Welcome

Realidad Aumentada

Oferta y aplicaciones

Ing. Antonio Gordillo / Infraestructura y Sistemas de Automatización / 8 SEP 2021

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Agenda

- Tipos de Realidad
- Qué es la realidad aumentada
- Equipos de Realidad Aumentada
- Beneficios y Ventajas
- Aplicaciones

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Reality

Types

- VR Virtual Reality
- AS R Assisted Reality
- AR Augmented Reality
- MR Mixed Reality

Realidad Aumentada y Realidad Virtual en Industrias

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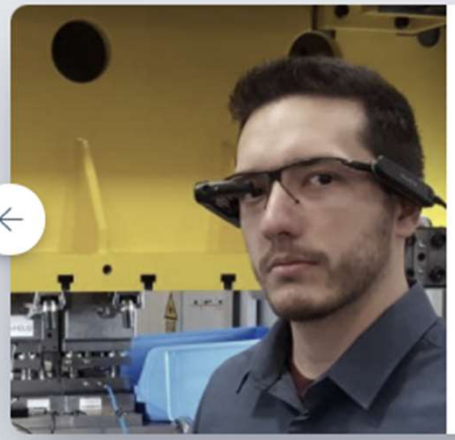
VR Applications: 21 Industries already using Virtual Reality

UPDATED DECEMBER 11, 2020 - SOPHIE THOMPSON - 9 MIN READ

Don't get me wrong, there are some great virtual reality (VR) games out there, but VR, AR and MR are going to shape our future in so many more ways than gaming. Here's a list of industries that are already adopting VR and how this could impact the future of that industry.



Assisted Reality

Assisted Reality is characterized by the fact that only a very small amount of virtual content covers the real world. This is typically achieved with monocular smart glasses whose display is located near the left or right eye. Only by actively focusing the display can the displayed content be fully perceived.

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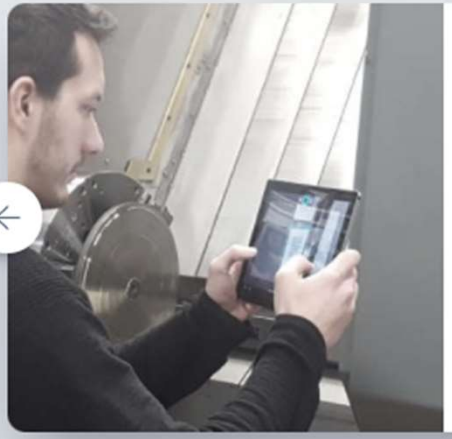

Augmented Reality

Augmented reality overlays virtual content with the real world, which works just as well with tablets and smartphones as with binocular smart glasses. Through the integration of tracking algorithms, virtual content can be fixed at selected positions in reality.

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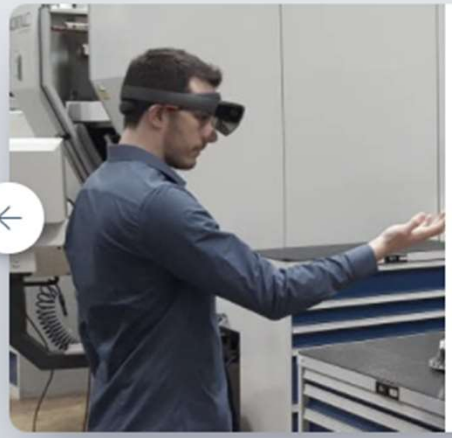

Mixed Reality

In Mixed Reality, real and virtual worlds mix to form a single perceived reality for the user. Mixed Reality can be realized only with smart glasses such as Microsoft Hololens or Magic Leap.

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Definiciones

Tipos de realidad

Realidad Aumentada

AUGMENTED REALITY (AR)

AR is the blending of virtual reality and real life. AR appeals to the senses by inserting computer-generated sounds, videos, graphics or GPS data into an existing real-life setting. AR is converging with IoT; for example, data from hundreds of sensors can be visualized simultaneously, overlaying relevant and useful information from your environment through a headset.

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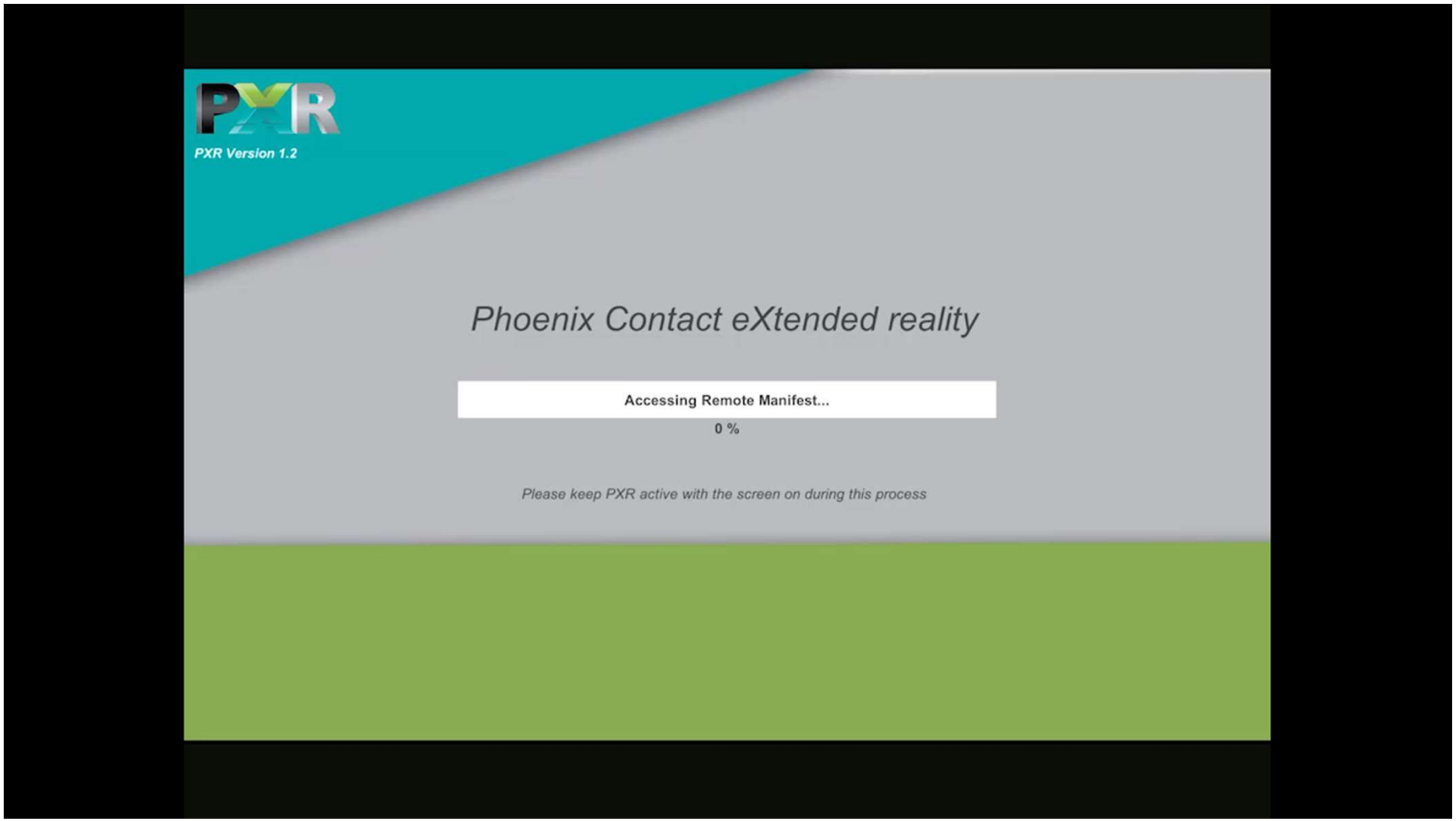

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Remote Assist and Augmented Reality Workflows for the Industry

Remote guidance for visually connecting experts, technicians and end users of machinery & equipment all over the world. Self guidance with Augmented Reality workflows and step-by-step instructions to make technical knowledge directly accessible without calling an expert.

We are redefining interactions with machinery and equipment!

Live Demo Customer Videos

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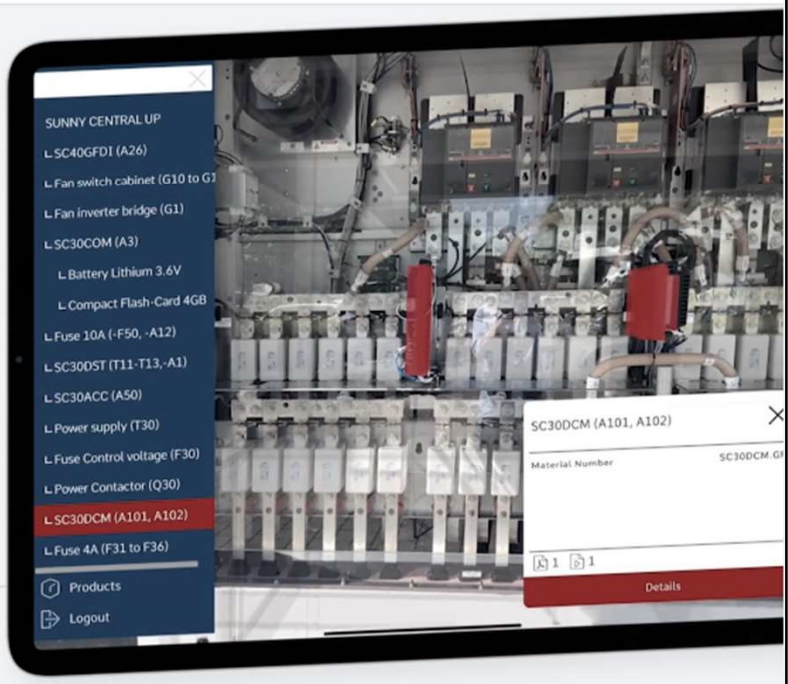
Seeing more with Augmented Reality

Augmented Reality has come a very long way. First developments date back to the 1960s. Only today this technology has arrived at a technologically mature level and we know all the tweaks of it. Enriched user experience of oculavis SHARE is the result.

Read more



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Step-by-Step Instructions

It is not always necessary to consult an expert on a technical problem. In the first step, machine operators can also be provided with instructions with the help of augmented reality in order to be able to solve a malfunction or the like independently.

Spare Part Ordering

With our Augmented Reality based "X-Ray" viewer, the inner workings of machines and systems can be virtually displayed on top of the real object. In addition to displaying step-by-step instructions, spare parts can also be identified more quickly and easily and, if necessary, an order can be placed directly.

Object Identification

Identification of machines and components can be done either via a QR code, which also serves as a reference point for marker-based tracking procedures. Alternatively, individual machines can also be identified by object recognition without the need for additional markers.

Tracking

Through the integration of ARCore and ARKit as well as other tracking methods, virtual objects in oculavis SHARE always remain in the right position in the real world. This makes knowledge literally available in the right places.

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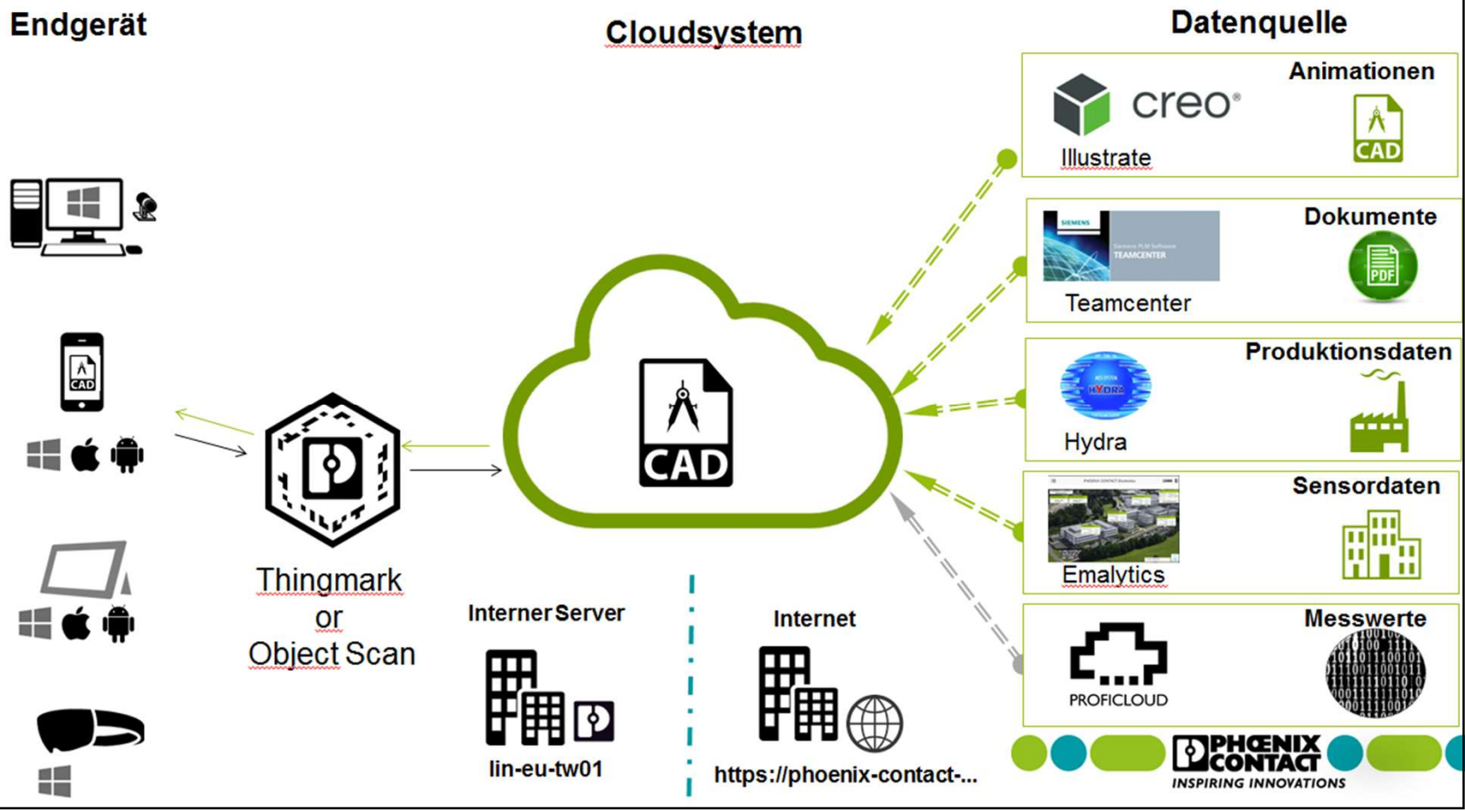
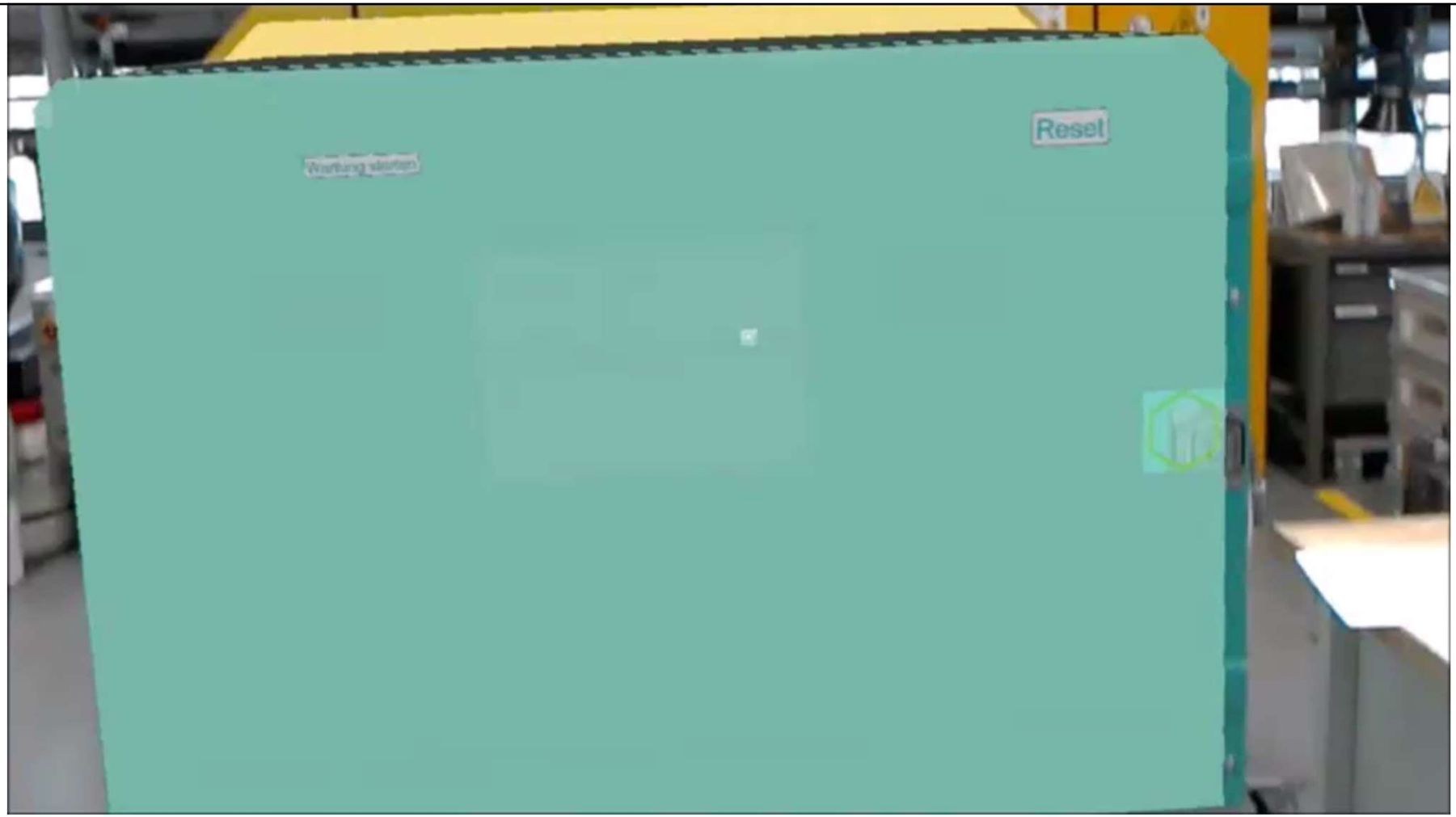
Augmented Reality

Equipment & Software





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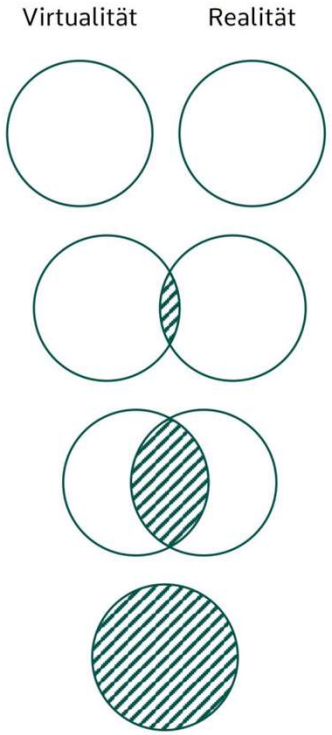
Realidad Aumentada ….. Como ubicarla !

Equipos para la Realidad….



Virtual Reality

e.g. HTC Vive

e.g. Oculus Rift

Assisted Reality

e.g. Google Glass

e.g. Vuzix M300

Augmented Reality

e.g. ODG R7

e.g. Epson BT 300

Mixed Reality

e.g. Microsoft Hololens

e.g. Meta 2

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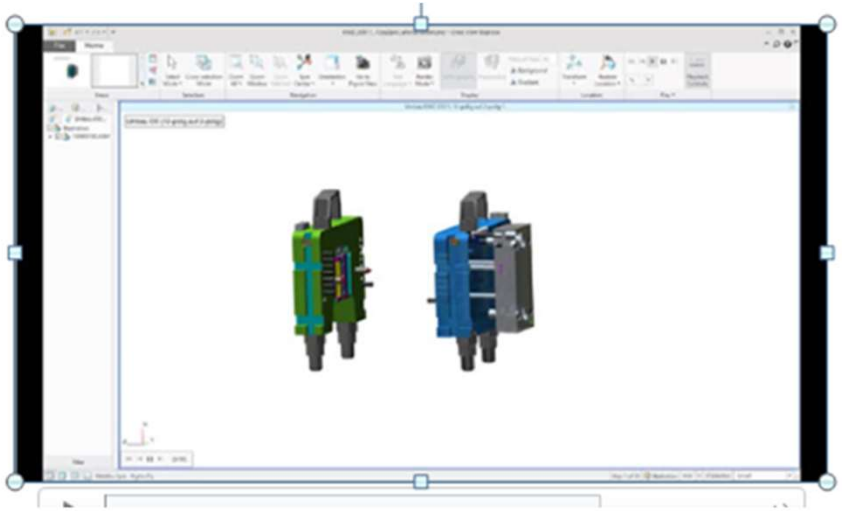
Augmented Reality

Process of images/products



1 **CAD Daten erstellen** (CreoParametric CreoElementsDirect)

2 **Daten animieren** (Creo Illustrate)

3 **Daten „publizieren“** (Vuforia Studio)

4 **Daten abrufen** (APP: Vuforia -View)

Metadaten

Metadaten

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Rollout Remote Assist System using Smartglasses

Agenda

- Remote Assist System
  - Current situation and possible solutions
  - Software and hardware evaluation
  - Live demonstration

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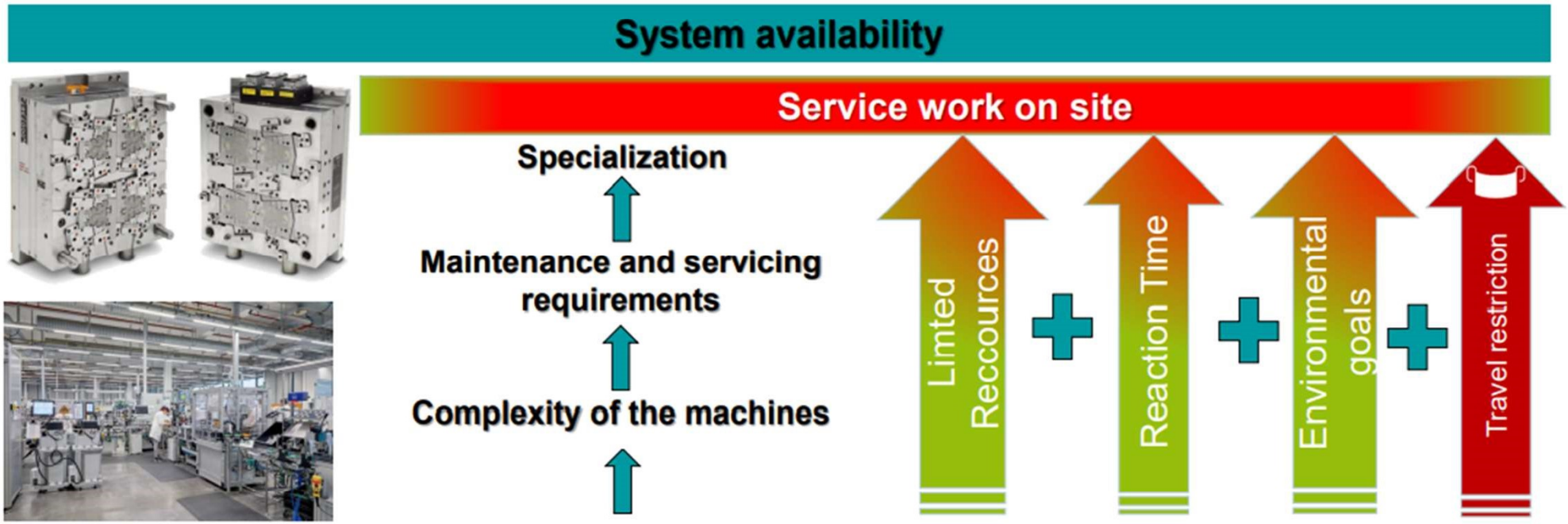
Rollout Remote Assist System using Smartglasses

Topology of the service calls - on site



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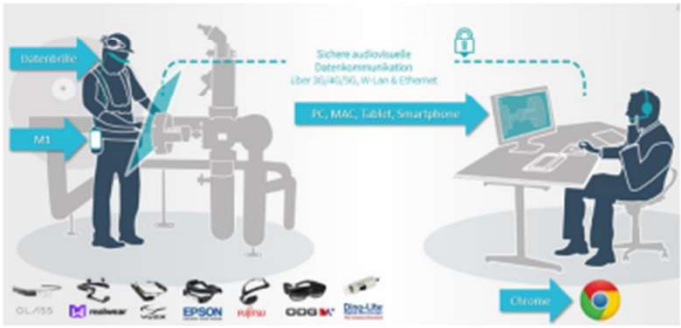
Rollout Remote Assist System using Smartglasses

Requirement - Software

Requirement

+ Live camera view in support
+ Video and sound transmission including storage
+ Quick integration of new, also external users
+ Exchange / storage of video / image and audio data
+ Conference calls
+ Desktop sharing
+ Smartphone and SmartGlass compatible



Vuforia Chalk

ESSERT

TeamViewer Pilot

AMA ExpertEye

DYNAMICS 365 Remote Assist

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Rollout Remote Assist System using Smartglasses

Requirement - Hardware

Requirement

+ Display of additional information in the head-up display
+ Can be integrated into the PxC network
+ Convenient commissioning, start
+ Battery life, comfort and ease of use
+ robustness

Moverio BT-300 - Epson

Vuzix Blade

Google Glass

HoloLens 2

Realwear HMT-1

Vuzix M400

Toshiba DynaEdge

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Rollout Remote Assist System using Smartglasses

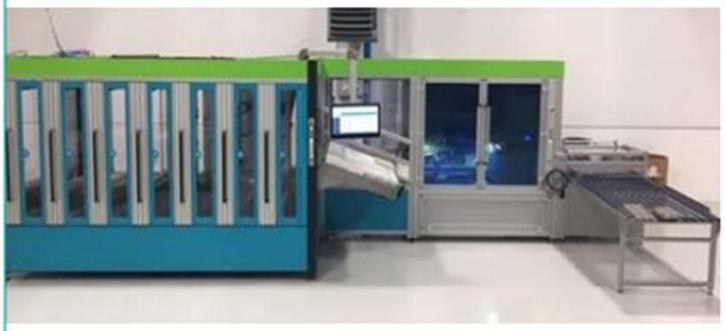
Aktueller Rollout

Assemble of Metalmold Standalone, USA

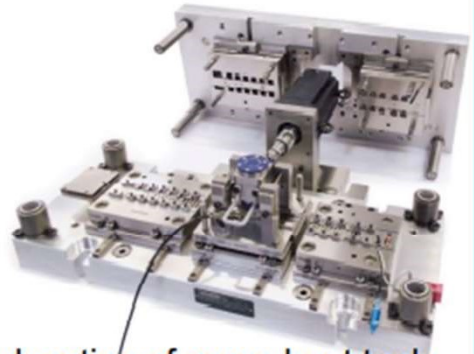
Maintenance and service of PxC production machines, worldwide

Acceptance of plastic injection molding tools,

worldwide



Customer care;
Clipx Assemle master basic; Italy



Relocation of press-bent tools, worldwide

Commissioning of WIREassist in 11 countries

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Augmented reality in use for industry 4.0 and building technology

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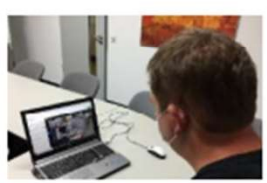
Rollout Remote Assist System using Smartglasses

Selected System

Target: Connection of data glasses for detailed support, observation and guidance of the worker on site

Project costs:
- Hardware: ~ 1.900 € per Smartglas
- Software: ~ 800 €/a per Floating Lizenzen
- Support t.b.d.

Aktual Status:
- Hardware selection completed;
- Integration in PxC landscape is ongoing



- Detailed live images of worker activity for service
- Provision of additional information in the user's field of vision

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Phoenix Contact brings Augmented Reality to the show – IMTS 2018

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5 BEST AUGMENTED REALITY TECH 2018

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