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DIGITAL DESIGN SKILLS FOR FACTORIES OF THE FUTURE

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DigiFoF

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Lead Organisation:
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Contributors:
All Partners

Reviewers:
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Table of content

1 Executive Summary

In this deliverable a summary of the quality assessment for every training material prepared in the period M1-M18 is reported.
The form used to collect the feedback has been defined in WP6 – Quality assurance, D6.3 - Handbook on QA of Trainings.

In the Annex the scanned copies of the evaluations collected in each training session are provided.
This deliverable is updated at the end of the project (M36).

2 Training material evaluation

As reported in deliverable "D6.3 - Handbook on QA of Trainings", ensuring high-value quality of training materials implies setting up homogenous and continuous evaluation processes from the creation to the final use. The evaluation of the training material is carried out by:

- **Internal evaluators** are senior members of the DigiFoF consortium;
- **External evaluators** are people with expertise in the training field, from university, research centers and companies.

As mentioned above, evaluation must be organized at different steps in order that the training materials do not remain monolithic blocks quickly losing their interest. Evaluation could rather be seen as a way of maintaining the relevance of the content by making some changes if needed.

The training materials prepared so far and evaluated in this deliverable are reported in the table below.

Training material	**Authors**	**Internal Evaluator**	**External evaluator**
Process-oriented topic: Fundamentals of Business Process Management (BPM)	BOC-PL	UNIBG	Elena Legnani – Wittur
Integration of the uses and the design in the company business model	CIRIDD	AFIL	Valerio Pesenti – Intellimech Consortium
Workplace safety – Employees emotion recognition	ULBS	UNIBG	Michele Ermidoro – AiSent
Smart City Modelling using ADOxx	ULBS	UNIBG	Michele Ermidoro – AiSent
Petri Nets based automation of manufacturing systems	ULBS	UNIBG	Michele Ermidoro – AiSent
Customers needs' services deployment	EMSE	UNIBG	Paolo Gaiardelli – University of Bergamo
Product-Service System design	EMSE	UNIBG	Paolo Gaiardelli – University of Bergamo
Transformation of Industrial Business Model through digitalization and servitization	EMSE	UNIBG	Paolo Gaiardelli – University of Bergamo
Introduction to the concept of PSS and to the dedicated PS3M modelling method	EMSE	UNIBG	Paolo Gaiardelli – University of Bergamo

Circular Economy and Product-Service System	EMSE	UNIBG	Paolo Gaiardelli – University of Bergamo
Deployment of Service-oriented Strategy	EMSE	UNIBG	Paolo Gaiardelli – University of Bergamo
Design Thinking for Product-Service System Design	EMSE	UNIBG	Paolo Gaiardelli – University of Bergamo
Scientific/Research Foundations of Conceptual Modelling	EMSE	UNIBG	Paolo Gaiardelli – University of Bergamo
Business process analysis and rengeneering	UNIBG	AFIL	Valerio Pesenti – Intellimech Consortium
The OMILAB Ecosystem: Characteristics and Application Cases	OMILAB	UNIBG	Elena Legnani – Wittur
Fundamental Conceptual Modelling Languages using Bee-Up	OMILAB	UNIBG	Elena Legnani – Wittur
Design Thinking using Scene2Model	OMILAB	UNIBG	Elena Legnani – Wittur
The Value of Conceptual Models	OMILAB	UNIBG	Elena Legnani – Wittur
Conceptual Modeling: Methods, Tools and Application	OMILAB	UNIBG	Elena Legnani – Wittur
Model-Driven Experimentation: from Design to Modelling to Evaluation	OMILAB	UNIBG	Elena Legnani – Wittur
Scientific and Educational Exploitation	OMILAB	UNIBG	Elena Legnani – Wittur

2.1 EMSE trainings

Internal Evaluation

WP and task:	WP 6 – T6.4
Training title:	Customers needs' services deployment
Main author/editor:	EMSE France
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Applicative
Training planned duration:	3 hours
Thematic(s):	Strategy-oriented topics: Customers needs' services deployment
Target group(s):	Professionals of the same company

Summary and learning objectives:	The training allows the company's employees to create product-related service ideas and test them before implementing a deployment plan.

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	This is a workshop where the participants have to work in group to understand the need of their customers	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain	X Yes ☐ No		

relevant in the long run?	☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		This is a workshop applying design thinking to identify the customer needs, as a starting point of the definition of the service offering	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Product-Service System design
Main author/editor:	EMSE France
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	12 hours
Thematic(s):	Strategy-oriented topics: Product-Service System Design
Target group(s):	Vocational training : professional of system design Master students (Industrial engineering and management)
Summary and learning objectives:	Understand and apply a method for the design of product service Systems Acquire operational skills on the use of a PSS modelling toolkit (PS3M), dedicated to design support

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	There is both theory on PSS and PSS design with case study and a case study to develop using the explained methodology	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		

Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		It combines theory and practice and provide a good introduction to PSS concept and PSS design methodology	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Transformation of Industrial Business Model through digitalization and servitization
Main author/editor:	EMSE France
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	1,5h (lecture) + 6h (case study)
Thematic(s):	Product-service systems & servitization: consequences on companies' business model and financial performance
Target group(s):	Students or professionals
Summary and learning objectives:	Understand the consequences of PSS & servitization on companies' business model and financial performance

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the	X Yes ☐ No		

project requirements?	☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	There is both theory on PSS business model and a case study to apply in practice what has been explained	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		

Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		It combines theory and practice and provide a good introduction to PSS business model	
Main weaknesses of the training		Some more details on case study should be provided in the introduction	If possible, add some more detail of the case study in the introduction
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		If possible, add some more detail of the case study in the introduction

WP and task:	WP 6 – T6.4
Training title:	Introduction to the concept of PSS and to the dedicated PS3M modelling method
Main author/editor:	EMSE France
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	3 h
Thematic(s):	Introduction to the concept of PSS and to the dedicated PS3M modelling method
Target group(s):	PhD Students, (NEMO Summer School)
Summary and learning objectives:	Understand the concept of Product System Service, and how the usual product design method and practices have to change. Discover and experiment a PSS dedicated modelling tool (PS3M) and design method

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		

Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**		**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad		

	☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		There is both theory on PSS design with a case study based on the methodology proposed and the adoxx platform	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Circular Economy and Product-Service System
Main author/editor:	EMSE France
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	7 h
Thematic(s):	Circular Economy and Product-Service System
Target group(s):	Master Students
Summary and learning objectives:	To make students familiar with sustainable solution providing

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**		**Recommendations**

Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	It is addressed to students who are not familiar with PSS and circular economy concepts	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Introduction to circular economy and PSS	

Main weaknesses of the training		Few materials for 7 hours of training and the project assignment is missing	Add the project assignment
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		Add the project assignment

WP and task:	WP 6 – T6.4
Training title:	Deployment of Service-oriented Strategy
Main author/editor:	EMSE France
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Applicative
Training planned duration:	2 days (4 half-day courses during 2 month)
Thematic(s):	Interactive training with small and medium size industrial companies, to initiate a service-oriented strategy.
Target group(s):	Vocational training: one company. SMI companies with, a first contact with service activities, and an ambition to further develop service-oriented strategies
Summary and learning objectives:	The objective is to bring various complementary competencies of the company, to work collaboratively on both strategic diagnosis and perspective development, so as to identify key strategical factors and incentive/resistance for service development, and key opportunities for initiating the transition.

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**		**Recommendations**
Is the chosen format of the	X Yes	Focused on a single company (PMI) to	

training the most appropriate notably regarding the target group(s)?	☐ No	help to understand how to change business model towards servitization	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Workshop addressed to a single company with the objective to understand how	

		to move towards a PSS business model, also showing the path.	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Design Thinking for Product-Service System Design
Main author/editor:	EMSE France
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	14 hours (30% lecture, 70% project)
Thematic(s):	Design Thinking for Product-Service System Design
Target group(s):	Master Students Professionals
Summary and learning objectives:	Defining a sustainable Product-Service System (PSS) using Design Thinking method and tool (OMILAB) • Design Thinking (Basics) • Industrial PSS Case • Design Thinking for PSS (OMILAB)

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**		**Recommendations**
Is the chosen format of the	X Yes ☐ No	Provide the basics to design thinking and	

training the most appropriate notably regarding the target group(s)?		apply it to a case study	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Application of Scene2Model to ideate PSS using design thinking.	

		Good combination between theory and practice	
Main weaknesses of the training		There is not the schedule of the training in the slide, it could be helpful to understand the balance between theory and practice	Add the schedule of the training
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		Material is fine, please, add the schedule of the training

External Evaluation

WP and task:	WP 6 – T6.4
Training title:	Customers needs' services deployment
Main author/editor (Institution, Person):	EMSE France
Evaluator (Institution, Person):	Prof. Paolo Gaiardelli – University of Bergamo

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Applicative
Training planned duration:	3 hours
Thematic(s):	Strategy-oriented topics: Customers needs' services deployment
Target group(s):	Professionals of the same company
Summary and learning objectives:	The training allows the company's employees to create product-related service ideas and test them before implementing a deployment plan.

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	The course is structured as a workshop in which through interaction in groups and with the help of the teacher participants learn how to identify their clients' needs in	

		order to support them in identifying new ideas.	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	☐ X Good ☐ Bad X Needed changes		There are some French Typo in the text
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		the interactive workshop based on Design Thinking and Business Model Canvas approaches is always useful to	

		foster learning and discussion	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	☐ Yes X No		There are some French Typo in the text

WP and task:	WP 6 – T6.4
Training title:	Product-Service System design
Main author/editor (Institution, Person):	EMSE France
Evaluator (Institution, Person):	Prof. Paolo Gaiardelli – University of Bergamo

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	12 hours
Thematic(s):	Strategy-oriented topics: Product-Service System Design
Target group(s):	Vocational training: professional of system design Master students (Industrial engineering and management)
Summary and learning objectives:	Understand and apply a method for the design of product service Systems Acquire operational skills on the use of a PSS modelling toolkit (PS3M), dedicated to design support

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	Theory, practice, and examples are well balanced.	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in	X Yes ☐ No		

advance e.g. via web page			
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially	Examples are well described and useful to understand the concepts and for sure they will remain.	
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		The good balance between theory and practice	
Main weaknesses of the training		A lot of new concept, it could be difficult for newer to capture all the issues	
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

Training title:	Transformation of Industrial Business Model through digitalization and servitization
Main author/editor (Institution, Person):	EMSE France
Evaluator (Institution, Person):	Prof. Paolo Gaiardelli – University of Bergamo

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	1,5h (lecture) + 6h (case study)
Thematic(s):	Product-service systems & servitization: consequences on companies' business model and financial performance
Target group(s):	Students or professionals
Summary and learning objectives:	Understand the consequences of PSS & servitization on companies' business model and financial performance

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No	The case study is not accessible to the students from the link.	
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well	X Yes ☐ No		

realized to remain relevant in the long run?	☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Theory and case study are used to explain the servitization concept at both theoretical and practical levels.	
Main weaknesses of the training		The case study is not accessible, so it is not easy to understand the main contents and possible lesson learned	
Is the training ready to be shared and used? If no, please specify the necessary changes	☐ Yes X No		Few additional inputs on the case are requested

WP and task:	WP 6 – T6.4
Training title:	Introduction to the concept of PSS and to the dedicated PS3M modelling method
Main author/editor (Institution, Person):	EMSE France
Evaluator (Institution, Person):	Prof. Paolo Gaiardelli – University of Bergamo

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	3 h

Thematic(s):	Introduction to the concept of PSS and to the dedicated PS3M modelling method
Target group(s):	PhD Students, (NEMO Summer School)
Summary and learning objectives:	Understand the concept of Product System Service, and how the usual product design method and practices have to change. Discover and experiment a PSS dedicated modelling tool (PS3M) and design method

1/ Content of the training			
Question	**Answer**		**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	Exercise are really interesting	
Is the planned duration of the training the most appropriate?	X Yes ☐ No	Maybe additional time can be useful	
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the	X Yes ☐ No ☐ Partially		

approach, covered topic(s…)			
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Exercises are useful to support the acquisition of the competences.	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Circular Economy and Product-Service System
Main author/editor (Institution, Person):	EMSE France
Evaluator (Institution, Person):	Prof. Paolo Gaiardelli – University of Bergamo
Date of evaluation:	

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	7 h
Thematic(s):	Circular Economy and Product-Service System
Target group(s):	Master Students
Summary and learning objectives:	To make students familiar with sustainable solution providing

1/ Content of the training			
Question	**Answer**		**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	Good balance between theory and examples.	

Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		There are examples that help understand the concepts	
Main weaknesses of the training		Please provide more insights on what students must do with the cases	

Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		Add more instructions on what to do with the cases

WP and task:	WP 6 – T6.4
Training title:	Deployment of Service-oriented Strategy
Main author/editor (Institution, Person):	EMSE France
Evaluator (Institution, Person):	Prof. Paolo Gaiardelli – University of Bergamo

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Applicative
Training planned duration:	2 days (4 half-day courses during 2 month)
Thematic(s):	Interactive training with small and medium size industrial companies, to initiate a service-oriented strategy.
Target group(s):	Vocational training: one company. SMI companies with, a first contact with service activities, and an ambition to further develop service-oriented strategies
Summary and learning objectives:	The objective is to bring various complementary competencies of the company, to work collaboratively on both strategic diagnosis and perspective development, so as to identify key strategical factors and incentive/resistance for service development, and key opportunities for initiating the transition.

1/ Content of the training			
Question	**Answer**		**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in	☐ Yes X No		

advance e.g. via web page			
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		The workshop approach is the best one to train a single company.	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Design Thinking for Product-Service System Design
Main author/editor (Institution, Person):	EMSE France

Evaluator (Institution, Person):	Prof. Paolo Gaiardelli – University of Bergamo

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	14 hours (30% lecture, 70% project)
Thematic(s):	Design Thinking for Product-Service System Design
Target group(s):	Master Students Professionals
Summary and learning objectives:	Defining a sustainable Product-Service System (PSS) using Design Thinking method and tool (OMILAB) • Design Thinking (Basics) • Industrial PSS Case • Design Thinking for PSS (OMILAB)

1/ Content of the training			
Question	**Answer**		**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	Applying Design thinking by use of the Omilab tools. Good balance between theory and practice	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well	X Yes ☐ No		

realized to remain relevant in the long run?	☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		The project application is useful to support the learning	
Main weaknesses of the training		The explanation of the Scene2Model is too short	
Is the training ready to be shared and used? If no, please specify the necessary changes	☐ Yes X No		Additional details on the use of Scene2Model can be added to let the student use to tool autonomously

2.2 OMILAB NPO trainings

Internal Evaluation

WP and task:	WP 6 – T6.4
Training title:	Scientific/Research Foundations of Conceptual Modelling
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Theoretical
Training planned duration:	1 hours
Thematic(s):	Foundations of Conceptual Modelling
Target group(s):	Researchers, Master/PhD students
Summary and learning objectives:	Introduction to the scientific foundation of conceptual modelling

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e.	X Yes ☐ No		

originality of the approach, covered topic(s)…)	☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Provide a theoretical overview of conceptual modelling	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	The OMILAB Ecosystem: Characteristics and Application Cases
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Theoretical
Training planned duration:	1 hours
Thematic(s):	OMILAB presentation
Target group(s):	Any interested party
Summary and learning objectives:	The training introduces OMILAB, its characteristics and application cases using a scenario-based approach. The training objective is to provide the foundation to other modules using OMILAB infrastructure and cases as an innovative training facility.

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		

Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad		

	☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Provide an introduction to OMILAB and its possible application	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Fundamental Conceptual Modelling Languages using Bee-Up
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	3 hours
Thematic(s):	Conceptual Modelling Languages using Bee-Up
Target group(s):	Engineering students and domain experts
Summary and learning objectives:	The training introduces fundamental conceptual modelling languages and the aspect of model value. The modelling languages are introduced and exemplified.

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**

Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	☐ Yes X No	3 hours is not enough to solve all the exercises if the modeling language and the software is not known	Increase duration
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No	There are some exercises to solve during the training	
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Provide an overview of the different modeling	

		languages supported by BEE-up Provide exercises	
Main weaknesses of the training		Maybe 3 hours are not enough to complete all the exercises	
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Design Thinking using Scene2Model
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	3 hours
Thematic(s):	Design Thinking using Scene2Model
Target group(s):	Multidisciplinary teams within research and academia, industrial domain experts from different fields
Summary and learning objectives:	The training introduces the selected design thinking method “SAP Scenes” as a storytelling approach for digital innovation and tool support using Scene2Model

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably	X Yes ☐ No		

regarding the target group(s)?			
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No	There is one exercise to solve during the training	
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Provide an overview of design thinking and an application using scene2model	
Main weaknesses of the training			

Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	The Value of Conceptual Models
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Theoretical
Training planned duration:	1 hours
Thematic(s):	The Value of Conceptual Models
Target group(s):	Any interested party
Summary and learning objectives:	Introduce the value of conceptual modelling and purpose in an academic/research as well industrial context

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered	☐ Yes X No		

to participants in advance e.g. via web page			
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Provide an overview of conceptual model trough examples	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Conceptual Modeling: Methods, Tools and Application
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	3 hours
Thematic(s):	Methods and tool for conceptual modeling
Target group(s):	Any interested party
Summary and learning objectives:	Introduction to the foundation of conceptual modelling and metamodeling as a realization paradigm

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	☐ Yes ☐ No X Partially	Some knowledge on modeling are needed to understand these concepts	
Is (Are) the subject matter(s) appropriate regarding Industry	X Yes ☐ No ☐ Partially		

4.0 stakes and challenges?			
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Provide knowledge on tools and methods for conceptual model	Demonstration with adoxx required
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		Add a demonstration with the platform

WP and task:	WP 6 – T6.4
Training title:	Model-Driven Experimentation: from Design to Modelling to Evaluation
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	1 hours
Thematic(s):	Methods and tool for conceptual modeling
Target group(s):	Any interested party
Summary and learning objectives:	Introduction to the foundation of conceptual modelling and metamodeling as a realization paradigm

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e.	X Yes ☐ No		

originality of the approach, covered topic(s)…)	☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Introduction to conceptual modeling with an example in the adoxx platform	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Scientific and Educational Exploitation
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	UNIBG

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	1 hours
Thematic(s):	Methods and tool for conceptual modeling
Target group(s):	Researchers, Master/PhD students
Summary and learning objectives:	Introduction to the scientific and educational exploitation possibilities offered by the OMiLAB.

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and	X Yes ☐ No ☐ Partially		

correctly dealing with the application form expectations?			
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**

Main positive points developed and offered by the training		Explanation of possible exploitation of OMILAB	
Main weaknesses of the training		Not a real training, but explain how OMILAB can be applied in research	
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

External evaluation

WP and task:	WP 6 – T6.4
Training title:	Scientific/Research Foundations of Conceptual Modelling
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	Elena Legnani – Wittur

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Theoretical
Training planned duration:	1 hours
Thematic(s):	Foundations of Conceptual Modelling
Target group(s):	Researchers, Master/PhD students
Summary and learning objectives:	Introduction to the scientific foundation of conceptual modelling

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in	☐ Yes X No		

advance e.g. via web page			
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
1/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Good introduction to conceptual modelling in different fields	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	The OMILAB Ecosystem: Characteristics and Application Cases
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	Elena Legnani – Wittur

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Theoretical
Training planned duration:	1 hours
Thematic(s):	OMILAB presentation
Target group(s):	Any interested party
Summary and learning objectives:	The training introduces OMILAB, its characteristics and application cases using a scenario-based approach. The training objective is to provide the foundation to other modules using OMILAB infrastructure and cases as an innovative training facility.

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified	X Yes ☐ No		

as innovative? (i.e. originality of the approach, covered topic(s)…)	☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Good overview of OMILAB and its possible application	
Main weaknesses of the training			I would show a video with an application
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		Add a video with an application

WP and task:	WP 6 – T6.4
Training title:	Fundamental Conceptual Modelling Languages using Bee-Up
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	Elena Legnani – Wittur

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	3 hours
Thematic(s):	Conceptual Modelling Languages using Bee-Up
Target group(s):	Engineering students and domain experts
Summary and learning objectives:	The training introduces fundamental conceptual modelling languages and the aspect of model value. The modelling languages are introduced and exemplified.

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		

Is the planned duration of the training the most appropriate?	☐ Yes X No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		

2/ Conclusions

Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Good overview of different modeling and on the possibility of bee up	
Main weaknesses of the training		Exercise can be done in group instead of individual to foster discussion.	Provide group exercises.

Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Design Thinking using Scene2Model
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	Elena Legnani – Wittur

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	3 hours
Thematic(s):	Design Thinking using Scene2Model
Target group(s):	Multidisciplinary teams within research and academia, industrial domain experts from different fields
Summary and learning objectives:	The training introduces the selected design thinking method “SAP Scenes” as a storytelling approach for digital innovation and tool support using Scene2Model

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s)	X Yes ☐ No		

appropriate regarding Industry 4.0 stakes and challenges?	☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Good overview of design thinking and scene2model	
Main weaknesses of the training			Instead of showing an example, a group assignment can be organized
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		Take into consideration the previous comment when providing the course

WP and task:	WP 6 – T6.4
Training title:	The Value of Conceptual Models
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	Elena Legnani – Wittur

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Theoretical
Training planned duration:	1 hours
Thematic(s):	The Value of Conceptual Models
Target group(s):	Any interested party

Summary and learning objectives:	Introduce the value of conceptual modelling and purpose in an academic/research as well industrial context

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**

Main positive points developed and offered by the training		Good introduction to conceptual modeling, even if the concept is not easy	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Conceptual Modeling: Methods, Tools and Application
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	Elena Legnani – Wittur

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	3 hours
Thematic(s):	Methods and tool for conceptual modeling
Target group(s):	Any interested party
Summary and learning objectives:	Introduction to the foundation of conceptual modelling and metamodeling as a realization paradigm

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		

Is (Are) the aimed target group(s) of the training well concerned by the produced content?	☐ Yes X No ☐ Partially		It should be addressed to specialist since the topic is not easy and some pre-knowledge is needed
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		

3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Good explanation of conceptual modelling	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Model-Driven Experimentation: from Design to Modelling to Evaluation
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	Elena Legnani – Wittur

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	1 hours
Thematic(s):	Methods and tool for conceptual modeling
Target group(s):	Any interested party
Summary and learning objectives:	Introduction to the foundation of conceptual modelling and metamodeling as a realization paradigm

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	☐ Yes ☐ No X Partially		This kind of course should be addressed to modeling specialist/model developer
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		

Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Good explanation on how to design a new modeling language using adoxx	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Scientific and Educational Exploitation
Main author/editor:	OMILAB NPO (Germany)
Evaluator:	Elena Legnani – Wittur

Training format: (Online/On-site)	On site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	1 hours
Thematic(s):	Methods and tool for conceptual modeling
Target group(s):	Researchers, Master/PhD students
Summary and learning objectives:	Introduction to the scientific and educational exploitation possibilities offered by the OMiLAB.

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		

Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	☐ Yes X No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Good analysis of OMILAB exploitation in research	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

2.3 BOC PL trainings

Internal Evaluation

WP and task:	WP6 – T6.4
Training title:	Process-oriented topic: Fundamentals of Business Process Management (BPM)
Main author/editor:	BOC-PL, Poland
Evaluator:	UNIBG

Training format: (Online/On-site)	On-site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	4 hours to 8 hours on the same day or on 2 separately days
Thematic(s):	Business Process Management
Target group(s):	Professionals of the same or different companies
Summary and learning objectives:	Understanding the key aspects of BPM in the enterprise. Hands-on learning process design, acquiring knowledge and skills in the principles of analysis, modelling, and documentation processes. Developing creativity and contextual thinking.

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No	The proposed duration is fine for learning the elements of BPMN, maybe more	Add session to apply BPMN in a case study

		exercise/case study session should be added to improve the acquisition of the BPMN	
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No	There are exercises in the training slides	
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	☐ Yes X No ☐ Partially	It provides knowledge on BPMN, a standard language for business process modeling	
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Exhaustive explanation of BPMN element and applications	
Main weaknesses of the training		Few exercises/case studies	Provide students more exercise to practice with BPMN and understand how to map as is and to be processes

Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		If the time is enough, provide some more exercises

External Evaluation

WP and task:	WP6 – T6.4
Training title:	Process-oriented topic: Fundamentals of Business Process Management (BPM)
Main author/editor:	Bialystok University of Technology, Poland
Evaluator:	Elena Legnani – Wittur

Training format: (Online/On-site)	On-site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	4 hours to 8 hours on the same day or on 2 separately days
Thematic(s):	Business Process Management
Target group(s):	Professionals of the same or different companies
Summary and learning objectives:	Understanding the key aspects of BPM in the enterprise. Hands-on learning process design, acquiring knowledge and skills in the principles of analysis, modelling, and documentation processes. Developing creativity and contextual thinking.

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No	There are some exercises in the slides	Provide more exercise

Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially	Maybe some concepts are too advanced for people who does not have knowledge on BPMN	Adjust contents based on student's knowledge on BPMN
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	☐ Yes ☐ No X Partially	BPMN is the basis to process improvement and automatization	
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Exhaustive explanation of BPMN element and applications	
Main weaknesses of the training		Few exercises/case studies	Provide student more exercise to practice with BPMN and understand how to map as is and to be processes
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

2.4 UNIBG trainings

Internal Evaluation

WP and task:	WP 6 – T6.4
Training title:	Business process analysis and re-engineering
Main author/editor:	UNIBG
Evaluator:	AFIL-Andrea Mazzoleni

Training format: (Online/On-site)	Online (due to Covid 19) / Online
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	1 day
Thematic(s):	Vocational training on Business process analysis and re-engineering. The training aims at delivering process-oriented competences to the participants to be able to describe and analyze a business process. Re-engineering competences will be also provided
Target group(s):	Professional from different companies
Summary and learning objectives:	The participants will be able to model a business process, identify business weaknesses and define possible improvement actions.

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	The format is a good balance among theoretical and practical contents.	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in	X Yes ☐ No		

advance e.g. via web page			
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially	Practical content is well realized and useful for the attendees which will be able to acquire competencies with software dedicated to discrete simulations events.	
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	☐ Yes ☐ No X Partially	Topics and thematic are in line with context of Industry 4.0 and the approach in useful to achieve the learning objectives.	
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Good Mix among theory and practice.	If it is possible, I would dedicate more time to exercises and practical examples.
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

External Evaluation

WP and task:	WP 6 – T6.4
Training title:	Business process analysis and re-engineering
Main author/editor:	UNIBG
Evaluator:	Consorzio Intellimech – Valerio Pesenti

Training format: (Online/On-site)	Online (due to Covid 19) / Online
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	1 day
Thematic(s):	Vocational training on Business process analysis and re-engineering. The training aims at delivering process-oriented competences to the participants to be able to describe and analyze a business process. Re-engineering competences will be also provided
Target group(s):	Professional from different companies
Summary and learning objectives:	The participants will be able to model a business process, identify business weaknesses and define possible improvement actions.

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	Due to fact that vocational training is dedicated to practitioners, the chosen format is appropriate for the good balance among theory and practice.	
Is the planned duration of the training the most appropriate?	X Yes ☐ No	8h is the right duration.	
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No	I think yes, but confidentiality issues should be taken into account.	
Is (Are) the aimed target group(s) of the training well	X Yes ☐ No ☐ Partially		

concerned by the produced content?			
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially	Yes, the course can help attendees in acquiring competencies concerning simulation that can remain relevant in the long run.	
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	☐ Yes ☐ No X Partially	I think that the training is in line with I4.0 and that the learning content is structured to provide specific and detailed knowledge to attendees, useful for their life-long learning.	
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Practical contents are well structured, with exercises and simulations carried out by a dedicated software.	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

2.5 CIRIDD trainings

Internal Evaluation

WP and task:	WP 6 – T6.4
Training title:	Integration of the uses and the design in the company business model
Main author/editor:	CIRIDD
Evaluator:	AFIL-Andrea Mazzoleni

Training format: (Online/On-site)	On-site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	4 hours
Thematic(s):	Integration of the uses and design in the company business model
Target group(s):	all kind of companies, regardless of the size or the sector
Summary and learning objectives:	The objective is to bring companies to integrate the uses of the customer and the design in the company business model

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	☐ Yes ☐ No X Partially	If I correctly understood, the training is more related to aspect concerning design that are complementary to the technological / methodological aspects related to FoF and Industry 4.0.	
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	☐ Yes ☐ No X Partially	The topics are complementary to the technological / methodological aspects related to FoF and Industry 4.0.	
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate	X Yes ☐ No	I think that the format is appropriate since it balances a presentation by	

notably regarding the target group(s)?		professionals and an iterative process to involve users.	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No	The material is quite visual.	
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	☐ Yes ☐ No X Partially	Se above comments.	
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially	I think that the training provide can be helpful to share to the participants some principles and / or a methodology related on how to design a product.	
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	☐ Yes ☐ No X Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		The mixed approach i.e. presentation of professionals and interaction.	If it is possible, I would add more text to the presentation to help

			attendees in fix the knowledge.
Main weaknesses of the training		If it is possible, I would add more text to the presentation to help attendees in fix the knowledge.	
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No	Yes, but if possible, I would add more text to the presentation.	

External Evaluation

WP and task:	WP 6 – T6.4
Training title:	Integration of the uses and the design in the company business model
Main author/editor:	CIRIDD
Evaluator:	Consorzio Intellimech – Valerio Pesenti

Training format: (Online/On-site)	On-site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	4 hours
Thematic(s):	Integration of the uses and design in the company business model
Target group(s):	all kind of companies, regardless of the size or the sector
Summary and learning objectives:	The objective is to bring companies to integrate the uses of the customer and the design in the company business model

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	☐ Yes ☐ No X Partially		I would suggest being complementary to the topics of Industry 4.0 by transferring knowledge that are related to stimulate the phase of design of a product considering I4.0 paradigm.

Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	☐ Yes ☐ No X Partially	As previous comment, I think it is complementary.	
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	☐ Yes ☐ No X Partially	In a complementary way.	
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially	Yes, because I think it is structured in order to transfer some principles that could be used in several situations by the attendees.	
Could the training nature be qualified as innovative? (i.e. originality of the	☐ Yes ☐ No X Partially		

approach, covered topic(s)…)			
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		Add more text to the slide in order to make them self-explained.	If possible, add some industrial cases.
Main weaknesses of the training		See comment above (Add more text to the slide in order to make them self-explained)	
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		Yes, but add more text to the presentation and if possible, some industrial cases.

2.6 ULBS trainings

Internal Evaluation

WP and task:	WP 6 – T6.4
Training title:	Workplace safety – Employees emotion recognition
Main author/editor:	ULBS, Romania
Evaluator:	UNIBG

Training format: (Online/On-site)	On-site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	12 hours
Thematic(s):	Understand how emotions affect risk perception and behaviour Understand, design, and implement a method to recognize human emotions from live video sequences
Target group(s):	Master students (Computer Science) Software engineers
Summary and learning objectives:	This training is structured in 4 different laboratories, each having two hours per week. The training period if four weeks. In following describes the organisation of each separate module. **1.** Introduction to Python & OpenCV

	2. Face detection **3.** Supervised learning **4.** Recognizing facial emotions

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	It contains a snapshot and step by step explanation of exercises	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No	There are exercises to share with students	
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain	X Yes ☐ No	It provides basics knowledge on phyton and face	

relevant in the long run?	☐ Partially	recognition algorithms	
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		It is combines theory and exercise on the topics	
Main weaknesses of the training		Can be added some slide to explain the theoretical background instead of text	
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		Include some slides explaining the theoretical background to help students follow the training

WP and task:	WP 6 – T6.4
Training title:	Sibiu – Smart City Modelling
Main author/editor:	ULBS, Romania
Evaluator:	UNIBG

Training format: (Online/On-site)	On-site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	8 hours
Thematic(s):	Smart City Modelling using ADOxx
Target group(s):	Vocational training: professional of system design Master students
Summary and learning objectives:	Understand and apply a method for the design of smart city modelling Acquire operational skills on the use of ADOxx toolkits for Smart City modelling

1/ Project objectives and requirements

Question	Answer	Comments	Recommendations
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		
Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	It contains step by step explanation of how to design a smart city using adoxx platform	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No	There are exercises to share with students	
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially	It is based on the Adoxx platform	
Could the training nature be qualified as innovative? (i.e. originality of the	X Yes ☐ No ☐ Partially		

approach, covered topic(s)…)			
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		It is very applicative	.
Main weaknesses of the training		I would integrate some background on the adoxx (if students do not have previous knowledge)	
Is the training ready to be shared and used? If no, please specify the necessary changes	☐ Yes X No		I would integrate some background on the adoxx (if students do not have previous knowledge)

WP and task:	WP 6 – T6.4
Training title:	Petri Nets based automation of manufacturing systems
Main author/editor:	ULBS, Romania
Evaluator:	UNIBG

Training format: (Online/On-site)	On-site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	16 hours
Thematic(s):	Petri Nets based automation of manufacturing systems
Target group(s):	Master students
Summary and learning objectives:	Understand and apply a method for designing robust and deadlock free control solution for manufacturing systems Acquire operational skills on the use of Petri Nets tools for automation

1/ Project objectives and requirements			
Question	**Answer**	**Comments**	**Recommendations**
Is the training compliant with the project requirements?	X Yes ☐ No ☐ Partially		

Is the training compliant with the WP objectives and correctly dealing with the application form expectations?	X Yes ☐ No ☐ Partially		
2/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No	There are exercises to share with students	
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially	Yes, it provides knowledge on petri net and how to design robust and deadlock free control solution for manufacturing system	
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		

Quality of the writing	X Good ☐ Bad ☐ Needed changes		
3/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		It is very applicative, there are a lot of exercises	.
Main weaknesses of the training		Theory part is limited in the document	Add some slides for the theory that is applied on the exercises
Is the training ready to be shared and used? If no, please specify the necessary changes	☐ Yes X No		Add some slides for the theory that is applied on the exercises

External Evaluation

WP and task:	WP 6 – T6.4
Training title:	Workplace safety – Employees emotion recognition
Main author/editor:	ULBS, Romania
Evaluator:	Michele Ermidoro - AISent

Training format: (Online/On-site)	On-site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	12 hours
Thematic(s):	Understand how emotions affect risk perception and behaviour Understand, design, and implement a method to recognize human emotions from live video sequences
Target group(s):	Master students (Computer Science) Software engineers
Summary and learning objectives:	This training is structured in 4 different laboratories, each having two hours per week. The training period if four weeks. In following describes the organisation of each separate module. **1.** Introduction to Python & OpenCV **2.** Face detection **3.** Supervised learning **4.** Recognizing facial emotions

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	It provides code and images to explain exercises	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially	Students need some knowledge on programming	
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially	It is a relevant topic in the factory of the future	
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**

Main positive points developed and offered by the training		It explains topics using exercises	
Main weaknesses of the training			
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Sibiu – Smart City Modelling
Main author/editor:	ULBS, Romania
Evaluator:	Michele Ermidoro - AISent

Training format: (Online/On-site)	On-site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	8 hours
Thematic(s):	Smart City Modelling using ADOxx
Target group(s):	Vocational training: professional of system design Master students
Summary and learning objectives:	Understand and apply a method for the design of smart city modelling Acquire operational skills on the use of ADOxx toolkits for Smart City modelling

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No	Training is done using the software, and the document can guide students	
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in	X Yes ☐ No		

advance e.g. via web page			
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially	Smart cities are becoming more and more relevant	
Could the training nature be qualified as innovative? (i.e. originality of the approach, covered topic(s)…)	X Yes ☐ No ☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		It is based on a case study to be developed by students	.
Main weaknesses of the training			Add some contextual information
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		

WP and task:	WP 6 – T6.4
Training title:	Petri Nets based automation of manufacturing systems
Main author/editor:	ULBS, Romania
Evaluator:	Michele Ermidoro - AISent

Training format: (Online/On-site)	On-site
Training nature: (Theoretical/Applicative/Both)	Both
Training planned duration:	16 hours
Thematic(s):	Petri Nets based automation of manufacturing systems
Target group(s):	Master students
Summary and learning objectives:	Understand and apply a method for designing robust and deadlock free control solution for manufacturing systems Acquire operational skills on the use of Petri Nets tools for automation

1/ Content of the training			
Question	**Answer**	**Comments**	**Recommendations**
Is the chosen format of the training the most appropriate notably regarding the target group(s)?	X Yes ☐ No		
Is the planned duration of the training the most appropriate?	X Yes ☐ No		
Does the training content contain materials (models etc.) to be offered to participants in advance e.g. via web page	X Yes ☐ No		
Is (Are) the aimed target group(s) of the training well concerned by the produced content?	X Yes ☐ No ☐ Partially		
Is (Are) the subject matter(s) appropriate regarding Industry 4.0 stakes and challenges?	X Yes ☐ No ☐ Partially		
Is the training sufficiently well realized to remain relevant in the long run?	X Yes ☐ No ☐ Partially		
Could the training nature be qualified	X Yes ☐ No		

as innovative? (i.e. originality of the approach, covered topic(s)…)	☐ Partially		
Quality of the writing	X Good ☐ Bad ☐ Needed changes		
2/ Conclusions			
Question	**Answer**	**Comments**	**Recommendations**
Main positive points developed and offered by the training		It explains topics using exercises	
Main weaknesses of the training		There are only exercises	I would suggest adding some theory
Is the training ready to be shared and used? If no, please specify the necessary changes	X Yes ☐ No		I would suggest to add some slides for theory (exercises are fine)

3 Conclusion

In this deliverable 21 training materials have been assessed by a project partner (as internal evaluator) and by an external evaluator.

In general feedback on the training is positive with some minor recommendations provided to improve the trainings, mainly related to adding some details, some information, or some more exercises to help students to practice on the topic. Few trainings need an integration in terms of theory to help student to better follow the training.

In general, the materials provide is appropriate in terms of format, content, target group. The topics addressed are considered innovative, mainly dealing with industry 4.0 stales and challenges, and well realized to remain in the long run.

This deliverable will be updated at the end of the project with the assessment of the training materials that will be prepared and uploaded in the next moths.