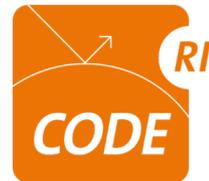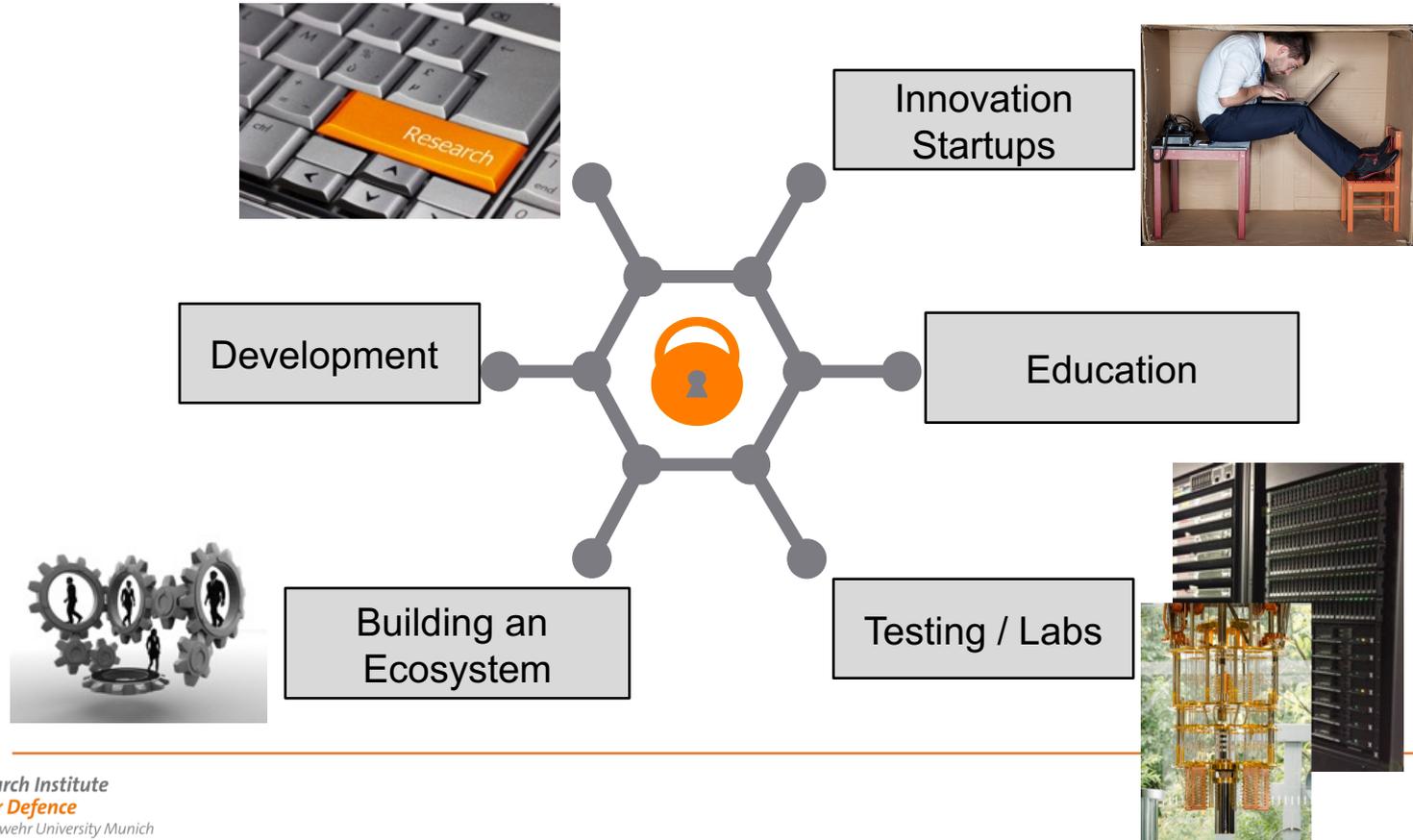# *CODE 2019*

Overview of the Activities of the Research Institute CODE

Prof. Dr. Gabi Dreo Rodosek

Executive Director

RI **Research Institute**
Cyber Defence
Bundeswehr University Munich

Research Institute CODE: Objectives

Innovation Startups

Development

Education

Building an Ecosystem

Testing / Labs

One of the Largest Cybersecurity Research Institutes in Europe

- **Founded in 2017**
- **13 professorships in cybersecurity**
- **200 Staff (planned)**
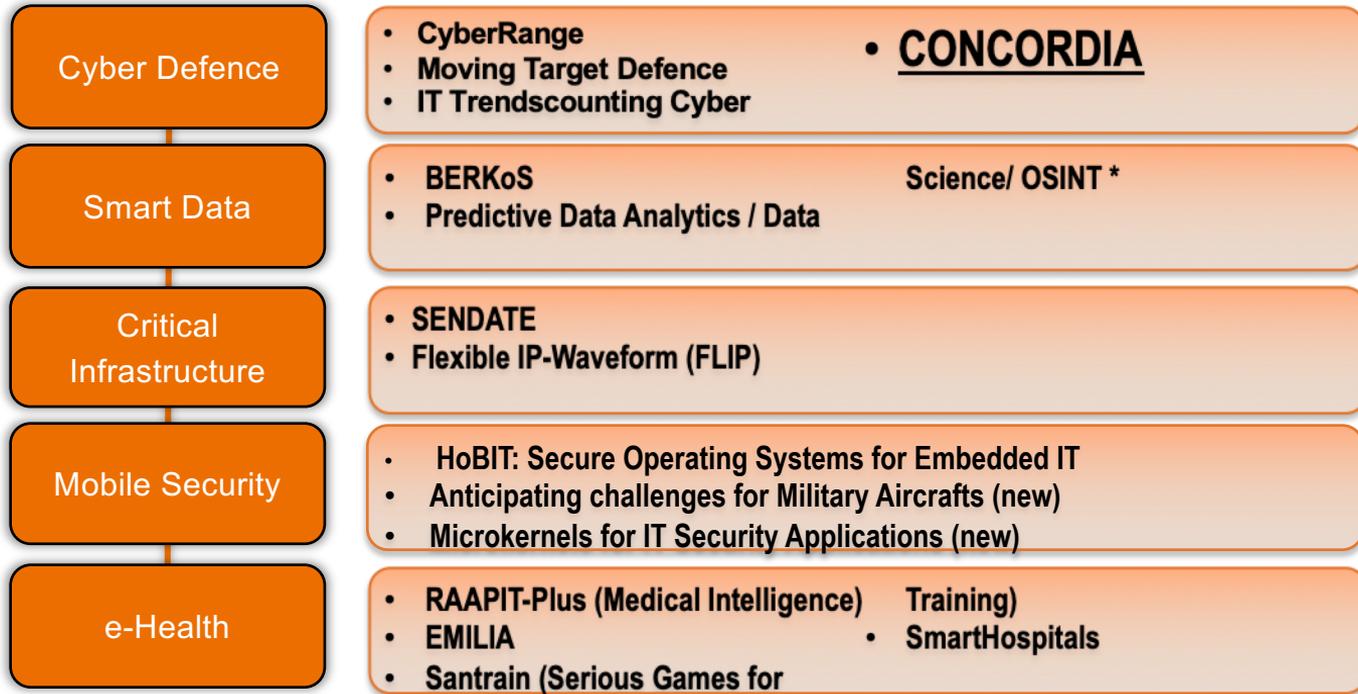- **Substantial funding by MoD, and through third-party projects**

Goal: Research and Development for a Secure Digital Society

Research Pillars

| Cyber Defence | Smart Data | Critical Infrastructures | Mobile Security | e-Health |

RI CODE
Research Institute
Cyber Defence
Bundeswehr University Munich

3

Overview of the Current Projects

Cyber Defence
- CyberRange
- Moving Target Defence
- IT Trendscounting Cyber
- **CONCORDIA**

Smart Data
- BERKoS
- Predictive Data Analytics / Data
- Science/ OSINT *

Critical Infrastructure
- SENDATE
- Flexible IP-Waveform (FLIP)

Mobile Security
- HoBIT: Secure Operating Systems for Embedded IT
- Anticipating challenges for Military Aircrafts (new)
- Microkernels for IT Security Applications (new)

e-Health
- RAAPIT-Plus (Medical Intelligence)   Training)
- EMILIA
- SmartHospitals
- Santrain (Serious Games for

* contract not signed yet

Research Institute
Cyber Defence
Bundeswehr University Munich

EU Project CONCORDIA: EU Leadership + Competitiveness + Growth
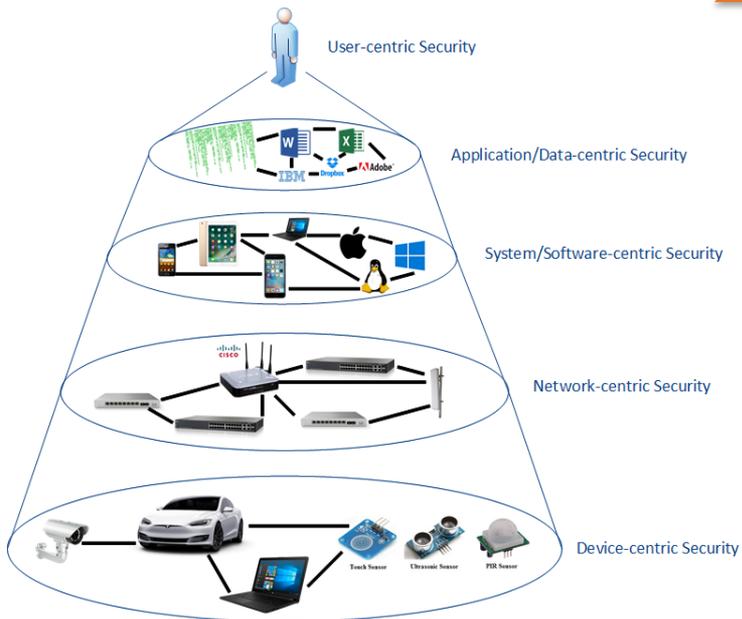
42 Partners
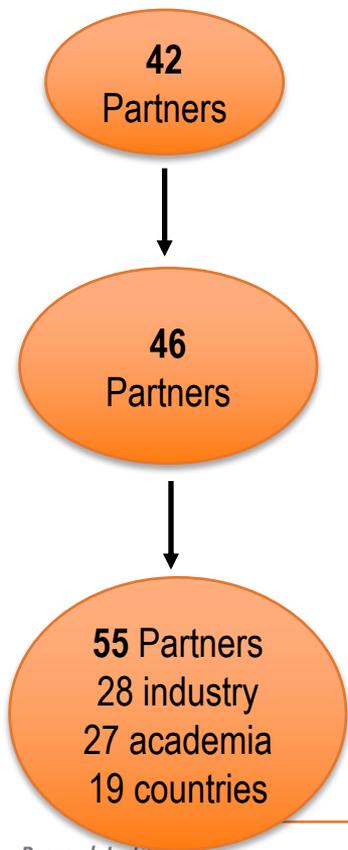
Ericsson
RISE
SBA Research
Institute Jozef Stefan

46 Partners

Allianz
DCSO
Lufthansa
Deutsche Telekom
Robert Bosch
University of Oslo
ATHENA
University of Passau
Lancaster University, and more to come

55 Partners
28 industry
27 academia
19 countries

Competences, Tech Transfer, Tools, Solutions, Services, Repositories, Education, Policies: ➡ Community Building & Roadmap
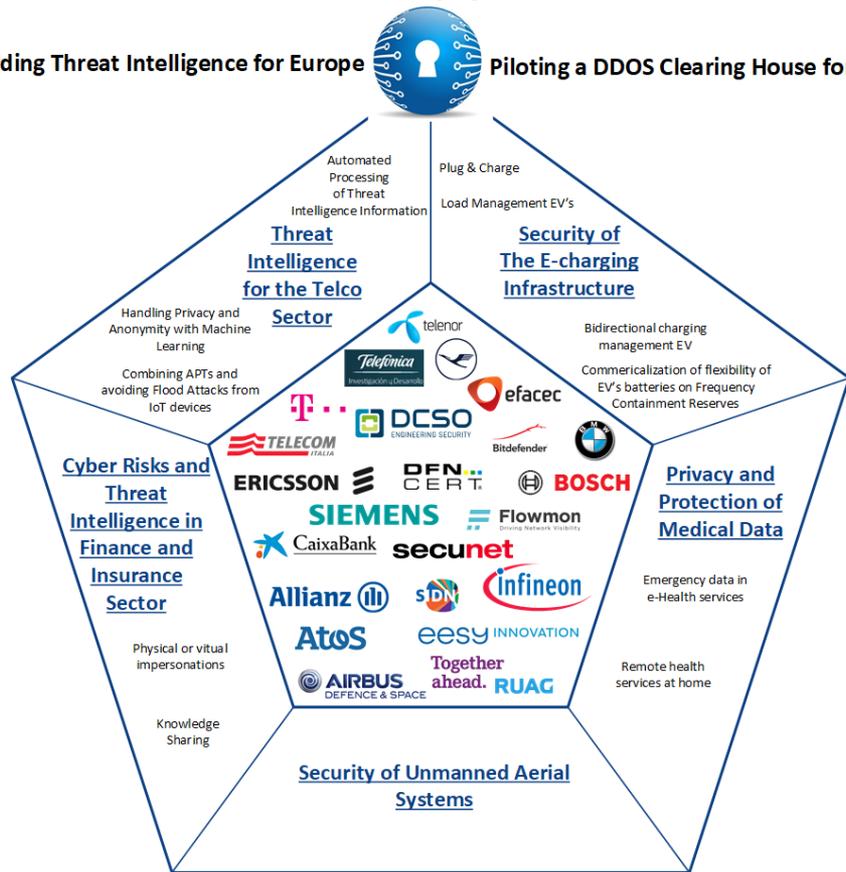
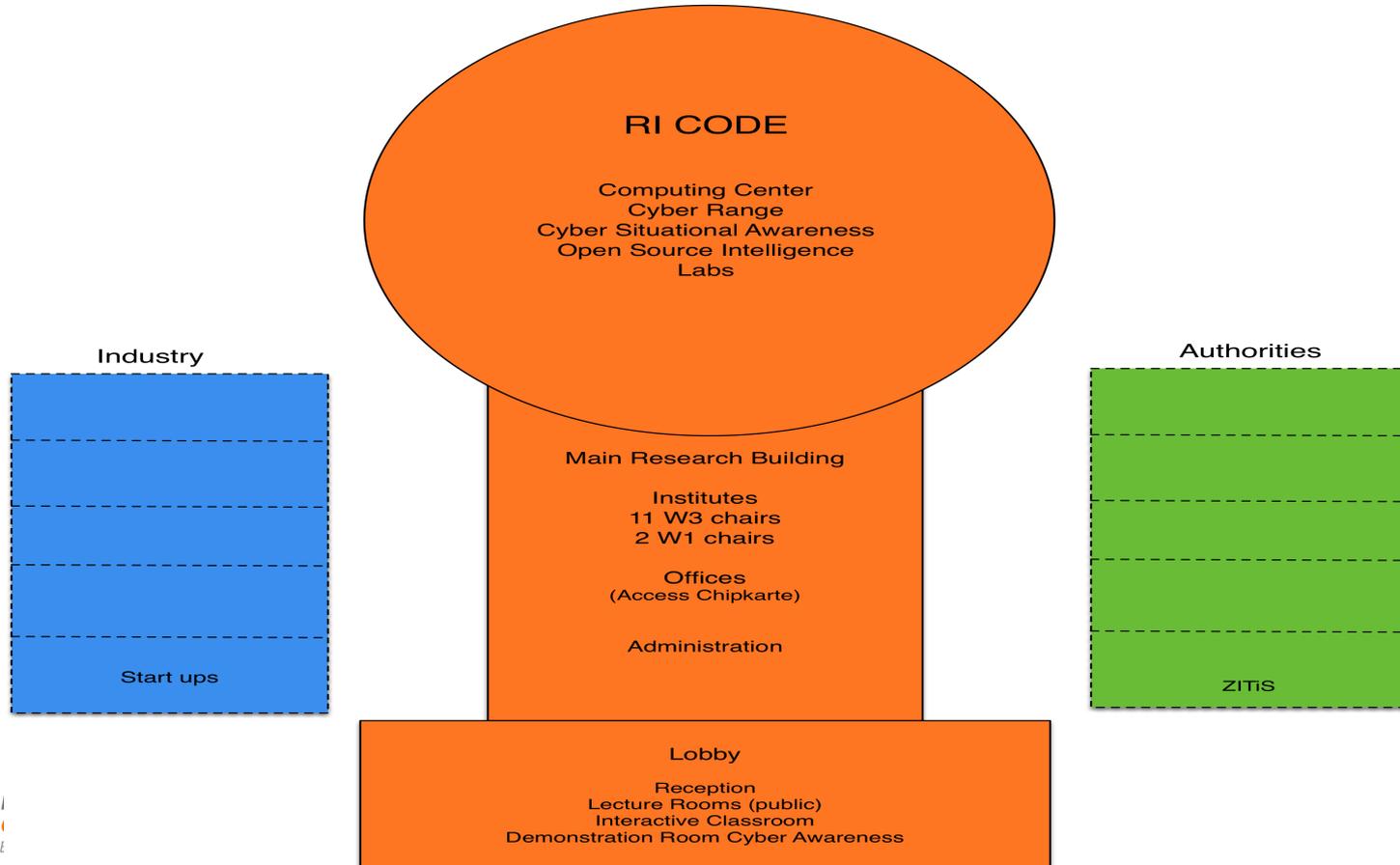# CODE (Cyber Cluster): an Ecosystem for Innovation

RI CODE

Computing Center
Cyber Range
Cyber Situational Awareness
Open Source Intelligence
Labs

Main Research Building

Institutes
11 W3 chairs
2 W1 chairs

Offices
(Access Chipkarte)

Administration

Lobby

Reception
Lecture Rooms (public)
Interactive Classroom
Demonstration Room Cyber Awareness

Industry

Start ups

Authorities

ZITiS

New Building

Together with ZITiS (Federal Ministry of Interior) with about 40.000 m2

Hinter den Kulissen im Hauptquartier im ESO

supernova.eso.org

Designated building site
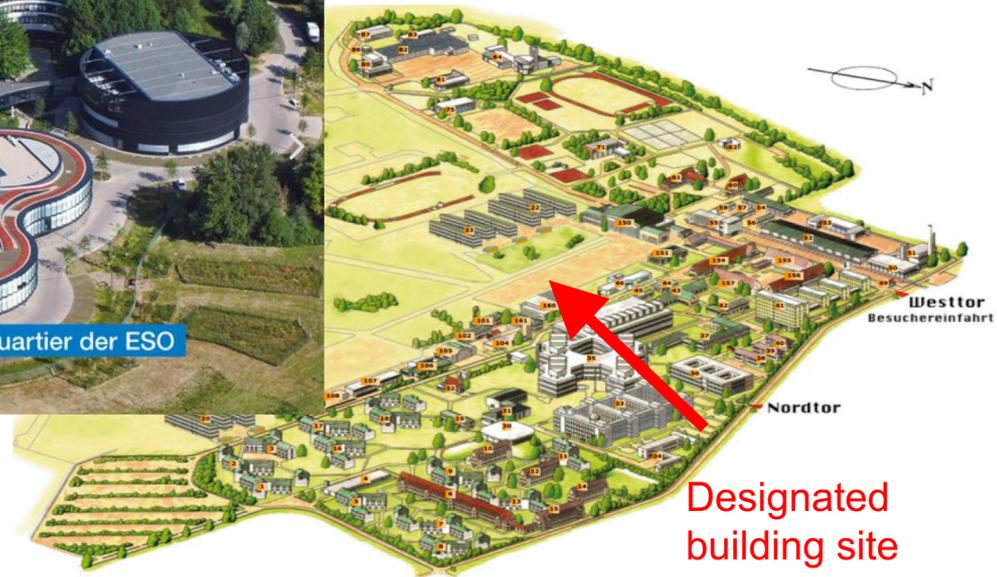
Education: Master Cybersecurity @ Bundeswehr University Munich

Master Cybersecurity (120 ECTS)

Datenschutz und Privacy	Studium plus		Studium plus Training	Wahlpflicht-module	Wahlpflicht-module
Netz-sicherheit	Wahlpflicht-module		Seminar		
Kryptologie	Anwend.-sicherheit		Wahlpflicht-module	Master-arbeit (spätestens ab 1.2.)	Master-arbeit
Hardware-sicherheit	System-sicherheit		Security- und IT-Mgmt.		
24	24		25	25	22
1	2	3	4	5	6
WT (1)	FT (2)	frei	HT (3)	WT (4)	FT (5)

CODE's Prize for Master Thesis 2018, sponsored by G+D

Research Institute
Cyber Defence
Bundeswehr University Munich

Events@CODE

Capture the Flag

CTF 2018 - Dark Fiber
November 08, 2018 — Team localos

23.11.2018 to 24.11.2018

There is no place like 127.0.0.1

Dark Fiber

Capture The Flag

In 2018, team localos and ITIS e.V. present in cooperation with the research institute CODE the next Capture The Flag (CTF) event.
On the 23rd of November from 18 o'clock on you will find challenging and exciting hours.

This year for the first time at UniBw M:

ATTACK - DEFENCE

Children's University

CODE Colloquium (New)

- Thomas Dullien, Google Project Zero
- Matthias Payer, EPFL
- Michael Franz, Uni. of California Irvine
- Shriram Krishnamurthi, Brown University
- Thorsten Holz, Ruhr-Universität Bochum
- Phillip J. Windley, Brigham Young University
- Stefan Katzenbeisser, Universität Passau
- Ben Titzer, Google Munich, ...
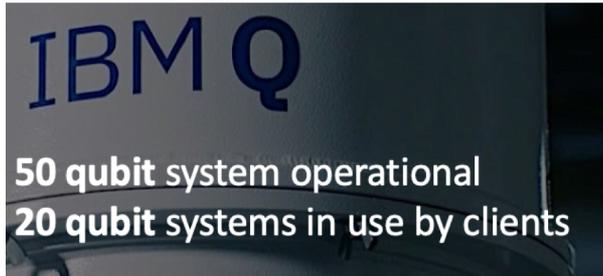

Hackathon@CODE as
a side event of the MSC (planned)

RI **Research Institute**
Cyber Defence
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Contract Signing 2018: IBM Q Hub@RI CODE

IBM Q Hubs

Building IBM Q Hub @ CODE

Accelerate Research

Collaborate with the most advanced academic and research organizations to advance quantum computing technology

Launch Commercial Applications

Engage industry leaders to combine IBM's quantum computing expertise with industry specific expertise to accelerate development of the first commercial use cases

Educate and Prepare

Expand and train the ecosystem of users, developers, and application specialists that will be essential to the adoption and scaling of quantum computing

Contract Signing 2018: Memorandum of Understanding with ENISA

Contract Signing 2019: Two Research Projects with AIRBUS

Executive Vice President Communications, Intelligence and Security - Airbus Defence and Space

Airborne Cyber Security Enhancements

Anticipating challenges for Military Aircrafts in next years

Three study topics:

- Aircraft Level: Protocol-based Electronic Warfare
- Avionics Level: Hardening Military Avionics
- Software Level: Cyber Defense on Compiler Level

- Aysegül Dersan Czeslik
  Head of Electronic Warfare
- Monika Holzmayr
  Head of Weapon System Tornado

- Prof. Dr. Wolfgang Hommel
  Chair of IT-Security for Software & Data
- Prof. Dr. Stefan Brunthaler
  Chair of Secure Software Engineering

Microkernels for IT Security Applications

- Integration of secured and verified microkernels in IT Security Applications and Systems
- Maintain the level of security during the whole life cycle

AIRBUS

- Eugenio Carlon
  Head of Cyber Engineering Germany
- Dr. Matthias Schmitz
  Cyber Engineering Germany

Research Institute
Cyber Defence
Bundeswehr University Munich

- Prof. Dr. Gabi Dreo
  Executive Director FI CODE

Research Institute
Cyber Defence
Bundeswehr University Munich

Evert Dudok

Executive Vice President of Communications, Intelligence, and Security (CIS)

Airbus Defence and Space

Thanks to our Exhibitors and Partners!