

# Science and Innovation Strategy Paper 2025 Land Salzburg

WISS 2025

Abridged Version

STATE OF  
SALZBURG

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## Foreword

The Government of the State of Salzburg made a clear commitment to the significance of science and research in its June 2013 working agreement. Starting from the conviction that science and research are absolutely essential driving-forces for the social, cultural and economic development of this state, the Science and Innovation Strategy for Salzburg 2025 (*WISS 2025*) was developed. This strategy pursues the concept of a knowledge-based innovation strategy for Salzburg building upon regional strengths in science, research and enterprises. The process of developing this strategy was also consistent with this: research institutions, companies and social partners earn our thanks for their intensive participation in this process, as they created the basis for implementing the strategy in a way that is shaped by cooperation.

Salzburg ranks among Europe's top twenty of most economically-strong regions and also enjoys high awareness-levels as a cultural centre, while offering highly attractive landscapes and excellent quality of life. This is an outstanding framework for enabling knowledge and innovation to flourish and for the State of Salzburg to be strengthened as a successful region for the future.

What are our strengths? What do we stand for? What do we want to accomplish? These are the guiding questions to which *WISS 2025* provides answers, presenting strategies and measures that make these goals attainable. Ultimately it is also about placing the Salzburg strategy into its Austrian and European framework of reference, so as to maintain our presence on the international stage, and to integrate our companies and research institutions into transregional networks. It is precisely the smaller regions such as Salzburg that face the particular challenge of sharpening their profile, elaborating their strengths and drawing together their forces, in order to be more distinctly noticed in the international frame.

Words must be followed by actions. The regional government will provide its support to the key areas and priorities presented in the strategy, advancing them via its innovation and research policy. For the implementation, the government is making additional funds available.

Dr. Wifried Haslauer, Governor of Salzburg

## Foreword

The Science and Innovation Strategy 2025 – in short: *WISS 2025* – maps out the path leading us to the State of Salzburg's future in terms of research. It is sustained by the fundamental concept that science, research and innovation are substantial factors for our future. Our efforts are directed at improvements in these areas.

One of the most fundamental goals of *WISS 2025* is to network and to interlock existing areas of emphasis. Close coordination between our region's most important research institutions has generated synergies in the process of drawing up the new strategy.

Three key paths of development were decided upon in the area of my governmental responsibility for science, with financial support being established for them in committed budgets for the years to come.

Science reflects current problems in our society. It highlights possibilities for development and contributes to more differentiated ways of looking at issues. Here we engage with pressing topical issues, for instance by supporting research in the subject area of migration.

Big social-policy challenges must be overcome in the areas of elementary education, school, learning and knowledge. A second area receiving support from public resources is the intensified research activities regarding elementary education and inclusive educational science, as well as the development of new forms of learning at the Salzburg University of Education Stefan Zweig.

The third track of development connects with the priority allocated to science-and-art, joining the Paris Lodron University Salzburg and the University Mozarteum Salzburg respectively providing support to an interactive doctorate course of studies of the arts and their effect among the general public – an exciting topic for Salzburg.

Mag. Martina Berthold, Member of Government

## Salzburg's Present Position

### **What Salzburg can build upon as a location for science, research and innovation.**

- In proportion to its size, a characteristic feature of Salzburg is its very well-developed institutional research landscape: with several universities, its university of applied sciences and its university of education, alongside a number of non-university research establishments, it presents a robust foundation for science and research in this region. Yet as a whole, compared to other regions, the structures for science and research are rather heterogeneous in their orientation. In recent years, certain individual areas of activity have undergone consistent expansion, significantly strengthening these areas and leading to visibility beyond the region's boundaries and to international recognition.
- All in all, there is a below-average level of research and innovation in the region's corporate sector: this is attributable to the region-specific industry structures in non-technology areas and to the large number of small business enterprises. Yet there is much innovation among the relatively small number of companies who are permanently engaged in research, and among Salzburg's industry and its leading companies. This contributes substantially to export and, in cooperation with other companies in terms of professional services, to regional value-creation - in some instances these firms are highly active in introducing new patents.
- It is appropriate to single out a relatively large and dynamic creative-industries sector, strongly based upon Salzburg's prowess in social sciences and cultural studies, and providing impetus to other economic sectors.
- In Austria-wide comparison, Salzburg records a research ratio (R&D ratio) that is markedly below the average. Yet as a whole, private business contributes more than half of research expenditure in the State of Salzburg. Especially among SMEs, there is still potential here for raising the level of research and innovation activities.
- A feature of Salzburg is a modest level of dynamism in new-business formation in knowledge-intensive and technology-intensive business areas, accompanied by an above-average proportion of self-employed people in terms of the Austria-wide comparison. There are good prospects for success with newly-founded companies, especially at the interfaces between technology-based disciplines such as Information and Communication Technology (ICT), life sciences, materials science, etc.) and the creative economy (interactive media, design).
- Despite the extension of Salzburg's research and science sector, so far only sub-areas have recorded success in integrating science into the regional economic structures, thereby strengthening the regional innovation system. Salzburg's research landscape in the university and non-university sector

tends to be small in structure (as does the region's business sector), distributed across various scientific establishments or specialist areas, with only few technical areas or areas close to business activities. Often the R&D institutions lack personnel resources, both for the transfer of knowledge and technology and for forcing the pace in applied research.

- The scientific areas in Salzburg with recognisable potential for business (e.g. wood, construction, materials research, ICT, life-sciences, medicine, etc.) - some of them being extended only recently – do not find themselves to be accompanied by large leading industries or small-to-medium-sized companies that provide major impetus, acting as the driving force for areas of emphasis in research, such as is the case in other industrial regions. The knowledge transfer into the heterogeneous and small-structured business sectors requires a regionally-adapted approach.
- Conversely, the rather modest dimensions of Salzburg's research structures offer advantages in comparison to larger economic locations, flexibility, good 'dockability' for companies – getting them set up locally and operational – as well as short lines of communication and good personal contacts.

Thus the further development and strengthening of science, research and innovation in the State of Salzburg must essentially be brought into being through cooperation, through using existing areas of synergy potential, and through focussing on the principle of 'strengthening the strengths'.

The concept of knowledge-led regional development (Smart Specialisation Strategy) also has a European framework: the aim in this context is firstly to make it possible to create/extend critical masses in Salzburg, as a business location, that are visible across regional boundaries and internationally. Secondly it must enable the science and innovation policy to be oriented to the needs of Salzburg's business community and society. Based on the analytical and conceptual work, and in intensive dialogue with science, education, and companies' management teams and workforces, the core elements of strategy, the priorities and the measures to take were defined.

## What Salzburg Seeks to Achieve with WISS 2025

**Five guiding principles help in focussing the State of Salzburg's policy on research, technology and innovation for the years to come.**

*Guiding Principle 1: Science, research and innovation are the central competitive factors for Salzburg as a location*

The aim is for science, research and innovation to provide support to Salzburg's competitiveness and to contribute to this state's further development, in terms of society as a whole and of the economy and culture. In this context Salzburg applies a comprehensive definition of the term 'innovation': in keeping with the specific aspects of this business location (its economic, technological, social and sustainability-related dimensions) the term encompasses innovations in products, services, processes and organisations. This includes the scope both for commercial and non-commercial activities, with technological and social innovation also included for the further development of the economy and society as a whole.

*Guiding principle 2: Specialisation and cooperation constitute a prerequisite for the further development of the regional innovation system*

It is precisely the smallness of Salzburg's structures that requires a high degree of networking and cooperation both internally and externally, so as to attain critical sizes, capacities and competences as well as creating an unmistakably distinctive profile for this region. Specialisation means that development priority is placed on those areas where existing knowledge, technologies and possible application-users provide reason to expect that there is an added-value for the region. For this purpose, Salzburg must take international research strategies and research issues as its point of orientation, while taking into account the needs of its regional economy and population.

*Guiding principle 3: Success in science, research and innovation demands consistent internationalisation*

Salzburg is part of the global system of science and innovation. Active networking on the part of the Salzburg business location, with other regions and countries, and also integration into European and international networks of knowledge and technology, therefore need to be principles that shape actions, for the companies as well as for educational, scientific and research institutions. By strengthening Salzburg's international orientation, this region's visibility and the distinctness of its profile's contours can be raised, and access to knowledge and to research infrastructures can be extended. The international significance that Salzburg's cultural institutions enjoy, alongside their competence and attractiveness, offer an outstanding point of approach for this task.

*Guiding principle 4: Basic and advanced vocational training and career opportunities take high standards as their point of orientation*

It is primarily for this state's future development that the availability of qualified individuals, the growing competition between regions to get 'the best brains', and the brain drain of well-trained individuals constitute a significant challenge. This affects Salzburg's educational and research institutions as well as private businesses. This background demands that appropriate attention is directed to the following:

The expansion of the product offering in scientific-technical education; achieving an increase in numbers of students completing scientific-technical courses of study; the intensification of activities aimed at fostering next-generation talent in science; the unleashing of a spirit of entrepreneurship and research endeavour; and raising this location's attractiveness for working and living, as viewed by international specialist professionals. To secure this strategy over the long term, one must first engage with children and youngsters, precisely in order to awaken their interest and enthusiasm in the 'MINT' range of subjects (mathematics, information science, natural science, technology), as well as recognising and nurturing talented young people at the earliest possible stage.

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*Guiding principle 5: Governance for strategic **management**, implementation and evaluation opens up new paths*

Amid the intensified inter-regional competition, modern regional location systems , primarily in smaller regions such as Salzburg, need collaboration between science and research, private companies, education, politics and public administration, as well as civil society, in order for that location to attain a good level of quality. The central role that science, research and innovation play in the State of Salzburg's development is explicitly acknowledged in this context; that role also interlocks with the task of engaging in active governance on research and innovation, of deploying public funds in a concentrated way, aimed at effectiveness, and of setting up permanent monitoring of results as a substantial integral part of the strategy.

## Strategy and Implementation

The development and expansion of a distinctive Salzburg profile represent a substantial challenge for regional innovation policy. As regards the concept of intelligent specialisation, it is sharpening of the profile and an excellence orientation that can effect an expansion of the innovation system, primarily in those subject areas where, alongside strengths in science and business, training structures are already in place. Yet in addition to the focus on excellence, one must also take a differentiated approach: in particular this is in order to take into account the Salzburg economy and its decidedly SME-based structure (many small, even very small, business enterprises) and strongly integrating that structure (regional approach to knowledge transfer and technology transfer).

From all analyses and discussions, five topic areas take shape for a specialisation of Salzburg's innovation system:

- LIFE SCIENCES
- SALZBURG - I.C.T. REGION:  
SMART DATA AND SERVICES
- SMART MATERIALS
- INTELLIGENT BUILDING  
AND SETTLEMENT SYSTEMS
- CREATIVE INDUSTRIES AND  
SERVICE-INNOVATIONS

Intelligent specialisation also means further development of these topics, sharpening their profile and specifying their meaning. These subjects should not be viewed as static and closed-off in terms of their content; rather, they should be internally networked and should also exchange knowledge and inputs with neighbouring disciplines.

The leading strategy in terms of subject-area focussing is implemented through specific measures that are coordinated so as to match the Salzburg innovation system's essential needs, in a way that complements the measures and instruments already set up at EU level and Austrian national level. The analyses give rise to three priority areas for further developing science, research and innovation in Salzburg:

- PLACE OF KNOWLEDGE

Strengthening the structures for science and research

- PLACE FOR BUSINESS FORMATION AND FOR CONVERTING KNOWLEDGE INTO VALUE

Capitalising on results obtained in/from science and research for business and society

- PLACE FOR INNOVATION

Expanding and activating research and innovation sustained by private companies

**PLACE OF KNOWLEDGE**

**LOCATION FOR INNOVATION**

**TOPICS FOR SPECIALISATION**

**LOCATION FOR NEW COMPANY FORMATION**

*Guiding Principle 1:*

*Science, research and innovation are the central competitive factors for Salzburg as a location*

*Guiding principle 2:*

*Specialisation and cooperation constitute a prerequisite for the further development of the regional innovation system*

*Guiding principle 3:*

*Success in science, research and innovation demand consistent internationalisation*

*Guiding principle 4:*

*Vocational training and career opportunities aiming high*

*Guiding principle 5:*

*Governance for strategic management, implementation and evaluation opens up new paths*

## Life Sciences

The Life Sciences sector (pharmaceuticals, biotech and medical technology) is one of Salzburg's areas of strength in the realm of scientific and research capacity that has potential for the future. The investments in teaching and research over recent decades, e.g. in expanding the Natural Sciences Faculty with the biosciences at the University of Salzburg (PLUS), and in founding the Paracelsus Private Medical University (PMU), are producing positive effects. It is precisely the biosciences' cooperation with medicine that presents Salzburg with a key area of potential and an opportunity to position itself. The main protagonists – PLUS, PMU and the State of Salzburg's University Clinics (SALK) – show a high degree of competence in several specialist disciplines. The Salzburg University of Applied Sciences can also play its role in this area of strength, with research and vocational training. In the realm of digital technologies, Salzburg Research – the research company dedicated to this state's needs – is also concerning itself with health-related topics.

### Cooperative research

The degree of development varies considerably among the individual areas of science. Alongside many smaller successful research groups with potential for transfer into the economy, internationally significant specialised fields of competence have developed - for instance in cancer research, with the Cancer Cluster Salzburg.

Life Sciences research is characterised by a very strong degree of interaction among the individual research groups and activity areas, in terms of the people involved and the subject matter. Precisely because of the small-scale structures, a dynamic and flexible cooperation among the disciplines can be expanded. Further development, directed at creating an interdisciplinary Salzburg Life Sciences point of emphasis, must use this dynamism and flexibility so that companies can have good access to research, with short paths of communication and personal contacts. In this way, service institutions render support to rapid, professional and reliable implementation of clinical studies.

### Prerequisites for companies

From the business-policy perspective, the areas of private-business potential in Life Sciences in Salzburg offer scope for expansion, in order to benefit from this worldwide growth market. A strong scientific and research sector, with effectively-expanded vocational training for the next generation of specialists, stands alongside a number of companies that is small but is nevertheless growing. Here it is all about making even greater use of the possibilities for converting knowledge from science into economic value in the business community, to develop new products, services and value-creation opportunities, e.g. through start-ups and cooperations with companies, both local and international.

### Health as a topic spanning business-sector

The topic of health is one of significance for many companies in the State of Salzburg. There is strong growth in business areas in which human beings and their health present the basis for innovations. Nutrition and the ageing population can be viewed as leading topics in this context. The health effect of products and services and the minimisation of health risk carry relevance for many business sectors. There are thematic links to the following business-areas: from food, via construction, including residential property, as well as health tourism and right through to the sports sector.

## **Areas of potential with cross-regional economic attractiveness**

- Cancer research
  
- Immunology and allergies
  
- Regenerative medicine and regenerative biology
  
- Cognitive neurosciences
  
- Metabolism
  
- As a wide-ranging topic across all  
business areas: personalised medicine

## **Salzburg - ICT Region**

### **Smart Data and Services**

Information and communication technology (ICT) and competence in digital technologies rank among those of Salzburg's strengths that can project even greater appeal and excellence, also on a cross-regional level, by carving out a specific profile. Salzburg's strength in this spectrum of subjects is the following: a strong science sector with research and training, in the form of the University of Salzburg, the Salzburg University of Applied Sciences, and Salzburg Research (this state's research company), as well as the research studio iSPACE, owned by Research Studios Austria, in addition to an equally strong private corporate sector.

#### **Potential in the interfaces**

The region's potential for profiling itself lies less in the development of specific technologies or software applications – rather it lies in the intelligent processing of interfaces, data and the respective connections to services, primarily also in terms of these elements' interaction with the user. The interface between the human being and the computer/technology/machine, the focus on the user, the usability in the sense of these interfaces' user-friendliness, and also the use of technologies and data in new services and applications – this is where Salzburg has expertise and expandable potential. 'Smart Data and Services' – for instance in the areas of e-tourism, e-energy, e-planning or e-health – demonstrate this.

#### **Technology and creativity**

Digital technologies also play a major role in the area of the matured spheres of competence in Salzburg's creative-industries sector. In the multimedia-technology and multimedia-art area of emphasis, interaction directed towards the human individual and also digital content act as guiding themes that offer future prospects to Salzburg.

#### **Industry 4.0 – digitalisation of the economy**

Salzburg can position itself as being equipped to face the future, with the knowledge available in the Salzburg ICT region, the opportunities for professional training, the early promotion of youthful talent in the 'MINT' range of subject-areas, and also the conversion of research results into benefit for the economy as a whole. The region can proactively take on the rapidly-growing digitalisation of society and the economy. Industry 4.0, the digital transformation of all economic sectors (technology, organisation, the individual, and business models) and global networking through new internet technologies - these are the central connecting points where cooperation between business, science and education is to be expanded in the region. The challenge for all research institutions is to cooperate more closely – so as to reach purposeful orders of magnitude in terms of implementation, to make the new technological opportunities accessible to all business sectors, as well as to sharpen Salzburg's areas of externally-directed competence.

## **Areas of potential with cross-regional economic attractiveness**

- Spatial simulation / spatial analysis and spatial simulation, geo-information systems
- Smart data and visualisation/data analysis and visualisation
- The Internet of Things/Smart Production and Services, including future interfaces

## **Smart Materials**

Internationally, Materials Research is increasingly developing into a key technology for innovation in the most diverse spectrum of applications. In business, material-specific research issues range from resource efficiency and energy efficiency, via light construction, the development of new biomaterials, the linking-up of synthetic and natural materials, through to specific characteristics and functions of surfaces or materials for new kinds of manufacturing process, such as 3D printing. In recent years, through the work on materials research at the University of Salzburg and at Salzburg University of Applied Science, Salzburg has established a sphere of competence that is of interest for many sectors of the economy in Salzburg and beyond it, thereby opening-up expandable potential for cooperation between business and science. Compared to other areas of strength, this sector is very much a new one in Salzburg; it thus requires investments in research capacity, also and primarily in converting it into economic value for the region. The competences and capacity specifically dedicated to materials research in Salzburg need to be sustainably reinforced and anchored, as well as achieving the targeted expansion of applied research and its transfer into the business world.

### **Areas of use for smart materials**

Issues being addressed in materials research offer many points of connection, not only to the broadest range of economic sectors but also to other spheres of research competence that Salzburg has. In Life Sciences, links emerge with the biosciences and medicine, e.g. in the realm of medical technology or also 'bioanalytical engineering' (materials' surfaces and sensor technology for diagnostics, biochip technologies, micro-fluid engineering and biosensor technology). In information and communication technology, the sectors providing growth prospects for new technologies are equally diverse, e.g. that of integrating electronics and sensors into materials for purposes of measurement and analysis (among other uses), or of simulating properties of materials.

### **Linking-up research and professional training**

The University of Salzburg's initiative, in setting up a 'SciTechHub' (Science and Technology Hub) at its facility in Itzling, can contribute to linking-up these various competences on an interdisciplinary basis in research and professional training. This could additionally develop new professional-training concepts and drive forward the transfer of innovation competences into the economy. There are also already several regional and international cooperation projects between basic research and industrial application.

### **Biomaterials**

At the Salzburg University of Applied Sciences (Kuchl Campus) the expertise relating to wood, as a sustainable material of significance to our region, has been able to be further developed. Based around the specialist subjects of wood and biogenic technologies, research results from materials science are used in business, in the realm of biomaterials and in the spheres of methodological competence built up in materials research, product modelling and product simulation; this is in addition to capitalising on competences with regard to renewable resources' regional availability.

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## **Intelligent Building and Smart Settlement Systems**

### **Intelligent Alpine Building**

Salzburg commands a relatively well-developed building sector, along with the associated service sector; also in Alpine wood-based construction, it is acknowledged to be a highly-specialised region. Likewise in research and vocational training, in recent years the relevant competences have been further developed and structures have been expanded. The University of Applied Sciences' Kuchl Campus and the Wood Technology Centre (*Holztechnikum*) serve as a historically-evolved, Austria-wide competence hub for the wood industry and sawmill industry – this can be acknowledged as an area of emphasis across regional boundaries, on the topics of 'wood-based construction', 'biogenic technologies' and 'sustainable construction'. Through the 'Smart Building' course of study, as well as the 'Smart Cities' Master's course now starting, the construction sector benefits as a whole from a further area of competence, one that is now also open in terms of materials used and offers future prospects.

Salzburg's expandable strength and specialisation are based on competence in Alpine planning and construction (weather extremes, high altitude, regional materials, resource efficiency, limited space, development of an area post-construction, and refurbishment). It could be a new approach to the topic for Salzburg to consider anew that familiar system known as 'a building', in the context of its location and the structure of the surrounding built-up settlement. The high degree of ICT expertise can also be brought into use in this.

### **Smart Settlement Systems**

The continuation of this approach is the 'smart settlement system' as a topic. This essentially means further developing the 'smart city concept' to apply it in the region or in small-space systems (from the individual building through to communities and regions), in terms of that concept's environmental and economic-technical dimension and also its social dimension. This is where many technologies and IT applications intersect with needs from areas such as development of spaces, mobility, energy, infrastructure, social issues and demography, always aiming to safeguard minimum resource consumption, sustainable use of infrastructure, and placing human beings - the users - at the forefront.

An opportunity for Salzburg to position itself is created by it combining its competence areas and its approaches, as well as by more strongly linking-up the protagonists involved in 'Smart Settlement Systems' ('Settlement 4.0'), to form a model region – a 'Smart Region'. As part of this, there is a need to integrate the 'Intelligent Construction' approach and the competence attained in the areas of smart-grid and geo-information (incl. planning tools based on these). Here, Salzburg can pursue the aim of highlighting applications and new solutions in the regional context, also advancing them for broad-based implementation, to create technical and social innovations.

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'Alarm' hat kein E-Emil am Ende im Englischen.

'Alarm' - singular

'Alarms' - plural

## **The Creative Economy and Innovations in Services**

The artistic and creative sector takes on a special role in Salzburg, both with regard to society and also to the economy. Salzburg is familiar worldwide as an artistic and cultural city and is characterised by a dynamic artistic, cultural and creative economic sector. In science, the city has an international showcase - the University Mozarteum Salzburg – and a core competence at the University of Salzburg (PLUS) is its highly-developed social sciences and cultural studies, featuring a wide-ranging spectrum of subjects. There is also the relevant emphasis placed by the Salzburg University of Applied Sciences on Design and Multimedia. In private business, the creative industries are growing dynamically, with a growing number of Salzburg firms also attaining international renown in industrial design and media (among other areas). All in all, this combination gives rise to many opportunities to develop service innovations in companies from the broadest range of activity areas, as well as for founding new companies. The creative economy is also an important generator of impetus in other sectors, particularly for traditional economic sectors. Topics with potential, especially in the context of knowledge-transfer into the economy and into civil society, and also within the framework of company-formation activities in this area, are the following:

### **Design and structuring**

Design is taking on an ever more important role for innovations in the development of products and services. As eco-design gains in significance, strongly drawing upon the sustainability concept, Salzburg can also contribute its research-based competence in this, e.g. in materials research and resource efficiency.

### **Digital, interactive media**

Salzburg has ICT competence - characterised by know-how in the realms of media technologies and content, and of visualisation, animation, app programming and software programming, as well as new interfaces to the human user. This competence generates a specific strength in the realm of design and programming of digital, interactive media.

### **Service innovations for all business sectors**

Both in service-based and in production-based business sectors (e.g. artisans, industry, tourism, commerce), the digitalisation process will produce strong demand for service innovations and business-model innovations. Regional strength in the creative industries can provide particular impetus in this respect.

### **Service innovations for tourism**

The goal is to further develop tourism - as an important area of value creation in the State of Salzburg and as an area of strength in the region more broadly, in a way that embraces the future, not least by applying innovation and research. In this, Salzburg also has the advantage that, alongside its strong tourism sector, a strong foundation of knowledge has also evolved in the sphere of qualification at all educational levels, via the schools of tourism and right through to the University of Applied Science. In recent years, tourism research at Salzburg University of Applied Science has established itself in the following areas of emphasis: e-tourism, innovation and management on various levels, from the destination through to the individual enterprise. Salzburg Research, this state's research company, also offers its services as a close cooperation partner in the e-tourism sector.

## **From Idea to Action-Plan – Implementation in the Three Cornerstone Areas**

*Expanding Salzburg as a place of knowledge:*

*strengthening the structures for science and research*

Strengthening the structural starting conditions forms the basis for further developing Salzburg's science and innovation system. Consistent with intelligent specialisation, two 'directions of thrust' must be pursued: firstly by pressing ahead to reach, or respectively to secure one's place in, the realm of international excellence in priority activity-areas; secondly by establishing / improving the capacity to tie-in that attainment of the top level with the needs of the region's local companies. Creating critical masses, expanding research infrastructures and developing human resources strategically: these are substantial areas that demand action to structurally strengthen science and research. In the area of social sciences and cultural studies - hard to focus on in terms of content because of its sheer breadth – the need is to generate synergies and to pool existing research topics together in tackling social-policy challenges.

Therefore the State of Salzburg will:

- Set clear and binding guidelines and evaluate their implementation
  
- Direct the instruments of funding in such a way that they focus on cooperation, the building-up of competences, national/international programmes and the capacity to integrate them effectively into the regional economy
  
- Offer career opportunities for researchers
  
- Already start firing up young people's enthusiasm for the natural sciences and for technology at an early age
  
- Clearly establish profiles for the various locations within the region's science community, in terms of their respective specialisms
  
- Improve the infrastructure-related starting conditions for research and innovation

*Developing Salzburg as a hub for start ups and converting knowledge into value: conversion of results in/from science and research into value for the economy and society*

Substantial steps are to be made towards taking the knowledge amassed, with the available human resources in Salzburg, and converting those assets into economic value while securing those assets' strong bonds with this State of Salzburg as a business location. For all phases in the company formation process – from the idea through to its entrepreneurial conversion into economic value – groups of measures should be offered for providing advice to those involved, for accompanying their progress, and for the implementation phase. The further development of the ecosystem for start-ups in Salzburg, across all activity areas, as well as the strengthening of knowledge-transfer and technology-transfer capacities, represent substantial areas for action.

*Therefore the State of Salzburg will:*

- Enable learning processes and introduce companies to scientific institutions
  
- Provide support to transfer-projects connecting science and business
  
- Secure regular information exchange among all stakeholders involved in promoting innovation
  
- Develop a strategy for those starting a business, one that includes provision of consultancy, ongoing support and the financial backing of company-formation ideas, and entails the strengthening of expertise and qualification

*Strengthening Salzburg as a place of innovation: expanding and activating  
the research and innovation activities undertaken by companies*

For Salzburg companies, the strengthening of innovation competences and the process of tapping into companies' innovation potential serve as substantial factors in competition. Rapid, low-threshold access to research institutions in the region and to their competences, the cooperation on research topics and in knowledge transfer, as well as integration of companies into regional and cross-regional networks of innovation: all this can substantially contribute to achieve the goal. The aim is for Salzburg to be characterised by a creative, dynamic and open climate of innovation and cooperation, between companies and between business sectors, between institutions providing education and professional qualification, and also between science and research institutions.

*Therefore the State of Salzburg will:*

- Build-up activity areas for experimenting, 'Living Labs' and demonstration projects
- Expand Salzburg into a model region for applications closely linked to companies, for the development of applications, and open for innovation, with SMEs involved in this process
- Use research establishments' expertise to create offers that provide support to companies' innovation processes
- Make it easier to gain access to instruments of cooperation
- Intensify the provision of advice and means of funding
- Provide support to the expansion of networking and to coordination and cooperation activities
- Provide support to leading companies and to major industrial enterprises in their integration into the system of innovation and knowledge

## **Governance:**

### ***Consistent and Targeted Implementation***

Ultimately, WISS 2025's success will be measured by results. What this requires is corresponding strategic control, an ongoing conversion of the implementation measures into operational processes, appropriate instruments for monitoring, and a periodic evaluation of the implementation stage reached, as well as possibilities to adapt the strategy.

#### **Organisation of the implementation**

In setting up the Science and Research Council of the State of Salzburg, a committee was established that advises the states government and the two functional departments responsible for these areas (Economic Affairs and Science respectively) in strategic matters relating to science, research and innovation, as well as accompanying the implementation of WISS 2025.

Directing the implementation and the processes involved, that project group – having coordinated the set-up of WISS 2025 - will continue as a task force. It will also steer the implementation, based on a continuous monitoring, and to further develop the measures taken.

At operational level, ITG Salzburg takes on an important role as the State of Salzburg's agency for transfer of innovation and technology, and as an intermediary between science, research, business, politics and public administration; the role requires it to organise the cooperation among stakeholders and protagonists, as well as developing, accompanying and carrying through the measures of implementation.

There must also be coordination with the 'Salzburg – Knowledge City' goals and activities. Cross-regional initiatives and new macroregional strategies – e.g. for the Alpine region or the Danube region, or indeed European programmes – are hugely gaining in significance and influence. Therefore the State of Salzburg must also strengthen its coordination in these activities, safeguarding Salzburg's interests on these levels of operation in a targeted way, in the realm of research and innovation policy.

#### ***Impact orientation***

To be able to ascertain and to assess whether the goals set within the framework of WISS 2025 are indeed reached, the strategy implementation is to be comprehensively evaluated between 2018 and 2022. The new insights gained from this and the conclusions to be drawn are to be taken up accordingly into the strategy's further development.

Strengthening this federal state as a location for science, research and innovation requires increased expenditure on research across all areas. This relates both to public R & D spending at state, national and international level, and also to a sustained boost to R & D activities and investment on the part of Salzburg's private corporate sector. The effectiveness and efficiency in resource deployment will thus be derived from the following principles: additionality in relation to existing measures of financial support; maximum use of synergies with, and levers of finance connected to, national and European funding resources, as well as private investments; regular checking (monitoring and evaluation) of effectiveness; an orientation towards quality and output, as well as towards giving incentives and providing impetus to developments.

#### **Publicity measures and stakeholder dialogue**

Ultimately WISS 2025's success will also depend on processing information regularly for the general public, as well as on involving - and establishing dialogue among - the stakeholders from science, research, education, the business community and society as a whole, as well as politics and public administration.

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