



eXtended Reality for All

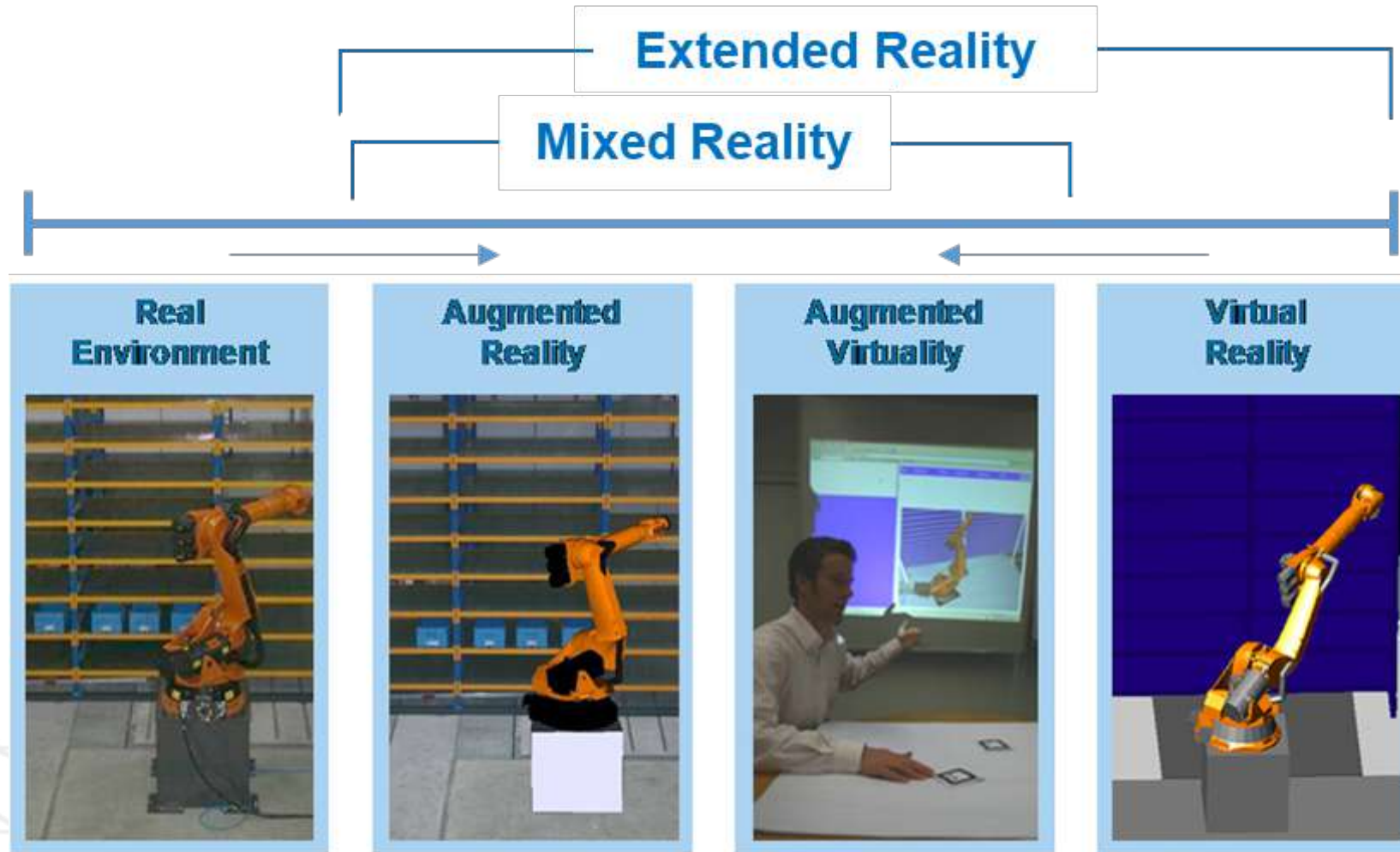
XR4ALL – Challenges and the Future of XR Technology

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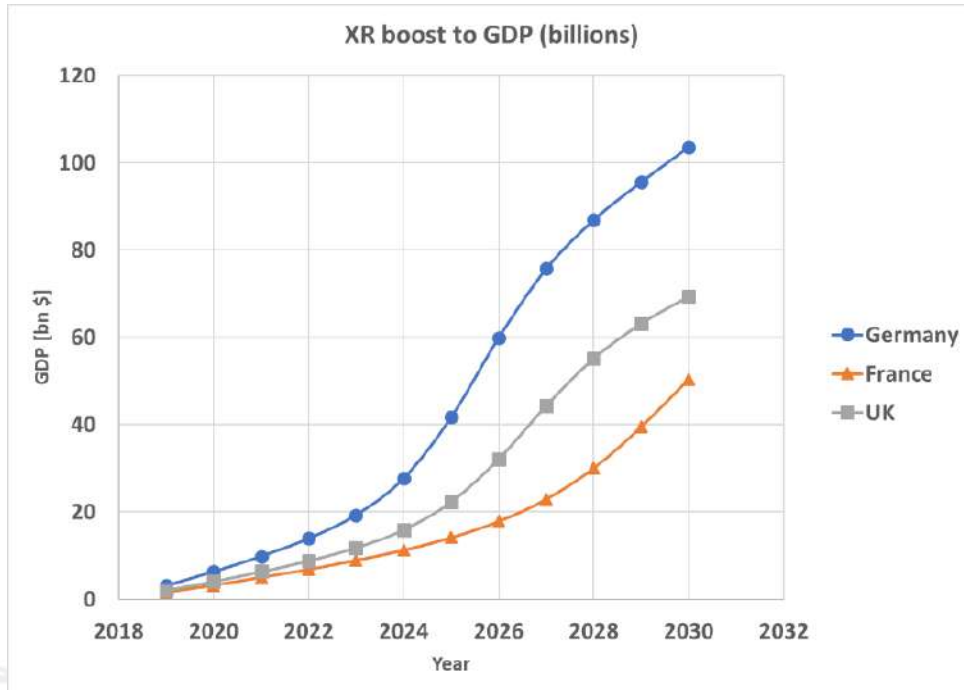
Media & Learning 2020, November 19, 2020, Online



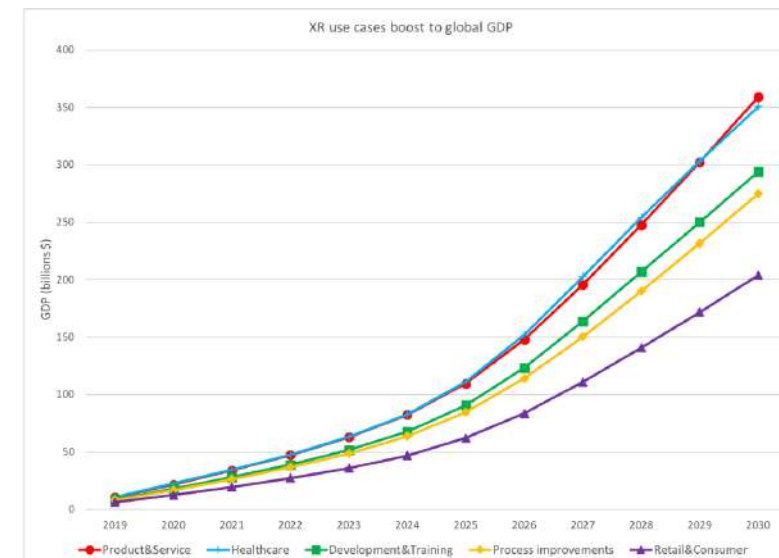
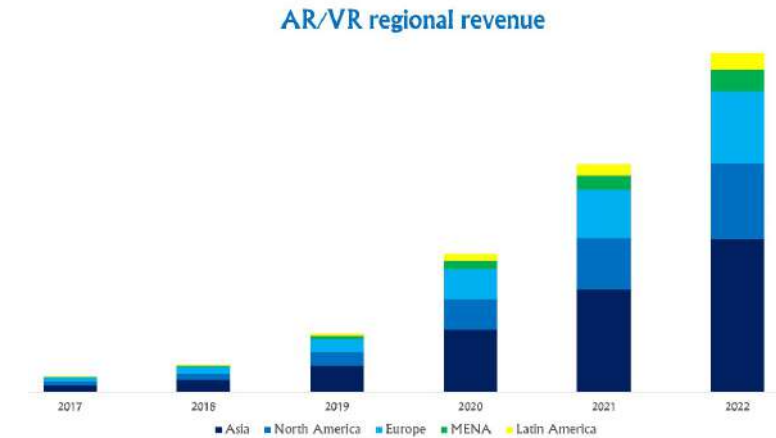
The scope of eXtended Reality



- Europe is expected to be at 2nd position concerning world wide revenue in XR market (after China)



- Product and service development as well as healthcare will have the highest impact with a potential boost to GDP of over \$350 billion by 2030





360 degree capture



XR head sets



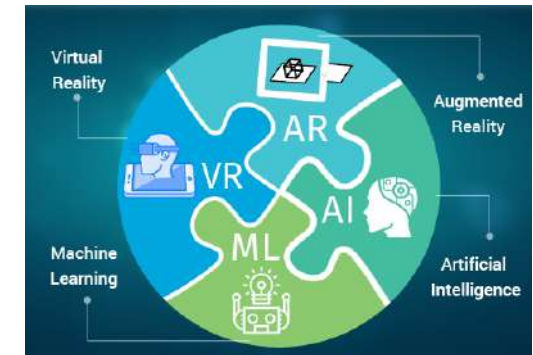
hand and gesture tracking



spatial computing, inside-out-tracking



5G – edge cloud - IoT

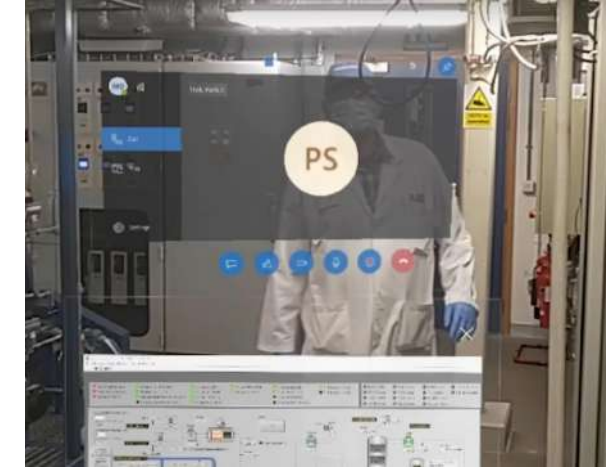


Two-letter acronyms changing the world: AR, VR, AI, ML

Wide range of applications



Training and maintenance in AR



Teaching lab skills in AR



Pre- and intra-operative use of AR



Cultural heritage experience in VR

Acceptability of XR devices

- Field of view
- Weight
- Power consumption

Missing cues (smell, touch)
Missing feedback (haptic, olfactory)

Tracking the user and sensing the environment

Highly fragmented XR ecosystem
Too many platforms

Lack of open interfaces and common standards
→ **Interoperability**

Guidelines and tools for storytelling
Meeting user experience and expectations

- XR technologies will be implemented for daily use
- Form factor of headsets will improve and their price will decrease
- AI and Deep Learning algorithms might run in the devices
- 5G will enable cloud-based streaming of XR solutions
- More verticals will use XR technology
- Real-time communication in 3D to support distributed working environments
- New regulations will be established to ensure privacy

Gender diversity problem in technology and creative sector

- explicitly include the gender balance in future calls
- implement funding schemes to support female start-ups
- strict quota for panels, submissions to conferences, ...

Security and privacy

- Data collection (sensing the user) → Recent Facebook case
- Extend technical protections to XR technology.
- Extend regulations (including GDPR) to XR technology.
- Make sure that the upcoming spatial computing and AR cloud in Europe remains in the control of Europe.
- Make data protection and privacy a main European priority

Inclusion and Accessibility

- XR tech offers lot of advantages for disabled people
- No access to technology for majority of consumers (hardware costs, limited bandwidth)
- Provide large range of devices (low and high cost)
- Provide infrastructure through public creative labs, educational frameworks
- Research on content creation, usability and acceptance

Social relations and behavior

- One can meet people, they never meet in real world
- Strong impact on face-to-face relations
- No clear distinction between real and virtual world
- Extend necessary studies on social relations.
- Study of physiological and psychological consequences of XR.

European XR ecosystem and collaboration platform

- Sharing of information and best practices, support networking
- Public market place for products and jobs

European data platform

- offering trust and security for European industry
- Must fulfil the needs of GDPR and facilitates the exchange of data

Funding schemes dedicated to start-ups and SMEs

- fast accessible small grants
- support through accelerator funding

XR sensing and feedback

- fast, reliable and accurate sensing technology of human behaviour
- new approaches for haptic feedback and other senses (smell, taste)

World capture and understanding

- open alternatives to build an XR cloud
- support standardization to improve interoperability
- ensure anonymization of captured data
- Improve XR cloud sobriety in terms of ecological footprint

Social interactions and communication

- current pandemic demonstrates needs
- realistic representation of humans
- real-time communication and interaction

SIGN UP ON XR4ALL NOW AND BECOME
PART OF THE COMMUNITY

Thank you for your attention!

www.xr4all.eu

@XR4ALL



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