

EIT Manufacturing Workshop

20.10.2022



Co-funded by the
European Union



Agenda

09:00 – 09:30 **Empfang**

09:30 – 10:00 **Begrüßung und Keynote**

Johannes Hunschofsky, EIT Manufacturing

Paul Rübig, Europäisches Institut für Innovation & Technologie (EIT)

Klaus Oberreiter, Business Upper Austria, OÖ Wirtschaftsagentur

10:00 – 10:50 **Vorstellung EIT Manufacturing & Call for Proposals 2024**

Johannes Hunschofsky, EIT Manufacturing

Gerhard Russ, EIT Manufacturing

11:00 – 12:00 **Best Practice Präsentationen**

Peter Kopfer, voestalpine High Performance Metals

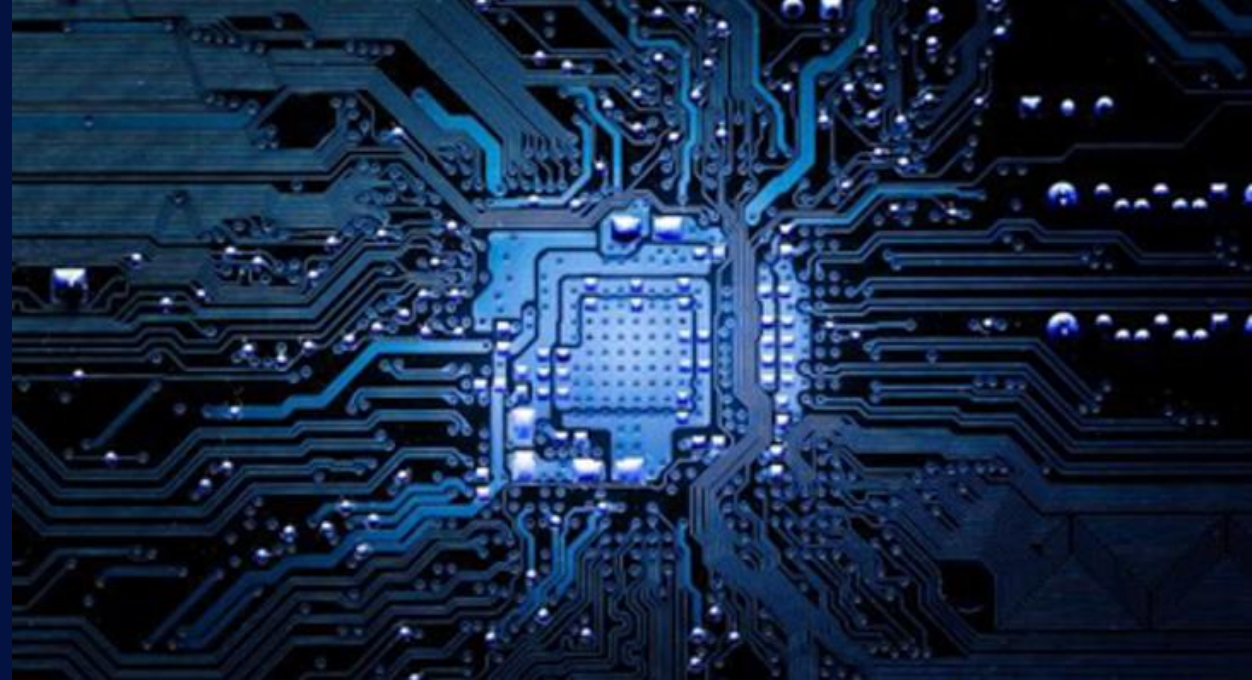
Balázs Barta, Pannon Business Network

12:00 – 13:00 **Lunch & Networking**

EIT Manufacturing

Johannes Hunschofsky
Managing Director, EIT Manufacturing East GmbH

Linz, 20. Oktober 2022





Introduction

The manufacturing industry is a global base for prosperity and key to Europe's economic, social and environmental sustainability.

The sector is a main driver of industrial innovation, job creation and growth for European society.

Manufacturing – A base for prosperity in EU



2.1M+
enterprises



€7.11Tr
in turnover



32M
jobs (16% of the total
EU working population)



13M
Jobs in the growing
high-tech manufacturing

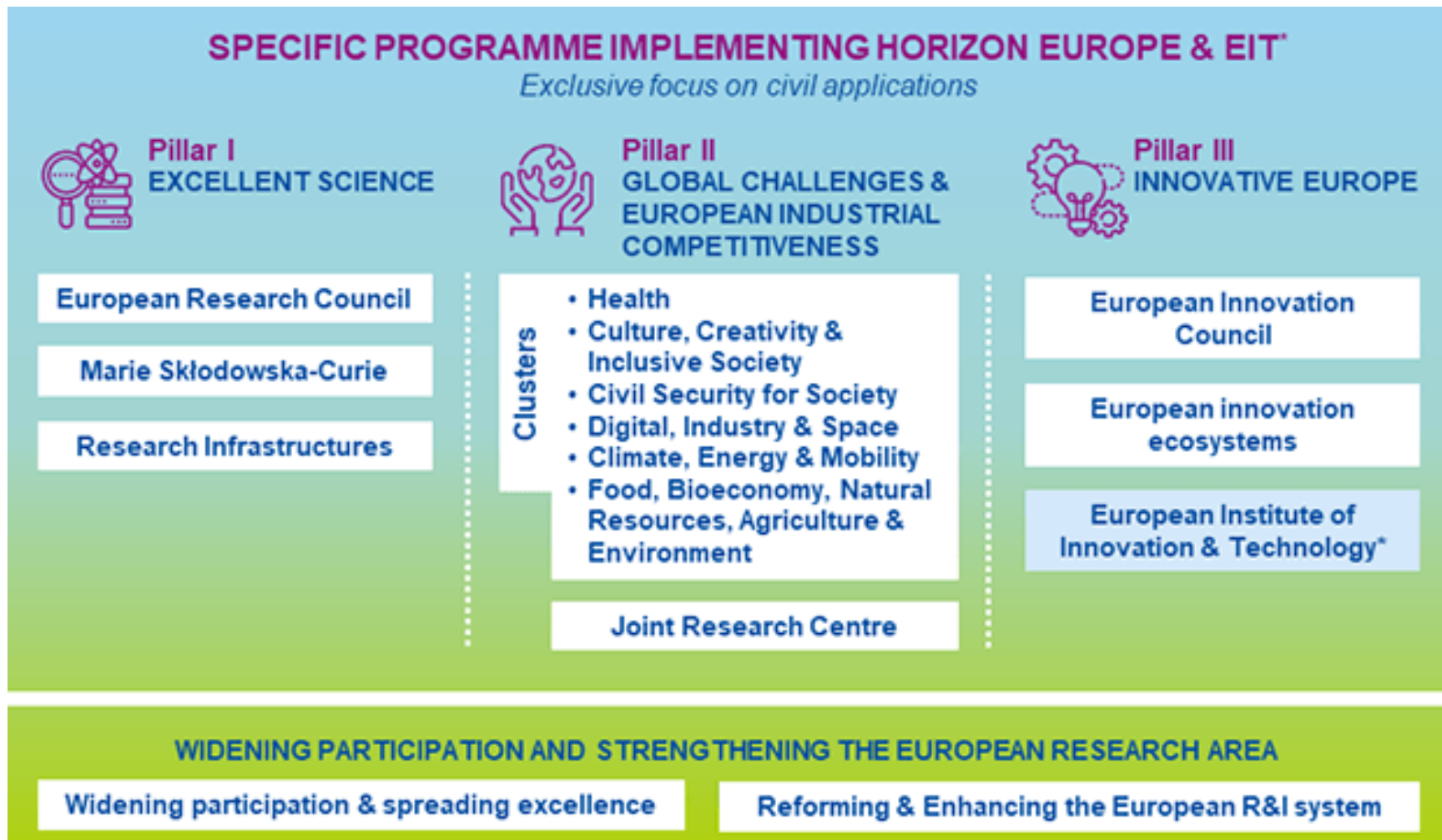


16.1%
Share of EU-28
GDP (2016)



80%
of EU exports

At European Level: Horizon Europe Cluster Pillar III





Co-funded by the European Union



A strong European community



Co-funded by the European Union



Our vision

Global manufacturing innovation is led by Europe.



Our mission

Bring together manufacturing actors across Europe to integrate innovation and education for an entrepreneurial and sustainable Europe.

Powerful partnership: 80+ partners from 20+ countries



As of March 2022

Powerful Network Partners

AS OF JUNE 2022

NETWORK



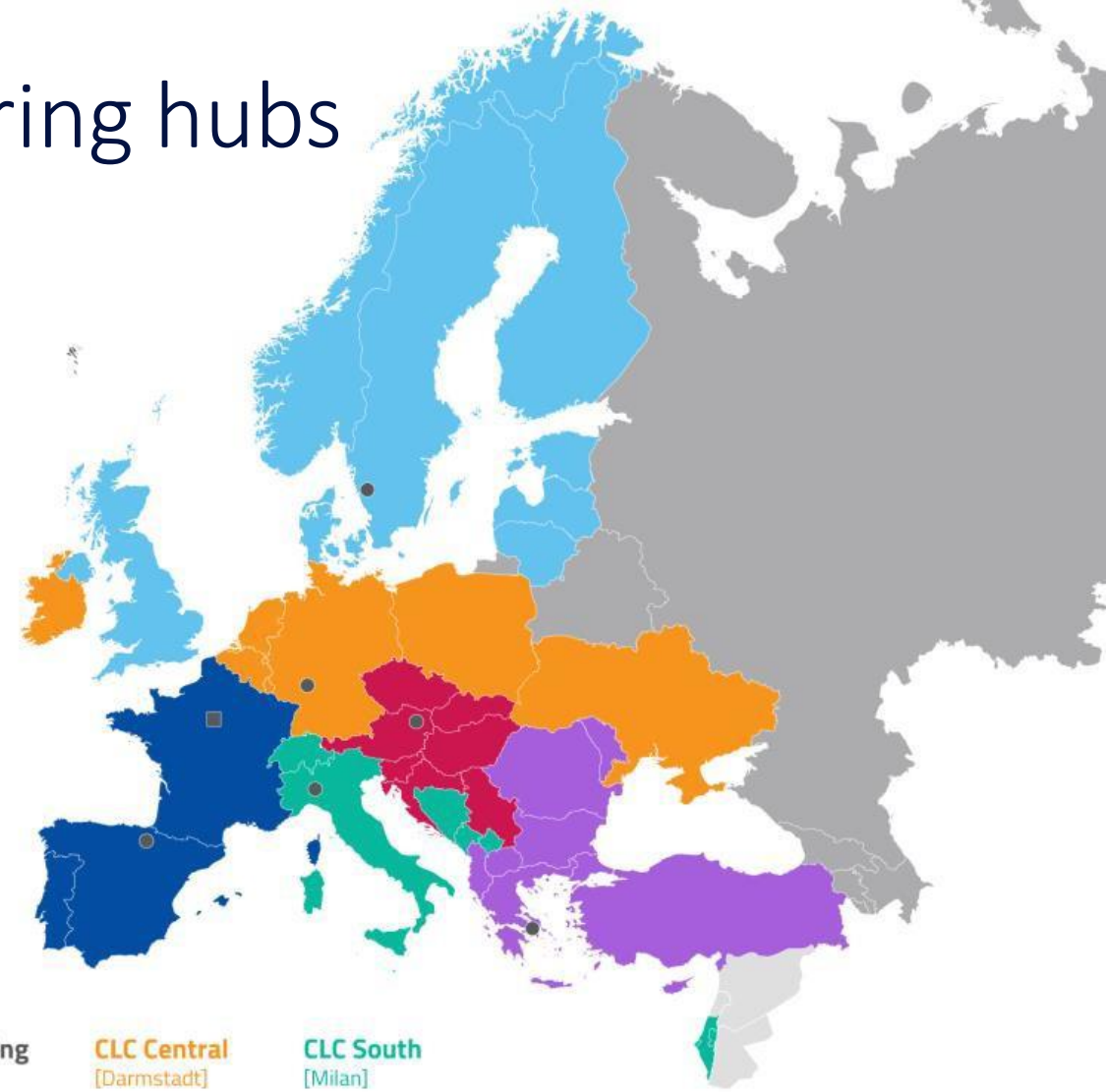
Locations: Linking key manufacturing hubs

Legal Entity Non-for-Profit

Headquarters Paris

6 Co-location Centers (CLCs)

- San Sebastian Spain
- Gothenburg Sweden
- Darmstadt Germany
- Milan Italy
- Vienna Austria
- Athens Greece



EIT Manufacturing Headquarters
Paris

CLC Central
[Darmstadt]

CLC South
[Milan]

CLC West
[San Sebastian]

CLC North
[Gothenburg]

CLC East
[Vienna]

CLC South-East
[Athens]

In addition, dynamically growing number of RIS hubs

tz 2

technologie
zentrum
seestadt

vienna
business
agency

Technology Center Seestadt Home of EIT Manufacturing

Start-Ups &
Entrepreneurs

incus

VIEW
POINT
SYSTEM

MAKING FUTURE REALITY

theobroma
SYSTEMS

A CHERRY COMPANY

DP DESIGN
FOR
PRODUCTION

Industry
Neighborhood


HOERBIGER

STELLANTIS

Takeda

Over 12.000 m²
innovative
production and
office space

Production Space up to 4m
height

Flexible Office Spaces

Innovation Clusters

TU
WIEN

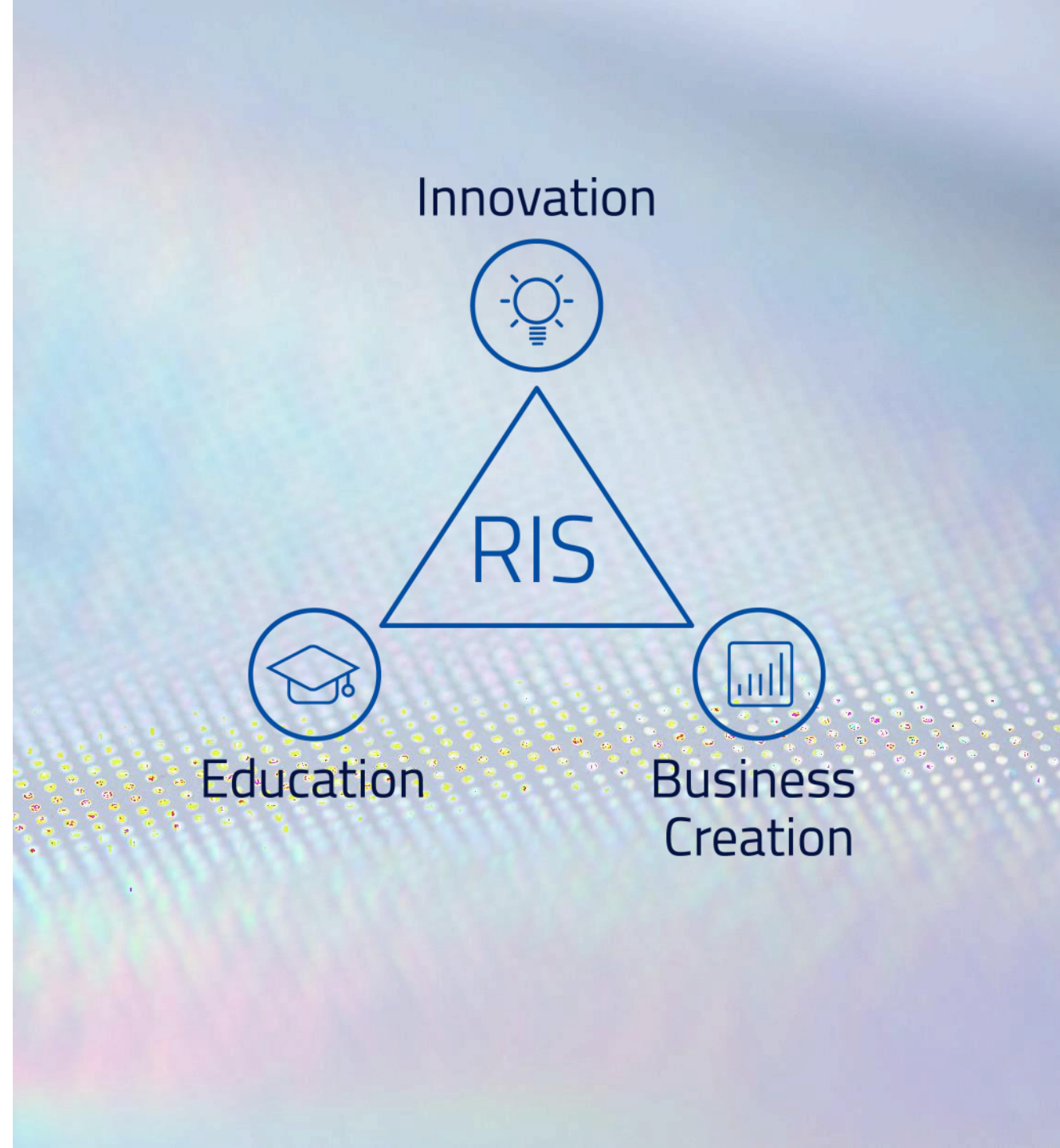
Atos

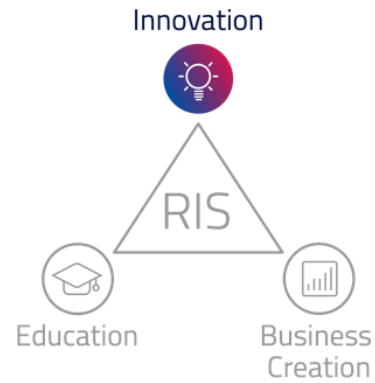
 **CDP** AUSTRIAN CENTER FOR
DIGITAL PRODUCTION

kapsch >>>
challenging limits

The strength of EIT Manufacturing

To ensure that innovations reach the market, industry has the right talent and entrepreneurs can thrive, EIT Manufacturing connects and integrates the areas of education, innovation and business creation and the Regional Innovation Scheme (RIS).





Innovation: Creating value and impact

Supporting European manufacturing community of companies & tech organisations to industrialise innovative projects.

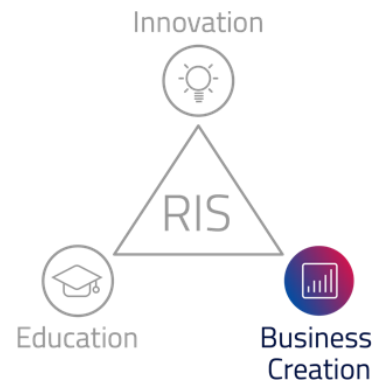
What can we do for you?

- Ensure adoption of innovations for manufacturers as end-users.
- Increase market traction and robustness of solutions-to-scale.
- Ensure market reach and exploitation.
- Explore and test go-to-market strategy.

Decreasing risks in projects to provide higher business growth potential

Give innovative edge through access to technologies and business implementation

Foster engagement with the right partner



Business Creation

Supporting European manufacturing community of companies & tech organisations to industrialise innovative projects.

What can we do for you?

We support **SMEs and Corporates**



Technology Surveillance



Open Innovation



Innovation projects



Innovation Projects
400M until 2026

We support **Startups and Scaleups**



Access to
FINANCE



Access to
MARKET



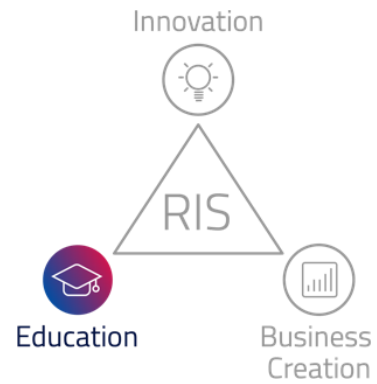
Coaching &
mentoring



Innovation Projects
400M until 2026



Visibility



Education: Connecting people with competences

Empowering Europe with people that are capable and inspired to shape the future of manufacturing

What can we do for you?

Empower

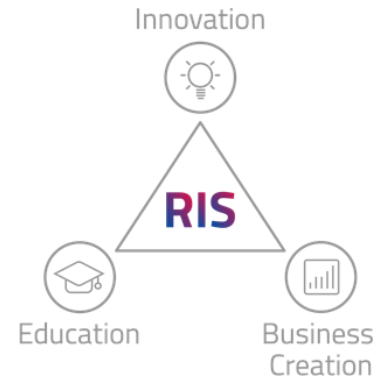
- EIT-labelled Masters programmes
- EIT-labelled PhD programme
- Flexible personalised empowering programmes

Connect & Transform

- Transform organisations through education & training
- Upskilling and re-skilling programmes for corporates

Engage

- Attract young talent through networking, workshops and events
- Engage Women, Engage Pupils
- Cross-industry, societal engagement



Regional Innovation Scheme (RIS): Bridging strong connections

Strengthening links between key innovation actors.

The EIT RIS serves the purpose of **opening up the Innovation Communities** to entities that cannot (yet) become KIC partners, as well as providing targeted support to **individuals and entities from EIT RIS eligible countries** to take part in KICs activities and benefit from KIC services and programmes.

- Widen participation in the EIT Innovation Communities' activities by engaging players from countries that have lower participation.
- Share good practice, experience and know-how emerging from the EIT Communities' activities with local innovation ecosystems.
- Offer tailor-made services to address identified innovation gaps

RIS Programme & activities

Activities up to 2022

- EIT Manufacturing RIS hubs network
- Best practice classes for national authorities
- Women Innovators in Manufacturing at EIT RIS
- EIT Jumpstarter
- RIS Evolution of Research Results
- Intrapreneurship Challenge
- Teaching & Learning Factories
- Programs to engage Society and Pupils
- Innovating for a Circular Economy
- Artificial Intelligence at EIT RIS
- Green and digital 'twin' transition for SMEs

12 RIS HUBS
Realising a powerful, pan-European innovation ecosystem for manufacturing




What's in it for you?


- Be part of the largest European manufacturing network
- Foster the good cause of an innovative Europe
- Lead the way in the shareholder meetings (Supervisory Board, Advisory Boards, CTO Round Table)
- Lead or participate in innovation and education projects
- Cooperate with other industry partners, universities and RTOs
- Find and meet start-ups with exciting new products and services
- Fill your own innovation gaps
- Use our pan-European network and access interesting CEE ecosystems

MIT.IC.AT - Eckdaten des Projektes

 01. April 2021 bis 31. März 2026

 EUR 2 Mio.; davon EUR 1 Mio. gefördert:

 **Bundesministerium**
Klimaschutz, Umwelt,
Energie, Mobilität,
Innovation und Technologie

 **Bundesministerium**
Arbeit und Wirtschaft



 7 Aktivitäten

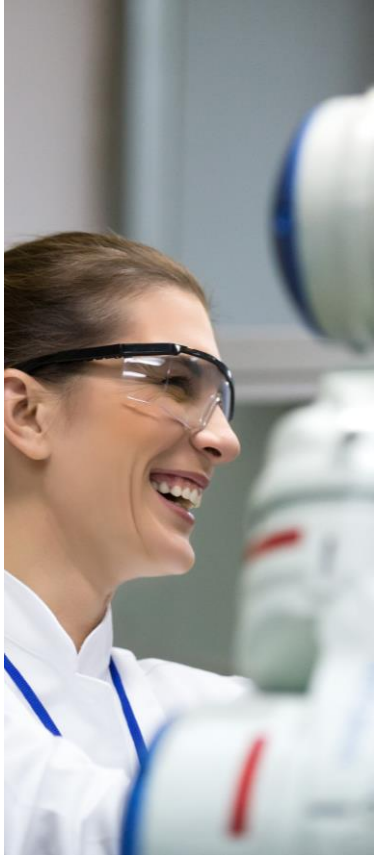
 Vernetzung von KMU und Start-ups mit dem EIT Manufacturing-Netzwerk



Wir arbeiten intensiv mit regionalen Kooperationspartnern zusammen



Der MIT.IC.AT-Ansatz



Europäische Wissensgemeinschaft

- Pool an internationalen Expert*innen, Projekten, Bildungsmöglichkeiten
- Bereitstellung von relevanten europäischen Best-Practice-Beispielen

Internationale Kooperationen

- Vernetzung und Initiierung von Kooperationen mit europäischen Unternehmen, Universitäten und Forschungseinrichtungen
- Einbindung von österreichischen Unternehmen in europäische EITM Aktivitäten

Zusammenarbeit mit regionalen Partnern

- Nutzung bestehender Strukturen und lokaler Netzwerke
- Zielgerichtete Kommunikation mit Unternehmen vor Ort

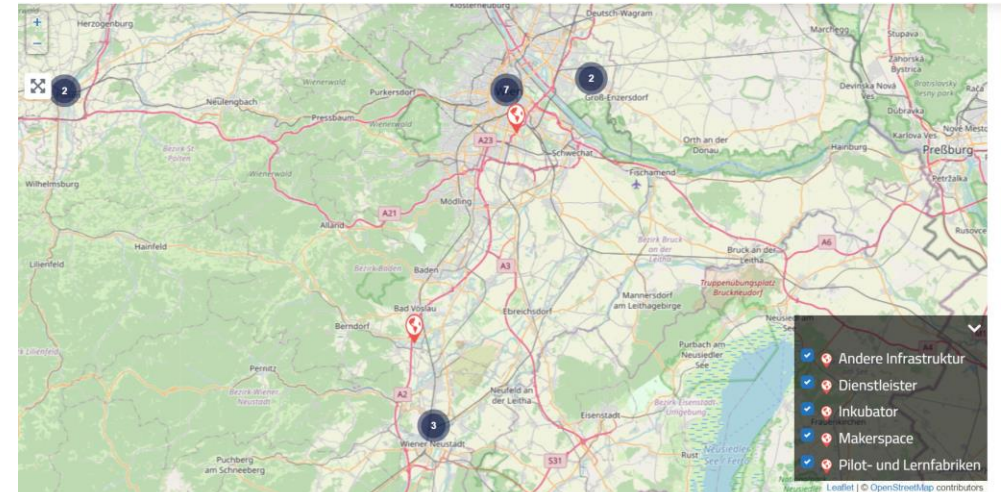
Unsere Leistungen

Apply by 16 Nov.

BoostUp 2022

06 December, Vienna | Austria

eit Manufacturing Co-funded by the European Union



The Hardware Start-Up Challenge

White Paper

eit Manufacturing Co-funded by the European Union MIT.IC.AT

REDAMP

Real time monitoring of DAD additive manufacturing processes for zero defect manufacturing

Project partners: OC2, SUPSI, Taktik, CQ2, REUSE, LOTTEK

Summary

The project focused on monitoring additive manufacturing processes based on Direct Energy Deposition (DED). These processes are an alternative to traditional manufacturing and can reduce production costs if controlled by sensing and subsequent operations. On the other hand, they also require good control of the extrusion of particles by using thin layers and new material layers. However, current DED technologies are still prone to quality gaps. A solution is to have the expected quality when parts are built by using "monitoring tools" and integrated diagnostics.

The REDAMP project consortium selected 17 research facilities for the solution strategy in order to be able to detect and correct defects in real-time during the manufacturing process. The solution, based on algorithms and data gathered from various sensors in 3D printing, allows for the detection of defects and the development of a solution.

MIT.IC.AT Co-funded by the European Union

AI enhanced Automation for fulfilment

Description

The goal is to develop a solution for the supply and fulfillment of goods in a warehouse and to increase the efficiency of the supply chain. The solution is based on AI and machine learning. The solution is based on AI and machine learning. The solution is based on AI and machine learning.

They are looking for: ...

Interested in contributing? ...

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Hackspace

/usr/space

Der /usr/space ist ein, allen Mitgliedern und Interessierten offen stehender, Raum in dem wir die Möglichkeit schaffen wollen sich in Weiterlesen ...

Makerspace

AIRlab – robo4you

Auf dem 300 m² Robotik-Labor in Wiener Neustadt bieten wir allen die Möglichkeit, Forschung und Projekte voranzutreiben. Das AIRlab zeichnet Weiterlesen ...

Dienstleister

d4pro

d4pro GmbH ist eine Firma für moderne Produktentwicklung mit Fokus auf additiver Fertigung. Gemeinsam mit unseren Kunden bringen wir Konzepte Weiterlesen ...

Aktivitäten 2022



Thank You!

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www.eitmanufacturing.eu



EIT Manufacturing

Innovation



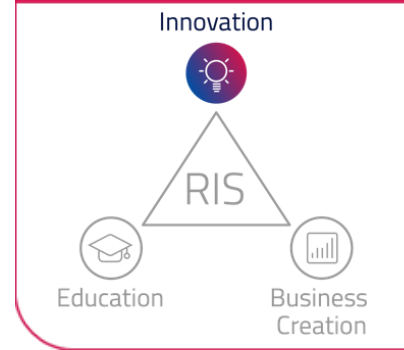
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eitmanufacturing.eu



Innovation: Werte schaffen



Unterstützen der europäischen Firmen und technischen Organisationen im Herstellungsbereich beim industrialisieren innovativer Projekte

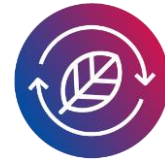
- Hohe TRL
- Letzte Schritte in der Kommerzialisierung
- Netzwerk
- Call for proposals
- Agora Innovation Platform: join here



Unser 4 Themengebiete: The Flagships



Flexible production systems
for competitive manufacturing



Low environmental footprint systems & circular economy
for green manufacturing

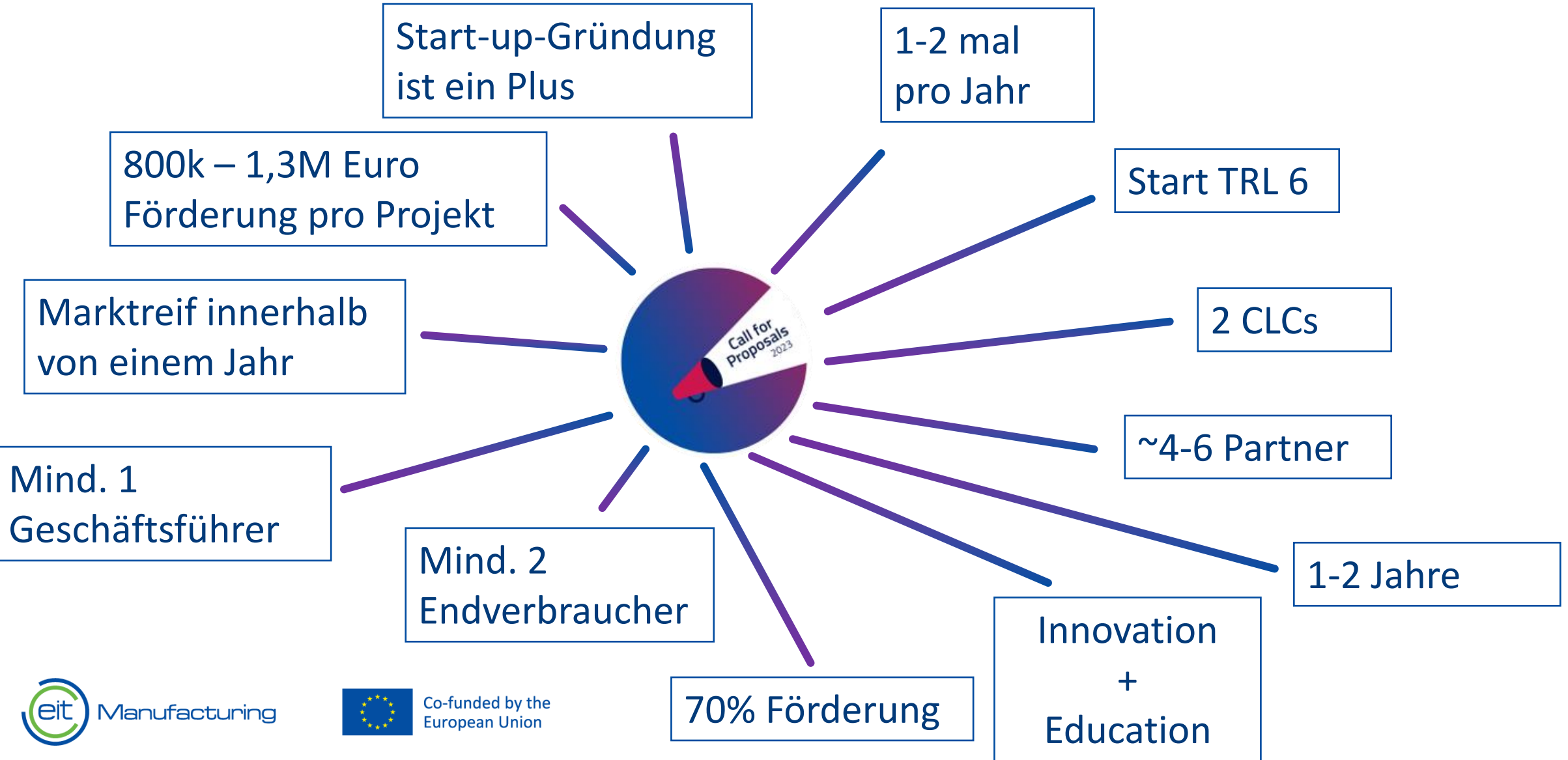


Digital & collaborative solutions
for innovative manufacturing ecosystems



Human-machine co-working
for socially sustainable manufacturing

Innovation Call



Call Prozess



Call Zeitleiste

Projekt Start

Standard Ausschreibung, 4 Themen, volles Budget

Ideation

MatchMake

Proposal

Evaluation / Improvements

Q1

Q2

Q3

Q4

I

M

P

E / I

Herbst Ausschreibung, reduziertes Budget

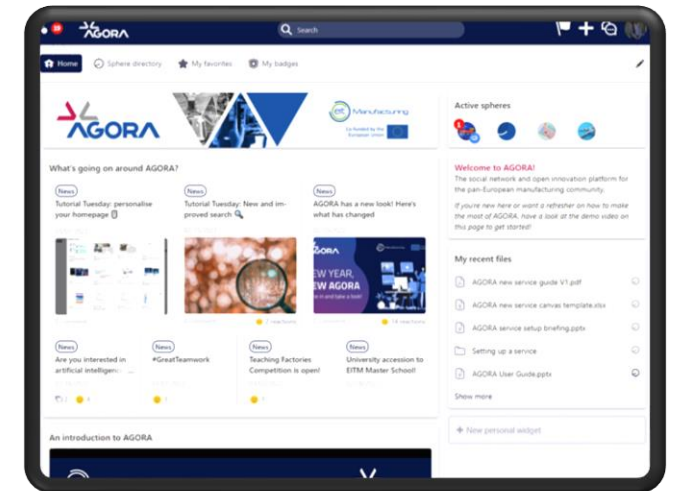


Request to join now -
1,600+ members and counting!



Social Network und Open Innovation Plattform für alle Unternehmen in der Fertigung in Europa

- Online und sicher, ein **Treffpunkt** um sich mit anderen Interessierten zu vernetzen
- Alle EITM News & Aktivitäten gemeinsam mit Neuigkeiten aus der Industrie
- Neueste Industry 4.0 Anwendungen, Einblicke und Diskussionen + mehr!



<https://agora-eitmanufacturing.eu>

Neben dem Innovation call

Wite Papers zu unterschiedlichen Themen

“Tuesdays from Future” Webinare, z.B. Digital Transformation, CO₂ Reduction, 5G in Manufacturing, Blockchain, Cyber Security, Circular Economy and Re-Manufacturing ...

Webinare zu projektspezifischen Themen, z.B. Commercialization strategy, Business plan creation, Financial sustainability, etc.

Events zum Präsentieren, zum Lernen und um Kontakte aufzubauen



Innovation webinars



Bleiben Sie mit uns in Verbindung!

Join the Agora
Innovation platform:



Workshop EIT Manufacturing

Business Upper Austria CfP 2024

Agenda



voestalpine High Performance Metals

Motivation to join EIT Manufacturing

Yearly Call for Proposals

Running projects

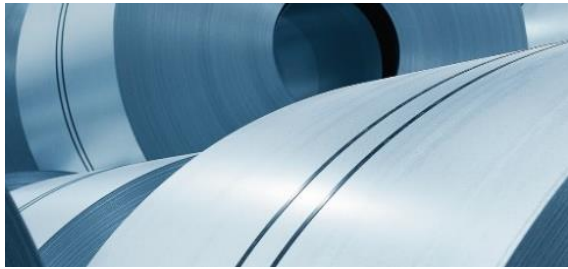
Outlook & Summary



voestalpine

THE voestalpine GROUP

voestalpine is a **leading steel and technology group with combined material and processing expertise**, holding global top positions in its business units.



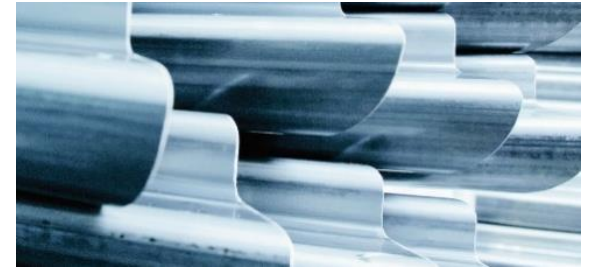
STEEL
DIVISION



HIGH PERFORMANCE METALS
DIVISION



METAL ENGINEERING DIVISION



METAL FORMING
DIVISION

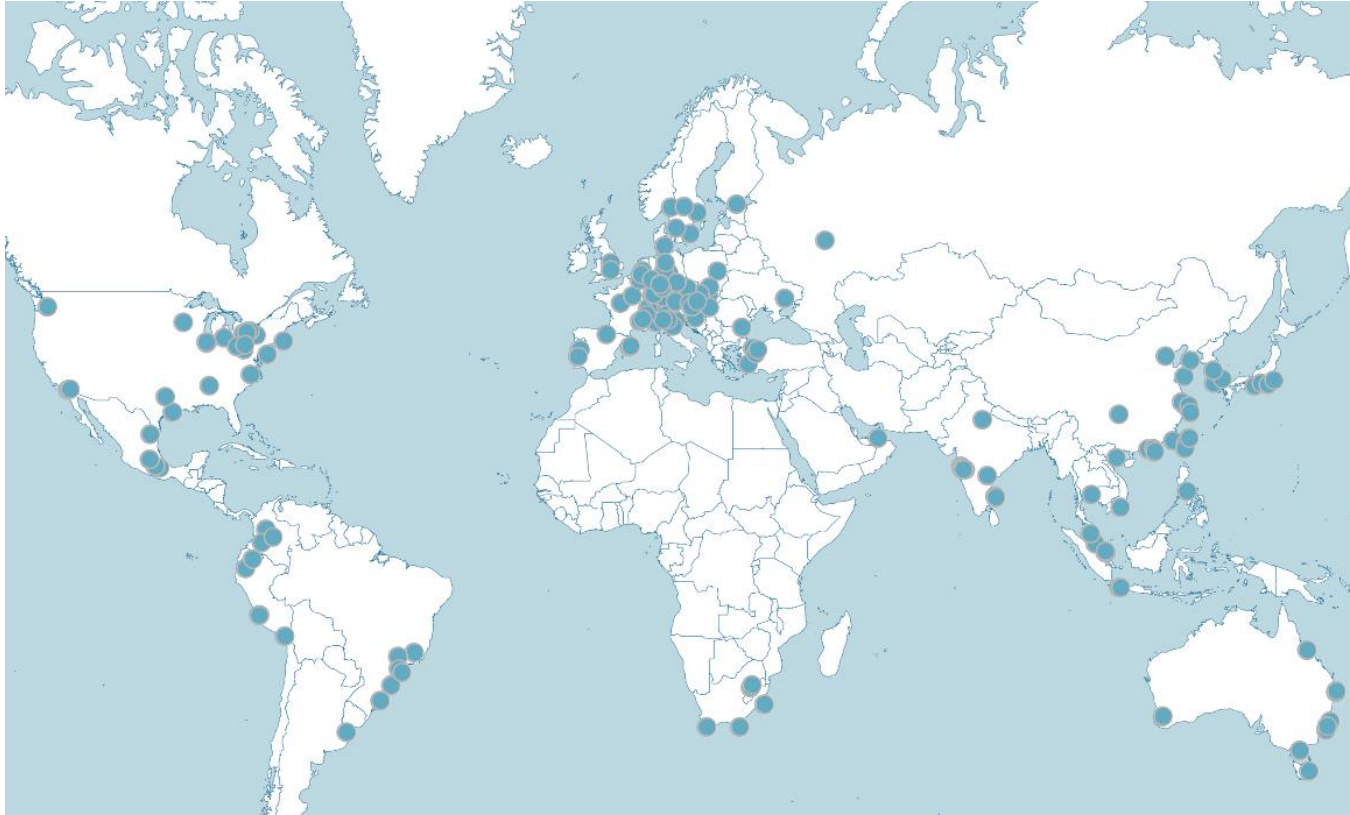
GLOBAL MARKET LEADERSHIP for tool steel and a leading partner for high-speed steel, valve steel, special forged parts and powdermetallurgical materials

voestalpine

ONE STEP AHEAD.

HIGH PERFORMANCE METALS DIVISION

ONE STOP SHOP



HPM Production

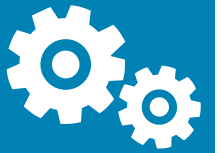
8 production sites

Austria, Sweden, Germany
USA, Brazil



Value Added Services

**Approximately 140 warehouse
and service locations**
in more than 40 countries

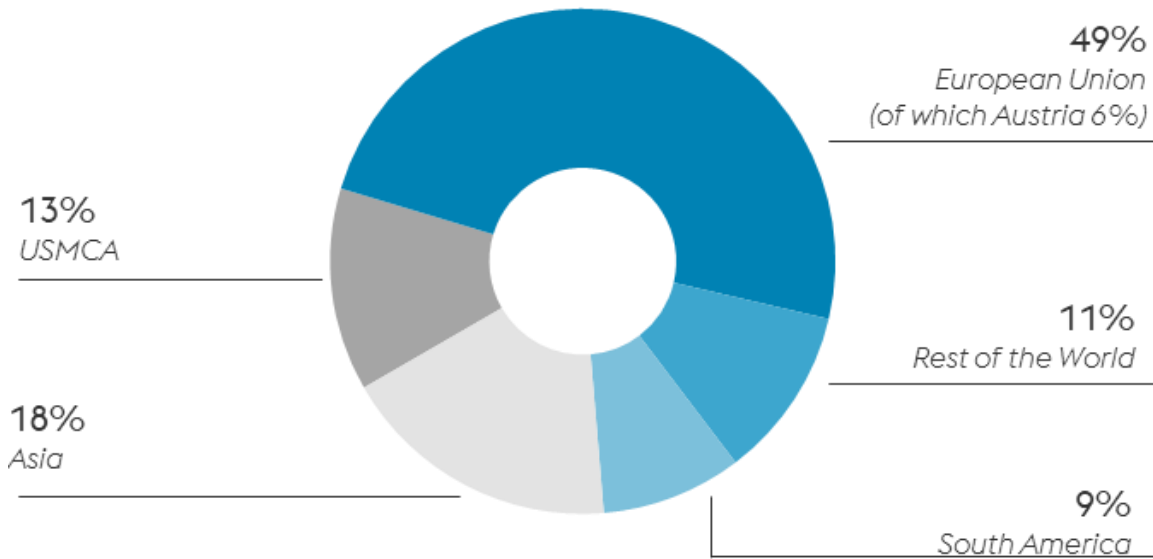


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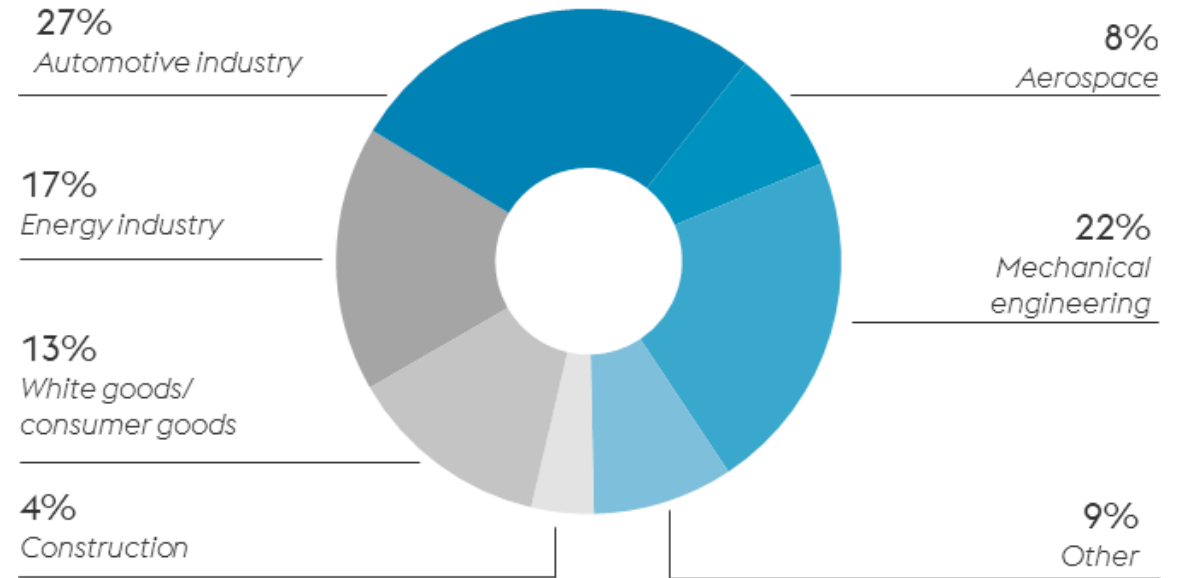
ONE STEP AHEAD.

HIGH PERFORMANCE METALS DIVISION IN FIGURES BY2021/22

Revenue by region



Revenue by industry



» Revenue: € 3,052 billion

» EBITDA: € 399 million

» Employees: 13,291

voestalpine

ONE STEP AHEAD.

HIGH PERFORMANCE METALS DIVISION

PRODUKTE & SERVICES



- » Werkzeugstahl
- » Schnellarbeitsstahl
- » Ventilstahl
- » Edelbaustahl
- » Pulvermetallurgisch hergestellte Stähle
- » Pulver für additive Fertigungsverfahren
- » Nickelbasis- & Titanlegierungen
- » Sonderstähle



- » Lagerhaltung
- » Sägen
- » Bearbeitung
- » Wärmebehandlung
- » Beschichtung
- » Additive Fertigung
- » Engineered Products
(einbaufertige Komponenten)
- » Kundenspezifische Werkstoff-
Kreislaufsysteme

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ONE STEP AHEAD.

UNSERE KUNDEN



AUTOMOBILZULIEFERINDUSTRIE



ENERGIE



LUFT- UND RAUMFAHRT



LEBENSMITTELINDUSTRIE



MASCHINENBAU



KONSUMGÜTER



SPEZIALANWENDUNGEN



MEDIZINTECHNIK

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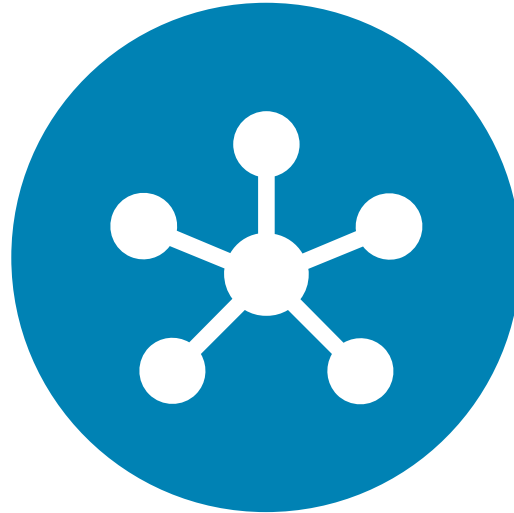
ONE STEP AHEAD.

Motivation to join EIT Manufacturing

Motivation



**Limited amount of
administrative work**



**Interesting partner
network**



**Funding rate
up to 70%**

(of the project costs)

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ONE STEP AHEAD.



Circular Economy +
Reduction of CO₂ Footprint



Leverage existing data to improve our production
processes & support decision making



Applications for Additive Manufacturing



Increase the productivity
of our manufacturing processes



Support our workforce with automated,
digital or sensor-assisted solutions

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ONE STEP AHEAD.

Yearly Call for Proposals

EIT Manufacturing – Partners (as of April 2021)

Industry 48%	Universities 28%	RTOs 24%
<p>ELECTRONICS AND DIGITAL</p>		
<p>AUTOMOTIVE</p>		
<p>AEROSPACE</p>		
<p>ROBOTICS</p> <p>MACHINERY & EQUIPMENT</p>		
<p>CONSUMER GOODS, MEDICAL EQUIPMENT AND PROCESS INDUSTRIES</p>		

50+ activity partners:
Start-Ups etc.

EIT Manufacturing – Yearly Call for proposals

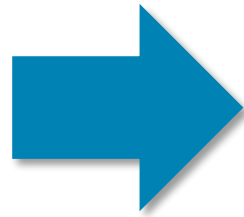
Idea & Consortium



Supported by:



Proposal phase

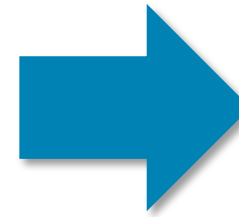


- 1. call: Mar – May
- 2. call: Sep - Nov

Supported by:



Project phase



Start: Jan 1st
1 or 2-year projects

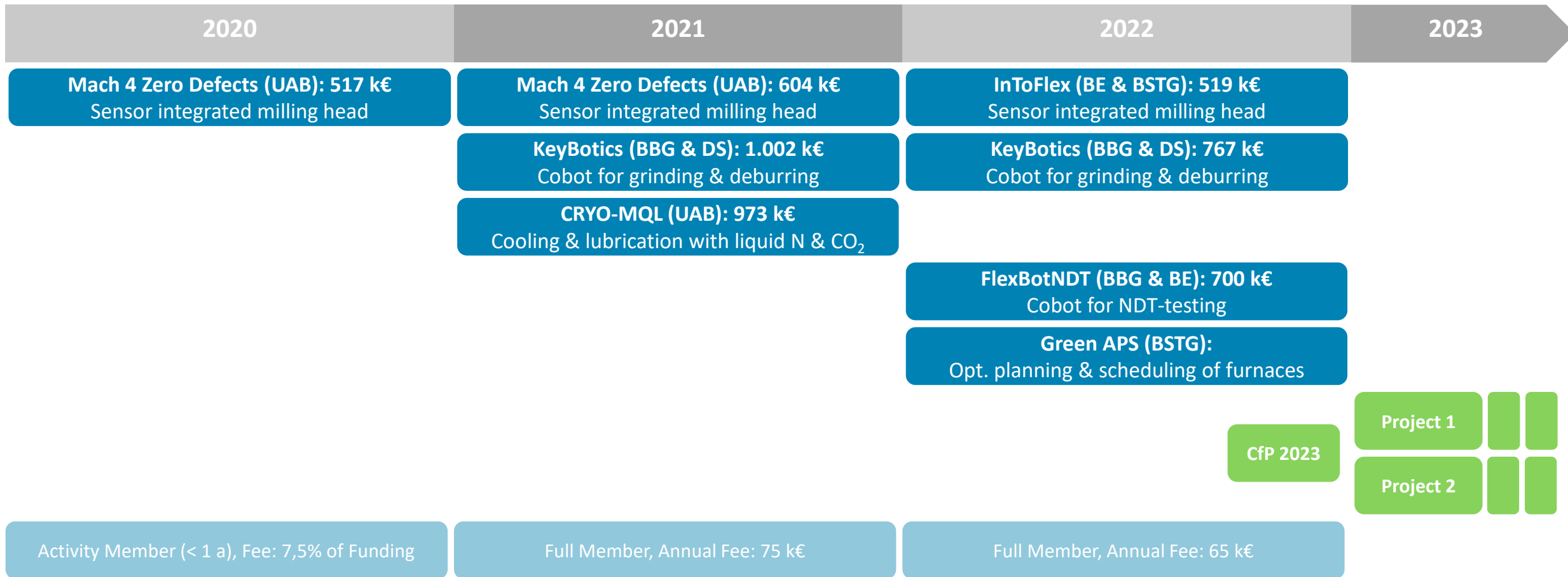


Things to consider



Running projects

EIT Manufacturing – Projects



InToFlex (2022)

Instrumented tool system for flexible production

The aim of **InToFlex** is to bring a new sensory milling head to the market, with the scope of upgrading machining to a High-Speed Zero-Defect process via adaptive control of milling process parameters.

Goals:

- » Monitor overall process condition & status of each cutting insert separately
- » Enable improvement of the process time via in-process-control
- » avoid cutting edge damage & predict tool breakage



Consortium partners:

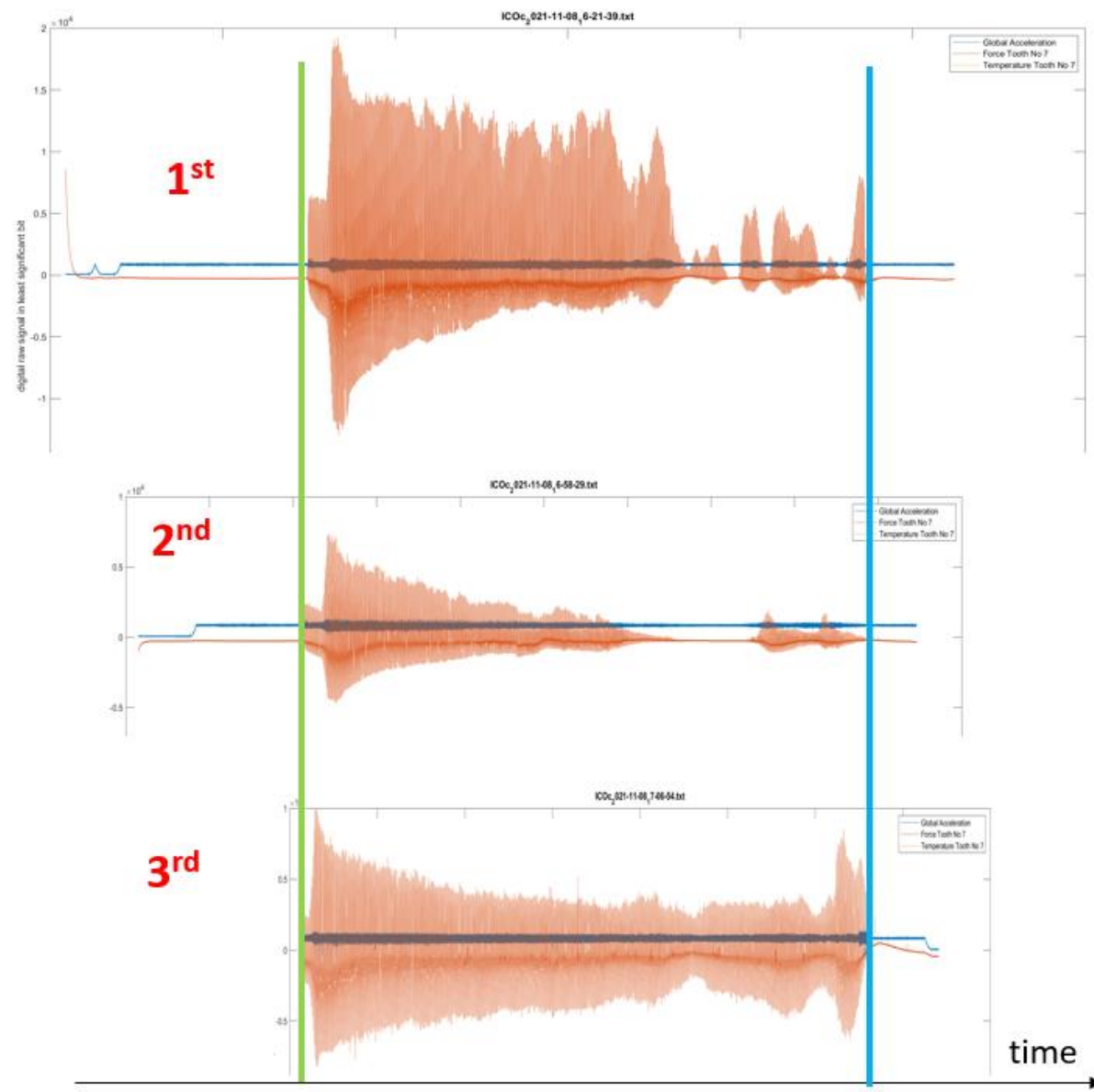
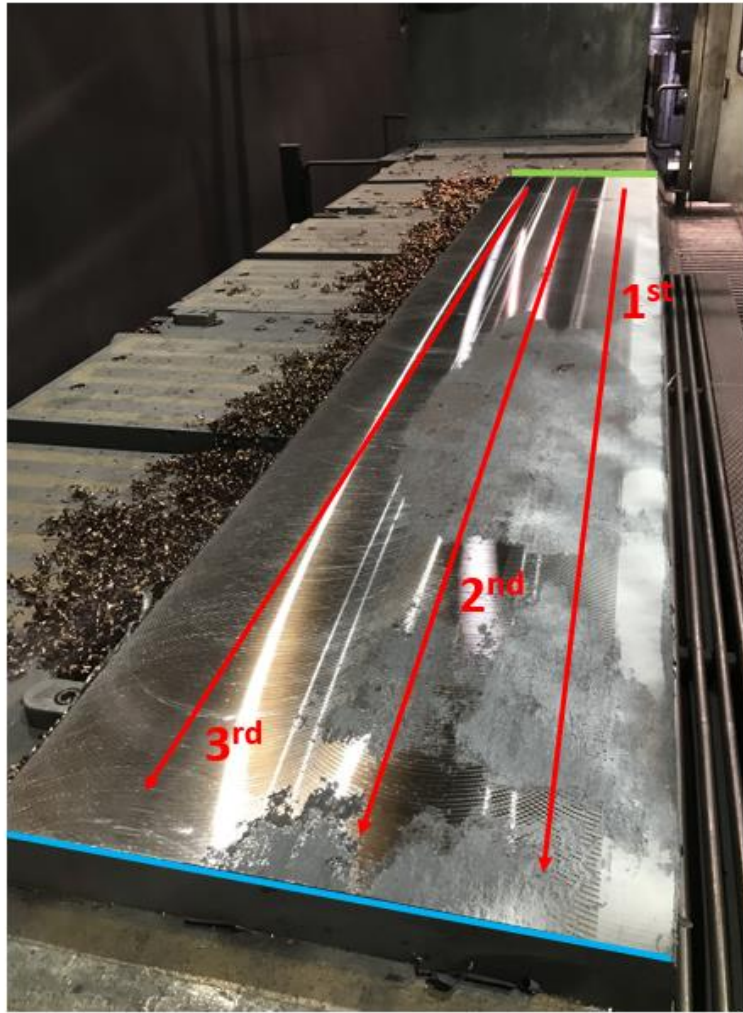
- » IFT (TU Vienna), Austrian research institute
- » MyToolIT, Supplier of components for in-process control system and development of electronic circuitry
- » LMS (Univ. of Patras), Greek research institute
- » Walter Tools, German milling tool manufacturer
- » voestalpine HPM (Buderus Edelstahl & BÖHLER Aerospace)
- » Bazigos SA, Greek manufacturer for high precision molds

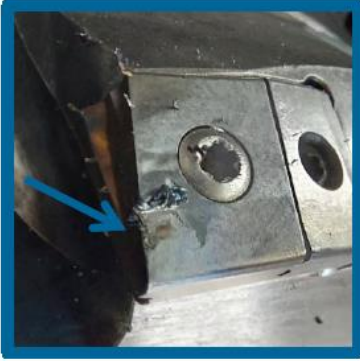
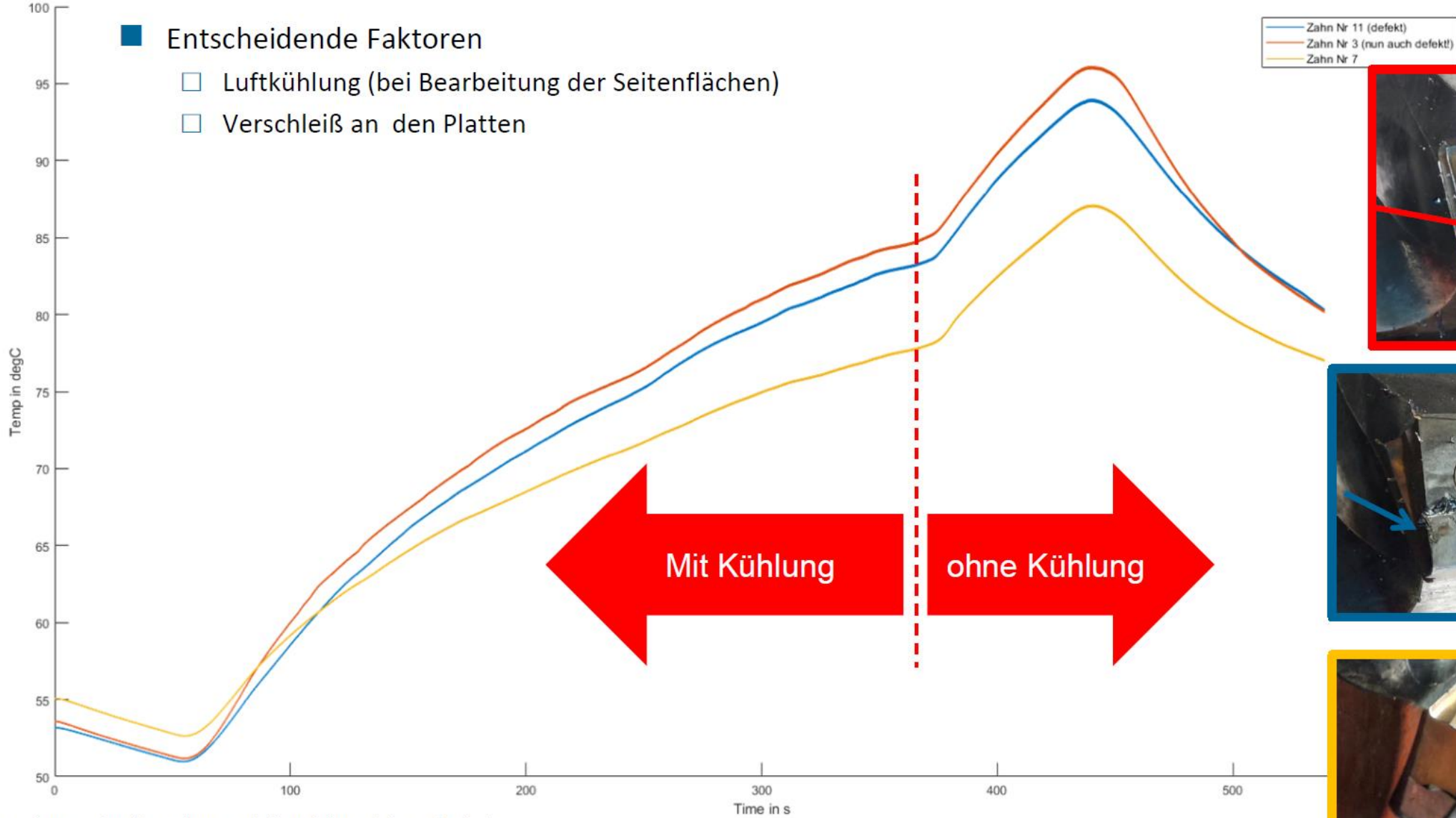
Current status:

- » Design and Construction of smaller milling head (\varnothing 125 mm) finished
- » Algorithms improved
- » Cutting test in Lab (TU Wien, Walter) conducted
- » Cutting tests at Uddeholms & Buderus Edelstahl conducted

Next Steps

- » Tests at voestalpine BÖHLER Aerospace
- » Signal analysis of gained data



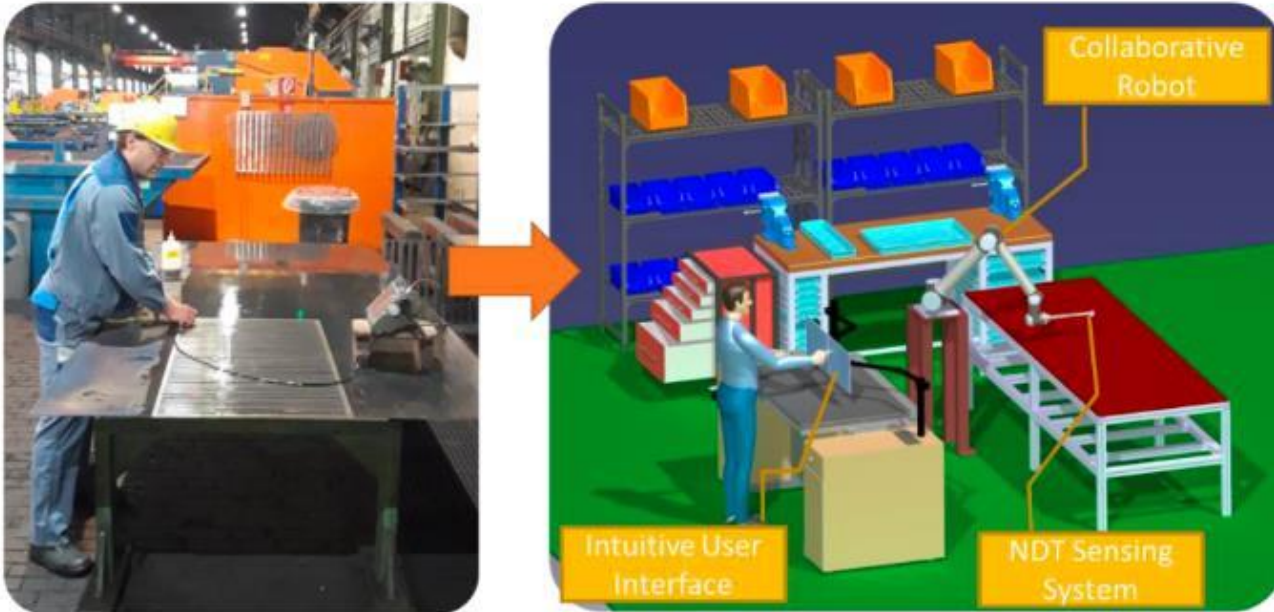


FlexBotNDT (2022)

Flexible non-destructive testing using collaborative robots

The goals of **FlexBotNDT** are

- » combine non-destructive testing and collaborative robots
- » relieve the operator from the monotonous scanning work
- » allow to direct full attention to the interpretation of the results



Consortium partners:

- » LMS (Univ. of Patras), Greek research institute
- » Joanneum Research Robotics, Austrian research institute
- » Awesome technologies, german robotics integrator
- » OndoSense, German manufacturer of Radar sensors
- » voestalpine HPM (Buderus Edelstahl & BÖHLER Bleche)

Current status:

- » Specifications defined (Mechanical, electrical, Safety)
- » Robot, Sensors & and Ultra-Sonic equipment selected
- » Design of Cobot & Peripherie under way

Next steps:

- » Finish design
- » Assemble the prototype
- » Test the prototype at voestalpine BÖHLER Bleche

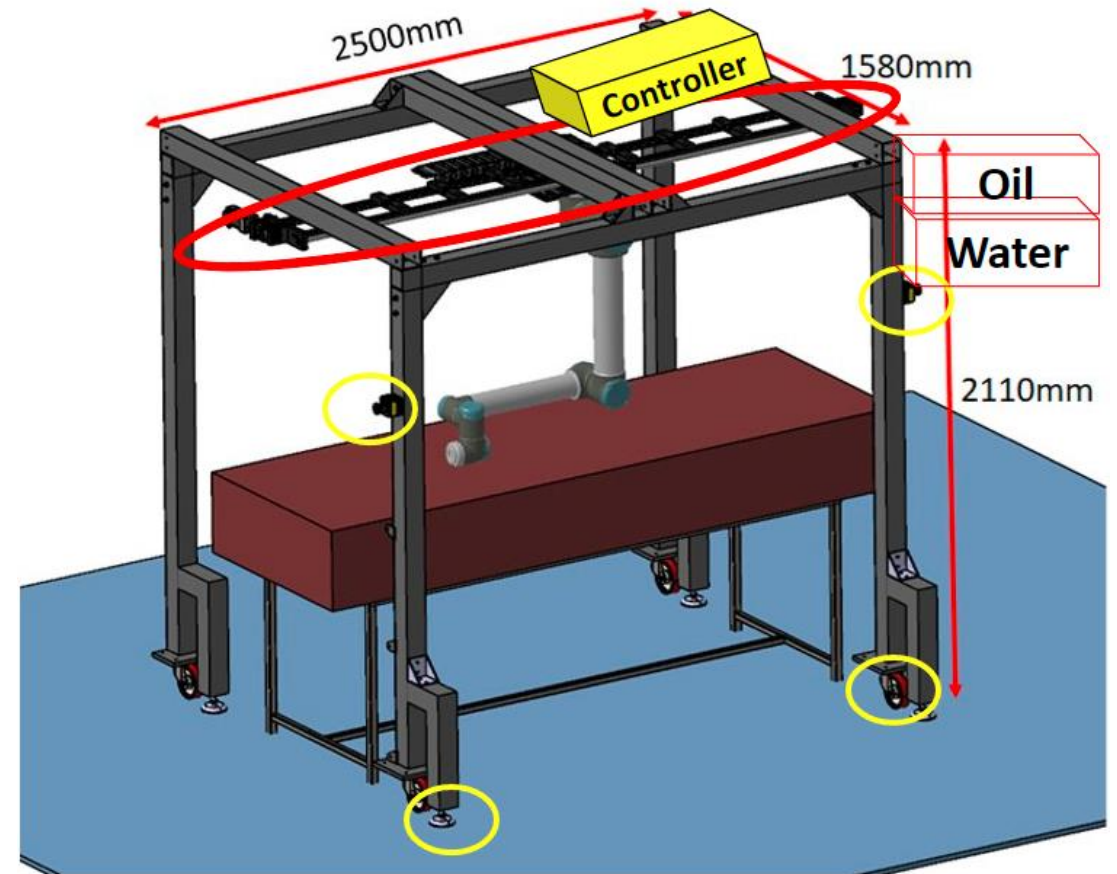
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ONE STEP AHEAD.

FlexBotNDT (2022)

Flexible non-destructive testing using collaborative robots

- » Robot hanging
 - » Periphery separate but moving
 - » Additional linear axis
-
- + Bigger range without repositioning
 - + Better safety concept
 - + Easier to integrate
 - + Easier to maintain/refill



voestalpine

ONE STEP AHEAD.

Outlook & Summary

Outlook

- » voestalpine HPM presented the following challenge to pre-selected Start-Ups (Boost-Up Challenge):

Visualize and calculate the (total) carbon contribution from raw material suppliers

- » 50 k€ funding received in 2022 for winner ChainTraced from Sweden

- » Call for proposals 2023

Traceable metallic value chain for reduced carbon footprint and increased recycling



voestalpine

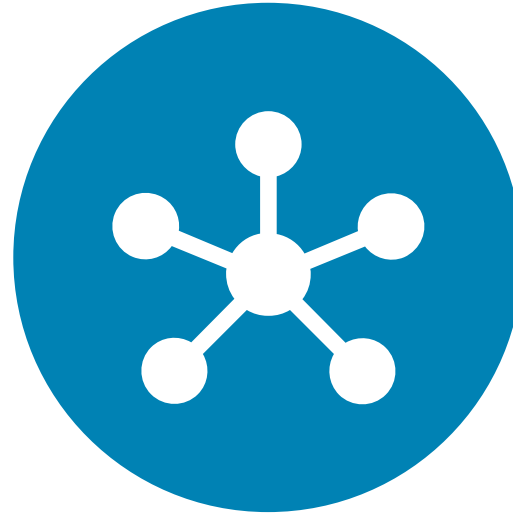
ONE STEP AHEAD.

Summary



~~Limited amount of
administrative work~~

Should improve
in the future



Interesting partner
network

Absolutely!



Funding rate
up to 50%

(of the project costs)

Funding > Fee

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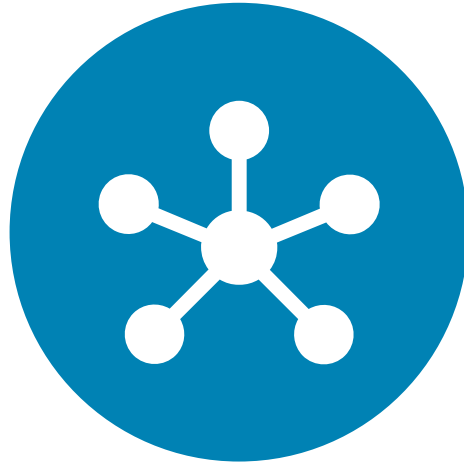
ONE STEP AHEAD.

Summary



~~Limited amount of administrative work~~

Should improve in the future



Interesting partner network

Absolutely!



Funding rate up to 50%

(of the project costs)

Funding > Fee



Cooperation with Start-Ups

- BoostUp!
- Hackathons



Additional Offers

- Networking Events
- Conferences

voestalpine

ONE STEP AHEAD.

THANK YOU!

Peter Kopfer

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voestalpine High Performance Metals GmbH
www.voestalpine.com/highperformancemetals

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ONE STEP AHEAD.

Benefits of Being EIT Community member

Examples from Hungarian EITM Member

20.10.2022

eitmanufacturing.eu



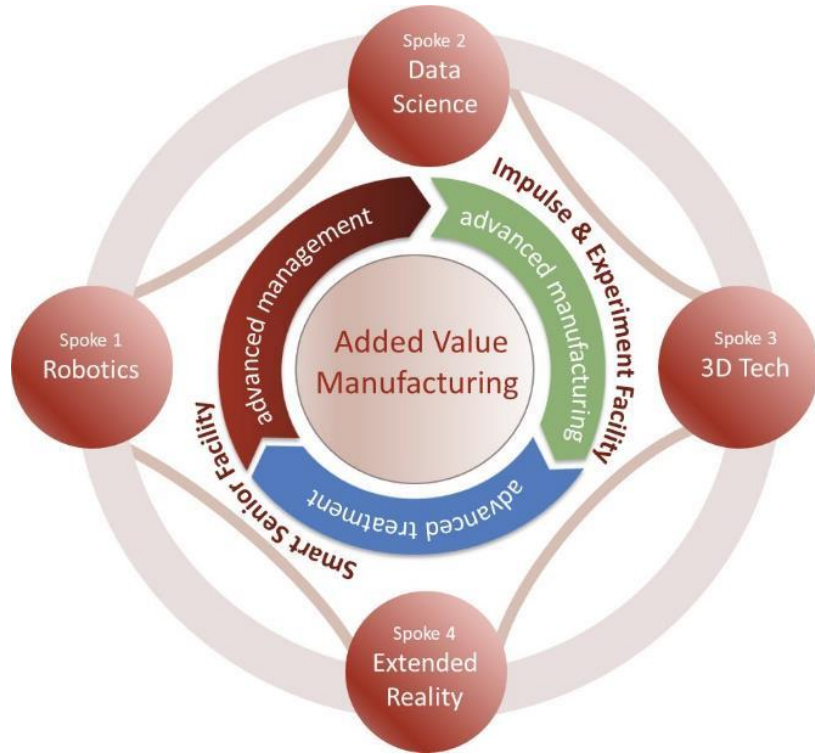
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Transformation of EIT Manufacturing World into Tangible Business

20th October 2022

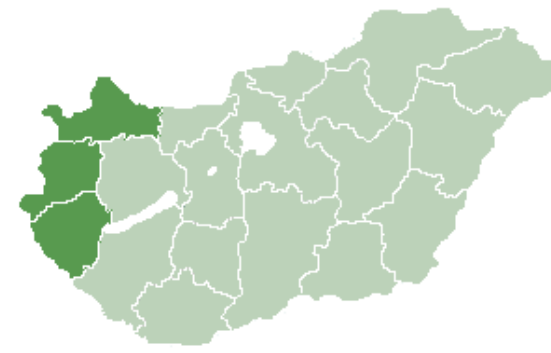


Mission Statement



Pannon Business Network is the center for **applied research** and **training** to catalyze **added value manufacturing** connected both to **industry and academia**, enabling digital, sustainable, resilient **business transformation**.

Key Indicators



450+

international partners research and cooperation projects

80+

3

partner universities

full time engineers and economists

150+

serviced business customer

No 1.

DIH in EU in 2020 by DIHNet consortium

500m²

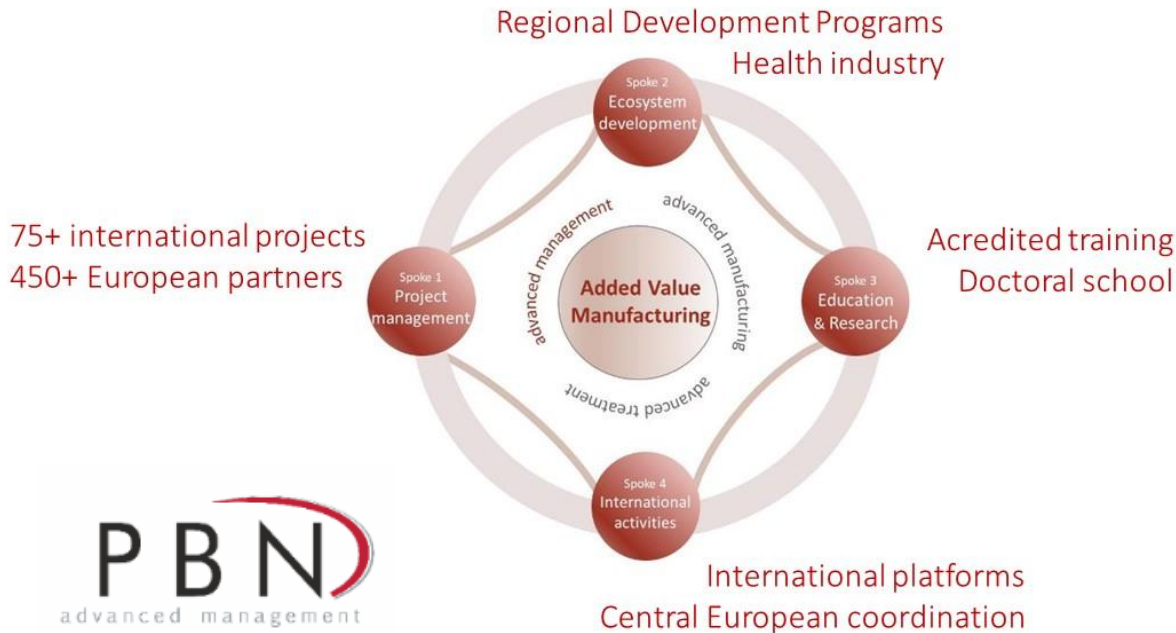
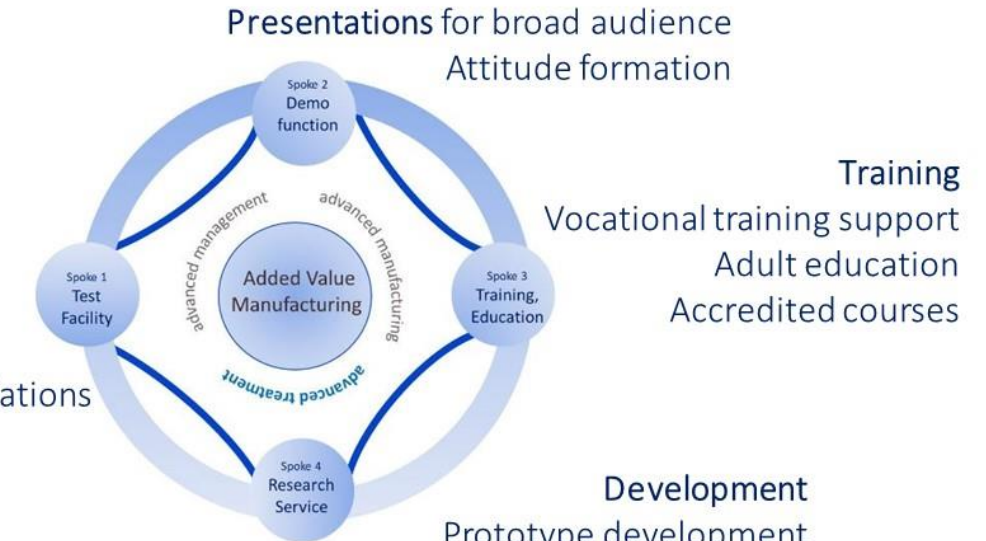
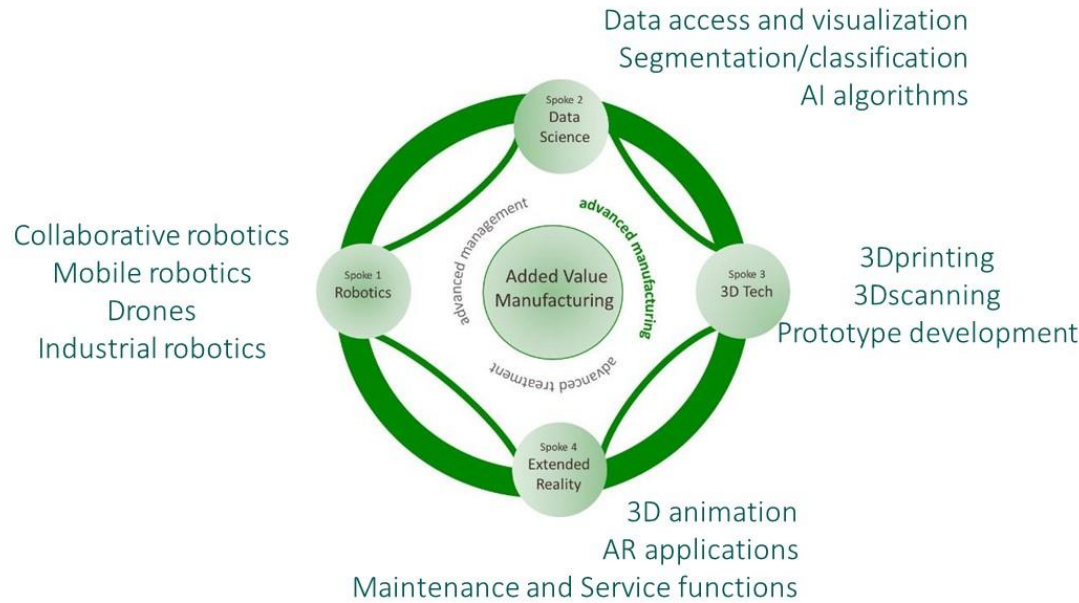
laboratory space

50+

digitalization applications used

3.000+

citizens trained on digitalization in 3 years



Digitalization recent developments



Dec 2021
Teaching and Learning Factory Unit



Mar 2022
AR manual for TLF



May 2022
Unique collaborative solution for PCB measurement



July 2022
First Machine Learning based development on TLF



Sept 2022
Palettizing collaborative solution in TLF



Feb 2022
Real Time AR application for production



Apr 2022
First touristic AR Mobile application



Juni 2022
Started Digital Twin development on TLF



Aug 2022
Started at.Home CGI animation



How to Transform actions for EIT M Compliance?

1st Step – 1 year!

EIT M Hub Contract

Getting familiar with the vocabulary, EIT M structure, schedule, persons, priorities

Key learning – EIT Manufacturing is a business-oriented entity, with investment into connectivity, into business ideas, where ROI is expected (vs. Interreg, Horizon)



How to Transform actions for EIT M Compliance?

2nd Step – 1,5 years!

EIT M Priority defined

Identifying the key USP, where we find relevance and potential, first IA project

Key areas – Teaching and Learning Factory concept, with a pre-investment into cutting edge technological equipment. EIT Innovation Action is a multistage annual call system to fund relevant activities. **One small sponsored activity to get familiar.**



How to Transform actions for EIT M Compliance?

3rd Step – 1 year

EIT IA Roll-out

Defining series of priorities, where PBN can contribute and benefit with EIT M community collaboration.

Key areas – Teaching and Learning Factory projects, 4DPrinting with smart materials, digital twin developments. **Four sponsored, exciting activities, in the value of 400.000 euro.**

How to Transform actions for EIT M Compliance?

Parallel, additional activities

EIT M Hub Services	Organizing events, dissemination about EIT M, member recruitment, training and education.
EIT M Hub National call	Co-financing of additional activities from Hungarian FFG – mentoring companies and promoting EIT M.
EIT M Doctoral School	Identifying international sponsored Master's students to do research at PBN

How to Transform actions for EIT M Compliance?

Parallel, additional activities

Joint Interreg call	Applying for B2B meetings and international activities.
EIT HEI call	Higher Education Initiative project for university and business sector integration
Start-up competition	Organizing event with 150 participants to collect health-industrial business ideas with med device manufacturers and pharma companies
EIT M member status	Becoming member of the EIT M community

Thank you!

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EIT Manufacturing Workshop

20.10.2022



Co-funded by the
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