoc* deliverables.

internal evaluation	Steering Committee (SC)
input	<p>Learning Paths Specifications Deliverable n° D.4, final draft, version 1.0</p> <p>The infrastructure technical specifications will be provided by D6.</p> <p>The training framework guide for users will be designed by D8 (November 2014) according to the time schedule.</p> <p>The e-Learning platform will be tested and activated once the technical specifications are available.</p>
method	<p>For the time being the QA method is limited to review only. Testing and customer satisfaction analysis - CSA (by each target group) will be conducted once the activities start.</p> <p>This also applies to any potential feedback on the framework and infrastructure (using the expected input from CSA).</p>
quality criteria	<p>Of all the quality criteria, only clarity can be appropriately addressed. All the others can be activated later. As a matter of fact, availability of documentation, usability and accessibility criteria are related to the e-Learning platform whereas the knowledge map will be ready after the self-learning test.</p> <p>The operational guidance (for users) will be designed by D8.</p> <p>The achievement of project objectives will be assessed at the conclusion of the project.</p>
output	<p>It is too early to propose changes that can become an integral part of the final QA reports. Anyhow, an <i>ex-ante</i> test on a sample of potential users is advisable to get early feedback on expected learning paths.</p>

3.2 S3 Dissemination material and web site

QA of the dissemination material and web site is based on a two-step procedure, which is firstly aimed at assessing the layout, content, readability/attractiveness as well as the usability and accessibility of the project’s promotional materials and web site. Furthermore, it assesses any interaction between the project’s progress and its web site content. As indicated in D12, the items to be tested in detail are the layout design, readability/attractiveness, usability/accessibility, updating as well as the quality of texts for printed materials and for web presentation.

The dissemination is cited in D4 about metadata and catalogue services. The catalogue is considered a core component of the information sharing process, information dissemination and awareness. The mechanism to search and discover available geographic datasets and services is designed as a “catalogue service” in the geospatial community.

The catalogue service can be tested using key-words or semantic domains of the learning paths. This is done in a coordinated manner to the following deliverables: D14 Dissemination plan, D15 Linkvit web site, D16 Dissemination material, D17 Project newsletter, D18 Awareness and dissemination events.

Internal review	Steering Committee (SC)
input	Learning Paths Specifications Deliverable n° D.4, final draft, version 1.0. In particular, metadata and catalogue services.
method	A short review.
quality criteria	Not yet activated (see specific form according to project rules).
Output	None.

3.3 S4 metadata for training material classification

QA of metadata for training material classification follows two main objectives: a) to ensure quality in the teaching material and its organization within e-Learning platform, and b) to ensure Library consultation. The items that need to be tested will serve to update the e-Learning framework content, internal consistency, didactic clarity and effectiveness for searching.

In order to define suitable learning paths, D4 has assessed the existing training material with an overview of the existing modules (from the content and methodological point of view) and a harmonized description according to the commonly agreed metadata template.

The metadata for the 20 modules and the modules themselves have been defined based on extensive discussions among the partners of the LINKVIT consortium, also considering the experience of other projects and metadata initiatives in the field of e-Learning. The metadata refer to title, source, ownership, abstract, structure, learning outcome, intended audience, pre-requisites, language, format, and expected workload (in hours).

The content of the modules has been analysed based on the information in the metadata records and of the available training material. A series of topics and concepts covering different aspects of INSPIRE implementation are listed. For each module, the topics and concepts covered have been verified. The results were mapped with the help of a matrix. Tests on possible overlaps between the modules have been carried out giving the learning paths an acceptable level of coherence.

It is worth noting that D4 also assessed the didactic approach, the methods and materials used. It highlighted that most of the modules have already a PPT with audio or a web lecture as part of the training package. Almost all training modules are offered as self-learning modules while in some cases face-to-face versions are also offered (on demand).

Internal review	Steering Committee (SC)
input	Learning Paths Specifications Deliverable n° D.4, final draft, version 1.0.
method	Review is the widely used method, with a limited number of tests on overlaps between modules. The tests, although simplified, used a sort of cross-sectional analysis that could help develop a semantic mapping. The implementation of a customer satisfaction assessment (see WP4) is premature.
quality criteria	The training material classification consistently follows the structure of metadata. Firstly, it matches the vector of descriptors and the layout. Secondly, there was no redundancy and adjustments (integration or simplification) seem to be easy to fill out. A shared dictionary is expected and metadata content is complete and appropriate. Conditions for delivery, pre-requisites for accessing and learning outcomes are clear. The procedures for learning outcomes assessment have not been established yet, although this can be done within the learning path.
output	Any statement of proposed changes is premature.

3.4 Learning paths: general

The definition of learning paths is based on the INSPIRE implementation process and on the job profiles related to those processes. The basic learning paths can then be properly designed. Four job profiles corresponding to the different INSPIRE activities have been identified: INSPIRE Manager (IMA), INSPIRE Data Expert (IDA), INSPIRE Service Expert (ISE) and INSPIRE Service Consumer (ICO). Accordingly, four basic learning paths were designed, namely 'Transforming data and metadata', 'Creating and managing access mechanisms (services)', 'Access, bind and use of spatial data (through services)' and 'Managing and reporting INSPIRE implementation'. As reported by D4, the basic learning paths reveal that all the modules except Data Quality are now used, while a module on Data & Service sharing is currently lacking. The learning paths will form the basis for preparing the adaptation plan. Besides, D4 stresses that the training modules, their metadata and learning paths need to be regularly updated according to the way INSPIRE evolves over time.

D4 enables a coherent design of the learning paths for technicians in public administration and SMEs (PA), decision makers (DM) and postgraduates as well (PS). The four job profiles described above contribute to the paths definition according to a sort of assignment matrix:

	PA	DM	PS
IMA			
IDA			
ISE			
ICO			

The analytical profiles of target groups (PA, DM and PS) should be specified according to the INSPIRE job profiles (activities).

3.5 S5 Learning Paths for technicians in public administration and SMEs

QA of the Learning Paths for technicians in public administration and SMEs follows a two-fold objective procedure: a) providing homogeneous learning paths for selected categories of technicians in public administrations and SMEs; b) promoting the dissemination of the INSPIRE principles and approach. Besides dissemination, the items to be tested concern targeting professional categories within public administration and SME domains, learning outcomes (in terms of skill, knowledge, awareness), suitability of training modules contents, consistency with public administration/SME requirements and consistency of contents with training objectives and learning time.

A detailed internal review will be implemented based on the assignment matrix.

3.6 S6 Learning Paths for decision makers

The QA of the Learning Paths for decision makers follows a two-fold objective procedure similar to that defined for S5.

A detailed internal review will be implemented based on the assignment matrix.

3.7 S7 Learning Paths for postgraduates

The QA of the Learning Paths for postgraduates follows a two-fold objective procedure similar to the one defined for S5.

A detailed internal review will be implemented based on the assignment matrix with particular reference to targeting by educational background, potential feedback on training courses of origin, EU dimension and standardization/context-led degree.

3.8 S8 External evaluation of project management and procedures (PM)

The quality of project management will be evaluated by the External Expert (EE), to guarantee an assessment of implemented procedures. As to D4, the management procedures put in place so far are suitable to attain project objectives in accordance with the foreseen schedule and budget, and to avoid conflicts among Project Partners. Good communication and cooperation were guaranteed among the partners .

The formal procedures, as provided in the QA form specific, have not been activated yet.

3.9 Delivery and instruction styles

D4 plans online instruction based on e-Learning, allowing materials to be delivered to various locations at any time. Video conferencing or social networking can also be activated. Considering the users' profiles and the suggested learning paths, online courses may require an instructor to monitor student progress and tutoring on-call. Participation entails that users (administrators, decision-makers and post-graduates) have computer access and must be computer literate.

The costs of online curriculum development can mean a certain initial outlay that should be estimated in relation to participant numbers. The participation rate might justify the costs of developing an online or mixed course.

The learning paths are closely connected to the instruction and delivery styles. As to the instruction style, in a self-paced mode it is the students who set their pace and there is no set timeline to complete the content. If an instructor is assigned, she/he usually has the role of tutor. Normally, online and workbook delivery modes are used with self-paced instruction. The instructor determines the pace and timing through online delivery modes.

As for delivery style, a certain attention should be dedicated to Interactive Group Work discussions, games, brainstorming and simulations which combine to make group work interactive with the help of tutors or lecture/demonstration instructors.

3.10 Expected impacts and semantics

At this stage we can only speculate some of the impacts of the D4 planned activities and approximate the four semantic axes since a more accurate assessment is needed.

As previously stated, the activity by D4 is expected to yield positive geographical, thematic and functional impacts, even in terms of access and audience. The dissemination of contents and configuration of the learning paths for the target groups helps, foremost to recognize the geographical impacts. The latter help to capture the effects of transferring to a national, regional and local audience the results of European projects achieved by pathfinders. The involvement of the target groups within different geographical contexts promotes better understanding of thematic impacts as INSPIRE principles are transferred to other sectors, disciplines and new stakeholders.

Moreover, functional impacts are likely to contribute to the development of human and institutional capital. Accessibility guarantees user-friendly versions of documents and tools whose main aim is improving access to geospatial data and services. D4 interacts with the four 'semantic axes' that characterize the quality review i.e. general functional quality, quality of training products, scientific and cultural quality, and implementation quality. First, the learning paths are specified so as to ensure the quality in terms of organization, responsibilities, procedures, communication style, networking capacities, type and use of resources. This also happens with the second axis that recognizes the quality of training products in terms of user learning outcomes. The effects can be properly evaluated during the implementation phase, but the learning paths already embody modularity features and are potentially open to innovation. Modularity and openness enable the target groups to acquire operational skills and knowledge that are shared by the European countries involved.

The scientific legitimacy of the program and the role of partners within the international scientific community (third axis) should be documented during both the design and the implementation phases. The Program's contribution to the implementation of the INSPIRE Directive (last axis) will be assessable, both from the demand and supply sides, following the transfer of innovation procedures designed within Leonardo da Vinci Program.

3.11 Conclusion and recommendation

Overall, D4 complies with the quality requirements although limited to what has been defined so far for the training modules. The adaptation plan (D5) will include the foreseen changes and plans for improvement. More attention is recommended to the feasibility and expected impacts of the designed learning paths.