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PITA

PITA PAPER*matters!* 2018 Conference & Exhibition at Lancaster University

Augmented Reality

George McKeague (ABB)

PAPER*matters* 2018!
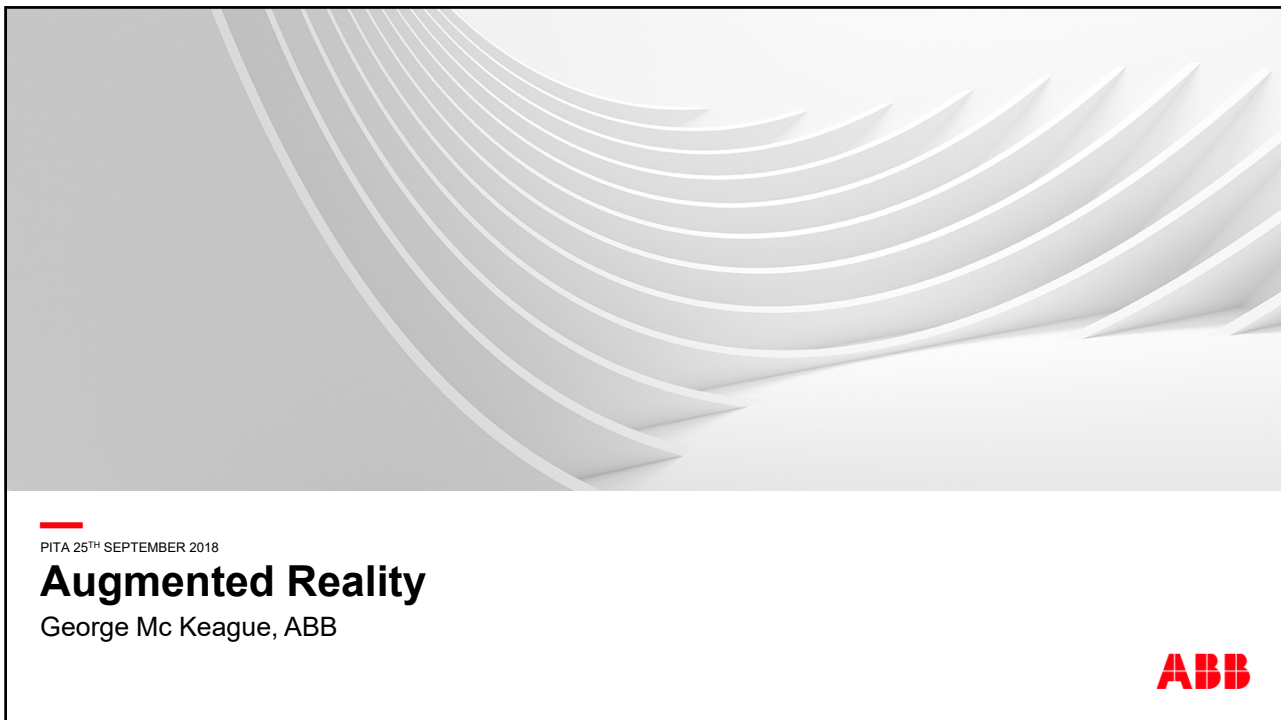
George McKeague

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George has worked in the paper industry globally for over 37 years in a variety of roles, starting with Wiggins Teape R&D, (now Arjo-Wiggins) and then with ABB, (first with AccuRay). He has worked as a Service Engineer, Control Engineer and in Optimization Services as a Control Consultant before taking up his current role in Sales and Marketing. His specialist areas are Cross Direction control and Color measurement and control.
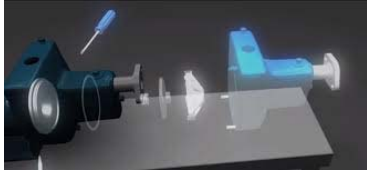
He holds an Honours degree in Applied Physics and is a member of the Institute of Engineers of Ireland. His hobbies include going to the cinema with his wife and children and, after a break of 25 years, badminton. He is qualified as a Level 1 badminton coach and is now passing on his enjoyment of the sport with a local youth organization.

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PITA 25TH SEPTEMBER 2018

Augmented Reality

George Mc Keague, ABB

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Virtual Reality vs. Augmented Reality

Virtual Reality

- Virtual Reality (VR) is an artificial, computer-generated simulation or recreation of a real life environment or situation. It stimulates vision and hearing, thus making the user feel like they are experiencing the simulated reality firsthand. In other words, VR is replacing your real world.

- Totally immersive environment
- Visual senses are under control of system

Augmented Reality

- Augmented Reality (AR) adds a digital layer on top of the real environment in real-time. It enriches the real world with digital information and media. AR layers detailed information over what we see around us while still allowing us to navigate through the real environment.

- System augments the real world scene
- User maintains a sense of presence in real world
- Needs a mechanism to combine virtual and real worlds

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AR Developments

Satya Nadella thinks augmented reality is another big, long-term bet for Microsoft, that could be bigger than the smartphone. Launched HoloLens.

Tim Cook thinks Augmented Reality could be as big as the iPhone. Apple Recently announced iPhones 8 and X, designed to support AR and the ARKit software platform.

Sundar Pichai and Google recently announced Google Assistant, Tango, Google Glass II and ARCore for Enterprise Augmented Reality.

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October 24, 2018 | Slide 3   Effect every company and industry in the years to come   **ABB**

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Key Capabilities of AR

Visualise

Enhance the user's view of the physical world with the overlay of real-world or hypothetical digital information:

- IoT data (value)
- Digital Models
- Third – party data
- Business systems information

Instruct/Guide

Train or guide users on how to perform a task through the overlay of digital instructions or real-time expert guidance

- Real-time transfer of knowledge and expertise
- Digital step-by-step instructions to guide user

Interact

Manipulate digital graphics or extend a product interface through an AR interface

- Enhance physical products with digital experiences
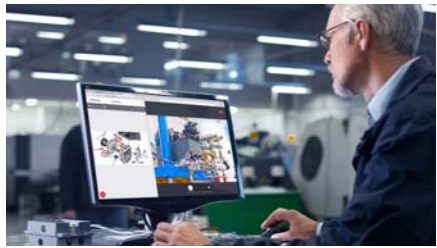

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Applications of AR

Remote Expert

Provide interactive technical support to field service engineers in remote locations.

Two way, heads-up, hands-free video calling, image sharing, document sharing and mixed reality annotations.

Field Service

AR enhanced field service instructions – e.g. parts replacement procedures augmented over the physical part with 3D model, text, voice and mixed reality annotations.

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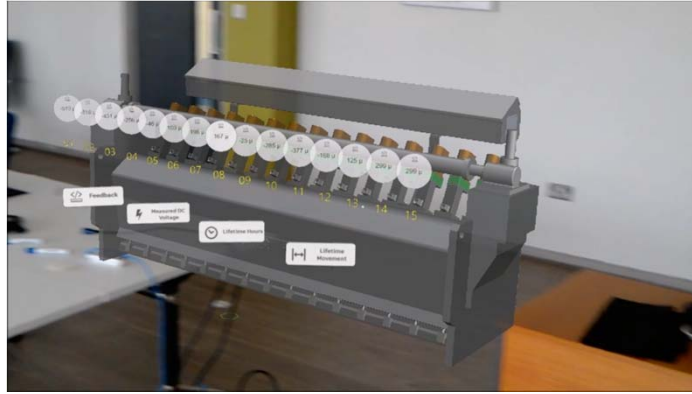## Augmented Reality Service Instructions + Live Data

- Complete power supply replacement

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Customer Data with AR

- Display and collection of live and historical data for analytics

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Augmented Reality Vision (AR)

AR Use Cases

➢ Product development views (collaboration)
➢ Training
➢ Inspection and quality procedures
➢ Assembly
➢ Marketing and Sales
➢ Preventative maintenance
➢ Safety Opportunities
➢ Field Service (remote visualisation)
➢ Process monitoring / troubleshooting

Tim Cooke – "In terms of monetization of AR/VR, we focus first and foremost on customer experience. We're all about making sure the customer experience is great. We think if we get the experience right, revenue and profits will follow. We're very much focused on the experience right now."

AR Value

➢ Ability to deliver state of the art connected field services and diagnostics with AR as a product feature
➢ Adding capabilities to make our products unique
➢ Adding visual KPIs and key data overlaid on actual product
➢ Linking AR to ABB Ability Data

"Right information, right place at the right time"

➢ Manufacturing - end to end production
  • Reduced errors
  • Enhanced efficiency
  • Improved productivity

➢ Marketing and Sales
  • Transform a customer experience
  • Accurate expectations / confidence

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