



Artificial Intelligence & the Connected Worker

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Today's Agenda

01

The Connected Worker

02

Assisted vs. Augmented vs. Virtual

03

Starting Points

04

AI's Impact in Two Areas

05

Security Perspective

06

Conclusion



The Connected Worker

Endpoint computers optimized to serve industrial workers.

- Tablet power & features
- Hands-free operation





Industry 4.0 Demands Connected Workers

- Access Reference Material
- Collaborate & Be Guided
- Capture & Share Content
- Access Enterprise Applications





Worker Requirements

Hands-free interface - worker safety

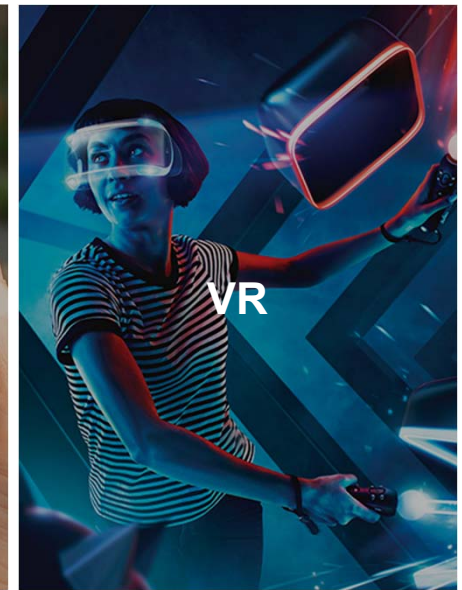
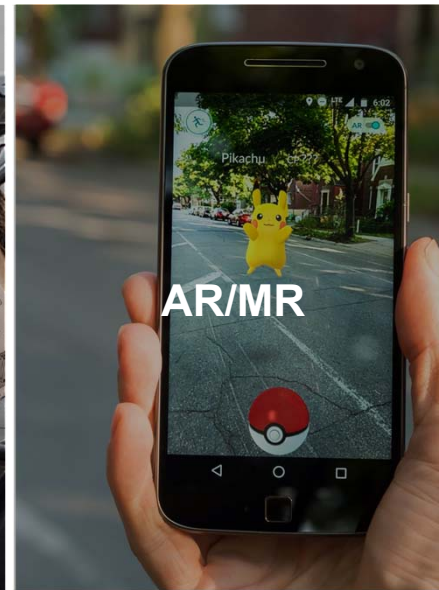
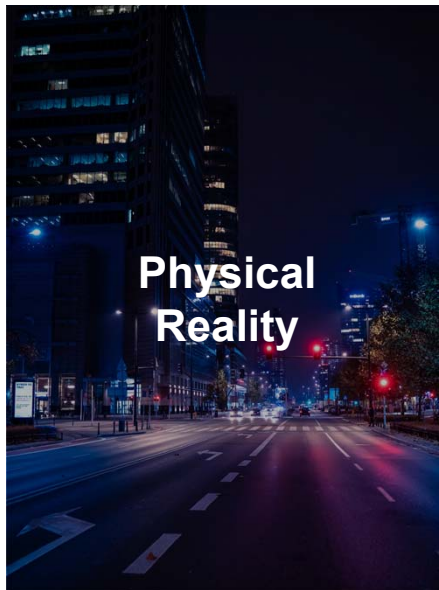
Access experts and reference content

Operate alone with poor connectivity

Function in hazardous environments



Keep Reality First



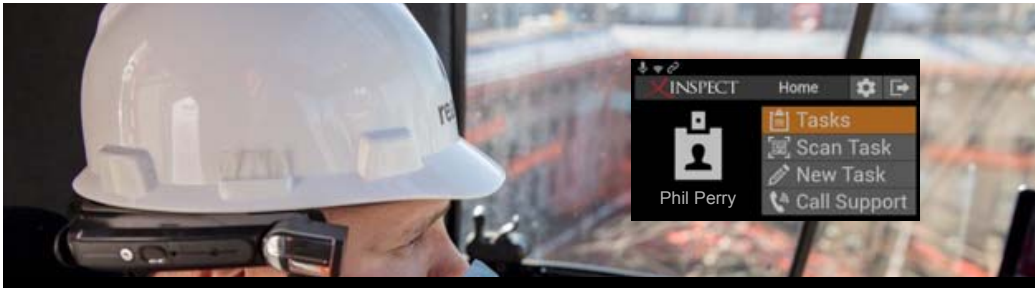
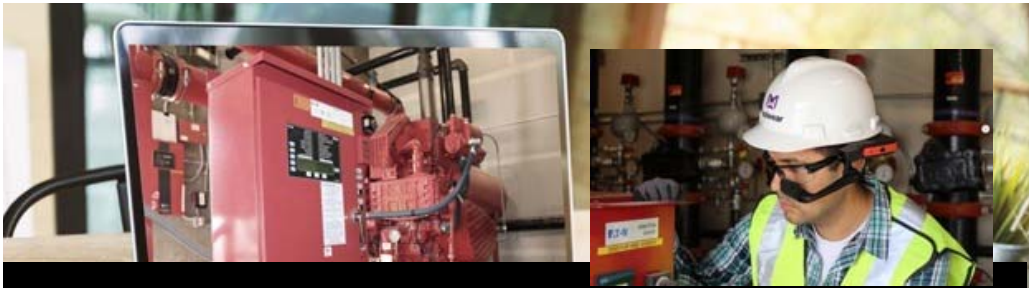
Virtual Reality (VR) vs. Assisted Reality (aR)




- Flight simulator is pure training exercise
- Full emersion in a virtual world
- No consequences for distraction errors



- Daily work is more like real flight
- Total focus on the real world
- High consequences for distraction errors



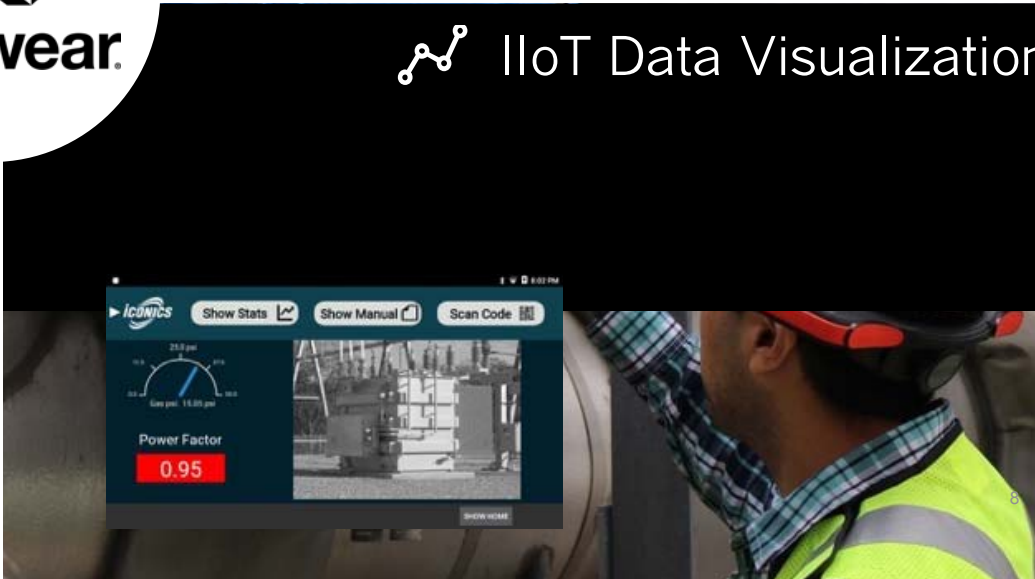
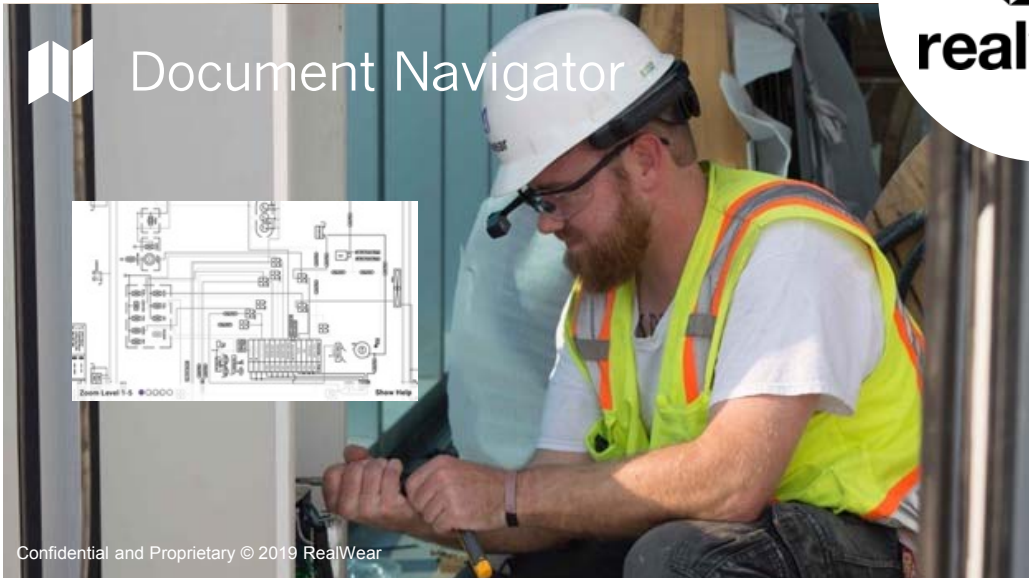
 Remote Mentor

 Digital Workflow



 Document Navigator

 IIoT Data Visualization





Remote Guidance & Collaboration



zoom





Augmentir – Automated Work Instruction

Past

- Work instructions are “living-dead” docs stored in binders at production line
- Job performance measured at training and then anecdotally by supervisors
- Gut instinct vs. fact-based knowledge of where best to direct continuous improvement efforts

Future

- Create, implement, share best practices to relevant employees in real time
- Capture granular timing & quality data on work processes that can be reported and analyzed
- Drive improvement activity based on clear understanding of objectives and expected ROI.



AI Enabled Connected Worker Platform

- Work instruction publication, training, consumption, and version control
- Continuous Improvement (CI) opportunity identification and justification
 - Improve safety, quality, productivity, and workforce development
- Performance Management
 - Benchmarking – predict ideal execution times to improve estimating and improvement activity
 - Proficiency Scoring – objectively baseline workers to optimize scheduling and worker development
 - Engagement Metrics – measure and know when to act



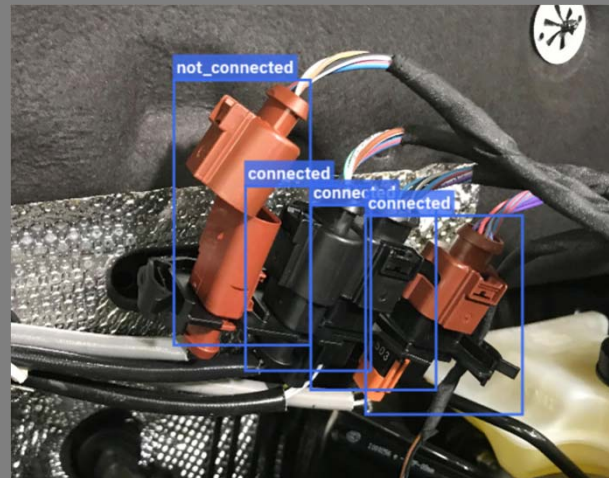
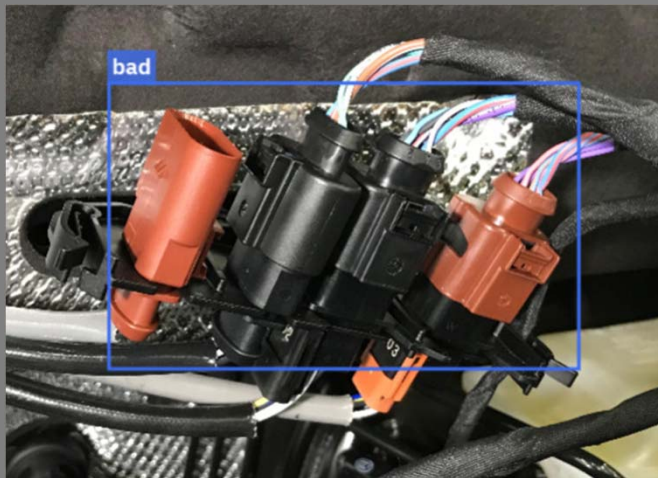
Specifically, what is AI impacting?

- Worker Effectiveness
 - Uncover origins of low performance, help workers perform at their best
 - Deliver bespoke training at moment of need
 - Up-skill loss-leading workers
 - Uncover and correct faulty processes
- Capture tribal knowledge from remote assist sessions
 - Build corporate asset – identifying knowledge gaps
 - Deliver automated decision support
 - Help scale SME capacity based on data



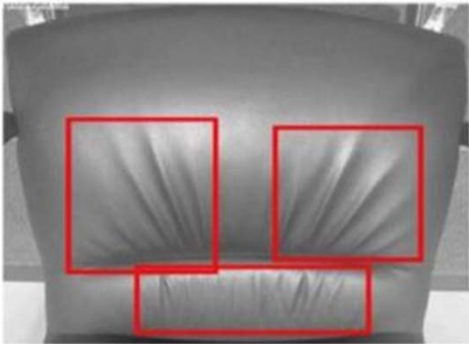
IBM Maximo Visual Inspection




- Worn by QA Inspection Professional
- Camera Streaming to Cloud
- Machine Vision to Assisted Reality



no Visual Inspection

Identify, score, and record flaws



No	Screenshot	Detection	Confident Level	Timestamp
3		WRINKLES	95.98%	3:15:44 PM
2		WRINKLES	99.2%	3:15:44 PM
1		WRINKLES	99.56%	3:15:44 PM





Security Perspective

- Android Device Management
 - Consistent with tablets and smartphones
 - Major MDM providers
- Cloud based Enterprise Applications
 - Widely viewed as most secure (vs. local)
- Management of credentials is evolving



Conclusion:

AI is available today to assist (rather than replace) workers as they perform increasingly important functions.

Thank you.

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