



## D2.3

# Needs and concept of the skills development and training methodology version 0.1

Confidential

### **Juan Jauregui Becker**

Mobile World Capital Barcelona  
Roc Boronat 117  
08018 Barcelona, Spain

[jmjauregui@mobileworldcapital.com](mailto:jmjauregui@mobileworldcapital.com)  
Tel: +34 600 405 867



<b>Project acronym</b> L4MS	<b>Project title</b> Logistics for Manufacturing SMEs (L4MS)	<b>Grant agreement No.</b> 767642	
<b>Deliverable No.</b> D2.3	<b>Deliverable title</b> Needs and concept of the skills development and training methodology		<b>Version</b> 1.0
<b>Type</b> Report	<b>Dissemination level</b> Confidential		<b>Due date</b> M12
<b>Lead beneficiary</b> Fundació Barcelona Mobile World Capital Foundation			<b>WP No.</b> 2
<b>Main author</b> Juan M. Jauregui Becker	<b>Reviewed by</b> Arto Wallin	<b>Accepted by</b> Ali Muhammad	
<b>Contributing author(s)</b> VTT, APMR, ASTI, FBOX, HBD, ICENT, IMECC, IML, KINE, PBN, POLIMI			<b>Pages</b> 48
<b>VTT archive code</b> VTT-R-05939-17		<b>Lead beneficiary archive code</b>	

### Abstract

This report provides a needs analysis and concept of the skills development and training methodology. It also presents the approach to be taken for training and skill development of manufacturing workforce. Finally, it provides a list of specific developments and activities carried out subsequently during the project to implement a sustainable skill development observatory on the L4MS Marketplace.

### Coordinator contact

Ali Muhammad  
VTT Technical Research Centre of Finland  
Tekniikankatu 1, PL 1300, 33101 Tampere, Finland  
E-mail: [ali.muhammad@vtt.fi](mailto:ali.muhammad@vtt.fi)  
Tel: +358400560851

### Notification

The use of the name of any authors or organization in advertising or publication in part of this report is only permissible with written authorisation from the VTT Technical Research Centre of Finland.

### Acknowledgement

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 767642



## History of changes

Version	Date	Author	Change
0.1 – 0.4	17/01/2018	FMWC	Initial Layout and Structure
0.5 – 0.6	19/6/2018	FMWC	1 <sup>st</sup> draft version
0.7	09/07/2018	FMWC	2 <sup>nd</sup> draft version
0.8	23/07/2018	ED	2 <sup>nd</sup> draft review
0.9	23/07/2018	VTT	2 <sup>nd</sup> draft review
0.10	02/08/2018	FMWC	3 <sup>rd</sup> draft version
0.11	09/08/2018	ED	3 <sup>rd</sup> draft review
0.12	14/08/2018	VTT	3 <sup>rd</sup> draft review
0.17	24/08/2018	FMWC	Final Version
1.0	30/08/2018	VTT	Final version

# Table of Contents

<b>HISTORY OF CHANGES.....</b>	<b>5</b>
<b>TABLE OF CONTENTS .....</b>	<b>6</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>8</b>
<b>ABBREVIATIONS.....</b>	<b>10</b>
<b>1 INTRODUCTION .....</b>	<b>11</b>
1.1 Deliverables and KPIs associated to Task 2.5 .....	11
1.2 Stakeholders' perspective .....	11
1.3 Task Objectives .....	12
1.4 Project structure considerations .....	12
1.5 Information from other deliverables.....	13
1.6 Approach for demand analysis and methodology design .....	13
<b>2 BACKGROUND.....</b>	<b>15</b>
2.1 Skills observatory vs. training methodology.....	15
2.2 GoingDigital based methodology .....	15
2.2.1 Customer Journey.....	15
2.2.2 The GoingDigital Program.....	16
2.3 Implications for demand analysis .....	16
2.4 Knowledge Scope.....	17
<b>3 DATA COLLECTION.....</b>	<b>20</b>
3.1 Survey – customer journey .....	20
3.2 Survey – Knowledge Scope .....	20
3.3 Interviews .....	20
<b>4 ANALYSIS OF RESULTS .....</b>	<b>21</b>
4.1 Value of training in the project.....	21
4.2 Scope .....	21
4.2.1 System Scope .....	21
4.2.2 Technology Scope .....	22
4.3 Skills analysis.....	23
4.3.1 Technical Skills .....	23
4.3.2 Business Skills .....	23
4.3.3 Soft skills .....	25
4.4 The analysis of training functions .....	26
4.5 Channels preferences .....	27
4.5.1 Options of training channels for Application Experiments.....	27
4.5.2 Options of trainings channels, L4MS Marketplace awareness.....	27
4.5.3 Assessment of trainings channels, configuration .....	28
4.5.4 Assessment of trainings channels, business case (part 1).....	29
4.6 Customer journey analysis.....	30
4.7 Stakeholder types .....	31

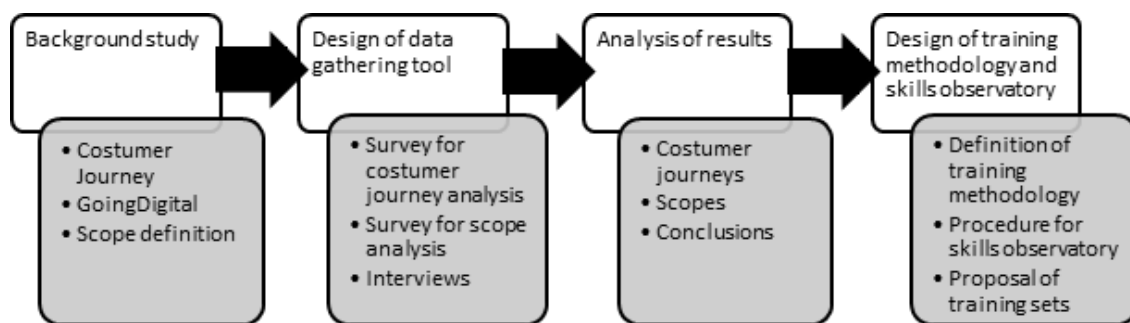
---

4.8	General conclusions.....	32
<b>5</b>	<b>TRAINING METHODOLOGY.....</b>	<b>33</b>
5.1	Concept training methodology and skills observatory.....	33
5.2	Skill observatory survey tool.....	34
5.3	Training propositions.....	34
<b>6</b>	<b>FOLLOW UP.....</b>	<b>39</b>
	<b>ANNEX 1: TYPES OF PARTNERS.....</b>	<b>40</b>
	<b>ANNEX 2: SURVEY CHANNELS.....</b>	<b>41</b>
	<b>ANNEX 3: SURVEY TOPICS.....</b>	<b>43</b>
	<b>ANNEX 4: INTERVIEW.....</b>	<b>45</b>
	<b>ANNEX 5: INTERVIEWEES.....</b>	<b>47</b>

## Executive Summary

The Skills Observatory and Training Methodology task in L4MS aims at training and reskilling workers and leadership of manufacturing SMEs and solution providers in the area of logistics automation. On the one hand, the skills observatory has the goal of analysing and understanding the skill development needs that SMEs have before, during and after implementing automated logistics technologies in their factories. On the other hand, the training methodology aims at developing a comprehensive approach to training leaders, managers and workers of SMEs and service providers during all the technology implementation phases that can be supported from the L4MS Marketplace being developed in the project. This deliverable focuses on making a needs analysis and design the skills observatory method and the training methodology. A plan for training the companies that will be participating in the project through the implementation of Application Experiment (AEs) is included in the training methodology. This document provides a list of specific developments and activities that will be carried out subsequently during the project to implement a sustainable skill development observatory on the L4MS Marketplace.

The approach used for performing the demand analysis and designing the training methodology is shown in the figure.



The *background analysis* determines the topics to be researched in the needs analysis. First, it provides a deeper explanation on what a skills observatory and a training methodology are. It outlines the elements that such processes should have and presents the main constraints that hold for this project. Additionally, two frameworks upon which this activity is based are briefly explained: the GoingDigital program and the Customer Journey Analysis. The first one is a training program for executives developed at the Mobile World Capital Foundation that targets getting started with digital transformation. The second is a marketing analysis technique that is used in this case for aligning the training methodology with the technology absorption cycle of companies. It is determined that the focus of the task has to be set on technical, technological, business and process management topics.

The background analysis is used to set-up a number of topics and questions for performing the demand analysis. Three *data gathering tools* are designed. A digital survey uses multiple choice questions for determining which are the preferred channels for providing different types of trainings and open questions for investigating the members' opinions on the value of the training methodology from the strategic, tactical and operational point of view. Another digital survey is made to determine which specific knowledge topics should be the target of training material development. Finally, an interview is designed for investigating the members' specific opinions on value creation logic of the marketplace and OPIL. The tools are used to gather data among the project partners. A total of 15 digital survey reactions are collected, while 11 people, each from a different member organization, followed the interview.

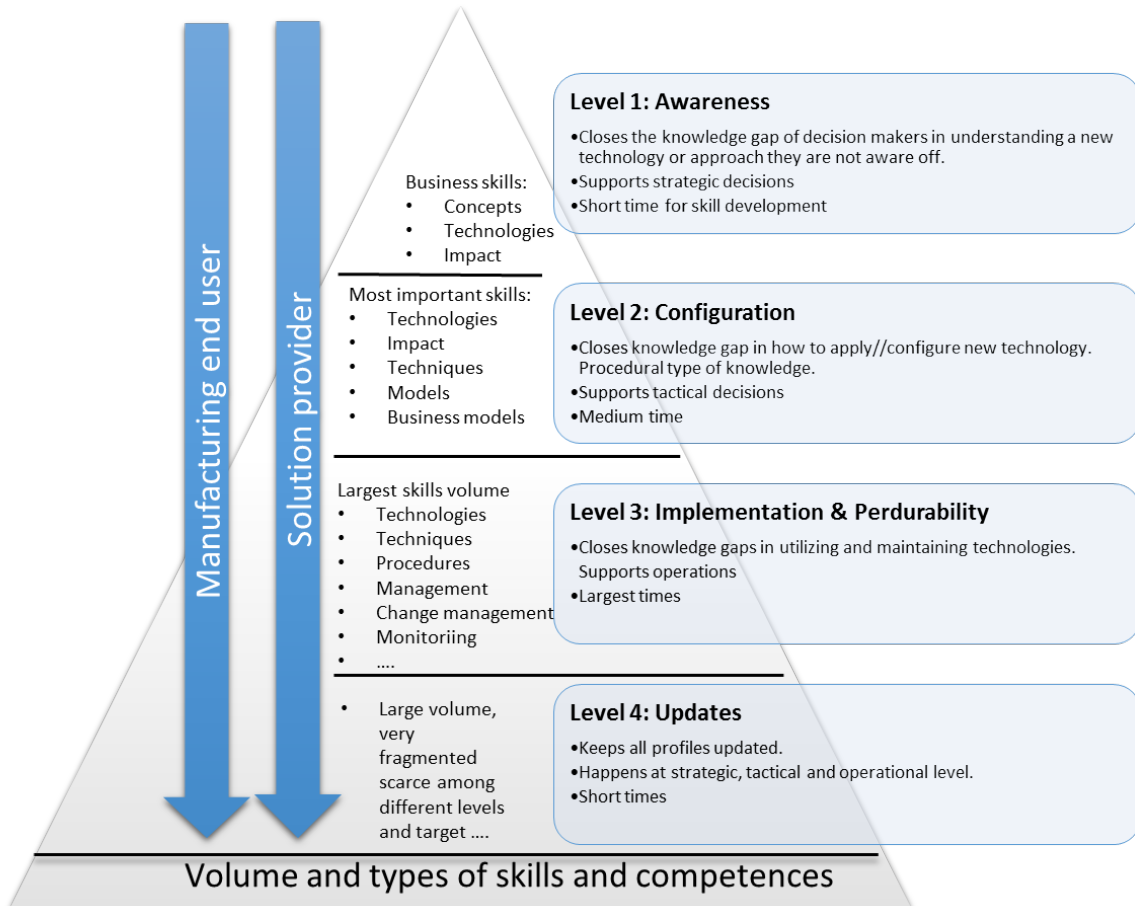
After *analyzing the collected data*, it is concluded that there are indeed two competence development trajectories that have to be supported with training, one for solutions providers and one for manufacturing users. Different levels of training should be made available for different roles and different lifecycle phases. It is concluded that blended learning trainings should be designed, created and implemented on:

- Awareness creation of the L4MS Marketplace and IoT-based automated logistics.
- Technical configuration and business case design for IoT-based AGV solutions.
- Use, design and deployment of OPIL as IoT platform for automated logistics.

One of the most important conclusions for *designing the training methodology* is that SMEs experience the technology differently during different life cycle phases of the project. These results are used to design the training methodology and skills observatory. The figure shows the four level training methodology that has been designed



at the hand of the resulting demand analysis. Each level corresponds to a different phase of technology absorption. The awareness level aims at accelerating, through workshops and presentations, the processes of understanding what the L4MS technology is and its added value for manufacturing. It aims at management teams, which are usually responsible for deciding on the implementation of new technologies. The configuration level aims at providing plant managers and engineers procedural knowledge on how to set-up a business case and conceptual solution of automatic logistics. The third level provide the knowledge and skills necessary for supporting the installation and operation of the technology. Finally, the last level is about updating at all levels.





*H2020 Innovation Action - This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 767642*