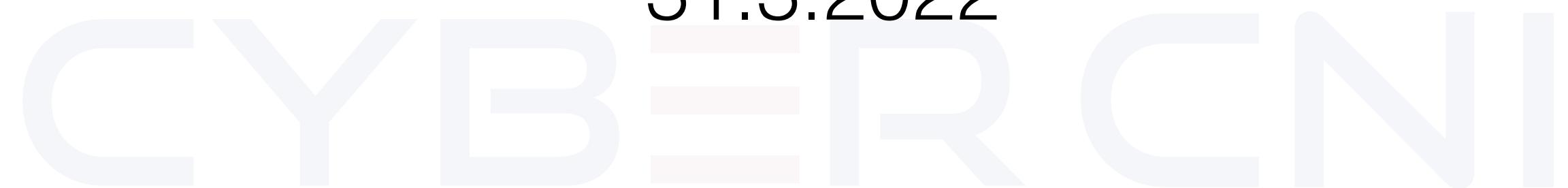




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Cybersécurité collaborative renforcée par la réalité virtuelle pour les infrastructures critiques

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31.3.2022



Sécurité des infrastructures critiques





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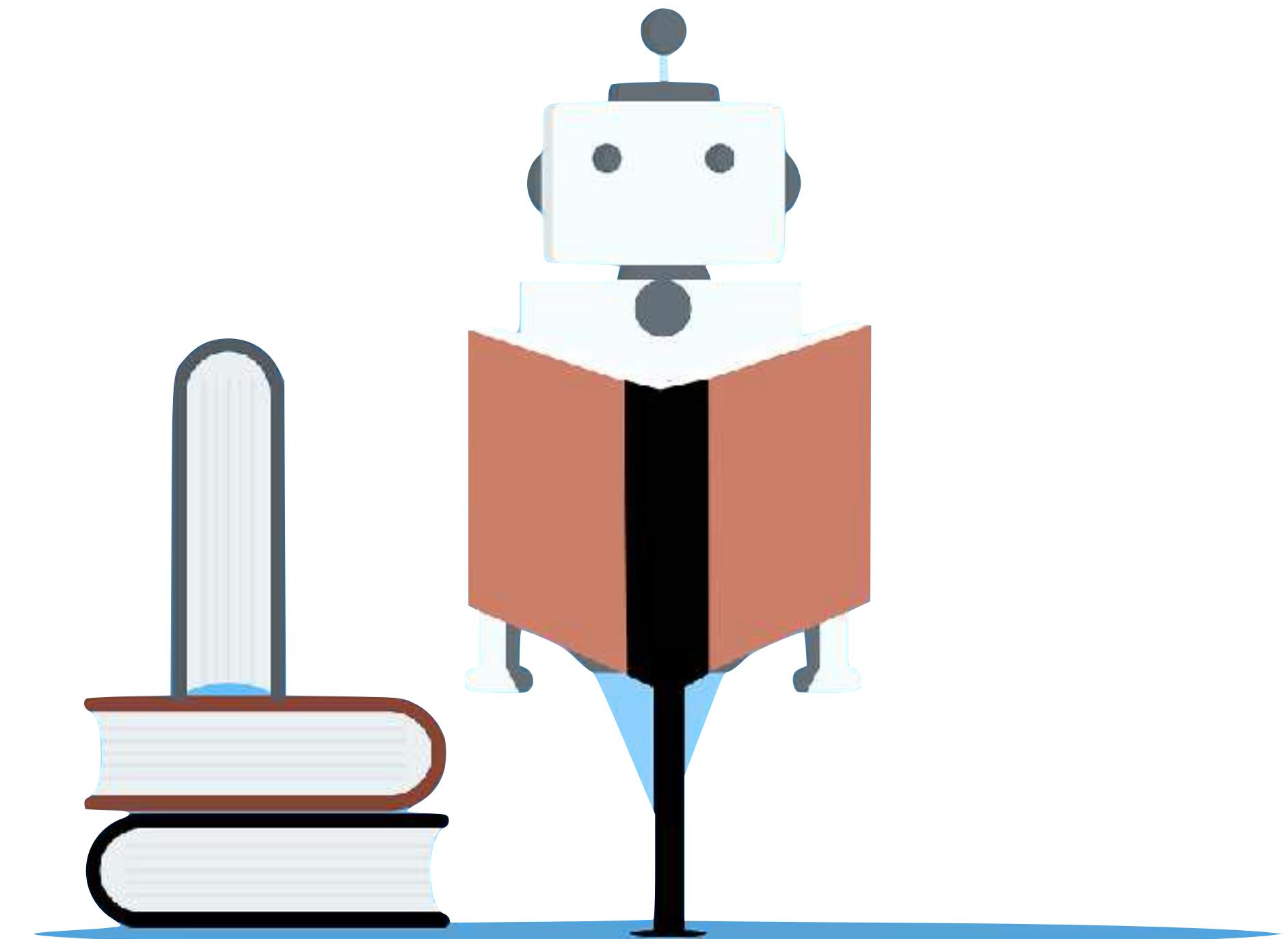
La banque d'un monde qui change

edf NOKIA Bell Labs

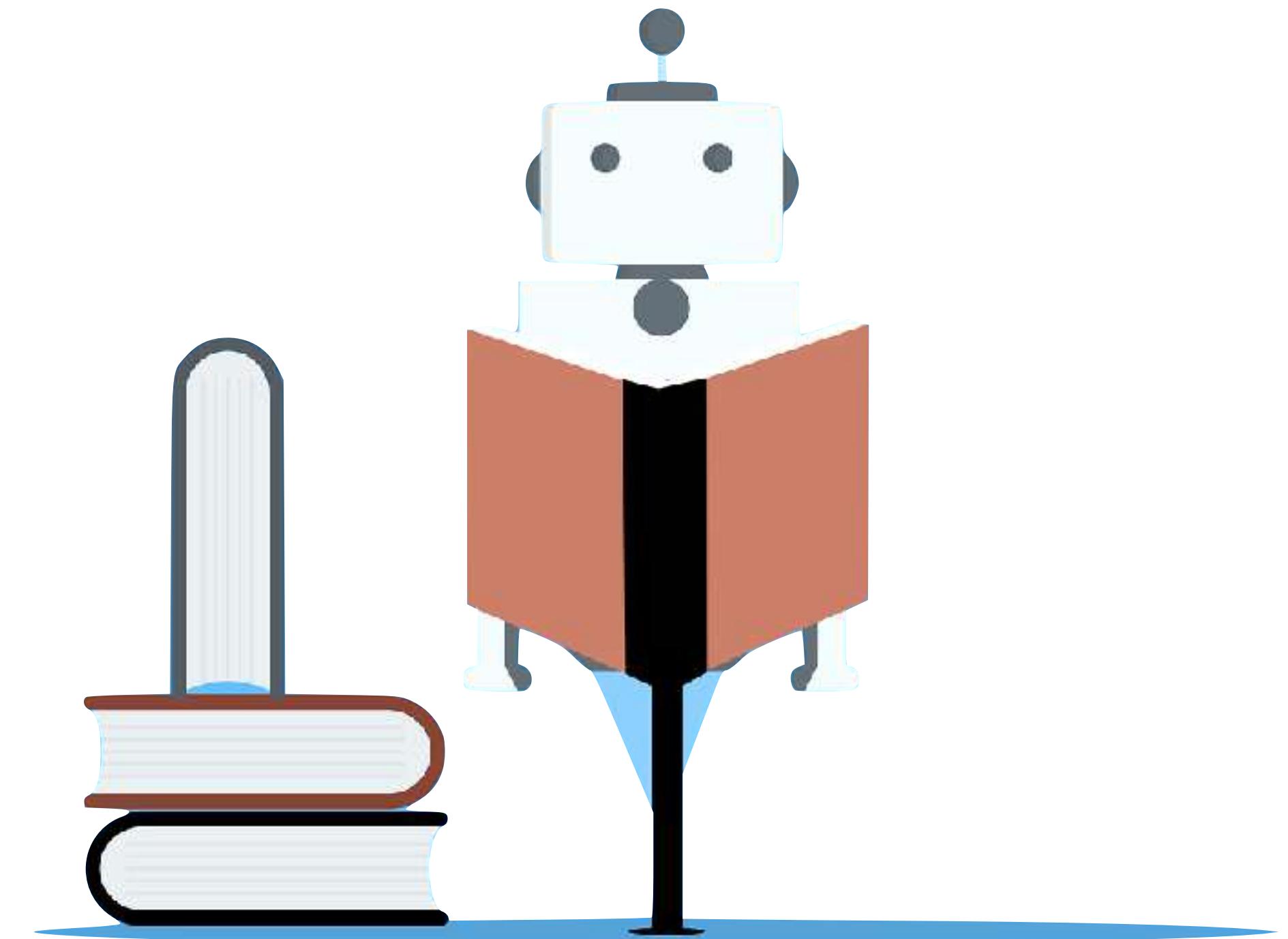
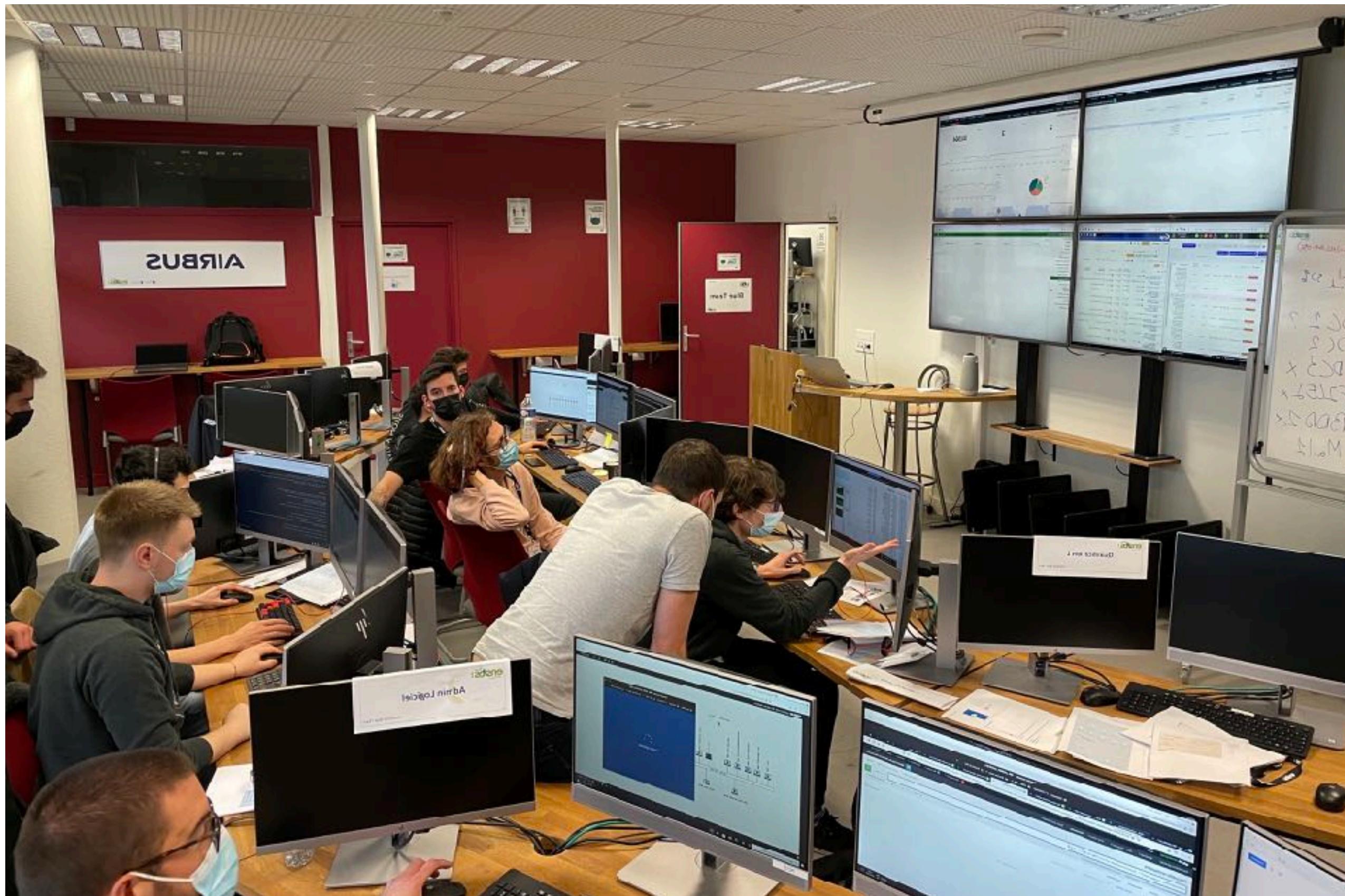
PÔLE D'EXCELLENCE
CYBER

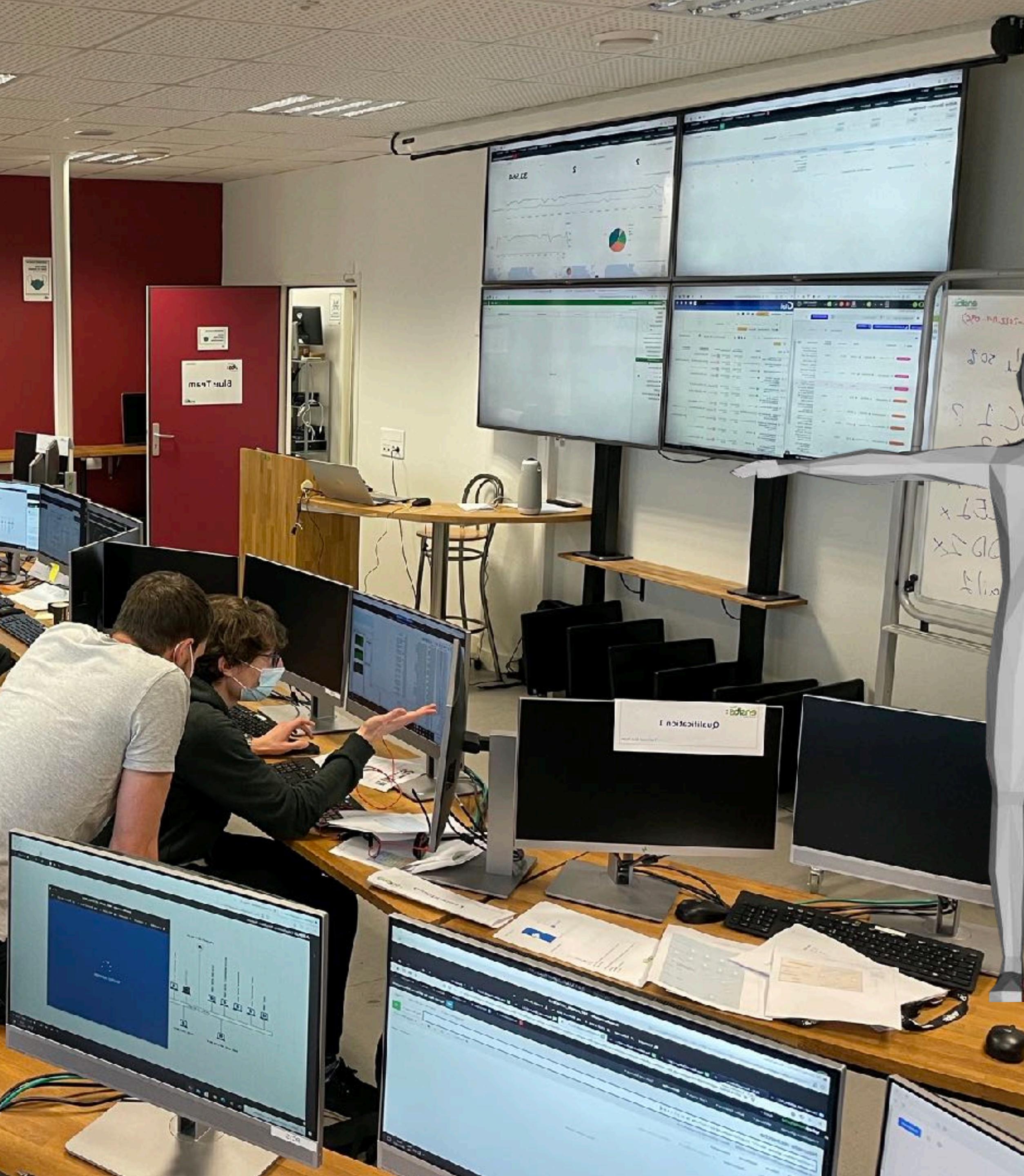
UNION CYBERNÉTIQUE
IMANTHIS CYBER
Région
BRETAGNE

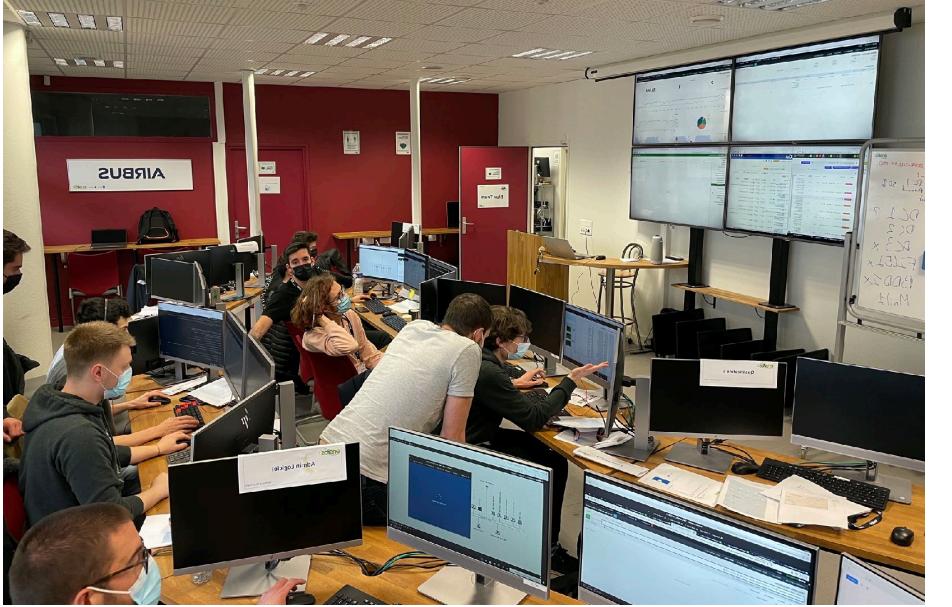
A big part of cybersecurity research is...



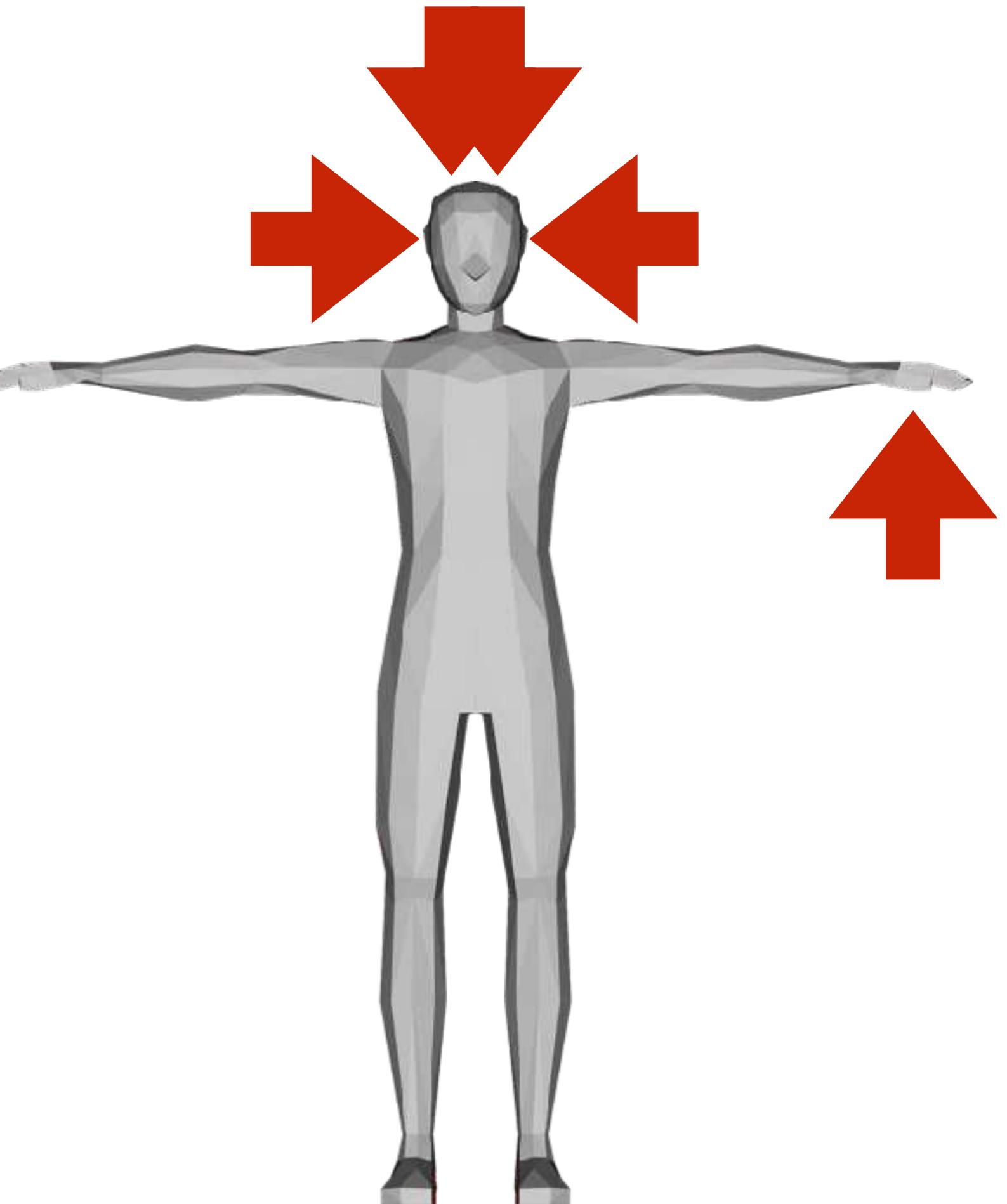
A big part of cybersecurity research is...







- 2D + audio
- Senses
 - vision
 - hearing
- Non immersive

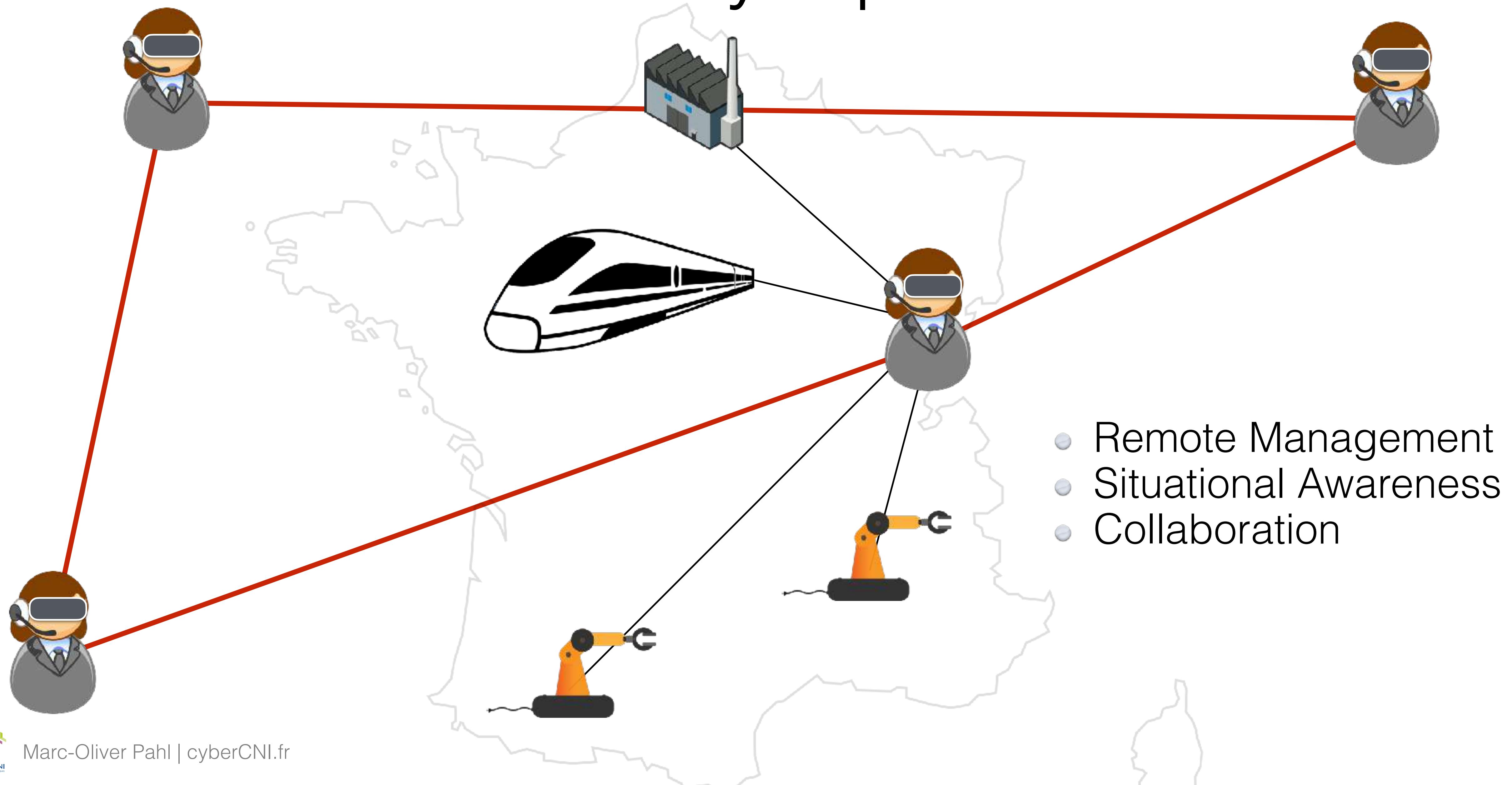


- 3D + audio + haptics
- Senses
 - vision
 - hearing
 - touch
- Immersive

Usage of VR so far regarding Security?

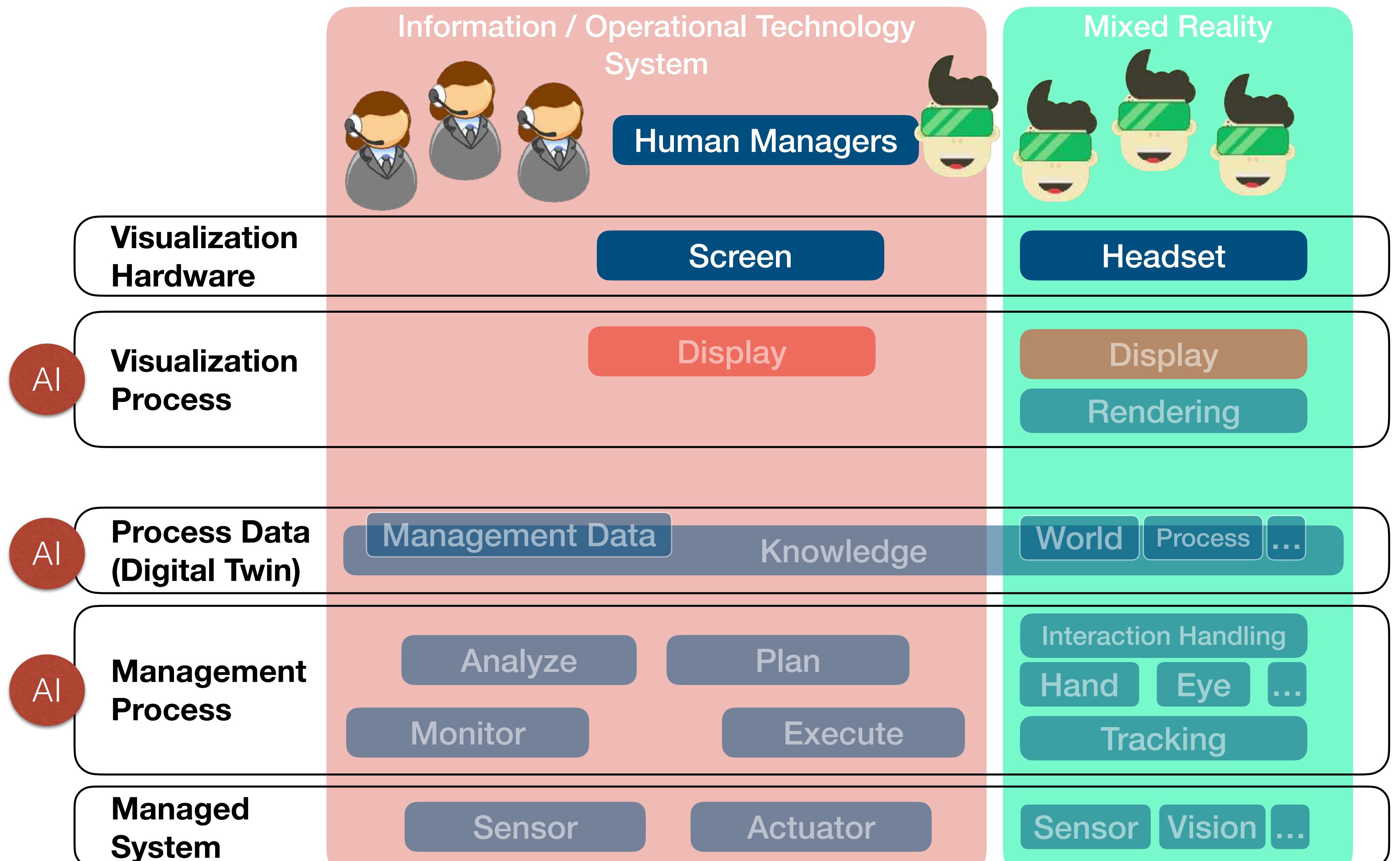
- Mostly Training.

VR-based Security Operation Center

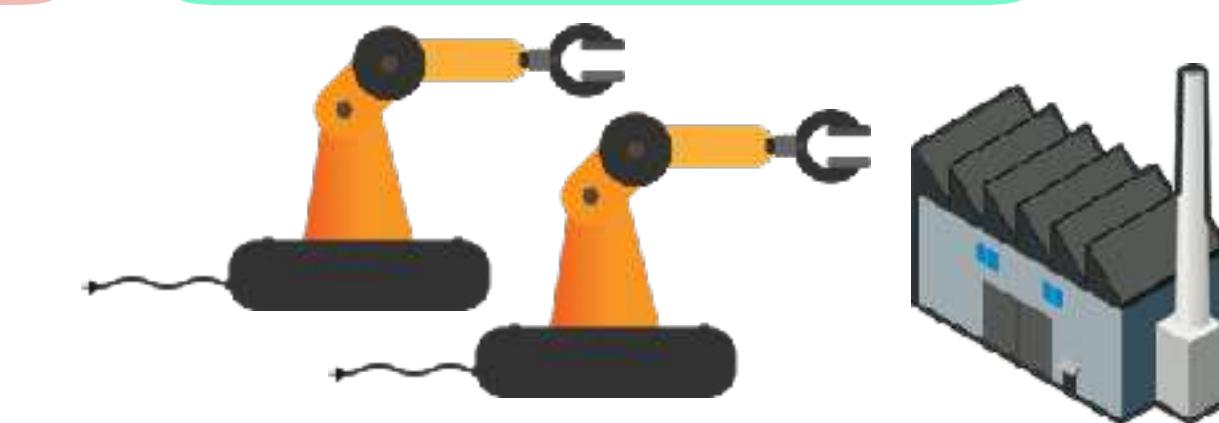


AI can support MR-based Cybersecurity

MR can help explaining AI



Physical world



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Research Questions

- Goals: Improve / enable new forms of
 - Security Awareness
 - Risk Analysis
- Means:
 - VR visualization with sound and haptic feedback as well as collaboration.
 - What visual representations facilitate / enable new forms of reaching the above goals?

Research Questions

- What visual representations facilitate / enable new forms of reaching the above goals?
- Visualizations
 - Non-realistic -> PhD Nicolas Delcombel
 - Realistic -> PhD thesis Anthony David
- How to use sound most efficiently?
- How to use haptics best?
- How to interact with the interface most intuitively?
- How to enable communication between people with different knowledge?
- How to enable efficient (distant) collaboration?
- ...
- How to secure the new (remote) interface?

Human-Machine IFace

Mitigation

Anomaly Detection

Security-by-design

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Work with Thierry Duval, Nicolas Delcombel,
Alexandre Kabil, Anthony David and indirectly all
other people at the chair.

Activation et paramétrage de services
Active Directory, mail (Exchange), partage de fichiers, ...
Déploiement et mise en œuvre
des postes de travail



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