This project is co-financed by the
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finanse edilmektedir



**Björn Wudka & Elham Mirzaei**

**University of Applied Sciences**

**HTW Berlin**

wudka@htw-berlin.de & mirzaei@htw-berlin.de

# Description of the Organization

HTW is the largest University of Applied Sciences in Berlin in the field of engineering and economy. The main focus of our research are safety and reliability of system groups by developing dynamic reconfiguration equipped with safety assurance to elevate and optimize industrial systems of systems behavior from both safety and performance perspectives.

Projects

- SiReSS (https://www.ifaf-berlin.de/projekte/siress/)
- CARS (https://www.ifaf-berlin.de/projekte/cars/)
- CyberFactory#1 (https://www.cyberfactory-1.org/home/)

# Description of your research interest

Our research focus are safety and reliability of system groups (Systems of Systems), which is provided by developing dynamic reconfiguration equipped with safety assurance to elevate and optimize industrial systems of systems behavior in a safely manner.

More detailed information is available by our publications:

- Robotic Systems of Systems Based on a Decentralized Service-Oriented Architecture (https://doi.org/10.3390/robotics9040078)
- A Reconfiguration Approach for Open Adaptive Systems-of-Systems (https://doi.org/10.1109/ISSREW51248.2020.00076)
- Safety Cases for Adaptive Systems of Systems: State of the Art and Current Challenges (https://doi.org/10.1007/978-3-030-58462-7_11 )
- Service-Oriented Reconfiguration in Systems of Systems Assured by Dynamic Modular Safety Cases (https://doi.org/10.1007/978-3-030-86507-8)

# Project Idea

- Objectives:
  - Deployment of Dynamic Modular Saftey Cases (DMSC) in multi-robot architectures to evaluate  and certify their saftey
  - Development of heterogenese multi-objective cooperation
  - Exploiding service oriented reconfiguration for heterogenes systems of systems

- Expected results
  - Further developments of concepts and implementations of multi-goal optimization, dynamic reconfiguration and DMSC approach including their evaluation and demonstration within an industrial use case.
  - Identifying the limitations of our approach for further improvements

# Interested Call Topics

- HORIZON-CL5-2022-D6-01-01
- HORIZON-CL5-2022-D6-01-03
- HORIZON-CL5-2022-D6-01-04

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**Björn Wudka & Elham Mirzaei**
University of Applied Sciences HTW Berlin
Safe Embedded Systems Lab
Germany
wudka@htw-berlin.de & mirzaei@htw-berlin.de
www.htw-berlin.de

REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY
AND TECHNOLOGY

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