Norwegian Centre for Research-based Innovation

NORCICS

SFI Norwegian Centre for Cybersecurity in Critical Sectors

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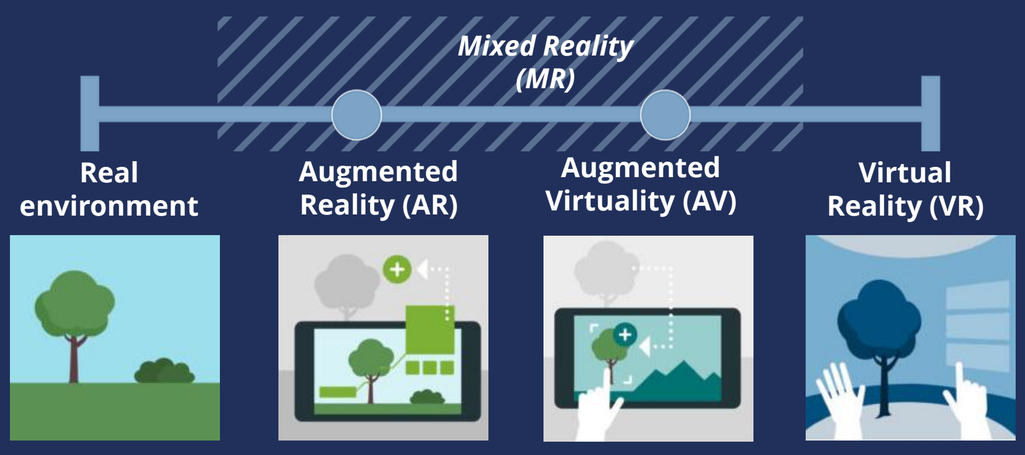
Secure, human-centered XR experiences in critical sectors

Extended Reality (**XR**) is increasingly used in critical sectors. While it has potential to enhance operations in those sectors, it also raises **novel cybersecurity risks**.

1. XR in critical sectors



Immersive technologies can allow:

- enhanced communications (between a doctor and a patient, or in a virtual classroom)
- remote collaboration in industry
- safer training

→ opportunities for **safer, more efficient critical infrastructures**

2. Challenges for XR security and privacy

However, they also raise **challenges** which are still under-addressed:

Privacy • intrusive data collection, user profiling, bystander privacy

Security • unsuitable security mechanisms, new types of attacks, risks on user safety

3. Ongoing study

The **security and privacy needs** are highly dependent on the **context**.

Questions • what are the XR use cases in Norwegian critical sectors ?

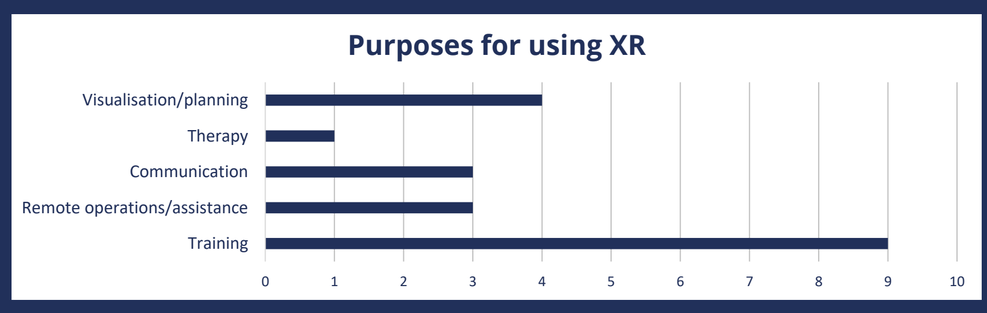
- how is security accounted for ?

Methods • exploratory study

- interviews and questionnaires

4. Preliminary results (n=13)

Use cases • small sample but large variety of sectors: health, energy, defense, forestry, space...



- Low technological maturity • only **few efforts** towards security

5. Next steps

- matching the challenges found in Norwegian use cases with solutions from existing research → **literature review** of the security-enhancing solutions for XR

Can you help us ?

Is anyone using XR in your organization? We would love to get their insights! Feel free to register your email on the QR code so I can contact you, or just reach out to me. *Thanks for your help!*

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