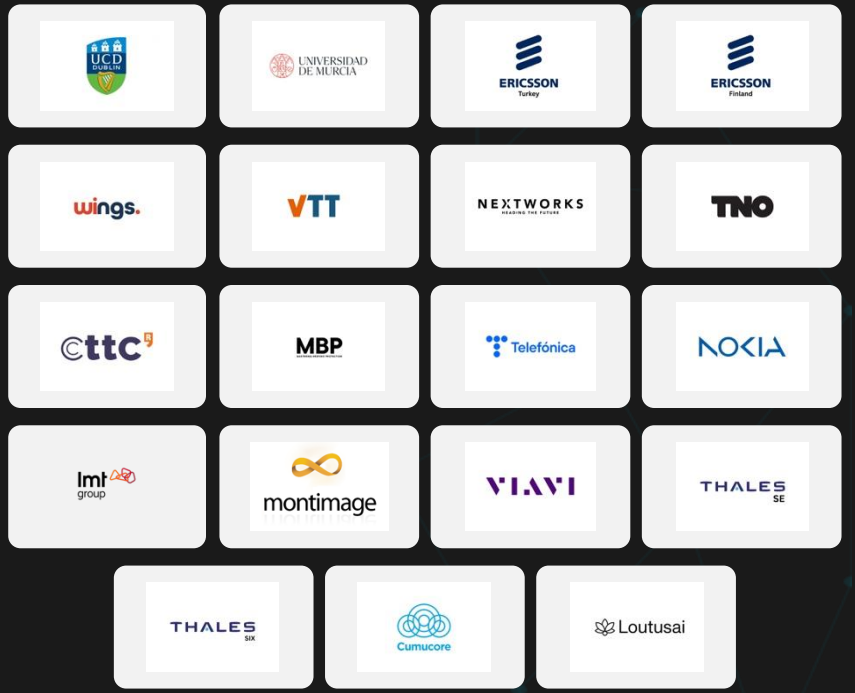
SHIELD-6G

SHIELD-6G

Scalable, Hybrid, and Intelligent End-to-End Defense for 6G Networks

Bart Siniarski

bartlomiej.siniarski@ucd.ie



Inside SHIELD-6G: the architecture at a glance

CLOUD · EDGE · EXTREME EDGE

6G SERVICES & VERTICALS — healthcare · smart manufacturing · maritime



SECURITY DATA INGESTION

telemetry · SIEMs · honeypots · OSINT feeds — unified in a privacy-preserving data fabric



AI SECURITY ANALYTICS

federated anomaly detection · XAI · IoC enrichment · behavioural threat profiling



ZERO-TOUCH SECURITY ORCHESTRATION

intent & policies → CACAO playbooks → automated containment & recovery



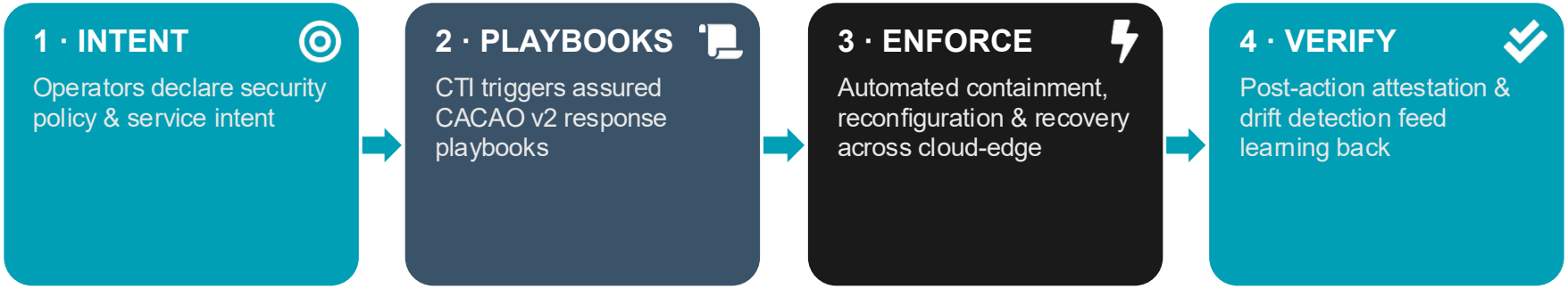
ASSURANCE, AUDITING & COMPLIANCE

digital twins · AI-driven testing · deception · continuous regulatory evidence

SHIELD-6G SERVICE BUS

Modular by design — every layer exposes open, standard interfaces

Zero-touch: from intent to action



≥20%

faster incident response in validation trials

×3

orchestration modes: proactive · reactive · predictive

0

human intervention needed for routine response

Three worlds SHIELD-6G protects

Three vertical use cases - each becomes a live proof-of-concept on EU testbeds by 2029 (TRL 5)

1 | A hospital that runs on robots

Autonomous robots move medicine and assist patients over 6G.

ENABLERS

Edge AI navigation · end-to-end protection of patient data across stakeholders

EXPECTED RESULTS

- **≥99.99% secure handling of health data**
- **Continuity during critical procedures**

2 | A factory floor that never stops

AMR fleets ferry materials across a live digital twin of the floor.

ENABLERS

Digital twin rehearsal · edge AI · zero-touch response

EXPECTED RESULTS

- **≤30 s downtime per security incident**
- **≤200 ms threat detection latency**

3 | A fleet alone at sea

Ships form a multi-hop 5G/6G mesh with less satellite reliance.

ENABLERS

Onboard edge detection · onshore fleet-wide threat intelligence hub

EXPECTED RESULTS

- **Resilient to spoofing and rogue nodes**
- **Secure ship-to-shore operations**

SHIELD-6G

Thank you.

6G will run society's most critical services.
SHIELD-6G makes sure it can defend them - intelligently, autonomously, accountably.

Presenter: Bart Siniarski · bartlomiej.siniarski@ucd.ie

www.shield-6g.eu