TECHNOLOGY READINESS LEVEL (TRL) ADVANCEMENT

Mentoring Driver

INTRODUCTION

The Technology Readiness Levels as a scale to position the innovative product / process is well known within the research community worldwide, and more recently within the business community. Nevertheless, it is not always a straightforward approach to realistically and completely assess the current TRL of an innovation, or to ensure a transparent and measurable process of advancing the TRL, through specific milestones and validation KPIs. Companies are often challenged by the concept of TRL, as well as by the process implied for generating a roadmap for TRL advancement and implementing it successfully, in a way that would be properly communicated and validated by external stakeholders, such as private investors, grant management authorities, or future clients.

Objectives of the Mentoring Driver TRL Advancement

1

Support the advancement of the technology maturity level by one unit (e.g. TRL 3 to TRL 4, TRL 6 to TRL 7);

2

Provide mentoring towards gaining a systematic understanding and competence to apply the necessary advancement steps and to achieve validation of the new technology maturity level;

3

Sustain the company's team in gaining knowledge to implement the next technology maturity advancements of the innovative solution, until the commercialisation and go-to-market stages.

Impact of the Mentoring Driver TRL Advancement

30

Decrease by at least 30 days the time needed to advance one scale of the TRL level for an innovative product / process;
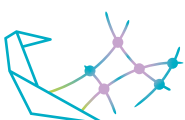
100

Decrease by 100 days the time-to-market for an innovative product / process;

60

Decrease by 60 days the time-to-profit for an innovative product / process;

2

Increase by minimum 2 persons the number of team members mentored on TRL advancement topics.

Main stages in the delivery of the Mentoring Driver TRL Advancement

1 Specific survey diagnostic for the Mentoring Driver TRL Advancement

Technology Readiness Assessment (TRA)

- The process of assessing the current technology readiness level of an innovation is a well-structured one, starting from identifying the criteria to be used in the assessment, the key relevant data to be employed, and the componence of the team who will perform the assessment. The mentee companies will benefit at this stage from an overview of the process, and a brief assessment, performed together with the mentor, that would allow for the most realistic TRL positioning of the innovation within the TRL scale.

- One of the core components of the TRA relies on the so-called "exit criteria," meaning that a given TRL is only achieved if all criteria are satisfied and not before. The flow of the assessment encompasses the description of the conducted research, the definition of applications in view of clarifying the requirements for the innovation, the description of the environment where the verification was performed, and the outline of the prospective viability of the innovation.

2 First workshop within the Mentoring Driver TRL Advancement

TRL Advancement Principles, Milestones and Validation

- The first workshop focuses on clarifying the origins and evolution of the TRL concept, on defining and exhaustively explaining each step within the TRL scale (e.g., definition, assessment, key questions to be addressed, and evidence required), challenges in TRL integration in the case of specific technologies (e.g., digital, or business model innovations), as well as how the TRL scale relates with the business readiness and investor readiness scales.

- The mentee company will be equipped with the complete knowledge allowing for proceeding with the next technology readiness levels evolution in a transparent, reliable, and quantifiable manner. Furthermore, the mentee company will be confident to present the maturity level of the innovation in front of relevant stakeholders, such as future clients, investors, or partners.

3 Second workshop within the Mentoring Driver TRL Advancement

TRL Advancement Roadmap

- The second workshop provides the integral framework for the technology maturity level progress, by highlighting the analysis of global trends that are influencing the TRL advancement process, the market intelligence acquired by the mentee company in view of considering the competitors while progressing with the innovation, the risks alongside the TRL evolution accompanied by mitigation measures and way to assess the effectiveness of the measures, barriers for market entry, as well as barriers that the mentee company may create during the TRL advancement, to hinder competitors to catch up quickly with the innovation.

- The mentee company will design its own TRL advancement roadmap and timelines, empowered by the awareness that the way that the innovation will potentially shape the market is defined in the earliest stage of its maturity, and it is embedded in the TRL evolution process.
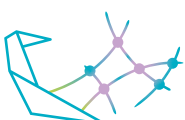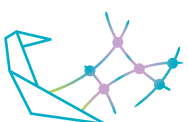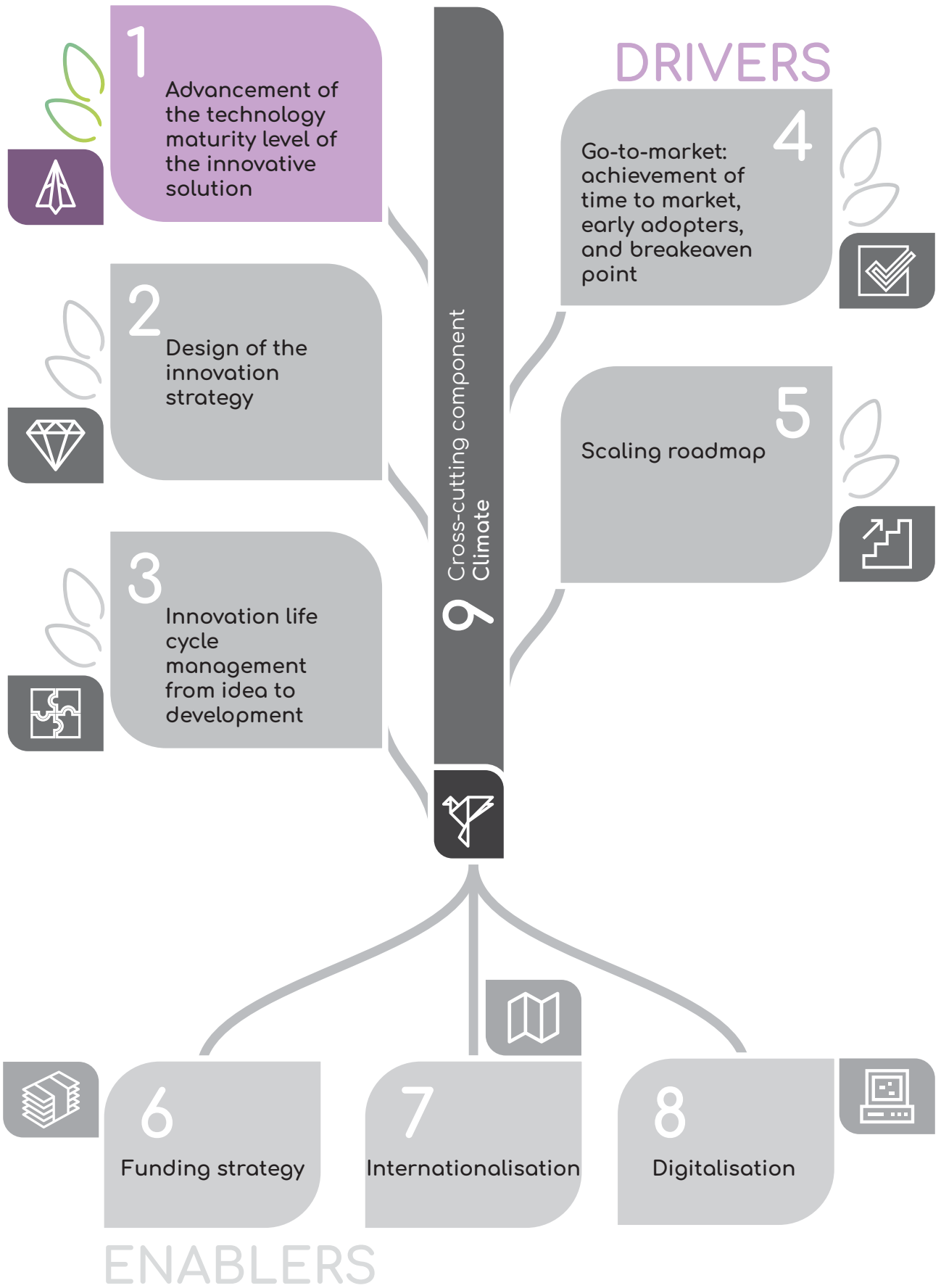
Specific methods, tools / templates, and resources involved in the Mentoring Driver TRL Advancement

The Technology Readiness Assessment Guidelines stand at the core of the package of tools and templates employed, accompanied, among others, by the trends and risk analyses, as well as a thorough watch of the competitors.

The choice of tools and templates is determined by the need to frame as extensively as possible the evolution of the innovation maturity level in relation to the external conditions.

1 Advancement of the technology maturity level of the innovative solution

2 Design of the innovation strategy

3 Innovation life cycle management from idea to development

9 Cross-cutting component Climate

4 Go-to-market: achievement of time to market, early adopters, and breakeaven point

5 Scaling roadmap

6 Funding strategy

7 Internationalisation

8 Digitalisation

ENABLERS

Final remarks

The mentoring Driver Technology Readiness Level Advancement aims at unlocking the potential of the processes sustaining the evolution of the maturity level of the innovation, to make them easier to understand, and master, as well as at addressing, in a problem-solving and adaptive manner, even the innovation cases that belong to sectors or themes that are not easily frameable within the TRL scale.