



ACTION PLAN

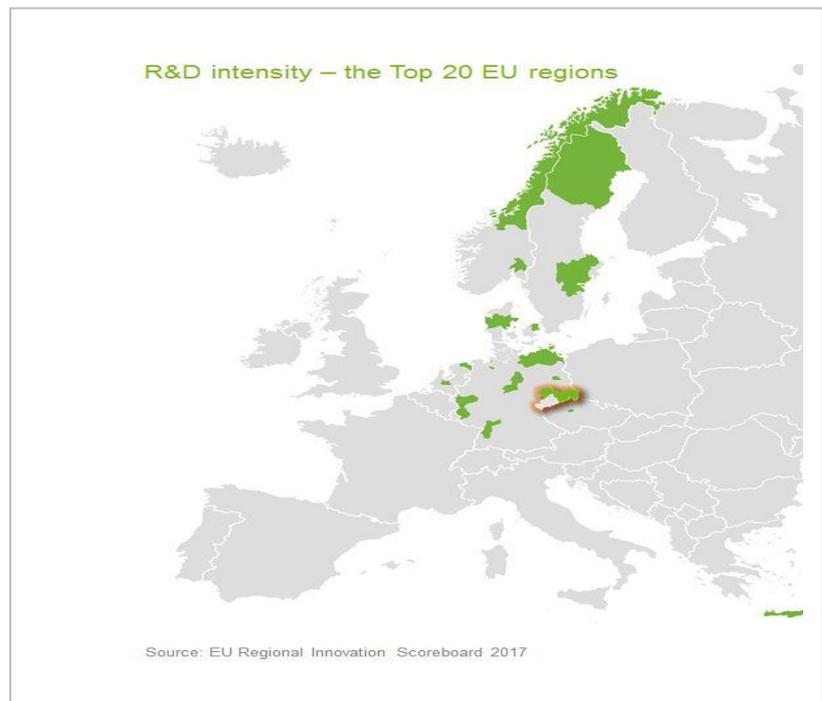
SHARING STRATEGIES FOR EUROPEAN RESEARCH AND INNOVATION INFRASTRUCTURES (INNO INFRA SHARE)

**Chemnitz University
of Technology
Cluster of Excellence
MERGE**

Country: Germany

Region: Saxony

City of Chemnitz



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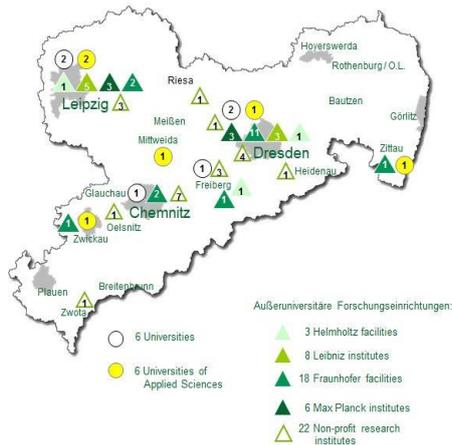
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PART II Policy context

1. Background information

Saxony is an industrial region in Germany. With a longstanding and successful innovation tradition, it provides of a good basis for the development of a future-oriented industry and for world class innovations. Pioneering innovations, such as the first locomotive to be designed and engineered in Germany, the first six-cylinder engine, the centrally positioned gearshift lever in automobiles come from Saxony. Since 1990, about 6,000 companies have set up or purchased business premises in Saxony. Saxony's economy has increased by about 14 percent since 2010; thus, exhibiting the second highest GDP growth rate of all German federal states.



Sources:
• Statistical Office of the State of Saxony
• www.standortkarte.fraunhofer.de; www.mpg.de/institute; www.helmholtz.de; www.leibniz-gemeinschaft.de; Verband Innovativer Unternehmen e.V.

The regional research and innovation infrastructure is one of the keys for that economic success. The density of universities in Saxony exceeds the German average. Furthermore, a big range of non-university research institutions and industrial research facilities are located in Saxony: 18 Fraunhofer facilities, 3 Helmholtz facilities, 8 Leibniz-Institutes, 6 Max Planck-Institutes and 22 non-profit research institutes.

These research facilities build a competitive infrastructure basis for the development of successful innovation projects with SMEs as well as with large companies.

The Saxon Government has implemented a very effective support system for innovative Saxon companies, which aims at supporting the competitiveness of Saxon SMEs and help them to be prepared for future challenges. Several well-equipped public funding programs can be used for the development and implementation of joint innovation projects and for the usage of the regional research and innovation infrastructure.

2. Policy instrument “Strategy workshop: Industry of the Future”

Upon the request of the Saxon Ministry of Economic Affairs, Labour and Transport “InnoInfraShare” has addressed the Strategy Workshop – Industry of the Future”. This is not that typical funding programme, but a new instrument, which aims at supporting and improving the effectiveness of the implementation of the related funding programs and the development of future-anticipating policy measures for the next funding period.

For that purpose, the Saxon Ministry of Economic Affairs, Labour and Transport has launched the StrategieWerkstatt: Industrie der ZUKUNFT (Strategy workshop: Industry of the Future) to create a dynamic platform which sheds light on the industrial, competitive, technological and social challenges that Saxony's industry will face until 2030. That workshop format relies on an open, moderated discussion process with all the stakeholders relevant for Saxony's industry. Those involved therefore gain the opportunity to play an active part in developing an industrial strategy and actively help to shape the regional policy. The applied format also initialises steps towards an efficient implementation of the running public programs and creates favourable framework conditions for future-oriented networks and co-operations, as they build on a common vision of the industry of the future in Saxony.

Resulting from a study of the framework conditions and of prospects a SWOT-profile of the Saxon industry was developed together with the participants of the Strategy workshop.



In a following step the strengths and weaknesses of Saxony's industry have been evaluated against the risks and opportunities arising from external trends and developments. Four fields of intervention towards a competitive industry of the future have been identified:

1. Digitalisation & Business models
2. Innovation & Co-operation
3. Work & Skills
4. Sustainability & Added value.

With regard to InnoInfraShare the most relevant field is field 2. Innovation & Co-operation, where needs for improvements of the innovation capacities and capabilities, of the industry-science co-operation and of cross-sector innovations have been addressed. Research and innovation infrastructures and their further strategic development play a crucial role for a successful implementation of the developed strategy. Therefore, InnoInfraShare can leverage the strategy workshop and adds a complementary inter-regional perspective to it. It will support international innovation co-operations, such as the shared use and/or the aligned development of Research and Innovation infrastructures.

3. Project findings and lessons learned

During the project phase 1 we have analysed the policy instrument "strategy workshop: Industry of the future" against the background of the knowledge and the experiences we could gain at the project meetings, workshops, study visits, peer review meetings, stakeholder meetings.

Particularly, the workshops with the partners at the peer review meeting in Brno helped us to review the policy instrument against the background of the experiences of the other partners:

- The development of CEITEC in Brno is a good example for a cross-institutional investment in research and innovation infrastructures. Two local universities have established a top-class research infrastructure and follow a future-oriented common research agenda. Together they have attracted international and national industries, which support the development of research groups and contract ambitious research projects there. From that approach several spin-offs have started and could be successfully established in the value chains of the attracted global players.
- The focus of the Estonian and Latvian partners on their strengths, the attraction of young, well-skilled people into the innovation system and their involvement in innovation projects.

During the peer review meeting we have, together with all attending partners, have reviewed the strengths and weaknesses of the policy instrument. We found that the strategy workshop, which was unique in its format among all discussed policy instruments, shows a range of strengths with regard to its impact for the implementation of the structural funds based regional funding programs and complements the Structural Funds programs:

Strengths:

- The high and active involvement of all actors is an important success factor, gave broad insights into the innovation activities in Saxony. It has paid off already during the first workshop phase through an acceleration of the innovation community development and for cross-sector innovations.
- All socio-economic and technological aspects of the industrial policy have been addressed. This way, the innovation policy challenges have not been analysed separately, but have been set into the context of the general regional development and its framework conditions. The consideration of all factors of the ecosystem provides a safe basis for the development of success- and impactful policy measures and helps to mitigate risks.
- The involved stakeholders and workshop participants have developed a common vision on the industry of the future in Saxony. It is recognised, that such a common vision is an important catalyst for cross-sector networking and collaborations.

Weaknesses:

- The further elaboration of the policy strategy calls for a stronger consideration of the global and cross-border value chains, where the Saxon companies are or will be integrated in the future. Ideally, it could be aligned to a certain extend with those regions, which are most intensely interlinked with Saxony.
- The status of the policy document lacks of the interregional and internationalisation component. For the regions at the Polish and Czech border, which are considered as structurally weak regions with a future promising potential in knowledge-intensive sectors, it would be helpful to consider their specific potentials of the cross-border co-operations and value chains. Schemes for common strategic development and the sharing of research and innovation infrastructures beyond the used Interreg CBC-schemes should be developed and implemented.

Opportunities:

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- Anticipating future opportunities and challenges is a very efficient approach to ensure effective policy measures and interventions.
 - This way, common objectives and challenges can be identified and the targeted cross-sector-/cross-cluster co-operations can be initialised and aligned.
 - That will minimise the risk of competing and cannibalising projects and investments and could promote synergising projects.

Threats:

- It is important to have a maximum outreach of the workshop process into the whole region. Otherwise, conflicts of interest and an unbalanced reflection of the innovation community could be caused.
- Local and regional stakeholders could be hesitant to discuss their strategies in case they compete for EU-funds or skilled people, energy, raw materials, investors and customers.

Other good practices we have seen during the study tours to Flanders and Skane regions:

- The High Tech campus in Eindhoven is a good example for an efficient campus-based innovation ecosystem, which facilitates and induces cross-cutting innovation projects. The well-developed innovation and co-operation culture, which facilitates and supports international and intercultural innovation projects was particularly interesting for us and the attending stakeholders from Saxony,
- SOLLIANCE, an international partnership, dedicated to the solar industry and connecting public actors and research with private companies based on a lean and competition-oriented business model. This model is going to be transferred to activities of clusters and innovation networks in Saxony and the European Lightweight Clusters Alliance, which is presently co-ordinated by TU Chemnitz.
- The Material Business Centre and the Open Lab Skane, which have set a clear common strategy and a research agenda, which facilitate common projects and the shared use of the investments in RII as well as in research capabilities.

Proceeding the findings from the joint project work during the last 2 years we have learned

- Investments in Research and Innovation infrastructures and their shared use are hot topics in the involved project partner regions. The shared use of the infrastructures could be a very efficient way to increase the outreach and the efficiency, the more that they are often financed from European Structural Funds money. **The strongest motivation for a shared use of the infrastructures is given through common innovation projects of companies and RTOs.**
- that there is a significant unused potential for the initialisation of inter-regional innovation partnerships among the InnofraShare-regions, which could benefit from the existing Research and innovation infrastructures, which have been presented during the phase 1 of the project. It is worth to tackle that challenge and to develop appropriate actions. For that purpose, **we need to know better the relevant Research and Innovation infrastructures**

and their future strategies and establish permanent working contacts between the stakeholders and actors.

- Concepts on research and innovation infrastructures mostly refer to the physical facilities and do not **consider the “software”, the people, their networks, knowledge/skills and cultures as well as innovation support services in a sufficient way.** But, they are the keys to inter-regional innovation and make the investments working efficiently or not. It is **important to invest in people and their networks, i.e. in collaborative projects among the stakeholders from InnolnraShare-regions.**

The lessons learned can be summarised as follows:

- The consideration of the international/European context as well as the anticipation of common future challenges are key success factors for the development of competitive research and innovation infrastructures. Common European and future-oriented innovation projects and strategies are vital preconditions for the co-ordinated development and the targeted shared use of the existing research facilities. From that reason the actions of InnolnraShare in Saxony aim at setting the European context and framework for the implementation of the “Strategy workshop”, at identifying common future challenges with the InnolnraShare partners and stakeholders and in initialising concrete common projects and strategies for the development of RII.
- That international background should be given and ensured through future-oriented innovation roadmaps, like we have seen them in Eindhoven, Skane and Brno. With regard to the Strategy Workshop “Industry of the future”, the envisaged actions should aim at facilitating the development of cross-cutting innovation strategies and roadmaps.
- Within the first 2 years, we could create favourable conditions for such co-operations because we have identified common objectives and interests, we had the opportunity to build trust while working and learning together, we have learned about the capabilities and potentials of the partner regions. We could develop ideas on joint future innovation projects and initialise first inter-regional project activities, based at our regional research and innovation infrastructures. We will take up all these first achievements, sustain and develop them further within the coming two years of implementation. This way we will improve and complement the implementation of the policy instrument “Strategy workshop-Industry of the future”.

With the planned actions we aim at the impactful implementation of the policy instrument “Strategy workshop Industry of the future” in the next 2 years through

Connecting and synergising the Research and Innovation infrastructures in the InnolnraShare-regions, by providing information and for the owners, operators and service

The draft of the next phase of the policy instrument tackles the weakness of the internal view and integrates a strong European component. InnolnraShare can support that approach best by implementing actions, which promote and support actively the development of a network of RII-operators.

2. Facilitating the aligned strategy building process of Research and innovation operators by sharing developed sectoral/regional foresight scenarios, which anticipate future challenges of the innovation ecosystem for successful research, Innovation and Technology transfer

The Saxon Ministry of Economic Affairs, Labour and Transport takes particular emphasis on an high-impact implementation of the policy instruments. With regard to the Strategy workshop “Industry of the future” that means that the implementation of the instrument

should promote the future-oriented policy approach and help to prepare Saxony for the implementation of the INTERREG 5 Component in the fields of KETs and top-class research and innovation infrastructures.

3. Creating mutual benefit for the infrastructures actors through the initialisation of joint research and innovation activities involving and using the addressed infrastructures and promoting their shared use.

The updated draft of the policy instrument includes a strong European component, such as the identification and implementation of inter-regional research and innovation projects. For that purpose it foresees study tours, workshops and innovation camps. With the InnolnraShare actions those measures will be complemented by targeted collaborations with the InnolnraShare-partners and their stakeholders.

The planned activities correspond with the planned actions for the implementation of the Strategy workshop “Industry of the future” and complement them in terms of creation of common strategies and roadmaps, identifying and implementing common innovation projects.

These objectives have been developed and explicitly welcomed by the regional stakeholders group, in particular by the Saxon Ministry of Economic Affairs, Labour and Transport, the main responsible body for the addressed policy instrument. Within the next 2 years the “Strategy workshop “Industry of the future” will change its character and be implemented rather as an instrument for an impactful implementation of the policy instrument than for strategy building. All envisaged actions therefore support and leverage the policy instrument, as they are focussing on the implementation of the developed strategy within the upcoming 2 years.

Part III – Details of the actions envisaged

ACTION 1 ENLARGING THE STRATEGIC HORIZON OF THE IMPLEMENTATION OF THE STRATEGY WORKSHOP IN AN INTERREGIONAL SCALE (Setting the European context for the implementation of the strategy workshop)

Learning background:

The Strategic development of RII is one of the key elements of the strategy workshop. It is claimed in the policy documents as promotion of innovation activities and of efficient use of structural funds for RII investments and developments. During the concept phase we have learned, that in all InnolnraShare regions exist and operate innovation infrastructures, that offer many opportunities to leverage our own innovation system. During the study tour and workshops in Skane region and in North Brabant/Flanders we have seen efficient approaches, which we will transfer and adopt to Saxony during the implementation phase. With the second phase of the implementation of the Strategy workshops the international dimension has been added to the updated policy documents. Study tours and workshops to U.S., Finland and Spain have been included in the foreseen activities. With the implementation of InnolnraShare that approach can be validated and enlarged by the partner regions of the project, which haven't been yet in the focus of the policy instrument. The further implementation of the Strategy workshop will be improved through introducing these lessons learned into the regular implementation activities of the strategy workshop and giving this way added value to the implementation of the policy instrument.

Objective

- contribute to an improved implementation of the strategy workshop through linkages of research and innovation infrastructures in an inter-regional context and developing a format, that will be applied for the follow-up activities of the strategy workshop
- and introducing the good practices from Flanders (SOLLIANCE), Skane (Materials Lab) with regard to the development of a common strategic framework and setting up a competitive and lean co-operation management culture, which promotes collaborative innovation projects.

Action

For that purpose, we will initiate a joint strategy building and review process with the participants of the Strategy workshop. that process will be kicked-off and pushed with 2 innovation conferences , where we will invite owners, operators and service providers from infrastructures, research institutions and SMEs.

Presenting and discussing

- good practices and experiences from InnofraShare-regions with regard to common innovation strategies and roadmaps,
- review of the the state of play of the implementation of the strategy workshop,
- information on recent further developments and ideas and on the role of the regional research and innovation infrastructures,
- highlighting the role of the RII for the development of the KETs (which are emphasised by the addressed policy instrument, such as new and smart materials, lightweight technologies, micro-/nanotechnologies, circular economy)presenting information on the profiles of interesting RII via new media information and communication channels of our regional stakeholders, presenting capabilities and strategies of the Research and Innovation infrastructures

Target groups:

- Operators/owners of research infrastructures, clusters and innovative networks
- Research groups
- Innovative SMEs
- Policy

Governance structure of the Action and players involved

TU Chemnitz/MERGE will be responsible for the organisation of these events. As we strive to leverage these events with regional innovation conferences/events, the organisation will be done in co-operation with regional stakeholders: universities, research infrastructures, clusters.

Potential partners:

FutureSax (organiser of the regional innovation forum on behalf of the Saxon Ministry of Economic Affairs, Labour and Transport), Fraunhofer institutes, Clusters (i.e. Silicon Saxony, Organic Electronics Saxony, MERGE, Automotive supplier network)

Timeframe:

Conferences in June/October 2019 and 2020

Costs (budget)

5000,-€ for additional inter-regional activities for both conferences, comprising

2.000,00 € fee and travel for invited speakers

2.000,00 € communication and presentation costs

1.000,00 € contribution/share of costs for

conference infrastructure and organisation

Funding sources

Regional fundings, contributions from stakeholders, own finances and in-kind contributions

Indicators to measure results and potential impact of the action

Number of event organised

Number of participants from RII

Number of RII from other InnoInfraShare-regions presented

Risks related to the Action and their mitigation

There is the risk that stakeholders and actors from other regions cannot be attracted or are not able to finance their travel costs to Saxony. In order to mitigate this risk we will consider presenting those research infrastructures with posters, short video clips or in a separate workshop session with a web-based videoconference.

ACTION 2 WORKING GROUP “INTER-REGIONAL FORESIGHT SCENARIOS FOR THE INDUSTRY OF THE FUTURE”

Learning background:

Action 2 refers to the lesson from the peer review in Brno, that joint RII-strategies and their co-ordinated implementation should be based on identified common future challenges. Action 2 will facilitate that process and enable innovation actors to identify common future challenges.

Comparably to the case of SOLLIANCE in Eindhoven we will create the international framework for that process taking new inter-regional value chains as examples, such as smart materials. For selected applications and value chains in the fields of new materials we will develop inter-regional foresight scenarios and provide that knowledge to partners from other InnoInfraShare-regions as well as to innovation players in Saxony. The intended working group will complement the implementation of the policy instrument, through the identification of common future challenges, particularly in those fields, which are emphasised by the strategy workshop, such as KETs. That exercises will help to align the strategies and to gain the complementarity of concepts, investments and strategies and will contribute this way to a more efficient implementation of the strategy workshop.

Objective: Anticipate future innovation challenges and identify common objectives in a joint foresight exercise with regional and InnoInfraShare partners

Action

Establishment of regional working group, which develops regional foresight scenarios in selected Key Enabling Technologies and shares its findings with all partners in a web-based conference,

Organisation of a kick-off workshop and 3 physical follow-up meetings in Saxony,

Provision of the findings at the regional innovation platform (www.futuresax.de)

Target groups

Regional innovation support providers, operators/owners of research and innovation infrastructures

(innovation scouts, innovation consultants, i.e. key account managers of EEN, cluster managers, SME innovation managers, interested policy makers)

Activities:

1. Regional kick-off workshop with stakeholders, interested innovation actors and experts (physical meeting, selection of the technologies/application to analyse)
2. Organisation of 3 follow-up meetings for innovation actors according to the selected technologies and related and policy actors
3. Presentation of the findings at the innovation platform of the Managing authority of the policy instrument (Saxon Ministry of Economic Affairs and Labour, www.futuresax.de)

atGovernance structure of the Action and players involved

TUC/MERGE will take the responsibility to organise the foresight exercise. However, depending from the commonly chosen KET further partners and experts will be invited from RTOs, clusters, innovation service providers and from policy (i.e. Saxony Development Corporation and regional development actors) .

FutureSax, one of the main implementors of the policy instruments and the provider of the regional innovation platform will make available the platform facilities.

Timeframe

July 2019 – December 2020

Costs 15.000 €

Staff costs (TUC team EU-projects) 10.000 €

Meeting costs 1.000 €

External experts, speakers 4.000 €

Funding sources:

own finances from TUC (staff),

Meeting costs, external speakers, regional funding (Saxon Ministry of Science, education; Saxon Ministry

of Economic Affairs and Labour)

Provision of the platform FutureSax- FutureSax GmbH/ Saxon ministry of Economic Affairs and Labour

Indicators to measure results and impact of the action

Number of workshops/meetings held

Number of participants

Number of developed scenarios for regional KETs and application cases

Risks related to the Action and their mitigation

The risk, that the regional stakeholders and innovation actors are interested rather in receiving the results of the exercise, than in being actively involved in the development process cannot be fully excluded.

In that case, we could offer to develop the scenarios in a smaller team, to share and to discuss them in an open workshop. We could achieve the same result, but could miss some interesting inputs and insights from the creation process. The moderation of the workshop had to be adapted in order to minimise the potential input losses. Anyway, that could be an alternative approach.

ACTION 3 JOINT IMPLEMENTATION ACTIVITIES FOR THE INDUSTRY OF THE FUTURE – INNOINFRA SHARE CO-OPERATION HOTSPOT”

Learning background:

During study tours, workshops and during the inter-regional stakeholder meeting we have got insights into the mechanisms of the shared use of research and innovation infrastructures. Although all participants have underlined the importance of shared strategies and usage, some of them were doubtful because of competition issues and risks. R&I are important competitive factors for the regions and operators. From that reason, the operators and researchers consider them also as subjects of competition. Identified common research and innovation projects, which base at identified common future challenges will serve as catalysts for the aligned strategic development and the shared use of the RII.

Objective: targeted identification and development of joint inter-regional research, development and innovation projects, which contribute to the implementation of the strategy “industry of the future”.

The planned actions will use the formats of the Strategy workshop and will become a part of its implementation during the next 2 years.

Action: InnoinfraShare Inter-regional co-operation hotspot

According to a common decision of the regional stakeholders from Saxony and Czech Republic, we plan to organise a co-operation hotspot. It is open to all InnoInfraShare-partners and their stakeholders. (It is also included in the action plan of CEITEC/TU Brno as action Nr.3) The hotspot will be organised mainly as a virtual inter-regional innovation hub. It will be complemented by physical meetings and web-based

conferences.

Based on the available information on the profiles of the infrastructures and their capabilities we will identify promising R&DI-projects, which might be facilitated through a shared use of innovation infrastructures and could benefit from industry contracts, regional, national and/or European innovation programs.

That action will have impact also on the efficiency of the innovation funding programs in the framework of ERDF as soon as future-oriented and competitive projects will be identified and promoted, the success rate and the sustainability of the implemented projects within regional funding programs could be increased.

Activities:

- 2 yearly physical meetings with Czech partners and stakeholders, additional webcalls upon request (min. 1 per quarter)
- permanent screening of possible co-operation opportunities and potentials at the basis of the available (collected in events, study tours so far and A1- information and in A2- identified future innovation challenges)
- support provision for the development of innovation project ideas and approaches,
- i.a. signposting to Enterprise Europe Network (key account, EIMC-support) or other innovation service providers
- information on co-operation potentials through personal contacts and using established channels of EEN, clusters and regional innovation networks
- information on co-operation opportunities for project partners in partner meetings and scheduled thematic webcalls.

Target groups:

Regional RTOs, innovating SME, intermediaries such as clusters, networks, consultants from Saxony and South-Moravian region

Governance structure and players involved

TUC/MERGE will co-ordinate and take full responsibility for that action. It will be integrated in the daily tasks and activities of the management of the cluster MERGE and will be organised in a concerted way with the University of Brno/South-Moravian region.

The support will be implemented by using the running schemes and structures for the identification and support of international RDI-co-operation projects, such as local and regional service providers, Technology centres, universities and their technology transfer centres, clusters, consultants as well as running projects and related European initiatives.

Timeframe

from January 2019 on ---

Costs

20.000 € staff costs for project development and project management support

Funding sources

Regional and national innovation programs, own financial resources of TU Chemnitz

Indicators to measure results and impact of the action

Number of supported inter-regional innovation co-operation projects

Number of involved Research and innovation infrastructures

Risks related to the Action and their mitigation

The main risk is that co-operations cannot be established due to competition constraints, lack of interest or lack of available resources for the innovation activities. We can mitigate the lacking resources by offering support to apply for related regional fundings. The interest of companies and RTOs for inter-regional RDI-projects will be increased through presenting the market opportunities and the project findings from the foresight exercises.

Signature: _____