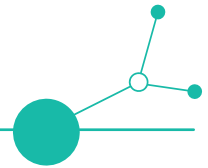


# Preliminary guidebook on how to use the SMERF Diagnosis Tool

D2.1.2



Version 1

03 2025





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## Introduction

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The rapidly evolving business landscape demands that SMEs constantly adapt and improve their operations, strategies, and digital capabilities to remain competitive. The **SMERF Diagnosis Tool (SDT)** has been developed as a comprehensive solution to support SMEs in this journey. By assessing their improvement and four critical transformation pillars – **Innovation Culture, Digital Manufacturing, Open Innovation 2.0 & Sharing Economy, and Green & Circular Economy & Sustainability** – SMEs can identify their strengths, uncover areas for improvement, and receive customized transformation plans. This powerful diagnostic tool serves as the first step in a broader support framework that includes practical initiatives such as training programs, mentorship, and study visits to leading multinational corporations, ensuring businesses receive the hands-on guidance they need to thrive.



# 1. The SMERF Diagnosis Tool (SDT)

## 1.1. The purpose

The SMERF Diagnosis Tool (SDT) is designed to assist Small and Medium Enterprises (SMEs) in evaluating their level of advancement across four fundamental pillars of business transformation.

These four pillars are:

- **Innovation Culture**
  - Focuses on fostering creativity and innovation within the organization.
  - Assesses leadership capabilities and the organization's openness to new ideas.
  - Evaluates market orientation and the ability to adapt to changing demands.
- **Digital Manufacturing**
  - Emphasizes the adoption of advanced technologies to enhance efficiency and competitiveness.
  - Includes operational optimization strategies, such as automation and predictive maintenance.
  - Examines the integration of digital tools in manufacturing processes.
- **Open Innovation & Sharing Economy**
  - Encourages collaboration between SMEs and external stakeholders, including partners, customers, and academia.
  - Assesses the organization's ability to leverage external ideas and resources to drive innovation.
  - Explores participation in shared platforms and resource-sharing initiatives.
- **Green & Circular Economy & Sustainability**
  - Highlights the adoption of eco-friendly practices and sustainable resource management.
  - Assesses the SME's commitment to reducing environmental impact and creating circular processes.
  - Evaluates the potential for cost savings and new market opportunities through sustainable strategies.

The structure and contents of the tool have been designed on the basis of the analysis previously performed on available existing tools for companies' self-assessment (D.1.3.2 - Report on available audit tools for assessing companies' level of advancement in 4 pillars).

Unlike the other mapped instruments, SMERF self-assessment tool provides a structured evaluation of an SME's current capabilities and generates personalized transformation scenarios based on their responses.

The SDT enables SMEs to:

- Identify strengths and weaknesses within the four core transformation pillars.
- Receive automatically generated transformation scenarios with actionable recommendations.
- Support strategic decision-making and continuous improvement efforts.

By leveraging this tool, SMEs can develop a clear roadmap for their transformation journey and enhance their competitiveness in an evolving business landscape.



## 1.2. The target audience

The SDT is designed to support various stakeholders involved in the growth and evolution of SMEs. Its purpose is to provide a structured framework for assessing key aspects of a business's readiness for change and innovation. The tool offers value to different groups in distinct ways:

### 1. SME Owners and Executives

- Structured Self-Assessment: Gain a clear and organized evaluation of their company's digital, strategic, and operational readiness.
- Expert-Driven, AI-Based Recommendations: Access actionable insights powered by advanced algorithms to guide decision-making.
- Prioritized Initiative Planning: Identify and focus on high-impact actions that will drive the most significant improvements.
- Efficient Diagnostic Process: Benefit from a straightforward, user-friendly assessment that delivers immediate results.

### 2. Business Consultants and Advisors

- Structured Client Assessments: Conduct comprehensive evaluations of client businesses using a structured framework.
- Data-Driven Insights: Obtain clear, evidence-based insights that reveal strengths, weaknesses, and key opportunities for growth.
- Preliminary Transformation Plans: Receive an initial tailored action plan that outlines strategic steps, which can be further refined and integrated into broader consulting strategies.

### 3. Higher Education Institutions (HEIs) and Innovation Intermediaries (Innomediaries)

- Gap Identification: Pinpoint areas where SMEs require targeted support, such as technology adoption, innovation readiness, or strategic development.
- Partnership Opportunities: Identify potential collaborations between SMEs and academic or research institutions to foster innovation and industry growth.
- Tailored Growth Programs: Develop customized support programs for SMEs by building on insights provided by the SDT, ensuring resources are effectively allocated to meet specific needs.



## 2. How the tool works

Once registered, the user will have access to its own profile and questionnaire's submissions; on this page, he/she will be able to start the first questionnaire, resume one previous session, check or delete previous answers.

ID	QUESTIONNAIRE	LAST MODIFIED	STATUS	STEPS	
3	Questionnaire 1	January 10, 2025 10:00	Filled	Step 1 — Step 2	☰ Results 🗑️ ↻ Redo
3	Questionnaire 1	January 09, 2025 08:44	Filled	Step 1 — Step 2	☰ Results 🗑️ ↻ Redo

Figure 1: Screenshot of the submission page

The self-assessment is composed by 2 steps, which are described in detail in the follow sub-chapters.

### 2.1 Step 1: Overall performance

The first step of the SMERF Diagnosis Tool is designed to help SMEs take a comprehensive look at their organization's current position across four essential transformation pillars. By answering a structured set of questions, SMEs can gain valuable insights into their strengths and areas requiring improvement. This step is crucial in enabling businesses to reflect on their existing strategies, digital adoption efforts, and



operational processes. Through this reflection, SMEs are better prepared to identify opportunities for growth and align their resources with strategic goals.

**Structure:**

- Multiple-choice questions.
- ~15-20 minutes.
- Focuses on company strategy, digital adoption, and operational practices.

**Example Question:**

*"To what extent does your company encourage employees to explore new ideas and try new approaches in their work?"*

- Not encouraged at all
- Slightly encouraged
- Moderately encouraged
- Highly encouraged
- Not applicable

*"How integrated are digital technologies across your business processes?"*

- Not integrated
- Minimal use in some areas
- A balance approach, integrated into several key processes
- Comprehensive integration in all business processes
- Not applicable

In order to provide additional guidance and to clarify the terminology, info bubbles have been added for both questions and answers which can be activated by the user when necessary. This feature is included in both step 1 and step 2 of the self-assessment.

Moreover, the "not applicable" option is included to accommodate the diverse range of SMEs using the tool, recognizing that some questions may not be relevant to all businesses due to differences in industry, sector focus, or operational practices. This ensures that all users can provide accurate responses that reflect their unique context. When selected, this option will not contribute to the overall score calculation, ensuring that the final result accurately reflects only the applicable aspects of the business.


Before submitting the answers for Step 1, it will be possible to review and edit the chosen options.




## Step1

Review your answers before submitting. If you need to make any changes, click 'Edit' next to the corresponding answer.


**To what extent does your company encourage employees to explore new ideas and try new approaches in their work?**

D - Highly encouraged  Edit

**What amount of time is typically allocated company-wide for employees to explore and develop innovative ideas?**

B - Some time is allocated, but it is not sufficient.  Edit

**Evaluate the effectiveness of the company's strategies or methods in attracting employees with diverse innovation skills and capabilities.**

C - Effective.  Edit

**Evaluate your company's strategies for fostering employee skills development, when it comes to enhancing and accelerating innovation.**

Submit your answers

Figure 2: Screenshot of the Answers review section

## Output:

- Real-time score based on responses.
- Visual representation (e.g., bar chart or radar chart) of SME strengths and weaknesses.
- Immediate feedback with actionable insights for improvement.



### Your results:

Based on your responses, your company faces challenges in adopting innovative and circular approaches, both of which are vital for driving creativity and sustainability within the organization. These areas are categorized red due to the lower scores, indicating significant room for improvement. To address these challenges, consider implementing training programs that encourage creative problem-solving and explore partnerships with local innovators to foster a culture of openness and experimentation. Additionally, enhancing your circular approach could involve evaluating current waste practices and identifying opportunities for resource recycling and recovery.

On a positive note, your company excels in human resources development, scoring green, which reflects a robust commitment to employee growth and skill enhancement. This strength can be leveraged to drive the innovative and circular approaches by promoting cross-functional projects that encourage team collaboration and brainstorming solutions to environmental challenges. Moreover, while you show some awareness of advanced technologies and internal digitization, which are crucial for remaining competitive, these areas need further attention to fully capitalize on their potential.

I encourage you to complete the full questionnaire for more tailored advice on your performance and additional areas for improvement. This will help identify specific actions that can further enhance your company's growth and resilience.

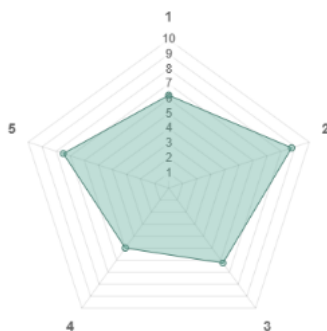
To receive a deeper analysis and tailored advice, we encourage you to continue with the full questionnaire selecting: **Innovation Culture, Digital Manufacturing, Open innovation & sharing economy, Green & circular economy & sustainability**

Please note that selecting at least one pillar is required to proceed. Once one or more pillars have been selected, no additional pillars can be added for this specific questionnaire.

### Visual Insight:

The following charts represent the recorded values for the four pillars and the features associated with each pillar. Each chart reports the values for the features linked to its respective pillar. Please note that the feature names are represented by numbers in the charts.

#### INNOVATION CULTURE



- 1 - Innovative Thinking & Creativity: 6.25
- 2 - Human Resources Development: 8.75
- 3 - Knowledge & Learning: 6.25
- 4 - Collaboration & Communication: 5
- 5 - Leadership & Relations: 7.5

#### DIGITAL MANUFACTURING



Figure 3: Screenshot of the Step 1 output

Below the Step 1 output, users will find the button to proceed to the second step of the questionnaire.

## 2.2 Step 2: In-depth Analysis

The second step of the SMERF Diagnosis Tool is designed to deepen the understanding of an SME's business environment and refine the transformation roadmap with additional insights. This step builds upon the initial assessment and dives into more detailed aspects of the already mentioned 4 Pillars. By providing further details, SMEs receive personalized and highly targeted transformation strategies that align with their unique goals and challenges.

In specific, the company will be able to choose 1 or more pillars for further analysis; the length of Step 2 will vary accordingly.



Please select at least one pillar

## Editing Questionnaire instance

This second section is intended to provide a more in-depth analysis of each pillar. As mentioned earlier, we recommend focusing on the following pillars: **Innovation Culture, Digital Manufacturing, Open innovation & sharing economy, Green & circular economy & sustainability**

### Pillars

- Innovation Culture
- Digital Manufacturing
- Open innovation & sharing economy
- Green & circular economy & sustainability

Update Quiz Instance

Figure 4: Screenshot of the Pillar selection (step 2)

### Structure:

- Multiple-choice questions.
- 30-40 minutes (if selecting 4 Pillars).
- In-depth questions regarding SME strategy, digital adoption goals, and operational changes.

### Example Question:

*"Rules in our organization about intellectual property (including ownership and usage) are clear and fair"*

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Not applicable

*"Our organization has experience in identifying and protecting valuable intellectual property generated from its collaborative projects"*

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Not applicable

As already mentioned in Step 1, the user will have the possibility to review the answers before the final submission.

### Output:

- Personalized transformation scenarios tailored to SME's goals.
- Strategic roadmap with detailed recommendations and estimated impacts.
- Suggested improvement activities such as mentorship, training programs, or expert support.

The detail of the second output will be further elaborated in chapter 4 of this document



## 3. Getting started

### 3.1 Homepage and Navigation

The SDT homepage provides a short project introduction, at the bottom of the page, including:

- Overview of the SMERF Project and its Pillars
- Instruction for the Tool use

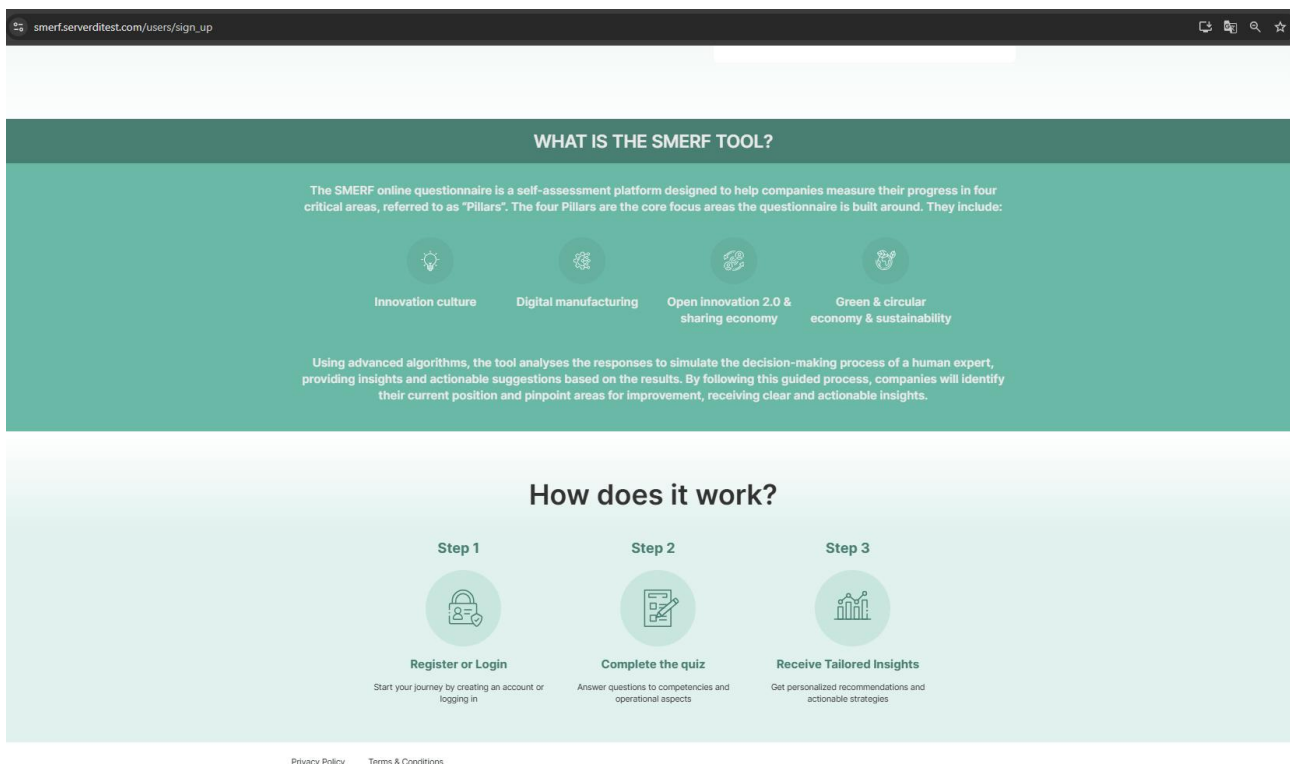


Figure 5: Screenshot of the bottom homepage

In the first part of the page, the priority is given to the registration form, to immediately draw users attention to the self-assessment functionality.

### 3.2 Registration and Login Process

**First registration:**

- Provide your **Name**, **Email**, **Company Name**, and create a **Password**.
- A confirmation email will follow with an activation link.



## Discover your strengths with the SMERF questionnaires

Evaluate your company's performance across 4 key areas and receive tailored recommendations to drive improvement.

### Get started now

Start now by registering or logging into your account.

Email

Password

(6 characters minimum)

Password confirmation

Firstname

Lastname

Company

Register

[Already have an account? Log in](#)

[Didn't receive confirmation instructions?](#)

[Didn't receive unlock instructions?](#)

Figure 6: Screenshot of the Registration form

### Returning Users:

- Simply enter your registered email and password to access the dashboard.



## Login

Email

Password

Remember me

Login

[Forgot your password?](#)

[Didn't receive confirmation instructions?](#)

[Didn't receive unlock instructions?](#)

[Don't have an account? Register](#)

*Figure 7: Screenshot of the Login form*



## 4. Results and Reporting

Upon completing both assessments, users are provided with a comprehensive set of insights designed to inform strategic decision-making and guide SMEs through their transformation journey. The results are presented in a clear and accessible format to ensure ease of understanding and actionable takeaways.

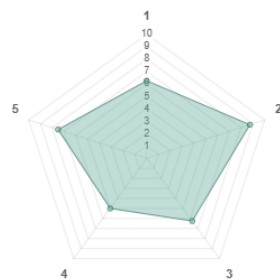
As outlined in Chapter 2, the output of Step 1 is detailed, featuring one chart for each Pillar. This visual representation illustrates the company's performance based on the 40 assessment questions.

In contrast, the output of Step 2 offers a more comprehensive view. It integrates responses from both assessment sections, providing a holistic perspective on the company's strengths and areas for improvement. The tool automatically updates the corresponding Pillar chart(s) based on the user's focus during Step 2.

### Visual Insight:

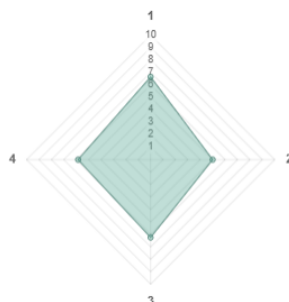
The following charts represent the recorded values for the four pillars and the features associated with each pillar. Each chart reports the values for the features linked to its respective pillar. Please note that the feature names are represented by numbers in the charts.

#### INNOVATION CULTURE



1 - Innovative Thinking & Creativity: 6.25  
2 - Human Resources Development: 8.75  
3 - Knowledge & Learning: 6.25  
4 - Collaboration & Communication: 5  
5 - Leadership & Relations: 7.5

#### DIGITAL MANUFACTURING



1 - Internal Digitization Awareness: 6.65  
2 - Proactive Tech Adoption: 5  
3 - Embraced Advanced Technologies: 6.25  
4 - Competitive via Digital Technologies: 5.85

Figure 8: Screenshot of the Chart section step 2 output

The Step 2 output goes beyond performance insights by presenting a set of tailored recommendations aligned with the user's responses. These suggested activities are designed to improve the company's performance in key areas and are organized into three distinct categories:

- **Training:** Structured sessions aimed at building specific skills and deepening knowledge across relevant areas.
- **Mentoring:** Personalized guidance and support from experienced professionals to foster growth and address challenges.
- **Expert Consultation:** Specialized advice and tailored solutions to tackle complex issues and unlock new opportunities for improvement.



## Report Features:

- **Detailed Assessment Scores:** Comprehensive scoring across each pillar allows SMEs to understand their relative strengths and weaknesses.
- **Visual Charts and Graphs:** Intuitive visuals, such as radar charts and bar graphs, present insights in a clear and impactful manner, making complex data easy to digest.
- **Step-by-Step Recommendations:** The report outlines clear and actionable steps tailored to the SME's unique profile, ensuring they have practical guidance for their improvement journey.

Drawing from the provided information, we recommend the following **essential activities** as key steps to address and improve performance effectively:

### Open innovation & sharing economy

#### MENTORING focused on:

- creating a culture of innovation. Mentors guide leaders in fostering a culture that supports innovation through creativity, risk-taking, and open communication, embedding these practices into the organizational DNA.
- exploring crowdsourcing: feasibility and implementation strategies. Mentors assess the feasibility of crowdsourcing, identify barriers, and provide practical steps to integrate it into innovation processes effectively.

#### TRAINING focused on:

- transitioning from irregular to regular knowledge exchange. This training should help organizations establish a consistent and systematic process for sharing knowledge. Participants should learn techniques for developing standardized knowledge-sharing routines, leveraging digital collaboration tools, and creating communities of practice. The training should enable employees to shift from occasional to structured knowledge exchange, fostering open innovation.

*Figure 9: Screenshot of the Essential activities recommended*

Furthermore, we have identified a selection of **optional activities** for your consideration. These activities are focused on areas where minor issues or inefficiencies were detected, but they do not indicate serious concerns. Addressing these areas can help refine processes and enhance overall performance, building on the company's current strengths:

### Open innovation & sharing economy

#### MENTORING focused on:

- enhancing use of intermediaries: expanding support for innovation. Mentors help organizations engage intermediaries effectively, identify additional valuable partners, and integrate external support into innovation processes.

#### EXPERT CONSULTATION focused on:

- maximizing the impact of sharing economy initiatives. Experts should evaluate the company's existing sharing economy programs and identify opportunities for improvement. The consultation should focus on integrating advanced technologies, fostering strategic partnerships, and leveraging data analytics to optimize resource sharing. Experts should also provide a roadmap for scaling sharing economy initiatives to ensure they align with innovation and business objectives.
- open innovation ecosystem development. Experts should guide the company in expanding its innovation ecosystem through strategic partnerships and external collaborations. The consultation should focus on identifying key innovation partners, integrating ecosystem thinking into the company's strategy, and fostering long-term collaboration networks. Experts should also provide best practices for structuring and managing external innovation ecosystems effectively.

Step 1 highlighted certain issues that warrant further attention. Although the corresponding pillars were not selected at the beginning of Step 2, it is important to consider these areas to ensure that potential opportunities for improvement are not overlooked.

### Innovation Culture

#### MENTORING focused on:

- innovation sprints. Mentors should guide teams on how to use short, focused periods (innovation sprints) to generate ideas and rapidly develop innovative solutions, teaching them how to balance short-term and long-term thinking.
- leadership in failure management. Mentors with experience in managing failure-driven growth should work with leaders to develop skills in effectively responding to and learning from failures. The goal should be to guide leaders on how to create an environment where failure is accepted as part of the innovation process and used as a learning tool.

*Figure 10: Screenshot of the Optional activities suggested*

Recommendations are provided exclusively for the weaker-performing features within each Pillar, ensuring the suggested actions directly target the most critical areas for improvement. This focused approach helps SMEs prioritize their efforts effectively.



To further support the transformation journey, companies can engage with the SMERF Consortium by reaching out to its partners for additional guidance and resources. This collaborative approach empowers SMEs to implement the recommended strategies successfully and achieve sustainable growth.

The output has been carefully designed to be both clear and practical, ensuring that users can easily interpret their results and take meaningful action. Key features include:

- **Downloadable Reports:** Users can download a comprehensive assessment report in PDF format, providing a structured overview of their performance across the assessed Pillars. These reports serve as valuable reference materials for internal discussions, strategic planning, and future assessments, enabling SMEs to track their progress over time.
- **Direct Access to Experts:** For SMEs seeking additional guidance, the platform facilitates direct contact with experienced professionals from the **SMERF Consortium**. These experts provide tailored advice and hands-on support to help businesses implement the recommended transformation strategies effectively.
- **Localized Support:** To further support SMEs, the tool provides a comprehensive list of **Consortium Partner Emails**, enabling users to connect directly with representatives from their own country. This ensures access to local expertise, cultural insights, and market-specific guidance, enhancing the effectiveness of transformation initiatives.

By combining clear insights, accessible expert guidance, and localized support, the tool empowers SMEs to make informed decisions and drive impactful improvements in their organization.



## 5. Data Security and Privacy

The SMERF Diagnostic Tool collects and processes personal data in accordance with the General Data Protection Regulation (GDPR). The data collection process is structured and transparent, ensuring that users are informed about how their data is used. The tool gathers identification data, such as first name, last name, job title, and company name, along with contact information like email address. Additionally, it records usage data, including interactions with the tool, login times, activity logs, and questionnaire responses.

The Terms & Conditions and Privacy Policy texts are available in a dedicated section of the self-assessment Tool. If and when the Terms & Conditions are modified, whether before or after the project's completion, a communication will be shared to inform users of the updates.

The collected data serves multiple purposes:

- Ensuring access to the SMERF Diagnostic Tool, allowing users to fully benefit from its functionalities.
- Analysing SME responses to provide tailored recommendations, including training programs, mentoring opportunities, and expert consultations.  
Supporting users with inquiries and technical assistance to improve their experience and ensure smooth interactions with the tool.
- Refining functionalities and improving user experience based on collected data, ensuring that the tool evolves according to user needs and feedback.

To comply with GDPR, users must provide informed consent before submitting their data. This ensures that individuals understand the extent and purpose of data collection. Processing activities follow principles of transparency, purpose limitation, and data minimization, with structured processing. These principles align with GDPR's core requirements of ensuring that individuals are aware of how their data is collected, limiting processing to necessary purposes, and safeguarding personal data through strict operational protocols to prevent unauthorized access or misuse.



## Conclusion

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The **SMERF Diagnosis Tool** is not just a digital tool – it is a comprehensive solution designed to empower SMEs with meaningful insights that can drive real change. By combining AI-driven recommendations with data-backed insights, the tool enables SMEs to reflect on their existing practices and envision a clear path toward growth. Whether a company is looking to improve internal processes, enhance customer engagement, or adopt new technologies, the SDT equips them with personalized transformation roadmaps that provide actionable steps tailored to their unique context.

Through this tailored guidance, SMEs can gain the confidence to make informed decisions, focus resources on high-impact initiatives, and steadily improve their efficiency, resilience, and competitiveness in an increasingly dynamic business environment. Importantly, this diagnostic process is only the first step in a broader journey. Following the initial assessment, SMEs will have the opportunity to participate in a variety of tailored activities designed to support their transformation. These activities may include specialized training programs, mentorship sessions, and even study visits to major multinational companies. These initiatives ensure that SMEs receive practical insights, hands-on learning experiences, and networking opportunities to reinforce their growth strategies and successfully implement their transformation roadmaps.



Quality Assurance Approval

Partner	Member of the Quality Assurance Team	Result of the quality check	Date of the quality check
(QAT1)	Jennifer Quoc (PP2 BIZ-UP)	<input checked="" type="checkbox"/> accepted <input type="checkbox"/> rejected	27.03.2025.
(QAT2)	Federico Manara (PP7 UNIGE)	<input checked="" type="checkbox"/> accepted <input type="checkbox"/> rejected	31.03.2025.