Dive into the Future

A live showcase of AR & VR

Ravi Komarasetti
Senior IDT Product Manager - MDH

Agenda

- Introduction to Emerging Digital Technologies
- Augmented Reality (AR) and Virtual Reality (VR)
- Example videos of IoT, Drones and Robotics
- Live Demo
- Q&A

Safety and Health On Site

Ensure confidential discussions are not overheard

Make sure your workspace is ergonomically sound

Ensure adequate lighting in the room when you work

Clean surfaces frequently

Have an emergency and evacuation plan in place

Ensure understanding of fire safety

- Know what the fire alarm sounds like
- Make sure that you can hear the fire alarm
- Make sure your smoke alarms work
- Maintain clear walkways and fire exits

On the Move

Do not take this call, or any other call, while driving – ever

Do not use any hands-free device – Bluetooth, built-in, etc. – whilst driving

Continue to follow COVID guidelines

In the event of any kind of emergency, please leave the call – promptly and safely

Introduction to Emerging Digital Technologies

The significance of emerging digital technologies lies in their potential to reshape industries, revolutionize daily life, and drive economic growth. Here are some key points that highlight their importance:

- Innovation and Competitiveness
- Economic Growth
- Improving Quality of Life
- Addressing Global Challenges
- Education and Skill Development
- Data-Driven Decision Making
- Global Connectivity
- Sustainability
- Healthcare Advancements
- Enhanced Creativity

In summary, emerging digital technologies hold the promise of transforming the way we live, work, and interact with the world around us.

The impact of emerging digital technologies on industries, daily life, and the economy is profound and far-reaching:

1. Industries:
   - Manufacturing: Robotics and automation technologies
   - Healthcare: telemedicine, wearable health devices, and AI-driven diagnostics
   - Retail: Augmented reality (AR) and virtual reality (VR) have transformed the shopping experience
   - Agriculture: Drones and IoT devices are used for precision agriculture
   - Finance: Blockchain technology has disrupted the financial
2. Daily Life:
   - Smart Homes: IoT devices enable the automation
   - Entertainment: VR and AR have created immersive gaming experiences
   - Communication: High-speed internet, 5G, and IoT have improved connectivity and communication
   - Transportation: Emerging technologies are paving the way for autonomous vehicles, electric cars, and efficient public transportation systems
   - Education: EdTech platforms and virtual classrooms powered by emerging technologies
3. Economy:
   - Job Creation: Emerging technologies create new job opportunities in fields like data science, artificial intelligence, robotics, and cybersecurity
   - Productivity: Automation and AI technologies improve productivity in various industries
   - Innovation: Investment in emerging technologies fosters innovation, driving economic growth and the development of new products and services
   - Global Trade: Technologies like e-commerce and digital payment systems
   - Economic Resilience: Diversification of industries through technology adoption

However, it's important to note that the impact of emerging technologies is not uniform across all industries and regions.

Augmented Reality (AR) and Virtual Reality (VR)

Augmented Reality (AR) and Virtual Reality (VR) are two distinct but related technologies that alter our perception of the real world in different ways:

- **Augmented Reality (AR):** is a technology that superimposes digital information, such as images, videos, 3D models, or data, onto the real-world environment, enhancing a user's perception of reality

- **Virtual Reality (VR):** is a technology that immerses users in a completely computer-generated, simulated environment, isolating them from the physical world to provide an immersive sensory experience

How AR & VR Works?

- AR:
  - Sensing the Real World
  - Processing and Recognition
  - Overlaying Digital Content
  - Display and Interaction
  - Real-Time Updates

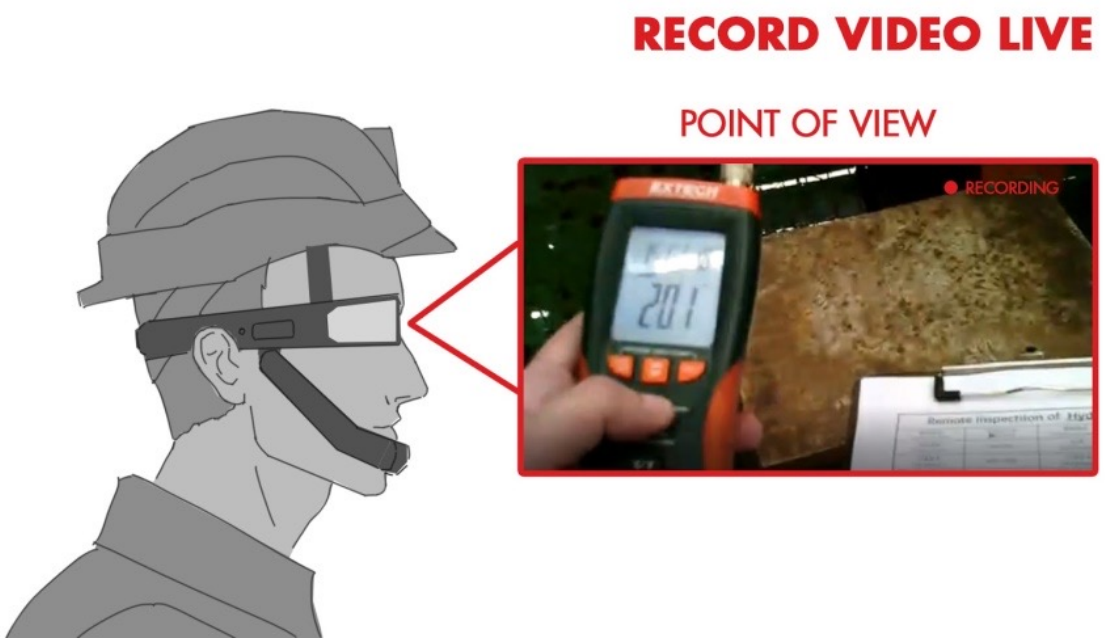
- VR:
  - Creating a Virtual Environment
  - Tracking User Movements
  - Rendering and Display
  - Interaction and Control
  - Synchronization

AR Applications in Energy Exploration

Digital Twins: Creating digital replicas of physical assets using AR for better monitoring, maintenance, and decision-making.

Remote Assistance: Enabling experts to provide real-time guidance to field technicians through AR overlays, reducing downtime and increasing efficiency.

AR – RealWear



RealWear Device

VR – Oculus Quest 2:

Graphics

With 1832 x 1920 pixels per eye, everything from multiplayer games and productivity apps to 360° videos look beyond incredible.

Touch controls

Feel like your virtual hands are your own with Touch Controllers or play using your own hands with hand-tracking technology.

Processor

6GB RAM combined with the ultra-fast Qualcomm Snapdragon XR2 Platform ensure a smooth performance.

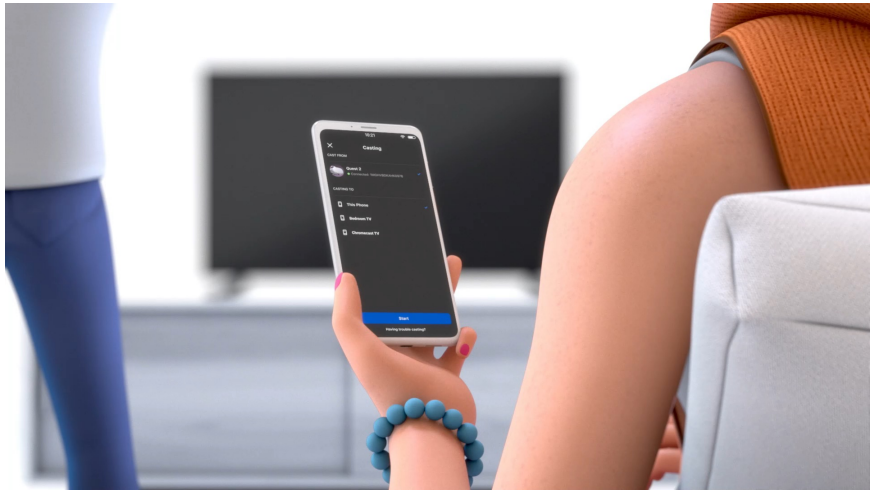
VR – Oculus Quest 2:

Set-up your play area

Set up Guardian by using your controller to trace a virtual boundary around a safe play area in your physical space.

Guardian Activated

Punch, swing, grab and stretch out your arms with the confidence of knowing you're clear of all obstructions.



Headset Casting

Bring friends into battle or collaborate on a presentation. Cast directly to an enabled TV or phone using the Oculus app.

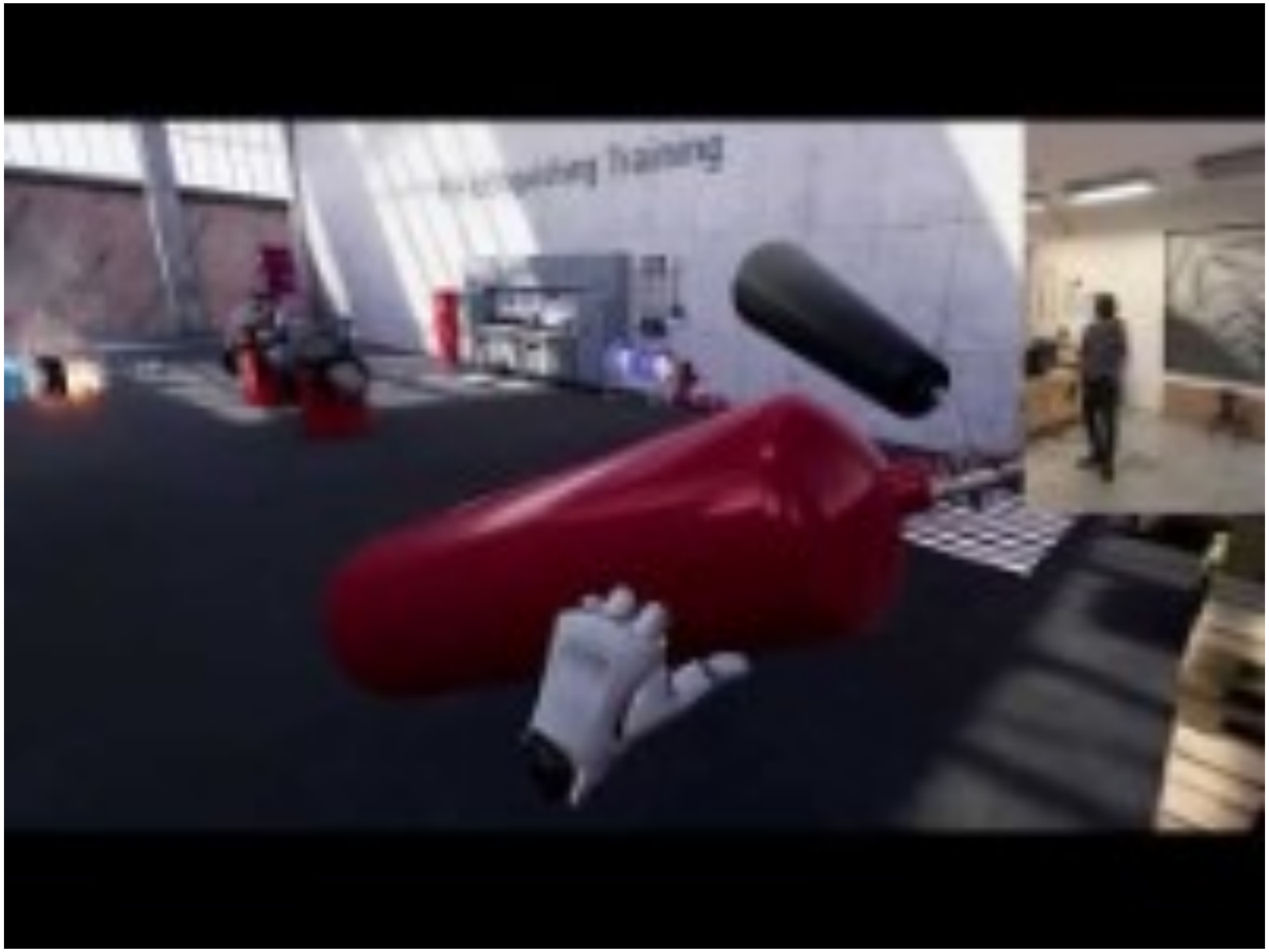
VR Applications in Training and Simulation

Drilling Simulations: VR-based simulations for training drill operators in a risk-free environment, reducing the learning curve and potential accidents.

Emergency Response Training: Simulating emergency scenarios for response training, ensuring a quick and effective response to critical situations.

Virtual Reality Simulation Adds New Dimension to Safety Training – 3M

Health & Safety Training in VR



Automated Drone Inspections

IoT – Industrial Wearable Sensors

Improving construction worker safety with wearable sensors

Automating Inspection at Merck

Click & Inspect

Inspecting Massive Facilities with Autonomous Robots

Q&A

Feedback

Sri Narasimha Raviteja Komarasetti

Innovating the Future of Data as Senior IDT Product Manager for Mobility Data House | Driving the Mobility Data & Analyti...