



DIGITAL LINZ PROGRAMME

#DigitalLinz

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DIGITAL LINZ PROGRAMME

General information about the Digital Linz programme can be found at:

<https://www.linz.at/english/life/digitallinz.php>



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UPDATE 2023



Under the influence of the current social upheavals and crises, digitalisation in the city of Linz made significant progress in the years 2021 and 2022. Digital tools and processes were necessary to support, for example, the effort to fight the pandemic. The city's digital ecosystem has grown through active collaboration between politics, administration, business, education, research, and civil society. The benefit of citizens continues to be the primary goal of the programme and the benchmark for further development.

The core of the programme is the projects that implement the strategy and generate added value for Linz. Subsequently, all project changes are recorded and an up-to-date project map is available.

In 2023, the programme will continue and expand successful projects, launch new ones, and ensure ongoing involvement of the population.

The city council has already taken note of the underlying report and the Digital Board, serving as the programme's expert body, is involved on an ongoing basis.

Linz as the digital heart of the entire region

The present programme encompasses all the activities of "Digital Linz" and thus provides a clear strategic framework for the planned measures. It combines the city's current strengths with the opportunities of the future. It was created in a time of crisis in order to master all the challenges we will face - with the aim that digitalisation and new technologies will make life and work better and safer. The "Digital Linz" programme places the benefits for the society and economy of our city at the centre.

The "Digital Linz" ecosystem

The "Digital Linz" programme encompasses all areas of life and work. It is much more than just a digitalisation strategy of the City Administration and the Corporate Group of the City of Linz. It connects all fields of action of the city with all stakeholders in a digital ecosystem.

The City of Linz plays a central role in the digital ecosystem in Linz. It ensures a balance of the interests of civil society, business, research and education, employees, and the innovation community, creating the basis for meaningful and beneficial digitalisation. All participants in the Linz ecosystem act in concert and are committed to a common goal: using digital technologies, business models, and media with the best possible control over one's own data to achieve the greatest impact on all areas of life. The people of Linz are known for seeing the city as something shared by everyone to be developed together. In a team, people are usually more effective and successful than alone. The complexity of digitalisation and the associated transformation require a team with the best ideas, the best implementers, and the greatest expertise of all the people living and working in Linz to successfully manage it. The participatory approach and ongoing programme development, based on clear Linz Digitalisation Principles, are central elements of the programme.

The "Digital Linz" programme is an experimental space and a living testing ground for the next steps in digitalisation. Linz is paving the way for digitalisation that puts people at the centre of its actions, with local expertise and international exchange, to remain a modern innovative city in a digital Europe.

Strategic Basis


In such a vibrant and active city, there are numerous existing initiatives and directions of impact towards shaping the future. The “Digital Linz” programme takes all of these initiatives into account, supports the goals of all parties involved with the listed projects, and enables communication between the initiatives as described in the Governance section. The following initiatives form the core of the consolidated approach:

- ▶ **Corporate Strategy City Administration of Linz**
www.linz.at/verwaltung/unternehmensstrategie.php
- ▶ **Innovation Study** https://issuu.com/mag918/docs/innovationsstudie_ansicht__1_/1
- ▶ **Integration Strategy** <https://www.linz.at/integration/integrationsstrategie.php>
- ▶ **Business Location Agenda 2027** <https://www.linz.at/wirtschaft/wisa2027.php>
- ▶ **Fab City Global Initiative**
https://www.linz.at/medienservice/2020/202010_107953.php?s=09
- ▶ **Linz Urban Strategy** <https://www.linz.at/stadtentwicklung/stadtstrategie.php>
- ▶ **UNESCO City of Media Arts Linz** <https://www.cityofmediaarts.at/>
- ▶ **Linz Climate Strategy** <https://www.linz.at/umwelt/104199.php>
- ▶ **Cultural Development Plan of the City of Linz** www.kep-linz.at

Tailor-made

There are different cities and therefore variations of digital programmes. “Digital Linz” focuses on the uniqueness of the city, on the strengths of the people living and working here, and defines digitalisation from a Linz perspective. Of course, European and national regulations are taken into account. The Linz Principles form the basis for the fields of action and measures for the coming years.

What defines us today and tomorrow in a digital city



We aim to be one of the most forward-looking cities in Europe by productively combining industry and digitalisation, culture and technology, and the challenges of climate change. We want to be a respectful city because social and sustainable living is the foundation for a good life and work. Both together make us a prosperous city of opportunity.

Creative, socially reliable, and visionary. Linz is a city with a zest for life and creative impulses - for everyone. The people of Linz look confidently to the future and make Linz a family-friendly and social city that can be relied upon. Linz's inhabitants shape the future of working and living environments, combining industry, digitalisation, and the creative economy.

Historically, Linz was known primarily as an industrial city on the Danube and has successfully transformed into a modern city of the 21st. century. This adaptability is now part of Linz's DNA, as is innovative industry, digital art, accessible culture, natural landscapes, and the Danube.

Linz Digitalisation Principles

These principles are the guidelines for the Digital Linz programme and are decisive for the development and prioritisation of projects.

► **People at the centre.**

In Linz, people are at the centre of their living and working environments. Digital technologies, business models and media should support the people of Linz and are therefore only a means to a humane end – for a good life and for productive and innovative work.

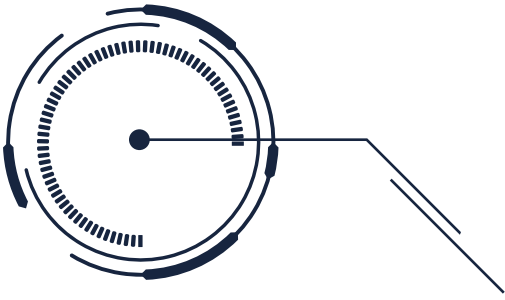
► **Contemporary art is our translator of the opportunities and risks of digitalisation.**

Art helps us to understand the possibilities and impact of digitalisation. In communicating this to all people, art and culture are central factors. Linz builds on the tradition and innovative potential of Ars Electronica.

► **Innovative openness.**

Linz is a place of constant development and the combination of the tried and tested with the new. This is also how Linz understands digital innovation. Linz's open innovation landscape is characterised by two features: firstly, the intelligent, continuous development of what already exists with the input of the local innovation community, and secondly, rapid implementation with no red tape in order to move from idea to innovation. Planning is good, but action is better.

A special prerequisite for innovation is the availability of data. Linz is committed to a differentiated approach. Where no personal data of people are involved, "Digital Linz" provides a platform for sharing data as well as enriching it through experts and creating new insights and applications in the spirit of Open Data Government and Open Commons. Personal data protection is also part of this differentiated approach and is described in the next principle.



► Digital security.

The “Digital Linz” protects the personal data of the population and enables them to handle their own data in a transparent and simple manner. The City of Linz is a reliable partner without commercial interests. Therefore, it takes on the further role of guardian of personal data in the Linz digital ecosystem. Personal data are a core element in ensuring privacy and security. “Digital Linz” is aware of the ongoing threat of cybercrime, digital misinformation and incitement on the internet in all its personal, economic and social forms. Therefore, ensuring cybersecurity is of the highest priority in all projects.

► Sustainability in the use of digital technologies.

Digital technologies consume valuable resources. From the power consumption of data centres to electronic waste from smartphones that are no longer used, digital innovation also requires special attention to environmental and climate protection. Therefore, “Digital Linz” relies on resource conservation through sustainable energy production and recycling of hardware. Digital sustainability also means that existing data should not be duplicated or created in parallel, which increases complexity and wastes resources.

► Digital needs social.

Digitalisation can exclude people from virtual urban or working life - for example, due to low financial resources for digital equipment, low educational status, or physical or mental disabilities. However, every citizen of Linz has the right to participate in “Digital Linz”. Therefore, it is essential to enable and support digital access at an individual level. In the spirit of social digitalisation, analogue access to all offers and services will continue to exist.



Fields of action

Linz has identified the following eight fields of action for the city's digital future:

- ▶ **Art, Culture and Leisure**
- ▶ **Industry**
- ▶ **Start-ups and Innovation Community**
- ▶ **Digital Essential Services**
- ▶ **Digital Education and Research**
- ▶ **New working environments**
- ▶ **Local economy and SMEs**
- ▶ **Digital Municipal Administration**

The goals and projects within these fields of action are explained on the following pages. An overview can also be found in the project map "Digital Linz".

Projects

The status categories of the projects are:

1. **Concept:** Ideas and projects not yet started
2. **In progress:** Projects that are currently being implemented or in a trial phase
3. **Deployed:** Projects whose planning has been completed and are in the operational phase.

Projects that have been deployed for some time now can be found in the list at the end of the brochure. Projects and concepts that did not prove successful were not included. However, they serve as a basis for learning how we can optimally further develop "Digital Linz".

Project map

ART, CULTURE AND LEISURE	STATUS
Network participation in the field of art, culture and creative industry	Deployed
Museum Inside:Outside of the Museums of the City of Linz	Concept
Online archive of the VALIE EXPORT Center Linz	In progress
Augmented Reality Tour of the Nordico City Museum	In progress
Platform and app for art and culture in Linz	Concept
Multilingualism and cultural diversity online	Concept
Digital art and cultural mediation in the public space	Deployed
The city as a producer of open works	In progress
Promotion of digital art and media art	Deployed
Ars Electronica Home Delivery	Deployed
Ars Electronica Play the Facade	In progress
Plattform.Sport	Concept

INDUSTRY	STATUS
Autonomous e-Mobility	In progress
Car2X – Conceptual design of the C-ITS infrastructure equipment of a Linz test track	Concept
Smart Digital Buildings	Concept
KLIMALINZ – Screening tool for climate risks	Concept

START-UPS AND INNOVATION COMMUNITY	STATUS
Visibility for Linz's innovation community and start-ups	Concept
Pilot Workshop Linz and consideration of local start-ups in procurement processes	In progress
Linz founders scholarship	Deployed
Open Government Data	In progress
Startup Guide Linz	In progress
Founders Night	Concept
Ars Electronica Innovation	In progress
Plattform.Sport	Concept

DIGITAL ESSENTIAL SERVICES	STATUS
“One-Stop Marketplace” of LINZ AG	In progress
Smart City / Smart Things	In progress
Linz Cloud	In progress
New operations control system 2023 – professional fire brigade Linz	In progress
Linz becomes a Smart Sustainable City	In progress

DIGITAL EDUCATION AND RESEARCH	STATUS
Institute of Digital Sciences Austria (IDSA) Linz	In progress
Digital City Library	Deployed
Digital skills for the 65+ generation	Deployed
Tools & skills in Linz’s afternoon care facilities	Deployed
MakerEducation in the GRAND GARAGE	Deployed
AHS Digitalisation	Deployed
CAP. / AHS + CYBERSECURITY – The Top Talent Programme for academic secondary school (AHS-Oberstufe)	In progress
ESERO Austria	Deployed
CODERS.BAY: The hands-on coding workshop	Deployed
Laboratory of Confidence - With confidence into our digital future!	Concept
Virtual parent evenings	Deployed
Coding Week	Concept

NEW WORKING ENVIRONMENTS	STATUS
Jobs 2.0	In progress
Joint Skilled Worker Initiatives	Concept
Building Coding Communities in Linz	Deployed
Future Studio for Women (Future Thinking School at the Ars Electronica Center)	Deployed
Traineeship Programme: Future in Sight, Future in Hand (Future Thinking School at the Ars Electronica Center)	Deployed

LOCAL ECONOMY	STATUS
Digital Marketplace	Deployed
Property Database	In progress
Linz hACkT (Linz Hacks)	Deployed
Linz connects IT&Economy	Deployed
Digitalos	Deployed

DIGITAL MUNICIPAL ADMINISTRATION	STATUS
Blackout Prevention (Formerly in Essential Services Field of Action)	In progress
Digital Session Management	In progress
Modernisation of Teleservice Center	In progress
Structured Data Management in the Linz City Administration	In progress
Development of a data strategy for the City of Linz (DX_Linz)	In progress
Digitalisation of Grants Management	In progress
City of Linz Information Security	In progress
Digitalisation of Approval Procedures for Public Space Management	Concept
Traffic Solution for Major Events	In progress
Digital Construction Process of the City of Linz	In progress
Citizens Service Portal	Concept
Upgrade and expansion of fast public WiFi	In progress
Online Services – Geographic Information of the City of Linz	Deployed
Digital Application for a residence permit via embassies	Deployed
Digital Geo-Twin	Concept
A Container as Enter_Tainer	Deployed
RKV – CAFM System for the City of Linz	Deployed

ART, CULTURE AND LEISURE



Translator and enabler for the digital society

The City of Linz has always seen contemporary art and culture as translators of the opportunities and risks of developments and phenomena in society as a whole. This is particularly true for the comprehensive changes and upheavals that come with digitalisation. Media art, in particular, has had a special status in Linz for over 40 years. In 1979, the Ars Electronica Festival was first held, one of the world's first series of events to deal with digital art and its impact on technology and society.

Where we stand today

Since its inception, the Ars Electronica Festival has been an annual magnet for thousands of international artists and guests from all over the world. With over 60,000 submissions since 1987, the Prix Ars Electronica is the most prestigious award for computer art worldwide. The regular and comprehensive archiving of submissions allows for detailed insights into the development of the media art scene. Initiated by Ars Electronica co-founder Hannes Leopoldseder in 1987, the Prix Ars Electronica is considered the trend barometer of the international media art scene. Every year, a high-profile jury selects the best contemporary works and awards the artists the Golden Nicas, the "Media Art Oscars".

In 1996, the opening of the Ars Electronica Center created a museum of the future that provides insights into current digital media art. Here, interactive installations merge biotechnology, genetic engineering, neurology, robotics, prosthetics, and media art into trendsetting models. The Ars Electronica Center offers its audience something that cannot be found anywhere else in the world: a 16-by-9-metre wall projection, an equally large floor projection, laser tracking, and 3D animations that make the Deep Space 8K truly unique. The museum's goal is to engage people today in an exciting way and introduce them to the technologies of tomorrow. Every year, tens of thousands of kindergarten children, school classes, apprentices, and students visit the museum and become enthusiastic about issues related to the ever-increasing digitalisation of the world we live in. Currently, the focus is on the potential of artificial intelligence. With its inclusion in the UNESCO City of Media Arts network in 2014, the achievements of other Linz institutions in the field of digitalisation and media art have also been recognised. Examples of these include: the University of Art and Design Linz, Tabakfabrik Linz, VALIE EXPORT Center, Lentos Art Museum, and Atelierhaus Salzamt, as well as independent scene associations and initiatives such as servus.at, Time's Up, Radio FRO, DORF TV, Crossing Europe Film Festival, and Nextcomic Festival. The networking and strength of the independent scene and its awareness of net politics are distinctive features of Linz.

Vision and Goals

Digitalisation has deeply permeated our everyday routines in private, social, and professional life. We therefore need art and culture all the more to ensure interpersonal coexistence during the digital transformation through reflective and critical analysis, through play and experimentation, and to continue to explore the interaction between humans and machines through art. In Linz, young and independent creators of art and culture should find a good starting point for their work. Engaging in a critical reflection on how digitalisation is shaping our society helps us broaden our societal perspectives and address related ethical issues. Moreover, we continuously require new visions for how

we want to interact and live together as human beings, especially in a time when digital devices have penetrated all aspects of our lives and algorithms play a more profound role in shaping our daily experiences. As technology advances, our values should guide us towards a humanistic society, and our fundamental individual and social needs should define the framework conditions for digitalisation.

Art, Culture and Leisure Projects

Network participation in the field of art, culture and creative industry

► Description

Ars Electronica is constantly engaged in national and international networks and alliances. In addition to longstanding memberships in ICOM, the international museum network, the European Media Art Platform and many other important networks, it was also able to participate in the EIT for Culture & Creativity in 2022. EIT Culture & Creativity is the latest Knowledge and Innovation Community (KIC), and brings together 50 partners from 20 countries across Europe. Austrian project partners include Ars Electronica, Johannes Kepler University and Kreativwirtschaft Österreich. This new pan-European partnership is expected to receive around EUR 300 million in EIT funding under Horizon Europe and mobilise additional resources from the private and public sectors. Over the course of this 15-year partnership, the aim is to establish a European advocacy platform for the cultural and creative sectors and provide funding for innovative projects in digital art and the creative industries.

► Benefit

Networking opportunities for the Austrian art and creative industries and distribution of funding for digital art and the creative industries to institutions as well as culture professionals.

► Goals

- Expansion of the network within the international cultural and creative industries
- Strengthening of cooperation with key European partners to professionalise the sector and shape cultural policies
- Enhanced collaboration among the cultural and creative industries in Austria

DEPLOYED

Museum Inside:Outside of the Museums of the City of Linz

► Description

The museums of the city of Linz, including the Lentos Art Museum and the Nordico City Museum, have been actively involved for many years and have, in some cases, been pioneers in the use of digital technologies and communication channels. In recent years, initiatives have primarily focused on external offerings and have included expanding the online collection, relaunching the lentos.at and nordico.at websites including a webshop, 3D tours, webinars, and podcasts. From 2023 to 2026, the digitalisation strategy of the museums of the city of Linz will continue to be driven forward, with increased emphasis on internal systems. Each year, in four project clusters, a selected core area of the organisation will be thoroughly examined and repositioned.

► Benefit

Through structural optimisations and redesigns, internal systems and processes will be reorganised and made future-proof, ultimately creating additional benefits for museum visitors and the general public.

► Goals

- “Keep Connected” – Optimising CRM systems and digital booking interfaces
- “Keep Accessible” – Relaunching collection management and web interface
- “Keep On Track” – Reorganising data management and collaboration
- “Keep Attractive” – Usage analysis and renewing digital interaction

CONCEPT

Online archive of the VALIE EXPORT Center Linz

► Description

The VALIE EXPORT Center Linz - Research Center for Media and Performance Art is a collaboration between the Lentos Art Museum of the City of Linz and the University of Art and Design Linz. The archive of the artist VALIE EXPORT, which was created in the 1960s, was acquired by her hometown of Linz and entrusted to the collection of the LENTOS Art Museum. The personal library and extensive estate of VALIE EXPORT are accessible to those interested at the VALIE EXPORT Center Linz. The online archive is a research project of the VALIE EXPORT Center Linz, developed and programmed with funding from the Federal Ministry for Arts, Culture, the Civil Service and Sport, General Directorate IV for Arts and Culture, Department IV/1. Web-based access to selected holdings expands the public visibility of this artistically, socially,

and historically significant collection of materials. The German-English platform reaches an international audience and enables diverse user groups to participate in cultural activities. The provided digital reproductions and metadata support the work of people in art, science, exhibition management, art outreach, education, journalism, and contemporary history.

► Benefit

The online archive provides a digital infrastructure for researching and appreciating the arts. It increases the international visibility of the archival holdings and supports research. Users can intuitively access art and knowledge through the description and aesthetically pleasing presentation of the archival materials.

► Goal

- Disseminating art and knowledge, strengthening cultural participation
- Promoting and international networking of research and archival work
- Contributing to gender-equitable art, culture, and contemporary history

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Augmented Reality Tour of the Nordico City Museum

► Description

As part of the redesign of the exhibition at the Nordico City Museum, an augmented reality tour of Linz will be established in 2023. In the first phase of implementation, this tour will encompass 10 monuments and buildings in public spaces, including the afo Architecture Forum Upper Austria, the Temple of Aphrodite at Bauernberg Park, the Grottenbahn, the statue of St. John of Nepomuk on the Nibelungen Bridge, the KAPU Cultural Association, and the Tabakfabrik Linz, among others. The first planned AR station is the “Walk of Fem” between Lentos and Brucknerhaus. Seven of the more than 60 women mentioned along the Danube promenade will be honoured for their contributions through animations on the free app “Artivive”. At the museum, ten artworks will also come to life through augmented reality, showcasing the city’s vibrant history. This project by the Nordico City Museum Linz is being carried out in collaboration with students from the Master School for Communication Design (MKD) at HTL1 Linz.

► Benefit

Technologies like augmented reality can be explored in progressive steps, offering new forms of participation and dissemination of the city’s history in public spaces, showcasing Linz’s buildings, squares, and sculptures.

► Goals

- Communicating urban and cultural history through digital offerings in public spaces.

IN PROGRESS

Platform and app for art and culture in Linz

► Description

A platform is intended to serve as a digital and virtual showcase for Linz's cultural institutions and scene, giving visibility to the city's cultural life. On one hand, it can highlight current cultural offerings and formats, and on the other hand, the platform also serves as a repository for reliving projects and live performances, whose content is made available online for an extended period. Behind this initiative is a team that curates and designs the content. Due to the significant resource requirements, the specific concept is still under discussion, including the possibility of integrating it into an existing platform.

► Benefit

Access to cultural programmes is intended to be improved for both the local population and visitors through this digital showcase. Cultural programmes and contributions will be easy to find, allowing them to reach beyond their usual target audience. Both institutions and the independent cultural scene will benefit from increased visibility, as their events and activities will be promoted more extensively.

► Goals

- Reaching new target audiences with cultural offerings

CONCEPT

Multilingualism and cultural diversity online

► Description

Digitalisation is an opportunity to promote multilingualism. Administrative channels, official notices, and information on www.linz.at should be translated more frequently and promptly, ideally in real-time. Whenever possible, automated translation tools should be utilised for new developments and acquired communication platforms, such as the services offered by the Digital Service Portal (see field of action: Digital Municipal Administration). In addition, images used by public entities should reflect the reality of Linz in all its diversity.

► Benefit

25% of our urban population comes from abroad, that is over 50,000 individuals from a total of 151 different countries registered as residents in Linz. An acceleration in the internationalisation of universities and the influx of skilled workers in the economy is currently underway, actively driven by the City of Linz. In order to facilitate the integration of our fellow citizens, barrier-free communication is of great advantage.

► **Goals**

- Increasing multilingualism in online presence of the City of Linz
- Implementing automated translation in new communication solutions

CONCEPT

Digital art and cultural mediation in the public space

► **Description**

The Cultural Development Plan of the City of Linz aims to develop Linz as a centre for the dissemination of contemporary history with qualified offerings. Another goal is to make city-related events, memorial sites, and monuments, particularly from the time of National Socialism, more visible in public spaces. The web memorial linzerinnert.at has been online since mid-2022, displaying the locations of commemorative plaques for Linz Holocaust victims of the Nazi era and providing information about the Linz residents listed on them. In 2023 and 2024, the web memorial will be continuously expanded with short biographies of deported and murdered Jewish residents of Linz, in combination with linz.at.

► **Benefit**

New approaches for the dissemination of contemporary history, art, and culture in public spaces should be made available. This will enable the location-specific transmission of basic and in-depth information.

► **Goals**

- Disseminating contemporary history, art, and culture through digital offerings in public spaces.

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The city as a producer of open works

► Description

All images and photos financed by the City of Linz and intended for the public, i.e., which do not contain personal or privacy-sensitive content, are made available under the current Creative Commons license CC BY. Regularly changing residencies aim to make knowledge, information, media, data, or codes of the City of Linz accessible to the public. Datasets are increasingly published as CC0 with the support of Wikimedia Austria.

► Benefit

The population can benefit in various ways from free knowledge, media, data, or codes, whether it is through the use of Wikipedia, the reuse of data in apps, or remixing in cultural assets. Additionally, the City of Linz can gain visibility.

► Goals

- Promoting digital openness and transparency
- Reusing created works
- Creating added value through embedding in new contexts

IN PROGRESS

Promotion of digital art and media art

► Description

The new biennial festival LINZ FMR - Art in digital contexts and public spaces, which has been taking place at various locations in public spaces since 2019 at the intersection of digital and analogue art, received significantly higher funding from the City of Linz in 2021 to expand its scope. The new special cultural funding programme "an_TON_Linz," introduced in 2021 and announced annually in preparation for the Anton Bruckner Year 2024, also focuses on digital art and media art. This strengthens the special funding programme "LINZ_sounds," launched in 2019, which is thematically situated at the intersection of digitalisation and contemporary music. With the expansion of cultural funding to include this important aspect of the future, a further significant increase in the cultural funding budget should be aimed for.

In addition, the application for funding through the Digital Fund to implement projects and programmes for artistic and cultural activities should be facilitated. A digital application form for funding applicants should support this process and further standardise and improve access to funding. The project "Digital Grants Management" was launched in the City Administration of Linz in 2022. For details, see: Digitalisation of Grants Management, p. 79

▶ **Benefit**

Artists can maintain their creative and working space in Linz. Critical reflection and the inclusion of a variety of perspectives can be facilitated through independent initiatives and individuals.

▶ **Goals**

- Expanding support for digital art and media art
- New special funding programme "an_TON_Linz"
- Digital application form for funding applicants

DEPLOYED

Ars Electronica Home Delivery

▶ **Description**

Since May 2020, Ars Electronica has been offering a live online program for an international audience under the motto "If you can't come to the Museum of the Future, the Museum comes to you". Ars Electronica Home Delivery makes this possible: by providing a weekly programme that includes guided tours of exhibitions, excursions to the Ars Electronica Labs, concerts with real-time visualisations, Deep Space live sessions, technical workshops, and talks with artists and researchers from around the world. The programme is not pre-recorded; most of it is interactive and everything is presented live and made available for later viewing.

▶ **Benefit**

Ars Electronica Home Delivery is a response to international travel restrictions, lockdowns, and closed museums. Ars Electronica has taken a pioneering role in presenting cultural offerings.

▶ **Goals**

- Cultural offerings for home
- Creating participatory and interactive online formats
- Creating new forms of art education
- Developing skills of creators of culture for online cultural offerings

DEPLOYED

Ars Electronica Play the Facade

► Description

Easily visible from afar, the LED facade of the Ars Electronica Center shapes the cityscape of Linz. In 2010, the interactive “play the facade” invited designers to participate and illuminate Linz’s night-time skyline. With the upgraded version of Play the Facade, the facade with its 1,100 light points once again becomes a customisable medium for all residents of Linz and visitors to the city. The familiar but somewhat outdated interaction terminal has been modernised and reimagined by the Ars Electronica Futurelab: the display is now shifted from the public space to users’ mobile devices. In the new Play the Facade, users connect to the building via Wi-Fi using their smartphones. This allows them to control the 38,500 LEDs of the Ars Electronica Center on their own smartphones during the opening hours of Play the Facade and visually shape the cityscape of Linz: Users can play music through the integrated audio system in the facade and determine the animation of the LED facade.

► Benefit

The facade of the Ars Electronica Center was originally conceived by the building’s architect as an instrument for the public. With the upgraded Play the Facade, Linz presents itself as a city of media art and public participation.

► Goals

- Strengthening Linz’s identity as a UNESCO City of Media Arts

IN PROGRESS

Plattform.Sport

► Description

The idea of "Plattform.Sport" is being discussed as part of the city's overall digital strategy and aims to integrate the diverse range of sports offerings more prominently on the online channels of the City of Linz. Categorising these offerings by sport and differentiating them by age groups is also part of these considerations.

► Benefit

Easy, centralised access to all current sports offerings, including precise opening hours or event schedules in Linz, helps the population plan their sports activities with less time and effort. The digital link to the respective pages of the sports providers allows for easy decentralised booking or reservations.

► Goals

- Simplifying access to sports activities
- Strengthening the platform concept of "Digital Linz"

CONCEPT

LINZ AND INDUSTRY



Linz and Industry - Building bridges to the digital future

For Linz, as the centre of Austria's Industry 4.0 with leading companies operating internationally, digitalisation offers a multitude of opportunities for creating new jobs and boosting productivity. Digitalisation has already become an indispensable factor in production and logistics. The quality of the "Digital Linz" location is a central concern of this programme. With the aim of becoming the most innovative and liveable city in Central Europe, we enable and shape an expansion of the location from blast furnaces and steel to robotics and new mobility. Industry is and remains the pride of the City of Linz and is leading us into the future with its digitalisation. The city itself serves as a test lab for developments and, based on its own innovation programme, works closely with the Johannes Kepler University and its Linz Institute of Technology (LIT). The robotics labs of the University of Art and Design, as well as private initiatives such as Industry Meets Makers and GRAND GARAGE, confirm Linz's forward-looking image as a location. With Innovationshauptplatz, Linz has another interface that makes the results of future-oriented research and production more visible and tangible.

Where we stand today

Upper Austria's industry is the economic engine of Austria, and Linz is Austria's Industry 4.0 capital. Industrial companies are part of the most modern value creation cluster in Central Europe. With around 15 billion euros of gross added value in the manufacturing industry, Upper Austrian industry contributes roughly the same amount to value creation as the federal regions of Styria and Lower Austria combined, or Carinthia, Tyrol, Vorarlberg, and Salzburg.

If Upper Austria is the economic engine of Austria, then Linz provides the fuel that keeps this engine running. According to Statistics Austria, one in every eight companies in Upper Austria is located in Linz, employing a quarter of the workforce in the entire region. The major industrial companies that form the backbone of our economy are predominantly located within the city limits of Linz.

Vision and Goals

A key role of the Linz location is a forward-looking educational offering that places great emphasis on qualification in digitalisation, automation, and robotics. The range of competences in Linz extends from education in early childhood education, through apprenticeships, technical colleges, universities of applied sciences, and education at our universities—including the **Institute of Digital Sciences Austria (IDSA)**, which will soon be established—to lifelong learning.

In Linz, all the essential threads will continue to come together even in the future, weaving the secure network for the positive development of our society and economic location. Linz remains a guarantee for jobs in large companies. Education, research, innovation, and production are interconnected here like no other place in Upper Austria. It is also the hub for the majority of employment opportunities for IT and technology professionals. We meet the demand for skilled workers in the so-called STEM subjects (Science, Technology, Engineering, and Mathematics) through our local education system. Digitalisation and robotics are ingrained in Linz's knowledge.

Linz is the answer to the phenomenon of deindustrialisation. In the past, technologies developed in Europe often generated business opportunities on other continents, such as mobile telephony. Linz continues to lead in the automation and digitalisation of industrial production, competing internationally in the networking of machines, factories, and vehicles.

Industry Projects

Autonomous e-Mobility

► Description

Autonomous air mobility: LINZ AG, in collaboration with the Upper Austrian aviation company FACC and the Chinese software and flight control specialist EHang, has formed an innovation partnership focused on “self-flying taxis.” The common goal is to simulate real passenger flights and cargo transportation using electric self-flying taxis in urban environments. This includes considering all requirements such as take-off and landing facilities, power supply, telecommunications, and more. The potential acceptance, frequency, and demand, as well as possible environmental impact will also be investigated. The project enables an innovative transfer of know-how and advances the city of Linz's own (e)mobility projects. Depending on the legal frameworks yet to be established, Linz aims to establish test routes for electric self-flying taxis as soon as possible, becoming the first urban area to do so.

Autonomous ground mobility: The city of Linz will collaborate with leading technology providers, the public, relevant associations, and researchers to develop test sites and test roads for self-driving ground vehicles.

► Benefit

Cities and regions that serve as testing grounds for future forms of mobility can help shape the framework conditions and are typically the first areas where these new mobility solutions are implemented in regular operations. Therefore, Linz is contributing to early and locally meaningful development in this field.

► Goals

- Conducting safe tests of autonomous airborne and ground e-mobility
- Building infrastructure for an aerial route and test roads on the ground
- Creating the necessary legal framework
- Measuring public acceptance through surveys
- Establishing regular service to and Linz as of 2025

IN PROGRESS

Car2X – Conceptual design of the C-ITS infrastructure equipment of a Linz test track

► Description

The EU funding program "Connecting Europe Facility (CEF)" supports projects that gather and implement experiences for cooperative services in real transport environments. The key points include the introduction, testing, and harmonisation of cooperative and intelligent transport systems. "X4ITS" is a follow-up project to the projects "C-Roads (1-3)" and "Crocodile" coordinated by AustriaTech. Its goal is to equip infrastructure and promote cross-border exchange of harmonised data within the EU. Datasets concerning the major road network as well as connection to the minor road network are both of great importance. If the project application is positively evaluated, the City of Linz plans to equip selected intersections with the necessary infrastructure to increase safety for all road users. The project proposal for the EU project "X4ITS" is currently being developed as part of the "Car2X" project, and initial steps for implementation are being defined.

► Benefit

The research project "X4ITS" aims to investigate the introduction, testing, and harmonisation of Cooperative Intelligent Transport Systems and Services (C-ITS) on European roads using the city of Linz as an example. Through Car2X (communication between road users or with traffic signal systems and their measurements), it is possible to communicate with road users. The information generated in this way provides an opportunity to improve traffic safety and traffic management, and to reduce emissions as well. The technology considers all modes of transport and aims to protect vulnerable groups.

► Goals

- Equipping traffic signal systems (VLSA) with C-ITS-capable measurement equipment
- Contributing to EU-wide improvement of data exchange between major and minor road networks
- Improving traffic safety and management for all multimodal road users

CONCEPT

Smart Digital Buildings

► Description

In collaboration between the City of Linz, LINZ AG, and industrial providers of sustainable, ecological, and digital building efficiency, joint methods and approaches are being developed and implemented to reduce energy consumption, particularly the unwanted energy loss from buildings, according to a long-term schedule to be created. To achieve this, an energy monitoring platform will be installed to manage building performance metrics and track energy flows, with the aim of identifying and harnessing potentials and opportunities. The technical infrastructure of public buildings, including measurement, control and instrumentation technology, will be appropriately expanded to enhance efficiency through building automation and digitalisation. This endeavor involves collaboration among digital, construction, materials, and maintenance industries, as well as professionals in planning and architecture, along with the City of Linz and LINZ AG. The City will partially finance the initiative for buildings within its jurisdiction, especially schools and kindergartens in Linz. Furthermore, the energy monitoring platform can be offered to commercial customers and other interested parties, thus expanding comprehensive energy monitoring across the city of Linz.

► Benefit

The ultimate goal of reducing energy consumption in buildings and pursuing climate protection objectives is to achieve an innovative greening of Linz as a smart city. Extensive collaborations also foster local value creation and job expansion within Linz's industry.

► Goals

- Reducing energy consumption in Linz buildings
- Reducing energy costs for the targeted pool of buildings

CONCEPT

KLIMALINZ – Screening tool for climate risks

► Description

KLIMALINZ is a follow-up project of the EU project CLARITY. Jointly designed by the City of Linz, the Austrian Institute of Technology (AIT), the Zentralanstalt für Meteorologie und Geodynamik (Central Institute for Meteorology and Geodynamics) (ZAMG), and Smart Cities Consulting (SCC), the software tool aims to make climate adaptation a standard practice in the planning of real estate and infrastructure projects. KLIMALINZ aims to quickly and easily assess the impact of construction projects and adaptation measures on the urban microclimate and present associated climate risks. It is intended for use in urban planning as well as by planning teams. The development of the tool will involve close collaboration with stakeholders from the fields of urban planning and architecture, and from the construction industry. By automatically generating reports that provide insights into the climate risks and opportunities of real estate and infrastructure projects, KLIMALINZ aims to advance the digitalisation of urban planning.

► Benefit

The concept of KLIMALINZ describes an innovative and highly practical tool that can significantly contribute to preserving and improving the quality of life in Linz.

► Goals

- Providing easy and fast urban climate assessment of construction projects
- Preserving and enhancing urban quality of life.

CONCEPT

START-UPS AND INNOVATION COMMUNITY



With startups and innovator teams towards the innovation city par excellence

Innovations are a promise to the future. Thinking ahead to the future has been a priority in Linz for a long time, as evidenced by the founding of the Ars Electronica Festival in 1979. Today, business and innovation are regarded as driving forces of the region. Innovations make a location much more attractive. Young companies with high growth potential, known as startups, make an essential contribution to innovative development. Additionally, digitalisation offers numerous opportunities with low barriers to entry into the market.

Linz provides an optimal biotope for future digital entrepreneurship. The urban space offers niche markets as potential opportunities for startups. By fostering a proper connection between experienced industrial companies and the diverse range of universities in Linz, new possibilities for business models and collaborations are created. The digital economy finds attractive framework conditions and offerings in Linz, including broadband internet, startup centres, communication support, and consulting services. This offering is complemented by incubators, business angels, and coworking spaces. Many Linz startups have already made an impression on an international level. However, these success stories often go unnoticed by large parts of the population, as most startups operate in the technology sector and focus on B2B activities.

Where we stand today

Linz is on its way to becoming an open experimentation and future laboratory that not only allows but actively demands innovation. The transformation of the Tabakfabrik into a centre for innovation has gained international attention. The GRAND GARAGE, which emerged from a private initiative, is the largest makerspace in Central Europe. It represents a milestone for startups, providing access to knowledge and technologies that were previously exclusive to industry and research and development centers. The Strada del Start-up is the home of founders and a spatial manifestation of the Linz startup scene, providing a space for the realisation of ideas. Each year, Linz invests 570 million euros in research and development, and almost 800 companies are founded, with over a quarter of them operating in the IT sector. Linz's innovative strength is further demonstrated by an average of 36 patents and 46 inventions created annually. This unique combination of industry, infrastructure, and network is unparalleled in Austria.

Vision and Goals

The economic future of the Linz metropolitan area relies on its innovative strength. The key lever is to encourage people to transform their ideas into action, for which there must be opportunities for development. In an innovation-driven economy, creative minds and technical professionals are the most valuable resources for a prosperous future. Qualified individuals with potential for entrepreneurship and innovation seek opportunities to bring their intellectual capital to fruition. In this regard, the fur-

ther development of the university location, particularly the establishment of a technical university in Linz, can trigger positive dynamics. In addition to strengthening the so-called STEM subjects (Science, Technology, Engineering, and Mathematics), early fostering of entrepreneurial thinking and promotion of creativity are essential components of the cultural transformation. The goal is to create a growing, vibrant, international innovation community that finds its centre in Linz and the Tabakfabrik, as well as actively advancing the development of the innovation ecosystem in the Linz metropolitan area.

Collaborations between startups and established companies are a crucial characteristic of permeable innovation ecosystems. The City of Linz supports fostering such collaborations and creating a match between startups and hidden champions. The Linz location is being expanded as a network for innovation drivers, attracting international IT companies and startups. This further demonstrates the significant potential for startups in the industrial services sector in the context of Industry 4.0, robotics, and artificial intelligence (AI). One in every three startups in Linz focuses on information and communication technology (ICT). This sector stands out as one of the most innovative pillars of Linz's economy, providing key and cross-cutting technologies for various sectors and areas of life. "Digital Linz" aims to create the right framework conditions for innovative and successful young companies and further establish itself as an attractive location. Linz continues to lead in the digitalisation of industrial production, competing internationally in the networking of machines, factories, and vehicles.

Projects on the path to becoming the Innovation and Start-up City Linz

Visibility for Linz's innovation community and start-ups

► Description

The City of Linz offers its public platforms (city lights, info screens, social media channels) to Linz innovators and start-ups for selected projects. Profiles of founders and reports about successful start-ups in local media inspire others to start their own businesses and raise awareness among the population about the regional offerings. Collaboration with other organisations that support start-ups is always being sought for.

► Benefit

Increased coverage of innovative developments from Linz will convey the importance of innovation to the population. Success stories of young female entrepreneurs in city media, such as "Lebendiges Linz," should also motivate more women to start their own businesses. This measure will convey the city's open attitude towards innovation and start-ups and attract further innovators' attention to Linz.

► Goals

- **Fostering a positive attitude among the population towards "innovation"**
- **Inspiring young people to start their own start-ups**

CONCEPT

Pilot Workshop Linz and consideration of local start-ups in procurement processes

► Description

Start-ups develop products and services as needed with the support of the City of Linz and its companies. In a dedicated programme called "Pilotwerkstatt" (Pilot Workshop) ideas for future solutions for the city are developed in collaboration with start-ups. At the same time, the city is committed to making greater use of regional start-ups and the instrument of PPPI (Public Procurement Promoting Innovation) in procurement processes within the framework of the possibilities offered by the Public Procurement Act.

Initial projects have been launched, including:

- Pilot project "Digital Twin of the New Railway Bridge"
- Research project "Automated Inventory Based on Point Cloud Data"

► Benefit

For start-ups in particular, references are very important, so the opportunity to carry out pilot projects is especially valuable. For start-ups and the innovation community, the City of Linz is a sparring partner for developing new products and testing them. The City engages in mutually beneficial pilot projects with selected start-ups and becomes more open to collaborations with the local innovation community. The initial contact takes place through Innovationshauptplatz.

► Goals

- **Running pilot projects to help start-ups.**
- **Promoting more collaborations between start-ups and the City of Linz.**
- **Accelerating market readiness of products and services.**
- **Achieving quicker market breakthroughs.**
- **Encouraging more young people to start their own start-ups.**

IN PROGRESS

Linz founders scholarship

▶ Description

The City of Linz grants a special stipend to highly promising teams of founders for a short period to work on groundbreaking ideas in Linz. The founders' stipend complements existing programmes and is intended to support innovative ideas in their development to market readiness. For a duration of 5 months, up to 4 ideas receive monthly support of 1,000 euro each (total of 5,000 euro, paid out in 2 instalments). In teams, a maximum of 2 team members can receive a stipend. In 2022, the following projects were supported:

- Uros Rakic – Knödlerei
- Leopold Bosankic – Researchly
- Bernadette Stiebitzhofer and Anna Pospischil – d'Speisgörls
- Sigrid Populorum – Yoolola

▶ Benefit

This provides an additional incentive for founders to come to Linz and establish their company here. Moreover, this offer specifically supports young people in developing their innovative ideas.

▶ Goals

- **Retaining founding teams in Linz.**
- **Accelerating market readiness for innovative products.**
- **Encouraging more young people to start their own start-ups.**
- **Strengthening Linz's position as a hotspot for new businesses.**

DEPLOYED

Open Government Data

► Description

Open administration data is a fundamental part of our information society today. They are not only a "raw material" for the economy, culture, and education but also an important principle of a democratic, open, and modern city. Whether it is demography, transport, environment, economy, health or culture, in all areas of life people can benefit from open data in many ways.

The municipal initiative Open Commons Linz has made the collection and provision of administrative data one of its central tasks since 2011. As open data is being integrated into the regular operations of the City Administration, more useful data from all areas of administration are being collected, published, and kept up-to-date. Additionally, communication with data communities, start-ups, and businesses is being intensified to capture the current needs, ensure the provision of new data, and promote exchange and collaboration. Regular and accessible data makeathons between the community and the administration facilitate and expedite the concrete implementation of applications. In November 2022, the 500th dataset of the City of Linz was published, making Linz a leader among Austrian cities. Currently, we have over 770 datasets available.

► Benefit

The needs of companies, start-ups, and the community should be recognised more quickly. Short channels and designated contact persons help in the search for published and unpublished data, thereby facilitating the simplified implementation of services. Open-source solutions or projects initiated by the City of Linz also reduce dependence on international data platforms and applications.

► Goals

- Ensuring increased transparency for administrative data
- Developing new services and offerings.
- The population benefits from the utilisation of data.
- Linz is the leading city in terms of publications on the data portal data.gv.at.

IN PROGRESS

Startup Guide Linz

► Description

In 2023, the City of Linz (IWE Department) will publish a "Startup Guide Linz" to become even more transparent and attractive for start-ups and founders, as well as to increase international visibility among investors. The guide will comprehensively depict the Linz innovation and start-up ecosystem.

► Benefit

An internationally recognised reference work for potential start-ups and founders will increase the focus on Linz as a potential location. This will enhance international visibility and help attract investors' attention to Linz.

► Goals

- **Low-barrier availability of the reference work on the Linz innovation ecosystem**
- **Transparency regarding all funding and advisory opportunities**

IN PROGRESS

Founders Night

► Description

Based on feedback from the community, investors, and Linz-based companies, there are many feasible projects, but a lack of founders or aspiring CEOs who could turn these projects into companies. As a result, Linz as a location is constantly missing out on potential start-ups. In collaboration with JKU (Johannes Kepler University) and LIMAK, the idea of Founders Nights as a series of events is being evaluated. These events allow companies or institutes to present their projects, and interested aspiring entrepreneurs can gather information and be inspired to start their own ventures.

► Benefit

By facilitating connections and matching, the aim is to bring together skills and resources.

► Goals

- **Engaging a new target audience**
- **Increasing the number of company start-ups in Linz**

CONCEPT

Ars Electronica Innovation

► Description

For years, Ars Electronica has been dedicated to active co-development and innovation of technologies. It sheds light on current developments in our digital society and creates and promotes new visions of the future. Since 1996, Ars Electronica Futurelab has served as a laboratory and workshop for future systems. As a think-and-do tank of Ars Electronica, it always places people at the centre of its research and examines the social aspects of technological developments such as artificial intelligence, robotics, media architecture, interactive technologies, new aesthetic expressions, or swarm intelligence, and their impact on the future of society. At the intersection of art, technology, and society, it collaborates with partners from business, culture, research, and education to design future visions that are brought to life for the public. Since 2013, Ars Electronica Solutions has been developing market-ready products inspired by the visions and prototypes from the artistic realm of Ars Electronica. These include innovative, individual, and interactive products and services for exhibitions, experiential worlds, trade fairs, and events.

► Benefit

New technologies have to face artistic exploration and be centred around a society-centred worldview. This approach allows for innovative applications, such as in the field of artificial intelligence (AI) or biotechnology, to be evaluated not only based on their impact on consumer behaviour and the success of the business model, but also on their ethical, social, and ecological orientation towards people and their well-being. Responsible and cooperative innovation, together with regional and international companies, holds enormous competitive opportunities for the local economy.

► Goals

- **Developing market-ready and society-oriented applications based on future trends and visions.**
- **Increasing collaborations between art and industry across the entire value chain.**
- **Establishing art and creativity as "Digital Public Services" for the Upper Austrian industry.**

IN PROGRESS

DIGITAL PUBLIC SERVICES



Future meets city

The LINZ AG and the companies of the City of Linz are the foundation for living and working in a smart city. Innovative and efficiency-enhancing technologies are being tested and deployed, with supply security and sustainability as the cornerstones for a functioning community in an increasingly digitalised society.

LINZ AG is a customer-oriented, public-interest, modern, and successful company that residents and citizens of Linz can rely on around the clock for essential services. In addition to serving households, LINZ AG provides businesses, industries, and other organisations with all the important services and products related to energy, telecommunications, water, waste, logistics, transportation, mobility, and leisure. It thus provides the necessary infrastructure for all aspects of life. LINZ AG already offers a variety of these services in digital forms, greatly simplifying the daily lives of customers and contributing significantly to the quality of life in Linz. High security of supply and sustainability are always at the forefront. Meeting the needs of customers is the focus of innovations, new service models, and services, shaping the daily work of LINZ AG teams.

Where we stand today

Over 400,000 customers rely on the services provided by LINZ AG in 117 served municipalities. These services encompass electricity, natural gas, heating, water, wastewater, waste treatment, waste collection, and public transportation. Approximately 250,000 connected households have access to internet and communication services from LIWEST. With the acquisition of the 5G license, the foundation has been laid for a multitude of applications, ensuring sufficient bandwidth for 5G in rural areas. Since the previous millennium, LINZ AG has been expanding its fibre optic network and has laid approximately 2,050 kilometres to date. For sensors and OT topics that require low data throughput but secure transmissions, LINZ AG has its own LoRaWAN.

Vision and Goals

LINZ AG continues to follow its chosen path consistently and with determination, supporting citizens and businesses through its innovative, sustainable, and secure product and service portfolio. In areas of life particularly influenced by digitalisation, such as communication, energy, transportation, and others, services will be further expanded, providing customers with flexible, simple, and reliable solutions.

The future LINZ AG marketplace will provide access to all the corporation's offerings and services, allowing customers to order, expand, and customise them. Through collaborations with established companies and startups, pilot projects such as the "Flying Taxi" or the air quality app will be initiated and implemented, leading to the creation of new market-ready offerings, products, and services.

Digital Essential Service Projects

“One-Stop Marketplace” of LINZ AG

► Description

Digitalisation makes services independent of location and time. Customers of LINZ AG have the opportunity to access numerous services 24/7 through an online portal, ranging from meter readings to the Energy Information System (EIS), which provides a detailed online overview of all energy consumption data. This covers electricity, natural gas, heating, water, as well as electricity feed-in and photovoltaics.

► Benefit

The S4LAG programme lays the foundation for further digitalisation initiatives by LINZ AG. In the last fiscal year, a comprehensive analysis of all business-relevant applications of LINZ AG was initiated. The initial implementation projects focus on end-customer processes (webshop, customer service, and services), marking the beginning of a new IT future.

► Goals

- **Online availability of all services provided by LINZ AG.**

IN PROGRESS

Smart City / Smart Things

► Description

The smart city of the future is characterised by intelligent buildings, energy supply, mobility, and much more. Smart devices and the Internet of Things (IoT) are the building blocks of the smart city.

LoRaWAN is an innovative transmission technology belonging to the group of Low Power Wide Area Networks (LPWANs). This technology serves as the foundation for Internet of Things applications by connecting wireless, battery-operated elements such as sensors to a network server in a regional, national, or even global network. With LoRaWAN, data can be transmitted over a long range with lower energy consumption, resulting in lower operating costs compared to mobile networks. LoRaWAN meets the key requirements of the Internet of Things, including secure bidirectional communication, localisation and mobility of services, and end-to-end encryption, and offers seamless interoperability among different systems and technologies, without the need for rigid, local, and complex installations. As a result, LoRaWAN allows for maximum flexibility in the development and use of IoT applications.

► Benefit

The first applications based on LoRaWAN technology are aimed at optimising energy consumption and increasing energy efficiency. These include:

Smart Bins enable continuous level monitoring of 50 fraction containers in the Linz urban area to identify optimisation potential for route planning. A dashboard provides an overview of all fill levels with location-based filter function. Additionally, the containers are displayed on a map. Further investigations into the use of sensors for level detection at problem collection points and underground containers are underway.

Smart Parking aims to prevent long-term parking at E-charging stations at the LINZ AG Center. Once the vehicle is fully charged, a notice (SMS, email) is sent. In the future, monitoring of parking space occupancy at E-charging stations may be offered as an optional feature. Sensor technology for detecting parking occupancy at electric vehicle charging infrastructure is being tested at the pilot location on Wiener Straße. The current test is being expanded to multiple parking spaces.

The air quality app monitors indoor air quality, including threshold indicators and notifications for exceeding or falling below the thresholds. This enables optimisation of the ventilation system, resulting in better indoor air quality, increased well-being, and improved performance.

► Goals

- **Establishing LoRaWAN as the basis for a Smart City pilot project already completed**
- **Developing additional IoT applications**
- **Improved energy efficiency and energy savings**
- **Online occupancy display for indoor swimming pools**

IN PROGRESS

Linz Cloud

► Description

Using the Linz Cloud, data cannot only be stored but also easily and securely exchanged. The Public Space Server, which has been available to the Linz population since 2009, will be adapted to meet current needs and transformed into a contemporary cloud storage solution. A range of current office, project management, and communication tools enables online collaboration in Teams. Central to this is the community-oriented infrastructure, which ensures that data can be protected from commercial exploitation and misuse. Therefore, the data is hosted locally on behalf of the City to guarantee data protection and sovereignty in accordance with Austrian standards.

► Benefit

Increased teleworking and social distance in particular increase the need for low-threshold online tools with which two people or groups can work cooperatively and simultaneously on documents and projects or communicate. Fair terms of use and secure data exchange should serve as the foundation for such tools. However, commercial offerings often fail to guarantee these requirements. Therefore, the Linz Cloud can provide significant added value as a data protection-friendly collaboration, communication, and data exchange tool for all residents of Linz.

► Goals

- Acceptance and new registrations
- Increasing active users

IN PROGRESS

New operations control system 2023 – professional fire brigade Linz

► Description

The Communication Centre of the Linz Professional Fire Brigade serves as the digital heart and brain of the fire departments in the regional capital of Linz. Every operation of the emergency responders begins here, with the receipt of emergency calls and the dispatching of the fire departments, as well as the communication with our partner coordination centres (police, ambulance, Linz AG, ÖBB, ASFINAG, Waterway Authority, etc.). As a forward-thinking project, the Upper Austria Fire Brigade Control Centre Network was established several years ago in collaboration with the Regional Warning Centre of the Upper Austrian Fire Brigade Association and the Communication Centre of the Wels Volunteer Fire Brigade. The aim of this network is to ensure that the emergency calls for the region of Upper Austria are handled by a fail-safe and redundant system, both technically and organisationally. This requires primarily technical upgrades and adjustments. After the implementation of the telecommunications and radio communication network in 2020 and the relocation to the new control centre at the main fire station, the next step in 2022/2023 is the introduction of a new unified digital operations control system.

► Benefit

Through these technological innovations, emergency management centres can support each other in times of high demand such as severe weather or catastrophic events, thereby reducing waiting times for emergency calls. A unified, digitally-supported operations control system ensures smooth handovers during operations and enables fast, reliable alerting and communication with emergency personnel. The new operations control system is also being prepared to integrate with the partner operations control centres of the police and rescue services, allowing for even faster alerting and improved information exchange. This technical upgrade of the messaging centre ensures a prompt and reliable emergency response. In a further project, the mission data from the operations control system (mission address, mission keyword, alarmed units, as well as geo-information data on hydrants, object details, power/gas lines from the WebGIS system of the City Administration of Linz) will also be available in all mission vehicles, and there will be an electronic data and information return flow from the mission site to the operations control centre, extending up to the mission report and accounting.

► Goals

- **Increasing the resilience and redundancy of the fire brigade emergency number**
- **Ensuring secure and prompt alerting and communication with emergency personnel**
- **Enabling professional handling of emergency calls and missions**
- **Utilising existing geospatial information data of the city of Linz at the operations control centre and emergency scenes**
- **Streamlining administrative processes during emergency data collection at the scene**

IN PROGRESS

Linz becomes a Smart Sustainable City

► Description

The city of Linz is participating in the "U4SSC" project (United for sustainable smart cities), an initiative of the United Nations. Through the digitalisation of key indicators, Linz is transforming into a Smart Sustainable City and can more easily achieve Sustainable Development Goal 11, "Sustainable Cities and Communities." A set of 92 indicators is used to evaluate the areas of economy, environment, culture, and society. Using a traffic light system, it illustrates how the City of Linz compares internationally in different areas in terms of the UN Sustainable Development Goals. The project has a budget of € 15,000, and the evaluation, known as the "City Snapshot," will be prepared within approximately 3 to 6 months after successful official acceptance in the programme. These digitalised indicators also provide an important component for the city-wide climate neutrality concept, which was launched in autumn 2022.

► Benefit

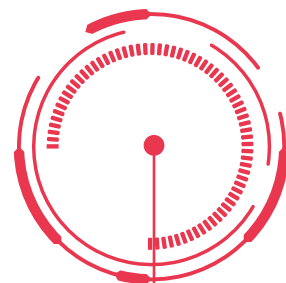
The strategy and processes of the city of Linz are analysed in terms of the 17 sustainability goals in an international comparison. This will be an important building block for the development of the climate neutrality concept of the city of Linz.

► Goals

- **Linz achieves SDG 11 "Sustainable cities and communities".**
- **The results of the City of Linz contribute to improved international comparability.**

IN PROGRESS

DIGITAL EDUCATION AND RESEARCH





Knowledge as the Basis of the Digital Future

Education is a valuable asset, and its continuous development throughout our lives is of great importance for us to participate in the changing life of society. However, access to education is unequally distributed, and digitalisation acts as a catalyst in this regard. It boosts the abilities and skills of those who already have educational privileges. Conversely, this means that we must create more low-threshold opportunities for those who lack access, infrastructure, and prior experience to ensure equal opportunities. In the long run, this ensures that our younger people also show interest in specialised fields and deepening research.

Where we stand today

For this reason, the City of Linz has already focused on developing media educational prototypes for the target group of children, teenagers, and teachers in recent years. The city library is also widely used by people of all ages, with 13% of the borrowed items now being eBooks. Since July 2020, the digital city library has also been operating a streaming service for movies and continuously expanding its offerings. In parallel, the adult education centre serves as a place for further education and social meeting venue. Older individuals, in particular, gladly take advantage of guidance on digital tools provided there.

Furthermore, Linz boasts an outstanding range of study and research programmes: 4 universities, 2 pedagogical colleges, a university of applied sciences, the Ars Electronica Futurelab, and university collaborations make it possible to create a wide variety of profiles in our society: Medical engineers, experts in bioinformatics or mechatronics, and media artists enrich our lives, while research teams explore artificial intelligence, robot psychology, or new energy sources, to name just a few examples.

Vision and Goals

The foundation for further education is laid early in childhood. When it comes to driving digitalisation forward, we must not succumb to the naive or convenient notion that the next generation inherently understands digitalised life. They need professional guidance, protection, and active, positive role models during this transition. Therefore, we must explain the fundamental principles of the digital world to teenagers, children, and even our youngest members and explore these principles together with them. We must invite them to experiment and actively shape their environment with digital tools. Critical media and technology skills are key qualifications in modern society. Knowledge of the technical background not only enables self-determined interaction without fear with technology but also fosters creativity and is an essential prerequisite for successful participation in social life and fosters professional success. At the same time, we must address the issue of our human values and the question of how we want to coexist as a society. Encounter, movement, and haptic experiences will always remain part of human existence. This is not only reflected in children's and youth programmes. The strength of an adult education centre also continues to lie in social interaction, which is reflected in in-presence programmes. NGOs should also be supported in providing their services in digital form. The City of Linz supports its population, whether young, in the middle of their careers,

or experienced, in expanding their digital competencies. It collaborates with a network of research and science to further develop relevant educational offerings. One goal is the joint development of work-oriented educational formats with partners in vocational and adult education, as well as improving the visibility of educational formats. Furthermore, science and research present us with new possibilities and pathways, create international networks, and through collaborations with the business sector, ensure continuous innovation and achievements in our society. They proactively and reflectively accompany us in our actions, revealing contingencies of human interaction and potential fields of action and thought. The new Institute of Digital Sciences Austria (IDSA) will play a crucial role in providing important impulses for this.

Digital Education and Research Projects

Institute of Digital Sciences Austria (IDSA)

► Description

In Linz, a new university focused on digitalisation and digital transformation is planned to be established. It would build on an ideal foundation and be embedded in a promising environment, with the JKU (Johannes Kepler University) and the LIT (Linz Institute of Technology), the Ars Electronica, and the Hagenberg Campus.

► Benefit

The international appeal of the new university would attract students and researchers from all over the world, while also allowing for the education of needed professionals within the country. This would reduce the brain drain of the region's talents. The establishment of the Institute of Digital Sciences Austria (IDSA) in Linz is closely linked to the attractiveness of the business location.

► Goals

- **Establishing the Institute of Digital Sciences Austria (IDSA)**
- **Arousing strong interest among national and international students**
- **Expanding educational and research offerings (in Linz and Austria)**
- **Addressing the shortage of skilled professionals**

IN PROGRESS



Digital City Library

► Description

The digital offerings of the Linz City Library are continuously expanded and complemented with new online services as well as technical infrastructure. However, the on-site social interaction remains deeply rooted as an essential part of the library. In addition, electronically controlled pickup lockers are provided at decentralised locations in Linz, outside of the existing branch network, for the collection of pre-ordered books, games, and items from the "Library of Things," which was opened in 2021. This reduces travel distances and enables customers to be independent of specific time slots. Payment of outstanding fees can also be done online or at self-checkout machines. Through initiatives such as "Enter_Tainer," Digital im Alltag und in der Freizeit (Digital in everyday life and leisure), and IT and eReading consultations, the digital offerings of the city library are actively communicated to the population.

► Benefit

New online services and offerings expand the target audience of the city library. Particularly, older people, individuals with limited mobility, or those with health risks can benefit from offers such as decentralised pickup lockers, touchless operation, and online payment. This allows for the provision of library services throughout the entire city area around the clock.

► Goals

- Expanding the user base
- Diversifying target groups
- Increasing usage figures
- Loan code of online offerings

DEPLOYED

Digital skills for the 65+ generation

► Description

Approximately 16,000 residents of Linz do not own a smartphone or tablet. Another 8,000 individuals have outdated smartphones that do not meet common security standards. As a result, 24,000 senior citizens in Linz are excluded from digital applications such as mobile banking or mobile parking. They do not have access to the mobile services provided by the citizens' service office (such as online registration of the main place of residence by means of mobile phone signature) or useful apps like "LinzMobil" by LINZ LINIEN.

Furthermore, many older individuals have fears of isolation or being unable to maintain social connections. Digital tools can bring people closer together, especially during challenging times when personal visits are not possible. Since 2022, the City of Linz, in collaboration with emporia, the Volkshochschule Linz, and SelbA, has been organising Smartphone Days for senior citizens. The 65+ generation can get free information and advice on how to be more independent when using digital devices in the city districts of Linz.

In the Volkshochschule Linz, special consideration is given to older people in the development of new programmes. This includes preventive work and strengthening digital skills in adult education (recognising fake news, secure communication). While maintaining the importance of in-person social interaction, the Volkshochschule also facilitates the use of hybrid services, such as video and screen sharing, through new infrastructures such as Active Panels in the VHS course rooms and digital tools. The "emporium Handyschule" at the company's location in the Industriezeile is also integrated into the offering.

The demand for further education opportunities among the 65+ generation has increased in recent years. As a result, the Volkshochschule Linz has expanded its smartphone courses significantly. In addition to the increased course offerings, there has also been an expansion of locations: In addition to the Wissensturm location, smartphone training is now offered in Dornach, Pichling, Kleinmünchen, and starting in autumn 2023, at the Südbahnhofmarkt.

Inclusion and accessibility are not only a priority at the Volkshochschule Linz, but are also put into practice: in the "Digital Competences for the 65+ Generation" area, courses are offered for people with visual impairments, for example "Poor vision and good at the computer" or "Smartphone accessibility for people with visual impairments" are offered. These offers are available both at the Wissensturm location and in the various districts of Linz.

► Benefit

Digital tools enable people to stay in touch with loved ones and to participate in group activities despite their inability to work, illness or impairment.

► Goals

- **Expanding infrastructure and offerings in the Volkshochschule and Linz neighborhoods.**
- **Providing tablets in senior centres.**
- **Training of staff in senior centres.**
- **Expanding the offering in citizen service offices, city libraries, and at Linz AG.**

DEPLOYED

Tools & skills in Linz's afternoon care facilities

► Description

For this pilot project, "Tablets and Digital Skills for Children," initiated by Innovationshauptplatz, Open Commons Linz/IKT Linz GmbH, academy, and with financial support from Raiffeisenlandesbank Oberösterreich (RLBOÖ), four city afternoon care facilities have been equipped with tablets and digital devices for educational use. Both fourth-grade children and motivated day-care educators have been taught technical skills and given key competencies to promote a playful and movement-oriented use of digital tools. To ensure the quality of educational delivery, the children were supervised in small groups of six, each with a mentor. Prior to implementation, educational professionals received media education training for proactive and secure use in the after-school setting. Timely provision of internet connectivity and sufficient high-speed Wi-Fi is a prerequisite for the afternoon care facilities. In January 2022, the "Cody 21 - Digital Basic Education in Linz Afternoon Care Facilities" project was launched, in collaboration with the After-School/Child and Youth Services Department, the Office of the Mayor/City Government Office, and academy, and with financial support from Raiffeisenlandesbank Oberösterreich (RLBOÖ), across all 34 city afternoon care facilities and an additional 4 private afternoon care facilities. A video series consisting of 10 interactive and educational episodes aims to enable comprehensive digital education for children in the 3rd and 4th grades attending afternoon care facilities. The City of Linz ensured Wi-Fi access for all afternoon care facilities. Following the successful first school year with "Cody 21," new episodes of the video series were continued in autumn 2022.

► Benefit

In addition to teaching technical skills, the utilised technologies are placed in a life context. This enables young participants to develop reflective, responsible, creative, and self-determined attitudes toward technology. As part of the implementation, educational professionals receive media education training and the necessary knowledge to gradually integrate methods and content into afternoon care operations.

► Goals

- **Increasing media literacy and competence**
- **Promoting self-awareness and proactive engagement of afternoon care educators**
- **Using devices as tools rather than just for media consumption**

DEPLOYED

MakerEducation in the GRAND GARAGE

► Description

The GRAND GARAGE is an innovation workshop located in the Tabakfabrik Linz, where young people can utilise analogue and, above all, digital technologies (3D printers, laser cutters, robotics, machine learning, etc.) to materialise ideas and enhance their self-efficacy and innovation capabilities. The didactic learning concept based on Maker Education plays a central role, employing holistic methods and

Tools for creatively solving current and future challenges of our time are taught, with a focus on the United Nations' Sustainable Development Goals. Apart from formal educational offerings, young people have over 3,000 m² of fascinating space to joyfully experiment with digital technologies, unfold their potential, and independently develop and implement project ideas. This also connects with partner projects at the TGW Future Wings at the Tabakfabrik Linz, such as "CAP. AUSBILDUNG" and CODERS.BAY, where human development is also at the forefront.

▶ **Benefit**

The innovation workshop provides children, young people, students, startups, educational institutions, associations, and companies with access to a variety of digital technologies. The goal is to offer an accessible entry point and familiarise young people with the digitalised world. Ultimately, this aims to strengthen the innovation capacity and future readiness of every individual in Upper Austria and improve quality of life.

▶ **Goals**

- **Teaching 21st-century skills**
- **Developing "Learning Journeys" based on Maker Education**
- **Igniting enthusiasm for technology and identifying talents**
- **Strengthening self-determination and self-efficacy**
- **Supporting/enabling the materialisation of ideas**
- **Enhancing the economic location and improving quality of life**

DEPLOYED

AHS for Digitalisation

► Description

The challenges of the future regarding digitalisation can only be tackled through a combination of (humanistic) general education and (technological) training. The current offerings in academic secondary schools (AHS) as well as vocational and training schools (BMS/BHS) are not sufficient in this regard. Therefore, since the winter semester of 2022/23, the Bundesrealgymnasium Fadingerstraße has introduced a new branch called "Digitalisation and Robotics," focusing on coding, database management systems, network technology, and physical computing. In collaboration with the University College of Teacher Education Upper Austria and the Upper Austrian Federation of Industries, the City of Linz has also established a completely new and innovative type of school, an AHS spanning 9 school years, with a focus on digitalisation and robotics and offering a vocational qualification. This new school is feasible within the current framework conditions of the education system and aligns its content and methods with the requirements of businesses as well as current pedagogical and professional standards. Furthermore, since the winter semester of 2021/22, there is also a "Digital Humanism" Secondary School at the Tabakfabrik in Linz, with a focus on digitalisation, technology and art, which is financed by the Protestant Church (ROSE - Reformpädagogisches Oberstufenrealgymnasium Stey der evangelischen Kirche).

► Benefit

The innovation capacity of a region/city depends significantly on the qualifications of as many people as possible in the field of digitalisation/automation/robotics. Future-oriented education means more than just technological expertise because the digitalisation process also raises new ethical questions. The new type of school encompasses all areas of life that are influenced by digitalisation and robotics. In addition to (industrial) vocational and work environments, the practical orientation includes research and development (e.g., in the mechatronics cluster), connecting all areas of young people's lives and merging learning and practical settings (keyword "action learning"), not only through internships but also through permanent integration into Linz's start-up scene.

► Goals

- **Creating a unique new form of school**
- **Increasing the number of highly qualified professionals in the fields of digitalisation/automation/robotics**
- **Promoting networked thinking and approaches in the intersection of general education, ethics, and technology**

DEPLOYED

CODERS.BAY: The hands-on coding workshop

▶ Description

Since 2019, CODERS.BAY at the Tabakfabrik Linz has been offering practical training for future IT professionals. Modeled after American coding schools, the curriculum positions itself between Higher Technical Institutes and Universities of Applied Sciences. Networking can be learned in 4 months, and programming in 5 months, both without any prior IT knowledge. In addition, they offer SAP courses ranging from entry-level to specialised modules, including certifications. What sets these courses apart, whether taken full-time or part-time, is not only the practical IT training but also the comprehensive support for the participants. This aligns with the partner projects of TGW Future Wings at the Tabakfabrik Linz - GRAND GARAGE and "CAP. AUSBILDUNG CyberSecurity" where the focus is also on the individual and their development.

▶ Benefit

With its programme, CODERS.BAY directly addresses the current needs of the job market. It provides motivated individuals with an accessible entry point to IT education. Participants engage with companies early on in their training to prepare for the specific requirements of the job market.

▶ Goals

- Providing an accessible pathway to networking and coding education
- Offering practical IT training combined with personal growth
- Providing comprehensive support and guidance to participants
- Fostering early connections between course participants and potential employers
- Bridging the IT gap in education and the job market

DEPLOYED

CAP. / AHS + CYBERSECURITY – The Top Talent Programme for academic secondary school (AHS-Oberstufe)

► Description

The Top.Talente.Programm (Top Talent Programme) offers academic secondary school students the opportunity to pursue a parallel education in CYBERSECURITY alongside their regular curriculum. The training is based on the first 1.5 years of the bachelor's degree programme "Secure Information Systems" at the Hagenberg Campus of the University of Applied Sciences Upper Austria, which, as one of two training partners, ensures high-quality teaching at the level of a university of applied sciences. Over the course of four years, the students attend—voluntarily and in their free time—classes every other weekend on Friday afternoons and all day Saturday at CODERS.BAY at the Tabakfabrik, which is also the second educational partner. In addition to technical education, which covers topics ranging from secure programming to cryptography, scripting, and penetration testing, the lessons integrate comprehensive approaches through modules on project management and social skills. With a focus on CYBERSECURITY, the successful model of CAP.-AUSBILDUNG, which created a unique offering for Austria in 2010 with its focus on MECHATRONICS, is expanded and tailored to meet current social and economic demands. This aligns with the partner projects of TGW Future Wings at the Tabakfabrik Linz - GRAND GARAGE and CODERS.BAY - where the focus is also on the individual and their development.

► Benefit

The goal of this education is to provide young people with an informed understanding of internet security, and foster their sense of responsibility and awareness. By offering the opportunity for an exceptional vocational qualification in the field of information technology (with a focus on operational technology), we provide them with additional attractive career options and/or facilitate their entry into higher education. We are the missing link for our training partners in order to specifically reach the target group of academic secondary school students. For our partner companies and the workforce in general, we increase young people's interest in digitalisation and STEM subjects.

► Goals

- **Providing specialised content tailored to the target group in the areas of CYBERSECURITY and information technology at the level of a university of applied sciences**
- **Supporting young people in their process of personal development and the development of social skills**
- **Promoting "joyful learning" as an enjoyable form of learning**
- **Fostering the next generation of IT professionals**

IN PROGRESS

ESERO Austria

► Description

ESERO Austria is an initiative that supports schools and teachers in Austria in the teaching of space-related topics and space technology. ESERO stands for "European Space Education Resource Office" and is part of the European ESERO network established by the European Space Agency (ESA). Since 2016, there has been an ESERO office in Austria, which is supported nationally by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) and the Austrian Research Promotion Agency (FFG). The activities of ESERO Austria include teacher training, the development of teaching materials, and the conception of educational projects for teachers, as well as workshops and events for students.

► Benefit

The benefit of ESERO Austria is that it supports schools and teachers with free resources to apply innovative and hands-on teaching methods and introduce their students to space-related topics. By providing current examples from space technology, Earth observation, and astrophysics, students can develop a better understanding of scientific methods and technologies and foster their interest in these subjects. Additionally, ESERO Austria offers teachers and students the opportunity to network and exchange knowledge with other schools and experts in the field of astrophysics, Earth observation, and space technology.

Overall, ESERO Austria contributes to promoting students' interest in science and technology and supports teachers in teaching space-related topics. This helps students better prepare for the demands of the modern job market and strengthens Austria as a location for science and technology.

► Goals

- **Supporting schools and teachers in teaching space-related topics and space technology in the classroom**
- **Fostering students' interest and motivation in science and technology**
- **Strengthening the network between schools, teachers, and experts in the space sector (astrophysics, Earth observation, and space flight)**
- **Contributing to strengthening Austria as a location for science and technology**
- **Showcasing career opportunities for Austrians in the space sector**

DEPLOYED

Laboratory of Confidence - With confidence into our digital future!

► Description

The Laboratory of Confidence is a regular workshop format where young people between the ages of 12 and 18 can explore, learn, and apply technology and media. The Laboratory is a combination of analogue and digital spaces, with a focus on creative processes in the field of technology and media.

At the Laboratory of Confidence, young people are not only taught skills in handling various technical tools but also shown how to use these tools to make the world a better place.

► Benefit

Young people have a space for self-realisation, exchange, criticism of established systems, and experiments, making mistakes, and playfulness. Mentors accompany young people from the idea stage to the final implementation, providing them with the opportunity not only to acquire skills in the world of media and technology but also to develop the ability to independently realise further ideas. The Laboratory of Confidence bridges the gap between "hello world" (for children aged 8 to 12) and the annual Jugend-hackt-Wochenende (Youth Hacking Weekend) (for 12- to 18-year-olds).

► Goals

- Bridging the didactic and content gap between the "hello world" and "Youth Hacking" programmes.
- Creating an experimental space for young people in Linz

CONCEPT

Virtual parent evenings

► Description

The format is ideal for parents, students, and teachers who want to expand their knowledge about media literacy. Together with Open Commons, ARS, and Coder Dojo, a virtual information evening is organised for students, parents, and teachers to provide parents with important information about the opportunities and risks of the digital world and tools. Current topics such as internet dangers or good learning support apps are presented through short inputs. The evening will be streamed live (from the AEC) and broadcasted on-site (Innovationshauptplatz). The videos will be made available afterwards with subtitles in other languages in cooperation with the Integration Office.

▶ **Benefit**

Through this support, a generation can grow up that moves confidently and safely in the digital space. It becomes possible to weigh up the opportunities and risks. The objective discussion between parents, students and teachers is made possible on an equal footing.

▶ **Goals**

- **Providing accessible information about the advantages and disadvantages of social media**
- **Strengthening digital literacy**
- **Raising awareness of internet risks**

DEPLOYED

Coding Week

▶ **Description**

In collaboration with the coding communities, the City of Linz (Innovationshauptplatz) plans to organise a Coding Week in 2023, offering comprehensive training and further education opportunities for schools, students, apprentices, and university students.

▶ **Benefit**

This initiative aims to provide an entry point for schools into programming and coding through the gamification approach of the events.

▶ **Goals**

- **Promoting coding skills in Linz**
- **Motivating all students, especially females, to explore coding as a career path**
- **Providing medium-term relief for the scarce digital talent target groups for the location**

CONCEPT

NEW WORKING ENVIRONMENTS





Human-centred digital economy

The basic structures of the job market are currently undergoing profound changes. People live in a world characterised by great uncertainty and unpredictability, marked by surprising and often disruptive breaks. Increasing complexity and growing dynamics exert significant innovation pressure on companies and require ever greater flexibility to adapt structures and processes. Digital media no longer serve solely to make otherwise largely unchanged work processes more efficient, but instead lead to entirely new forms of communication. Automation processes have led to a steady decline in the share of physical work with low qualification requirements, while knowledge work is on the rise. The consequences of the current transformation in the world of work for the relationship between organisations and employees are significant: Coping with organisational changes requires both human performance and the organisation or company to be demanded in a completely new way and, above all, on a completely new scale.

The described changes offer numerous opportunities for organisations and the people working in them, but also entail challenges, risks, and disadvantages. Companies and organisations will definitely have to reposition themselves.

Where we stand today

Linz is Austria's city of work. In Linz, there are a similar number of jobs as registered individuals. The Linz-Wels region generates the second-largest gross value added in Austria, with over 14,000 companies providing 209,000 jobs - and one in four jobs in Upper Austria is located within the city's nearly 100 square kilometres, which itself only covers 0.8% of the entire region. In addition, nearly half of all people living in Linz are employed. These facts indicate that work is of great importance in Linz.

An increasing share of work is being done in home offices. Attendance requirements are lifted, and fixed workplaces are replaced by so-called shared spaces, where employees find an available communal workspace and open their laptops there. The commitment to fixed working hours is also increasingly being abandoned and replaced by trust-based working hours: When, where, and how the workforce achieves the agreed-upon results is entrusted to their own responsibility.

Vision and Goals

The modern working world, or rather the working world of tomorrow, is highly technologised. Digitalisation will gain significant importance. Digital innovations continuously and sustainably transform production processes and services. Digital innovations are therefore always also innovations in the world of work and the organisation of work. Digitalisation challenges established forms of work but can also be integrated into existing processes. This is one of the reasons why digital innovation processes are by no means uniform, linear or predetermined, but rather have to be socially negotiated and implemented in a technologically appropriate manner in the context of the respective company and the organisations surrounding it. Human resources are one of the most important factors of production in an innovation-driven, digitalised economy. Digitalisation must play a significant role both in

early educational support and subsequently in adult education. The term "double mobility" is often used in this context: innovation-driven, digitalised prefer locations where many highly specialised workers live and work, while qualified workers, in turn, move to where their skills are needed. To strengthen the economic area, improve quality of life, and promote social participation, well-founded training for the professions of the future and measures against the shortage of skilled workers in the IT industry must be implemented.

New Working Environments Projects

Jobs 2.0

► Description

Job satisfaction, engaged employees, and long-term company success are closely linked. The workplace situation has undergone significant changes in the past 3 years. In addition to values orientation, trust in the company, and social interaction, autonomous work and flexible working time models are high on the employees' wish list. Companies are collaboratively testing various systems of "desk-sharing" and "flexible office." Furthermore, the opportunities and risks of remote work are being analysed and evaluated.

► Benefit

Linz is characterised by economic strength, with successful companies and public administrations operating with satisfied employees. In 2022, the Linz Municipal Administration implemented the TeamLinz programme and positioned itself as a sparring partner for the business sector. The focus was on establishing platforms that enable the implementation of innovative projects with the Linz business community, as well as implementing MS Teams for the Linz Municipal Administration team. This not only provides an optimal digital workplace but also supports a new culture of cooperation, collaboration and communication.

► Goals

- **Establishing Linz as a test zone for collaborative work**
- **Acceptance and utilisation by employees, companies, and institutions**

IN PROGRESS



Joint Skilled Worker Initiatives

► Description

The changing world of work means that essential positions can no longer be filled. In addition to making the work environment more flexible, companies are also facing a major challenge in the form of a shortage of skilled IT professionals. This issue cannot be tackled by a single company alone; it requires well-coordinated measures within individual sectors as well as collaborative initiatives focused on skilled workers.

The IWE department is coordinating these activities in collaboration with BizUp, the Chamber of Commerce, and the Digital Mile.

► Benefit

Leading companies, the public sector, small and medium-sized enterprises, and start-ups are collaborating on the qualification of IT professionals across different industries. This benefits both future IT professionals and participating companies, who can contribute to shaping a shared image and strengthen their employer brand through cross-sector cooperation.

► Goals

- Increasing the number of IT professionals
- Attracting companies and startups

CONCEPT

Building Coding Communities in Linz

► Description

To create a sustainable innovation ecosystem in Linz, it is crucial to generate more interest in IT and coding among people in the medium term, in order to address the shortage of skilled workers. The Linz Innovationshauptplatz has conducted a concept study on the potential of coding communities in Linz. This resulted in the development of the 5-point plan of the City of Linz in 2021 (https://www.linz.at/medienservice/2021/202110_112701.php). These activities will continue in 2023, with a focus on roundtable discussions with coding communities, promoting and supporting formats organised by these communities, integration into the Linz Innovation Tour, and in 2023 the implementation of a "Coding Week" for children and teenagers, as described above (in the digital education and research field of action).

► Benefit

Based on a 5-point plan, projects are being implemented by the City of Linz to maintain and expand a sustainable innovation ecosystem in the IT sector. It is easier for IT professionals to start their careers in Linz.

▶ **Goals**

- **Building coding communities**
- **Strengthening the existing community**
- **Creating a sustainable innovation ecosystem**

DEPLOYED

Future Studio for Women

▶ **Description**

To support women in re-entering the workforce or transitioning into a new field, a new workshop programme has been developed at the Future Thinking School of Ars Electronica Linz in collaboration with the AMS (Job Market Service) Upper Austria and VFQ Gesellschaft für Frauen und Qualifikation Linz. The "Zukunftsstudio" (Future Studio) provides participants with insights into the world of digitalisation, particularly artificial intelligence: What impact could AI have on the working world and society?

▶ **Benefit**

Since March 2022, the "Zukunftsstudio" programme has been conducted in collaboration with the AMS Upper Austria for women. Its aim is to encourage participants to use new technologies as tools and actively shape their future with them.

▶ **Goals**

- **Knowledge transfer**
- **Sparking interest in new technologies**
- **Understanding complex aspects of digitalisation**
- **Being able to apply future technologies**
- **Strengthening the participants' self-confidence**

DEPLOYED

Traineeship Programme: Future in Sight, Future in Hand

► Description

Artificial intelligence, innovation spirit, and sustainability - in addition to understanding basic terms and practical examples, participants, who are apprentices from member companies of the Upper Austrian Federation of Industries, gain insights into the most important technical aspects: How is an AI system structured? How does a machine learn? And how do machines and their sensors perceive the world compared to humans? But the topic is also looked at from a critical side: How could datasets distort our perception of reality and what effects could that have?

► Benefit

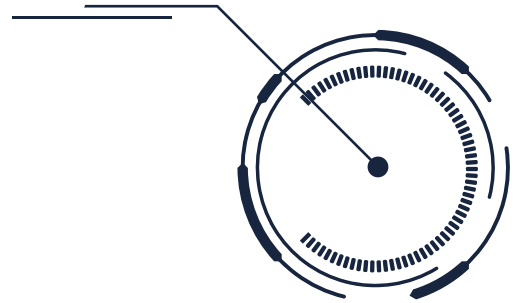
This diverse and interactive workshop by the Future Thinking School also includes a tour of the Ars Electronica Center and a presentation in the Deep Space 8K.

► Goals

- **Take a closer look at future technologies that are already ubiquitous in the everyday life and professional life of apprentices**
- **Fostering teamwork, problem-solving, and active shaping of the digital environment**
- **Developing awareness for the necessity of creative and innovative collaboration.**

DEPLOYED

LOCAL ECONOMY AND SMES



Traditional Linz entrepreneurship as a driver of the 21st century

The COVID-19 crisis has demonstrated that people come together and see increased cooperation as a great opportunity. These opportunities should now also be utilised to strengthen the economy of Linz. The focus is on the following priorities: regionalism, creativity, sustainability, and digitalisation. It is essential to boost the digitalisation push for commerce and strengthen cross-sector collaborations.

Where we stand today

For years, Linz has been one of Austria's strongest economic locations, making it the most important economic and labour market engine in Upper Austria. Several key indicators highlight the city's economic leadership position: the number of patent applications reflects high innovative capacity. The regional capital's macro-economic indicators include the highest annual net income per reported person, the highest gross regional product among all 33 Austrian NUTS-3 regions, and significantly higher purchasing power than the Austrian average. Statistically, 2 new companies are founded in Linz every day.

Linz's economic structure has two particular features: it is more industrially oriented than other major regional capitals and significantly more diverse in terms of job opportunities. At the time of the survey, 13,220 companies were based in Linz. More than 7,200 companies, almost half of them, employ only one person. About 6,500 companies employ up to 10 workers. Similar patterns can be observed in other larger regional capitals.

The successful mix of established companies and creative startups is a fundamental element of Linz's economic fabric. The IT sector is currently writing a special success story. According to statistics of the Chamber of Commerce, one in every five companies belongs to the IT industry. As for startups, 25% of all young companies fall into this growth sector. Over the course of a few decades, Linz has transformed from a pure steel city into an innovative, technology-based industrial digital city, unlike any other urban area. The success factors for an economic location lie in promoting economic growth and innovation strength. Close proximity to research and education is also crucial. The positive development of the industry and its leading companies is simultaneously the best support for small and medium-sized enterprises. This is evident in the fact that approximately 800 companies are established in Linz on average every year. Women entrepreneurs are on the rise. One in every two companies is founded by a woman.

Vision and Goals

A business mix of individual powerful globally operating leading companies, numerous small and medium-sized companies leading in international niche markets, and a broad, dynamic start-up scene is considered an ideal prerequisite for high regional innovation performance. Current changes in society are multifaceted: on one hand, increasing tensions due to the global mobility of people, goods, ideas, and capital, and on the other hand, the digital transformation as electronic networking in nearly all

aspects of life and work, along with its integration with artificial intelligence, as well as demographic and climate change. All these changes bring challenges to the economy and the workforce. Opportunities and shortcomings are already evident in light of the COVID-19 crisis. The City of Linz sees its task as actively shaping this process of change. Networking, consulting, and implementing pilot projects will be at the centre of these efforts. The goal is not to produce digitally educated workers for the economy but to support employees in participating in the digital economy and ensuring their sustainable employment. Sole proprietors and small and medium-sized enterprises (SMEs) require a well-founded offering for practice-oriented digitalisation. Besides the leading companies, this group forms the economic backbone of the region. These in particular need to be supported in the digital transformation.

Local Economy and SME Projects

Digital Marketplace

► Description

Digital, local, and user-friendly - the pilot project "Digitaler Marktplatz" (Digital Marketplace) will provide the people of Linz with convenient access to goods in their vicinity without long detours. Specifically, it involves lockable self-service pickup stations with partially refrigerated compartments. Goods that have been ordered online or by phone will be placed in these compartments and can be picked up by customers using a provided code. The use of sensors to collect movement data, screens for promoting offers, and virtual reality (VR) technology will enhance the visitor's experience, making it even more attractive through the use of technological tools. The first Digital Marketplace boxes have already been installed at initial locations in Linz, allowing local entrepreneurs to leave their goods for pickup. Residents can place orders and pick up their purchases locally, even outside of regular opening hours.

► Benefit

The Digital Marketplace aims to provide relief for older people in their everyday lives. Whether it is daily mail, groceries, or ordered packages - the smart pickup compartments eliminate the need for extra trips to local stores, bakeries, etc. as the goods can be stored directly in the Digital Marketplace and picked up near their homes. Customer-friendly payment options through the delivery companies and easy operation to open the pickup station complete the offering. For delivery companies, the Digital Marketplace presents an interesting business model with new distribution channels. With minimal effort, retail businesses have the opportunity to distribute their products to various locations throughout Linz, making regional commerce comparable to traditional online retail.

► Goals

- **Connecting local supplies with digital distribution**
- **Creating new distribution opportunities for regional delivery companies**
- **Promoting acceptance and utilisation of pickup stations**
- **Providing easy access, especially for older people**

DEPLOYED

Property Database

► Description

Finding suitable commercial properties, office spaces, or retail premises is crucial for business success. In this project, the relevant database on the economic section of the City of Linz's website will be merged with the property database of Business Upper Austria (the location agency of the region of Upper Austria).

► Benefit

Local businesses in Linz will have an up-to-date and comprehensive overview of available plots and properties for new business locations. Companies considering establishing a branch in Linz will find the planning process easier.

► Goals

- Saving time for the local economy
- Providing an up-to-date and complete overview of properties
- Creating synergies in operating the database service

IN PROGRESS

Linz hACkT (Linz Hacks)

► Description

At the Linz Hackathon/Makerthon, the City invites all interested individuals to come together over a weekend and develop ideas for social innovation in the city. For this purpose, questions are collected from people who encounter various types of problems and limitations in their everyday lives. These can include barriers in public spaces, language barriers, difficulties related to aging, or intergenerational issues.

<https://innovation.linz.at/de/aktuelle-projekte/linz-hackt/>

► Benefit

During the event weekends, the participants, organisations, and local businesses seek solutions to these problems. Tangible projects with a long-term approach are sought to bring the goal of a social and inclusive city, Linz, closer. Participants have the support of leading experts from social institutions, science, business, culture, and innovation.

▶ **Goals**

- **Providing tangible solutions for challenges in Linz**
- **Providing opportunities to develop successful new products and services**
- **Facilitating an exchange with potential customers**

DEPLOYED

Linz connects IT&Economy

▶ **Description**

The City of Linz regularly organises events to facilitate networking between leading experts from the digital world and local application-oriented companies. The goal is to foster dialogue between IT companies and businesses while ensuring confidentiality. A community is formed, driven by the desire to make a difference and engage in discussions about current topics, trends, and challenges.

<https://innovation.linz.at/en/take-part/linz-connects-it-and-economy-nov22/>

▶ **Benefit**

Many questions related to the digital world are often left unasked in small or medium-sized companies, even though there are already mature technical solutions. On the other hand, IT companies aim to address these very challenges with digital solutions. Through collaboration, projects are developed that benefit all involved parties.

▶ **Goals**

- **Connecting the IT world with the local economy**
- **Providing opportunities to develop successful new products and services**
- **Collaborating to develop a modern business location**

DEPLOYED

Digitalos

► Description

Every year, OÖNachrichten, in collaboration with partners like the City of Linz, nominate the region's digital pioneers. Awards are given to companies and individuals who stand out in the digital world. The awards are presented in four categories: Digital Start-up, Digital Personality, Digital Transformation, and Social Engagement. It is not possible to apply for the category of Digital Pioneering. In this category, the winner is selected by a high-profile jury.

<https://digitalos.nachrichten.at/>

► Benefit

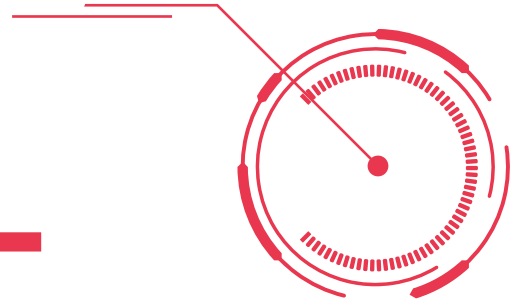
The main focus is to showcase the local digital economy and its achievements. The individuals and companies involved gain increased visibility and publicity. Successful solutions can reach more awareness and applications.

► Goals

- **Increasing the presence of digital excellence**
- **Generating ideas for the local economy and the location**
- **Promoting outstanding achievements**

DEPLOYED

DIGITAL MUNICIPAL ADMINISTRATION



Placing the needs of the population at the centre

A modern and innovative municipal administration supports the population and economy with digital offerings. As a digital service provider, the City of Linz offers innovative services for daily life and work. Key aspects include digital administrative processes and access to relevant and up-to-date information and data, with a special focus on accessibility and digital commons such as open data.

Through the digitalisation of city services, administrative offerings can be made easily, securely, and more readily accessible. Digitalisation provides added value by improving services and promoting transparency in administration. Of course, official channels that are already digitalised must also be available in analogue form in the future. It is also necessary to rethink existing offerings and services and develop new innovative solutions.

Where we stand today

For many years now, the Linz Municipal Administration has been a pioneer in administrative modernisation in Austria and Europe. Numerous initiatives for digitalising individual business processes and developing new offerings have already been implemented. Many forms for various administrative services are now available online, but they often provide a traditional appearance and involve a unidirectional process between the municipal administration and customers, characterised by media discontinuities. In most cases, there is no continuous process leading to an integrated completion of the service, such as registration, payment, confirmation, or appointment reminders.

Years ago, the City of Linz was already considered a nationwide or even international pioneer with its free Wi-Fi access for the population and guests in many public places. New accesses in complaint management such as the solution "Look at Linz" were soon on the market and the offer of online services was also created very early on. Linz was also seen as a driving force in data management, with early publication of open data for the population, research, and business. The Linz Municipal Administration now aims to reclaim this pioneering and innovative role.

With its innovation programme, Linz has adopted a forward-looking strategy and aims to become an innovation leader in Europe. The Linz City Administration will make a significant contribution to this goal.

Vision and Goals

Shaping Linz means planning and tackling the future together. To achieve this, the Linz City Administration has developed a new corporate strategy that sets the path for administrative modernisation and digitalisation. The needs of the people in Linz are at the centre of their innovative services, whether digital or analogue. It is a municipal administration with a future, respect and responsibility for everyone.

Digitalisation must create added value for citizens and businesses. Therefore, it is important to design new offerings from the user's perspective, as digitalisation also brings new expectations. People expect the possibility of accessing city services anytime, anywhere, with even simpler usability. As in the economy, the digitalisation of public administration is influenced by three aspects: individual alignment with the needs and lifestyles of the population, the use of data to create added value, and the active provision of tailored services. Therefore, it is crucial to engage intensively with customers when designing services and align internal processes with these requirements.

Active involvement of the population through targeted participation projects, as well as extensive testing, and feedback opportunities plays a significant role. All services must be available and work on mobile devices. Finally, the public administration will always offer a balanced mix of digital and personal services. Despite the increasing digitalisation of services, the Linz municipal administration ensures that no one is excluded. It takes care of everyone and considers this also in terms of opening hours, accessibility, and service offerings. Aligning with the realities of people's lives also means speaking their language. Public administrations are characterised by elaborate forms and an abundance of quite complex and difficult-to-read regulations and explanations. To provide high-quality service, it is necessary to simplify access to the administration. Digitalisation offers possibilities such as chatbots and good language programmes to simplify processes and procedures for the population. Traditional forms should therefore be a thing of the past, as the Linz municipal administration aims to set new standards in this regard. Data have also become a central resource for public administration. However, unlike the digital economy, the City aims to create beneficial offerings and implement future-oriented strategies for urban development, rather than seeking profits from data. Therefore, data management is a key project for the Linz municipal administration.

The role of the municipal administration is crucial for a successful economic location. Swift approvals for operating facilities, efficient implementation of construction projects, and the efficient processing of grants can play a significant role in the competition between locations. Therefore, it is important to realise innovative projects.

Digital Municipal Administration Projects

Blackout Prevention

► Description

In the event of a blackout, a sudden and prolonged supra-regional collapse of the power grid, the usual infrastructure and communication channels also break down. This makes local disaster management much more important than in all other disaster situations. At the same time, the challenges are much greater. Therefore, since April 2022, the Linz City Administration has been preparing for a blackout through this project. Since October 2022, the focus has been on implementing the developed concepts, engaging with external stakeholders, and conducting training sessions, and drills.

► Benefit

For citizens, the benefit is that the City Administration is prepared for this scenario, ensuring coordination during the crisis, mitigating some of the impacts, and maintaining communication. For the City Administration, successfully completing this project means being prepared for a crisis situation and having concrete action plans.

► Goals

- **Creating a handbook with tangible instructions for action**
- **Developing concepts for the functioning of essential areas**
- **Sustainable integration within the administration**

IN PROGRESS

Digital Session Management

► Description

The goal of the project as a whole is to digitalise session management. For the meetings of the political bodies of the City of Linz (City Council, City Senate, and committees), preparation and follow-up will be handled digitally, with workflow support and security measures in place. The aim is to minimise system breaks as much as possible.

► Benefit

On one hand, the benefit lies in simplifying the process for elected representatives (easier submission of proposals and inquiries, provision of documents via a shared solution, easier handling of signatures). However, there will also be a concrete benefit in terms of streamlining administrative tasks, resulting in significant savings in time, resources, and paper. One crucial benefit of digital session management is the increased data security, as sensitive documents will no longer be transmitted via email but within the system in a secure manner. By requiring authentication to access the provided documents, the legally mandated confidentiality obligations can be promoted. Additionally, personalised delivery of documents makes it more difficult to share confidential information.

► Goals

- **Reducing the use of paper**
- **Ensuring secure and transparent use of meeting documents**
- **Saving costs and streamlining work processes**

IN PROGRESS

Modernisation of Teleservice Center

► Description

The goal of the project is to assess the current actual processes of the Teleservice Center, identify optimisation and digitalisation potentials, and define and model the resulting target processes. Special attention will be given to exploring the possibilities of using various tools and technologies to support the processes.

► Benefit

The benefit lies in optimising efficiency and process quality in handling citizens' concerns. The Teleservice Center, as a crucial point of contact for the citizens of the City of Linz, is confronted with an ever-increasing number of contacts. This project supports the Teleservice Center in ensuring short waiting times and high service quality, as well as improving them. Furthermore, by optimising the processes, it helps prevent overload of personnel in the Teleservice Center, which positively impacts the (mental) health, satisfaction, and motivation of the staff.

► Goals

- **Continuously improving the user experience for citizens**
- **Optimising processes and reducing media discontinuities**
- **Optimising work processes and increasing quality**

IN PROGRESS

Structured Data Management in the Linz City Administration

► Description

Existing rules, organisations, and processes in the Linz City Administration are optimised, thereby creating the basis for coordinated data management. The goal is to enhance the quality, transparency, consistency, availability, and long-term quality and hence the decision-making reliability of the data that City of Linz regularly produces. This, in turn, enables the transformation of data into operational assets for all City employees who make decisions based on data and analysis, relying on transparent data, robust standard evaluations, and dashboards.

► Benefit

A systematic management and structuring of the city's digital data is a prerequisite for resuming and revitalising the Open Data initiative, whose success is solely based on providing high-quality and meaningful data to the public.

► Goals

- Ensuring increased data quality and transparency
- Enabling operational use and further processing
- Accessing to the Open Data portal

IN PROGRESS

Development of a data strategy for the City of Linz (DX_Linz)

► Description

A city, due to its tasks and processes, has large amounts of data available, both in structured and unstructured form. On the one hand, public administration must handle data responsibly and protect it; on the other, data can also be processed for the benefit of the population. Data form the foundation for information and knowledge and are an essential factor for success and production in an innovative or digital city.

The exponential growth of data volumes brings new challenges but also new opportunities. The City of Linz aims to harness the potential of data and generate services for the population, economy, and science. In addition, internal management processes can be made more efficient and effective.

This requires a defined data strategy encompassing all necessary measures for the timely provision of reliable data in the required quality, with the goal of making the City of Linz data-excellent. A data strategy is being developed and established for this purpose.

► Benefit

Through this project of the Linz City Administration, the residents of Linz will have the foundation for excellent data management in the city, which in turn serves as the basis for all city services.

► Goals

- Defining roles and tasks in data governance from both a functional and technical perspective
- Establishing guidelines for excellent data management (DX)
- Developing a training concept
- Testing and implementing data use cases

IN PROGRESS

Digitalisation of Grants Management

► Description

This project aims to enable grant applicants to submit all necessary documents (grant applications, financial plans, proof of funds used, etc.) online and 24/7 for potential voluntary grants and subsequently to process them digitally as well. Furthermore, master data of grant applicants, created during previous grant applications, should be stored in a customer portal and made available for future applications. Contact with grant applicants should also be handled through a software solution that, for instance, can automatically generate confirmation emails. The basis for this is to implement an innovative platform solution both externally and internally.

► Benefit

Grant applicants' experiences with the city will be improved through faster processes, increased transparency regarding the status of the procedure, easier data entry, and reduced communication efforts.

► Goals

- **Implementing a future-proof, innovative, and functional grant platform**
- **Identifying and tapping efficiency potentials in grant processing**
- **Defining consistent standards for grant processing throughout the municipal administration based on a digital grant process**

IN PROGRESS

City of Linz Information Security

► Description

Information security is considered an essential component of sustainable transformation within the context of digitalisation. Through an internal risk analysis, fields of action are identified that are assigned to the three characteristic sub-areas of information security - people, organisation and technology - and are based on standard ISO 27001 standard (requirements for an information security management system). IKT Linz GmbH is a key partner in this collaboration.

► Benefit

The protection of information and data is a central component for the city administration, especially due to the increasing numbers of cybercrime globally. Information security measures aim to achieve the fundamental protection goals of confidentiality, integrity, and availability while strengthening cyber resilience.

► Goals

- Preserving and strengthening information security through development
- Implementing measures in the areas of people, organisation, and technology

IN PROGRESS

Digitalisation of Approval Procedures for Public Space Management

► Description

Approval processes for the management of public spaces are a cross-sectional matter. The public space includes both public property and the so-called "private property" of the City of Linz. The granting or refusal of permits for these areas is carried out on the basis of various legal materials by different business areas. The approval procedures have an important steering, coordinating and controlling function in the design of public space.

► Benefit

This project aims to establish the foundations for the residents of Linz to access the desired approvals for the management of public spaces more quickly and easily in the future. Process obstacles caused by internal interfaces and responsibilities within the administration will be overcome, contributing to the one-stop nature of the city's services.

► Goals

- Developing prototypes or models for clear, integrated, and cross-departmental approval processes
- Ensuring high service orientation for the residents of Linz
- Tapping innovation and digitalisation potentials

CONCEPT

Traffic Solution for Major Events

► Description

In 2022, as part of an AI pilot project, an app was deployed to intelligently redirect incoming individuals to 17 parking garages and encourage the use of public transportation.

► Benefit

The benefit of this project is the prototypical testing in real situations to avoid mobility bottlenecks in Linz in the future and offer multi-modal mobility alternatives to businesses and commuters.

► Goals

- Testing event-based mobility management
- Creating a basis for further projects

IN PROGRESS

Digital Construction Process of the City of Linz

► Description

Every year, the City of Linz receives approximately 1,500 building applications. To create added value through digitalisation in the construction process, the procedures are tailored to the needs of citizens and other parties, as well as the capabilities of the City of Linz as a service provider and the building authority of the City of Linz. This is the first step towards a fully online construction process with all its components.

► Benefit

Digital processes help the administrative authority to provide its services efficiently and transparently, so that they are perceived as customer-oriented by construction companies, architectural firms and citizens. The new service saves applicants time, money, and effort. Therefore, it is seen as the first step towards a fully digitalised construction process.

► Goals

- Making digital filing of building applications possible
- Processing a construction procedure from the application to the approval of a project end-to-end digitally
- Developing additional vision options (such as the possibility of processing with 3-dimensional models, implementation of artificial intelligence)
- No slowdown of the existing process
- Deriving requirements for the digital process from the existing potential.

IN PROGRESS

Citizens Service Portal

► Description

A unified solution for digital municipal offerings and services of the city is being created. Residents of Linz can access their services, such as administrative services, events, etc., through the (mobile) portal in a centralised and organised manner. They can also conveniently conduct electronic payments, all in their respective native languages. To continuously improve the service level, the City of Linz is gradually making individual administrative services available to the public through this online platform. Modern support technologies, such as bots, can provide digital assistance for navigating through the portal's services.

► Benefit

Through the service portal, residents of Linz, upon authentication and setting up their personal accounts, can have secure access to administrative services, transparent insight into the status of their personal administrative processes, and conduct "business transactions," including online payments, with the City Administration 24/7. Thus, a unified solution - a kind of one-stop-shop - is created for digital municipal offerings and services of the City of Linz, where a wide range of digital services for the public is bundled in the final expansion.

► Goals

- All digital services of the city administration on one platform
- One-stop-shop for residents of Linz
- Secure access, transparency, and multilingual support

CONCEPT

Upgrade and expansion of fast public WiFi

► Description

The City of Linz, in collaboration with its partners LIWEST and LINZ AG, currently provides fast internet access to the population, guests, and business travellers through 150 fixed installed Wi-Fi hotspots in public areas and 62 mobile Wi-Fi hotspots in trams. The focus is on further expanding the availability of fast and free Wi-Fi in both public spaces and municipal buildings, enabling users to access existing and future digital services offered by the City of Linz through their mobile devices. Additionally, Wi-Fi hotspots provide an accessible internet connection for individuals in Linz, particularly in areas where 5G coverage may be limited.

The expansion of geographic coverage and the speed of fixed and mobile Wi-Fi hotspots will target both public areas and municipal buildings. Suggestions for additional hotspot locations are continuously collected, and the project is nearing full coverage.

► Benefit

Broadband data access not only provides users with fast access via the internet to information and service portals of the City, access to open data and to services and online offers of various other providers, but also enables mobile working in the areas covered. Furthermore, there is the opportunity for Linz-specific advertising on the Wi-Fi portal, such as self-promotion by the City of Linz, tourist information, events, and more.

► Goals

- Improving availability of fast internet in public areas and municipal buildings
- Increasing usage by the population, guests, and business travellers (number of logins)

IN PROGRESS

Online Services – Geographic Information of the City of Linz

► Description

The City of Linz provides spatial data and maps of Linz online for its residents and professional groups. Access is available through applications in the GIS Citizens Portal at webgis.linz.at. Additionally, the underlying data is also available for further use through the Open Government Data Portal.

Recently, the digital 3D city model was also made available online. It is accessible via 3d.linz.at.

The digital online offering of geoinformation is continually updated and expanded. The currently available plans include:

- Resident parking zones
- Responsibilities
- Parking in Linz
- Playgrounds
- Drinking fountains
- Public toilets
- Development plans
- Zoning plan and local development concept
- Building information system
- Solar and green roof potential register
- Temperature data
- Election results
- LINZ AG waste collection islands
- LINZ AG running routes

Digital Solutions in the Linz City

Administration and Corporate Group of the City of Linz

For several decades, the Geographic Information System (GIS) has been the foundation for many specialised tasks and has accelerated administrative processes through planning tools, data-driven analysis, and decision support. In addition to the tree cadastre, playgrounds, markets and green space maintenance, many other areas of the city are managed with the internal GIS and attempts are made to use these digital systems to serve the citizens in the best possible way aligning with principles of an efficient and modern administration.

In the past year, numerous expansions have been made to existing applications, and new data, data layers, and applications have been introduced in various fields such as urban and mobility planning, environmental and climate protection, urban greenery, and road maintenance. Enhanced tools for fire brigade deployment planning, as well as a mobile solution for data collection in the field, for example, during tree cadastre surveys, have been successfully implemented.

► Benefit

The internal solutions support and expedite the administration of the city by providing tools for analysis, planning, and decision support.

The online service allows all interested citizens to conveniently and quickly gain an overview of various topics from the comfort of their homes. For instance, they can find information on why a certain tree needs to be cut down or which drinking fountains are open during the summer months. There is also an option to directly contact the respective department with an inquiry via email. Moreover, 3D planning objects, such as the new suspension bridge on A26 and the Westbahn bridge in Linz, can already be virtually explored, providing the public with a first impression of the city's important infrastructure projects of tomorrow.

► Goals

- Providing transparent geodata in the city of Linz
- Offering up-to-date geodata service 24/7
- Providing digital citizen information
- Ensuring citizen participation (opportunity to have an influence)

DEPLOYED

Digital Application for a residence permit via embassies

► Description

Applications submitted worldwide to Austrian diplomatic authorities should be fully digitalised. Austrian diplomatic authorities receive the applications and scan all documents directly at the time of application. Original documents are then returned. Through the AnNA programme, these files are electronically transmitted to the Linz City Administration, Residency Right Department. The processing and handling of residence permit applications are carried out digitally.

► Benefit

In Linz, this process is seamlessly integrated with internal services and processes, allowing for saving time and manual work. Linz will share the insights gained from this deep integration with the federal process with other City Administrations.

► Goals

- **Accelerating procedures for applications submitted to Austrian diplomatic authorities abroad**
- **Increasing satisfaction with municipal services**
- **Digitally processing residence permit procedures from submission at Austrian diplomatic authorities to the final decision**

DEPLOYED

Linz Digital Geo-Twin

► Description

The "Linz Digital Geo-Twin" is a digital, spatial, and possibly temporal representation of the city of Linz based on a modular system.

Digital twins of cities connect the real world with the virtual world to provide concrete answers to specific questions. A special type of twin is the Geo-Twin, which enables intelligent interconnection of geospatial and specialised information, serving as a foundation for simulations and analyses. The Geo-Twin establishes a spatial reference and forms the basis for other specialised twins.

► Benefit

For citizens:

- Providing easier access to information, visualisation, development trends, documentation, and analysis results; a simple communication tool; increased transparency

For specialised departments:

- Synergies, interconnection, redundancy avoidance, data control and quality improvement, targeted resource allocation, and contribution to comprehensive problem-solving enable the presentation of plans and "what-if" scenarios, sustainable and traceable solutions.

For decision-makers (politicians and management):

- Providing support in the decision-making process, traceability and transparency, Improving communication with citizens

► Goals

- **Enabling responsiveness to real-world developments and conducting analyses and simulations.**
- **Enhancing digital connectivity and services.**

CONCEPT

A Container as Enter_Tainer

► Description

Since May 2022, there has been a stage of the City of Linz in the main square in front of the Old Town Hall. In the form of a showcase container, the various administrative departments of the city's corporate group take turns presenting themselves. Innovations, services of the City of Linz, children's programmes, and cultural highlights transform the 13 m² space into an "Enter_Tainer." It is also possible to immerse oneself in the experience through audio – interested individuals can enter the interior via a QR code on the container to learn more.

<https://www.linz.at/digitaleslinz/podcast.php>

► Benefit

The Enter_Tainer, with its structural size, has become a significant component in making the new organisational culture of the City Administration more tangible. For the administrative units, it represents a new form of performance and collaboration. Presenting their administrative activities in a highly frequented public location brings new opportunities.

► Goals

- **Facilitating interaction between administration and the public**
- **Providing a new form of ongoing communication for city services**
- **Encouraging increased participation**

DEPLOYED

RKV – CAFM System for the City of Linz

► Description

The Linz City Administration and the Immobilien Linz GmbH have a large amount of data in the area of building maintenance and management.

However, the current data structure is very decentralised and of varying quality, with the data being managed in different systems.

With RKV-View, the City of Linz has a CAFM (Computer-Aided Facility Management) system that allows for the consolidation and centralized, structured management of this data.

► Benefit

With RKV-View, all building data can be managed in a centralised and structured manner. Since RKV-View can be customised, various processes in the business sector can be digitalised. This enables efficient building management and prevents data and information loss during staff changes, etc.

► Goals

- Making plans and permits (where available) accessible for as many properties as possible
- Processing orders through RKV-View, including the possibility of budget monitoring for Technical Facility Management
- Digitalising key management for non-residential buildings (NRH) and residential buildings (ARH), including the digital administration of all maintenance/obligations
- Accessing basic data also via smartphones
- Digitally gathering consumption data for municipal properties for internal energy management.
- Digitally gathering consumption data for municipal properties for internal energy management

DEPLOYED

Other projects

Here is a list of projects that have been “deployed” for several years:

- ▶ **5G - Broadband Internet Campus Solutions**
<https://www.linzag-telekom.at/produkte-leistungen/5g-campus-netz>
- ▶ **Smart Mobility** https://www.linzag.at/portal/de/privatkunden/unterwegs/e_mobilitaet_1
- ▶ **Smart Energy**
<https://services.linzag.at/spotmarket/?nav=%2Fde%2Fprivatkunden%2Fzuhause%2Fstrom%2Fstromtarife%2Fspotmarket%2Fspotmarket.xhtml>
- ▶ **Digital Funeral Services**
https://www.linzag.at/portal/de/privatkunden/trauer/bestattung/bestattungsartikel/bestattungsservice_produktdetail_48837.html
- ▶ **Innovationshauptplatz Linz**
<https://innovation.linz.at/>
- ▶ **Frag ELLI! (Ask ELLI!) – Chatbot** <https://www.linz.at/service/fragelli-ueber.php>
- ▶ **Schau auf Linz (Look at Linz) Online Service & App** <https://schauauf.linz.at/>

For more details about these projects, you can refer to the 2021 version at:

<https://www.linz.at/images/files/Program-DigitalLinz.pdf>



Governance and Experts

The "Digital Linz" programme relies on the following governance structures, committees, and processes to ensure its success:

Linz City Council

The City Council approves the programme and any ongoing changes. Once a year, the City Council receives a report on the status of individual projects under "Digital Linz," and the Digital Board provides any adaptation proposals. The City Council, along with the City Senate and the Finance Committee, decides on any additional funding allocations beyond the assigned budgets of the respective departments.

Digital Board

This committee of experts in various fields of action advises on which projects to prioritise and ensures adherence to the Linz principles of digitalisation during programme implementation. It brings forth ideas and expertise to anticipate developments and prepares any adaptation proposals for the City Council. The Digital Board proposes the annual programme priorities to the Mayor. It meets at least once per quarter, either physically or online, at the invitation of the Mayor and under the direction of the City Administration Directorate.

Operational Core Team

The operational core team, composed of experts from various departments of the City Administration, deals with day-to-day work, conducts operational project monitoring, and prepares reports. The core team coordinates with all other initiatives within the City of Linz and aligns the approach accordingly. Thus, the core team carries out the necessary groundwork for strategic coordination within the municipal administration. The core team provides regular reporting on the status of the "Digital Linz" programme and submits quarterly reports to the Digital Board.

The core team and the Digital Board maintain constant interaction with relevant stakeholders and communities. At least once a year, the public participates in the further development of the strategy.

Digital Board Members

The members are appointed upon invitation by the Mayor. The Digital Board functions as a unified body, while individual members are responsible for specific fields of action.

- **Werner Arrich**
Co-founder and CEO, GRAND GARAGE;
Digital Board Member for "Start-ups and Innovations Community"
- **DI Erich Haider, MBA**
Director General LINZ AG,
Digital Board Member for "Digital Essential Services"
- **Joachim Haindl-Grutsch**
Managing Director, Industriellenvereinigung Oberösterreich (Upper Austria Federation of Industries)
Digital Board Member for "Industry 4.0"
- **Andrea Heimberger MSc**
Director of the Upper Austria Chamber of Labour,
Digital Board Member for "New Working Environments"
- **Daniel Höller**
Owner and CEO, qapture GmbH
Digital Board Member for "Start-ups and Innovator Community"
- **Mag.a Ulrike Huemer**
City Administration Director,
Head of the Core Team and Digital Board Member for "Digital Municipal Administration"
- **Gerhard Kürner**
CEO 506.ai,
Digital Board Member for "Start-ups and Innovator Community"
- **DI Christopher Lindinger, MAS**
Vice Rector for Innovation and Researchers at Johannes Kepler University Linz,
Digital Board Member for "Digital Education and Research"
- **Matthias Pastl**
Senior Vice President Group Environment voestalpine AG
Digital Board Member for "Industry 4.0"
- **Mag.a Eveline Pupeter**
Owner and CEO of emporia Telecom,
Digital Board Member for "Local Economy"
- **Ing. Mag. Philipp Moser, Bakk.**
Chairman of JW Linz Stadt, Digital Board Member for "Local Economy"
- **Gerfried Stocker**
Artistic Director and CEO of Ars Electronica,
Digital Board Member for "Art and Culture"

The Core Team of the Linz City Administration

The composition is determined by the directors of the City Administration.

- **Mag.a Ulrike Huemer**
City Administration Director, Project Management "Digital Linz"
- **DI Mohammed Majeed, MSc**
Organisation and Digitalisation Dept., Project Coordination "Digital Linz"
- **Mag.a Gerda Forstner, MPM**
Head of Linz Culture Department
- **Kathrin Obernhumer**
Head of "Innovation, Business, and EU" Department
- **Mag. Bernhard Krabina**
IKT Linz GmbH (Open Commons)
- **Ing.in Melanie Lindner**
Department of Roads, Bridges, and Hydraulic Engineering
- **Sabine Karin Meyer**
Department of Job Impulse
- **Mag.a Andrea Grgic**
Department of Adult Education, Head of Natural Sciences - Technology Department
- **Wolfgang Kastner**
Department of Citizen Services
- **Selcuk Celikdemir, BA**
Department of Residency Right
- **Severin Agostini, BA**
Assistant to the Director of Communication and Marketing
- **Michaela Feichtl, BSc**
Climate Field Office
- **Harald Budschedl**
Department of Surveys and Geoinformation
- **Mag. Martin Giesswein**
External consultant – www.martingiesswein.com

Information on Digital Grants

ooe.arbeiterkammer.at/arbeitsmenschendigital
www.wko.at/ooe/digitalisierungsberatung
www.erfolgplus.at
www.digitalstarter23.at
www.go-international.at/foerderungen/digitalmarketingscheck.html
www.land-oberoesterreich.gv.at/229289.htm



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