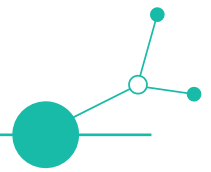




D4.2.1 Regional Action Plan



Poland

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A. REGIONAL CONTEXT AND ECOSYSTEM OVERVIEW

A.1 Main industrial sectors

Małopolska is one of the key economic regions in Poland and an important destination for both domestic and foreign investment. The region has gained international recognition for its entrepreneurial and innovation-driven development model. It was the only region among over 300 European regions to receive the title of European Entrepreneurial Region 2024, awarded by the European Committee of the Regions. Furthermore, the European Commission has recognised Małopolska as a Regional Innovation Valley, placing it among a select group of European regions committed to strengthening innovation ecosystems and interregional cooperation.

Małopolska generates approximately 8.1% of Poland's GDP, ranking fifth nationally. The regional economy is characterised by a dynamic business environment, with over 463,000 registered business entities, including nearly 5,000 exporting companies. The regional capital, Kraków, has developed into Poland's leading hub for modern business services (BPO, SSC, IT and R&D), employing more than 100,000 highly qualified specialists.

1. Key industrial domains

The industrial structure of Małopolska combines traditional manufacturing industries with rapidly developing high-technology sectors. Core industrial activities include machinery and equipment manufacturing, metal processing, chemical production, electrotechnics, and energy-related industries. These sectors are increasingly complemented by information and communication technologies (ICT), life sciences and creative industries, which are recognised as regional smart specialisations.

Manufacturing SMEs form the backbone of the regional economy and often operate as tier-one or tier-two suppliers within international value chains. At the same time, technology and ICT companies play an important role in supporting industrial transformation by providing digital solutions, automation technologies, data analytics and process optimisation tools. Despite strong engineering competences, many SMEs face growing pressure related to decarbonisation requirements, energy efficiency improvements, digital integration and compliance with sustainability standards.

2. Smart specialisation domains

Małopolska's innovation system is strongly structured around four key Smart Specialisation domains (RIS3), which reflect the region's scientific and industrial potential.

The **Life Science and medical technologies** domain represents one of the most developed innovation ecosystems in the region. It covers biotechnology, pharmaceuticals, medical technologies and health-related innovations. The cluster LifeScience Krakow, recognised as a National Key Cluster, plays a central role in connecting research institutions, hospitals and companies operating in this field.

The **Information and Communication Technologies (ICT)** sector constitutes another major pillar of the regional economy. Concentrated primarily in Kraków, the sector benefits from a strong academic base and a growing startup ecosystem recognised globally. The region hosts major international technology companies such as ABB, Cisco, Google, IBM and Motorola and employs over 55,000 IT specialists.

The **Sustainable Energy and Environment** domain focuses on the development of low-emission technologies, renewable energy solutions, hydrogen technologies and circular economy approaches. The presence of industrial actors such as Orlen Południe and Grupa Azoty contributes to the development of hydrogen-related innovation and energy transition initiatives.

The **Advanced Manufacturing and Materials** domain includes metal processing, chemical production, electrotechnics and advanced materials engineering. The sector is supported by strong technical



universities, particularly AGH University of Krakow and the Cracow University of Technology, which provide research capabilities and highly qualified engineering talent.

3. Regional innovation ecosystem

The regional innovation ecosystem is coordinated through the Małopolska Specialization Platforms which operationalise the regional smart specialisation strategy. Małopolska strategic activities, including the monitoring of Małopolska's Smart Specialisations demonstrate how vital it is to combine the digital and ecological agendas. Małopolska is using the developed models (e.g., the Circular Industry Factory) to better target funds from the European Funds for Małopolska (FEM) program.

The Małopolska Specialization Platforms (MPS) are a regional tool for decentralized management and the organization of entrepreneurial discovery (PPO), which involves identifying the most innovative and promising areas from the perspective of basic development, the goal of which is to promote their emergence.

The Greene40 project is excellent example of the practical application of the Entrepreneurial Discovery Process (EDP) in Małopolska. Its goal is to promote a key industrial domains covered with the project in the electronics and ICT sectors, which aligns perfectly with regional smart specializations. These platforms bring together companies, research organisations, public authorities and business support institutions within priority thematic areas such as healthy society, sustainable energy and industry, quality of life services, and advanced materials and technologies.

The MPS framework supports the entrepreneurial discovery process, facilitates cross-sectoral cooperation and enables the identification of emerging innovation needs within the regional economy. It also serves as an important coordination mechanism linking regional innovation priorities with the objectives of the green and digital transition.

4. Digital transformation

Digitalisation represents a key driver of industrial development in Małopolska; however, the level of digital maturity across companies remains uneven.

Large enterprises and multinational corporations operating in the region have already implemented advanced Industry 4.0 technologies, including automation, robotics, digital process management and industrial cybersecurity solutions. A group of innovative SMEs is also actively adopting advanced digital tools.

In contrast, a significant proportion of SMEs remains at an early stage of digital transformation. Approximately 75% of SMEs use basic digital tools such as e-banking and electronic accounting systems, while around 25% have recently invested in new digital assets such as software systems or ICT hardware.

Regional support structures play a key role in accelerating digital transformation. The hub4industry European Digital Innovation Hub (EDIH), coordinated by the Krakow Technology Park, promotes the "test before invest" model and provides support in areas such as robotics, cloud computing and Internet of Things technologies. However, challenges remain in terms of artificial intelligence integration and advanced data management capabilities among smaller manufacturing firms.

5. Green transition

Małopolska is considered a pioneer in regional climate policy in Poland. It was the first region in the country to adopt a Regional Action Plan for Climate and Energy (RAPCE), establishing a comprehensive framework for climate mitigation and energy transition.

The region performs strongly in eco-innovation, ranking among the national leaders in R&D expenditure related to environmental technologies and in the number of eco-innovation patents. Increasing attention is also being paid to circular economy principles, including resource efficiency, waste reduction and the application of Life Cycle Assessment (LCA) methodologies in industrial production.



Despite these strengths, many SMEs continue to face barriers to implementing green technologies. The most significant challenges include high investment costs, limited access to financing and a shortage of specialised engineering competences related to environmental technologies.

6. Strategic priorities and twin transition

Małopolska's regional development strategy (Małopolska 2030) and the regional smart specialisation framework are closely aligned with the concept of the "twin transition", integrating digital and green transformation priorities.

Strategic development areas include artificial intelligence and data-driven solutions for manufacturing and healthcare, the development of a hydrogen economy through the Silesia-Małopolska Hydrogen Valley initiative, and the integration of circular economy solutions such as remanufacturing, recycling and reverse logistics into industrial production systems.

Growing attention is also being paid to dual-use technologies with both civilian and defence applications, including robotics, cybersecurity, space technologies and advanced materials.

7. Research and innovation capacity

Małopolska benefits from a strong research and innovation infrastructure, comprising 25 universities and approximately 45 innovation support centres. The region records one of the highest levels of R&D intensity in Poland, with expenditures reaching approximately 2.51% of regional GDP.

This strong research base creates favourable conditions for innovation-driven initiatives and for participation in international cooperation networks such as the B2GreenHub ecosystem.

8. Role in European innovation ecosystems

Małopolska has strong potential to actively contribute to transnational innovation ecosystems. By leveraging its smart specialisation platforms, mobilising manufacturing and technology-oriented SMEs and engaging universities and innovation support organisations, the region can provide concrete industrial use cases and participate in cross-border innovation activities.

Participation in initiatives such as the B2GreenHub ecosystem can support the integration of regional SMEs into European green and digital value chains, while strengthening cooperation between education, research institutions and industry at both regional and international levels.

A.2 Key regional actors

A distinctive feature of Małopolska's innovation ecosystem is its **quadruple-helix governance model**, which integrates collaboration between industry, academia, public authorities and civil society. This model underpins the regional smart specialisation strategy and facilitates continuous dialogue between stakeholders involved in industrial development and innovation policy.

The regional innovation system is further strengthened through the **entrepreneurial discovery process (EDP)**, which enables companies, research organisations and innovation intermediaries to jointly identify emerging technological trends, industrial needs and future growth opportunities. Through this participatory mechanism, regional stakeholders contribute to shaping innovation priorities and aligning public support instruments with the real needs of the economy.

These interactions are institutionalised through the **Małopolskie Platformy Specjalizacyjne (Regional Smart Specialisation Platforms)**, which act as cooperation frameworks bringing together companies, universities, clusters, public institutions and business support organisations around key priority domains such as life sciences, sustainable energy, ICT and advanced manufacturing. The platforms support knowledge exchange, facilitate cross-sectoral innovation projects and help identify new areas for investment and technological development linked to the green and digital transition.



The Małopolska region hosts a diverse and well-developed innovation ecosystem composed of manufacturing companies, technology providers, universities, research organisations, business support institutions, clusters and public authorities. These actors jointly contribute to the development of a regional ecosystem supporting industrial modernisation, digital transformation and green transition within the GREENE 4.0 framework.

Małopolska promotes tools such as digital product passports, real-time data analysis, and AI-powered production process optimization. Collaboration with the Krakow Technology Park and hub4industry demonstrates that digital twins are technologies that directly extend the life of machines and reduce waste. It is this "twin transition"—green and digital—that is a priority for the region.

The "Twin Transition"—digital and green—shows us that Industry 4.0 technologies, such as IoT (Internet of Things) and Big Data, are crucial for a circular economy. They enable precise monitoring of raw material and energy consumption in real time. Companies can "test before investing," for example, by examining how AI algorithms can optimize production processes to minimize waste at the design stage.

- Universities and R&D organisations

Małopolska benefits from one of the strongest academic and research bases in Central Europe. The region is home to 25 higher education institutions, including several leading universities with strong research and innovation capacities. Key academic institutions include Jagiellonian University, one of the oldest universities in Europe and a major centre for life sciences and medical research; AGH University of Science and Technology, internationally recognised for engineering, materials science, mining technologies and digital technologies; Cracow University of Technology, specialising in engineering, infrastructure and energy systems; University of Agriculture in Kraków, which contributes to research on bioeconomy, environmental technologies and sustainable agriculture; and Cracow University of Economics, supporting innovation management, entrepreneurship and economic policy research. These universities are complemented by several research institutes of the Polish Academy of Sciences, which provide advanced research infrastructure and scientific expertise in areas such as chemistry, physics, environmental sciences and biotechnology. Together, these institutions generate a high level of R&D activity and contribute to strong science–industry collaboration through technology transfer centres, joint research projects and applied innovation initiatives.

- Industry and technology companies

The regional economy is characterised by a strong presence of both manufacturing companies and global technology firms. International corporations with major operations in the region include ABB, Cisco, Google, IBM, and Motorola Solutions, which operate large R&D and technology centres in Kraków. In the energy and chemical sectors, important industrial actors include Grupa Azoty and Orlen Południe, both actively involved in hydrogen technologies and low-carbon industrial solutions. At the same time, the region hosts a large number of innovative SMEs and scale-ups operating in manufacturing technologies, digital solutions, robotics, advanced materials and clean technologies. Many of these companies are integrated into international supply chains or cooperate with multinational technology providers.

- Startup ecosystem

Małopolska, and particularly the city of Kraków, has developed into one of the leading startup ecosystems in Central and Eastern Europe. The city is regularly ranked among the Top 100 global startup ecosystems, supported by a strong talent pool, international companies and dynamic cooperation between academia and industry. The regional startup scene is especially active in sectors such as ICT, artificial intelligence, fintech, health technologies, gaming and deep-tech solutions. Numerous technology startups operate in areas related to Industry 4.0, data analytics, automation, digital platforms and sustainability solutions, contributing to the transformation of traditional industries.



An important element of the regional innovation ecosystem is also the **Zabłocie Space for Startups**, located in the post-industrial Zabłocie district of **Kraków**. The initiative functions as a municipal innovation hub supporting the development of the local startup and technology community. The centre provides co-working infrastructure, incubation programmes, mentoring and networking opportunities for early-stage companies operating particularly in digital technologies, creative industries and social innovation.

As part of the broader regional startup ecosystem, the hub complements the activities of technology parks, clusters and accelerators, reinforcing **Kraków's position as one of the most dynamic startup locations in Central and Eastern Europe** and supporting the development of new digital and green innovation projects.

The ecosystem is supported by accelerators, venture capital funds, innovation hubs and technology parks that provide mentoring, funding access and internationalisation opportunities.

- Business support organisations and innovation infrastructure

A dense network of business support organisations plays an important role in facilitating innovation and supporting SME development. One of the most important institutions is Kraków Technology Park, which coordinates multiple innovation initiatives, manages technology parks and investment zones, and leads international projects supporting digital and green transformation. Other key regional development and support institutions include: the Marshal's office of the Małopolska region, Małopolska Regional Development Agency (MARR), regional development agencies, chambers of commerce

These organisations provide advisory services, financial instruments, training programmes and networking opportunities for SMEs and entrepreneurs.

- Clusters and innovation networks

Cluster organisations and thematic networks also play a key role in strengthening cooperation between industry and research institutions. The LifeScience Kraków Cluster, recognised as a National Key Cluster, integrates companies, universities and hospitals operating in biotechnology, pharmaceuticals and medical technologies. Other cluster initiatives operate in areas such as ICT, manufacturing technologies, creative industries and sustainable energy, contributing to the development of regional innovation ecosystems and sectoral cooperation platforms.

- Innovation hubs and transformation support

An important role in supporting industrial transformation is played by applied innovation and demonstration initiatives, including Hub4Industry, which acts as a digital and green transformation hub for manufacturing SMEs.

Hub4Industry provides access to testing and demonstration facilities, pilot projects, advisory services and training in areas such as Industry 4.0, robotics, automation, cloud computing, Internet of Things technologies and sustainable production processes. Through the “test before invest” approach, the hub helps SMEs experiment with new technologies before making large-scale investments.

Together with other regional competence centres and innovation organisations, Hub4Industry contributes to reducing barriers for SMEs in adopting advanced technologies and implementing green and digital transformation pathways.

A.3 Existing platforms and support structures

The Małopolska region has developed a wide range of innovation platforms, support instruments and cooperation networks that facilitate industrial modernisation and the green and digital transformation of regional enterprises. However, despite the diversity of existing initiatives, information on available support instruments, funding opportunities, innovation services and testing infrastructures remains fragmented across multiple institutions and platforms. As a result, companies—particularly SMEs—often face



difficulties in identifying the most relevant support mechanisms or navigating the regional innovation ecosystem.

To address this challenge, the regional authorities are strengthening coordination mechanisms through the development of four Regional Smart Specialisation Platforms (Małopolskie Platformy Specjalizacyjne) established within the framework of the entrepreneurial discovery process (EDP). These platforms aim to act as integrated cooperation and information hubs for stakeholders operating in key regional priority domains. By bringing together companies, research organisations, clusters, business support institutions and public authorities, the platforms are expected to improve the accessibility of information, streamline cooperation and create a more coherent system of innovation support aligned with the region's smart specialisation strategy.

- Regional smart specialisation platforms

A key element of the regional innovation governance structure are the Małopolskie Platformy Specjalizacyjne (Regional Smart Specialisation Platforms) coordinated by the Marshal's Office of the Małopolskie Region. These platforms were created as part of the entrepreneurial discovery process to facilitate collaboration between companies, research organisations, public institutions and innovation intermediaries.

Four main thematic platforms have been established or are currently being further developed:

1. Healthy society (Life Science platform) <https://www.lifescienceopenspace.com/>

This platform focuses on health technologies, biotechnology, pharmaceuticals, medical devices and innovations improving quality of life. It brings together research institutions, healthcare providers, companies and clusters operating in the life sciences ecosystem, including the LifeScience Kraków Cluster. The platform supports knowledge exchange, collaborative R&D projects and the commercialisation of biomedical innovations.

2. Sustainable energy and industry platform

This platform addresses challenges related to energy transition, decarbonisation of industry and the development of renewable and hydrogen-based energy systems. It supports cooperation between industrial companies, technology providers and research institutions working on energy efficiency, low-emission technologies and circular economy solutions.

3. Availability of services and quality of life platform

This platform focuses on digital services, smart city solutions, mobility innovations and technologies improving everyday life for citizens. ICT companies, service providers and urban innovation stakeholders cooperate within this framework to develop new digital solutions and service models.

4. Advanced materials, processes and devices platform

This platform concentrates on advanced manufacturing, materials engineering, robotics, automation and industrial technologies. It connects manufacturing SMEs with research institutions and technology providers in order to strengthen innovation capacity and accelerate industrial digitalisation.

These platforms play an important role in facilitating stakeholder dialogue, identifying emerging technological trends and supporting the implementation of regional innovation priorities.

- Funding portals and financial support instruments

Regional stakeholders benefit from access to several digital platforms providing information on funding opportunities at both regional and national levels. The regional innovation portal Innowacyjna Małopolska serves as a central information point for innovation support instruments, funding calls and regional innovation initiatives <https://innowacyjna.malopolska.pl/pl>



Additional information on regional funding programmes is available through the Regional Operational Programme for Małopolska portal <https://fundusze.malopolska.pl/> , which provides details on financial instruments supporting research, innovation, digital transformation and green technologies.

At the national level, companies and research organisations can access innovation funding through programmes managed by institutions such as the National Centre for Research and Development and the Polish Agency for Enterprise Development, which provide grants, innovation vouchers and technology development programmes <https://www.parp.gov.pl/>

- Testing environments and digital innovation infrastructure

A central role in supporting industrial transformation is played by Hub4Industry, coordinated by Kraków Technology Park. As a European Digital Innovation Hub (EDIH), Hub4Industry provides a comprehensive portfolio of services supporting manufacturing SMEs in adopting Industry 4.0 technologies and implementing green and digital transformation pathways.

The hub offers services such as:

1. test-before-invest environments, enabling companies to experiment with advanced technologies before committing to investments;
2. access to demonstration facilities and pilot projects in robotics, automation, IoT and digital manufacturing;
3. advisory services and digital maturity assessments;
4. training programmes for engineers, managers and SME employees.

<https://hub4industry.pl/>

The hub also acts as a connector between companies, universities and technology providers, helping to bridge the gap between research results and industrial application.

- Training ecosystems and competence development

The regional training ecosystem is strongly supported by universities, technology parks, cluster organisations and innovation centres. Numerous programmes focus on developing digital, engineering and green transition skills among students, professionals and SME employees.

Training activities include specialised courses in Industry 4.0 technologies, artificial intelligence, data analytics, robotics and sustainable production. These programmes contribute to strengthening the human capital base necessary for the implementation of digital and green transformation strategies.

In the area of circular economy development, regional stakeholders can also rely on the dedicated knowledge and cooperation platform **Małopolska Circular Economy Platform** (Małopolska GOZ) <https://goz.malopolska.pl/> . The platform serves as a regional hub for promoting circular economy principles, supporting companies, public institutions and research organisations in implementing resource-efficient and low-emission business models.

The platform provides access to practical guidelines, case studies, funding opportunities and training materials related to circular economy implementation in enterprises. It also promotes cooperation between companies, local governments and research institutions in areas such as waste reduction, industrial symbiosis, sustainable materials management and life-cycle assessment (LCA).

By facilitating knowledge exchange and disseminating best practices, the Małopolska GOZ platform contributes to accelerating the transition towards circular production systems and supports SMEs in identifying innovation opportunities related to resource efficiency and sustainable product design.

- Potential synergy with B2GreenHub



The existing regional innovation platforms and support structures provide a strong foundation for cooperation with the B2GreenHub initiative. In particular, the Smart Specialisation Platforms, the Hub4Industry digital innovation hub and the regional cluster ecosystem demonstrate strong potential for integration into a broader European ecosystem supporting industrial sustainability and digitalisation. Within this context, B2GreenHub could function as an implementation bridge linking regional innovation actors with European partners, demonstration environments and cross-border industrial projects. By facilitating knowledge exchange, pilot actions and technology transfer, the initiative can support regional SMEs in accessing international innovation networks and green industrial value chains.

For regional stakeholders, participation in the B2GreenHub ecosystem would generate several benefits, including improved access to testing infrastructures, new cooperation opportunities with European partners and stronger integration into European innovation ecosystems supporting the twin transition.

B. KEY REGIONAL NEEDS AND BARRIERS

This chapter presents the main findings from an online survey conducted among representatives of key stakeholder groups within the regional innovation ecosystem. The survey included five respondents representing different types of organisations: a manufacturing SME from the food sector, a university, a regional public authority, a business support organisation, and a training and skills development provider.

The results indicate that both digitalisation and the green transition are perceived by stakeholders as critical priorities for organisational development over the next three to five years. Respondents emphasised that adapting to new technological, environmental and regulatory requirements will be essential for maintaining competitiveness and ensuring long-term resilience.

These findings are further supported by the high level of interest observed during a regional stakeholder meeting held in Dobczyce. The event attracted a significant number of entrepreneurs and regional ecosystem actors and was entirely dedicated to the topic of industrial transformation, with a particular focus on digitalisation, energy efficiency and sustainable production.

In addition to the survey results, the analysis presented in this chapter also incorporates qualitative insights and comments collected during a stakeholder discussion organised on 29 January 2026 in Dobczyce within the framework of the Regional Seminar. The discussion provided an opportunity for participants to share practical experiences related to the implementation of digital and green transformation initiatives and to highlight barriers faced by organisations operating in the region.

The combined results of the survey and the regional seminar enabled the identification of key regional needs and structural challenges related to the twin transition. They also provided valuable input for the design of support mechanisms and platform services aimed at assisting SMEs, universities and other innovation ecosystem actors. Furthermore, the collected feedback contributes to a better understanding of the region's potential for interregional cooperation and supports the alignment of future regional action plans with identified priorities, capacities and development opportunities.

B.1 Priority needs

Select and describe the most relevant needs:

- ☒ Access to finance
- ☐ Digital maturity and data readiness
- ☐ Green business model transformation



- ✓ Skills gaps
 - ☐ Partner search difficulties
 - ☐ Access to testing/piloting
 - ☐ Regulatory complexity
- ✓ Ecosystem fragmentation

The regional innovation ecosystem in Małopolska demonstrates a **strong demand for structured support** aimed at accelerating both green and digital transformation. This need is particularly pronounced among SMEs and mid-sized manufacturing companies, which form the backbone of the regional economy but often face significant challenges in implementing new technologies and sustainable practices.

Survey results and stakeholder consultations indicate that the **highest priority needs** for regional enterprises are, in equal measure, **access to finance**, **addressing skill gaps** through training for both employees and management, and **improved access to information on available technologies and solutions**, each accounting for approximately 25% of responses.

Access to finance remains a critical barrier for SMEs seeking to adopt digitalisation and sustainable production practices. Companies frequently reported difficulties in identifying appropriate funding instruments, understanding eligibility requirements, and navigating both regional and national funding portals. Limited access to financing constrains investment in Industry 4.0 technologies, energy efficiency measures, or circular economy initiatives. Improving access to diverse funding sources—both public and private—would not only facilitate these investments but also act as a key driver for innovation, enabling companies to experiment with new technologies, develop new products and processes, and strengthen their competitive position.

Skill gaps constitute another major challenge. Many SMEs lack internal expertise in emerging technologies, data analytics, automation, digital manufacturing, and green production processes. The need for structured training and upskilling programmes is particularly acute for management teams responsible for strategic decision-making, as well as for technical staff directly involved in implementing transformation projects.

Finally, **ecosystem fragmentation and information asymmetry** concerning available technological solutions, testing infrastructures, and best practices further hampers the adoption of innovation. While the region offers multiple platforms, technology parks, and demonstration infrastructures, stakeholders emphasised that the **dispersed nature of these resources** makes it difficult for companies to identify relevant opportunities or match solutions to their specific operational needs.

In relation to the B2GreenHub platform, stakeholders expressed strong interest in:

- Searching for technologies and solutions
- Accessing trainings and learnings materials
- Finding both partners and funding
- Evidence of successful business cases / pilots
- Platforms for dialogue with companies and knowledge actors

B.2 Main barriers

- ✓ High investment costs



✓ Lack of knowledge about available solutions

☐ Long partner search processes

☐ Limited cross-border contacts

✓ Low digital readiness

☐ Administrative/legal differences

☐ Language/cultural barriers

The analysis of survey responses and stakeholder consultations reveals that regional SMEs and mid-sized manufacturing companies face several critical obstacles that hinder their ability to implement digital and green transformation. These barriers relate both to financial, organisational, and technological factors, and they need to be addressed in order to accelerate innovation and competitiveness in the region.

High investment costs

Many SMEs and mid-sized manufacturing companies in the region identify high upfront investment costs as a major obstacle to adopting digital and green technologies. Implementing Industry 4.0 solutions, energy-efficient production systems, advanced automation, or circular economy processes often requires substantial financial outlays, which exceed the internal capacities of many companies. Limited access to affordable financing options further amplifies this barrier, slowing the adoption of innovative technologies and reducing competitiveness in international value chains.

Lack of knowledge about available solutions

A second significant barrier is the insufficient awareness of existing technological solutions, testing infrastructures, and support programmes. Despite the presence of multiple regional platforms, clusters, technology parks, and demonstration hubs, information remains dispersed, making it difficult for companies to identify the most relevant tools for their specific needs. SMEs often struggle to map available technologies to operational challenges, which reduces their ability to implement effective digital or green transformation projects.

Low digital readiness

Many companies in Małopolska report low levels of digital maturity, which limits their ability to leverage advanced digital solutions. While larger corporations and innovative SMEs have implemented automation, data analytics, or IoT solutions, a substantial proportion of smaller manufacturers still rely on basic IT tools and lack structured digital strategies. This low readiness affects not only production processes but also strategic planning, integration with supply chains, and the adoption of green technologies that require digital monitoring, control, or optimisation systems.

C. PRIORITY INTERVENTION AREAS

Select 2–3 strategic priorities aligned with the Transnational Strategy:

Based on the survey results and respondent feedback regarding the B2GreenHub platform, in the Małopolska region the following 2 key Priority Intervention Areas have been identified:

✓ Strategic Objective 1 – Knowledge & Competence Uplift

☐ Strategic Objective 2 – Transnational Ecosystem Connectivity

✓ Strategic Objective 3 – Platform Synergies & Reach



□ Strategic Objective 4 – Education–Industry–Research Linkages

Strategic Objective 1 – Knowledge & Competence Uplift

This priority is particularly relevant for Małopolska, given the region's strong manufacturing base, advanced technical universities, and growing digital and startup ecosystem. While many companies have invested in digital technologies and sustainability solutions, including through regional and national support programmes, important gaps remain in digital maturity, data management capabilities, and green transformation skills, particularly among SMEs.

Polish manufacturing SMEs, SME managers, technical staff face a specific challenge: limited awareness of the opportunities arising from the twin (green and digital) transformation and insufficient foundational knowledge regarding available support tools. This “awareness gap” leads to low engagement in advanced training programmes and reduced readiness to utilize specialised innovation platforms such as B2GreenHub.

Strengthening knowledge and competences is therefore essential to ensure that Małopolska's industrial system can maintain competitiveness in an increasingly digital and sustainability-oriented market. This objective primarily targets manufacturing SMEs and mid-sized companies, company managers, technical staff, universities, training providers, and innovation support organisations responsible for upskilling, professional development, and curriculum adaptation to emerging industry needs.

The expected change is an overall improvement in digital and green readiness across the regional ecosystem, with companies becoming more capable of managing data, adopting innovative technologies, and integrating sustainability into their business models. In the medium term, this should result in higher productivity, stronger participation in innovation projects, and greater resilience of the regional manufacturing and technology system, while also reinforcing Małopolska's position as a leading hub for Industry 4.0, life sciences, ICT, and green technologies in Central Europe.

Strategic Objective 3 – Platform Synergies & Reach

This objective addresses the need to connect B2GreenHub with Małopolska's regional innovation ecosystem and expand its reach among companies, technology providers, clusters, and Business Support Organisations (BSOs) aiming for internationalisation. Existing regional support structures, including the four Regional Smart Specialisation Platforms, technology parks, and cluster networks, often operate in silos, leading to fragmentation and inefficiencies. Without structured coordination, there is a risk that B2GreenHub could be perceived as a redundant or stand-alone platform rather than as a linked infrastructure layer complementing existing services. Polish manufacturing SMEs face particular challenges in cross-border cooperation. Many companies lack experience in international networking, struggle to identify reliable foreign partners, and have limited access to transnational innovation projects. As a result, they are underrepresented in global value chains and have fewer opportunities to adopt advanced green and digital technologies. To overcome these barriers, this measure establishes a structured Ambassador Model to ensure effective connection of B2GreenHub to the regional innovation landscape.

The expected outcome is a well-connected regional ecosystem, where B2GreenHub acts as a bridge between local SMEs and European transnational networks, facilitating access to international partners, innovation projects, and cross-border value chains. This approach will increase the participation of Małopolska companies in green and digital innovation activities, strengthen the region's international competitiveness, and enhance the overall efficiency of the regional support landscape.



D. REGIONAL MEASURES

1. Title of the Measure

Integrated training and competence development framework

2. Strategic Objective and Priority Area

Strategic Objective (SO): Strategic Objective 1 – Knowledge & Competence Uplift

Priority Area:

☒ Training / Skills

☐ Technology adoption

☐ Testing & piloting

☐ Matchmaking & networking

☐ Policy support / governance

3. Problem or Need Addressed

Many SMEs exhibit limited awareness of the opportunities arising from the twin (green and digital) transformation and lack foundational knowledge regarding available support tools. Knowledge is dispersed across many sources, and there is no single place where all information is gathered.

4. Target Groups

(Select and describe main beneficiaries)

☒ Manufacturing SMEs

☐ Technology providers

☒ Research / education organisations

☐ Public authorities

☒ Intermediaries / clusters

☐ Other (specify):

5. Description of the Measure

The measure focuses on strengthening access to high-quality training for SMEs in the field of green and digital transformation by adapting and implementing the educational resources developed within **the Green Path Academy** and embedding them into the regional digital innovation ecosystem.

The implementation will be carried out in close cooperation with the Hub4Industry European Digital Innovation Hub (eDIH) and with technical universities participating in the eDIH consortium. These institutions will play a key role in ensuring the scientific quality, practical relevance and technological alignment of the training materials.

As a first step, the online courses developed within the Green Path Academy will undergo a content verification process conducted jointly by the Hub4Industry team and academic experts from partner universities. This process will ensure that the training materials are aligned with the needs of Polish manufacturing SMEs, reflect the latest developments in Industry 4.0 and sustainability, and correspond to the technological priorities of the regional innovation ecosystem.



Following the verification stage, the courses will be translated into Polish in order to ensure accessibility for a wider group of companies, managers and technical staff. The translated materials will then be adapted and implemented on the Hub4Industry eDIH training platform, where they will complement the existing portfolio of digital transformation courses.

The platform will serve as a dedicated learning environment for SMEs, offering practical knowledge on topics such as green manufacturing, digitalisation, resource efficiency and advanced technologies including Digital Twin solutions. The integration of Green Path Academy courses into the Hub4Industry training ecosystem will allow companies to access structured learning paths combining digital and sustainability competences.

The measure is primarily targeted at manufacturing SMEs, company managers, engineers and technical staff, as well as Business Support Organisations that support companies in transformation processes. By embedding the courses into an existing regional digital innovation hub, the initiative ensures long-term sustainability, broad outreach and easy access for SMEs, while strengthening the cooperation between industry, academia and innovation support organisations in Małopolska.

6. Connection to the Transnational Ecosystem

This measure is directly connected to the B2GreenHub platform and its training infrastructure developed within the GREENE 4.0 initiative. In particular, the implementation will rely on the Moodle-based learning environment of the Green Path Academy, which has been integrated into the B2GreenHub platform as a core tool supporting knowledge transfer and capacity building in the field of green and digital transformation.

Within the framework of this measure, the Green Path Academy Moodle platform hosted on B2GreenHub will serve as the primary source of training content. The courses available on the platform will be adapted, translated into Polish and aligned with the needs of regional stakeholders. These learning resources will then be connected with the regional training ecosystem of Hub4Industry eDIH, ensuring that SMEs in Małopolska can easily access the materials through existing regional support structures.

This approach allows the region to connect regional training activities with the broader transnational learning ecosystem, ensuring that companies benefit from knowledge and tools developed at the European level. By using the B2GreenHub learning infrastructure, regional stakeholders will gain access to standardised educational resources, methodologies and training modules related to Industry 4.0, circular economy solutions and sustainable manufacturing.

At the same time, the measure creates a two-way connection between the regional and European ecosystems. While SMEs from Małopolska gain access to transnational training resources, regional universities, innovation hubs and Business Support Organisations will also contribute to the further development and dissemination of training content within the B2GreenHub network.

As a result, the measure strengthens the connection between the regional innovation ecosystem and the European GREENE 4.0 community, facilitating knowledge exchange, supporting SME participation in international innovation networks and contributing to the broader objective of accelerating green and digital transformation across European industrial regions.

7. Roles and Responsibilities

Lead organisation(s):

Supporting actors (regional / transnational):

Krakow Technology Park Lead supported by hub4industry and universities from consortium of eDIH.

8. Expected Outputs and Results

The implementation of this measure will result in the adaptation, translation and dissemination of training materials supporting green and digital transformation for SMEs in the Małopolska region.



The primary tangible output will be a set of online courses developed within the Green Path Academy translated into Polish and made publicly available through the Hub4Industry eDIH training platform. These courses will be integrated into the Hub4Industry Academy and offered as part of the existing educational portfolio dedicated to manufacturing SMEs, managers and technical staff.

As a result of this measure, SMEs and other stakeholders will gain easier access to structured learning paths covering topics such as sustainable manufacturing, Industry 4.0 technologies, resource efficiency and digital transformation tools. The translated courses will significantly lower the language barrier, enabling a larger number of companies to benefit from the knowledge developed within the European ecosystem. In addition to the publication of the courses, the measure is expected to deliver several broader results for the regional innovation ecosystem, including:

- Improved accessibility of high-quality training resources for Polish SMEs in the field of green and digital transformation.
- Stronger connection between regional training systems and the transnational B2GreenHub ecosystem, enabling knowledge transfer from European initiatives to regional stakeholders.
- Increased awareness and engagement of SMEs in transformation-related training and innovation activities.
- Strengthened cooperation between Hub4Industry eDIH, universities and business support organisations, contributing to the long-term development of a coordinated regional training ecosystem.

Overall, the measure will contribute to building competences necessary for the twin transition, supporting SMEs in improving their readiness to adopt innovative technologies and sustainable production practices.

9. Indicative Timeline

☐ Short-term (within 12 months)

☒ Medium-term (12–36 months)

☐ Long-term (beyond 36 months)

10. Resource Level (Indicative)

☐ Low

☒ Medium

☐ High

(No detailed budgeting required)

11. Monitoring Indicators (KPIs)

(Select or define 1–3 simple, output-level indicators)

Examples:

- number of users supported, onboarded to platform

1. Title of the Measure

Regional B2GreenHub Facilitator & Ambassador Network

2. Strategic Objective and Priority Area



Strategic Objective (SO): **Strategic Objective 3 – Achieving platform synergies and reach** Priority Area:

- ☐ Training / Skills
- ☐ Technology adoption
- ☐ Testing & piloting
- ☒ Matchmaking & networking
- ☐ Policy support / governance

3. Problem or Need Addressed

(Brief description of the main regional challenge or gap this measure responds to)

The regional innovation ecosystem in Małopolska is well developed and includes numerous actors such as clusters, business support organisations, universities, innovation hubs and public institutions. However, many of these support structures operate independently, which leads to a certain level of fragmentation and limited coordination of services offered to SMEs. As a result, companies often face difficulties in navigating the available support landscape and identifying relevant tools, platforms or cooperation opportunities.

In this context, there is a risk that the B2GreenHub platform could be perceived by regional stakeholders as another stand-alone initiative, rather than as a complementary infrastructure that strengthens and connects existing services. Without clear positioning and strong links with regional intermediaries, the platform may not fully reach its potential audience among SMEs.

At the same time, Polish manufacturing SMEs still face significant barriers in cross-border cooperation. Many companies have limited experience in international networking, insufficient knowledge about European innovation ecosystems and difficulties in identifying reliable foreign partners for technology development, pilot projects or joint innovation activities. These barriers make it challenging for SMEs to participate in transnational innovation networks and European value chains, despite their strong technological capabilities.

Therefore, the key regional need is to create a structured entry point connecting regional stakeholders with the transnational innovation ecosystem, while ensuring that B2GreenHub is embedded within existing regional support mechanisms. Strengthening cooperation between clusters, chambers of commerce, innovation agencies and digital innovation hubs can significantly improve the visibility, accessibility and practical use of the platform among SMEs in Małopolska.

4. Target Groups

(Select and describe main beneficiaries)

- ☒ Manufacturing SMEs
- ☒ Technology providers
- ☒ Research / education organisations
- ☒ Public authorities
- ☒ Intermediaries / clusters
- ☐ Other (specify):

5. Description of the Measure



This measure establishes a structured Ambassador Model designed to connect B2GreenHub with the existing regional innovation ecosystem and ensure its visibility and practical use by SMEs and support organisations. Key actions include:

- **Formal Engagement of Intermediaries:** Regional multipliers such as Chambers of Commerce, cluster organisations and innovation agencies will be engaged as official B2GreenHub ambassadors. These organisations will promote the platform among SMEs and support companies in accessing relevant services, tools and international cooperation opportunities.
- **Strategic Alignment with Smart Specialisations:** Platform activities will be aligned with the four Małopolska Regional Smart Specialisation platforms coordinated by the Marshal Office of the Małopolska Region. This alignment will ensure thematic consistency with regional innovation priorities and facilitate outreach to companies operating in key sectors of the regional economy.
- **Integration Logic:** Intermediaries will receive a concise positioning brief explaining how B2GreenHub complements existing regional support instruments rather than duplicating them. The platform will be presented as an additional digital infrastructure enabling SMEs to access international knowledge, innovation networks and green transition tools.
- **Advisory Embedding:** Instead of creating entirely new communication channels, the measure focuses on embedding B2GreenHub services into the daily advisory activities of established regional Business Support Organisations (BSOs). Advisors working with SMEs will be encouraged to use the platform as a practical resource during consultations related to digitalisation, sustainability and innovation development.
- **Synergies with existing digital innovation services:** In the longer term, promotion of B2GreenHub will also be supported through activities organised within the Hub4Industry ecosystem. Webinars, training sessions and networking events organised for manufacturing SMEs will provide opportunities to present the platform, demonstrate its tools and onboard new users.
- **Communication through regional platforms:** The platform will also be promoted through regional knowledge channels, including the Małopolska Circular Economy (GOZ) information portal and communication activities related to the regional Smart Specialisation platforms. These channels will support dissemination of information about B2GreenHub services, training opportunities and international collaboration possibilities.

Through these coordinated actions, the measure will strengthen the visibility of B2GreenHub in the region and facilitate its gradual adoption by SMEs and regional innovation stakeholders.

6. Connection to the Transnational Ecosystem

Describe how this measure connects to the GREENE 4.0 / B2GreenHub ecosystem, for example:

This measure strengthens the connection between regional stakeholders and the transnational ecosystem developed within the B2GreenHub and the GREENE 4.0 project. Through the Ambassador Model, regional intermediaries such as clusters, business support organisations and innovation agencies will actively promote the platform among SMEs and facilitate their access to its services, knowledge resources and networking opportunities.

The measure will also support the onboarding of regional companies to the B2GreenHub platform during workshops, webinars and networking events organised within regional innovation initiatives and through cooperation with Hub4Industry. These activities will demonstrate the practical value of the platform and encourage SMEs to use it as a gateway to international collaboration, knowledge exchange and green and digital transformation support.

In addition, communication channels connected to regional innovation initiatives, including platforms related to the Małopolska Smart Specialisations and circular economy initiatives, will be used to increase the visibility of B2GreenHub and strengthen its links with the broader European innovation ecosystem.

7. Roles and Responsibilities



Lead organisation(s):

Supporting actors (regional / transnational):

Lead organisation(s):

Kraków Technology Park will act as the lead organisation responsible for coordinating the implementation of the measure at the regional level. Its role will include managing the Ambassador Model, coordinating cooperation with regional intermediaries, organising promotional and networking activities, and ensuring the integration of the B2GreenHub platform into existing regional innovation support mechanisms. KPT will also oversee communication activities, stakeholder engagement and the alignment of the measure with regional innovation priorities.

Supporting actors (regional / transnational): Supporting actors will include regional business support organisations, cluster organisations, chambers of commerce and innovation agencies acting as multipliers and ambassadors of the platform. Cooperation will also involve the Marshal Office of the Małopolska Region in connection with the regional Smart Specialisation platforms, as well as partners from the Hub4Industry ecosystem supporting outreach to manufacturing SMEs. At the transnational level, partners involved in the GREENE 4.0 initiative will contribute to knowledge exchange, cross-regional cooperation and the further development and promotion of the B2GreenHub ecosystem.

8. Expected Outputs and Results

(What will be delivered as a direct result of this measure?)

The measure will result in the establishment of a regional Ambassador Model supporting the promotion and use of the B2GreenHub platform among SMEs and innovation stakeholders. A network of regional intermediaries, including clusters, business support organisations and chambers of commerce, will be engaged as ambassadors responsible for disseminating information about the platform and supporting companies in accessing its services.

As a direct output, a series of promotional and onboarding activities will be organised, including: workshops, webinars and networking events dedicated to manufacturing SMEs. These activities will be implemented in cooperation with regional initiatives such as Hub4Industry and will contribute to increasing awareness of the platform and its tools.

The measure will also be connected with activities carried out within other complementary international initiatives, creating synergies with projects focused on the green and digital transformation of industry, such as CIRC-2-ZERO. This cooperation will support knowledge exchange, joint promotion of digital platforms and the dissemination of training and innovation services for SMEs.

Overall, the measure is expected to increase the visibility and use of the B2GreenHub platform in the region, facilitate the onboarding of SMEs to the ecosystem, and strengthen connections between regional innovation stakeholders and the broader European network supporting the green and digital transition of industry.

9. Indicative Timeline

- ☐ Short-term (within 12 months)
- ☐ Medium-term (12–36 months)
- ☒ Long-term (beyond 36 months)

10. Resource Level (Indicative)

- ☐ Low
- ☒ Medium
- ☐ High



(No detailed budgeting required)

11. Monitoring Indicators (KPIs)

(Select or define 1–3 simple, output-level indicators)

- **Number of awareness-raising events organised** (workshops, webinars, networking sessions) promoting the platform in cooperation with regional initiatives such as Hub4Industry or international including CIRC-2-ZERO project contributing to broader dissemination of the platform within the European innovation ecosystem.
- **Number of regional intermediary organisations engaged as B2GreenHub ambassadors**, including clusters, chambers of commerce and business support organisations supporting outreach to SMEs.

E. TRANSNATIONAL COOPERATION MEASURES

E.1 Regional actors ready for cross-border cooperation

Several regional stakeholders from the Małopolska innovation ecosystem are well positioned to participate in cross-border cooperation initiatives related to the green and digital transformation of industry. Key actors include intermediaries, technology providers, research organisations and cluster networks with experience in international projects and collaboration with SMEs.

Among the main intermediaries, Kraków Technology Park plays a central role in supporting innovation, digitalisation and internationalisation of companies, including through initiatives such as **Hub4Industry**. Another important regional intermediary is **Małopolska Regional Development Agency**, which supports SME development, internationalisation and participation in European innovation initiatives. The regional administration, represented by **the Marshal Office of the Małopolska Region**, also contributes to international cooperation through the coordination of regional Smart Specialisation platforms.

The regional research and academic ecosystem includes strong partners such as **AGH University of Science and Technology** and **Cracow University of Technology**, which provide expertise in industrial engineering, digital technologies and sustainable manufacturing. In addition, cluster organisations such as **Sustainable Infrastructure Cluster** support collaboration between companies, research institutions and public actors in areas related to sustainable technologies and green innovation.

The regional ecosystem is further strengthened by technology providers and partners associated with the Hub4Industry initiative, as well as innovative start-ups operating in the green technology sector. Several of these companies have been identified and presented in the RADAR publication prepared by Kraków Technology Park, which highlights emerging green-tech solutions developed in the region. Together, these actors represent a strong base for cross-border collaboration, knowledge exchange and participation in international innovation networks connected with the B2GreenHub ecosystem.

E.2 Forms of cooperation

- ✓ Joint participation in EU/national projects
- ☐ Cross-border piloting
- ☐ Shared testing facilities
- ✓ Consortium building
- ✓ Skills exchange



☐ Cross-border value chain development

E.3 Use of B2GreenHub tools for internationalisation

The B2GreenHub platform provides digital tools that facilitate international cooperation between SMEs, technology providers and innovation intermediaries by lowering typical barriers related to partner identification, knowledge exchange and access to specialised services. Through the platform, companies can more easily identify relevant partners from other European regions, explore innovation opportunities and connect with organisations working on similar challenges related to sustainability and digitalisation.

The platform acts as a structured entry point to a broader transnational innovation ecosystem created within the GREENE 4.0 initiative. By offering access to knowledge resources, training materials, matchmaking opportunities and innovation support services, B2GreenHub helps SMEs overcome common obstacles in cross-border collaboration, such as limited international networks and lack of information about available support mechanisms.

In addition, the platform supports the dissemination of training and knowledge resources, including educational materials developed within initiatives such as Green Path Academy. This enables companies to build competencies related to the green and digital transition while simultaneously connecting with partners and innovation actors across Europe, thereby strengthening their capacity to participate in international projects and value chains.



F. INTEGRATION OF B2GREENHUB INTO REGIONAL WORKFLOWS

The integration of the B2GreenHub platform into the regional innovation ecosystem will focus on practical onboarding of SMEs, effective promotion through existing channels, and embedding the platform within established support structures for companies in the Małopolska region.

- Onboarding strategy for SMEs

SMEs will be introduced to the platform through targeted workshops, webinars and advisory sessions organised by regional intermediaries. Advisors from organisations such as Kraków Technology Park and partners of Hub4Industry will present the platform's functionalities during training sessions and innovation support activities. SMEs participating in digitalisation or sustainability programmes will be guided through the registration process and supported in identifying relevant services and collaboration opportunities available through the platform.

- Promotion channels

Promotion of the platform will rely on established regional communication channels, including newsletters, social media, thematic workshops and industry events organised by innovation intermediaries. Additional outreach will be ensured through regional knowledge platforms related to circular economy and innovation, including communication channels linked to the Smart Specialisation platforms coordinated by the Marshal Office of the Małopolska Region. Events, webinars and networking sessions organised within the Hub4Industry ecosystem will also serve as opportunities to promote the platform and demonstrate its benefits to manufacturing SMEs.

- Integration into regional innovation support structures

The platform will be embedded into the advisory workflows of regional business support organisations, clusters and innovation agencies. Advisors supporting companies in areas such as digitalisation, sustainability and internationalisation will use B2GreenHub as a complementary tool when recommending training opportunities, innovation services or international partnerships. This approach ensures that the platform becomes part of the existing support ecosystem rather than a separate initiative.

- Most demanded services

Based on consultations with SMEs and intermediaries, the services expected to be most demanded include access to training and knowledge resources, matchmaking opportunities with international partners, information about funding opportunities and access to technology portfolios related to green and digital transformation. The platform will therefore be promoted particularly as a gateway to training resources, innovation networks and cross-border collaboration opportunities.

- Steps to ensure sustainable uptake

To ensure long-term adoption, the platform will be continuously promoted through recurring events, training programmes and advisory services delivered by regional partners. Synergies will also be developed with complementary European initiatives such as CIRC-2-ZERO, which will allow further



dissemination of training materials and innovation services through the B2GreenHub ecosystem. By embedding the platform within existing support structures and maintaining active cooperation with regional intermediaries, the measure aims to ensure sustainable use of the platform beyond the duration of the project.

G. IMPLEMENTATION AND GOVERNANCE

G.1 Implementation phases

- *Phase 1 – Alignment & Preparation*
- *Phase 2 – Service Uptake & Experimentation*
- *Phase 3 – Scaling & Capitalisation*

Phase 1 – alignment & preparation

In this initial phase, the B2GreenHub platform will be aligned with the Małopolska regional innovation ecosystem and the four Smart Specialisation Platforms. Regional intermediaries, clusters, business support organisations, universities and research institutions will be engaged as ambassadors. Preparatory activities include adapting platform tools to the needs of SMEs, translating training materials (e.g., Green Path Academy courses) into Polish, and ensuring technical integration with regional digital platforms such as Hub4Industry eDIH and Małopolska GOZ.

Phase 2 – service uptake & experimentation

During this phase, SMEs and other stakeholders will begin active use of the platform. Onboarding will be conducted through workshops, webinars, advisory sessions, and pilot matchmaking initiatives. Platform services—including training, funding guidance, technology portfolios, and cross-border networking—will be tested in real-life scenarios. Feedback collected during experimentation will inform adjustments to services and enhance user experience.

Phase 3 – scaling & capitalisation

In the final phase, platform use will be expanded to a broader group of SMEs, including those not initially involved in pilot activities. The focus will be on long-term embedding of the platform in regional advisory workflows, promotion through sectoral and international networks, and leveraging synergies with complementary European projects such as CIRC-2-ZERO. Lessons learned will be capitalised on to strengthen cross-border cooperation and ensure sustainable uptake.

G.2 Governance structure

Regional coordination mechanism:

The regional coordination will be led by Kraków Technology Park in close collaboration with the Marshal Office of the Małopolska Region. A dedicated coordination team will oversee platform onboarding, promotion, and alignment with regional innovation priorities.

Roles of project partners:

- **Kraków Technology Park (Lead):** Overall coordination, ambassador engagement, platform integration, event organisation.
- **Hub4Industry eDIH partners:** Support SMEs in testing digital and green solutions, provide demonstration and training environments, assist in international matchmaking.



- **Universities and research institutions (AGH, Cracow University of Technology, Jagiellonian University):** Provide technical expertise, co-develop training materials, validate knowledge content.
- **Clusters and Business Support Organisations (BSOs):** Act as multipliers and ambassadors, promote platform services to SMEs, embed tools into advisory workflows.
- **Regional administration (Marshal Office):** Strategic oversight, alignment with Smart Specialisation platforms, facilitation of public-private cooperation.

Decision-making structure:

Decisions regarding platform operation, service updates, onboarding priorities, and international cooperation will be taken jointly by the coordination team led by KPT, with input from regional partners, Hub4Industry experts, and representatives of the Smart Specialisation platforms. A steering committee will monitor progress, review KPI results, and approve adaptations to ensure alignment with regional and transnational objectives.

This governance model ensures clear roles, effective coordination, and sustainable integration of B2GreenHub within Małopolska's regional innovation ecosystem.

H. MONITORING AND KPI FRAMEWORK

The selected monitoring indicators for this measure are fully aligned with the Transnational Strategy framework, as they capture both the reach and the practical impact of B2GreenHub within the European innovation ecosystem.

- **Number of awareness-raising events** organised (workshops, webinars, networking sessions) contributes directly to transnational KPIs such as SME onboarding, cross-border cooperation links, and international knowledge exchange. Events implemented in collaboration with regional initiatives like Hub4Industry or transnational projects such as CIRC-2-ZERO ensure that SMEs are exposed to the platform, increasing the likelihood of participation in innovation networks and adoption of green and digital solutions.
- **Number of users supported and onboarded to the platform** directly maps to KPIs in the Transnational Strategy such as number of SMEs onboarded to B2GreenHub, number of matchmaking connections initiated, and number of cross-border cooperation links established. By tracking the onboarding process, the measure captures the platform's role in connecting SMEs with international partners, facilitating access to funding, technology portfolios, and training.

Moreover, these indicators indirectly support additional transnational KPIs, including number of technologies adopted, number of training completions, and number of pilot/test engagements, as onboarding and event participation lead to practical application of solutions, knowledge acquisition, and pilot testing. Together, the indicators provide a clear, measurable link between regional engagement activities and the strategic objectives of the transnational B2GreenHub ecosystem, demonstrating both uptake and tangible outcomes in the green and digital transition of SMEs.

I. SUSTAINABILITY AND CAPITALISATION

Ensuring the long-term sustainability of B2GreenHub within Małopolska requires structural integration into regional strategies, stable governance arrangements, and a clear pathway beyond the project lifetime.



A first key element is alignment with the Małopolska Regional Smart Specialisation Strategy (RIS3). B2GreenHub is fully coherent with the region's priorities in Life Sciences, ICT, Sustainable Energy & Environment, and Advanced Manufacturing & Materials. By positioning the platform as an operational tool for RIS3 implementation — particularly in supporting technology uptake, cross-border cooperation, SME capacity building, and green & digital transformation — its role can extend beyond the duration of the GREENE 4.0 project. Embedding the platform within regional policy instruments, cluster strategies, and initiatives such as Hub4Industry and the Małopolska GOZ portal reinforces institutional anchoring and strategic continuity.

The long-term governance model will rely on a coordinated regional mechanism involving clusters, business support organisations, Digital Innovation Hubs, universities, and research institutes. Rather than creating a parallel structure, the platform will be connected to existing innovation workflows, with intermediary actors acting as multipliers and facilitators. This distributed governance approach ensures local ownership while maintaining alignment with the transnational B2GreenHub network.

Continuation beyond the project lifetime will be secured by demonstrating tangible added value for SMEs and ecosystem actors. Continuous engagement with early adopters — including green-tech start-ups identified in the RADAR publication — will generate visible success stories, reinforcing credibility and encouraging wider participation. Regular monitoring of platform usage, impact indicators, and user feedback will allow adaptive improvements to ensure responsiveness to evolving industrial and environmental needs.

Capitalisation and expansion will involve extending the platform's reach to additional industrial sectors, value chains, and potentially other European regions interested in structured green and digital cooperation. The modular design of B2GreenHub facilitates replication in other territories with similar manufacturing profiles, supporting digital maturity and sustainability transitions.

Finally, promoting a culture of data sharing, regularly updating company profiles and technology portfolios, and systematically disseminating results through regional channels and international projects such as CIRC-2-ZERO will strengthen the platform's relevance over time. By embedding B2GreenHub within Małopolska's innovation ecosystem and ensuring practical, measurable benefits, the platform can evolve from a project-based initiative into a recognised, long-term tool for supporting green and digital transformation across the region.

The Regional Action Plan is closely linked with innovation and sustainability initiatives implemented at Kraków Technology Park, ensuring strong synergies between regional policy development and ongoing project activities. In particular, it builds on the experience and outcomes of the SMART CIRCUIT project, which supports the **digitally driven circular transformation** of regional economies by combining digital technologies with circular economy principles. A key concept promoted within the project is **CIRC2Zero**, focusing on the transition towards circular systems that minimise environmental impact while maximising economic value. The knowledge and partnerships developed through these initiatives contribute to strengthening regional innovation ecosystems and support the green and digital transition of industry. At the same time, the project generates wider regional and national impact through a series of stakeholder meetings organised under the **quadruple helix model**, engaging representatives of business, research institutions, public administration and civil society. In Poland, this dialogue



is further supported by the initiative “**Green Start – Conversations about Business**”, which provides a platform for discussing sustainable transformation and circular economy solutions, helping translate project results into practical recommendations and strengthening cooperation among key stakeholders supporting the green transition.