IO1

Identification
of
Technology Domains:
Definitions and mapping
method

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| Intellectual Output | IO1 |

1. INDEX

1. Introduction

This document presents a list of criteria to be used to identify which training organizations and courses we should look for while implementing IO1.

Considering the feedback collected during the last weeks, the document has been reviewed and simplified.

The tables which were included in the first version have been removed. A more simplified scheme has been designed and an example included to allow partners to understand the selection process.

The document therefore includes:

a) A summary of the most **relevant definitions** that have been adopted by the Partnership:
   a. Digital transformation processes
   b. The target groups
   c. VET

b) The **list of technologies** we have decided to consider when looking for training organizations

c) The **training approaches** we should consider for the selection process of the training organizations and their training programs

d) The **working process and deadlines** until the end of 2019

e) A "**How To Map – Phase 1**" chapter, which describes how to use the "Training List" file

f) **2 excel files**:
   a. PHASE 1 EXAMPLE.xls, which shows
      i. how the Lead Partner has used it to identify the initial list of organizations (Sheet "Organizations")
      ii. how the Lead Partner has identified – with 1 organization (H Farm) – which technology domains are covered, and which kind of training is currently delivered
   b. PHASE 1 PARTNER
   c. .xls, which is the empty file to be used to do the first mapping

2. Most Relevant Definitions

Digital Transformation processes

Digital Transformation is <u>the profound and accelerating transformation</u> of business activities, processes, competencies and models <u>to fully leverage on the changes and opportunities of digital technologies</u> and their impact across society in a strategic and prioritized way, with present and future shifts in mind.

Digital transformation in the integrated and connected sense requires, among others, the transformation of: Business activities/functions, Business processes, Business models, Business ecosystems, Business asset management, Organisational culture, Ecosystem and partnership models, Customer, worker and partner approaches.

The Target Group: Digital & non-digital Professionals

The EU defines **digital professionals** as ICT professionals in all sectors of the economy: essentially, any person associated with the computer world in any form can be said to be an IT professional in layman terms. Specifically, it is usually associated with or more of the following – not exhaustive – list: Technical Support, Networking, Internet and website designing, Programming, Database creation, Software development.

For the purpose of our project, we can consider "non digital" professionals any other professional not working as an ICT professional in European SMEs. To avoid unnecessary initial filters, **the partnership has decided to consider both digital and non-digital professionals as an initial target group. An option may be to exclude IT professionals working in and / or for IT companies.**

Under this perspective, any professional involved in one or more of the following departments may benefit from the Training Atlas[1]:

- Human Resource **(HR)**,
- Finance & Accounting (**FI**),
- Purchasing (**PU**),
- **IT**,

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[1] This is an extended list if compared to page 64 of the Application Form

- Business Development (**BD**),
- Product Management (**PM),**
- Process & Production (**P&P**),
- **R&D**,
- Sales & Marketing (**SM**),
- Logistics (**LO**),
- Customer Care (**CC**).

Vocational Education and Training

For the purpose of our project we will refer to VET as

- a way to retrain workforce
- a training offer to more highly skilled work and jobs for those already in employment
- a route back into employment (e.g., for unemployed adults or women returning to the labour market after raising children).

The Programme Authority adds that *«vocational education teaches skills directly related to work; Modern vocational education allows people to learn highly transferable creative and personal development skills, as well as practical skills and activities specific to a chosen job role***".**

3. Technologies

Digital Technology domains: the DIH Catalogue technology areas

Partners agreed to refer to the current Technology Expertise Areas which are used in the European Digital Innovation Hub Catalogue. These thematic domains will be used to identify the core topics around which training programs are designed.

This approach provides our project with several benefits:

1) it creates a common language with the technology areas the EC is focusing on for the next programming period in terms of financing and projects (including training)
2) it will help to connect the 2 maps as soon as the DITA Atlas will be available
3) it provides a common playground with all those EU actors who are working on digital transformation

The list of "technical competences" of the DIH as it is listed no is this one:

- Sensors, actuators, MEMS, NEMS, RF
- Photonics, electronic and optical functional materials
- Screens and display technologies
- Broadband and other communication networks (e.g. 5G)
- Cyber physical systems (e.g.: embedded systems)
- Robotics and autonomous systems
- IoT (e.g.: connected devices, sensors and actuators networks)
- Artificial intelligence and cognitive systems
- Location based technologies (e.g. GPS, GIS, in-house localization)
- Interaction technologies (e.g.: human machine interaction, motion recognition and language technologies)
- Cyber security (including biometrics)
- Advanced or High-performance computing
- Data mining, big data, database management
- Augmented and virtual reality, visualization
- Simulation and modelling
- Gamification
- Software as a Serviced and service architectures
- Cloud Computing
- Additive Manufacturing (3D printing)

- Laser based manufacturing

- ICT management, logistics and business systems

- Internet services (e.g. web development, web production, design, networking and e-commerce)

- New Media technologies

4. Training approaches

With these technology areas in mind, partners are asked to identify Training Organizations that

- focus on one or more of the above listed domains
- deliver training with a (multiple choices are allowed)
    - business perspective
    - technical perspective
    - complementary skills focus

Business perspective

We refer to training modules that merely focus on the "business impact" of digital transformation and namely

- New Business Models
- Economics and Finance of digital transformations
- Business Processes
- Business Strategies

Technical perspective

Here we are considering training modules which look at new technologies from a technical perspective, and therefore focus on

- What is new in the technology arena
- How these technologies work
- Update technical skills
- How they affect other technologies, processes, operations
- Insights into specific sub-domains

Complementary Skills

Last but not least, as the World Economic Forum has identified Top 10 Skills which will be relevant in 2020 to cope with I4.0 transformation processes, partner are also asked to consider if training organizations are focusing also on:

- Complex problem solving,
- Critical Thinking,
- Creativity,

- People Management,
- Coordinating with Others,
- Emotional Intelligence,
- Judgement and Decision Making,
- Service Orientation,
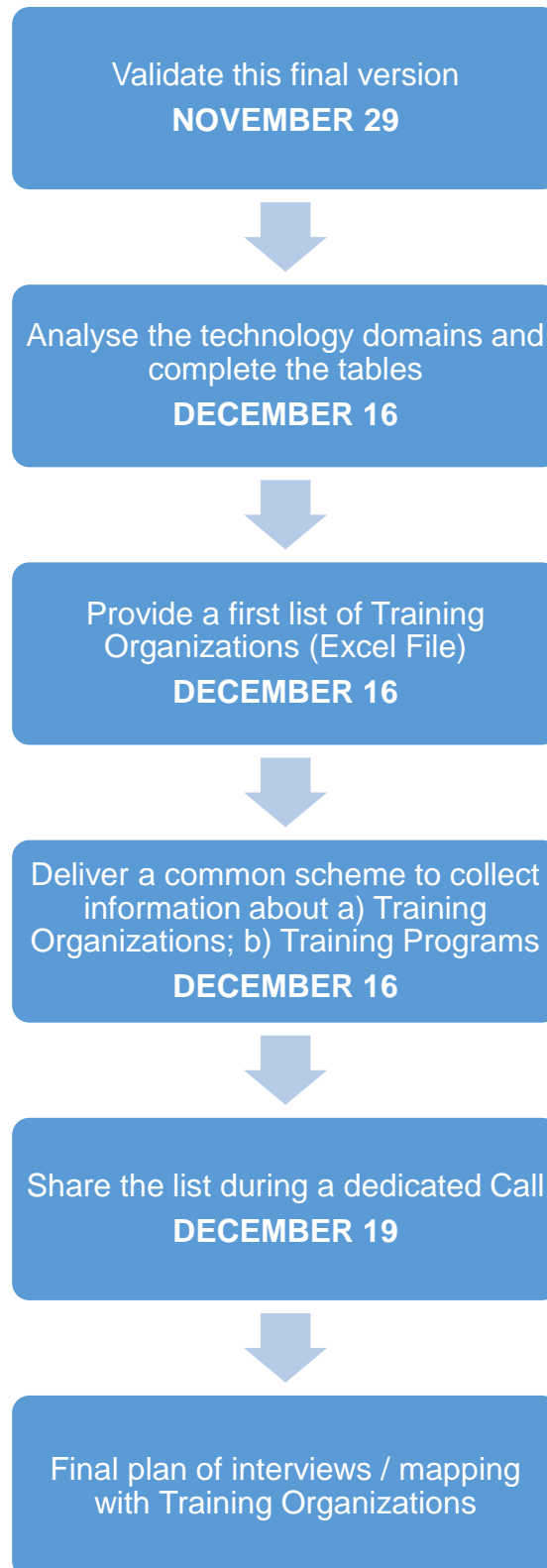- Negotiation,
- Cognitive Flexibility.

5. Additional Criteria

Partners have already suggested to:

- **not limit**, at this stage, our research to Training Organizations who work and deliver Training (also / only) in **English**
- consider Training Organizations who are not limiting their offer to highly qualified professionals but are offering training programs to **a much wider audience of workers / professionals**
- check that selected Training Organizations consider themselves (or are "classified as") **Life-Long Learning Training Providers** or **VET Providers**
- consider **private** as well as **public** training organizations
- focus already – if possible – on those Training Organizations that offer **short training modules** (days or weeks)
- consider also those Organizations with **e-learning offers**

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Erasmus+ Programme
of the European Union

DITA
The Digital Industry Training Atlas

6. The working process and deadlines until the end of 2019

Validate this final version
NOVEMBER 29

Analyse the technology domains and complete the tables
DECEMBER 16

Provide a first list of Training Organizations (Excel File)
DECEMBER 16

Deliver a common scheme to collect information about a) Training Organizations; b) Training Programs
DECEMBER 16

Share the list during a dedicated Call
DECEMBER 19

Final plan of interviews / mapping with Training Organizations

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of the European Union

DITA
The Digital Industry Training Atlas

7. How to Map – Phase 1

This guide comes with an Excel file with 2 Working Sheets. The Excel file has to be used to write down the list of training organizations that could – ideally - be included in the ATLAS.

Sheet 1: Organizations

Nr	Organization	Contacted	Address	Contact Name	Email	Phone	Website	Notes
1								
2								
3								
4								
5								
6								
7								
8								

Organizations | Tech Domains & Training

Please use this sheet to collect basic data about Training Organizations that may fit to our purposes.

All Cells are editable with the exception of Contacted which is a drop-down menu.

At this stage, no additional information is required. A more detailed scheme will be provided after our Project Conference in December.

This is a screenshot taken from the example xls file that has been annexed to this document (please note that Example Excel File is also a work in progress, which means that not all data have been collected yet):

	A	B	C	D	E	F	G	
	Nr	Organization	Contacted	Address	Contact Name	Email	Phone	Website
	1	H Farm	YES	Tenuta Ca' Tron via Sile, 41 – Roncade Treviso IT – 31056	Timothy O'Connel	timothy@h-farm.com	0039 0422 7896	www.h-farm.com
	2	CUOA	NO	Vicenza	Valeria Monarca	int@cuoa.it	0444 333744	https://www.cuoa.it/ita/
	3	SIAV	YES	Via Torino 151/C - 30172 Mestre Venezia	Stefano Miotto, Elisabetta De Checchi	area.progetti@siav.net		www.siav.net
	4	T2i	YES	Piazza delle Istituzioni 34/a 31100 - Treviso (TV)	Roberto Santolamazza	roberto.santolamazza@t2i.it	0039 0422 1742100	www.t2i.it
	5	Digital for Industry	NO	Padova		info@digitalforindustry.com		http://www.digitalforindustry.co
	6	Talent Garden	NO	Milan	Marco Dussin			https://talentgarden.org/it/innov transformation-per-il-made-in-it
	7	Niuko	YES	Padova	Angela Caprio	angela.caprio@niuko.it	tel. 0498227035	https://www.niuko.it/sites/defau
	8	Academy Galileo Visionary District (Digital)	YES	Corso Stati Uniti 14/bis - 35127 Padova	Giulia Pellizzon; Alessio Zini	g.pellizzon@galileovd.it	0039 049 8061111	https://www.galileovisionarydist
	9	Politecnico Calzaturiero	NO - Rif De Pietro	Capriccio di Vigonza (PD)	Mauro Tescaro			
	10	I.T.S. NUOVE TECNOLOGIE PER IL MADE IN ITALY COMPARTO MODA - CALZATURA	NO	Padova e Capriccio di Vigonza presso Politecnico Calzaturiero (vedi sopra)	Chiara Bau – chiara.bau@itscosmo.it e Laura Baldon –	laura.baldon@itscosmo.it		https://www.itscosmo.it/cors
	11	UniSmart	YES	Via VIII febbraio, 2 35122 Padova	Fabio Poles	fabio.poles@unismart.it	0039 049 5913540	
	12	Cà Foscari Challenge School	NO - Rif De Pietro	Venezia	Roberta Lesini			
	13	Agenzia Master Srl	NO	Mestre	Silvia Callegaro		tel 041 5347646	
	14	Fondazione Speed Hub - Confindustria VR	NO	Verona				

Sheet 2: Tech Domains and Training

This second sheet should be used to do a first categorization of the technology domains and the kind of training currently delivered by the identified Training Organizations.

This Sheet requires a bit more time but is also easy to use.

Column B lists the Technology Domains we have agreed to investigate.

Cells C2, C3, etc. should not be edited because they automatically retrieve the name of the organizations from Column B of the first Sheet "Organizations".

For each Technology domain you should select,

- If the organization is focusing on that Topic (blue circle):
    o YES
    o NO
- In case of YES, which kind of training is currently delivered by that organization (red Circle):
    o Business & Strategy
    o Technical
    o Complementary Skills

This is a screenshot taken from the example xls file that has been annexed to this document (again, also this sheet is work in progress: the Lead Partner has analysed what H Farm is offering to provide you with a real case example about how the cells should be used).

Nr	TECHNOLOGY AREAS	H Farm	CUOA
1	Sensors, actuators, MEMS, NEMS, RF	YES	
	Which kind of training (please select, also multiple choices: business / technical / soft skills)	Business & Strategy	
2	Photonics, electronic and optical functional materials	NO	
	Which kind of training (please select, also multiple choices: business / technical / soft skills)		
3	Screens and display technologies	NO	
	Which kind of training (please select, also multiple choices: business / technical / soft skills)		
4	Broadband and other communication networks (e.g. 5G)	YES	
	Which kind of training (please select, also multiple choices: business / technical / soft skills)	Business & Strategy Technical	