

DRIVING MANUFACTURING SME TRANSFORMATION TOWARDS GREEN, DIGITAL AND SOCIAL SUSTAINABILITY

Deliverable 2.1 greenSME HUB Strategy 2022







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Executive Summary

The European manufacturing sector is lacking behind on the green transition and EU's goal of becoming the first carbon neutral continent. However, the opportunities to create simple green improvements while maintaining competitiveness are available. By adopting the latest advanced technology and use social innovation practises, manufacturing companies can make a great contribution to the green sustainability transformation.

In order to support manufacturing companies in their transition, the greenSME HUB and community is created. The hub will function as an innovation one-stop-shop where key stakeholders can turn to get the latest knowledge on advanced technologies and their relation to green sustainability, as well as connect with service providers and learn about social innovation's role in sustainable business model development.

In this report, the initial strategy for developing the greenSME HUB and building a community around it is presented. The greenSME HUB is developed as a replicable and scalable concept with three main components: 1) Community, 2) Capacity, 3) Action. The hub is a digital space, a website containing all functions and services for the manufacturing community:

- Online sustainability self-assessment tool
- Support for Advanced Sustainability Action Plan development
- Open call for funding of green competitiveness projects
- Match making portal to connect with service providers
- Communication of best practices projects and results
- Learning features and trainings with relevant experts

GreenSME aim to develop a HUB and a community which is part of assuring a future operation of the services and the HUB, so that it can continue to contribute to partnerships and "green competitive actions" also after the project period.





Table of contents

Execu	utive Summary	
1.	Introduction	1
1.1	Contextual framework: challenges & opportunities	2
1.2	2. GreenSME context	3
1.3	3. Definition and use of key concepts	
:	1.3.1. Sustainability	
:	1.3.2. Advanced technology	5
:	1.3.3. Social innovation	5
2.	The greenSME HUB and community	
2.1	Purpose and general overview	
2.2	2. greenSME – a simple concept	8
2.3	3. Power of community	
3.	Developing a "one-stop-shop" for green manufacturing	10
3.1	1. Approach	
3.2	2. The digital platform: functions & features	12
3	3.2.1. Platform key elements	12
3	3.2.2. Value proposition	13
3	3.2.3. Behind the scenes	13
3.3	3. Building a community	14
:	3.3.1. Digital Community	14
:	3.3.2. Community presence in the HUB	15
3	3.3.3. Community Playbook	16
3	3.3.4. Engagement	16
3	3.3.5. Engagement plan & editorial calendar	18
3.4		
3	3.4.1. Sustainability self-assessment tool	
	3.4.2. Advanced sustainability action plan definition for SMEs	
	3.4.3. Sustainability training for technology- & social innovation pr	
3.5		
3	3.5.1. Match-making	
	3.5.2. Open call: green competitiveness initiatives	
	Communication strategy	
	Future prospects of greenSME HUB	
5.1		
5.2		
5.3		
	Concluding remarks	
	rences	
	ex I. Strategy presentation	
	ex II. Editorial Calendar	
	ev III. Playbook	





List of acronyms

Al	Artificial intelligence
ASAP	Advanced Sustainability Action Plan
AT	Advanced technology
ATI	Advanced technology for industry
CM	Community manager
НВР	Human Brain Project
SME	Small and medium-sized enterprise

List of greenSME partners

Consortium partner	Expertise and role in greenSME
AFM	Cluster organisation for advanced manufacturing & machine tool industry in Basque Country
CIM4.0	Competence centre & innovation HUB for digital (4.0) and technological development of manufacturing industry in Piemonte
Danish Board of	Social innovation and participation in the technological &
Technology (DBT)	sustainable development of society. HUB strategy and concept
	development, community building
F6S	Communication and digital solutions
MESAP	Cluster organisation for smart manufacturing in Piemonte
SA&AM	Cluster organisation for the automotive sector in Silesia
TEKNIKER	Research and technology centre specialised in Advanced
	Manufacturing, Surface Engineering, Product Engineering and ICTs technologies
Technical University of	University, section of sustainable business model development
Braunschweig (TUBS)	
Technical University of	University, section of social innovation
Dortmund (TUDO)	SMEs in regional and sectoral ecosystems and sustainability roadmap





List of Figures

Figure 1. Overview of EU Green Deal	
Figure 2. Circular model for Green Sustainability Transformation Pathway	
Figure 3. Illustration of how society and economy build in the environmental biosphere	regarding
sustainability and the SDG Goals (Rockström, 2016)	4
Figure 4. greenSME HUB Stakeholders	7
Figure 5. Green Sustainability Transformation Pathway	8
Figure 6. greenSME HUB concept - 1 HUB - 3 components	8
Figure 7. Key components/focus areas	9
Figure 8. greenSME HUB concept	10
Figure 9. General greenSME timeline (step-by-step)	10
Figure 10. greenSME HUB concept - Community	14
Figure 11. Community experience pyramid (Open Social, 2021)	17
Figure 12. Overview of HUB platform and engagement roles	18
Figure 13. Engagement plan step by step	19
Figure 14. Brief overview of Editorial calendar action list	22
Figure 15. greenSME HUB concept - Capacity	23
Figure 16. Capacity step by step	23
Figure 17. Topics of the Sustainability Self-Assessment Tool	24
Figure 18. Advanced Sustainability Action Plan structure	25
Figure 19. greenSME HUB concept - Action	26
Figure 20. Open call step by step	27
Figure 21. Communication strategy step by step	28
Figure 22. Future prospects step by step	30
List of Tables	
Table 1. 16 advanced technologies	5
Table 2. Value offers on the greenSME HUB	13
Table 3. GreenSME Open Call criteria and requirements	27
Table 4. Overview of social media channels in the greenSME communication strategy	
Table 5. HUB targets for beta & scale step of greenSMF	31





1. Introduction

This strategy report outlines the goals of the greenSME HUB and its community, and the plan for how these goals will be achieved. It covers specific targets and general goals of the project, through the design and structure of the greenSME HUB, and outlines the actions and components of the greenSME concept (section 2.2).

The strategy consists of two main parts, a detailed report (PDF), and a brief and visual presentation (PPT) (Annex I). The brief visual strategy presentation aims to give greenSME stakeholders (partners, HUB users, and external stakeholders) an easy overview of the greenSME HUB and its goal and methodology. It creates a presentation and story which can be used for internal and external communication of the initiative, as well as for relation building, events, and future fundraising and networking.

As supplement to the strategy report, an Editorial Calendar (Annex II) based in the engagement plan, and a Community Playbook (Annex III) is developed as working documents and tools for the involved partners and users of the HUB. They will continue to be developed and reviewed throughout the project.

All Annexes of the HUB and Community strategy report will be developed and finalized during M5-6 of the greenSME project, and therefore first available as part of deliverable in the mid-term reporting M18.

The report outlines the following:

why we are here	Chapter 1: Introduction
what is our solution to the challenges: greenSME HUB & community	Chapter 2: The greenSME HUB and community
how we intend to build and implement the greenSME HUB & community	Chapter 3: Developing a "one-stop-shop" for green manufacturing
how we <i>communicate</i>	Chapter 4: Communication strategy
the aim and ideas for the future of greenSME HUB	Chapter 5: Future prospect of greenSME HUB





1.1. Contextual framework: challenges & opportunities

To face the current challenges posed by climate change, green transitions in the global economy are necessary. With the political climate initiatives 'The European Green Deal', the European Commission has made a commitment to become climate neutral by 2050 by transitioning the economy to become more sustainable and resource efficient. The Green Deal will help promote policy reforms and initiatives to facilitate a green transition. However, to achieve these goals the manufacturing industry in EU, including SMEs, must contribute to the effort.

The EU will:



Become climate-neutral by 2050



Protect human life, animals and plants, by cutting pollution



Help companies become world leaders in clean products and technologies



Help ensure a just and inclusive transition

Figure 1. Overview of EU Green Deal

SMEs account for 99 % of European companies and 70 % of total employment in the EU but the transition to and adoption of sustainable practices by these manufactures is slow-paced. This shows a need for EU manufacturing SMEs to gain more awareness of the impact they can have by adopting sustainable practices as well as knowledge of how to make the necessary transitions.

The strategy for the greenSME HUB builds on the previous work of EU's Advanced Technologies for Industry-project. One key output from the project survey is that the primary goals/incentives for SMEs for adopting and investing in AT are not for green and social sustainability, but rather production efficiencies and profit (ATI, 2022). This indicates the need for awareness on potential impact and gains from sustainability efforts by SMEs when adopting technologies to improve competitiveness.

As general concerns on climate change and sustainability are increasing, advanced technologies (AT) can offer new opportunities for SMEs to improve their sustainability practices while remaining competitive. By adopting advanced technologies, transitions towards clean technology and new business models can be made, thus reducing the carbon footprint of SMEs. To give a concrete example of how SMEs can benefit from advanced technologies let's look at the automotive industry; Internet of things can help reduce CO2 emissions from vehicles using 5G, where AI is useful for increasing fuel efficiency by applying it in combination with smart sensors as well as reducing waste streams and increase overall production efficiency (Bremer, 2021, p. 18-19).

Furthermore, to make lasting sustainable changes in businesses and to society, it's important to integrate technology with social innovation in development processes. Social innovation offers opportunities to resolve a wide range of social issues by developing and improving e.g., new green business models or worker skills to deal with new green technologies.

At the same time, it's no secret that COVID-19 has had an impact on production and growth in industrial Europe. Although businesses face challenges in the aftermaths of the global pandemic, it also provides new opportunities for innovation in the EU. With the pandemic it's been necessary for business to adjust to a new reality where everything has become more digital. This means that Europe has seen an acceleration of digital, technological, and sustainable transformation. Not only has COVID-





19 accelerated the need for advanced technologies in industry but also made us consider how we connect and collaborate. A more digital post-COVID world offers more opportunities to build digital communities that connect relevant actors and facilitate meaningful collaboration and engagement around a shared purpose.

Lastly, the current (September 2022) geopolitical conflicts and tensions in Eastern Europe (Ukraine) are posing a constant pressure on the entire European economy with increasing prices on gas and energy. Some industries and regions in Europe are affected more directly – both regarding international trade, increased prices, and general insecurity. Potentially posing a challenge to prioritization of green sustainability and industry transformation.

Nevertheless, the current situation is pressing for change, both regarding climate and environmental sustainability, and at the same time staying competitive on a global market and securing workplaces in times of insecurity and conflict.

1.2. GreenSME context

With point of departure in the EU Green Deal and importance of EU manufacturing sectors, the greenSME project vision is a sustainability shift in the European manufacturing industry. This will be achieved through the **greenSME HUB**, which gathers sustainability awareness and industry engagement activities, ecosystem networking spaces and tailored advisory services to manufacturing SMEs through the **green sustainability transformation pathway**.

The general objectives of greenSME project are:

- 1) Build a sustainable manufacturing SME innovation community: greenSME HUB
- 2) Strengthen manufacturing SMEs capacity for AT adoption for sustainability
- 3) Sustainability principles adoption by manufacturing SMEs

The three objectives all feed into and contributes to the green sustainability transformation pathway in a reinforcing way. By:

- (1) creating a space where stakeholders can meet, learn about sustainability and opportunities on how to develop business and operations in a green manner, one can create an innovation HUB and peer learning situation. Ideally, this feeds into the interest by manufacturing companies to assess their situation and capacity
- (2), in order to find solutions on sustainability gaps in the business and develop action plans moving forward. Last,
- (3) project implementation with AT adoption leading to results can through the innovation space again contribute to inspiration and best practices feeding into the circular model of the pathway.



Figure 2. Circular model for Green Sustainability
Transformation Pathway





1.3. Definition and use of key concepts

The greenSME HUB is built on some concepts with wider meaning; sustainability, advanced technology and social innovation. In order to communicate short and clearly what the greenSME HUB is and what it offers, the tree main concepts are defined within a greenSME context and description of how we use the concepts in practice.

1.3.1. Sustainability

Three dimensions of sustainability

Environmental sustainability: To achieve the 2050 climate neutrality target set for Europe, SMEs will have to reduce their environmental impact through energy efficiency, material optimization, and water management. It is necessary to consider the entire life cycle of products and services and evaluate their impacts considering the interconnection of different sectors and ecosystems.

Social sustainability: A sustainable SME, from a social perspective, must retain and improve the performance of its workforce and engage employees into the green SME mission. Therefore, working environments will have to promote worker skilling to ensure their employability, efficient persontechnology collaboration (including safety and trustworthy), and finally, worker wellbeing, security and inclusiveness. It means adaptative, collaborative and reliable workspaces.

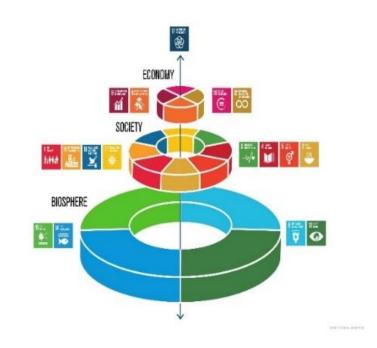


Figure 3. Illustration of how society and economy build in the environmental biosphere regarding sustainability and the SDG Goals (Rockström, 2016)

<u>Economic sustainability:</u> Economic sustainability means that a company is able to run its business successfully in the long term without negatively impacting social and environmental aspects of the community. It stresses how important it is for a company to be profitable and competitive by guaranteeing a long-life quality of its products, the efficiency of its processes and responsiveness (flexibility) to face market changing demand.

A sustainable company is one that considers environmental and social aspects, as well as economic ones, to create value for all stakeholders in the short and long term. The sustainability challenge cannot only be addressed from an economic perspective by focusing on obtaining short-term profits at any cost. Hence, sustainability implies that three key pillars must be addressed that are economic, social, and environmental.

Sustainability applied in greenSME

Despite the increasing importance of sustainability, there is not a unique recipe to industry to become sustainable, and hence, SME pathways towards sustainability are diverse. GreenSME will drive SMEs





in the manufacturing sector into their own green sustainability transformation pathway by supporting them, with expertise and financial support, to define and develop their tailored sustainability strategy.

GreenSME promotes environmental sustainability while ensuring social sustainability and green competitiveness throughout greenSME and its services.

1.3.2. Advanced technology

EU's ongoing project Advanced Technology for Industry (ATI) focuses on advanced technologies that will enable and help industries to successfully manage a shift towards a low-carbon and knowledge-based economy. The following 16 advanced technologies have been identified:

Advanced Manufacturing	Big Data	Industrial Biotechnology	Nanotechnology
Advanced Materials	Blockchain	Internet of Things	Photonics
Artificial Intelligence	Cloud Computing	Micro- and Nanoelectronics	Robotics
Augmented & Virtual Reality	Connectivity	Mobility	(Cyber)Security

Table 1. 16 advanced technologies

Use of advanced technologies in greenSME

Working in the spectre between the manufacturing sector, green sustainability, and technology innovation, greenSME is open for inclusion of any of the listed technologies that can contribute to a shift towards a climate neutral manufacturing sector. However, as the HUB develops and relations and synergies between different technologies and sustainability solutions are identifiable, it is possible that the practical use of technologies are specified throughout the project.

Technologies marked in grey in the table above have been categorised as particularly interesting for use in the green sustainability transformation for the manufacturing sector – focusing on the three cluster regions of the project, Silesia – located in Poland (automotive), Piemonte – located in Italy (smart manufacturing) and Spain (advanced machine tool manufacturing). It is possible that further specifications of most relevant technologies for greenSME project is made during the coming months of the project.

In practise, the advanced technologies play a vital role in all components of the greenSME HUB because of the overall aim of combining technologies and social innovation on the manufacturing sectors' transformation towards green sustainability. However, practical use come to play in the action plan development (section 3.4) where technical and social innovations are to play a role in solutions. Therefore, technology providers are important stakeholders on the HUB as specified in section 2.1.

1.3.3. Social innovation

Definition of social innovation

"A social innovation is new combination and/or new configuration of social practices in certain areas of action or social contexts prompted by certain actors or constellations of actors in an intentional targeted manner with the goal of better satisfying or answering needs and problems than is possible on the basis of established practices. An innovation is therefore social to the extent that it [...] is socially accepted and diffused widely throughout society or in certain societal sub-areas, transformed depending on circumstances and ultimately institutionalized as new social practice or made routine. As with every other innovation, "new" does not necessarily mean "good" but in this case is "socially desirable" in an extensive and normative sense."





(Howaldt/Schwarz 2010: Social Innovation: Concepts, research fields and international trends).

What is social innovation?

Social innovation is a new combination of social practices driven by a constellation of actors to solve specific complex challenges. This is often associated with changing mindsets and behaviours.

Social practice consists of three elements: material (e.g. a 3D printer), competences (understanding of how the 3D printer functions and skills to use it) and meaning (motivation/reason to use the 3D printer, e.g. to reallocate production of supply or spare parts back to Europe).

Social innovation can therefore be both a mean (process) and an end (solution).

Social innovation in greenSME

GreenSME use social innovation from a company perspective, as internal corporate social innovation, focusing on how social innovation can deliver non-technological (organisational, people-related) contributions to solutions on green sustainability challenges within the company (e.g. developing new working, collaboration or management practices).

Practical application in greenSME

Social innovation will in practice be encouraged and applied in the Action Plan Development (section 3.4.2), where SMEs are developing solutions to identified needs/challenges (through the sustainability assessment section 3.4.1). Focus of the greenSME Advanced Action Plan Development is to combine technology innovations (AT) with social innovation. The social innovation can as such be part of the process (e.g. including staff in development processes) and part of the end solutions (green business model innovations).





2. The greenSME HUB and community

To address the challenges and achieve the goals presented in the introduction, the greenSME HUB is developed. It builds on previous projects and results and adds value to the current methods and initiatives by focusing on digital community building to support the manufacturing sector on their transformation pathway towards green sustainability. The HUB combines current opportunities of digitalisation in the post-Covid time with the growing opportunities of technology- and social innovation for green sustainable transformation.

This chapter briefly outlines *what* we are doing – greenSME HUB – its main purpose, functions, and target groups. Furthermore, it presents how greenSME HUB is developed as a replicable and scalable concept, **and the expected impact of building a community around it**.

2.1. Purpose and general overview

The greenSME HUB aims to become a meeting point for EU sustainable manufacturing stakeholders, such as SMEs, technology providers, social innovation enablers, SME support organisations and institutions, and society representatives. The greenSME HUB and its community will be a 'one-stop-shop' and a central gathering place for opportunities and accumulated knowledge on advanced technology and green sustainability. The HUB will welcome community members to select from a range of offers such as informative resources, innovation activities, funding opportunity calls, assessment tools and match-making for initiatives and partnerships.

The focus of the community will be on creating an inclusive, virtual environment with the SMEs who are interested in developing their business in a more sustainable manner, and technology providers and social innovation enabler who can offer services and expertise to help facilitate that transition, as the central stakeholders.

Target groups

GreenSME HUB, with all its offers, will be open to society and interested stakeholders, raising the awareness about sustainability and how implementation of advanced technologies and use of social innovation can contribute to more sustainable businesses, both environmental, social and economic.

Therefore, there is a wide range of stakeholders for the greenSME HUB as illustrated in Figure 4 on the right side. However, the HUB and its community aim to specifically manufacturing target SMEs, technology providers and social innovation enablers. These groups are key actors to empower and the support along green transformation sustainability pathway, driving development, action and results.



Figure 4. greenSME HUB Stakeholders





Green sustainability transformation pathway

The HUB creates the physical place encouraging green transformation within the manufacturing sector, as well as facilitating the green sustainability transformation pathway with tools and services needed to take action and develop businesses to more environmentally friendly companies.

When becoming a community member and user of the HUB, manufacturing SMEs can:

- Use the digital sustainability self assessment tool to identify core sustainability challenges which can be addressed;
- Get expert support to develop an **advanced sustainability action plan** (building on the identified sustainability challenge);
- Apply for funding for "green competitiveness initiatives" through open calls; and
- Use the **match-making portal** to find project partners and suppliers of advanced technologies and social innovation actors to co-develop and implement the action.

Additionally, service providers can use the match-making service and will be offered training opportunities. Thus, the greenSME HUB guides SMEs and service providers along the pathway, from innovative knowledge sharing community space to concrete actions generating results.

2.2. greenSME – a simple concept

Based in the three main objectives of the greenSME project and the green sustainability transformation pathway (Figure 5), the greenSME concept has been developed (Figure 6):

greenSME: 1 HUB – 3 reinforcing components

- Community: Fostering leadership and innovation through empowerment & engagement
- Capacity: Assessment tool, learning opportunities and action plan development
- Action: Accelerating action through match-making service and funding opportunity

All enabled in the HUB where actions and results feed into the community and innovation space for new ideas and developments along the green sustainability transformation pathway. Therefore, a circular model with reinforcing components driving development.

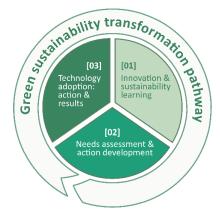


Figure 6. Green Sustainability Transformation Pathway

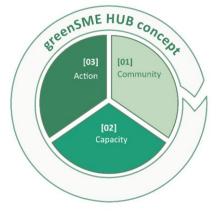


Figure 5. greenSME HUB concept - 1 HUB - 3 components





2.3. Power of community

Power of community (Impact)

The greenSME HUB aims to generate long term impact by going beyond our targets.

The final aim is "Increased autonomy in key strategic value chains for resilient industry" as stated in the Destination 2 of the greenSME Description of the Action. GreenSME will create awareness about advanced technology potential for sustainability and competitiveness, contribute to overcome the main obstacles (SMEs and Clusters lack of skills, lack of financing support, no methods) for European SMEs accessing to advanced technology for sustainability and create a strong and dynamic supporting ecosystem for sustainable manufacturing.

Key Impact pathway 1: Increased adoption of key digital and enabling technologies in industrial value chains and strategic sectors, paying particular attention to SMEs and start-ups.

Key Impact pathway 2: Leadership in circular economy that strengthens cross-sectorial cooperation along the value chain and enable SMEs to transform their business.

To create cross-sectoral cooperation and leadership, the manufacturing SMEs need to feel ownership of their development and contributions to a carbon free industry. This can only be accomplished by including them in the work to identify issues, develop actions and interact to support each other on the journey. This is the way greenSME focus on creating a community for the target group to engage and take ownership for long term change and impact.

The "sweet spot" of shared value

Communities cannot be forced into existence or to create value. Real impact coming from a mature and strong community, happens through finding a shared purpose, or "the sweet spot of shared value" between community members and the organisational goals, and in particular, the goals of the greenSME project. In the case of greenSME, the HUB evolves around three key components or focus areas, see figure 7 below. In similar way, the key target groups for community (manufacturing SME, technology providers and social innovation enablers) have different values and interest.

Creating a product or service without investigating the need and interests of potential customers will likely lead to little or no product being sold, and maybe even worse, a high unsatisfaction among

customers whose needs have not been met. In the same way, a community is made up by its members, and member needs, interests and values should be identified, to shape the offers of the community (and the organisation).

In the following section, we will explore how the community purpose and strategy can be built around the purpose and goals of the project, and its targeted groups, and how alignment will be essential for reaching the expected impact and greenSME vision.

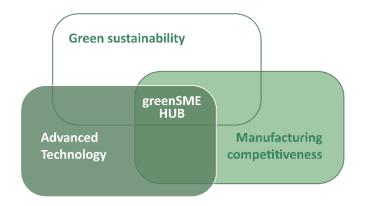


Figure 7. Key components/focus areas





3. Developing a "one-stop-shop" for green manufacturing

The greenSME HUB is developed as a "one-stop-shop", building on the idea that community members and new visitors can enjoy a coherent experience when visiting the HUB, whether that is for exploring project content, accessing the tools and services, or finding funding opportunities. The HUB will be the central platform and 'gateway' for all the offers of the project. The goal is to create an experience for the user, that the elements of the platform are well connected, and information and services are easy to direct to, across the HUB and associated platforms and media channels.

[03]
Action

[02]
Capacity

The community building component of this strategy will support a scaling community, and work within an agile framework to meet the changing interest of its members,

Figure 8. greenSME HUB concept

while still meeting community goals. This is done through the integrated approach with the HUB, going beyond traditional communication and marketing efforts, and ensuring synergies across the project.

Because of their importance to the greenSME HUB and its community, all concept components are outlined in this chapter, i.e. capacity (the assessment tool & action plan development) and action (match-making & funding opportunity). However, the chapter starts with an introduction to the approach and methodological considerations behind greenSME HUB.

3.1. Approach

This section outlines how the team behind greenSME works *step-by-step*; uses an *inclusive approach* combining the top-down initiative with bottom-up perspective; focuses on developing a *streamlined methodology* going through the steps of the green sustainability transformation pathway; and focuses on *good service design*.

Step by step

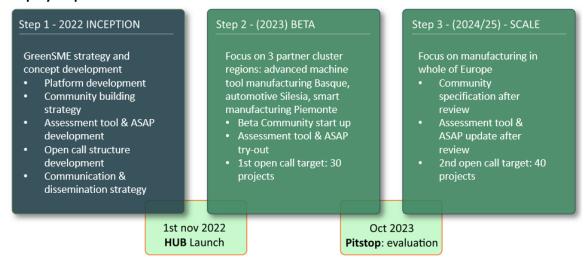


Figure 9. General greenSME timeline (step-by-step)





In general terms, the HUB and its community is developed in three steps, working step-by-step with pitstops to evaluate and review strategies and initiatives.

1st Step - 2022: INCEPTION

Focus on setting up the greenSME HUB framework in terms of platform development, community and communication strategies, assessment tool and ASAP tool development, and structure of Open Call.

2nd Step - 2023: BETA

Focus on launching the community, ensuring implementation of the engagement plan (see section 3.3 and Annex II & Annex III), launching a beta-community with community managers and identifying ambassadors, and creating engagement and content for the early stages of the community and the HUB in general. Assessment Tool and Action Plan service ready for use as preparation for the first open call. Focus on attracting SMEs and advanced technology providers from the regions and industries of the greenSME consortium cluster partners: advanced manufacturing in Basque Country, automotive manufacturing in Silesia, and smart manufacturing in Piemonte.

3rd Step – 2024-2025: SCALE

Building on learnings from Step 2 through mid-term evaluation. The engagement plan and community strategy will continuously be improved/adjusted to fit with the demographics of the greenSME community members and users of Capacity and Action services. All concept components and their services will be reviewed after evaluation and improved if needed for the 2nd open call. Lastly, this final step focus on lasting impact and exploitation measures.

Inclusive approach: Combining bottom-up and top-down

In order to create a HUB and community with genuine interest to participate in by different stakeholder groups, greenSME is building on expressed interest from manufacturing SMEs from both an initial baseline survey (greenSME) and partner cluster experience, as well as a more top-down perspective from a more thorough mapping of manufacturing ecosystem and its stakeholders. From these two perspectives interest and need from the SME perspective is derived as well as the general trends and interest from meta-clusters, international initiatives and institutions etc.

Streamlined methodology (for green sustainability transformation pathway)

The key components of the greenSME concept are developed with a streamlined methodology so that it is simple for users (SMEs and service providers) to navigate through the pathway. This means that the assessment tool is developed with clear focus areas and clearly define green sustainability issues which the advanced sustainability action plan development can build on in the Capacity component. Furthermore, the match-making and the open call services of the Action-component are developed to service the output from the assessment and the Action Plan development. It will therefore feel natural and easy for SMEs to assess needs, develop solutions and take action together with relevant partners and service providers.

Service design

The greenSME HUB and its community is developed keeping good service design as fundament. More precisely, the 6 principles identified and listed by the EU in their Handbook for Innovation Hub Agencies (European Commission, 2022) are used as base for the development process of services:

1. **User-centered**, through understanding the user & his/her needs (by doing qualitative research)





- 2. **Co-creative**, by involving all relevant stakeholders in the design process
- 3. **Sequencing**, by partitioning a complex service into separate processes and understanding the impact of these processes to the overall customer value creation
- 4. **Evidencing,** by visualizing service experiences and making them tangible
- 5. **Holistic,** by considering touchpoints in a network of interactions and users and by involvement of a variety of stakeholders
- 6. **Iterative**, leaving the usual waterfall approach and shift towards an agile service development with continuous improvement and integration.

3.2. The digital platform: functions & features

3.2.1. Platform key elements

The 'Digital Platform', hereunder synonymous with 'website', will serve as the virtual space for the HUB and the three main components of the greenSME concept (community, capacity & action). It will be a multi-functional platform with three key elements:

- One-Stop-Shop
- Stakeholder Meeting Point
- Exclusive Members-only Features

The HUB website is planned to be launched by 31st of October 2022. Therefore, all information and all plans are outlined in the following section 3.2 The digital platform, its functions & features, as well as section 3.3 Building a community, is to be specified and can change the coming months.

One-stop-shop

Several features and functions will allow the HUB to be experienced as a One-Stop-Shop. Companies will be able to enter the website and find everything they need, from resources on carbon offsetting in the form of reports and academic papers, for example, to events in their areas of interest and according to physical location. By navigating within the HUB, members (as well as visitors to the website) will understand how to start their journey in sustainability practices, arrive at a solution involving AT adoption, utilise the funds being offered and make the appropriate connections.

Funding opportunities will also be listed, including those from other sources/entities/projects. Best Practices will be featured on the website as well, including a Solutions Catalogue highlighting the most successful 'pathways' taken and how. Trainings and webinars will be promoted to encourage membership.

Stakeholder meeting point

The Stakeholder Meeting Point refers to several features of the HUB, from a Match-Making portal where both SMEs and service providers can search for relevant entities to link with, and a forum encouraging dialogue, Q&As and knowledge sharing. Members will be able to create Company Profiles, further facilitating dialogue and connection with relevant stakeholders.

Exclusive member-only features

Exclusive Members-only features will include the promotion of particular events (that aren't available on the 'public' part of the website). Members will be provided with the Self-Assessment Tool, which guides the given company in understanding how far along the green sustainability transformation pathway they are. The results of this Assessment will be made available (in two working days), and





Members will be invited to define an Action Plan with HUB partners to begin their journey and determine the most appropriate AT to adopt. Members will also get access to exclusive trainings and webinars, as well as potential funding opportunities.

3.2.2. Value proposition

The needs and interests among targeted stakeholders vary. In general, for the larger audience (see all stakeholder overview in section 2.1). More specifically for the focus target group of manufacturing SMEs and service providers, the needs and interests identified are:

- Lack of time and financial means
- Lack of knowledge on AT in relation to sustainability
- Lack of supply & company skills
- Poor connection between service providers and SMEs; lack of trust
- Lack of comprehension and actions towards global trends (i.e., changes, development of)

Based on this, the value offers from the greenSME HUB to its community members will include:

Value offers	Materials and activities
Access to new knowledge + SME showcasing, "green competitiveness" best cases	 News and other project communication Community forum (with Q&A) Research articles, reports, toolkits Solutions Catalogue Infographics, factsheets, interviews, blogs
Knowledge and skills through trainings + tailored events	 Training materials/sessions Events (in/outside project) Green sustainability transformation pathway Engagement programs Dialogue sessions between service providers and SMEs
Network and potential partnering	 Open Calls Match-making portal, Member Company Portfolio Community networking Funding access
Financial support	SME that has completed Assessment and ASAP can apply for financial support via Open Call

Table 2. Value offers on the greenSME HUB

3.2.3. Behind the scenes

Consortium partner F6S maintains the website and any issues in terms of functionality. For example, an issue with posting comments on the forum will be addressed by the technical staff responsible from F6S. Website activity will be monitored by digital tool and analytics will be performed every three months by F6S. All partners are expected to report any bugs or other issues spotted on the Website throughout the project.

Further details on the management of the platform and community in section 3.3.5.





3.3. Building a community

The greenSME community have its main presence in the virtual environment, with direct access through the greenSME HUB webpage. As the project evolves and community members across Europe starts participating, the community will also be present in a local, non-virtual format, e.g. through local events hosted by Cluster organisations.

This section focuses on the digital community, virtually present in the HUB, and how the greenSME consortium will use it as a platform and channel for SME-, technology providers and other stakeholder engagement, and to reach project objectives.

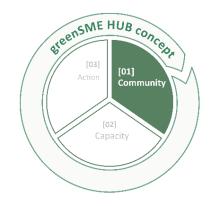


Figure 10. greenSME HUB concept - Community

The community building strategy is based on DBT experience from developing and managing communities in other

international projects (such as Human Brain Project & EBRAINS), as well as Open Social guides and recommendations to sustainable communities (Open Social 2021), and the initial understanding of greenSME target group needs and interests.

Targets & expected outcomes for greenSME community within project timeframe (by 2025)

- 250 company members (200 manufacturing SME & 50 service providers)
- 10 cluster members
- HUB members co-creating features & 5 ambassadors
- Community members with strong ownership & participating in the future business model of greenSME HUB

3.3.1. Digital Community

Community vs social media

Digital communities should not be mistaken with social media. Social media is often focused on one-way communication and marketing, and the user experiences a constant battle for attention from various content, including advertisement. On the 'free' social media platforms, user-data can be gathered, stored and sold, outside the control of the community provider, who will have little or no influence on the data privacy of its community members.

Utilising an owned, online platform for the community can offer several advantages (Open social, 2021):

- A central, attention-focused space for members to connect and share;
- Targeted communication, which is not in competition with other content or social media algorithms over member attention;
- A safer space for user data privacy, and more control by the community provider;
- Opportunities to gain a deeper insight and understanding into member's wishes and needs
- Increased value through member collaboration; and
- Opportunity to create an inclusive and diverse culture, and one that fits the community.

These advantages are the reasoning for why the greenSME project will move forward with creating the project-owned and managed HUB and community platform.





Another benefit from using digital media is the opportunity to engage through synchronous and asynchronous activities. Synchronous are for example live events and meetings, where all involved are participating at the same time. Asynchronous are all the activities people can engage with, whenever, 24/7, and examples can be posts, videos, polls, games and more. This allows for a continuous conversation, outside of the live and timed events.

The engagement on greenSME will focus on online engagement programmes in the community, and interactive communication measures, such as call-to-actions, that will invite new stakeholders into the HUB and the community.

Community is not an audience

GreenSME will use a community-centred approach to engagement and communication, in comparison to a more conventional communication and marketing strategy approach. A more traditional approach often includes one-way broadcasting and mostly passive consumption of information by audiences and customers. The community-centred approach instead looks to bind together a range of measures that each encourage active participation, conversation, and other interaction. This is needed to ensure community members' contribution and community-driven impact.

Aspect of time

Building a community takes time. Creating a sense of value, loyalty, and belonging, are fundamentals that are not created overnight. It is the initial steps of identifying member interests, continually communicating community value, and creating meaningful engagement, which will help ensure a self-sustaining community.

With a focused effort, within 1-2 years, we expect to see the beginnings of a loyal community with a core community that is highly engaged. Aim for greenSME is to have created a strong foundation and framework that can enable the greenSME HUB and community to be sustainable and active, also after the project has ended. This requires a large and collaborative effort from the consortium of the project – read more in section 3.3.5 about roles and responsibilities with HUB engagement.

The following sections focus on the engagement, main steps, and central elements, for building the greenSME community.

3.3.2. Community presence in the HUB

With the aim of creating engagement and increasing interaction between participants within the hub, several actions will be carried out, and materials will be created to contribute to the development of the companies and ensure networking and creation of synergies.

A **forum/chat** will be created to allow real-time interaction between members, rapid sharing of relevant information, documents or opportunities, and to enhance discussion between members with specific questions about the manufacturing sector and the industry, for example. All members will be allowed to share their own content.

The forum will function like Reddit, with the ability for people to make comments and "like" posts. The Website will also feature statistics on the homepage, showcasing how many members are subscribed, how many funds members/companies have applied to and how many official collaborations were established. The gamification elements on the Website will help make the virtual space more interactive, hence keeping visitors/members engaged for longer.





Taking into consideration the background of the HUB members and their needs, **infographics**, **academic papers**, **videos**, **and best practices cases** will be developed, having an open access to ensure that the community can interact, comment and share relevant inputs to contribute to the development of businesses and entrepreneurs.

The creation of a **company profile** that shares relevant information, such as objectives, likes and needs, will be created to help matchmake members and promote networking between enterprises, SMEs, workers, service providers and social actors.

Throughout the beta period of the project, focus will be on engaging the community members on the HUB to a level contributing to a sense of ownership resulting in interest to co-create and participate in the engagement of the community.

3.3.3. Community Playbook

The Community Playbook describes how to use the HUB to project participants, community members (HUB users) and community managers. The Playbook will be developed during the first months of operations (M5-7) and made available on the platform for facilitators and users who are members. It will also be reported in the interim and final reporting of the greenSME project.

Policies and guidelines

Guidelines and moderation (part of playbook):

- Guidelines gives the community member a sense of what the community is about and may include 'rules' to follow in the community. Focus on "should" and not on "don'ts".
 - o The beta-community can co-create the guidelines
 - Many might not read the fine print, but can be valuable for moderation, and highlights from the guidelines e.g., values can be used for communication and onboarding
- Moderation
 - Ensuring offensive or problematic content is dealt with in good manner
 - Ensuring support and information for members asking questions, closing inactive groups etc. (can also fall under aspects of management or administration)
 - Find guidelines for content moderation in Open Social's 'How to − 10 steps for your first year of community building' or in the Community Roundtable library

3.3.4. Engagement

Engagement is central for creating an active community. It is something that needs to be built up over time. A highly engaged, mature community will be largely self-sustaining, with a lot of volunteer contributions and bottom-up initiatives, based on the passion and interest of its members. However, initialising such a community takes a lot of early "top-down" efforts to move a non or little engaged audience to become community members, who are encouraged to engage with and contribute to the community.

A (digital) community will consist of a mix of community member types. Open Social, references to 8 different types, based on their engagement level (see Figure 11 below). The lowest engagement level will consist of all the people who might be influenced by content and engagement programmes, and who presents an opportunity to become more involved, as they move up through "The Community





Experience Pyramid". The highest level will be Community Leaders, who are part of organising activities for the community, and who will feel a co-ownership of the community and actively contribute and engage other members. The pyramid illustrates how the amount of addressable people (level 0) are the majority, while highly engaged member types are less common (moving up towards level 7).

Creating targeted engagement for the community seeks to increase the number of people in the higher levels of the pyramid. This is also where the true community value and increased impact happens, through the creation, support, sharing and bottom-up leadership, which in turn will lessen the need for top-down management and content creation.

GreenSME aims to generate the engagement encouraging community members to move from the bottom levels of the pyramid and up towards the leader level. This will be accomplished through focus campaigns and work to onboard beta community and engage members on the HUB – read more in following sections.

THE COMMUNITY EXPERIENCE PYRAMID

by Open Social®



Figure 11. Community experience pyramid (Open Social, 2021)

Meeting community member expectations through engagement

Members will join a community for many reasons, but will be driven, engaged and stay loyal based on a sense of belonging. This can be fuelled by different interests, including:

- a feeling of contributing to something positive
- mutual support and problem solving
- a topic they are passionate about
- learning
- knowledge sharing and discussing new developments

In the developing inception step of the greenSME, need and expectations for targeted community members has been investigated and discussed by consortium partners. Based on Cluster partners experience and the greenSME baseline study results, the interest and expectations for joining a community differs cross sectors, countries etc. Therefore, the beta period with first community members will be particularly important to specify further the needs and expectations of members for their future engagement and sense of belonging.





3.3.5. Engagement plan & editorial calendar

In the greenSME HUB, engagement will be closely aligned with project milestones, HUB offers and central communication efforts. There will be targeted, interactive content and engagement programmes based on community interests. This will be managed through a shared engagement plan and committed team with contribution from all consortium partner members (read more in Roles & responsibilities" below) to be successfully implemented and drive community growth and engagement. The focus is on co-creating and development of engagement plan and editorial calendar as project moves forward.

Draft engagement plan & community features

For more communication related features see Chapter 4 "Communication strategy".

Project milestone related communication

- 2x Open Call
- "Training sessions" for SME & service provider pre-Calls
- Local events (3 locations x each Call) stakeholder events connecting AT & sustainability

Quarterly

• 1 interactive feature (focus peer review): e.g. "Ask an expert" session focus AT enabling green sustainability; webinar with expert; "match-making" session with pitch of AT

Monthly

- Showcase 1 member SME/ best practices /community achievements
- 1 general "trend" / development for AT, latest news, sustainability etc. academic research, national policy, large company initiative, etc.

Weekly

• Short informative &/or fun features: "Do's & Don'ts" list; tips & tricks; quiz etc

"momentum" - based - on regular basis

- Get to know the green SME partners and ambassadors (Focus in year 1)
- External funding & training opportunities
- Promotion of relevant community events

Roles & responsibilities

Overview HUB platform & engagement roles

- **Community manager** = DBT representative
- **Technical, data & platform manager =** F6S representative
- **Co-community leads**= consortium partner representatives
- Ambassadors = SME members & other stakeholders taking an active role to promote greenSME externally
- Super users = SME members taking role on the HUB

Figure 12. Overview of HUB platform and engagement roles





The engagement content and activities will be coordinated by DBT, ensuring an effective use of resources and content, and needed support to consortium partners. The engagement plan will focus on delivering HUB offers to the community, while meeting stakeholder needs.

The community manager (DBT), platform manager (F6S), and all co-community leads (1 representative from each consortium member) will have monthly/weekly meetings.

Depending on the phase (or maturity) of a community, different tasks is prioritised. Starting up, focus is on setting the framework for community and HUB practices and processes, moving on to the launch of the community, starting conversations and building relationships are essential. As the community matures, more focus is put on engagement programmes, content creation for a broader audience, and long-term HUB strategizing. The following sections dives deeper into the steps identified for the engagement of the project, in accordance with the expected development of the community and the project milestones.

Engagement step by step

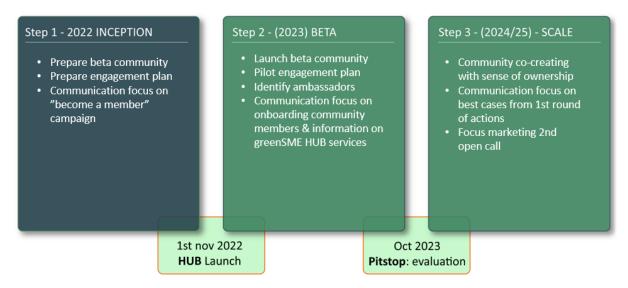


Figure 13. Engagement plan step by step

Step 1- Preparing a beta-community

The greenSME community will be initialised with a 'beta-community', to gain benefits of a soft community launch.

Benefits of a beta-community, includes:

- Few people to beta-test the platform, allows for more qualitative feedback;
- Personal onboarding to increase beta-member loyalty and engagement;
- Test and receive feedback on targeted communication, themes for training and content for engagement programmes, to align with community member's interest;
- Building community with the members, ensuring higher impact and long-term engagement
- Opportunities to find the first Use Cases, and HUB Ambassadors; and
- Test match-making or other offers of the HUB.





Prior to the launch of the beta-community, certain elements will be put in place to help ensure a successful start. The key elements are highlighted below.

Identify target groups for beta-community: manufacturing SME who are active members of the 3 consortium cluster partners, advanced technology providers and social innovation enablers in the regions of partner cluster organisations.

To ensure communication and initial engagement is targeted to the beta-community members. Outreach will be done by clusters/consortium partners channels and networks, e.g. newsletters and LinkedIn groups.

Set goals and trials for the beta community (read more in section 5.1 Metrics & analytics): Specific goals for the beta community are to evaluate HUB services/offers, platform design and User Experience, and gain feedback on communication and engagement offers.

Create an initial, simple engagement plan

The initial steps of creating the engagement plan have been made as outlined in this section on engagement (section 3.3.4). This aligns with the project milestones and deliverables within the beta-period and includes a focused launch campaign and onboarding process for the beta-community. The initial engagement programmes will include introduction to the HUB and the community platform, presenting the benefits of the project offers. It will also encourage the beta-community members to present themselves and network.

Identify and ensure first agreements with key co-community leads

Co-community leads will initially be representatives from greenSME consortium partners or relevant stakeholders, who will support content creation for

- assessment guidelines and materials
- call preparation material
- teaching materials
- engagement programme (e.g., training session, videos, Ask Me Anything session)
- external communication

(See detailed list in draft Editorial calendar). Furthermore, the co-community leads are active in forum and participate in engagement programmes to answer questions from the community, as well as support the moderation of forum discussions within their expertise area (clear guidelines for moderation should be set out in the Playbook).

Community manager is identified and introduced

Community Manager (CM) is responsible for coordinating community activities. In the beta-launch preparation, the CM will:

- Ensure onboarding of the consortium partners, presenting the Playbook;
- Make agreements with Co-community Leads on their involvement in the engagement plan;
- Ensure the engagement plan is ready for beta-community launch, together with the communication team;
- Ensure an onboarding process is ready for beta-community members; and
- Ensure familiarity with the identified interests of the target groups, based on survey and consortium insights.





Step 2 – Launching the Beta-Community

The beta-community is launched in month M6 and will be reviewed between M15-M16, to prepare for the M18 mid-term review. The community is open for new members up to the 1st Open Call Launch in M14, however, the focus will be on onboarding and reaching out to the target groups and ensure support and engagement of the initial beta-community members.

The CM will focus on (virtual) one-on-one onboarding of the beta-community, including project partners. This includes:

- Presenting the community Playbook
- Ensuring engagement programmes and content, which
 - o welcomes the community members and invites them to present themselves
 - o presents the community and the HUB and its offers

The CM will further:

- Ensure reports on all community activities to help figure out what works and what does not (ongoing in beta-period, and for the beta-community review)
 - Make small survey/polls/interview with the beta-members, and consortium partners
- Coordinate the implementation of the engagement plan together with the communication team
- Ensure support for co-community leads, who support content creation and engagement
- Ensure Forum moderation together with selected consortium partners

Identification of Ambassadors and/or community Super Users

As the community grows, it is expected that some community members (consortium partners or external members) will be especially active and engaged. These members should be valued, and their efforts can be acknowledged in different ways. One way is to highlight them in Engagement Programmes that focus on e.g., 'Member of the Month', more long-term ways are to distribute leadership to them, by promoting them to Ambassadors, Community Super Users or even moderators and co-community leads. This encourages loyalty and responsibility and may heighten or at least maintain the high engagement and support shown by the active member.

These individuals can be encouraged to support the community management through:

- Content creation, and suggestions for topics
- Organising or participating in engagement programmes
- Management and moderation of Forum topics
- Welcoming and onboarding, and outreach to new potential members
- Give feedback and provide suggestions for improvements

Finally, Ambassadors are important for outreach and bringing new members into the community. The relationship can be built with the ambassadors / super users, by asking them for help after a first good relationship is established, creating a specific group for them to communicate with them specifically. Reward them by highlighting them or other ways of creating benefits or by using gamification elements.

Step 3 – growth and sustaining the greenSME HUB and community

Based on the feedback and review of the beta-period, and the mid-term review (M18), the HUB offers will be adjusted prior to the launch campaign for the 2nd Open Call launch. Goals and measure will be





adjusted for the community in month M30, M36 and M36+, in alignment with project objectives, Impact measures and the exploitation plan for the HUB.

This period (M19-M36), will be initialised with the start of the 2nd Open Call Launch campaign, which will level up the outreach to invite stakeholders into the HUB. This will be done by paid marketing, and community member ambassadorship, and other measures identified by the review of the beta-community. The period will seek to maximise impact for the finalisation of the project, and the continuation of the HUB.

The engagement-focus of the CM and supporting partners continues as in Step 2, with personal onboarding, support, and moderation. However, if the beta-community has been successful, it is expected that a greater amount of the engagement work and content creation will be carried out by community members. This will also mean that a greater amount of time will be used by the CM to coordinate input and implement them into the engagement plan. Central engagement from the Engagement Plan will still be carried out by the CM and supporting partners, in alignment with project milestones.

Editorial calendar

The Editorial Calendar is a more detailed planning tool for the HUB and the managers & leads working with is. See Annex II. The editorial calendar includes

- Project milestones
- Project deliverables
- Communication actions
- Engagement actions
- Dates, frequency,
- Responsible partner and/or co-community lead

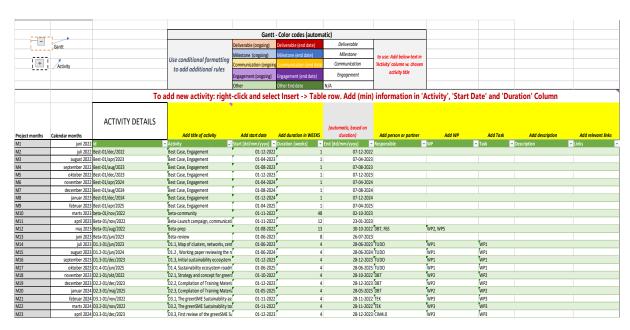


Figure 14. Brief overview of Editorial calendar action list





3.4. Capacity – assessment & action plan definition

Purpose & target

As noted in the introducing chapter of this strategy report, there is a general low capacity and knowledge on how to use advanced technology for green sustainability gains in the manufacturing sector. Information from interviews with greenSME project partner clusters, as well as result from the small greenSME baseline survey supports this statement. As example, majority of the responding SME's expressed interest to use an online tool for assessing company sustainability, as well as agreed or strongly agreed with the statement that external support would be valuable for developing business cased and action plans for sustainability initiatives.



Figure 15. greenSME HUB concept - Capacity

Based in this, the aim of the "Capacity" services provided on the HUB is to support manufacturing SMEs, technology providers

and social innovation enablers to focus on needs and capacity. In the greenSME concept it takes form as two main services offered on the HUB platform: sustainability self-assessment tool and advanced sustainability action plan definition.

Target for greenSME project period is 110 assessments & 100 action plans resulting in around 70 implemented projects in 2 years (funded through the open call, section 3.5). Furthermore, training for service providers and social solution enablers will be offered on the HUB to increase their capacity and preparedness for actions towards green sustainability in manufacturing.

Step by step – capacity



Figure 16. Capacity step by step





3.4.1. Sustainability self-assessment tool

The Sustainability Assessment Tool is available online for signed up **SME members** of the greenSME HUB. The aim is for manufacturing SMEs is to obtain SME's sustainability development overview and identify fields of action regarding environmental sustainability in their production and business models, while ensuring that all three dimensions (environmental, social and economic) of sustainability are taken into account.

The online assessment guides the SME through the following topics with relevant questions:



Figure 17. Topics of the Sustainability Self-Assessment Tool

After finalising the sustainability assessment, in maximum of two working days, the SME will receive their tailored sustainability report. The assessment will create the basis for potential sustainability actions by identifying fields for improvement within SME' production, management and business models.

It is mandatory for SMEs to finalise an assessment before developing an Action Plan and before applying for funding through the open call for "green competitiveness" initiatives.

In the greenSME community, there will be tutorials and guides for how to do the assessment and go through all components of the "green sustainability transformation pathway". There will also be forum for questions and dialogue, etc. The SME will be supported along the sustainability pathway, by Clusters.

3.4.2. Advanced sustainability action plan definition for SMEs

Building on the sustainability assessment report, SMEs can decide to move on along the transformation pathway. After request, the SME can be guided by greenSME sustainability experts in how to develop an action plan for sustainability transformation.

The action plan will identify and develop (in a simplified way) a series of actions, related to advanced technology and social innovation, that would contribute to the SMEs sustainability path. The action plan aims to foster the use of advanced technology for green transformation. Moreover, the action plan will be the baseline for further work to create a proposal that can be used for application to the greenSME open call and match-making services (see section 3.5).





Advanced sustainability action plan structure

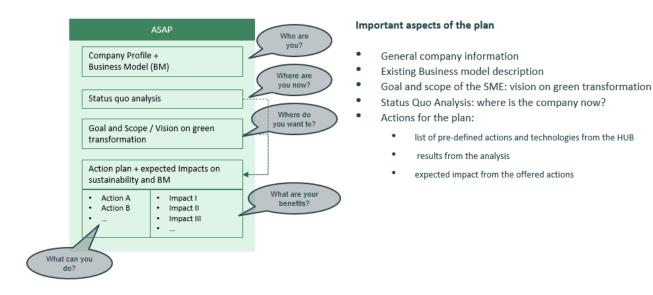


Figure 18. Advanced Sustainability Action Plan structure

3.4.3. Sustainability training for technology- & social innovation providers

All (technology- and social innovation) providers signing up as members on the HUB who are interested to enter partnerships and offer solutions to the projects developed by SMEs through ASAP definition, needs to participate in obligatory "Sustainability training" offered online on the HUB.

Several specific training sessions will be offered, in relation to the open calls to best prepare the providers for cooperation with projects regarding sustainability. The structure and format will be developed and specified the last months of inception step.





3.5. Action - match-making & open call

Purpose & target

Long return on investment is a re-occurring statement when addressing green sustainability. The need for financial incentives and support to take action focusing on the green transformation is highlighted in the baseline work for the greenSME HUB. Here, close to all respondents stated that external financial support would benefit their company in testing new solutions for sustainability.

The Action component of the greenSME concept aim to support SME's going from idea to action. It first includes a match-making service, aiming to bring SME and service providers together, and second, offer a funding opportunity through open call service. Project target is around 70 implemented projects from the open call in two years.

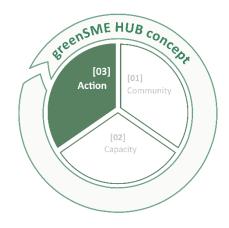


Figure 19. greenSME HUB concept - Action

To support future initiatives and action acceleration after the greenSME project is finalised, we intend to a **solution catalogue** of 10 proven concepts based on best practices from the actions implemented. This catalogue will easily outline concrete issues, concrete solutions and results from greenSME projects. Together with the **match making** function of the website, it will support future initiatives and action along the green sustainability transformation pathway.

3.5.1. Match-making

The main target groups for the greenSME HUB and community are manufacturing SMEs and service providers withing advanced technology and social innovation. When becoming member on the HUB, the companies will automatically be categorized for the match making portal. This includes providing information about

- "Company type": manufacturing SME or service provider (AT and/or social innovation)
- Company needs and/or services: For a SME who has finalized an assessment and ASAP definition, the identified needs will be posted on the company profile, and similar, service providers will have products and services listed on profiles or match the needs from the SMEs.

In this way, SMEs and service providers can easily identify each other and connect on the match making portal. The portal will also be used for formal service requests in relation to ASAP and proposals for greenSME open call (see section 3.5.2). In this case, a *Request for Service will be published* on the portal. The technology provider's network members will be informed through the HUB of the request and will post their Offer of Service within 15 days.

The match making portal is therefore an important component of the HUB community and strategy for future added value. Aiming to create an interactive portal where demand and supply can interact and find solutions and answers.





3.5.2. Open call: green competitiveness initiatives

To support the manufacturing SME's to take action and prioritise green development initiatives, greenSME will facilitate 2 open calls with funding opportunity. Details concerning framework, timeline and requirements will be specified during the inception period in 2022.

Framework

- 2 open calls (for green competitiveness initiatives) in greenSME project period
- Project funding: up to 40.000 EUR / project
- Applications evaluated by external board of experts.

Step by step - Open call

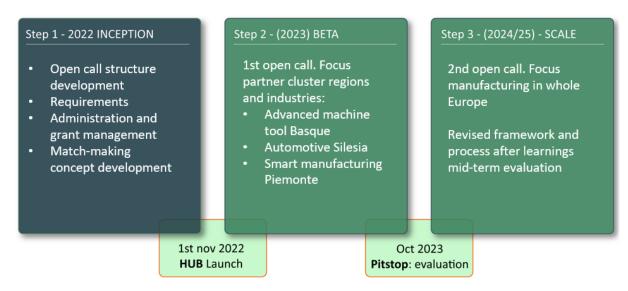


Figure 20. Open call step by step

Criteria & requirements

Applicant (company) criteria	Project criteria
SME definition: 10 to 250 employees	Directly adresses identified environmental issue
Turnover up to €50 million and/or balance sheet total up to € 43 million	Includes minimum 1 advanced technology or social innovation practice
Company located in the EU	Note project influence on social- and economic aspects of sustainability in application
Carry out industrial activities, services related to industry, the information and communications society and logistics	
Registered as member on greenSME HUB and executed the greenSME sustainability self-assessment	

Table 3. GreenSME Open Call criteria and requirements





4. Communication strategy

For the greenSME project, a Communication Strategy and Dissemination Plan is developed in the Inception step. Outlined below are the current (M4) decisions and ideas regarding communication in relation to the HUB development, and particular in relation to community engagement as well as attracting HUB members.

General greenSME communication strategy

The communication strategy aims to contribute to the project vision and objectives of strengthening the EU manufacturing sector and support them on their transformation pathway towards green sustainability by adopting advanced technologies and using social innovation practices. Moreover, focus is on building a community around the greenSME HUB where SMEs and service providers can interact and develop capacity for transformation and action. Based in this, several communication campaigns will be launched such as "become a HUB member", 1st & 2nd open call campaigns, as well as campaigns for technology- and other services providers to engage on the HUB.

Thus, we can summarize the main objectives of the communication strategy as:

- Identify, connect, grow and develop a community in manufacturing
- Promote activities and events organized by the project as well as third party activities relevant to the community
- Raise awareness about the HUB and the open calls organized by the greenSME project in order to engage promising entrepreneurs and share its results
- Provide a comprehensive overview and easy access to "sustainability technology" guidelines and policies
- Raise awareness and promote discussions relevant to the manufacturing community
- Attract and empower innovators, researchers, entrepreneurs, among others.

Step by step communication

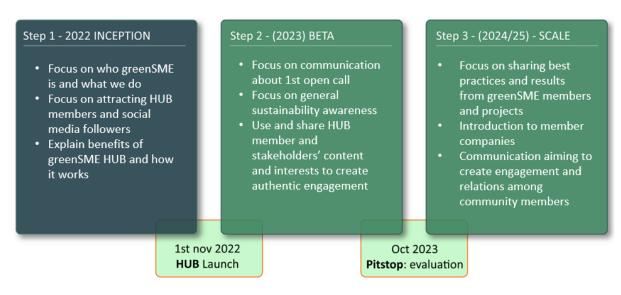


Figure 21. Communication strategy step by step





What communication channels do we use

Based on greenSME baseline survey result and partner cluster input (and previous projects), additional to the HUB platform, LinkedIn will be the main Social Media channel, followed by Twitter.

The greenSME webpage - HUB platform

The greenSME website/HUB has a number of important roles for communication. At the same time the website is the centerpiece of the whole narrative about the project: The key functionalities are:

- A general overview of greenSME as a project
- Information for applicants in the open calls, guiding and motivating them to participate
- Information for the wider public about the outcomes of the project
- Towards the end of the project the website will be the central repository to document the outcomes in form of articles (links) and specific announcements or other demonstrators

The website is linked to other Social Media dissemination channels like Twitter, and LinkedIn. Cross-linking content between platforms is expected to increase the impact of each single platform.

Website/HUB editorial schedule: To give all partners an opportunity to contribute editorial content to the website and publish on partner-specific topics, greenSME will create a publication schedule. This content plan also contains writing tips, links to find license free images to use in the article and an internal review schedule. The aim is to publish new content monthly. The work will be managed by having a simple table with assignments in the project management software.

Social media channels

Various social networks were established as marketing tools to promote the activities of the greenSME project regularly. Thus, we created an active presence on some of the most popular social media channels: Twitter and LinkedIn.

To ensure robust and prominent presence within targeted audiences' social media, greenSME will:

- Create and share a social media publishing schedule that identifies optimal times for publishing project information, as well as indicating offset times for resharing partner's and relevant project's/initiative's social content.
- This amplification is achieved by ensuring that all partners follow each other on social media and reshare content with commentary regularly.
- Encourage project partners to actively monitor and share the greenSME channels for content suitable for resharing, preferably with commentary. This will increase the reach and impact for each partner as well as the greenSME community.
- Consolidate important calls to action, news articles, and events posted to the greenSME Editorial Plan and website and directly share them with partners.

Channel	Audience	Activity	Frequency
Twitter	Partners, policy makers, EU projects and initiatives general audience	Short form announcements and messages to draw attention to the project and other channels	2/3 posts per week, including retweets (potential increase during promotion of open calls, events, and others)
LinkedIn	Current and potential collaborators, experts, SMEs, researchers	Targeted, framed, relevant content for stakeholders	2/3 LinkedIn post/weekly. Event content on an ad hoc basis (potential increase during promotion of open calls, events, and others)

Table 4. Overview of social media channels in the greenSME communication strategy





5. Future prospects of greenSME HUB

As part of the exploitation plan of the greenSME project, and long-term impact, there is an overall goal to assure that key outputs, such as the HUB and its component services as the assessment tool, are available and useful in the future. In other words, greenSME aim to build a concept that continues to generate results and impact after the final date of the project.

Throughout the project, following aspects will be considered in order to develop a concept and results with future prospects and impact:

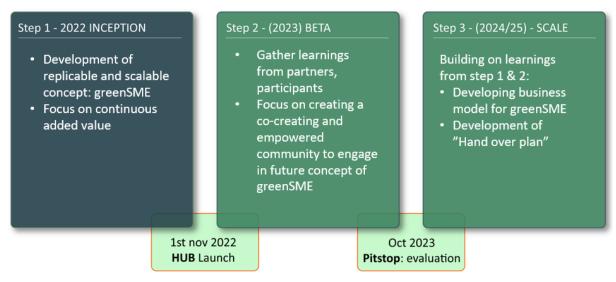


Figure 22. Future prospects step by step

In the following sub-sections of chapter 5, we introduce a 4th step to the step-by-step approach and structure of the strategy: a post-project scenario with aim of continued added value to the European manufacturing sector and its pathway to green sustainability. Starting with how we aim to measure the development of the community – seen as key enabler to a concept where ownership and interest to keep it going is key.

5.1. Metrics and analytics for HUB & community

To measure development and results of the greenSME HUB and its community, the following main targets are set up. Several are set on beforehand and included in the Description of Action (marked with *), and some are set during development of the strategy. They will be reviewed at minimum at the mid-term review and at final evaluation of the greenSME project.

Target group	greenSME target *	+5 years*	Beta target	Beta focus	Scale
Manufacturing SME	200*	+25%*	30	10 key SME from each partner cluster	20+ wider EU
Cluster	10*	+25%*	3	Partner cluster:	17+ wider EU –
organisations				AFM Basque	incl. meta-cluster





				SA&AM Silesia MESAP Piemonte	e.g. Clima cluster Basque
Advanced technology (service) provider	45-70*	+25%*	15	5 from each partner cluster area	10+ wider EU
Social innovation enablers	15	+25%	3	1 from each focus region	
Other similar projects/initiatives	6*	+25%*	3	- Mind4machines - SME digital alliance - Ecofact	e.g EIT manufacturing

Table 5. HUB targets for beta & scale step of greenSME

When the HUB platform is developed and the HUB & community working group is established, the following should be specified parallel to the specification of the engagement plan / editorial calendar:

- Set goals for each phase of the project
- Set overall objectives
- Set targets for user involvement and co-creation
- When to review your target audience: (where are they online and what are they doing)
- Set realistic benchmark for engagement and traffic in beta period and end project
- How do you get there?

Metrics for engagement in community

Basics

- Total number of community members over time
- % of filled out profiles (do people provide min. amount of information or spend time on providing all profile elements) (consider prompts and min required information).

Active % of members

- The total amount of topic or event likes and comments
- The total amount of post likes and comments
- Number of comments, posts, and events created by the community
- Number of comments, posts, and events created by the content manager
- Statics about time spend in the HUB, last online etc.

Considerations for measuring traffic

- To measure Call to Action activity from SoMe/Newsletters/other channels posts and into the HUB/Community/Forum/Specific Posts
- Need to analyse what brings traffic, what is interesting to the audience e.g., is it resources, the assessment tools, forum discussions, newsletter articles, events etc.
- Remember to document activity on channels, e.g., LinkedIn, but the goals should be around increasing traffic and engagement in the HUB





5.2. Competitive (and cooperative) analysis

Competitive advantages

The greenSME HUB is designed to bring added value and new opportunities to existing initiatives aiming to advance green sustainability in manufacturing. Being developed as a replicable and scalable concept, 1 HUB – 3 components, the greenSME HUB offers a simple narrative and easy services to use and understand in a very complex situation of advanced technologies, sustainability, and competitiveness. It is simple to understand actions, results and opportunities, and the future prospects and possibilities for the HUB is positive.

The HUB's focus on community is vital as it provides a space for stakeholders to engage, connect and co-create on their path to long term sustainable impact. As a unique feature with potential to add value for years to come, the HUB offers the opportunity to connect on the match making portal. Here, manufacturing SMEs, social innovation enablers and advanced technology can connect and build relations to advance their impact on environmental sustainability.

Lastly, the approach of incorporating social innovation with the adoption of advanced technology for green sustainability impact is still not widespread in SME and manufacturing business development.

Synergies & cooperation opportunities

To overcome the complex challenges of a green transition, co-creation and collaboration with various stakeholders is essential. To get a status of the current European sustainability manufacturing ecosystem, greenSME is mapping existing European initiatives on sustainability. This work will help create the sustainability roadmap and -ecosystem supporting SMEs in contributing to EU's goals. During the project further relevant stakeholders and synergies will be mapped. Therefore, below listed themes of actors and project are further considered for collaborations and synergies.

Ongoing international projects and networks

Looking out on the EU arena, there's a range of initiatives and networks working with SMEs, some with manufacturing, some with sustainability, some with social innovation, and some with technology development and adaption. Nevertheless, they are not often combining all aspects as in greenSME. As example it is

- Advanced Technology for Industry. Longer EU project focusing on the use of and development
 of technology in EU industry. Relevant as fundament for relation between manufacturing and
 advanced technology.
- Mind4Machines (EU project) that facilitates cross-sectoral and cross-border support for SMEs
 in the manufacturing industry to test and adopt the latest digital technologies to transform to
 more sustainable practices.
- One network of interest for potential overlap of participating SMEs in manufacturing is the European DIGITAL SME Alliance which represent more than 45,000 SMEs on their path for digitalisation.
- ECOFACT (EU project) helps manufacturing industries optimize the energy performance of production systems as well as introducing innovative green marketing methods based on the concept of energy and the environmental signature of the products.
- Digital Innovation HUBS in each partner cluster region (and other in EU) have great expertise, services and knowledge in supporting SMEs. These competences can be useful in the





greenSME HUB to help support SMEs with e.g. digital transformation, new business models and cooperative networks with business organisations, universities etc.

Cluster organisations & regional authorities/chamber of commerce

- European Cluster Collaboration Platform is an online HUB for cluster stakeholders to arrange partnerships with European peers, with the goal of strengthening the European economy, competitiveness, and sustainability through collaboration.
- Aclima is a Basque Environment Cluster for the eco-industry and environmental services and products with a mission to strengthen public-private collaboration in environmental industries.
- National Chamber of Commerce play an important role as well, as they are supporting their member's business activities. As an example, the Torino Chamber of Commerce in Italy provide services to local businesses like partner searches, clustering and networking, technology transfer and training courses as well as working as a partner in several networks. They could be a great addition to the HUB as they could help with e.g. facilitating events or other HUB features.

Social innovation enablers

Aiming to involve social innovation enablers as key stakeholders in the greenSME project, starting with finding actors and institutions with interest to encourage social innovation practices in relation to the technical development in industry.

At the Technical University of Dortmund, consortium partner on the HUB, social innovation is one of the main research topics in their Social Research Center. Through their projects and activities on social innovation, they contribute to its significant integration into society, science, and policy. They have recommended a range of other social innovation centres to include in greenSME HUB as enablers and service providers.

In the beta period of the project, the consortium will work on identifying more practical social innovation enablers and service providers to be part of green competitiveness projects in greenSME. Initial research has identified a couple of large technology companies with focus on social innovation which could be of interest to involve in greenSME HUB

• Hitachi, active in several European countries such as Italy, is a company with focus on social innovation in business development.

5.3. Future business model

There is a general goal of the greenSME project to ensure continued activity of the HUB. It is noted as an exploitable result for which a future business case will be developed during the project implementation. To achieve this goal, the aspect of future business cases has been kept as underlying aspect in development of all project and concept components. The aim is to have a ready and sustainable business case for the continuation of greenSME concept by the end of the greenSME project (2025). It is possible that several different models are analysed throughout the project period, with focus on who are participating and who is managing the services and the concept. Other important aspects that will continue to be considered and developed throughout the period are:





- How can greenSME continue to add value after stakeholders have participated once in services such as assessment and open call? What will keep members stay on HUB longer than a year?
- Gather information on the actual use of resources needed to manage the Hub, financial, technical, and human resources.
- Contemplations on how to finance the HUB in future. The option of member fees and/ or paid
 features and services will be considered throughout the project. Many SMEs are currently
 paying for membership in cluster organisations and chamber of commerce networks, but not
 other online communities or forums.





6. Concluding remarks

Concluding the greenSME HUB and community strategy with 4 remarks of particular importance to create a HUB that for years to come contributes to a European manufacturing sector transitioning towards green sustainability and carbon neutrality:

- Ensure "power of community" and empowered stakeholders to co-create their development paths and develop leadership in transition
- Aspect of time building community requires hard work and open mindset
- Importance of greenSME consortium partners to have continuous focus and ambition to work with community engagement on the HUB to succeed with project KPIs and long-term impact
- Open eyes and ears for service development and review, to assure services answering the actual need and interest of target groups in manufacturing.



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Annex I. Strategy presentation

Annex II. Editorial Calendar