

SHARE **4.0**

SHARE4.0

WORKPACKAGE REPORT

D3.3.1.6 – OPPORTUNITY REPORT EUROPEAN INITIATIVES

Version 1

Company – Person

Date 17.05.2022



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1 Activities and results

In addition to the projects, potential strategic partners and cooperation axes already identified and activated in Report 1, further innovation networks must be addressed on the one hand so that a critical size of actors is created and sufficient usable knowledge and transferable results can be used. On the other hand, this newly developed innovative ecosystem, which is currently being implemented, must be sustainably supplied with funding and financing so that the topics to be worked on together can also be served in the long term.

For this purpose, a stable, future-proof project architecture will be developed in a first step, which will be implemented successively throughout the EU period 2021-2027, i.e. built up and expanded, and further developed.

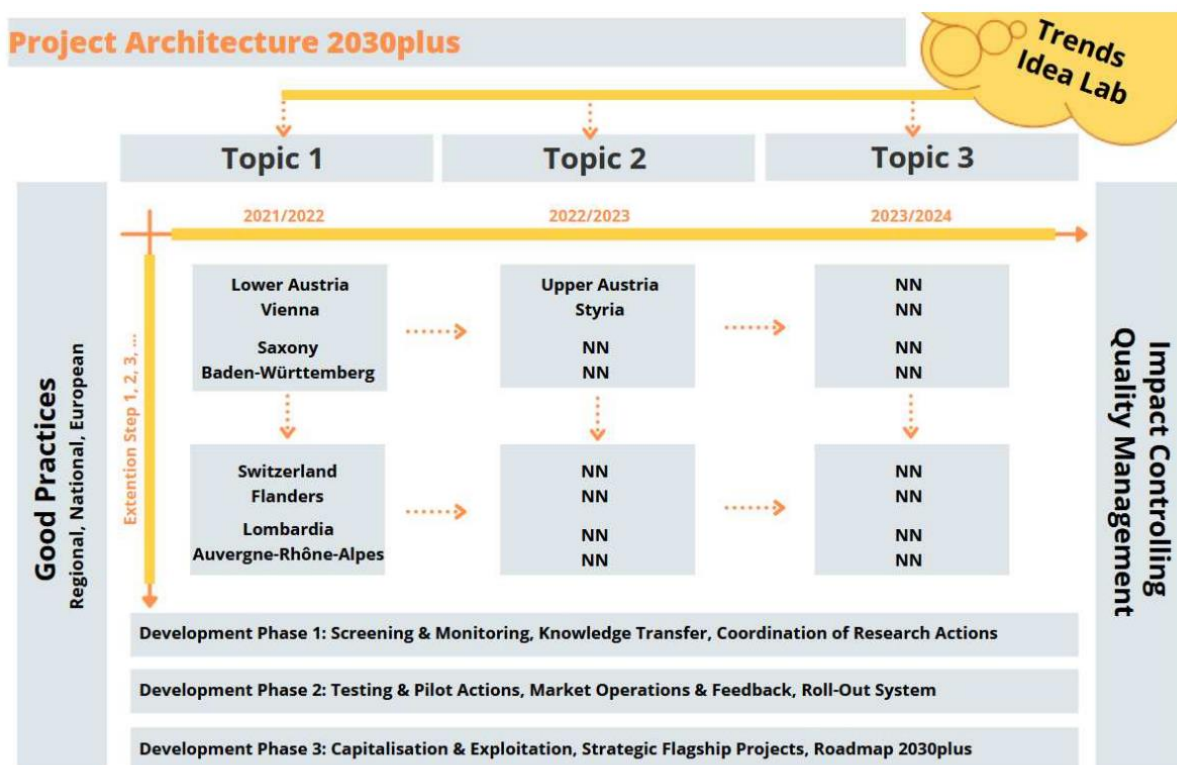


Abbildung 1 – Projektssystem für transnationale Kooperationen (Quelle: MCR, 2021)

Due to experience-based low success rates in European programmes, particularly at the beginning of each Structural Fund period, a model of concerted actions in the area of ESIF, Land and federal funds. This applies, for example, to the various funds of the ERDF programmes: REACT EU JIT Just Transition Fund, Green Deal. As a coordinative intermediate step, cross-border projects can also be cross-border projects can be promoted in a coordinated manner. For example IMPROVE! (AT-HU) can network with the DataKMU project group (BAY-AT) for joint actions. network. In principle, through these transnational innovation eco-systems all available European sources (i.e. Horizon Europe, I3, EIT, etc.) will also be used consistently and permanently.



1.1 Identify strategic projects and initiatives for the development of Future key projects in the EU period 2021-2027

A practical start for the development of new projects in the EU funding period is certainly a screening of usable model projects from the previous period. Some of these still being implemented and can be used in joint actions (promptly, directly and strategically) with IMPROVE! immediate and strategic) with IMPROVE! An essential factor for a successful project strategy in an EU period is basically a parallel ramp-up of methodological, coordinative network projects and projects with focused thematic areas. Both parts are necessary so that as little time as possible time is lost for new project activities and that the results of both fields of action complement and benefit each other.

Some selected model projects are as follows:

1.1.1 CEUP 2030, Central Europe Upstreaming for Policy Excellence in Advanced Manufacturing & Industry 4.0 towards 2030

- Programme: Interreg Central Europe, 4th Call, Experimental Call on Policy Making, cross-programme cooperation and capitalisation.
- Starting point of CEUP: The project was planned as a capitalisation project, which builds on the results of projects that have already been completed and are These are among others: Interreg Central Europe 3DCentral, S3HubsinCE, SYNERGY and Horizon 2020: SPIRIT, DIH2, SISCODE.
- Topics: Industry 4.0 / Advanced Manufacturing: Intelligent Productions Systems, Automation & Robotics, Smart & New Materials, Artificial Intelligence.
- Lesson Learnt for IMPROVE! Establish transnational European working groups for in the policy-making context.

Other policy- and programme-shaping project examples include:

1.1.2 ARDIA-Net, Developing an Alpine Space Research, Development and Innovation Area by lowering barriers for cross-regional cooperation

- Programme: Interreg Alpine Space.
- Topics: Development of a reusable basic model for the use of regional funding instruments in a instruments in a European macro-region based on the RIS3-strategies.
- Lesson Learnt for IMPROVE! Transnational use of European Structural Funds, state and federal funds, S3-cooperations.



1.1.3 A-RING, Alpine Research and Innovation Capacity Governance

- Programme: Interreg Alpine Space.
- Topics: Developing, testing and establishing methodologies for policy learning to optimise research and innovation in the Alpine Space macro-region. optimising research and innovation in the macro-region Alpine Space.
- Lesson Learnt for IMPROVE! Coordination of RIS3 strategies and corresponding thematic policies in European cooperation areas (cross-border, transnational).

1.1.4 S34GROWTH, Enhancing policies through interregional cooperation: New industrial value chains for growth

- Programme: Interreg Europe, S3/EU Vanguard Initiative project.
- Topics: Promoting new industry in Europe and establishing new value-added partnerships. value-added partnerships.
- Lesson Learnt for IMPROVE! Establish and benefit from a European work base for concerted follow-up activities for research projects, e.g. Horizon 2020.

1.1.5 3DCentral, Catalysing Smart Engineering and Rapid Prototyping

- Programme: Interreg Central Europe.
- Topics: Industry 4.0 and Advanced Manufacturing as well as cross-sectoral, exemplary model projects (e.g. industry, health economy, agriculture).
- Lesson Learnt for IMPROVE! Design and implementation of European growth axes; development of strategic lead projects including multi-year project roadmaps; trainings for technology and innovation brokers.

1.1.6 S3HubsinCE, Unleashing the potential of transnational cooperation, through Digital Innovation Hubs, to promote RIS3 implementation

- Programme: Interreg Central Europe.
- Topics: Building European networks for Digital Innovation Hubs (DIHs); 60 replicable and transferable pilot applications.
- Lesson Learnt for IMPROVE! Coordination of transnational working groups (e.g.. Circular Economy) European policies or RIS3 strategies.

1.1.7 SYNERGY, SYnergic Networking for innovativeness Enhancement of central european actoRs focused on hiGh-tech industrY

- Programme: Interreg Central Europe.
- Topics: Additive manufacturing and 3D printing, micro- and nanotechnological processes and materials, and the and materials, as well as the field of Industry 4.0.
- Lesson Learnt for IMPROVE! Coordinated use of research infrastructures; Establish networks for knowledge transfer that can be used repeatedly.



1.1.8 SPIRIT, A software framework for the efficient setup of industrial inspection robots

- Programme: Horizon 2020, Small project, EUR 3.7 million.
- Topics: Quality control of complex components using a combination of robotics and sensor systems.
- Lesson Learnt for IMPROVE! Building European networks of excellence for practice-oriented thematic priorities with high implementation interest.

1.1.9 DIH2 , Accelerating factories through robotics

- Programme: Horizon 2020., Medium/large project, EUR 16.9m.
- Topics: Network of more than 26 DIHs in Europe; 2 waves for integration of further research partners and SMEs and for additional pilot projects (Cascade Funding).
- Lesson Learnt for IMPROVE! Design and implementation for multi-annual / permanently usable European networks (target: 170 hubs).

1.1.10 Trinity DIH, Agility for production in Europe

- Programme: Horizon 2020, S3/EU Vanguard Initiative project, medium/large project, EUR 16.9 million
- Topics: Digital technologies, advanced robotics and increased cybersecurity for agile production in future European production ecosystems.
- Lesson Learnt for IMPROVE!: Create a critical mass of technical use cases of a reliable exploitation strategy including support for training and consulting (e.g. developing business models, access to funds & finance).

1.1.11 SISCODE, Co-Design for society in innovation and science

- Programme: Horizon 2020, Small project, EUR 4.0 million.
- Topics: Preparation of models for co-creation and human-centred design and their services for e.g. Living & Innovation Labs.
- Lesson Learnt for IMPROVE! Generating thematic follow-up projects from a methodological, European network project.

1.1.12 CARE4TECH, Cross-sectoral Alliances for Smart Living

- Programme: Interreg Alpine Space.
- Topics: Network of Living & Innovation Labs, Demo & Research Centres; transnational technology networks in the Alpine Space; cross-sectoral cooperation.
- Lesson Learnt for IMPROVE! Planning and coordination of project roadmaps at the interface between macro-regions, bi- and trilateral cooperation areas and regional/national strategies and policies. regional/national strategies and policies.



1.1.13 FiberEU Use, Large-scale demonstration of new circular economy value-chains based on the reuse of end-of-life fiber reinforced composites

- Programme: Horizon 2020, Systemic, eco-innovative approaches for the circular economy: Large-scale demonstration projects, S3/EU Vanguard Initiative project.
- Topics: Bundling of different innovation projects to improve the recycling of composites profitable and to recycle them in new products in value chains.
- Lesson Learnt for IMPROVE! Value chain integration, scouting for new markets, analysing legislative barriers, designing change processes for a circular economy.

1.1.14 DataKMU, Vernetzung und Wissenstransfer im Bereich Data Science

- Programme: Interreg Bavaria-Austria.
- Topics: Knowledge transfer for Data Science between research organisations with pilot applications for SMEs, industry, municipalities and regions.
- Lesson Learnt for IMPROVE! Creation of numerous, high-quality pilot projects with subsequent roll-out through concerted actions of structural funds, federal state and federal funds as well as a consistent roadmap for the entire next EU period.

1.1.15 DITA, The Digital Industry Training Atlas

- Programm: Interreg Bayern-Österreich.
- Themen: Wissenstransfer für Data Science zwischen Forschungseinrichtungen mit Pilotanwendungen für KMU, Industrie, Gemeinden und Regionen.
- Gelernte Lektion für IMPROVE! Schaffung zahlreicher, qualitativ hochwertiger Pilotprojekte mit anschließendem Roll-Out durch konzertierte Aktionen von Strukturfonds, Landes- und Bundesmitteln sowie einer konsistenten Roadmap für die gesamte nächste EU-Periode.

1.1.16 3D-Kompetenzzentrum Niederrhein

- Programme: ERDF NRW (North Rhine-Westphalia, Germany).
- Topics: Anchoring of digital manufacturing competences in various study programmes of the courses of the university partners (Rhine-Waal, Ruhr West, RWTH Aachen), including an international training programme; establishing a Fab Academy.
- Lesson Learnt for IMPROVE! Regional networking with clear growth axes: bi- and trilateral cooperation areas, macro-regions (idF EMR Euregio Meuse-Rhine, Interreg NWE Northwest Europe); regional integration of higher education institutions, i.e. cooperation with all target groups, decision-makers and multipliers; educational axis from the school system to university education and training.



Overall, these projects have activated a significantly high number of potential project partners, produced excellent pilot actions for transfer and targeted further development as well as tested, repeatable solutions for the ATHU cooperation area. tested, repeatable solutions for the ATHU cooperation area, and a qualitatively and quantitatively high number of projects in the network (eco-system) for additional activities.

1.2 Identify key projects for the next funding period

Project criteria

Transfer and cooperation potential: The key projects should comprise a sufficient

- number of regions and project partners with project and programme experience. In this way, within the framework of planning and future implementation work, (a) transfer is to be and (b) create the basis for consistent project development throughout the entire programme period 2021-2027 and beyond. and beyond.
- The addressed complementary and synergetic projects and initiatives should (a) still have a longer project duration if possible (e.g. current Horizon Europe projects, cooperations with EDIH European Digital Innovation Hubs) as well as (b) the (inter)regional (inter)regional strategic partnerships should have a similar planning horizon with regard to the planning for the start of new projects, or (c) want to use the same programmes and also have the corresponding tried and tested experience of several years.

Potential cooperation partners

For the establishment and expansion of a development axis in Lower Austria or the cooperation area of ATHU to Eastern Germany and Switzerland, the following partners have been activated:

- Material Innovativ: The platform "MiT - Material innovativ THÜRINGEN" bundles and moderates a wide range of activities to further strengthen Thuringia as a region of expertise in the field of materials development, production and application. This initiative is supported by the state development corporation LEG Thüringen and the Thuringian Cluster Management.
- Fraunhofer IWS Centers: The main partner is the Center for Additive Manufacturing Dresden (AMCD) with a focus on the aerospace, automotive, energy technology, tool and mould making and medical technology sectors. Other centres include: Centre for Advanced Micro-Photonics (CAMP), Fraunhofer Application Centre for Optical Metrology and Surface Technologies (AZOM), the Dortmunder OberflächenCentrum DOC® (Dortmund Surface Centre) and the Center for Technologies in modern lightweight construction.



- EMPA demonstrators: In order to accelerate the innovation process, Empa has developed various demonstrators, so-called Research and Technology Transfer Platforms (RTTPs), have been set up. These are large-scale projects involving several research partners, which, in close cooperation with industry and under the leadership of Empa Empa to produce marketable solutions in the fields of buildings, mobility and energy. in the building, mobility and energy sectors. This successful methodological approach must be applied to common technology fields (e.g. additive manufacturing) and to provide pilot examples. with pilot examples.

2 Conclusions and outlook

The monitoring and research work on suitable, usable key projects or initiatives as well as potential project partners to support the projects of the project partners currently resulted in more than 16 projects or initiatives, far more than 100 directly usable project partners as well as numerous potential implementation activities with a high potential for knowledge and technology transfer. The data and figures are always to be regarded as exemplary and can be adapted according to the occasion as well as thematically oriented. In any case, a suitable working and cooperation basis for the subsequent planning and project activities has been prepared and developed.

In particular, some projects identified as successful models, such as DITA (Erasmus), S3HubsinCE and CEUP 2030 (both Central Europe) have a high development and cooperation development and cooperation potential in terms of quality and quantity. This can now be used consistently. Appropriate funding and support programmes have also been identified for the planned regional/national and and funding programmes have been identified for the planned regional/national and European cooperation projects. Funding programmes have been identified for the planned regional/national and European cooperation projects.

These are, among others:

- Interreg: Cross-border cooperation
- Interreg: Transnational Cooperation
- DEP Digital Europe Programme
- HEU Horizon Europe
- Green Deal Europe
- Regional and national sources
- ESIF, transnational coordination
- EIT: Manufacturing, Climate, Digital
- Next Generation EU, Recovery Plan
- Erasmus and other thematic action programmes

The concrete processing of the identified potentials for international cooperation takes place together with selected project partners according to the requirements of the individual individual programmes and thematic fields (e.g. Additive Manufacturing: Fraunhofer IWS and IWU, Technology Region



Aachen). Prompt steps have also been taken with these partners and based on their project experience to develop and transfer mechanisms should be set up and tested with these partners and based on their project experience. and transfer mechanisms.

It is also important to integrate the large number of available research infrastructures and research outputs into a stable into a stable, practicable and future-proof working system. All in all, the entire innovation eco-system of the participating partners (regions) must be included for lasting stable cooperation.

It is particularly important - in times like these - to intensify international cooperation in digital form. in digital form and to improve it with new tools and methodologies, so that the crisis is increasingly used as an opportunity. In this way, our own capabilities, business models and value chains can be consistently optimised.

