Digital Services
Cybersecurity
Law & Society
Research
Education
Technology
Resilience

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Mission

— Our mission is to contribute with our knowledge, skills and technologies to building a **resilient digital society** and its services at all levels.

— We connect **research in various fields**, **education** and **technology**.

— We believe that a resilient digital society is a necessary condition for a safe life for the citizens of the Czech Republic and the EU, **economic prosperity, protection of democracy** and **human rights**.

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Research

– Problem-oriented **research and development**
– **Focus on practical demand** – industry, society, public sector
– We are looking for new **methods**– the ability to search for and combine them even in an unconventional way
– The fundamental need **to understand** different approaches and methods from different disciplines, sciences and technological areas
– **Multidisciplinarity** as a research mission, which transfers to education

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Research

– CERIT focuses on research based on practical demand and multidisciplinarity
– *"Understanding, Solutions –> Fundament + Synthesis"*
– Large f**undamental-oriented** research projects – **C4e**
– Large projects of **applied research** – **NC3**
– Examples
  – **AIT** in Vienna, **ETH** Zürich, St. Gallen (Europe)
  – **S2ERC** (USA with European participation)

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Research groups

— Monitoring systems, **critical infrastructures**

— **Law and Regulation**

— **Compliance and (Digital-) Forensic** activities

— **Cybersecurity** – Cutting-Edge Technologies

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Research groups – indirect

Further intensive indirect participation – future challenges

— **Hybrid threats, security studies**

— Economic analyzes and predictions, **system-wide models and measures** (certification & compliance)

— Healthy society (**e-health**)

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Education

— Professional program for Cybersecurity 2020/2021 – preliminary year

— 2021/2022 – **300 people interested** – starting Autumn 2021

— Connecting **lifelong learning courses** and **qualification framework**

— **Interims** in **public administration** and **industry**

— Anchor – the basis for future programs

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Education – in preparation

— Inspired by the **U.S. Digital Service Academy**

— Intelligence studies and **National Security**

— **Digitalization and Cybersecurity in Public Administration** and **Business**

— Education in the protection of the population

— Criminology

— CBRN security

— Cyber-defense

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Sectoral Cooperation

— Cooperation in relation to the mission of CERIT

— EU and US networks

— **European Digital Innovation Hub** services

— NC3 activities

— **Quantum** Communication Infrastructure activities

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National Cybersecurity Competence Centre (NC3)

— NC3 has been established in response to growing demands for **practically applicable products and solutions** for ensuring the cybersecurity of critical and noncritical information infrastructures.

— It focuses on the **transfer** of cybersecurity research results into practice.

Partners of NC3

Sectoral cooperation – EDIH

— **DIGITAL EUROPE** program
— Nomination for the Czech Republic Cybersecurity
— The European challenge 6/21
— Consortium of MU, BUT, CTU, RHK Brno, NSMC, i4.0, CzechInno, TC AV
— Managed by CyberSecurity Hub, reg. i.

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Sectoral cooperation – CYBERSECURITY HUB z.ú.

– Breakthrough collaboration of the strongest partners
– Masaryk University, Brno University of Technology, Czech Technical University in Prague

– Pillar – **EDIH**
– Pillar – **Law & regulation** – Certification
– Pillar – **Quantum Technologies**
– Coordinated development in the coming years for universities as bearers of key competencies

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Infrastructure

Infrastructure

— Botanická 68a – investment of MU + the Ministry of Education, Youth and Sports + the Ministry of Industry and Trade – approx. 1 billion CZK (~ **USD 50 M**)

— **CERIT SCIENCE PARK I**

— **CERIT SCIENCE PARK II** – construction from 11/2020 – opening 3/2023

— „Testbeds" – **KYPO** , KYPO AI , QYPO…

— Cyber Campus CZ – (Paris/FR, Skolkovo/RF, Beersheva/IL…)

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KYPO Cyber Range Platform

—Virtual environment for practical education of professionals and students in cybersecurity.

—In-house developed since 2013
  —supported by **Ministry of Home Affairs**
  —**National Cyber- and Information Security Agency** (NÚKIB), including National Cyber Defense Exercise "**CyberCzech**"

—**KYPO CRP** released as **open-source in 2020.**

—European Commission has identified KYPO CRP as a **key innovation**.

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CYBER CAMPUS — C2
BRNO, CZECH REPUBLIC

Faculty of Information Technology

National Centre of Cybernetic Operations

National Agency for Communication and Information Technologies

Faculty of Electrical Engineering and Communication

Czech Armed Forces

Development area Brno

Domažlická

Šumavská

Štefánikova

Botanická

Junior centre of excellence High School Čichnova

Faculty of Law MU

Hrnčířská

The National Cyber and Information Security Authority

University of Defence in Brno

Cyber Forces Command

CYBER CAMPUS — C2

Cybersecurity Innovation Hub — CIH
National Cybersecurity Competence Centre — NC3
Network Security Monitoring Cluster
Czech CyberCrime Centre of Excellence — C4E
Faculty of Informatics MU
The Institute of Computer Science MU
CERIT Science Park I-III
Šumavská Office

Industry Cluster 4.0

Brno Regional Chamber of Commerce

Faculty of Social Studies MU

The Prosecutor General's Office

BRNO CZECH REP.

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Strategic Development and Cooperation

Research, Information Technology, Law, Cybersecurity, Strategy, Cooperation, Digital Services, Society, Resilience

Conceptual Cooperation

— *Midterm horizon 2021-2026:*

— **NC3 Projects**

— **Cybersecurity Innovation Hub** – e-health, exercises, certification, KI, ..

— **IMPACT Programme** – 3x KYPO (today, tomorrow, the day after tomorrow)

— *Longterm horizon 2020-2040:*

— **Quantum experimental network** – QCI, QYPO

— **Education** – professional programs, qualification frameworks

— **CERIT Science Park** II

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Strategic Cooperation I

— Cooperation within the newly created **National Coordination Centre** (NCC) driven by EC and NSA initiatives

— Direct links to the **EU Cybersecurity Center of Excellence** (Bucharest)

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Strategic cooperation II

– Initiation – the creation of a prestigious missing entity/faculty 2021-2023

– STRATEGY, TECHNOLOGY, SECURITY

– Similar approaches – **U.S. Digital Service Academy, ETH Zürich, ENA France**

– Background CYBERCAMPUS, CERIT, NC3/CIH + external cooperation

(U.S. Digital Service Academy – The Digital Service Academy would theoretically supply the United States with a fresh stream of young talent already ideologically invested in serving the federal government. However, it would compete with elite institutions like Stanford and MIT, where graduates often have their pick of private-sector work and can still go into the public sector if they choose.)

"If the recruitment only happens where the roads are paved, you've missed a lot of opportunities and a lot of talent."

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