



BayFOR

Bavarian expert on EU – funding advisory services



Bavarian
Research Alliance

Dr. Panteleïmon Panagiotou

Head of Unit

Information & Communication Technologies |

Engineering & Natural Sciences



- 1. Introduction - BayFOR**
- 2. BayFOR – Services**
- 3. Areas: Materials & Production**
- 4. Areas: Social Sciences and Humanities**
- 5. Tipps & Tricks**



1. Introduction - BayFOR

2. BayFOR – Services

3. Areas: Materials & Production

4. Areas: Social Sciences and Humanities

5. Tipps & Tricks



The Bavarian Research Alliance (BayFOR)

Initiative to promote Bavarian stakeholders into European projects, mainly for Horizon EUROPE

- Founded 2006/2007 by our Associates
- Associates:
University of Bavaria e.V. (11 x in Bavaria) and
The Bavarian Universities of Applied Sciences e.V. (20 x in Bavaria)
- Funded by the Bavarian state government and the BayFOR associates
- Headquarters in *Munich*, with branch in *Nuremberg* and liaison office in *Brussels*
- **BayFOR and its partners and cooperations:**
 - *in regional networks*: Bavarian Research and Innovation Agency (**BayFIA**)
 - *in international networks*: EU-funded Enterprise Europe Network (**EEN**)
 - with german NCPs and international networks/ EU-Partnershis (e.g. BEPA..)





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3. Areas: Materials & Production

4. Areas: Social Sciences and Humanities

5. Tipps & Tricks



BayFOR services

1. Project administrator for **BayIntAn**

- Bavarian Funding Programme
for the Initiation of International Projects



Foto: © Totolia

2. **Advisory services** for mainly EU funds for R&I

- inform, advise, partner search, application support...
- Mainly on **HORIZON EUROPE**, DIGITAL EUROPE, ERA-NET, CEF, EFRE, ECSEL, Eurostars/EUREKA, IPCEI, KIC, PENTA...



3. Various **EEN services**

BayFOR as Bavarian EEN partner supports Bavarian SMEs

- advice & support
- connecting partners
- supporting innovation





1. Project administrator for **BayIntAn**

Bavarian Funding Programme for the Initiation of International Projects

- **Establishing/Increasing international network/cooperation of Bavarian universities (of applied sciences) for participation in mainly EU research projects**
- Entitled to apply: scientists of Bavarian state and state supported non-state universities and universities of applied sciences
- Partners: at least one international partner
- Maximum grant per application: € 10,000
- Used for grants for travel and accommodation expenses and in exceptional cases material costs. BayIntAn is based on partial financing
- Further costs: The comprehensive funding of the projects must be ensured by the partners involved
- Contact: internationalisierung@bayfor.org
- Information: www.bayfor.org/internationalisation
- Subsidised by: [Bavarian State Ministry of Science and the Arts](#)



2. BayFOR as „full service provider“

5 Project management

- Administrative project management for EU projects
- Workshops/trainings for project participants
- Advice on questions related to EU project management
- Public relations for EU projects

4 Project implementation

- Support for grant agreement preparation
- Assistance with financial and organizational issues



1 Information

- General and call-specific expert advice on EU funding schemes
- Assistance in assigning project ideas to the appropriate funding scheme

2 Advisory services

- General and call-specific expert advice on EU funding schemes
- Assistance in assigning project ideas to the appropriate funding scheme

3 EU application support

- Active support for the entire application process
- Preparation of call-specific information material
- Assistance in the search for cooperation partners (EU/Intl.)



3. Various EEN-Services

- EEN: world's largest **support network for SMEs** with **international ambitions**
- 3000 experts in over 600 member organizations in more than 60 countries
- A **broad range of EEN services**:



Business Support at Your Doorstep

INTERNATIONAL PARTNERSHIPS

Partnership database

Brokerage events

Company missions

ADVISORY SUPPORT

**Advice on EU laws
and standards**

Market intelligence

IPR expertise

INNOVATION SUPPORT

**Access to finance
and funding**

**Innovation
Management Services**

Technology transfer

- In Bavaria, SMEs are supported by **10 EEN partners** (www.een-bayern.de):





Our services for you:

- Finding a match of your idea to an EU topic
- Finding Bavarian ↔ international partners for EU-proposal
- Support of your EU-application / proposal in case of Bavarian participation

Feel free to contact us
as early as possible
so that we can support you
agil & appropriately



1. Introduction - BayFOR

2. BayFOR – Services

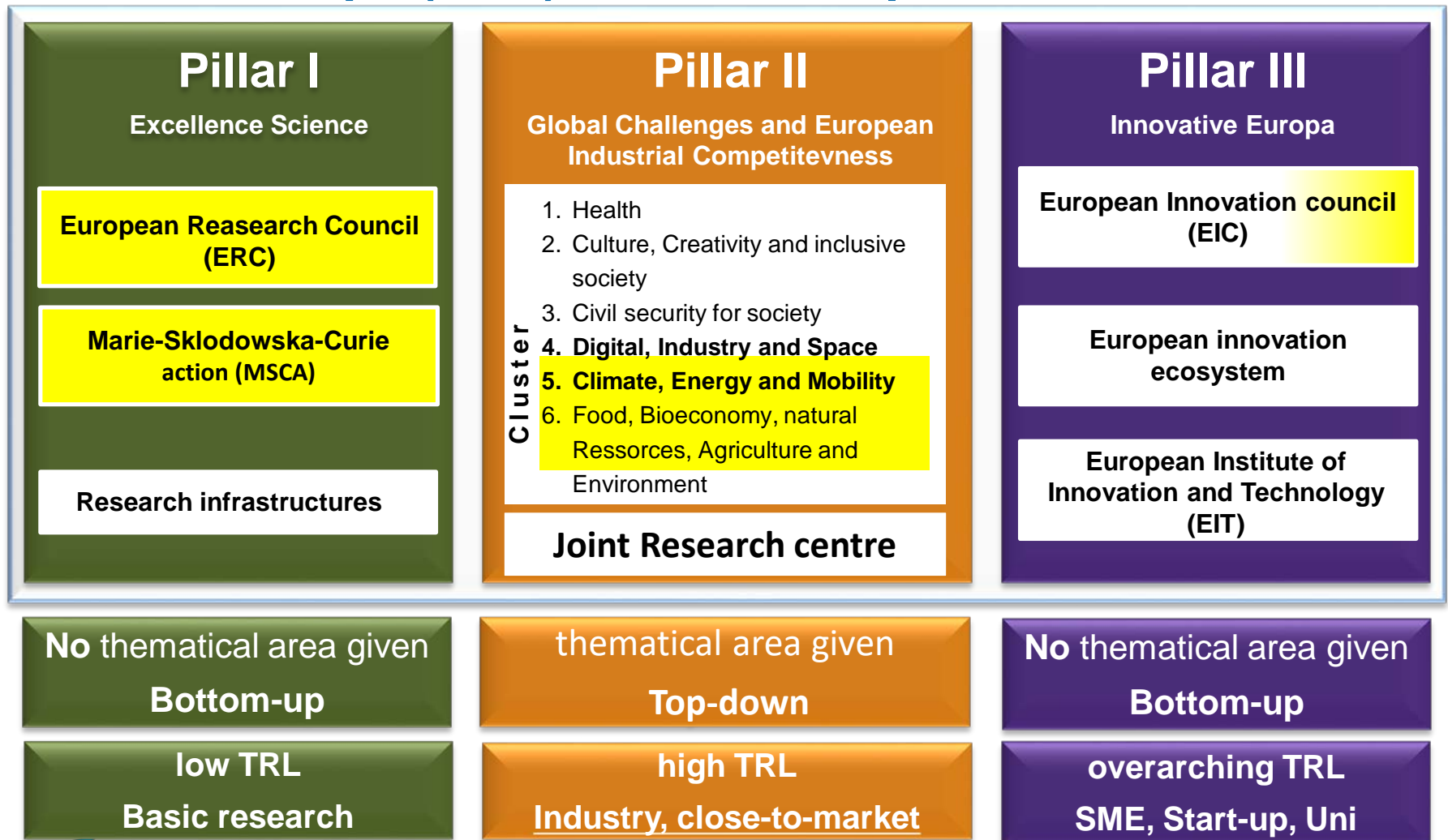
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4. Areas: Social Sciences and Humanities

5. Tipps & Tricks

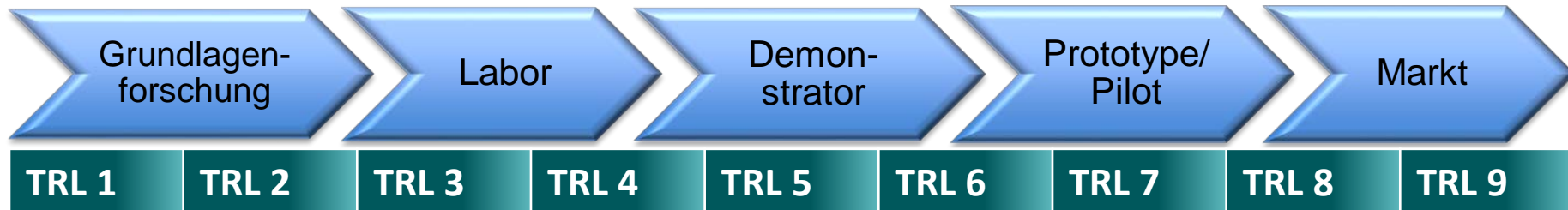
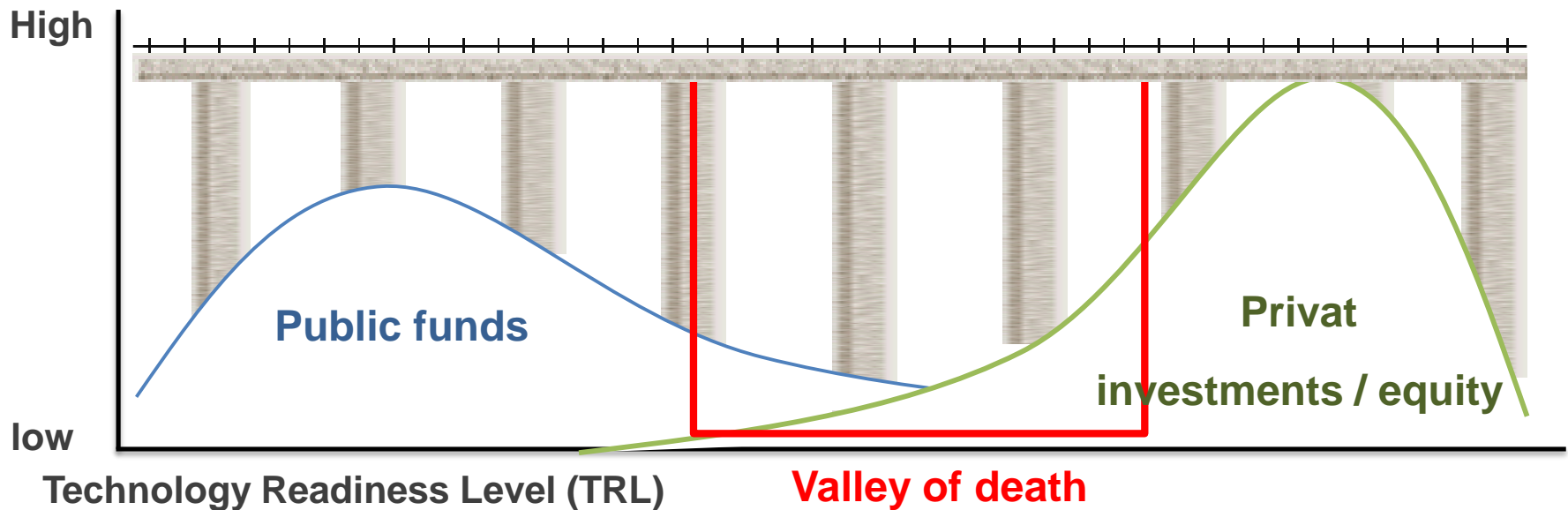


Horizont Europa (HEU): 2021 - 2027 prelam. structure





HORIZON EUROPE: closing the funding gap





HORIZON EUROPE – TRL correlation to pillars I - III

TRL	1	2	3	4	5	6	7	8	9
Definition	Basic principles observed	Technology concept formulated	Experiment. Proof of concept	Technology validated in lab	Technology validated in relevant environment	Technology demonstrated in relevant environment	Prototype demonstration	System complete and qualified	System proven in operational environment

Pillar I MSCA

Pillar II (RIA)

Pillar II (IA)

P III Pathfinder

P III Transition

P III Accelerator

Pillar III EIT (e.g. Raw Maters)



Work Programme Cluster 4 „Digital, Industry, and Space“

HEU > Pillar II > Cluster 4 > 6x Destination

Destination 1:

Climate neutral, circular and digitized **production**

Destination 2:

Increased autonomy in key **strategic value chains** for resilient industry

Destination 3:

World leading data and computing technologies

Destination 4:

Digital and emerging technologies for competitiveness and fit for the green deal

Destination 5:

Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications, and data

Destination 6:

A human-centered and ethical development of digital and industrial technologies



Work Programme Cluster 4 „Digital, Industry, and Space“

HEU > Pillar II > Cluster 4 > Destination 1 - 2

Destination 1:

Climate neutral,
circular and digitized
production



AI; robotics; smart, green, agile, data-driven manufacturing;
zero-defect; laser; bio-based materials; automatisisation

utilisation of energy, water, waste; plastic waste

Sectors: construction; metallurgy; steel; process industry

Destination 2:

Increased autonomy
in key **strategic
value chains** for
resilient industry



Materials: Composites, raw, Africa, value chains, sustainable-by-design; plastic & polymers; chemicals

Product life-cycle; Bio-materials database; Nano-coatings;
metallic coatings

Social factory/housing; hydrogen storage; solar fuels; catalytic
reactors



Work Programme Cluster 4 „Digital, Industry, and Space“

HEU > Pillar II > Cluster 4 > Destination 3 - 4

Destination 3:

World leading data
and computing
technologies



Data: green & responsible; management; mining, aggregation

Cloud-Edge-IoT; meta operating systems; next generation
computing & systems

Destination 4:

Digital and emerging
technologies for
competitiveness and
fit for the green deal



Processors: ultra-low-power, secure, open source; functional
electronics;

Photonics: optical communication; integrated circuits

6G-Network; AI, Data & Robotics; spintronics; bio-intelligent
manufacturing; quantum computing/communication/sensing;



Work Programme Cluster 4 „Digital, Industry, and Space“

HEU > Pillar II > Cluster 4 > Destination 5 - 6

Destination 5:

Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications, and data



Satellite communication; on-orbit operations;

Copernicus: services for climate, atmosphere, security, emergency

EGNSS: Green Deal, Safety, crisis, digital age

Destination 6:

A human-centered and ethical development of digital and industrial technologies



AI: trust; EU-Network of AI Excellence clusters; gender, race and other biases; disinformation

Internet of trust; next generation internet; art-driven use experiments and design

eXtended Reality: modelling, collaborative telepresence, media, ethics, interoperability; workforce for industry 5.0



Work Programme Cluster 5 „Climate, Energy and Mobility“

HEU > Pillar II > Cluster 5 > 6x Destination

Destination 1:
Climate sciences and
responses

Destination 2:
Cross-sectorial solutions
for climate transition

Destination 3:
Sustainable, secure and
competitive energy supply

Destination 4:
Efficient, sustainable, and
inclusive energy use

Destination 5:
Clean and competitive
solutions for all transport
modes

Destination 6:
Safe, Resilient Transport
and Smart Mobility
services for passengers
and goods



Work Programme Cluster 5 „Climate, Energy and Mobility“

HEU > Pillar II > Cluster 5 > Destination 2 + 4

Destination 2:
Cross-sectorial
solutions for climate
transition



Battery: raw materials; recycling; high-performance; LiB (Generations 3b, 4a, 4b); EV; other applications; cell manufacturing; manufacturing technologies

Emerging technologies: Fuel cells, energy generators/distribution/storage, negative GHG emissions; methane cracking; non-CO2 GHG removal; carbon capture; SSH for climate, energy & mobility; super-labs

Destination 4:
Efficient, sustainable,
and inclusive energy
use



Energy-efficient buildings: certification; **renovation**; monitoring; heat supply; heat-to-power conversion; technology integration; recycled **materials**; EU **Bauhaus**;



Work Programme Cluster 5 „Climate, Energy and Mobility“

HEU > Pillar II > Cluster 5 > Destination 5 + 6

Destination 5:
Clean and
competitive solutions
for all transport
modes



Zero emission; BEV components/charging; Battery value chain

Aviation technologies – greenhouse gases; digital
manufacturing/maintenance

Low-carbon, clean, smart waterborne transport

Environment, human health: tailpipe/brake; noise/particle
emission

Destination 6:
Safe, Resilient
Transport and Smart
Mobility services for
passengers and
goods



Connected, Cooperative, Automated Mobility: safety; on-board
perception; infrastructure; cyber security; societal aspects; large
scale demonstrations

Multimodal, sustainable Transport systems: freight; green last
mile; infection on ships; safe automation @ aviation

Safety & resilience @ all modes: safe lightweight vehicles; road
safety in Africa



HEU: structure & examples on MAT & Prod-topics

HEU > Pillar II > Cluster 4 > Destination 1 + 2

DESTINATION 1 – CLIMATE NEUTRAL, CIRCULAR AND DIGITISED PRODUCTION

Call - TWIN GREEN AND DIGITAL TRANSITION 2021 (Production)

CL4-2021-TWIN-TRANSITION-01-01: AI enhanced robotics system for smart manufacturing (IA)

CL4-2021-TWIN-TRANSITION-01-02: Zero-defect manufacturing towards zero-waste (IA)

CL4-2021-TWIN-TRANSITION-01-03: Laser-based technologies for green manufacturing (RIA)

CL4-2021-TWIN-TRANSITION-01-05: Manufacturing technologies for bio-based materials (RIA)

CL4-2021-TWIN-TRANSITION-01-07: Artificial Intelligence for sustainable, agile manufacturing (IA)

DESTINATION 2 – INCREASED AUTONOMY IN KEY STRATEGIC VALUE CHAINS FOR RESILIENT INDUSTRY

Call - A DIGITISED, RESOURCE-EFFICIENT AND RESILIENT INDUSTRY 2021 (Materials)

CL4-2021-RESILIENCE-01-14: Develop. of more energy efficient electrically heated catalytic reactors (IA)

CL4-2021-RESILIENCE-01-16: Creation of an innovation community for solar fuels and chemicals (CSA)

CL4-2021-RESILIENCE-01-17: Advanced materials for hydrogen storage (RIA)

CL4-2021-RESILIENCE-01-20: Antimicrobial, Antiviral, and Antifungal Nanocoatings (RIA)

CL4-2021-RESILIENCE-01-25: Biomaterials database for Health Applications (CSA)



HEU: structure & examples on MAT & Prod-topics

HEU > Pillar II > Cluster 5 + 6 > Destination 2

Cluster 5

DESTINATION 2 – Cross-sectoral solutions for the climate transition (Materials & Production on Battery)

CL5-2021-D2-01-01: Sustainable processing, refining and recycling of raw materials

CL5-2021-D2-01-02: Advanced high-performance Generation 3b Li-ion batteries supporting.. mobility..

CL5-2021-D2-01-03: Advanced high-performance Generation 4a, 4b (solid- state) Li-ion batteries....

CL5-2021-D2-01-04: Environmentally sustainable processing techniques applied to large scale electrode and cell component manufacturing for Li ion batteries

CL5-2021-D2-01-05: Manufacturing technology development for solid-state batteries....

Cluster 6

Destination 2 – Fair, healthy and environmentally-friendly food systems from primary production to consumption

CL6-2022-CircBio-02-01: Increasing the circularity in textiles, plastics and/or electronics value chains

CL6-2022-CircBio-02-02: Integrated solutions for circularity in buildings and the construction sector

CL6-2022-CircBio-02-04: innovation for sustainability and EoL options of biodegradable bio-based plastics

HORIZON-CL4-2021-TWIN-TRANSITION-01-01: AI enhanced robotics system for smart manufacturing (IA)

uniform
topic-Structures
TOPIC-Struktur
of all work
programmes

Budget
&
Consortia

Specific conditions	
<i>Expected EU contribution per project</i>	The EU estimates that an EU contribution of between EUR 8.00 and 12.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 30.00 million.
<i>Type of Action</i>	Innovation Actions
<i>Technology Readiness Level</i>	Activities are expected to start at TRL 5 and achieve TRL 7 by the end of the project – see General Annex B.

Expected Outcome: Projects are expected to contribute to the following outcomes:

- Provide safe, highly flexible, reconfigurable and modular solutions, allowing fast response to repurposing changes in production requirements, reducing considerably programming effort and configuration time for new products;
- Demonstrate significant improvements towards a meaningful and seamless social collaboration in teams of human workers, autonomous agents and robots by exploiting the latest advancements in AI, robotics and Social Sciences and Humanities (SSH);
- Create a network of open-access pilots to allow new users, especially students, start-ups, representatives from the makers' community and SMEs, to experiment new technologies and to enable data and knowledge sharing through the European industrial ecosystems.

POLICY
➔ ➔ TOPIC

Scope: EU and Associated countries need to strengthen their capacity to manufacture and re-manufacture goods in a sustainable and competitive way to be ready to expand into new value chains. The recent crisis has also shown the importance of resilient, flexible, reconfigurable and responsive data-driven manufacturing lines.

Research activities should be multi-disciplinary and address all of the following areas:

- Development of robust, easy to use, explainable and compliant AI tools for manufacturing environments that require minimal learning and can be configured without highly skilled personnel;
- Implement and integrate the latest research findings on technologies such as sensors, actuators, control, edge computing, haptic technologies, mechatronics, robotics and autonomous systems to enhance collaborative robotics systems in order to develop advanced smart manufacturing human-machine collaborative systems ensuring safe physical and social interactions and efficient collaboration with human workers;
- Demonstrate complex, safe and efficient collaboration between multiple agents simultaneously, e.g. humans, autonomous agents, industrial machinery, AGVs and collaborative robots;
- SSH should provide a variety of human-centric approaches to develop smooth collaboration in the human-machine teams and to increase user experience, awareness, comfort, trust, skill and safety (physical and social) of workers in highly automated industrial environments by incorporating a greater understanding of linguistic, historic, and cultural concerns of end-users and workers, while taking into consideration a gender and intersectional perspective;
- Demonstrate results in at least three large-scale industrial use-cases, targeting sectors and tasks typically difficult to automate.

BUZZ WORD
„DEMONSTRATE“
== USE CASES

POLICY
→ → TOPIC

POLICY
→ → TOPIC
→ → Use cases

Proposals should provide a business case and strategies for transferring the developed technologies to other industrial applications and areas. Interoperability for data sharing should be addressed.

Research must build on existing standards or contribute to standardisation. Additionally, a strategy for skills development associating also relevant social partners must be presented.

All projects should build on or seek collaboration with existing projects and develop synergies with other relevant European, national or regional initiatives, funding programmes and platforms.

In order to achieve the expected outcomes, International Cooperation is advised, in particular with Japan or Korea.

European Partnerships

This topic implements jointly the co-programmed European Partnerships Made in Europe and AI, Data and Robotics.



Bavarian
Research Alliance

Thank you for your attention

Bavarian Research Alliance (BayFOR)

@ Bavarian Research and innovation agency (BayFIA)

@ Enterprise Europe Network (EEN)



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Christine Reeb

HQ München

Prinzregentenstraße 52
D-80538 München

Dr. Panteleïmon Panagiotou

Head of unit

Information & Communication Technologies |
Engineering & Natural Sciences

Tel.: +49 (0)89 99 01 888-130

Email: panagiotou@bayfor.org

Internet: www.bayfor.org



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Research and
Innovation Agency

Panteleïmon Panagiotou (MAT) & Philip Pfaller (SSH) | Slovenian-Bavarian Scientific Forum



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