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## D3.3 FIRST REPORT ON TRANSVERSAL COMPETENCE AND SOFT SKILLS TRAINING

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Authors	Louis Ferrini (FVA), Susanna Albertini (FVA)
Reviewers	

Abstract	TETRA is an EU-funded project under the Horizon 2020 Research and Innovation programme which aims to offer well-tailored business support services to the third-party beneficiaries of the R&I Actions and the C&S Actions funded under the Next Generation Internet (NGI) - An Open Internet Initiative (H2020-ICT-24-2018-2019) topic. In this context, the provision of services will be based on the actual needs of the third-party beneficiaries so as to shorten
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	<p>the gaps and facilitate the transfer and commercialisation of the solutions/tools they have developed or are developing.</p> <p>This document describes the Transversal competence and soft skills training package embedding the learning needs the learning objectives and the methodology designed and deployed during the TETRA training activities.</p>
Keywords	Next Generation Internet, TETRA, Transversal Competence and Soft Skills, Gamified learning experiences

### Document Revision History

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*\* R: Document, report (excluding the periodic and final reports)*

*DEM: Demonstrator, pilot, prototype, plan designs*

*DEC: Websites, patents filing, press & media actions, videos, etc.*

*OTHER: Software, technical diagram, etc.*



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## EXECUTIVE SUMMARY

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This document reports on **Transversal Competence and Skills** designed and developed in TETRA.

**Transversal Competence and Skills** is a term widely used to describe the broad-based skills, knowledge and understandings that aim to meet efficiently many challenges. These competences, known also as 21st century skills, Soft Skills, Employability skills and Entrepreneurial skills or Transferable skills, make people function better in any job role. Skills focus on the ability of the learner to apply knowledge, practice, training or aptitude to complete a task, solve problems or answer questions while competence relates to the ability to do something efficiently, effectively or proficiently.

This competence building module addresses:

- Managerial and entrepreneurial skills
- Soft skills
- Usability, acceptability and integration elements to ensure that the innovation is adopted and used
- NGI culture: shaping a more human-centric and sustainable internet
  - RRI, social innovation, open innovation
  - Trust, security, respect of privacy
  - Participative design and bottom-up co-creation, personalized user experience, inclusiveness and diversity
  - Ensuring stakeholders engagement

This capacity building module integrates innovative methodologies (like experiential learning, participative learning and tools (like simulation games and role playing) to engage in a stimulating learning experience to practically explore and put in practice the contents that the capacity building programme is addressing.

The document is the first report on **transversal competence and skills** module as part of the TETRA build block services and describes how the design and implementation methodology responds to the NGI innovators learning needs, the innovative methodologies identified for the learning experiences, the innovative supporting tools designed and developed. The document also analyzes the first results of the capacity building experiential learning delivered during the first TETRA build-up bootcamp and the webinar on NGI culture and values, to extract lesson learnt to be used for the transversal competence and skills module improvement.



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## ABBREVIATIONS

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<b>D</b>	Deliverable
<b>T</b>	Task
<b>TC&amp;S</b>	Transversal Competence and Skills





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# 1 INTRODUCTION

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The Next Generation Internet (NGI) initiative aims at developing a more human-centric Internet supporting the values of openness, decentralisation, inclusiveness, and protection of privacy while also giving control back to the end-users, in particular of their data, in order to increase trust in the Internet. This requires more transparent services, more intelligence, greater involvement and participation, leading towards an Internet that is more open, robust, more interoperable and more supportive of social innovation. In doing so, it is important to engage Internet's best innovators in addressing tech opportunities as well as validate and test relevant minimum viable products and services in real market conditions.

To achieve this objective, a dedicated topic is included in the H2020-ICT-2018-2020 work programme (ICT-24-2018-2019 "Next Generation Internet - An Open Internet Initiative") aiming to fund several projects (both R&I and C&S Actions) that will identify 'third-parties' (*NGI beneficiaries*), such as academic groups, researchers, innovators, high-tech start-ups and SMEs and technology developers, having the most promising ideas through short research cycles (open calls). The third-party beneficiaries will pursue specific objectives, while the NGI projects will provide the programme vision, financial/technical/ business support. In addition, 2 C&S Actions are funded under the topic ICT-31-2018-2019 "EU-US collaboration on NGI" aiming to reinforce EU-US cooperation and strategic partnerships in the area of Next Generation Internet.

A well-functioning ecosystem and services available for innovators are crucial in defining the intensity of the economic activity, survival and growth rate of the third-party beneficiaries financed by R&I and C&S Actions. Therefore, NGI beneficiaries are in a need of advice, mentoring and tailored business support services in order to turn their research results into customised marketable products and prepare for success in the market. The Technology harvest & transfer for an Open Internet Initiative (TETRA) will design and deliver a wide spectrum of business support services in order to facilitate the commercialisation of the research results of the NGI beneficiaries.

TETRA is an EU-funded project under the Horizon 2020 Research and Innovation programme that aims to develop and implement a series of activities supporting the NGI beneficiaries to be identified and financially/technically supported by the NGI funded R&I and C&S Actions.

The **objectives** that are foreseen to be addressed **within the framework of TETRA** are to:

1. To identify and engage relevant R&I Actions' and their third parties funded under open internet initiative
2. To assist these projects in acquiring the competences needed to bring their innovation to the market exploitation of social innovations through a capacity building programme
3. To develop vital ecosystem enabling these projects in scaling their activities
4. To assess the impacts of the supporting activities provided and their contribution towards the accomplishment of NGI-Open Internet's objectives



## 2 THE TRANSVERSAL COMPETENCE AND SKILLS

Transversal Competence is a term widely used to describe the broad-based skills, knowledge and understandings that aim to meet efficiently many challenges. They are portable and cross over the specific job or work-related knowledge. These competences, known also as 21st century skills, Soft Skills, Employability skills and Entrepreneurial skills or Transferable skills, make people function better in any job role.

The difference between skills and competencies is:

- Skills focus on the ability of the learner to apply knowledge, practice, training or aptitude to complete a task, solve problems or answer questions.
- Competence relates to the ability to do something efficiently, effectively or proficiently.

TETRA covers both transversal skills and competences to complement the technical package provided by the other services.

Transversal competences and skills have the following characteristics<sup>1</sup>:

- they are transferable across domains, geographies, work and life contexts;
- they typically relate to social and interpersonal relations;
- they are cross-functional and cross-curricular in training and education, but can be combined in a blended learning approach, e.g. collaborative problem-based learning;
- communication is the key element in manifesting and evidencing transversal skills; if not communicated explicitly, they can remain undervalued or unrecognised;
- they are essential tools in any context of significant and accelerated change;
- they can be observed, evidenced and developed, whereas developing values such as integrity in adults and changing ingrained character traits is extremely difficult;
- they are learnt through experience and development and cannot be easily taught, except through highly interactive learning processes;
- in their development, they have a symbiotic relationship with improved self-awareness and self-knowledge.

### 2.1 SKILLS AND COMPETENCE OF TOMORROW

Contrasting the importance of skills needed today with those required in the future reveals an interesting pattern. This was also highlighted by a McKinsey survey of 2018 that shows individual skills based on their perceived importance today and whether employers expect to need more or less of those skills in the future. Overall, employers expect to need more of the social and emotional, higher cognitive, and technology skills in the future, and less of the basic cognitive and physical and manual skills. Four specific groups of skills stand out. Those in the upper-right quadrant are perceived as very important today and needed even more in the future. They include leadership, advanced communication, advanced IT and programming, and critical-thinking skills. In the lower-right quadrant are skills that are ranked as less important today but growing strongly in the future:

<sup>1</sup> PISA AND THE DEFINITION OF KEY COMPETENCIES, 2005: <http://www.oecd.org/pisa/35070367.pdf>



advanced data analysis, complex information processing, adaptability as well as teaching and training.<sup>2</sup>

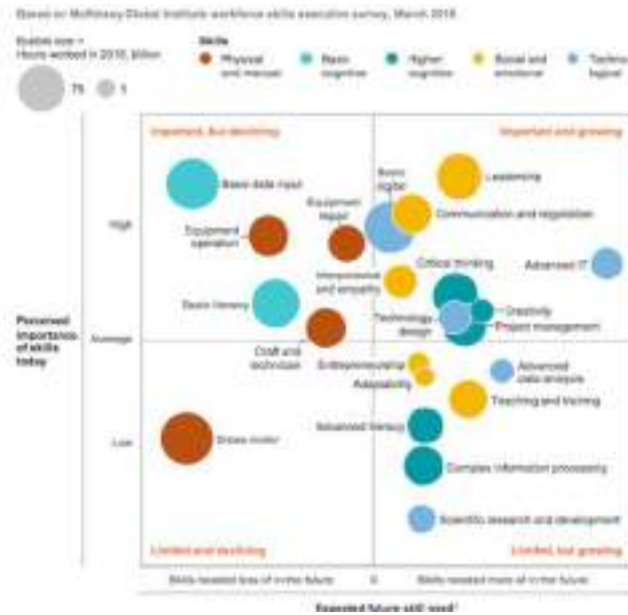


FIGURE 1: MCKINSEY'S GLOBAL WORKFORCE SKILLS SURVEY 2018

The COVID-19 pandemic and the related containment measures has accelerated the digital transition and underlined the importance of life skills and our capacity to adapt, manage change, and care for each other as a community.

While telework and distance learning have become a reality for millions of people in the EU, the limitations of our current digital preparedness were often also revealed. Beyond technical skills, the post pandemic labour market increasingly needs transversal skills like working together, critical thinking, and creative problem solving. For the individuals and entrepreneurs, improving resilience through skills means reducing dependence on market conditions and increasing his or her potential to navigate through life and professional opportunities. The European skills agenda for sustainable competitiveness, social fairness and resilience defines actions to fostering entrepreneurial and transversal skills (Action 7)<sup>3</sup>.

Many expert argue that transversal competences cannot be taught but they have to be learned through real-life experiences which are sadly mostly omitted from formal learning.

In TETRA, to complement the technical services covering IP advisory, business planning, access to new markets, sales and marketing, investment readiness, public contracts, we provide a set of TC&S to enable individuals and teams to be more ready and responsive to the market challenges.

The TC&S learning experiences are gamified, challenging and engaging to convey these transversal competences in a learning by doing approach to emotionally consolidate the knowledge and make it transferable to the working practice of the beneficiaries.

TC&S training activities are maximized when delivered in a live workshop because the knowledge transferred is consolidated through an emotional experience.

2 SKILL SHIFT AUTOMATION AND THE FUTURE OF THE WORKFORCE: <https://www.mckinsey.com/~media/mckinsey/industries/public%20and%20social%20sector/our%20insights/skill%20shift%20automation%20and%20the%20future%20of%20the%20workforce/mgi-skill-shift-automation-and-future-of-the-workforce-may-2018.pdf>

3 European Skills Agenda: <https://ec.europa.eu/social/main.jsp?catId=1223>



### 3 NGI INNOVATORS LEARNING NEEDS

The learning needs of NGI innovators were identified through online surveys and interviews described in D2.2 chapter 5 (Analysis of NGI beneficiaries). The results of the report were the foundation to understand the needs of the different target audiences of the TC&S training and guided the development of the first set of learning objectives and methodology. This is a work in progress process and will be adapted based on the type of requirements of the RIAs’ beneficiaries needs.

The online survey was launched on December 2019 targeting the NGI beneficiaries (both ongoing and completed projects) that are funded under NGI ZERO PET, NGI ZERO DISCOVERY, NGI TRUST, LEDGER and NGI EXPLORERS.

The main data analyzed, in order to start designing the TC&S training module, was to understand if the RIAs were already providing this type of supporting activity. We have found that **no one of the RIAs offer this type of services and that most of the beneficiaries didn’t know what TC&S were.**

Below the results from the interview.

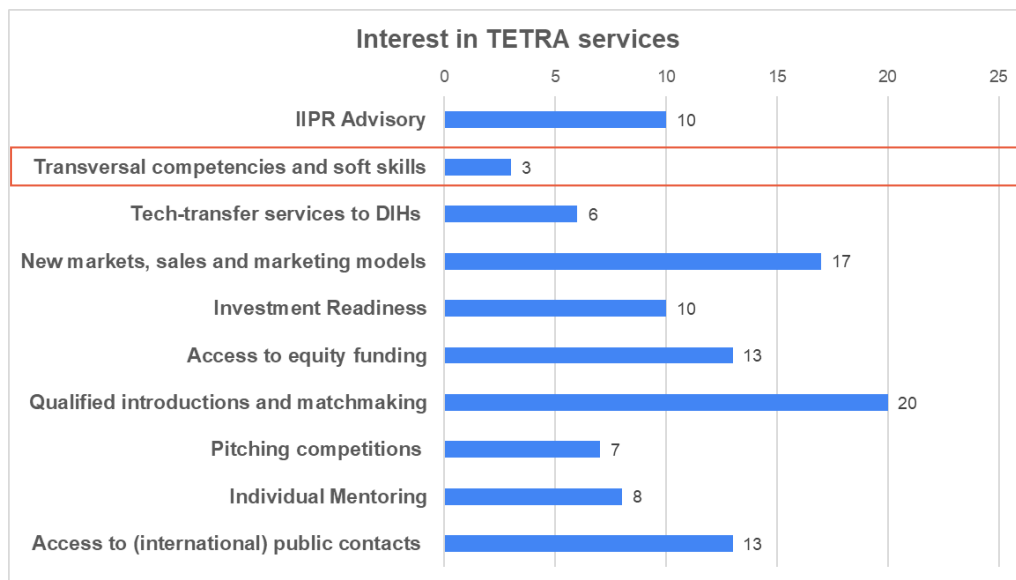


FIGURE 2: INTERESTS ON TC&S

The second element that we have analyzed was the type of participants we were targeting. Below the mapping of the targeted beneficiaries.



		Natural Persons				Legal Persons				
		Researchers	Developers	Entrepreneurs	Internet Technologists/Innovators	Research Organisations/Centres, Foundations	Universities	SMEs (startups, scaleups, etc.)	Mid-cap Businesses	Organisations/Companies (Other not specified)
NGI Project	Beneficiaries									
	LEDGER	✓	✓	✓		✓		✓		
	NGI TRUST		✓		✓	✓		✓		✓
	NGIO PET	There are no categorical exclusions of persons who may receive support from NGIO-PEDT and NGIO DISCOVERY								
	NGIO DISCOVERY									
NGI EXPLORERS	✓			✓	✓	✓	✓	✓		
<p><b>Note:</b> In the context of NGI Forward and Think NEXUS, financial support towards third-party beneficiaries is out of scope of the projects and therefore, there is no information on a specific categorisation of their third-party beneficiaries.</p>										

TABLE 1: POTENTIAL BENEFICIARIES OF THE TETRA BUSINESS SUPPORT SERVICES (MID JANUARY 2020)

This first mapping allowed the categorization of the NGI beneficiaries in three groups.

Categorization	Who?
Not a business and does not want to be business	Researcher, NGO, hobbyist, open-source contributor, freelancer, etc.
Not a business but wants to become business	Researcher, developer, entrepreneur, etc.
Is already a business	Startups and SMEs

TABLE 2: THIRD-PARTY BENEFICIARIES CATEGORISATION

These 3 categories were taken as the main driver to design the TC&S training modules.

## 4 TETRA METHODOLOGY FOR TC&S LEARNING EXPERIENCES

One of the main challenges faced by technological start-ups is their ability to nurture an environment that creates conditions for people to innovate. Within the start-up landscape, procedures are horizontal while roadmaps are continuously redefined. Moreover, most of the newly established ICT projects and start-ups, lack the essential strategic and communication skills so as to find the right partners to work with, work in teams, expand their network and ultimately enhance their adaptability, negotiation and communication skills.

Hence, TETRA offers training activities on Transversal Competencies and skills (TC&S) which focuses on addressing the specific needs of young researchers, outstanding academics, Activists, Open Source, Hackers, software and hardware developers, high tech start-ups and technology researching SMEs that constitute the third-party beneficiaries of the underlying NGI RIAs projects.

TETRA TC&S learning experiences have been designed building on the knowledge and experience gathered by FVA in delivering experiential learning in the context of several EU funded projects (Ladies First! 2017-1-EL01-KA202-036219, INTERHEALTH 2016-1-EL01- KA202-023538, THRIVE 2015-1-EL01-KA201-013917, LEILA FP7-SEC-2013-1-608303, MEAL LLP 543535 – 2013, UPDESIGN 2014-1-UK01-KA204-000085, BALANCE 527850-LLP-1-2012-1-DE-GRUNDTVIG-GMP, L4S IST- 225634, L2C IST-6° Framework – 027288).

### 4.1 LEARNING OBJECTIVES

The learning objectives defined for the TC&S are strongly business oriented being delivered to NGI beneficiaries that are projected toward the market with an innovative idea/product/service or/and that are in the process of establishing a new start-up. The learning objectives identified can be summarized in three main categories:

- Individual transversal competences and skills
- Business management transversal competences and skills
- Team related transversal competences and skills

**Individual transversal competence and skills** are:

- the ability to efficiently tackle down issues with effective solutions, thinking out of the box and producing unconventional ideas, being able to listen to others carefully to decode their behaviours and mood by taking the role of the other person and imagining the situation from his or her perspective, self-reflect and recognize that what we take for granted in a situation is not necessarily shared by others;
- the capacity to engage in cognitive processing to understand and resolve problem situations where a method of solution is not immediately obvious. Developing of analytical skills in order to be able to evaluate information or situations; break them down into their key components, consider various ways of approaching and resolving them and decide which is the most appropriate;
- the capacity to use ordinary elements in a creative way to produce new and efficient solutions using divergent thinking.

**Business management transversal competences and skills** can be applied both to the individuals and teams. There is a broad emerging consensus on a common core of 10 transversal skills related to



business from high-profile international organizations: digital competencies, problem-solving, initiative, learning to learn, cultural awareness, resilience, social intelligence, creativity, critical thinking, adaptability. There is one additional transversal competency, and character quality, which business leaders have often cited as critically important: empathy. The Harvard Business Review even publishes an Empathy Index<sup>4</sup>. Empathy is an element of emotional intelligence, of social intelligence and of learning to learn. Other additional TC&S we have found as important for our beneficiaries are planning, self-direction, perseverance, self-discipline, communication, public speaking and presenting.

**Team related transversal competences and skills** are related to the interaction of an individual within a team. The most relevant TC&S are leadership, leading teams to higher performance, teamwork, collaboration, conflict management, co-creation, cooperation, flexibility/adaptability, uncertainty management, innovation management.

To achieve these learning objectives the TETRA TC&S package proposes a gamified, challenging and engaging experiential learning activity to convey these transversal competences through a learning by doing approach aimed at emotionally consolidate the knowledge and make it transferable to the working practice of the beneficiaries.

The adoption of **experiential learning with a gamified approach** makes the learning experience:

- Collaborative (social motivation, knowledge sharing and mutual learning)
- Participative (everybody will contribute proactively)
- Reflective (the facilitated debriefing will stimulate discussion and reflection)
- Situated (practical and easily transferable to other domains)

Nevertheless TC&S training activities are maximized when delivered in a live workshop because the knowledge transferred is consolidated through the emotional experience.

Due to COVID-19 TETRA team was forced to re-design the TC&S gamified learning experience to maximize the active involvement of the participants, during the online activity. This poses additional challenges because the emotional engagement is more difficult to reach when the learning experience is mediated by ICT tools. In addition the TC&S experiential learning activity typically requires active interaction among participants to perform joint tasks. It is therefore important to equip the teams with the necessary online supporting tools to ensure engagement and interaction.

## 4.2 TAILOR THE EXPERIENTIAL LEARNING TO THE NEEDS OF NGI INNOVATORS

Although the TC&S are widely recognized as fundamental abilities for employability and entrepreneurship to address the challenges of the market in 21<sup>st</sup> century, from our survey it is evident that the target beneficiaries of TETRA, namely the NGI innovators, are not aware of what TC&S means.

Therefore it is important to promote the TC&S focusing on the single competences and skills to make our value proposition more attractive to them (e.g. promote “creativity” instead of TC&S).

The analysis of the target beneficiaries initiated with the survey, complemented with dedicated meetings with the RIAs (that are taking place periodically) enabled FVA team to better design and tailor the TC&S more suitable to enrich the TETRA services for the NGI innovators.

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4 The Harvard Business Review Empathy Index: <https://hbr.org/2015/11/2015-empathy-index>





The first set of identified learning needs are:

- Critical thinking, problem solving, reasoning, analysis, interpretation, synthesizing information
- Creativity, artistry, curiosity, imagination, innovation
- Flexibility/adaptability, uncertainty management and innovation management
- Full stack competences
- Initiative, proactivity, enthusiasm
- Perseverance, self-direction, planning, self-discipline
- Communication, public speaking and presenting
- Leadership, teamwork, collaboration, cooperation

### 4.3 METHODOLOGICAL APPROACH ADOPTED

In TETRA the TC&S are conceptually part of the Build block of services because they are relevant capabilities that will support the NGI innovators in the different phases of their business growth. Therefore, the TC&S are adaptable to the different NGI innovators that will participate to the various TETRA’s services, based on the specific learning needs of the beneficiaries.

To that end, in the preparation of each tetra activity, once identified the specific learning needs of the participants, FVA team will select the most suitable TC&S methodology and supporting tools to be used within the learning experiences.

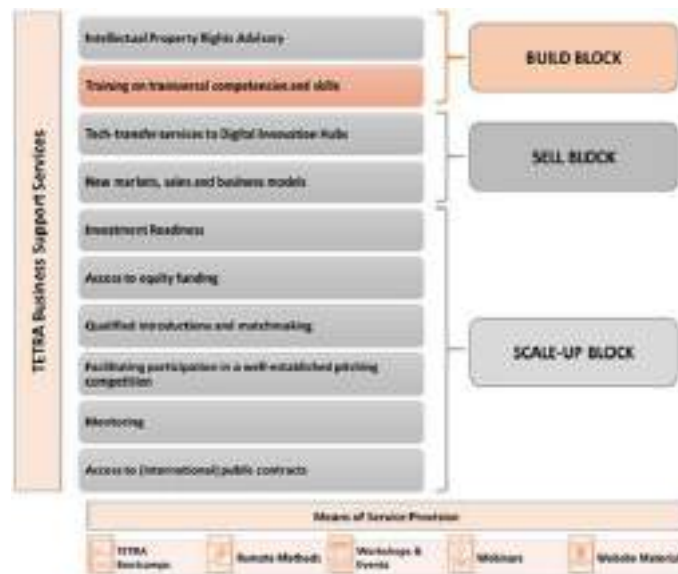


FIGURE 3: TETRA TC&S SERVICE AS PART OF THE BUILD BLOCK





## 4.4 DESIGN THINKING METHODOLOGICAL APPROACH

After a deep analysis of the type of target audiences of the first set of TETRA training activities, FVA have elaborated a design thinking package to tackle the learning objectives identified.

Design can be applied to all kinds of problems. But, just like humans, problems are often messy and complex and need to be tackled with some serious creative thinking. That's where design thinking approach comes in. Adding the TETRA TC&S tools and methods to a person's skill set often results in a striking transformation. Newfound creative confidence changes how people think about themselves and their ability to have impact in the world.

Design Thinking process is iterative, flexible and focused on collaboration between designers and users, with an emphasis on bringing ideas to life based on how real users think, feel and behave.

Following are the main design thinking concepts:

- Design Thinking uses creative confidence to find (human centred) solutions to problems.
- Creative confidence is the ability to approach problems as opportunities, the freedom to try new things, fail and learn.
- Creative confidence leads towards unimagined outcome, unlocking the potential of each innovator.
- Innovation is not an event (a genius sitting alone in a room) but instead is a collaborative design process
- In team work, innovative insights can be found in the space between diversity of perspectives (different expertise and different point of views)
- In design thinking phases there is time when we focus and time when we flare (creative thinking to generate ideas)
- Design thinking is not about designing something great but on how you can communicate your ideas to someone else

To support the training activity FVA has designed and developed 3 innovative supporting tools (App2TheSky and two version of “the wallet” game) that are described in detail in the next chapter.



## 5 INNOVATIVE SUPPORTING TOOLS

FVA has designed and implemented 3 supporting tools (App2TheSky and 2 versions of “the wallet” design thinking serious game for face to face and online delivery) to be used during the gamified Learning experiences. In the next chapters is described, for each tool, the learning objectives and the methodological approach.

### 5.1 APP2THESKY GAME

App2TheSky<sup>5</sup> is an online serious game to engage the players to build a tower as high as possible in a defined time frame. The game was used as an “ice breaker” before starting the design thinking learning experience.



FIGURE 4: SCREENSHOT OF THE APP2THESKY SERIOUS GAME

#### 5.1.1 LEARNING OBJECTIVES

- creativity
- full stack competences
- flexibility
- uncertainty management
- resilience

#### 5.1.2 METHODOLOGICAL APPROACH

The game is a metaphoric representation of a team in a project.

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<sup>5</sup> App2TheSky game link: <https://www.fvaweb.eu/app2thesky/>

The implementation process of a project combines different expertise, represented by the pieces, very different from one another, but all key for a winning collaboration.

The columns, (unexpected events in the game), represent a disruptive change (like covid-19 pandemic) that even if negative can generate new opportunities.

The top surface of the columns are less stable compared to the ground (the higher column has a thinner top surface). This represents the risks you have to take but also represents the higher chances to increase the impact and success of the project results.

At the end of the first level the game poses a dilemma to the player; confirm the tower built or take the risk and try a new level without knowing if it will be easier or more challenging. In this last part of the game the player experiences the attitude to risk, curiosity, and willingness to face new challenges and learn through errors to increase and improve the final result.

All these learning points are presented by the facilitator during the debriefing session highlighting how the gamified experience can be used to stimulate a reflection on some dynamics that occurred during the game play, launching a discussion on how the same task can be approached differently by diverse personalities of the participants. This discussion also facilitates a reflection towards the transfer of the knowledge acquired in their practice.

The image below displays the facilitator interface showcasing the different approaches adopted by the participants in solving the tasks assigned.



FIGURE 5: SCREENSHOT OF THE APP2B SKY DEBRIEFING PHASE

## 5.2 THE WALLET GAME



FIGURE 6: ENTRY PAGE OF THE DESIGN THINKING “THE WALLET” GAME

### 5.2.1 LEARNING OBJECTIVES

- creative confidence
- creative thinking
- collaborative design
- negotiation
- innovation
- leadership

### 5.2.2 METHODOLOGICAL APPROACH

The game is based on the Stanford d.school Design Thinking<sup>6</sup> learning experience and touches the principles of the methodology.

The serious game was designed by FVA to be adapted to teams for both face to face and for online activities.

The first version<sup>7</sup> of the game, designed to be deployed in a face to face setting, was complemented, to respond to the covid-19 pandemic limitations, with an online version. For a face to face activity, the game has a slightly different modality of game play, while the online version is setup in the MIRO<sup>8</sup> an online collaboration whiteboard application.

To introduce the game, a video<sup>9</sup> to describe the context and the scenario was produced.

6 Stanford d.school design thinking: <https://dschool.stanford.edu/resources/getting-started-with-design-thinking>

7 The wallet game for face to face LEx: <https://www.fvaweb.eu/thewallet/>

8 Miro visual collaboration platform for teamwork: <https://miro.com/>

9 The wallet game video scenario: <https://youtu.be/wmozlwx3ic>



FIGURE 7: SCREENSHOT OF THE VIDEO SCENARIO

Why a wallet is used as a starting point for the Learning experiences?

- everyone has experience with a wallet (to carry cash, cards, and ID)
- the wallet and its contents have the potential to evoke a range of meaning and a person’s life
- wallet as a starting point enables a wide range of potential innovation outcomes (objects, experiences, services, systems and spaces)

By presenting a wallet of a fictional character, the game starts and follows the typical design thinking process composed of 5 steps

**Paloma Oliveira**

Paloma's wallet is messy colourful and with floral motifs. She often forget to bring the wallet with her. She have lost her wallet 4 times.

The wallet contains:

- ✓ ID card: born the 24 May 1978 and resident in Lisbon, Portugal
- Diversal
- ✓ 50 euros
- ✓ a photo of a child 15 years old boy with a red heart drawn
- ✓ a piece of paper with all her passwords
- ✓ a VISA credit card
- ✓ three stamps from different countries
- ✓ an acting school member card
- ✓ a prescription for sleeping pills
- ✓ an organ donor card
- ✓ a dried leaf
- ✓ a bunch of old discarded receipts
- ✓ a receipt of 5000 euro for a designer bag

FIGURE 8: THE SELECTION OF THE CHARACTER





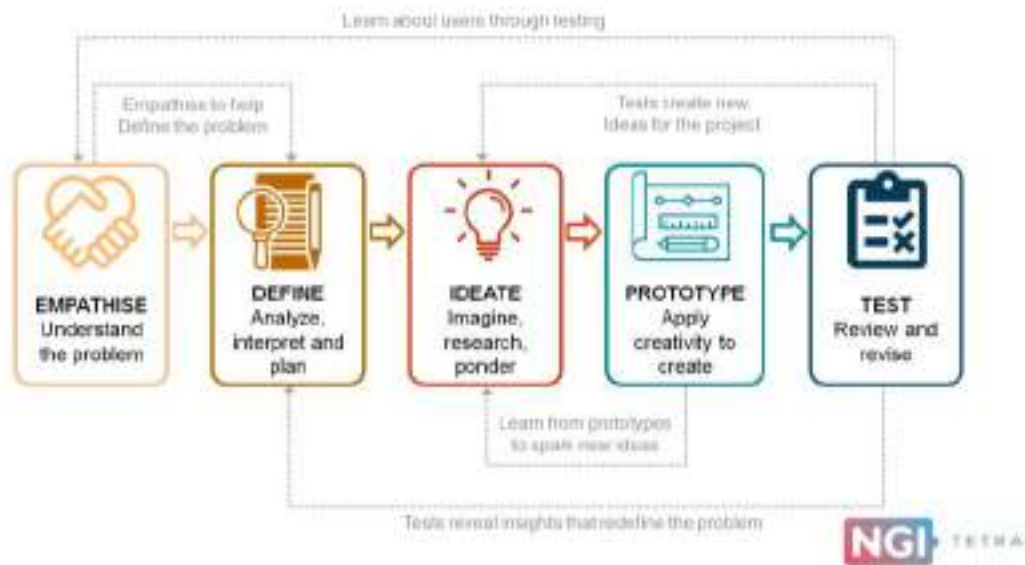




FIGURE 9: THE DESIGN THINKING PROCESS

Phase	Description
	<p>Empathy is crucial to a human-centered design process such as Design Thinking. Empathy allows to:</p> <ul style="list-style-type: none"> <li>• gain insight about a specific user’s needs, expectations and motivations</li> <li>• gain an empathic understanding of the problem you are trying to solve</li> <li>• set aside your assumptions</li> </ul> <p>How to empathize?</p> <ul style="list-style-type: none"> <li>• asking questions (why)</li> <li>• with curiosity</li> <li>• respectfully</li> <li>• without judgment</li> </ul>
	<p><b>Synthesize</b> what you have captured during the empathise phase into two groups:</p> <ul style="list-style-type: none"> <li>• <b>NEEDS</b> - your user’s goals and wishes: think about both physical and emotional needs (maybe your target user needs to minimize the number of things he/she carries)</li> <li>• <b>INSIGHTS</b> - what have you discovered: buying with cash makes your target user more confident than buying with credit card or she/he sees a wallet as a reminder and organizing system, not a carrying device</li> </ul>



	<p>Now the team members can start to <b>"think outside the box"</b> to generate new ideas to respond to needs and insights identified (brainstorming). How to Ideate?</p> <ul style="list-style-type: none"> <li>• Try to create as many ideas or problem solutions as possible</li> <li>• This is time for idea generation, not judgement or evaluation, any idea is valuable!</li> <li>• See if you can come up with at least 7 ideas!</li> <li>• You are not necessarily designing a wallet; you should create solutions to one or more needs and insights identified</li> </ul>
	<p>This is an experimental phase, and the aim is to sketch the prototype of one of your ideas to make it real. How to design a prototype?</p> <ul style="list-style-type: none"> <li>• You should not simply make a scale model of your idea. You should create an experience that your target user can react to</li> <li>• You could decide to design just one aspect of the overall solution</li> <li>• If your solution is a service or a system, create a scenario that allows your target user to experience this innovation</li> </ul>

TABLE 3: "THE WALLET" DESIGN THINKING PHASES DESCRIPTION

### 5.2.3 THE WALLET GAME TRAIN THE TRAINER PACKAGE

After the first TETRA build-up bootcamp, some NGI beneficiaries as well as partners requested FVA team to provide a “train the trainer” package of the design thinking learning experience, to allow them to replicate the experience within their organization. TC&S train the trainer package<sup>10</sup> was created and made it available online on the TETRA web site. The package was downloaded by 23 users.

The material available within the package can be used to setup the MIRO board for online collaboration or printed to be used in a face to face Learning experiences.

The TC&S training the trainer package includes:

- **The wallet design thinking PowerPoint presentation** to be used by the facilitator. The presentation provides the basic training contents for the trainer, examples of the different phases and the learning contents description to guide the facilitator during each step of the activity;
- **The link to the video scenario** to contextualize the Learning experiences;
- **4 personas’ wallets** to be used for the parallel design thinking sessions;
- **Graphical elements** to enable the setup of the design thinking boards inside MIRO or as printed material for face to face activities;
- **An explanatory video** on how to setup the MIRO board <https://youtu.be/WilfodFt6RE>.



FIGURE 10: TC&S TRAIN THE TRAINERS PACKAGE SCREENSHOTS

FVA in the context of the next scale-up bootcamp that will take place online from the 16 to the 18 of March 2021 and through direct contacts with the RIAs, will collect feedback about the use of the package to make improvements if needed.

<sup>10</sup> TC&S Train the trainers package: <https://business.ngi.eu/online-resources-/useful-materials/transversal-competence-skills-training-package/>



## 6 FIRST TETRA BOOTCAMP (BUILD-UP)

For the first 3 days build-up bootcamp, that took place from the 29<sup>th</sup> September to the 1<sup>st</sup> October 2020 (22 participants), FVA designed and adjusted a design thinking learning experiences for the build-up bootcamp aims at low 'business maturity' teams, facilitated by two experts that gave a presentation with examples and moderated the online sessions.

The whole TC&S package is designed to be delivered during the bootcamps as an engaging and challenging learning experience but is also part of a train the trainer package<sup>11</sup> available online, to be used by the training beneficiaries to transfer the learning experience in their context, with their teams. The package is also available for the entire NGI community.

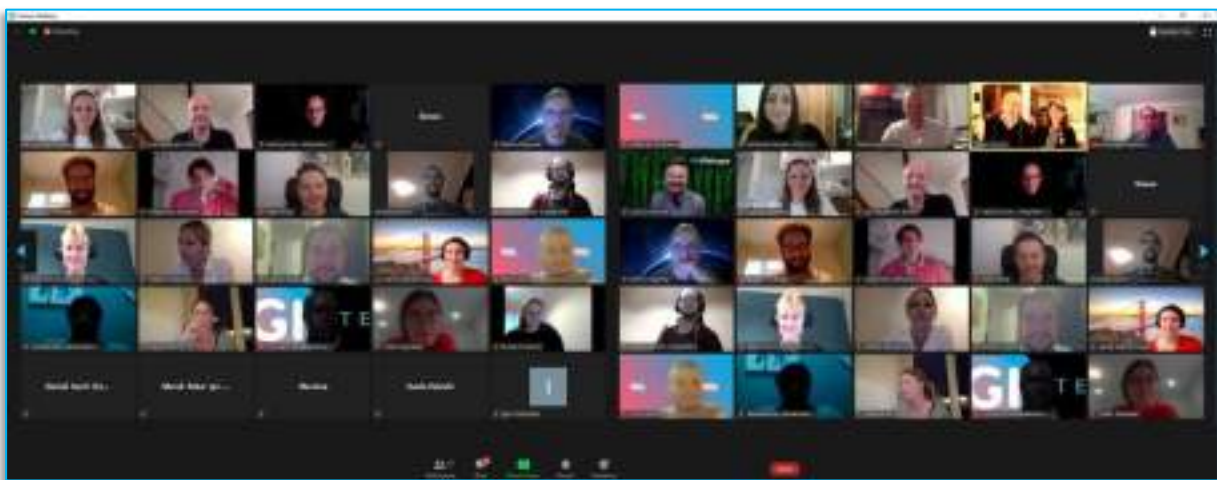


FIGURE 11: 1<sup>ST</sup> BUILD-UP BOOTCAMP ZOOM SESSION

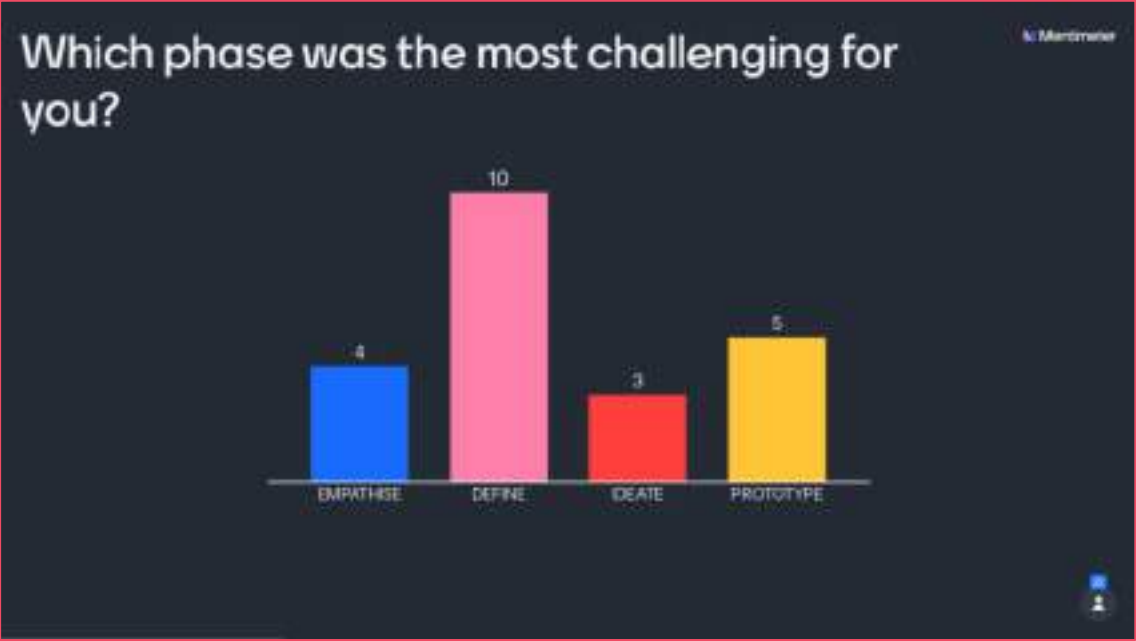
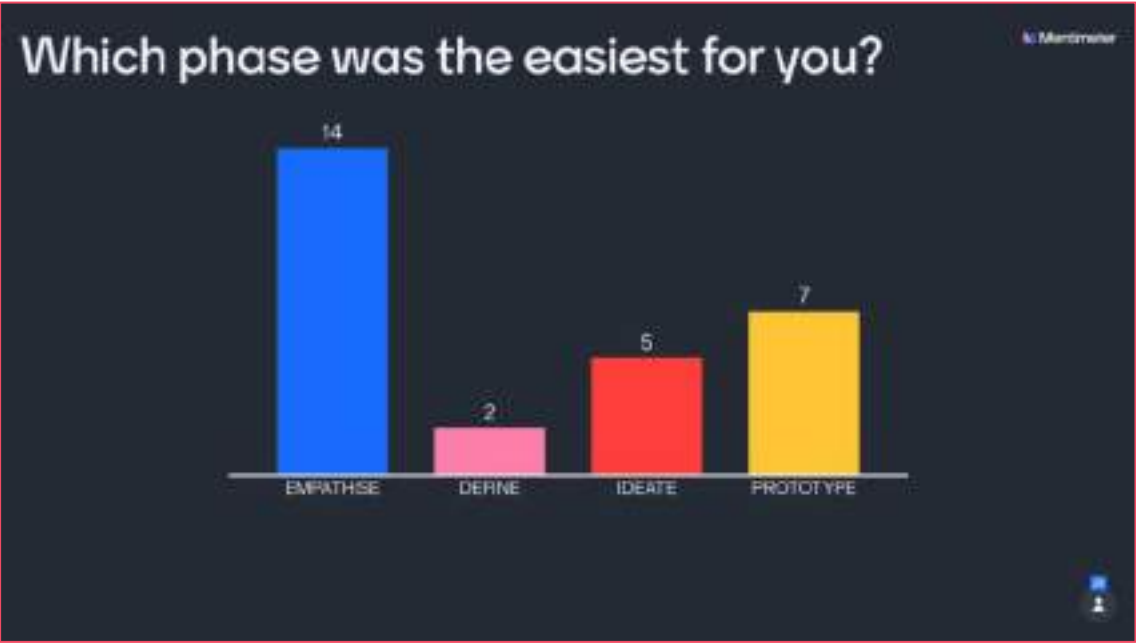
11 TC&S train the trainers package: <https://business.ngi.eu/online-resources/useful-materials/transversal-competence-skills-training-package/>

The image below presents the results from the design thinking session delivered during the first build-up bootcamp. The online version was designed and setup in the MIRO collaboration platform. The participants from all the teams were engaged in the process of designing a product/service for the selected user following all the phases of the design thinking methodology.



FIGURE 12: THE DESIGN THINKING GAME DURING THE FIRST BUILD-UP BOOTCAMP

At the end of “The Wallet” learning experience an online interactive tool was used to collect feedback.



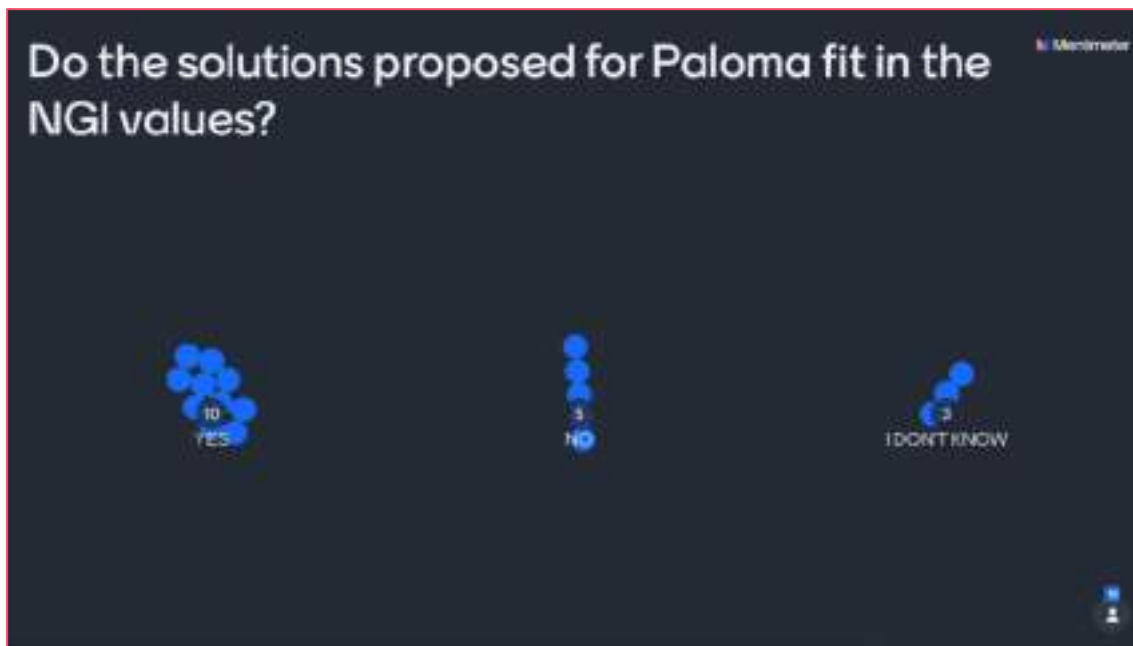


FIGURE 13: THE FEEDBACK RESULTS



## 7 WEBINAR ON NGI CULTURE AND VALUES

To address the learning objectives to strengthening the NGI culture of shaping a more human-centric and sustainable internet, FVA organized the Webinar#2: The contribution of NGI in re-design the post COVID-19 society<sup>12</sup>.



FIGURE 14: SCREENSHOT OF THE TETRA WEBINAR #2

The webinar was organized with relevant NGI representatives with the objective of promoting an interactive reflection to bridge the NGI mission with the rapid evolving needs of the post COVID-19 society and to identify the emerging opportunities and the new megatrends for NGI visionary start-ups, researchers and developers.

Webinar Title	Webinar Date	Number of Participants	Type of participants
The contribution of NGI in re-design the post covid-19 society	20 May 2020	55	<ul style="list-style-type: none"> <li>NGI R&amp;A/CSA: 32,35%</li> <li>Public Institution: 5,88%</li> <li>SME/Start-Up/Freelancer/Researcher: 44,12%</li> <li>Other: 17,65%</li> </ul>
<b>Speakers</b>			
Bob Goudriaan - NGI Zero Discovery and NGI Zero PET Monique Calisti - NGI Outreach Office Ester Liquori - GhostWriter.AI Jim Clarke - NGI Atlantic Mirko Ross - NGI Pointer Iwa Stefanik - NGI Explorer Katja Bego - NGI Forward			

TABLE 4: WEBINAR DETAILS

<sup>12</sup> Recorded session of the webinar #2: <https://business.ngi.eu/online-resources/-webinar-presentations/download-the-slides-of-webinar-2-the-contribution-of-ngi-in-re-design-the-post-covid-19-society/>



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## 8 LESSON LEARNED

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### 8.1 FROM FACE TO FACE TO ONLINE

The transfer from face to face to online bootcamp was a challenging aspect for the design and delivery of the TC&S activities.

In adapting the Learning experiences it was necessary to:

- Maximize the interaction between participants online to overcome the missing live human interaction as key for the TC&S activities
- Optimize the Learning experiences time session from 3/4 (live) to 2 (online) hours
- Re-design “The Wallet” design thinking tool to be delivered online
- Maximize the active involvement during the online activity by delivering more playful/interactive experiences

### 8.2 INSIGHTS FROM THE FIRST TETRA BUILD-UP BOOTCAMP

The TC&S module dedicated sessions during the first TETRA build-up bootcamp (29 Sept – 1<sup>st</sup> Oct 2020) were 2: 1 hour for the design thinking and 1 hour for the NGI culture and value.

The design thinking learning experience was designed to be delivered to 4 parallel groups created randomly. Each group session had to be moderated by 1 facilitator (FVA, QPLAN, PEDAL and LOBA). For technical problems in zoom, it was not possible to split the participants in 4 groups in the breakout rooms. Therefore FVA had to reorganize the session “on the fly” creating only one group and abandoning the breakout rooms modality. The dimensions of competition among teams, the leadership and negotiation within each team was missing and this decreased the engagement of the participants and didn’t give the opportunity to the facilitator to promote a reflection on teams dynamics during the debriefing phase.

This type of problems can happen on face to face workshops but are amplified during an online activity. It is mandatory to be ready for a valid alternative to avoid decreasing the learning outcomes. Another important point is the time of the day when to deliver the training sessions. One session about NGI values was scheduled at 8:00PM forcing the participants to come back to the bootcamp after the working hours. To not lose the participants, TETRA team had to re-design the activity so to leave the last module of the TC&S learning experience for the 8:00PM session.

FVA and all TETRA team have reacted immediately and provided a valid alternatives to the TC&S training session.

The design of the second and third bootcamp takes into consideration the lessons learnt from the first bootcamp and the webinar. The first consideration is that the participants are not aware of what TC&S are and how they can benefit from these Skills and Competences in their practice.

NGI innovators have a very technical mindset, therefore the first silos to break is related to the awareness of the importance of these competences for their market reach. The learning by playing approach seems to be effective, but a more effective way to consolidate the knowledge can be more impactful. In addition, to enable a “digestion” of this knowledge, the delivery of these contents might be more effective if they are distributed along the three days of the bootcamp, following, indeed a “transversal” approach.



The use of tools facilitating the interactivity is very effective. In addition, provide them with modules and canvas enabling to shape their ideas and facilitating the organisation of the different steps to reach the goal, is also effective (e.g. the business canvas and the value proposition canvas have been highly appreciated).

Finally, although the metaphoric representation of a problem is highly effective in diverse teams, the NGI innovator are typically very practical people. Therefore, the evident and straightforward link to their practice can increase the acceptance and adoption of the knowledge, rather than proposing examples too far from their domain. For this reason the next bootcamps will also explore new ways to convey the capacity building related to TC&S, to complement the methodologies described in this document.



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## 9 CONCLUSIONS

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To improve the quality of services and the impact on the beneficiaries, TETRA keeps on conducting interviews with the RIAs (including the new once), and periodic discussions with the TETRA advisory board members. One of the main consideration, emerged from these activities (and from the PO), is the need to design and deliver additional TETRA training activities tailored for open source, researchers, activists and SW/HD programmers.

This type of persona are usually reluctant to follow traditional business oriented services and to network with other. In addition they are against any type of branded platforms (conference tools like zoom, google meet, etc.).

We need to take this into account when organizing future online bootcamps.

The activities that we envisage for the upcoming project period are:

- Increase the collaboration with the RIAs to better understand their needs and adapt the TC&S training module
- Design the Learning experiences to include Researchers, Activists, Open Source, Hackers, SW/HW developers
- Adapt the deployment of the Learning experiences for the build-up bootcamps based on the type of participants
- Design the contents and adapt the deployment for the scale-up bootcamps based on the type of participants
- Experiment/design new online tools to increase the collaboration and active engagement of the participants (also tools not branded or from the funded NGI projects)
- Experiment the delivering of the TC&S in shorter sessions distributed along the 3 days of the bootcamps
- Promote the Train the Trainer package available on-line in the next bootcamps

The TC&S are probably one of the TETRA services that can really make the difference in those type of beneficiaries by raising awareness on the importance of transversal competences and soft skills at individual and interpersonal level for a more mature approach to increase the impact of their innovation in the NGI.

