



**CONCORDIA**  
*Cyber security cOmpeteNCe fOr Research andD InnovAtion*

## Concordia Service catalogue - Zoom-in

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# HOW TO MAKE A CONCORDIAN OUT OF YOU

(a path of services to boost Cybersecurity competences)

● individual ● small or medium organization ● large organization

## NOTITIA

(be aware of the EU cybersecurity landscape)

### Cybersecurity Updates

Subscribe and receives references to the latest facts on international research, EU laws, economic aspects, funding opportunities

● ● ●

### Cybersecurity Research

Check out our scientific publications on user-, application-, software-, network-, and device-centric security

● ● ●

### Cybersecurity Improvements

Give a look to our deliverables and follow the improvements Concordia is providing to the EU cybersecurity world

● ● ●

### Concordian Media

Subscribe to our social media channels (Twitter, LinkedIn, FB, blog, and Instagram) and receive cybersecurity contents in your feeds including events such as Concordia Open Door

● ● ●

### Courses Map

To develop and/or test your cyber- skills, find on our map the courses, trainings, and cyber-ranges of your interest

● ● ●

### Women Manifesto

Support women and diversity in cybersecurity by reading, applying, and spreading our Manifesto

● ● ●

### Cybersecurity Tools

Find the right tool for your cybersecurity work in our highly organized database

● ● ●

### Open Positions

Check out our open positions in both academy and industry and develop your career in cybersecurity

●

### Startup Consultancy

Get in touch with us and grow your business through our suggested incubators, accelerators, partnerships, and more

●

### Policy Consultancy

Ask for support in your policy work and receive updated insights on new technologies and other trends in cybersecurity

● ●

## PACTA

(engage with Concordians and benefit from EU collaborations)

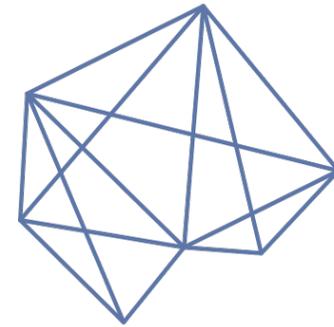
# CYBER RANGES & TRAININGS

We will provide outstanding trainings together.



# Do we have Cyber Ranges?

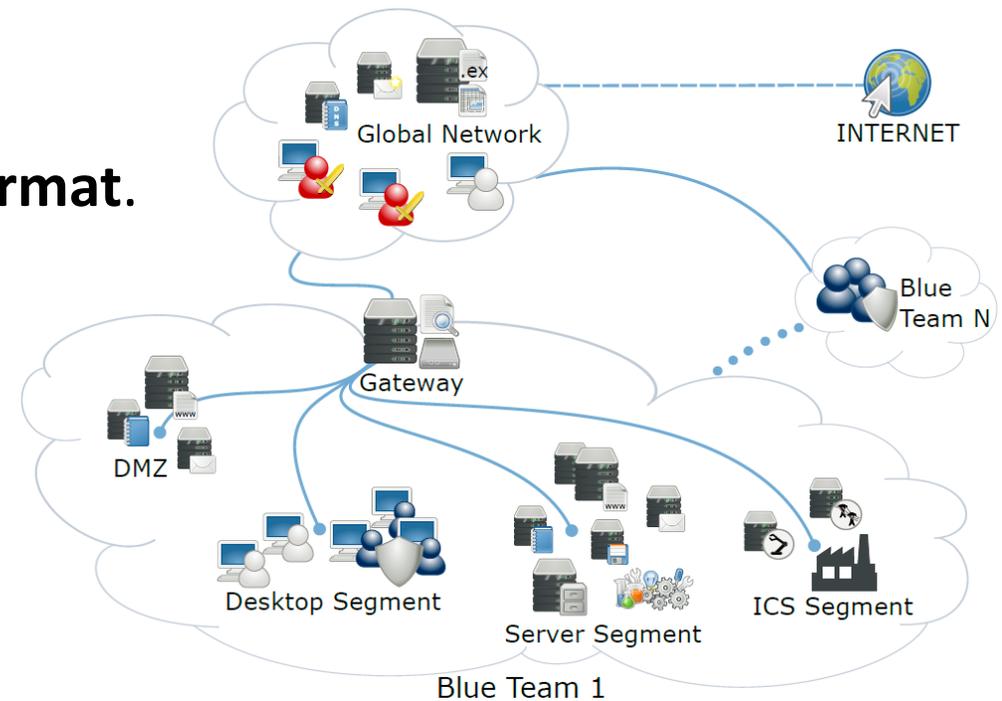
- Yes! More than a few.
- KYPO CRP will be available as **open-source**.
- Are you **interested in testing?**



KYPO

# What are our goals?

- We are making an **ecosystem**, not a federation.
- We want to create a **catalog of scenarios**.
- We are working on a **scenario exchange format**.



Yes, we are making friends.



European network of Cybersecurity centres and competence Hub for innovation and Operations

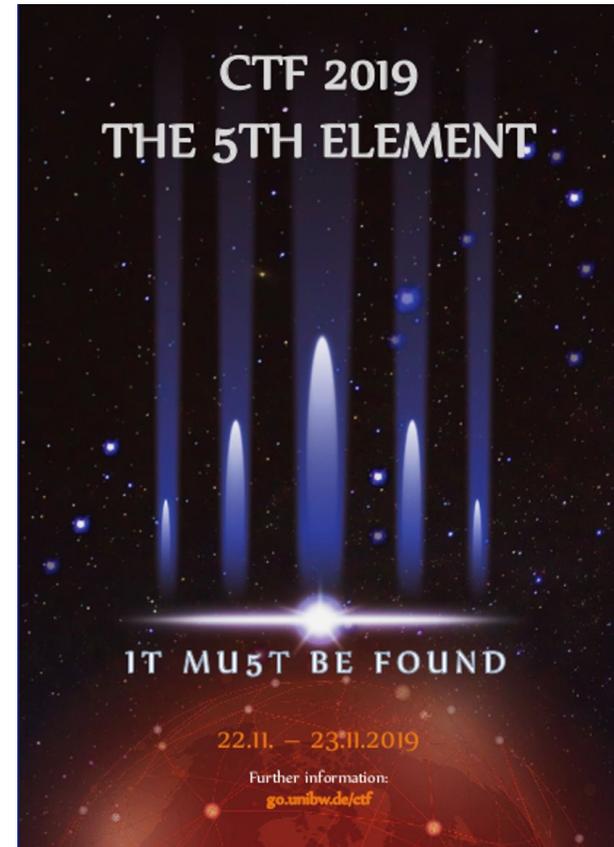


# Cyber Czech 2019



# CODE CTF 2019

- Jeopardy-style CTF.
- Held in Munich from 22 to 23 of November.
- More at [ctf.code.unibw-muenchen.de](http://ctf.code.unibw-muenchen.de).





# Challenges

- Provide **outstanding content**.
- Develop Training and CDX **structure** and **methodology**.
- Improve **assessment**, scoring services, auditing, and cheating protection.
- Provide **auxiliary tools** for ranges to foster training realism.
- Find a way to provide **digital twin creation**.

# TOOLS PORTFOLIO

We will provide a catalogue of labs and services.

# Do you know who to ask for help?

- An **address book**.
- A list of labs **willing to help**.
- A list of **recommended open-source tools**.



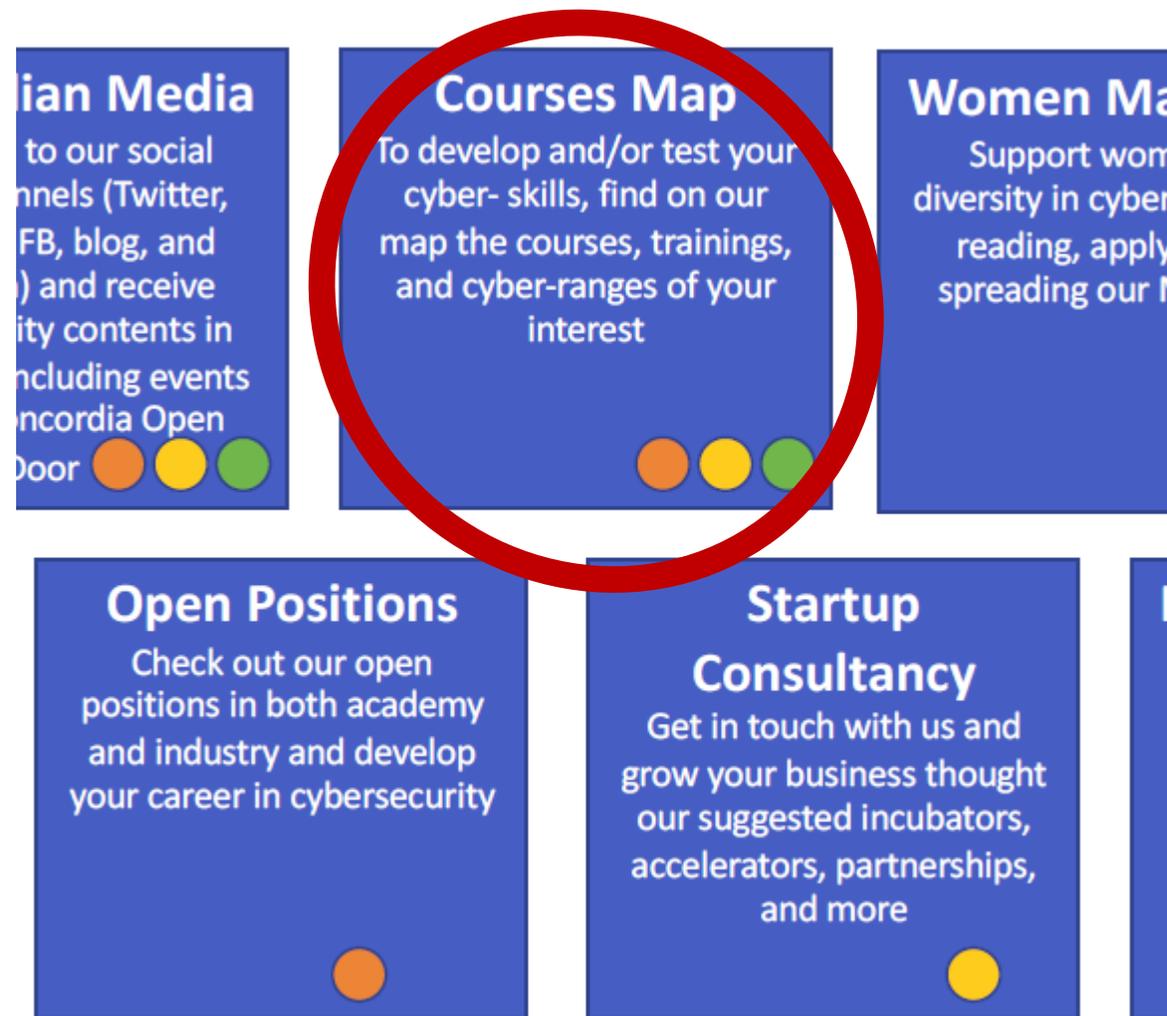
# Zoom-in on the service catalogue: Courses map

## WHAT?

- Courses, trainings, cyber-ranges
- F2F, online, blended

## WHO?

- Professionals
- Managers
- Executives
- Startups
- Freelancers
- Recent graduates
- ...
- ..... **Course providers**





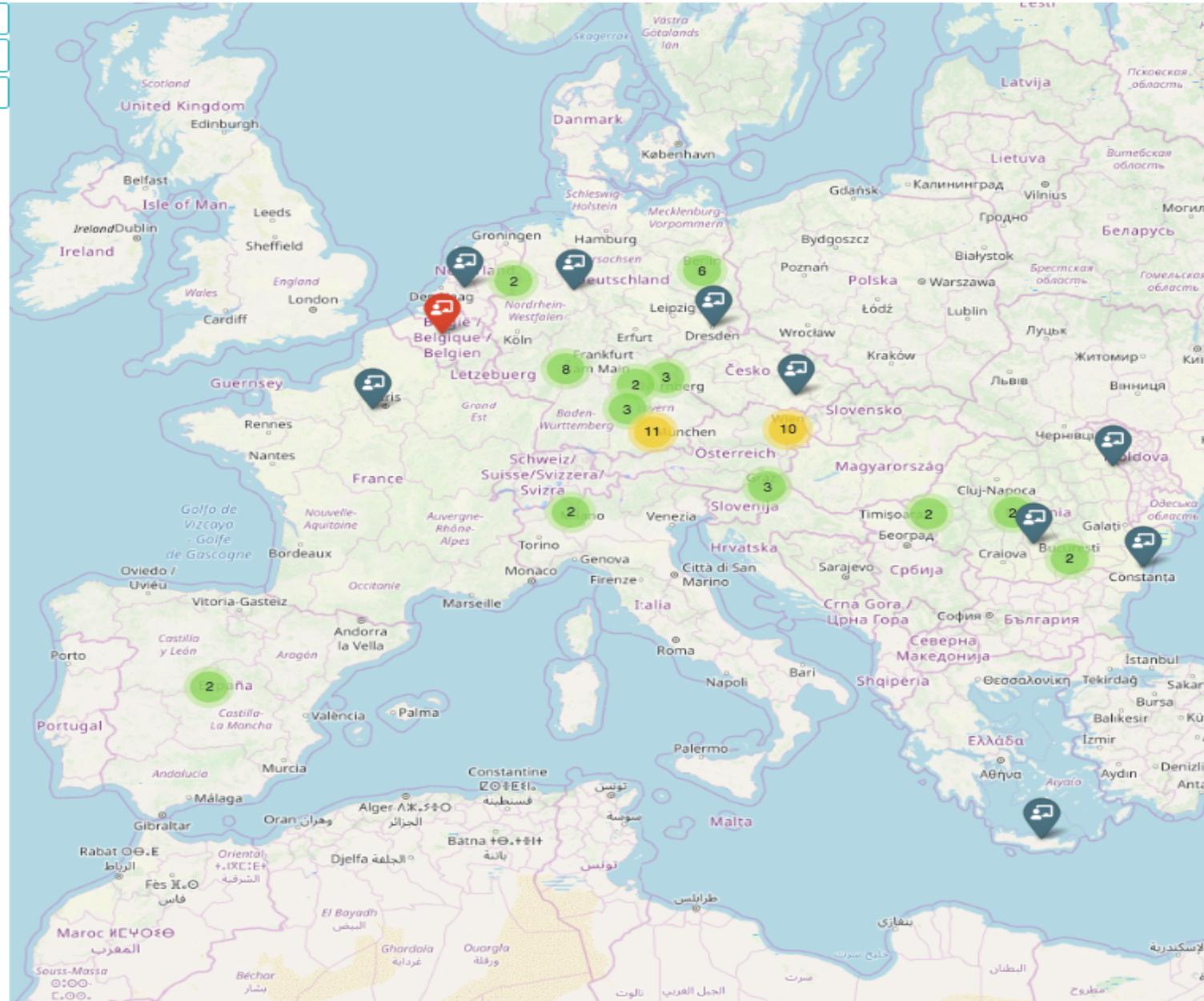
[Register your Course](#)

[About this map](#)

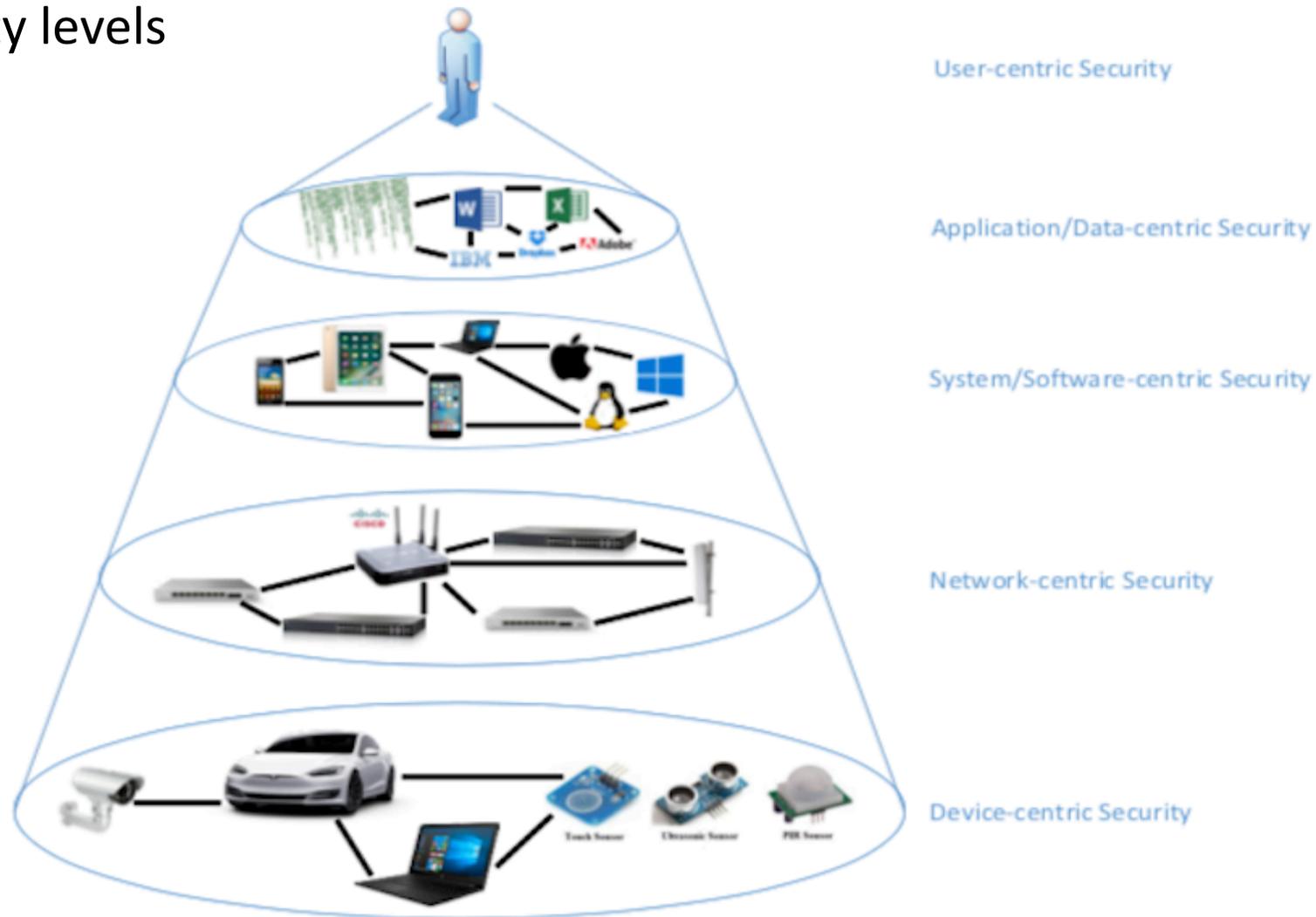
[Showing all courses](#)

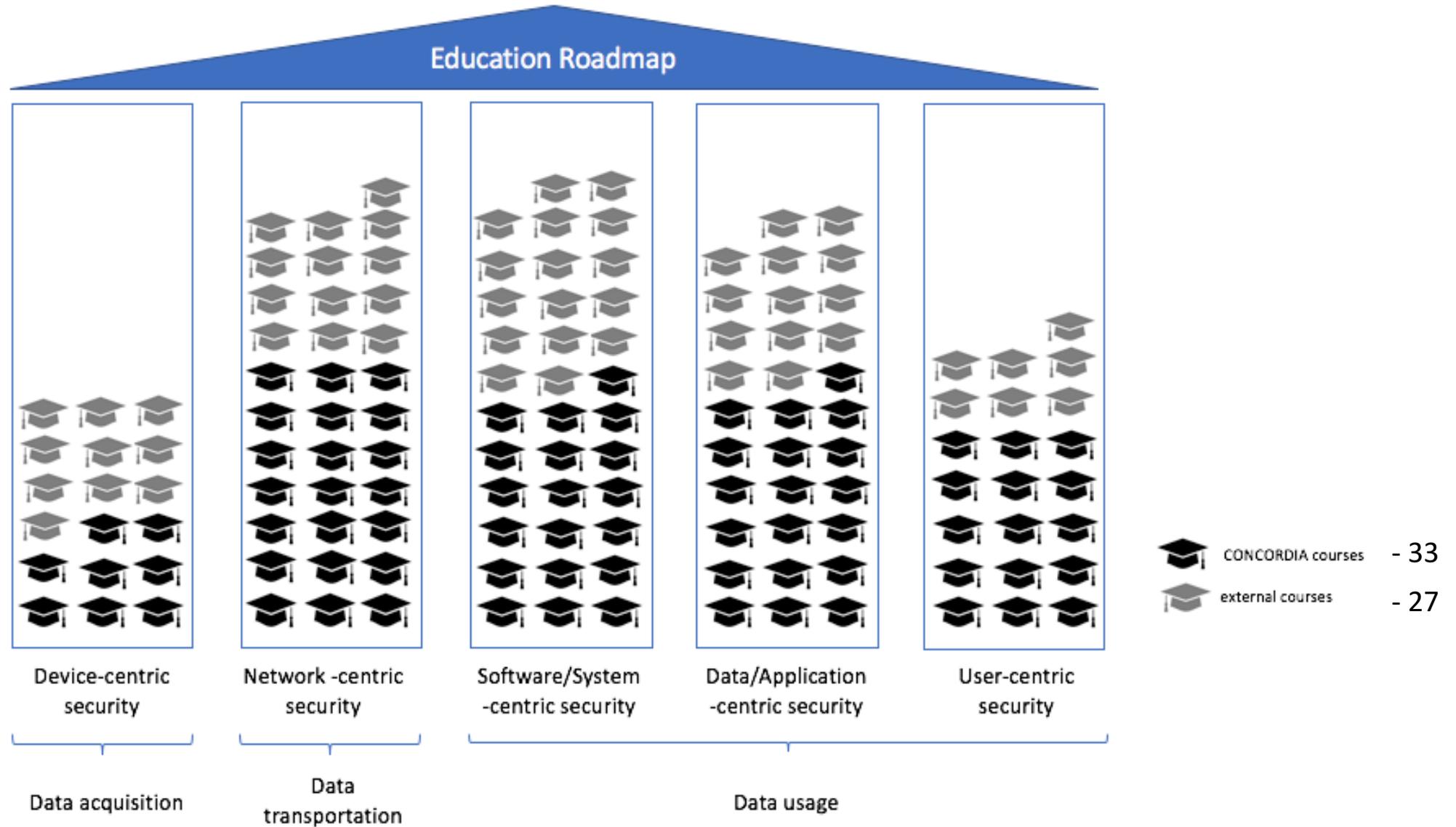
- Organiser**
  - CONCORDIA partner
  - Other EU course provider
- CyberSecurity Level**
  - Device-centric
  - Network-centric
  - Software/System-centric
  - Data/Application-Centric
  - User-centric
- Sector**
  - Telecom Sector
  - Financial Sector
  - Transport e-Mobility Sector
  - eHealth Sector
  - Defence Sector
  - Others
- Format type**
  - Face-to-face
  - Online
  - Blended
- Target audience**
  - Corporates senior management
  - Corporates technical team
  - Corporates other departments
  - Start-ups
  - Scale-ups
  - Recent graduates
  - Students
  - Freelancers
  - Academia
  - Others
- Language**
  - English
  - German
  - French
  - Italian
  - Dutch
  - Slovene
  - Czech
  - Romanian
  - Spanish

● Face-to-face ● Online ● Blended



# The 5 Cybersecurity levels





## Zoom in on the service catalogue: early stage startups

- Startup incubator in WP5 (led by Telefonica)
- Startup factory in WP3 (as a part of community building task, led by Atos)
- Mix of entrepreneurial education, innovation support and early stage startup consultancy



# T3.5: Community Building, Support and Incentive Models

- Focus on early stage start-ups and future entrepreneurs
- Bootstrapping or investments?
- Which type? What do I need?
- What should be on your pitch deck?
- Find co-founders? Identify niche?
- Get visibility? Partnerships?

	Service	Activities
Ecosystem	Community building	Scouting, brokerage, awareness creation, dissemination, ecosystem building
	Visioning & strategy development	Market intelligence, market assessments, innovation strategy development
	Mentoring	Training of other hubs and competence centres
Technology	(Collaborative) R&D	Technology concept development, proof of concept
	Technical support on scale-up	Concept validation, prototyping, small series production
	Commercial infrastructure	Renting for R&D, low rate commercial production
	Testing and validation	Certification, product demonstration, product qualification
Business	Incubator/accelerator support	Voice of customer, market assessment, business development, consortia building
	Access to finance	Financial engineering, connection to funding sources, investment plans
	Skills and education	Courses, workshops, offering technological infrastructure for educational purposes

Source: How to develop a DIH, presentation from <https://i4ms.eu> project

The Four Institutions That Support Startups

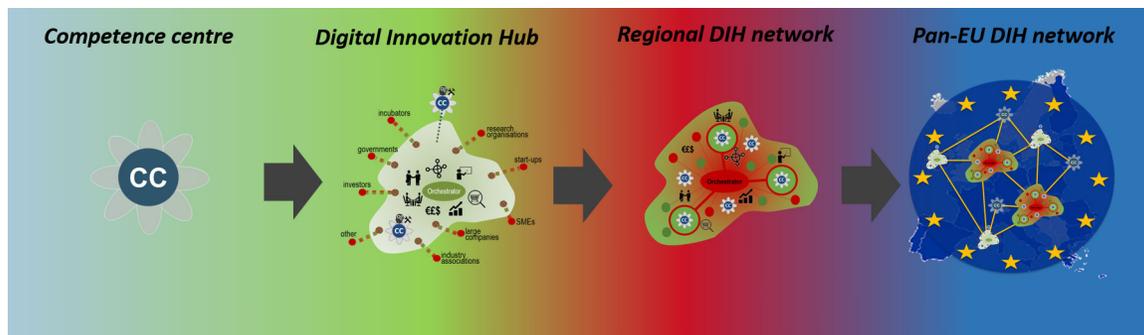
	INCUBATORS	ANGEL INVESTORS	ACCELERATORS	HYBRID
<b>Duration</b>	1 to 5 years	Ongoing	3 to 6 months	3 months to 2 years
<b>Cohorts</b>	No	No	Yes	No
<b>Business model</b>	Rent; nonprofit	Investment	Investment; can also be nonprofit	Investment; can also be nonprofit
<b>Selection</b>	Noncompetitive	Competitive, ongoing	Competitive, cyclical	Competitive, ongoing
<b>Venture stage</b>	Early or late	Early	Early	Early
<b>Education</b>	Ad hoc, human resources, legal	None	Seminars	Various incubator and accelerator practices
<b>Mentorship</b>	Minimal, tactical	As needed by investor	Intense, by self and others	Staff expert support, some mentoring
<b>Venture location</b>	On-site	Off-site	On-site	On-site

SOURCE "WHAT DO ACCELERATORS DO? INSIGHTS FROM INCUBATORS AND ANGELS" BY SUSAN COHEN, 2013; ADAPTATIONS BY IAN HATHAWAY

# Focus of year 1

- What are the motives for different stakeholders in “startup factory” schemes and services?
- How is the performance measured and how does it relate to cybersecurity key performance indicators in general?
- What are the external factors that shape or influence “startup factory” landscape for cybersecurity entrepreneurs in Europe?

# Landscape in EU:



Source: TNO, <https://dihnet.eu/>

Cybersecurity hub examples: Brno, Krakow, Zagreb, León,



Catalogue of clusters



Pre-incubation, entrepreneurial academy, access to finance/market

Dedicated labs, nodes or incubators



ECSO WG4: Support to SMEs

SWG4.1: SMEs, start-ups and high growth companies - Chairs: ITrust / SYSTEMATIC PARIS REGION - RADARSERVICES - VTT

SWG4.1.1: Venture Capital and private investors - ITrust / SYSTEMATIC PARIS REGION

SWG4.1.2: Public funding opportunities for SMEs - VTT

SWG4.1.3: Labelling and market analysis - RADARSERVICES

SWG4.2: Coordination with activities in EU countries and regions - Chair: CONSEIL REGIONAL DE BRETAGNE

SWG4.3: Support to East and Central EU Members - Chair: CYBER SERVICES

# Corporate motivations for startup partnerships

- How: mutually-beneficial partnerships with startups through procurement/licensing/contracting, accelerators, direct investment, acquisitions or other dedicated internal programmes
- Why:
  - fast and risk-free access to niche technology
  - reorientation, transformation or revitalization
  - staying ahead of competition
- Examples: Atos and ID Quantique solution Quantum Vault: secure digital asset custody



# IDQ - ATOS collaborations

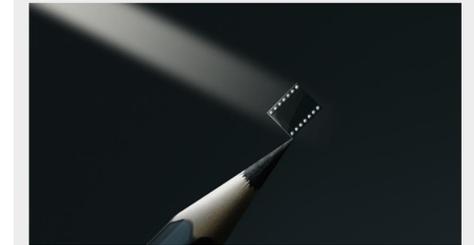
## NS&I – Ernie 5 UK, March 2019

Ernie, the premium bond number generator, takes a quantum leap as the fifth incarnation of the machine is launched, running at speeds 21,000 times faster than the original 1956 model developed by Bletchley Park codebreakers.



Premium Bonds take a quantum leap as new random number generator, ERNIE 5, picks two new jackpot winners for March

1 March 2019



ERNIE has regenerated for the first time in 15 years, and is using quantum technology to generate random numbers. NS&I has also become one of the UK's first financial organisations to create an Alexa Skill, giving Premium Bonds customers another way to check their prizes.

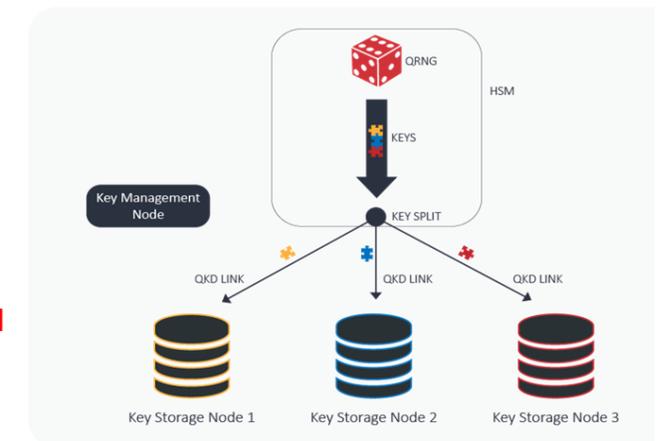
## EU HORIZON 2020 QKD testbed, 2019-2020, Mont Pélerin Bank, ATOS (TBC)

- Global custodians (banking industry);
- Central banks;
- Government agencies;
- Cloud providers (IaaS / SaaS);
- Crypto currencies exchanges and vaults;
- Utilities and critical infrastructure providers;
- Large corporations.

- The Quantum Vault offers a **tokens custody security solution** that will meet the same security requirements as **Bank-grade security solutions on HSMs**

- Tools:
  - Generate keys with QRNG
  - Use Shamir Secret Sharing for distributed safe storage
  - QKD for secure transmission

→ **Ultimate security for digital assets custody**



# Start-ups & Partnerships

## ADVANTAGES

- **IDQ: Master of Quantum: QRNG & QKD**
- **ATOS: Security expertise, global integrator & Global reach**
- Credibility in high exposure projects
- Scalability → go to market acceleration
- Geographical Reach
- De-risking technology challenges

## CHALLENGES

- Compatibility with internal strategy & priorities
- End customer integration strategy & legacy infrastructure
- Risk on R&D workload management



For more details  
come talk to us in the  
Service Catalogue Desk



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