



# **Next 2 Met | Interreg Europe**

Increasing attractiveness of Next2Met regions with soft digitalisation measures

Action Plan Lower Austria May 2022













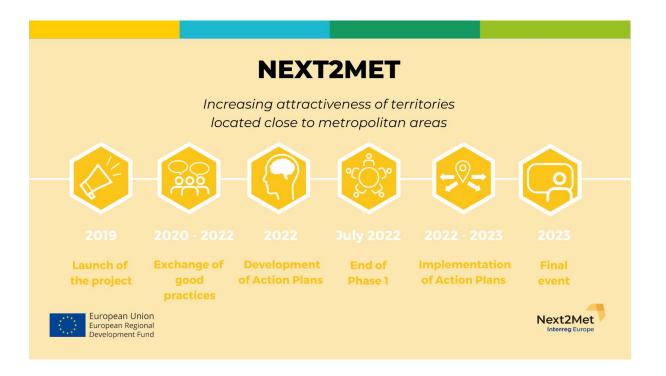








# **Project and Policy Context**



**Next2Met** is an innovative interregional exchange project, co-financed by the Interreg Europe programme, which aims at increasing attractiveness - for knowledge, opportunities, and capital - of territories located close to metropolitan areas.



















These areas are confronted with a lack of tools and critical mass of research, development, and innovation, and therefore struggle with keeping experienced small and medium-sized enterprises, as well as highly qualified people in the region.

In this context, Next2Met worked for the improvement of policy instruments through interregional learning processes in **6 different regions**, focusing on **soft digitalisation measures** applied to a variety of sectors such as health care, transport, tourism, and public administration, among others.

These actions, nurtured by the good practices exchange that took place between partners throughout the project's lifetime, are linked to a broader European policy context, which is constantly developing in response to major challenges and crises, as the COVID-19 pandemic.

By improving services and products with the use of technology and digitalisation measures, Next2Met contributes to the **digital and green transition**, helping the territories in reaching the Green Deal objectives. Furthermore, the project also addresses the following key goals identified in the European Commission's Communication "Digital Compass: The European Way for the Digital Decade", which sets out digital ambitions for the next decade:

- a digitally skilled population and highly skilled digital professionals;
- secure and sustainable digital infrastructures;
- digital transformation of businesses;
- digitalisation of public services.

Digitalisation processes and investments have been accelerated by the COVID-19 crisis which brought about a complete shift of perspective and made clear the necessity to foster digital development in numerous sectors. New trends and the use of digital tools in people's daily lives as well as in businesses' operations have emerged in this period and served as useful material and sources of inspiration for the project. As a reaction to the changes brought by the COVID-19 pandemic on society and the way we live and work, the project has oriented its focus towards certain dimensions, already enclosed in its initial approach of "soft digitalisation", such as 360° quality of life, multilocality and hybrid work, citizen participation and inclusion. The connection with citizens and their involvement in territorial development through bottom-up and participative initiatives has been further



















considered by the Next2Met project because of their relevance in the present context and at European policy level.

In fact, a human-centred perspective is at the core of the European Commission's vision for Europe's digital transformation by 2030. In this regard, on 26 January 2022, the Commission proposed an inter-institutional solemn <u>declaration</u> on digital rights and principles for the digital decade, which includes a specific point on citizens' participation in the democratic process at all levels and underlines the importance of citizens' control over their own data.

Indeed, the Next2Met project has been able to adapt to this new context and ultimately benefit from it, by fostering the exchange of good practices among its partner regions and beyond and further implementing digitalisation measures that improve people's lives and increase regional attraction.

# **Action Plan**

This document is aimed at providing details on how the lessons learnt from the cooperation will be exploited in order to improve the policy instrument tackled within the selected region. It specifies the nature of the actions to be implemented, their timeframe, the players involved, the costs (if any) and funding sources (if any). If the same policy instrument is addressed by several partners, only one Action Plan is required.



















# I. General Information

Project	Next2Met
Partner organisation	ecoplus. The Business Agency of Lower Austria
Other partner organisations involved (if relevant)	Office of the Lower Austrian Federal Government
Country	Austria
NUTS2 region	Lower Austria

# **Contact details**

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# **II. Policy Context**

The Action Plan aims to impact	<ul> <li>Investment for Growth and Jobs programme</li> <li>European Territorial Cooperation programme</li> <li>Other regional development policy instrument/s</li> </ul>
Name of the policy instrument addressed	ERDF Investment in Growth and Jobs Austria 2014-2020 OP Investment priority 1.b and Lower Austrian Fund for Economy and Tourism

In this chapter we describe the Lower Austrian Digitalization Strategy and the funding instruments to implement it. We will briefly explain how these policy instruments were influenced with the help of the learnings in the Interreg Europe project Next2Met and who was involved at regional level. Further details follow in Part III.















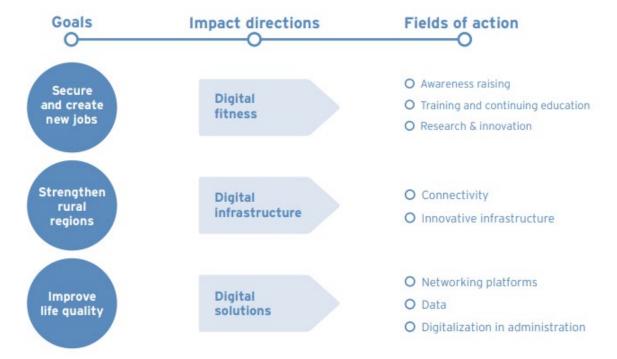






### **Digitalization Strategy Lower Austria**

The <u>Digitalization Strategy Lower Austria</u> is the guiding strategy document for the digital transformation support activities in the region. With its **mission** "**Use the digital transformation. For country and people**" it follows a holistic and people centred approach. It aims at creating a culture of digitalisation to support placemaking and economic development by addressing **three main goals** and defining **related general fields of action**.



To achieve the digitalization goals, it is important to include the following elements into the strategy:

- → Make people, businesses, and the public sector fit for digitalization,
- → Expand and continuously upgrade necessary infrastructure in a comprehensive way,
- → and promote digital innovations and solutions.

The "digital fitness" measures can be used to secure and create new jobs. The "digital infrastructure" measures will strengthen rural regions and further improve quality of life in Lower Austria. The "digital solutions" measures will strengthen regional companies and further improve the digital administration in Lower Austria. **The Digitalization Strategy Lower** 



















Austria is therefore very much in line with the aim of the project Next2Met, increasing attractiveness of regions next to metropoles with soft digitalisation measures.

The Digitalization Strategy was officially **launched in January 2018**. However, it is not a rigid document. It provides a strategic framework, some descriptive examples, but no exclusive details about the implementation. In contrary, it states that **ongoing further development of the strategy is required and further measures are continuously being added.** 

#### Governance:

Policy maker in charge is the **Technology and Digitalization Unit** within the Office of the Regional Government Department Economy, Sport and Tourism, which supervises the activities necessary for mobilization, networking, and coordination, and provides operational assistance to the process. **Relevant measures needed for attaining the goals in the different fields of action are being developed on the foundation of the basic principles of the strategy.** Thematic, interdisciplinary working groups are constantly dealing with implementation and discussing individual developments. The **Technology and Digitalization Unit supports activities that are helpful for the implementation of the strategy, gives impulses in individual areas and therefore steers / decides on how the digitisation strategy is being implemented. All activities and measures are documented and made available in an annual progress report (e.g. digi report 2020 – Report on the progress of digitalization in Lower Austria providing examples of recent projects and 2020 in retrospect available in English; digi report 2021, mentioning also the Next2Met action IoT Platform, so far only in German).** 

## Influence of Next2Met on the Digitalization Strategy of Lower Austria:

The Technology and Digitalization Unit was interested in providing support for IoT solutions but didn't have the resources and knowledge, on how to start this initiative. Thanks to Next2Met, i.e. the experience shared with the Barcelona Regional Council, the involvement of all relevant regional stakeholders through LSG meetings and interviews and last but not least the financial support for an external expert, it was possible to define the needs, necessary steps, players to be involved, costs and funding available (described here in this Action Plan). Next2Met therefore empowered the Technology and Digitalization Unit to launch a new measure for the implementation of the Digitalization Strategy. The measure will be implemented as a new project financed by the Lower Austrian Fund for Economy and Tourism (see Additional Policy instrument addressed below). This new project would not be possible without the learnings and support from Next2Met.



















The implementation of the Digitalization Strategy is financed by ERDF and regional funds.

Policy instrument initially addressed in the Application Form: ERDF Programme Investment in Growth and Jobs Austria 2014-2020, IP 1.b

The ERDF Investment in Growth and Jobs Austria 2014-2020 OP Investment priority 1.b, measure M6\_FTI\_IP1b\_MN4 mainly co-finances soft measures in Lower Austria, i.e. innovation support through intermediaries, such as the programme House of Digitalization. Implementing body is ecoplus Digital (an affiliated company of ecoplus). The programme supports setting up and maintaining a network of digital technology providers in order to use synergies and connect their know-how with demand of regional companies and a web platform for information and networking. Amongst others ecoplus Digital and the House of Digitalization network organize awareness raising events and trainings. As the new programme 2021-2027 has not started yet, the support from ERDF Investment in Growth and Jobs Austria 2014-2020 for the House of Digitalization was prolonged until end of 2022. However, it was not possible to influence the programme anymore, e.g. by integrating new services.

Additional Policy instrument addressed: Lower Austrian Fund for Economy and Tourism

This regional fund supports projects in line with the smart specialization strategies of the Province of Lower Austria for the development of the business location, primarily the Economic Strategy Lower Austria 2025, but also the Lower Austrian Digitalization Strategy. The regional fund supports several schemes. Amongst others it provides funding to "Research & Technology Projects". This specific funding scheme supports R&D projects with a high market implementation potential. Eligible applicants are commercial enterprises and university and non-university research institutions as well as cooperation of both, which implement the project at the Lower Austrian location and/or generate the value added in Lower Austria. Companies in the commercial sector are only eligible to apply in the area of experimental development; university and non-university research institutions are also eligible to apply in the area of industrial research and basic research.

#### Influence of Next2Met:

As described above, Next2Met had a substantial influence on a new measure to implement the Lower Austrian Digitalization Strategy. Compliance with the Strategy is a basic requirement for project proposals to be approved. This new project would not have been possible without the learnings and support from Next2Met.



















## Joint effort of regional stakeholders involved

#### **Regional Project Advisory Board:**

In order to collect all relevant information, facilitate co-development of actions and to ensure broad acceptance of actions, ecoplus gathered representatives of the regional government and all relevant innovation support intermediaries gathered in joint stakeholder meetings (10-20 people) two times per year. Organizations involved:

- Office of Regional Government of Lower Austria: Department for Economy, Tourism
   & Technology, Department International & European Affairs,
- ecoplus departments: Clusters, Technopol Programme, Digitalisation
- Chamber of Commerce: TIP Technology and Innovation Partner Lower Austria, Industry unit
- tecnet equity ltd., Department technology transfer
- Accent start up service ltd.

The open, interactive and structured exchange of experience of these players on interregional topics is very much appreciated. The participants decided to continue the exchange also in phase 2 and beyond the project.

#### **Technological Community:**

In addition, we involved research and company partners in the Next2Met Action Plan development, in order to better understand the status quo of IoT use cases in Lower Austria, pros and cons of various IoT solutions and the expected role of the Regional Government in supporting infrastructure and technology developments. From October 2021 to February 2022, we carried out 15 interviews and a workshop (03/02/2022) with these stakeholders.

- University for Continuing Education Krems (Danube University Krems), Department for E-Governance and Administration and Department for Integrated Sensor Systems
- FOTEC Research Subsidiary of the University of Applied Science in Wiener Neustadt
- Josephinum Research Wieselburg, Sensor Technology
- University of Applied Science St. Pölten, Institute for Creative/Media/Technologies





















- New Design University, Design of digital Systems
- University of Applied Science IMC Krems, Department of Business, Institute for **Digitalization and Informatics**
- EVN AG (international and publicly listed energy and environmental services company, with headquarters in Lower Austria)
- AGRAR PLUS (project developer for agricultural innovation projects).

The process was supported by an external consulting expert for public-private multistakeholder projects in the field of IT / IoT technologies, mm1 Consulting & Management Austria GmbH.





















# III. Details of the Actions Envisaged

#### **ACTION 1**

Title: Preparation of an Internet of Things (IoT) Platform in Lower Austria

# 1. Background

The **Internet of things (IoT)** describes physical objects and systems that are equipped with sensors actuators and software, which are connected via connectivity technologies with each other to exchange data and enable automated processes.

Regions, cities, and villages generate a lot of data via sensors, actuators etc. installed in their territory. This data can be related to e.g. mobility, energy, waste management, weather, air quality etc. Various connectivity technologies such as LoRaWAN (applicable for small data quantities) or 5G (applicable for large data quantities) can be used to send this data to central data bases,. An IoT Platform contains, stores and publishes the collected and connected information. This information can be used by public authorities to provide better information and services to their citizens. The public authorities can also offer certain (non-personal) data to companies or start-ups to develop new applications.

An example for a regional IoT Platform is the <u>Smart Urban Platform</u>, a good practice shared by the Barcelona Provincial Council. It offers a Technology Services Platform for Urban Management to local public administrations in the province to improve local innovation, efficiency, and transparency of public services.

### Challenge:

In the framework of the **Next2Met Territorial Analysis**, the Technology and Digitalization Unit within the Office of the Regional Government in cooperation with the Lower Austrian Chamber of Commerce carried out a survey among Lower Austrian companies. The aim was to map the current status of digitisation in Lower Austria. Companies were asked which technologies they already use, how they secure qualification and training for their employees, which challenges they face and what their needs are. In total 134 companies answered.



















The final results of the survey, presented to regional stakeholders on 09/12/2020, showed the following:

- A strong increase of importance of digital transformation since a previous study carried out in 2016.
- A high demand for cooperation with technology partners, cooperative research & development projects and related pilot projects.
- IoT was not yet among top ranked digital technologies applied by the companies. The reasons were found at the supply side according to the respondent companies: the risk for private investments in IoT was still too high, the landscape with several small projects working on IoT solutions for various applications was fragmented and a huge uncertainty regarding technological components and their suitability for specific applications (sensors, transmission technologies, platforms). But there are also reasons on the demand side: Public authorities (regional government, municipalities) own data and could benefit from IoT solutions, using this data for better services for their citizens or offering the data to companies to develop new business models (e.g. offered via apps). However, the authorities lack necessary competencies. Thus, a common approach is needed to tap the potential of IoT solutions and technologies in municipalities.

The Technology and Digitalization Unit and stakeholders of the regional innovation system agree that fostering IoT in Lower Austria has a great potential to contribute to securing and creating new jobs, to strengthening regional companies and further improving digital public administration and to strengthening rural regions and further improving quality of life in Lower Austria. Thus a strong focus on IoT in the region contributes to the objectives of the Digitalization Strategy and in the end to the attractiveness of the region for the benefit of the citizens.

The Technology and Digitalization Unit realized the need for a joint coordinated approach and supports the next steps towards the development of IoT Show Cases and a Pilot IoT Platform in/for the region.

# Relevance / Lessons learned in inter-regional exchange and regional reflection with the help of Next2Met:

The Barcelona Provincial Council shared its good practice <u>Smart Urban Platform</u> in the Next2Met policy learning event #3 in December 2020 and in several bilateral online meetings and email communication. Their experience in the development and management of the Smart Urban Platform provided very valuable input. The Lower Austrian Action Plan integrates the following specific learnings from Barcelona Provincial Council:



















- Regions should create an infrastructural basis and provide advice; municipalities and cities can subsequently implement their own IoT concepts. In this way, the region can facilitate the application of IoT solutions in the municipalities and implement meaningful use cases.
  - a. Barcelona Provincial Council provides consultancy services directly by the IoT platform operator or via a framework contract by external consultancies.
  - b. And it provides a financial "kick-off" budget to municipalities to cover initial infrastructure/equipment costs.
- The Barcelona Provincial Council uses the open source IoT platform Sentilo. This
  provides a basic framework for data management.
  - a. The platform offers high modularity and flexibility.
  - b. There is the possibility of customisation and no dependence on a single commercial provider. Using a proprietary platform or a proprietary cloud solution would tie the region to the offering provider. With a self-operated open source software, the choice of providers is flexible.
  - c. Disadvantages: Own development work necessary if the platform is not further developed by third parties.
  - d. The development of the IoT platform framework FIWARE is continuously funded by the private sector and with funds from the European Union. Software development is therefore ongoing. The framework is already being used successfully in other Spanish cities such as Valencia and Seville. Therefore, the Barcelona Provincial Council is planning to add FIWARE components to Sentilo.
- A technology agnostic solution regarding different types of sensors and data from different sources increases the usefulness of the platform. Standardisation of data formats is a prerequisite to increase the usability of data.
- Openness for different radio protocol standards enables more flexible collection of data from different external sources. The region recommends LoRaWAN as the radio protocol standard for platform users, which enables the standardised development of a public radio infrastructure in the municipalities and improves compatibility.
- Even if the usability or potential existence of sensor data is not assured, public sector contracts with the private sector should include the obligation to send data collected in this context to the platform.



















#### Regional reflection:

In order to better understand the status quo of IoT use cases in Lower Austria, pros and cons of various IoT solutions and the expected role of the Regional Government in supporting infrastructure and technology developments and to share the earnings from Barcelona Provincial Council, ecoplus and the Technology and Digitalization Unit in the Regional Government involved relevant research and company partners in the Next2Met Action Plan development. From October 2021 to February 2022, we carried out 15 interviews and a workshop (03/02/2022) with these stakeholders. The process was supported by an external expert for public-private multi-stakeholder projects in the field of IT / IoT technologies, mm1 Consulting & Management.

As final result, the regional stakeholders agreed to set-up a project, funded by regional sources (point 6.) and implemented by the main research partners in the region (point 3.).

#### 2. Action

- (1) Development of a collaborative project "Pilot IoT Platform for Lower Austria": Based on the learnings in Next2Met and all involving all stakeholders, the following project proposal was drafted, structured into 6 work packages:
  - WP1 Project management
  - WP2 IoT platform: First, the conceptual requirements for the pilot IoT platform for Lower Austria should be examined, taking into account the specific learnings from the Barcelona regional Council and further smart regions. Three different types of platforms should be examined. (1) A hyperscale platform from established providers, an open-source solution and a regional provider. Subsequently, an IoT platform will be selected for a pilot and set up accordingly so that the show cases can be integrated into the platform. The procedure for selection and set-up will be documented for knowledge transfer. It must be ensured that each of the different wireless technologies is represented in at least one show case.
  - WP3 Use cases: In the first step, the project partners will identify use cases for the corresponding target groups. Subsequently, these use cases are to be technically evaluated. A guideline for action for the stakeholders is to be drafted, which technical requirements exist for the various use cases. In the third step, the use cases will be evaluated regarding their economic efficiency and cost-benefit ratio. The realisable added values for the stakeholders will be elaborated. Finally, a use case database is created that allows for systematic clustering (typology). The information, including the



















technical and economic assessment, will be made available to all interested parties on a project website.

- WP4.1 Trainings: The aim of the training is to sensitise the target groups (municipalities etc.) to the IoT use cases. The participants are to be familiarised with the added values, the technology used and the use of platform solutions. In the first part, a training programme will be set up based on the preliminary work from WP 2, 3 and 6. In parallel, the training courses will be promoted to the target groups by the partners from the region. In the last part of the project, the trainings for the target groups will be carried out, professionally accompanied by the partners.
- Optional WP4.2 Competition/Award: A competition is being designed to motivate stakeholders to engage with the topic of IoT. This should also increase the visibility among the civil society that corresponding future topics are being addressed. After the preparation of the competition, the universities and partners of the region will promote the competition to generate as much visibility as possible. After the competition has been conducted and the competitors have been selected to receive the consulting and sensor equipment, the implemented show cases will be presented at a festive event.
- Optional WP4.3 Consulting for award winners: Since municipalities, small farms and other stakeholders do not have sufficient know-how in the field of IoT, teams from the universities will support the competitors in setting up and implementing the use cases. In this way, the transfer of knowledge to the country's rural areas is to be guaranteed. The documentation, logging and publication of the implementation of the show cases should help other potentially interested parties to realise their own use cases in their own environment. A consulting concept will be developed in advance for this support service of the universities.
- WP5 Visualisation of the show cases: Building on WP3, the partners will identify show cases from the set of use cases, which will be mapped on the pilot platform. The aim is to ensure that every considered connectivity technology is mapped. Subsequently, the implementation of the show cases will be accompanied and security aspects will be ensured. (If the optional WP4.2 will be implemented, the show cases to be visualised will be identified via the competition from WP4.2 and implemented in WP4.3.)
- WP6 Communication & study on citizen acceptance: The implemented use cases and their technical and economic evaluation are to be presented on a website to make the data available to the public. A short study will also be conducted to investigate how IoT



















use cases and platforms are accepted by citizens and the administration. This will also be used as input in the training courses to raise awareness among the target groups.

### (2) Decision on approval for funding:

The research partners, lead by the University for Continuing Education Krems (Danube University Krems), Department for E-Governance, will finalize and submit the project proposal before the next cut-off date on 08/06/2022. The programme owner, Regional Government Department Economy will decide on approval by August 2022.

#### (3) Implementation:

The expected start date of the project is 1 September 2022, the end date 31 August 2023.

## 3. Players involved

In the Action Plan development phase, all interested research partners from Lower Austria were invited to contribute. For this purpose, it was determined which competences and research focuses could be contributed by the partners.

- Office of the Regional Government, Department for Economy, Technology and Digitalization Unit: managing authority
- ecoplus. The Business Agency of Lower Austria, departments Cluster and House of Digitalisation: WP6
- Research partners (In the Action Plan development phase, all interested research partners from Lower Austria were invited to contribute. For this purpose, it was determined which competences and research focuses could be contributed by the partners.):
  - University for Continuing Education Krems (Danube University Krems),
     Department for E-Governance and Administration and Department for
     Integrated Sensor Systems: WP1, WP3, WP4.1, WP4.2, WP4.3, WP5, WP6
  - University of Applied Science St. Pölten, Institute for Creative/Media/Technologies: WP2, WP3, WP4.1, WP4.3, WP5
  - FOTEC Research Subsidiary of the University of Applied Science in Wiener Neustadt: WP2, WP3, WP4.1, WP4.3, WP5
  - University of Applied Science IMC Krems, Department of Business, Institute for Digitalization and Informatics: WP3, WP4.1, WP4.3, WP5
  - New Design University, Design of digital Systems: contribution to be defined
  - Josephinum Research der HBLA Josephinum Wieselburg, Sensor Technologies: contribution to be defined















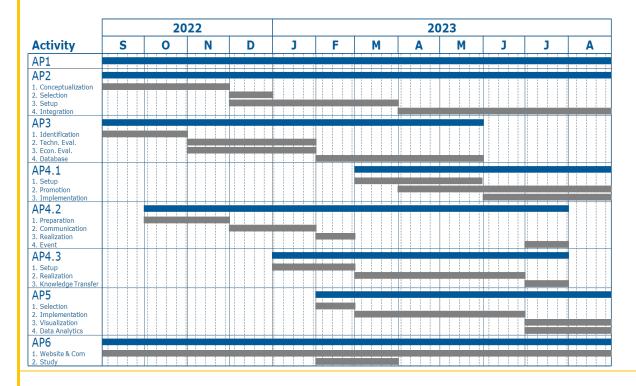






#### 4. Timeframe

- (1) Finalization and submission of the project proposal: January to June 2022 (08/06/2022)
- (2) Evaluation and decision on approval: June to August 2022
- (3) Expected implementation of the project: 2022/09 2023/08 (see description of work packages AP above)



#### 5. Costs

V1: Basic option of project proposal: 421,000 EUR (without optional WP 4.2 and 4.3)





















	Work package	Duration	Days	Costs (EUR)
AP1	Coordination	09/22–08 /23	35	21,000
AP2	IoT Platform	09/22-08/23	204	142,400
AP3	Use Cases	03/23-05/23	112	67,200
AP4.1	Training	03/23-08/23	75	45,000
AP5	Show Cases	02/23-08/23	139	108,400
AP6	Communication	09/22-08/23	20	37,000
Total	-	09/22–08/23	585	421,000

V2: More extensive solution: 450,000 EUR (including optional WP 4.2 und 4.3)

	Work package	Duration	Days	Costs (EUR)
AP1	Coordination	09/22-08/23	35	21,000
AP2	IoT Platform	09/22-08/23	204	142,400
AP3	Use Cases	03/23-05/23	112	67,200
AP4.1	Training	03/23-08/23	75	45,000
AP4.2	Competition	10/23-07/23	32	19,200
AP4.3	Consulting + Implementation	01/23-07/23	44	77,400
AP5	Show Cases	02/23-08/23	68	40,800
AP6	Communication	09/22-08/23	20	37,000
Total		09/22-08/23	590	450,000

# 6. Funding sources

Lower Austrian Fund for Economy and Tourism, more specifically funding scheme for "Research & Technology Projects" (see above additional policy instrument addressed).



















# 7. Monitoring and indicators

To monitor the success of the proposed action plan and the technology transfer measures, the following key performance indicators are suggested:

- 1. Number of interested players (municipalities, agricultural farms etc.) who participated in the offered trainings. It is also possible to consider a regional split or a split according to the size of the municipalities (number of inhabitants) (WP 4.1)
- 2. Number of municipalities who send in their application for the competition (WP 4.2)
- 3. Number of realised show cases in Lower Austria (WP4.3/WP5)
- 4. Number of visitors of the created website which includes the presentation of the database for show cases (WP3 + WP6)



















Place, Date	St. Pölten, 2022-05-10
Signature: Helmut Miernicki, CEO Martin Fassl, CFO	
Stamp of the organisation (if available)	wrischaftssoenter Griffi

#### **Endorsement**

The Lower Austrian Government Department Economy, as intermediate body for ERDF OP in Lower Austria, policy maker in charge of the Lower Austrian Cluster Programme and managing authority for the regional economic support instruments, was intensively involved in the interregional learning process as well as in the regional interaction with the stakeholder group.

The Department Economy endorses the Next2Met Action Plan. More specifically the Department Economy supports the development of IoT showcases and the development of an IoT Pilot Platform. The main target groups are public entities (regional government, municipalities, community association e.g. for environmental and waste management services) and entities in the field of agriculture and energy. The Department Economy provides financial support to these activities through a new project funded by the Lower Austrian Fund for Economy and Tourism, more specifically the funding scheme for "Research & Technology Projects".

Office of the Regional Government of Lower Austria, Department for Economy, Tourism and Technology

Kerstin Koren, Head of Department













