Digitalization Strategy – Lower Austria

Use the digital transformation. For country and people.

Contents

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Preface

Digitalization has become an integral part of today's economy, working world, and everyday life. We see the digital transformation as an opportunity and we shall use it in such a way that it brings benefits to the people and to the province of Lower Austria.

Johanna Mikl-Leitner
Governor of Lower Austria

Digitization, such as intelligent processing and use of big data, new working environments, as well as agile working methods, offer enormous opportunities to develop new business models. The digital transformation offers enormous growth and business opportunities for the numerous small and medium-sized enterprises in Lower Austria. We want to use these opportunities. Together, for the people and companies in Lower Austria.

Jochen Danninger
Minister for Economic Affairs, Tourism, Technology and Sports; Government of Lower Austria

1. Digitalization is reality

All regions and countries in this world are having to deal with the thematic field of digitalization in one way or another. Digitalization is already a reality that presents both opportunities and challenges. Industrial nations in particular see digitalization as a key driver of development. The fundamental themes of digitalization are clear: it is all about education and qualification, expansion of infrastructure, and the use and security of data. New solutions, new business models, and new services are expected from digitalization in any case. Lower Austria is also part of these developments. Lower Austria is addressing these changes under the slogan "Use the digital transformation. For country and people." and is pursuing a clear strategy and a multitude of measures derived from it in order to make the best possible use of the extensive opportunities presented by digitalization.

The people are at the center of these developments. The focus of the activities thus lies on raising awareness, supporting the transformation, enabling Lower Austrians to get the right qualifications and providing them with support in the face of future changes. By doing so, new opportunities will also open up for the rural sector.

2.
Lower Austria is a future-oriented country

Lower Austria is actively using digitalization for the future

Many present-day conditions are presenting Lower Austria with considerable challenges in the face of the advancing digitalization. One of them lies in providing the necessary infrastructure, in other words supplying all residences with broadband. The goal here is to provide 300,000 additional households throughout Lower Austria with 100 Mbit/sec by 2026: admittedly an ambitious target for even the fastest province. Nevertheless, this goal is achievable. Lower Austria is thus the Austrian pioneer in the broadband area.

Another challenge lies in the high degree of heterogeneity among the regions of Lower Austria and within these regions themselves. The differences are evident in various aspects, not only in terms of demographics, economic structure and dynamics, purchase power, and workforce potential, but also in terms of supply and last but not least accessibility. As in many European areas, there is a high field of tension between rapidly growing central areas and outlying regions. Hence, region-specific needs require to be considered for digitalization. In Lower Austria, there are key traffic axes of roads, railroads, and waterways, as well as the Vienna-Schwechat Airport. The province has a diversified business structure (with a high proportion of SMEs), and the dynamic research and education area has led to the establishment of 13 new postsecondary education institutions in the last 20 years.
Digitalization has already changed, accelerated, and facilitated the work processes in a decisive manner in many areas of administration.

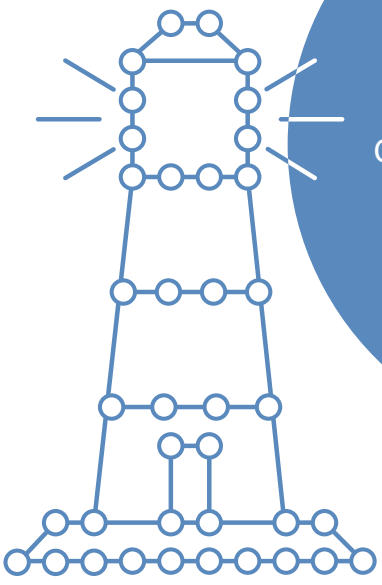
3.
Pursuing the course with considerable experience

Lower Austria is in the midst of digitalization

At the start of 2015, the Department of Economy of the Province of Lower Austria launched the project "Wirtschaft 4.0", which is based on the numerous initiatives relating to "industry 4.0". This project dealt with the impacts of the technological change. It was named "economy 4.0" because digitalization is not only relevant to larger-scale industrial operations, but also offers great opportunities for small and medium-sized enterprises (SMEs) in particular. Measures and initiatives were thus started specifically for this group.

The process of drafting a future-oriented mid- to long-term digitalization strategy began in the summer of 2016. The following steps were taken to ensure sustainable development:

- Analysis of current studies and know-how
- Events for companies, schools and the public, relating to sub-aspects of digitalization such as additive manufacturing, 3D printing, human-machine interaction, digitalization and qualification, data management and learning from data
- Founding of the "Technology and Digitalization Unit" in the Department of Economy, Tourism and Technology in the Office of the Lower Austrian Provincial Government
- Working discussions with seven cross-departmental and theme-specific working groups and initiation of a comprehensive internal administrative process for the further development and implementation of digital applications in administrative processes
- Establishment of an advisory committee with international experts for exchange and for critical reflection on the digitalization strategy and the implementation of the same



This cooperative development process offers everyone the opportunity to develop new fields of cooperation and to rethink the future.

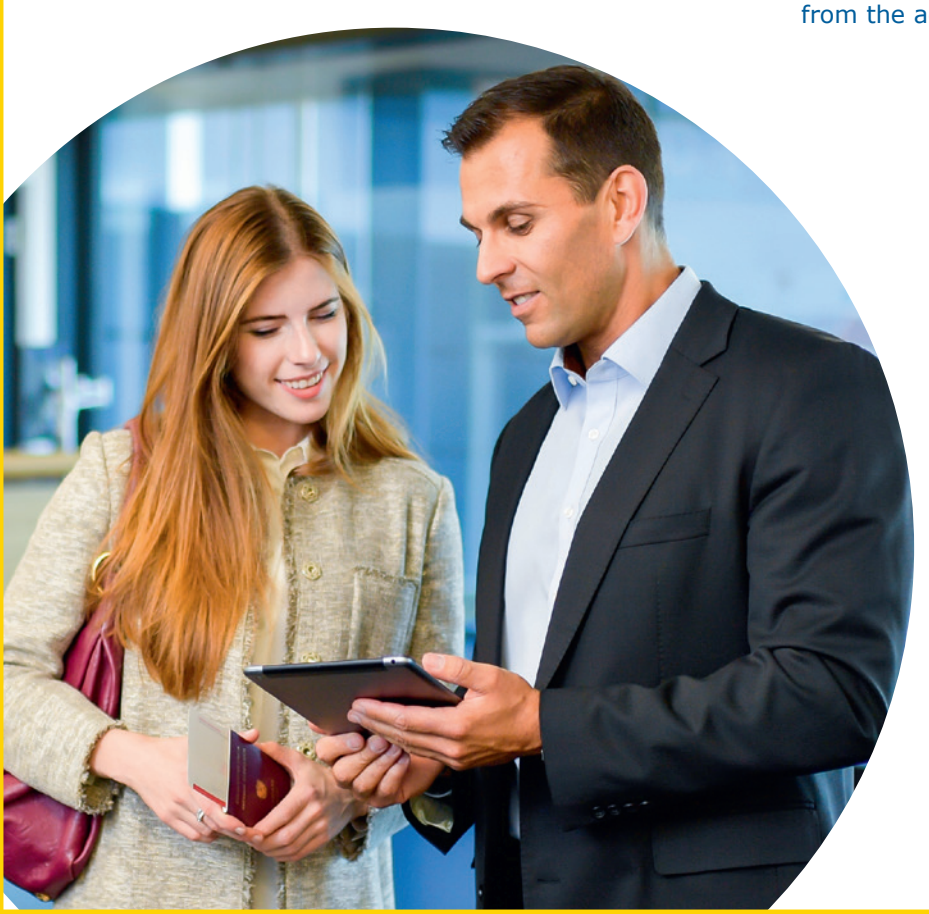
4.
Orientation to international and national strategies and scientific bases

"Domestic digital market" in the EU

The digital transformation has high political and economic priority on the EU level. The aim of the strategy is to tap digital opportunities for people and businesses. Europe's position in the digital economy shall be secured by strengthening digital industries and developing a European data economy.

"Digital Roadmap" in Austria

The Digital Roadmap Austria is the strategy document of the Austrian federal government. It has twelve guiding principles for designing digitalization in Austria. The goal is to use the new technological developments and innovations of digitalization (industry 4.0 is the key word) in the best possible way for businesses and workers and to design the transformation in a socially acceptable manner for society. "Austria ought to play a key role as an innovation leader in the designing of digitalization. That is the only way to ensure that everyone in Austria will be able to benefit from the advantages of digitalization."[1]



Networked with other Lower Austrian strategies

It already has been established in the RTI Program of Lower Austria, "research, technology, and innovation" are the decisive future-oriented points for guaranteeing life quality from a social, political, ecological, and cultural standpoint."[2] Digitalization plays an essential role in this. In terms of content, digitalization is networked with existing Lower Austrian strategies such as:

- Lower Austrian Provincial Development Concept
- Economic Strategy Lower Austria 2020
- RTI Strategy
- Broadband Strategy
- Kindergarden Development Concept
- E-Mobility Strategy or "Autonomous Driving" position paper

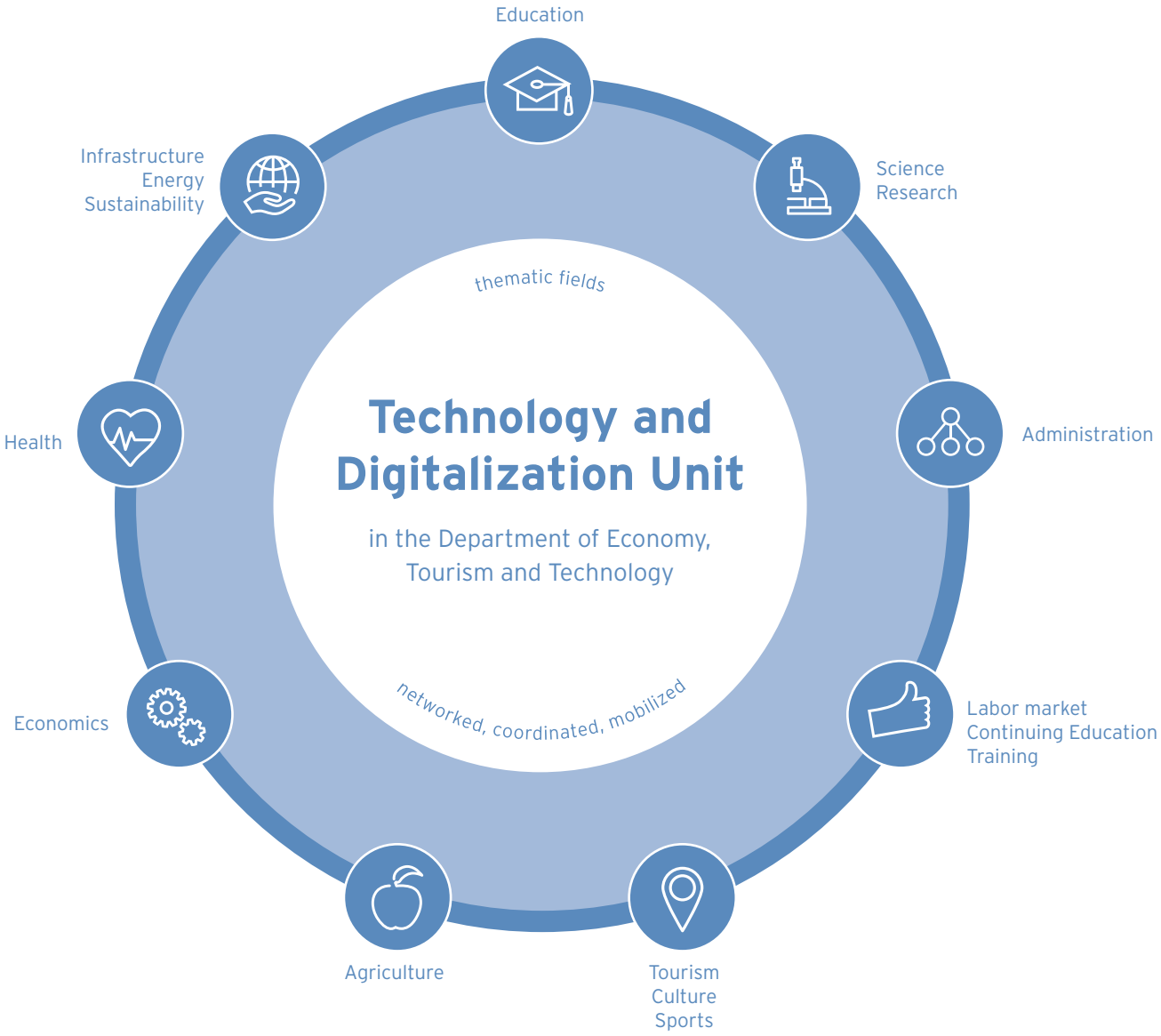
The content of the digitalization strategy is also being considered as a cross-sectoral theme in the development of new strategies.

Scientific bases

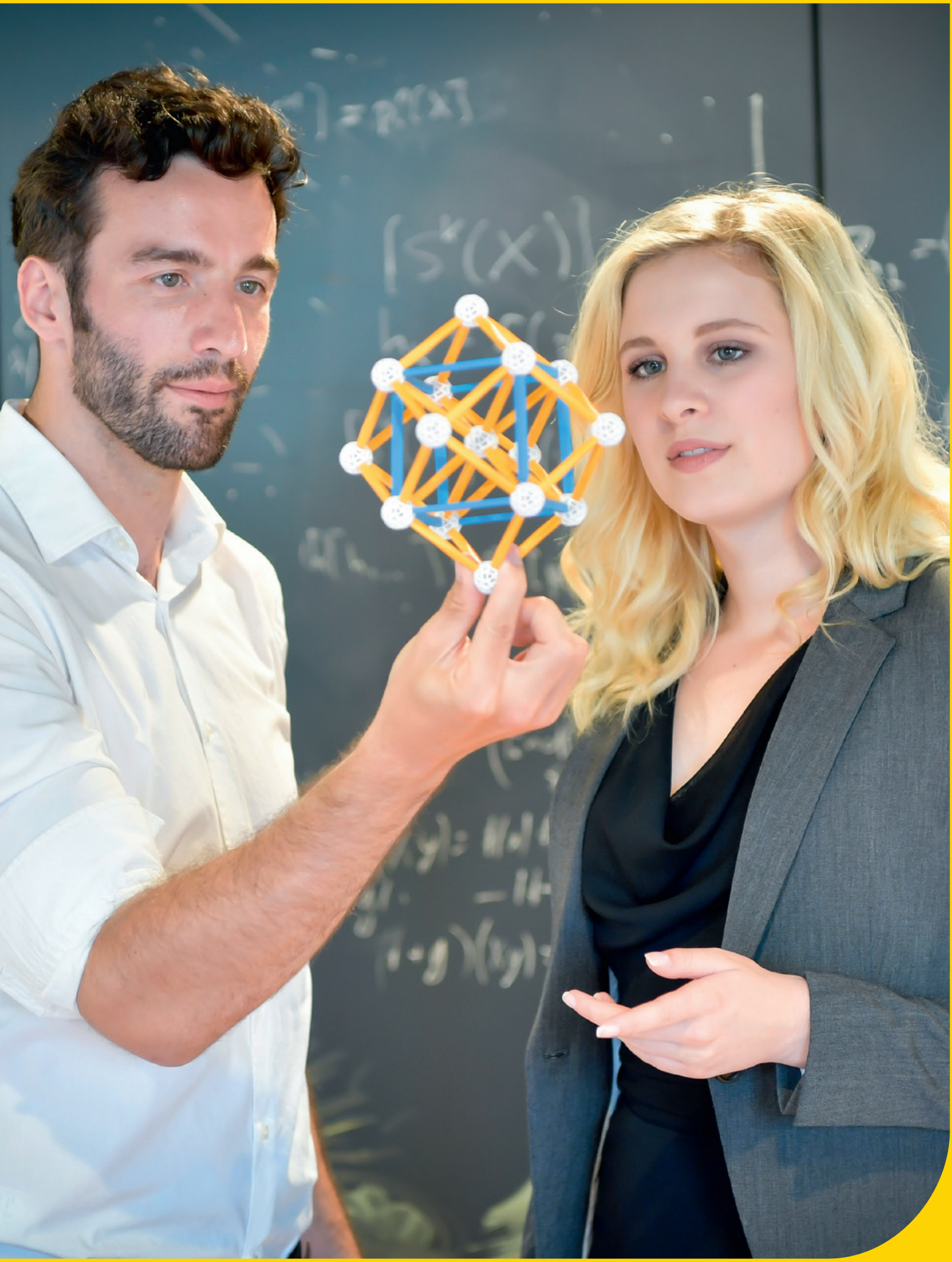
The results of more than 60 studies are incorporated in the digitalization strategy.

A comprehensive list of all studies and action plans is available at http://www.noe.gv.at/noe/Wissenschaftliche_Grundlagen.html.

[1] https://www.digitalroadmap.gv.at [28.08.2017]
[2] FTI Programm Niederösterreich, Wirtschaft.Niederösterreich am Puls der Zukunft, 2016



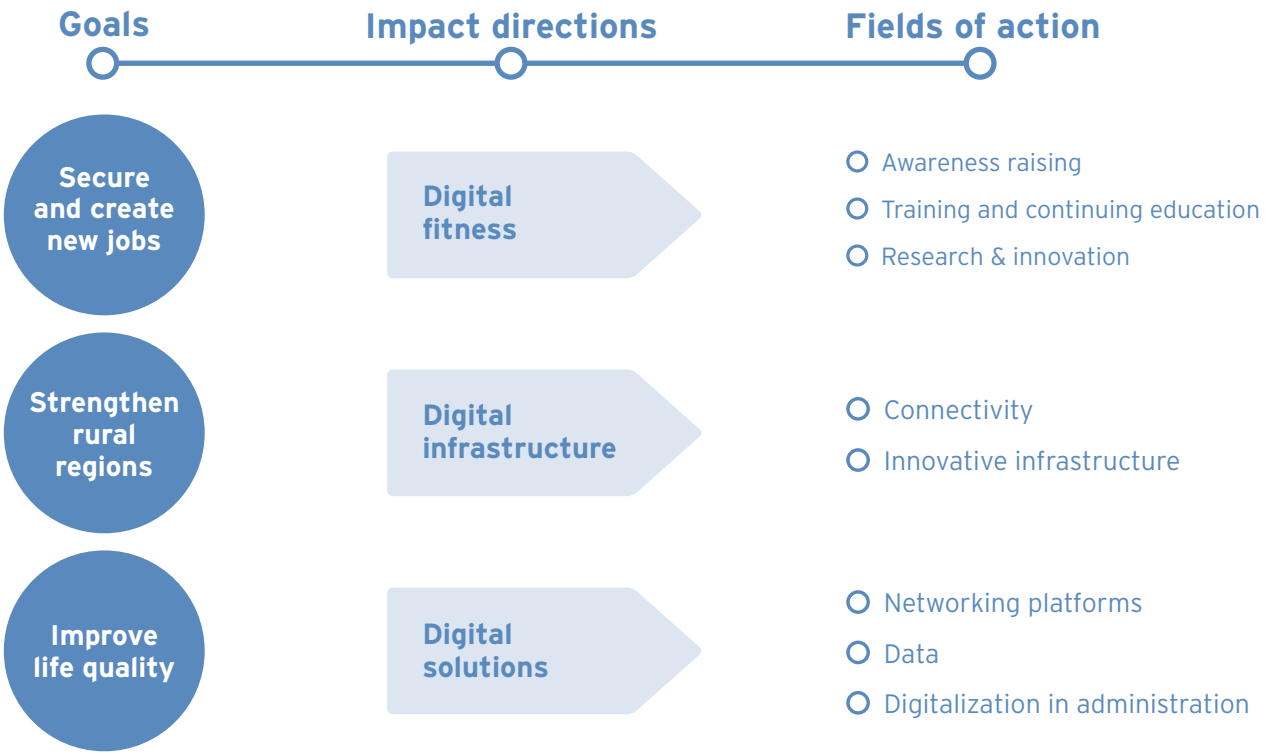
For networking, coordinating, and mobilizing the various digitalization initiatives of the Province of Lower Austria, a "Technology and Digitalization Unit" (Geschäftsstelle für Technologie und Digitalisierung) was created in the spring of 2017 in the Department of Economy, Tourism and Technology in the Office of the Lower Austrian Provincial Government. The Unit unites all internal and external stakeholders in different thematic fields for jointly designing this innovation process. It also coordinates the development of an overall strategy and initiates digitalization flagship projects.



5.
The digitalization strategy

Digitalization means thinking differently. Lower Austria is using the opportunities of digitalization to co-design the future and to position itself in the world.

Our mission:
Use the digital transformation.
For country and people



6.
Three goals – three impact directions – eight action fields

The goals

Digitalization and the associated solutions and applications open up new opportunities and prospects, not only for the regions and society but also for businesses and institutions. Three goals shall be pursued with the digitalization strategy and the associated projects and measures:

Digital innovations, continuing education activities, new business models, or start-ups in the high-tech sector can be used to secure and create new jobs. With the "House of Digitalization", an institution is being created that will advance these potentials through networking and research activities as well as through continuous information and awareness raising. With the "Future of Production" qualification program, employees of manufacturing companies will be ideally prepared for the new challenges and demands of the new technologies.

Example // jobs

The medium-size metal working company Haumberger at Judenau has been working for some time on a process networking along the lines of a "factory of the future". New machining centers as well as a robot were purchased and networked with the existing infrastructure. This intelligent networking forms the key innovative element of the project. Investments were also made in manpower: highly qualified employees are in charge of programming and controlling the production processes. In the course of implementing the project, 10 additional jobs have already been created – with more to come.

Rural regions shall be strengthened through the gradual expansion of infrastructures and implementation of new services that digitalization will make possible. People in rural regions will thus be able to benefit for instance from e-learning offerings or the networking of decentralized businesses.

Example // Strengthening rural regions
In the scope of the "Mini Village Store" (Mini-Dorfladen) project, direct marketers join forces and offer their products in a salesroom. The people can use a "digital card" (e.g. an app) to open the salesroom, pick out and pay for products. The amount is transferred directly to the direct marketer's account.
The model is suited for small localities where there are no longer any local suppliers. Thanks to digital technology, it can be implemented.

The quicker and improved use of data makes it possible to improve countless services, for example ones in the health care field. Thanks to digital solutions in administration, services such as "Semester-Ticket-Subsidization" or the "Online-Economic-Subsidies-Portal" not only come directly to the regions but can also be rendered considerably faster. Teleworking and working from home are also becoming feasible for many occupational groups. Traffic volume or CO_2 emissions can thus be reduced. The numerous possibilities thus ensure a significant improvement of life quality in our province.

Example // Improving life quality
Project E-Car-Sharing: It can improve life quality, especially in rural regions. Digital platforms and user-oriented apps make these models simple and user friendly. Communities or associations act as operators. Cars can be booked easily, and accounting is likewise automatic.The model is suited for small localities where there are no longer any local suppliers. Thanks to digital technology, it can be implemented.

The impact directions

To achieve the digitalization goals, it is important that -> people, businesses, and the public sector to be fit for digitalization, -> necessary infrastructure to be comprehensively expanded and continuously upgraded, and that -> digital innovations and solutions are promoted.
A multitude of measures have been developed for this. Further measures are continuously being added.

Digital fitness → **Digital infrastructure** → **Digital solutions**

Digital fitness

This impact direction aims to get the people interested in new technologies, to use them, and obviously to work with them. Companies shall use the technologies for business models, solutions, processes, and products, or shall develop new technologies. The public sector not only uses new technologies for carrying out work processes, but also enables companies and the people to access skill sets and services more easily.

The measures of this impact direction are included in three action fields:

Field of action: Awareness raising

Society, the corporate sector, and the public sector are being given the opportunity to discuss the digitalization theme and to assume digital autonomy. The Lower Austrian information tour of digitalization -will be used to present the digital potentials to rural regions. The "Science goes School" project will help school children to gain an understanding early on of the potentials and themes of science and research, and thus of future technological options.

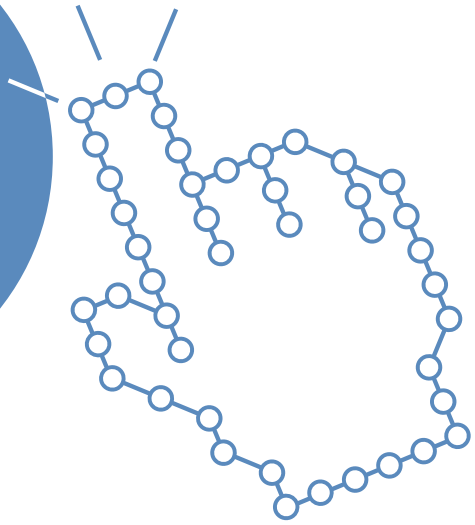
Field of action: Training and continuing education

From kindergarden age up to vocation training, the focus is on integration of skill-oriented learning, interdisciplinary thinking, and teaching basic digital skill sets. The aim of the "Lehre goes Digital" [Lehre = apprenticeship, teaching] initiative is to upgrade apprenticeship training with digitalization themes such as automation lines or smart home systems.

Field of action: Research and innovation

The development of new digital possibilities through technological product, process, or organizational innovations is being promoted. Companies and research institutions are networking well and cooperating closely. Relevant thematic fields include the Internet of Things, Big Data, or artificial intelligence. In addition, the existing skill sets in Lower Austria relating to cybersecurity, augmented and virtual reality, smart materials, 3D printing, and new business models as well as digital services are being honed. In 2018, the "House of Digitalization" started serving as a central hub, with several nodal points, for networking,

The "digital fitness" measures can be used to secure and create new jobs.



The people, the corporate sector, and the public sector are fit for digitalization

Digital infrastructure

The broadband service gaps are being closed with this impact direction. Comprehensive infrastructure is a necessary basic requirement for the use of new technologies. Hence all stakeholders in Lower Austria are getting access to stable data webs and powergrids. The stated objectives of the digitalization strategy must be taken into account in future infrastructure-related strategies.

The measures of this impact direction are included in two action fields:

Field of action:
Connectivity

Access to the Internet and improved telephony through a well-developed and affordable digital infrastructure should be ensured and continuously improved for society and companies. With the gradual expansion of necessary infrastructures, the basic requirements for digital solutions and services as well as optimal connections are established.

Field of action:
Intelligent infrastructure

Existing infrastructures will be improved by the opportunities and potentials of digitalization. It was realized that data were a key resource for this. They are being used for the intelligent control of networks, with due consideration being given to data security and control over one's own data.

The "digital infrastructure" measures will strengthen rural regions and further improve life quality in Lower Austria.

Necessary infrastructure has been comprehensively expanded and is undergoing continuous improvement

Digital solutions

Digital solutions contribute to significant improvement and simplification of processes and communication. With this impulse direction, companies (especially SMEs and start-ups) will develop new, customer-centered services and products. Furthermore, public administration in Lower Austria will continue to be deeply involved in the digital transformation and is leading the way with a good example in its own organization, thereby creating added value for society.

The measures of this impulse direction include three action fields:

Field of action: Networking platforms

Networking on specific questions and issues among businesses, public administration, and educational and research institutions as well as the general public is being intensified. This can stimulate new developments and cooperations, for instance the improvement of communication processes between administration and the public or by means of a platform for economics, education, science and labor.

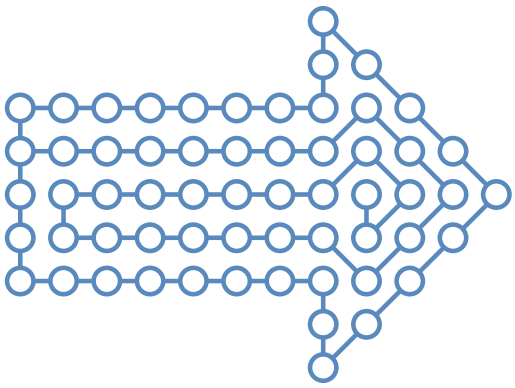
Field of action: Data

The administration facilitates access to data and by doing so supports research as well as businesses in the development of new business models. The capacity of data evaluation improves the quality of services for and in society. In the scope of the GIP Database, all transport infrastructure data are recorded and made available as a basis for transport connection apps, among other things.

Field of action: Digitalization in administration

Innovative solutions and digital applications will continue to be promoted, developed, and implemented in administration. Administration is thus creating added value by cutting back on red tape and generating impetus in the regions, for instance through online platforms. An example of a success is the Online Economic Subsidies Portal. In addition, Lower Austria is offering subsidies for measures relating to digitalization initiatives in businesses.

The "digital solutions" measures will strengthen regional companies and further improve the digital administration in Lower Austria.



Digital innovations
and digital solutions
for SMEs and start-ups
are being promoted

7.
Indicators and control

Lower Austria is opening up new spaces and new ways of thinking.

The Province of Lower Austria will be dealing with the theme of digitalization continuously in the coming years. In addition to the implementation of the defined action fields, ongoing further development of the strategy is required. The Governor of Lower Austria will direct and carry out the process of "good governance", with relevant stakeholders included.

The Technology and Digitalization Unit, which will supervise the activities necessary for mobilization, networking, and coordination, will provide operational assistance with the process.

Relevant measures needed for attaining the goals in the different action fields are being developed on the basis of this strategy. In concrete terms, for example, 300,000 additional households throughout Lower Austria shall be supplied with 100 Mbit/sec by 2026, the number of students and graduates in ICT studies or studies with digitalization themes will be doubled, or the number of ICT professionals on the labor market will be significantly increased. Thematic, interdisciplinary working groups are constantly dealing with implementation and discussing individual developments. All activities and measures will be documented and made available in a progress report. The implementation of the measures and the impacts thereof will be periodically evaluated. A scientific advisory committee of international experts will supervise and assist with this process.

In order to monitor the achievement of the goals, reliable indicators based on the Digital Economy and Society Index (DESI) will be used for evaluating and further developing the strategy.

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