german-french academy
for the industry of the future
founded by IMT and TUM

CALL FOR PROPOSALS 2023
Smart Technologies ensuring Secure Operations in Industry

1. About the German-French Academy for the Industry of the Future

The German-French Academy for the Industry of the Future (GFA) is a bilateral initiative created and officialized during the German-French digital conference on October 27, 2015.

TUM and IMT have been engaged to convert the political wish expressed by both our governments, which is to enhance the competitiveness of our economies, foster the French-German cooperation and address the digital transformation of our industry. In order to pursue these objectives, the GFA acts in three areas: research, education and innovation.

On a research level, the Academy has funded 29 TUM/IMT research tandem projects since 2017 with a strong benefit for the ecosystem.

2. Context of the Call for Proposals

In an era of rapid digitalization and interconnectivity, the industrial sector faces increasing challenges related to cybersecurity. With the advent of Industry 4.0 and the Internet of Things (IoT), industrial facilities have become more interconnected than ever before. While these advancements bring numerous benefits, they also introduce vulnerabilities that can be exploited by malicious actors. Cyberattacks targeting industrial control systems can disrupt operations, compromise sensitive data, and pose significant risks to safety and productivity.

This Call for Proposals invites participants to propose smart novel technologies and methodologies that enhance the security of industrial operations. These may include robust authentication and access control mechanisms, secure data governance frameworks and communication protocols, as well as intelligent threat monitoring solutions for example. Additionally, proposals focusing on secure remote access, resilient supply chain solutions and incident response mechanisms are also encouraged.

By supporting research and development in secure industrial technologies, this initiative strives to protect critical infrastructure and ensure the smooth and reliable functioning of industrial processes as well as industrial management. It seeks to create a collaborative environment where experts from various domains can come together to tackle the evolving cybersecurity challenges faced by the industry.

3. Objectives of the Call for Proposals

The call is dedicated to fund seed project phases of 12 months. Carried out jointly by researchers from IMT, TUM and industry, this initial “seed phase” addresses technological and structural issues concerning secure operations in industry by outlining innovative solutions with a strong potential for third-party acquisition and technology transfer.

The Seed phase targets the creation of proposals for third-party funding.

Expected outcomes of the seed phase can be:

- a White Paper or a position paper, and/or other joint publications,
- a fully detailed proposal towards third-party funding (e.g.: Horizon Europe or ANR-DFG call),
- a scientific workshop or conference, summer or winter schools, or a dedicated event to share the outcomes and know-how to the community,
- a proof of concept, prototype or demo,
- a design of a new methodology.

4. Reporting and expected outcomes

A final report presenting the results of the project has to be provided to the GFA, as well as:

- joint scientific publications,
- new project proposal,
- proof of concept, prototype or demo (if applicable),
- participation in scientific conferences,
- abstract,
- iconic picture,
- bios of researchers,
- press articles (already published ones (if applicable) and a press release for us to use).

5. Topics and Collaboration Areas

Secure operations are necessary in a broad range of industrial and societal areas: manufacturing, health, economy, digitalization and management. With the help of our scientific community, we have identified several relevant topics to be addressed, including but not limited to the following.The GFA intends to promote interdisciplinary approaches and push forward the following fields in the context of secure operations for the industry:

- Artificial intelligence (AI) and machine learning (ML)
- Internet of Things (IoT) security
- Blockchain security
- Cloud security
- Quantum-resistant cryptography
- Industrial Control Systems (ICS) security
- Secure software development
- Privacy-enhancing technologies
- Cyber threat intelligence
- Supply chain security
- Human factors in cybersecurity
- Cyber-physical system (CPS) security
- Emerging technologies

These topics can be addressed with proposals by academic partners and may involve industrial partners.

The projects must involve at least one TUM researcher and one IMT or associated (e.g., EURECOM) researcher.

Also, in order to strengthen the collaboration between the GFA and researchers, participants engaged in selected projects may be invited to provide evaluations for upcoming research CfP initiated by the GFA.

6. Funding

The maximal allocated funding per project is 60.000€ in total for both TUM and IMT parties. The funding is to be approximately equally split between TUM and IMT and is subject to terms and conditions of use specific to each institution. Each side of the research group has to detail the intended use of the funding (e.g. PhD, PostDoc, Hiwi, travel, etc.).

The funding has to be used within 12 months from project start. This funding mainly aims at covering the following expenses: **travel and workshops, relevant material and equipment, and human resources.**

Please note:
TUM has specific regulations for the use of funding that must be followed. 20% of the project cost must be provided by own resources. Project funds can only be used for project-specific needs. In addition to the attached document with the most relevant TUM regulations, we recommend to adhere to the information provided by the Service Compass of the TUM ("Dienstleistungskompass").

7. Framework of the Proposals

The proposals should be submitted in accordance with the template added in the appendix of this document. Proposals must include:

- a description of the project including objectives and potential third-party funding,
- a detailed project roadmap and time frame,
- information about the human resources involved,
- a financial plan within the maximal funding allocated.

The final proposals must be sent by Wednesday, November 1 at noon, by e-mail to: diane.baumer@tum.de and paul-guilhem.meunier@imt.fr.

8. Evaluation Criteria

The proposals will be reviewed by the steering committee and researchers from our community.

The following criteria will be taken into consideration for the evaluation:

- Scientific expertise and possible complementarity of the involved teams,
- Potential for scientific and innovative breakthroughs of the project,
- Systematic approach of the project,
- Fulfillment methods of the project objectives,
- Coherence of the financial plan and the project roadmap,
- Value of the project outcomes:
    - List of relevant EU calls to which the project team would like to apply in the future

  - Planning of joint papers, especially if these are needed for the application to EU calls.
  - Initiation of a project consortium for further project development beyond the project duration
  - Robustness of the relationships between involved researchers and labs
  - Possible support from industry,
- Impact on academia, industry and society,
- Potential of acquiring third-party funding from public stakeholders and/or industry,
- Financial sustainability of the project and perspectives beyond the seed phase.

9. Time Frame

Deadline for submissions:	Wednesday, November 1, 2023, 12:00 p.m.
Notification of the selected projects:	December 2023
Kick-off of the seed phase:	starting January 2024

The GFA intends to highlight all the submitted proposals to this call and to present them later at the second edition of the Here.We.Go – The Future Industry Forum (exact date tbc) in order to showcase a comprehensive and cross-cutting approach on smart technologies ensuring secure operations in industry.

10. Contact

Please contact the project managers of the GFA should you need any further information and help in identifying researchers at the partner institution and experts from the industry.

- Diane Baumer: diane.baumer@tum.de
- Paul-Guilhem Meunier: paul-guilhem.meunier@imt.fr