

# How to finance research and innovation infrastructures?

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Pannon Business Network - Hungary



## Mission Statement

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**Pannon Business Network** is a center for **applied research** and **training** to catalyze **added value manufacturing** and **digital care solutions**, by liaising industry and academia, enabling digital, sustainable, resilient business transformation.





# Key Achievements on the Road

**500+**

international  
partners

**110+**

European research &  
cooperation projects

**150+**

serviced business  
customer

**11**

partner  
universities

**36**

full time engineers,  
economists, social scientists

**No 1.**

DIH in EU in 2020 by  
DIHNet consortium

**500m<sup>2</sup>**

laboratory  
space

**30+**

digitalization applications  
developed

**1.000+**

Citizens, SMEs trained on  
digitalization annually



# Technological key competence – 2018-2021

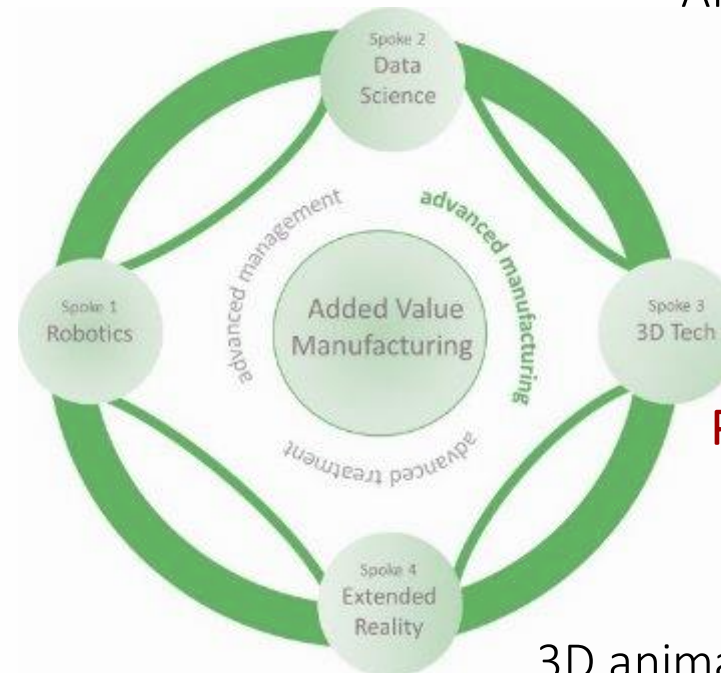


## Collaborative robotics

Mobile robotics  
Drones  
Industrial robotics

## Data access and visualization

Segmentation/classification  
AI algorithms



3Dprinting  
3Dscanning

## Prototype development

3D animation  
AR applications

## Maintenance and Service functions



# Technological key competence – 2022-2023



# What do we do in Manufacturing – 2023-2024

## Data to Knowledge

### **Data-display**

Real-time, direct information in AR

### **Analytics**

Anomaly detection in large datasets

### **MI stock**

Flexible optimization of stock level

### **AR**

Augmented reality for knowledge database

## Grey to Green

### **Zero waste**

Recycling module design, operation

### **Solar energy**

Solar panel, batter operated system

### **AI-on-the-edge**

Local solution with green application

## Smooth Operator

### **Distributed**

Integration of physically distant plants

### **Robotics**

Customized gripper with complex application

### **Quality Control**

Neural network-based image recognition

## Mini Me

### **Digital mR Twin**

Digital clone with remote operation

### **Digital Twin Platform**

Open-source framework for fast customization

### **Controlling**

Real-time financial monitoring



## Multidevice

50 digital applications included with latest technology



## Accredited

Only Hungarian Accredited Health Reference Site

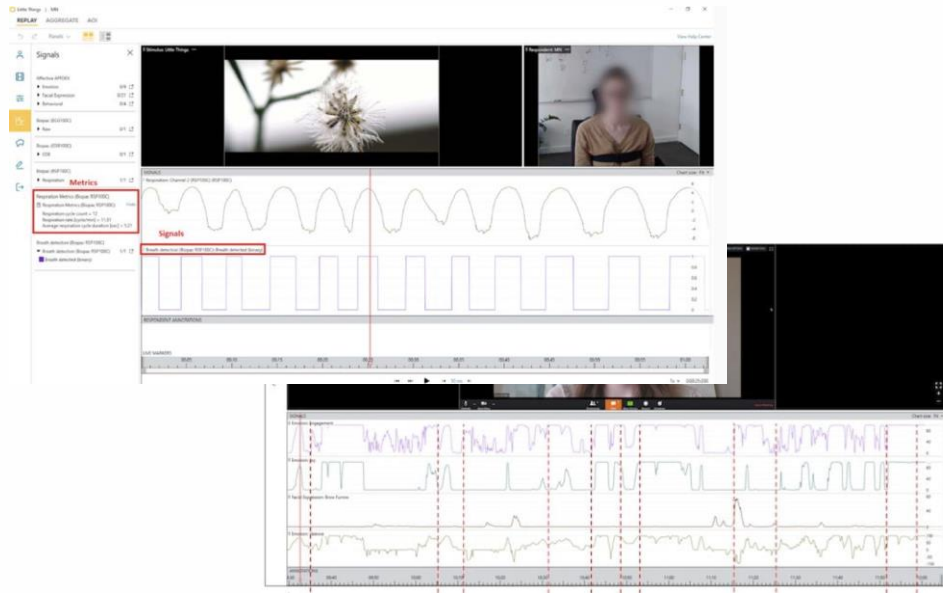
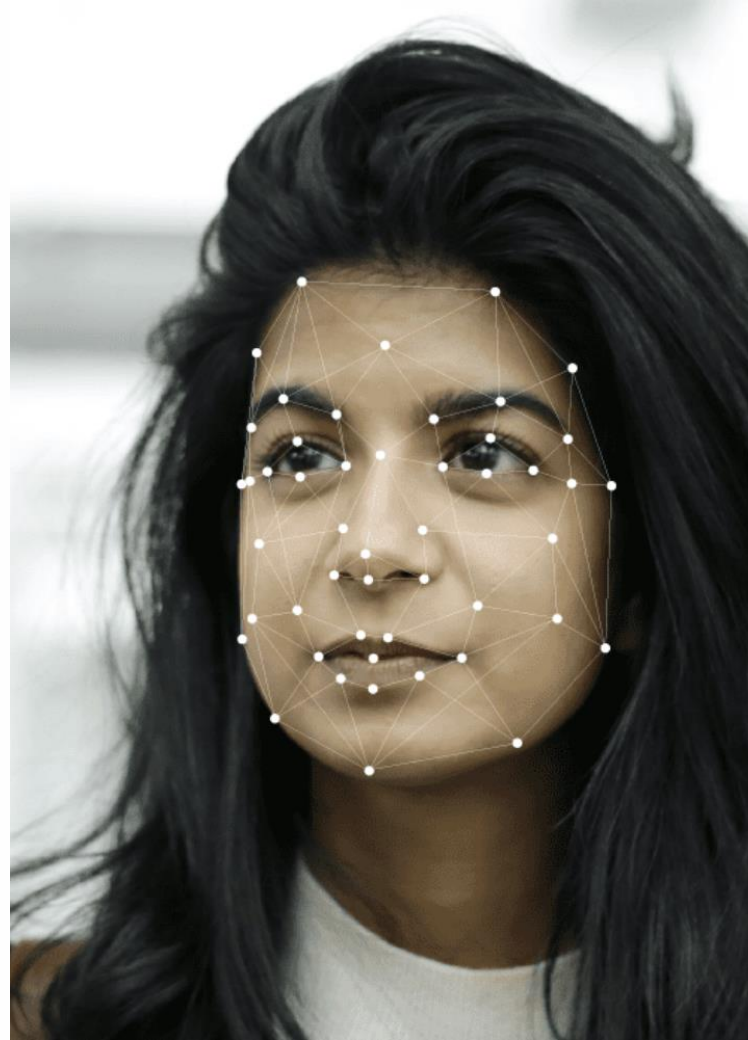


## Connected

34 seniors in their own private households



Facial Monitoring  
Breathing Monitoring  
EEG Monitoring





# Financing

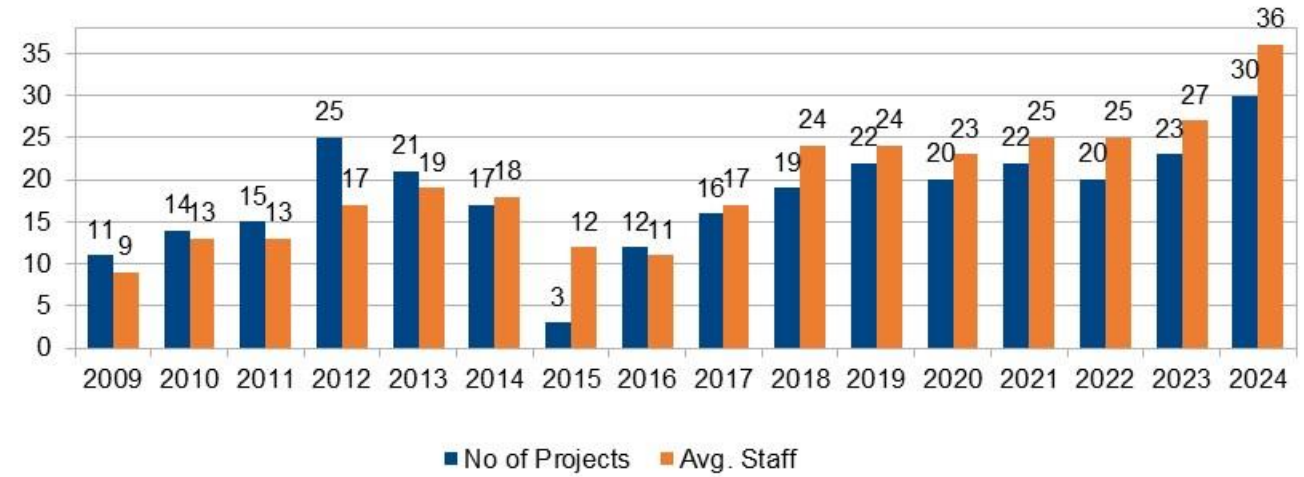
## Challenges

- Zero fix income
- Fluctuation of projects
- „Copycats” – innovation in verballity
- Dependance on projects

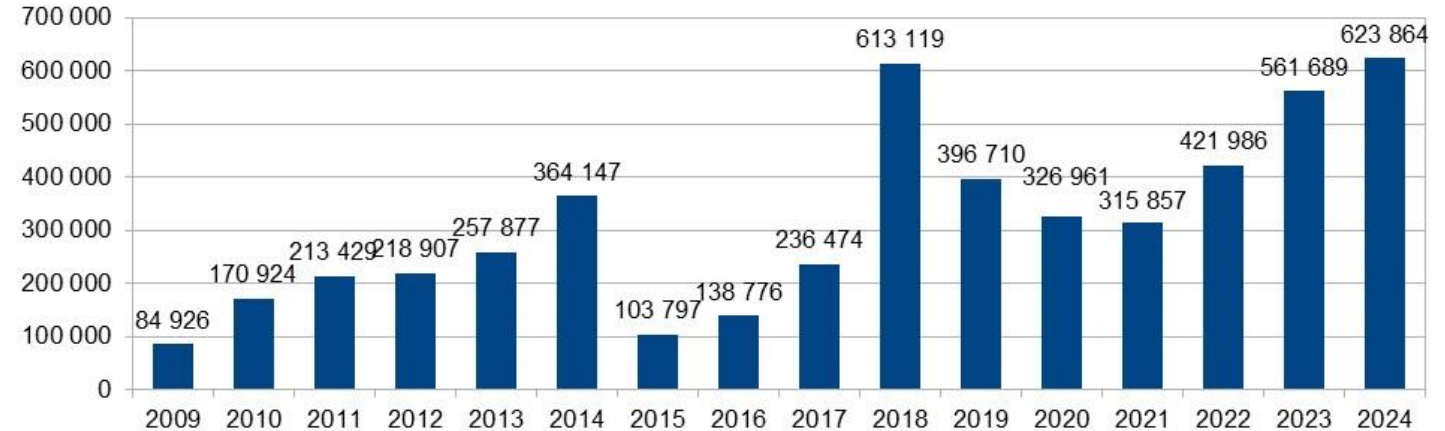
## Opportunities

- Independence
- Strategic approach due to 3-year perspective
- Contract with 11 universities
- Multifund funding
- Constantly new impulses – ahead of others

Number of Projects and Staff members



Total Net Sales in 1.000 Hungarian Forints



# Sources of International Financing

## Interreg Europe

- Learning from all over Europe about cooperation with policy owners
- Cohesion building opportunity with local/national policy makers
- Possibility to pilot individual actions to support policy change

## Further connected cooperations



### NOTRE

Novel methods improving production innovation potential with examples of senior care-related solutions



### BEST DIH

Supporting digital transformation & cooperation between DIHs, adapting international good practices at local level



### 3F GREEN MODEL

Management and recycling of biowaste in the agri-food and forestry sector



### OD4GROWTH

Strengthening the availability and processing of Open Data



### UnicornQuest

Development of Local Ecosystems & Creation of Local Hubs – "Unicorn Forests" – to Retain Promising Companies in the Region



### KARMA

Waste management in the construction sector



Co-funded by the European Union

## SKALE2CT

### Scope

Enhance resources of public & intermediary organizations to improve Business Acceleration providers and services, in particular it comes to scale-up phase.

### Good Practice Example

„Tarmac Incubator“ from Grenoble to provide early-stage financing for start-ups

„Call INNOV-ID – Early-stage VC investment“ from Portugal to support financially spin-offs and early-stage startups

### Policy instruments

Focusing on scaling-up services with I4.0 and AI component

# Sources of International Financing

## Active Assisted Living Programme

- Healthy ageing projects
- Tangible pilots, like MCI application

## EIT programme

- Multiple thematic units – manufacturing, digital, health, water, climate, urban mobility, creative industries
- Operational, company-oriented projects, in a 1-year implementation phase, with international partners



Stimulating innovation, in particular by linking research, business and education



Vertical integration between Teaching and Learning Factories and related training materials



Digital twin development and related training materials; Open call for manufacturing companies



Modular training program in the field of advanced metal forming processes



# Sources of International Financing

## Interreg Danube

- Thematic priorities for macro-regional know-how transfer
- Important of Danube Strategy, as a framework for developing ideas and partnerships



Promotion of artificial intelligence for SMEs



Innovation as a service to reduce regional economic and social disparities



Boosting S3 and encouraging Spinoffs in IT



Danubians Cradle-to-Cradle Architecture and construction processes



Boosting digital and industrial capacity of women entrepreneurs



Improving rural areas for managing the depopulation of rural areas



Humanoid Robotics Integration and Innovation

# Sources of International Financing

## Interreg Central Europe

- Macro-regional cooperation
- Vienna-led programme
- Intermediate between policy focus on Interreg Europe and operative cross-border programmes



SMERF

Offering smaller companies guidance on working with innomediaries



Drive2Transform

The aim is to facilitate the transformation of the automotive industry in Central Europe



SMART CIRCUIT

Enabling smarter, circular, digital innovation hubs to enhance manufacturing eco-system



RehAllianCE

Optimizing usage of new technologies in rehabilitation to improve life quality of inhabitants



Digi-B-Well

Enhancement of capacities for digital era-fit management, achievement of digital wellbeing



3P4SSE

Strengthening weak economic sectors by promoting territorial clusters of social and solidarity economies

# Sources of International Financing

## Interreg Cross-Border

- Operational projects, for us mostly in Austria-Hungary
- Actions like cross-border DIH with joint service portfolio
- Currently aiming at cross-border research center



eTOM AT-HU  
A COMPETENT BORDER REGION



Using creative pedagogical tools at different levels of education to develop skills in an interdisciplinary way

## Horizon and FP10 programme

- Cooperation with the most advanced technological leaders in Europe
- Cascade funding tool is essential for company implementation
- Highly competitive



Enabling competitive AI-at-the-Edge digital transformation of Industry 5.0 Manufacturing SMEs. 2 rounds of open call for SMEs



Supporting European SMEs in the uptake of Artificial Intelligence applied to manufacturing, with a specific focus on the use of AI-enabled applications at the edge



# Sources of International Financing

## Erasmus

- Key for universities and training organizations
- Also import tool for intermediary and RTOs



Development of a curriculum and digital platform on circular design for students and teachers in the VET system



Developing skills in Intellectual Property Rights open data for sustainability and circularity

## UNIDO

- Development programmes coordinated by the UN in Vienna
- Both as service provider and beneficiary position
- Low level of Central and Eastern European involvement

## World Bank

- Opportunity both as supplier and beneficiary

## Private Foundations

- Dominantly German, Swiss and Nordic countries

## Dual Education

- Both undergraduate and graduate
- 2 years scholarships, with fixed salary



## University Partnerships

## Thesis Writing

- Development programmes coordinated by the UN in Vienna
- Both as service provider and beneficiary position
- Low level of Central and Eastern European involvement



## Practice Location

- 4 weeks to 6 months periods
- Scholarships paid to students



## Case Study Partnership

- 4-6 months with dedicated thematic areas



## PhD programmes

- 3 months to 3 years
- Joint research fields



# Innovation Vouchers

## Concept

Objective to introduce new technologies, solutions or market access

Companies and/or RTOs apply together for dedicated applied development

Short term projects with quick funding schemes

## Experience

First one in 2010 in Central Europe programme – **Centrope\_TT** [keep.eu/projects/5487/Tools-for-Transnational-Inno-EN/](http://keep.eu/projects/5487/Tools-for-Transnational-Inno-EN/)

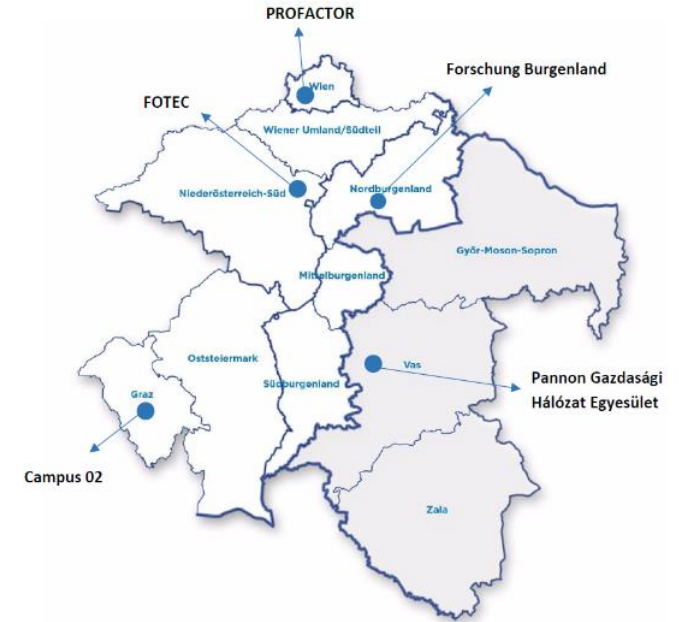
- SME innovation support across the borders

Recent one in Austria-Hungary in 2019 – **IMPROVE!** <https://www.interreg-athu.eu/en/improve/>

- Joint digital services for companies from the border region – like new CGI commercial, 3Dprinted test bodies

Current one in Central Europe programme – **RehAllianCE** <https://www.interreg-central.eu/projects/rehalliance/>

- Testing new products and services in the rehabilitation area





# Start-up Ecosystem

## Concept based on experience

Identify potential collaborators from the quadruple helix members

Define common goals, elaborate together, sign up for the joint implementation

Build a broad partnership around, with citizen involvement

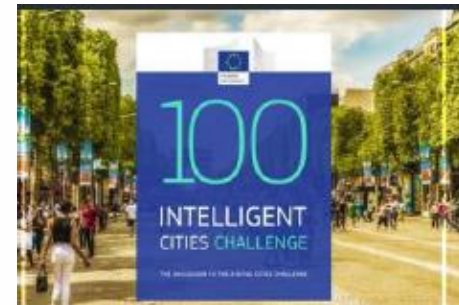
Always communicate

Importance of the Ambassador/Change Agent

Focus on low hanging fruits

Be patient and persistent over time

Focus on niche, due to lack of economies of scale



Thank you for your attention.

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