AIT'S CYBER RANGE
FOR A SECURE DIGITAL FUTURE

EDUCATION AND TRAINING

The cyber security research group is located in the AIT Center for Digital Safety & Security. A team of internationally recognized experts is working on the latest cybersecurity technologies to protect our digital systems against the increasing cyber threats. In addition to security by design, new encryption technologies and artificial intelligence, a central focus is also on the operation of a modern cyber training center. In this „Cyber Range" at AIT, protection and defense measures as well as operational processes can be tested and trained. In this way, both technological aspects are supported in the course of the training of cyber experts, as well as operational skills are developed effectively and practically. Thus, the Cyber Range helps to increase the resilience of critical IT infrastructures in the light of the growing cyber threats on our digital and globally interconnected IT platforms.

MODERN IT-TRAINING AND SIMULATION PLATTFORM

The Cyber Range IT training and simulation platform is used to share a comprehensively necessary knowledge in the cybersecurity sector with different actors such as industry, critical infrastructure providers, research and the public sector.

The **Cyber Range** serves as a virtual environment for the flexible simulation of critical digital IT systems with different system components and user structures. It provides a secure and realistic environment for analyzing and testing incidents in different, scalable scenarios without the use of the genuine production systems of stakeholders. Thus, it is possible to test and validate security measures, verify the resilience of different IT architectures as well as to train different security processes in the enterprise, and specific incident response processes for cyber incidents in in realistic application scenarios to support security by design approaches for real world IT deployments and ensure consistent IT operations for **highest cyber security resilience.**

Due to its **flexible architecture**, the Cyber Range can be used for a variety of applications in a variety of configurations - for digital industrial control systems, digital networks and critical infrastructures. Especially the growing challenge of harmonizing the IT with the OT world in our critical infrastructure operations in terms of awareness, understanding and combined designed incident response processes needs advanced simulation and training capabilities.

This allows research, as well as industry, network operators and public actors, to work on the design, implementation and validation of new methods, technologies and processes in realistic environments in order to **achieve a higher level of security** to increase the resilience against the growing threat of cyber attacks.

OUR SOLUTION
AIT´S CYBER RANGE CONTRIBUTES TO CAPACITY BUILDING...

- cyber security training and exercise and cyber security competitions - **teaching & training of IT security operation skills** (individual & team capabilities) on different levels (beginner/advanced/professional):
  - cyber security **awareness training** for staff and management levels
  - handling of **sensitive tools** and information exchange for IT-operation personnel
  - understanding of potential attack vectors and design of enhanced **cyber incident processes** for IT-security professionals

- **modern risk management** (identify security threats and understand the value of protection methods)
- security technology validation and validation of secure system designs
- **certification** of knowledge and processes for IT-support and design staff
- application/customer specific **IT-system design** (IT and OT system)
- on site in teams
- remote access for distributed virtual team exercises
- use of cyber monitoring and defense tools

AIT´S CYBER RANGE...

- **targets on** customer specific IT-systems and architectures
- **focuses on** today´s threats & today´s ICT systems
- **anticipates** tomorrow´s threats and next generation ICT systems
- **provides** insights into how novel security technologies and processes can enhance computer security incident response
- **supports** the safe and secure design and operation of industrial control systems (ICS)

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY
Maria Leitner
Tel +43(0) 50550 2839
Giefinggasse 4, 1210 Wien
maria.leitner@ait.ac.at
www.ait.ac.at