BraIND 4.0

Mixed Reality & **Augmented Intelligence** for smart factories & smarter workers

info@fifthingenium.com
https://fifthingenium.com/industry40
https://braind40.com/

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EXPERTISE

fifthingenium

+4yr
of experience with Mixed Reality

+4yr
of experience with Education, Industry 4.0, AI and IoT

+30
AR projects Developed

+10
Digital Manufacturing Solutions

CUSTOMERS

Ferrari
Lamborghini
SOLVAY
FCA FIAT CHRYSLER AUTOMOBILES
CNH INDUSTRIAL
IVECO
UniCredit
Coca-Cola

CHALLENGES: Increase Manufacturing Resilience

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SPEED, QUALITY, AND SAFETY

Machine downtimes and workplace accidents are HUGE costs

MAINTENANCE & OPERATIONAL ERRORS

LACK OF EXPERIENCE AND TRAINING

TRAVEL TIME/COST/BAN

MARKET TREND

Companies are creating a new reality for work

Adopt technology solutions to enable their teams to work in new ways

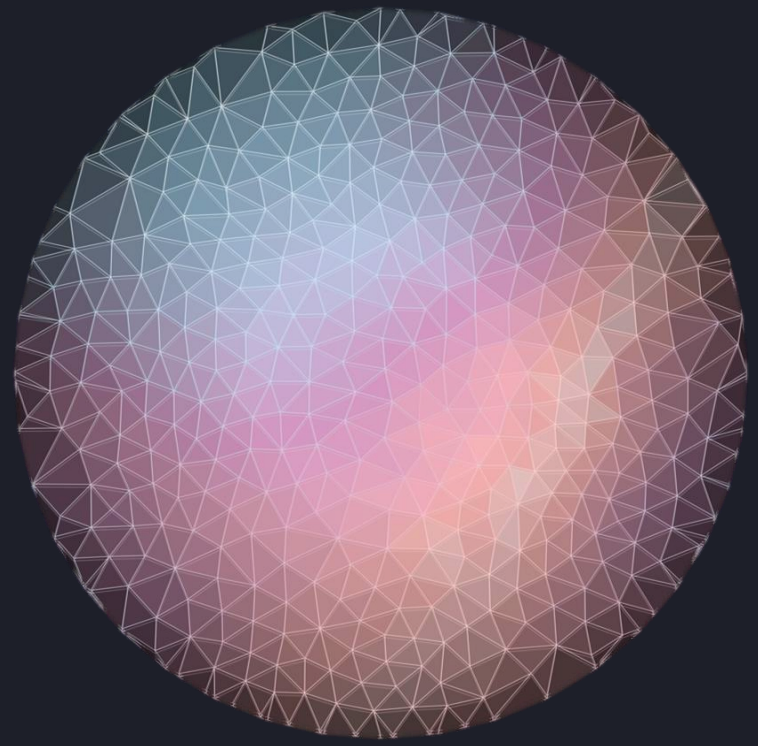
Mixed Reality is a

blending of the physical and digital worlds

PHYSICAL WORLD

MIXED REALITY

DIGITAL WORLD



C2 General

MARKET TREND

The digital resiliency of the workforce during and after the COVID-19 pandemic

Growing digitalization of physical objects to deliver new ways of working and improve workforce efficiency

Hype Cycle for the Digital Workplace, 2020

gartner.com/SmarterWithGartner

Source: Gartner
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Gartner

THE NEXT CHALLENGE

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The next breakthrough in Mixed Reality

Moving from individual to shared experiences

VISION

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EMPOWER THE WORKFORCE WITH NEW MIXED REALITY & AUGMENTED INTELLIGENCE

INSTANTLY TELEPORT PEOPLE AND INFORMATION ANYWHERE IN THE WORLD

CREATE THE BRAIN OF MODERN INDUSTRY 4.0

SOLUTION

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BraIND 4.0

Increase operations efficiency and safety with AR work instructions, digital training & remote collaboration for front-line workers.

OPERATIONS EFFICIENCY

INCREASE PRODUCTIVITY

ADOPT REMOTE WORK

ENSURE BUSINESS CONTINUITY

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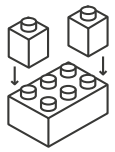
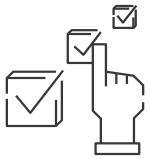
MAINTENANCE

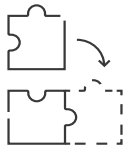


3D MANUAL

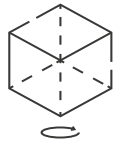


MR CHECKLIST

PLANNING & PROTOTYPING



RELAYOUT



3D MODEL VIEWER

REMOTE ASSISTANCE & AUDIT

REMOTE ASSISTANCE

TRAINING & SALES (TINALP)

TRAINING

CATALOGUE

ANALITYCS & IOT

DATA COLLECTION

ANALYTICS

MODULAR AND INTEGRATED ENTERPRISE AR SYSTEM

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VISUAL GUIDANCE

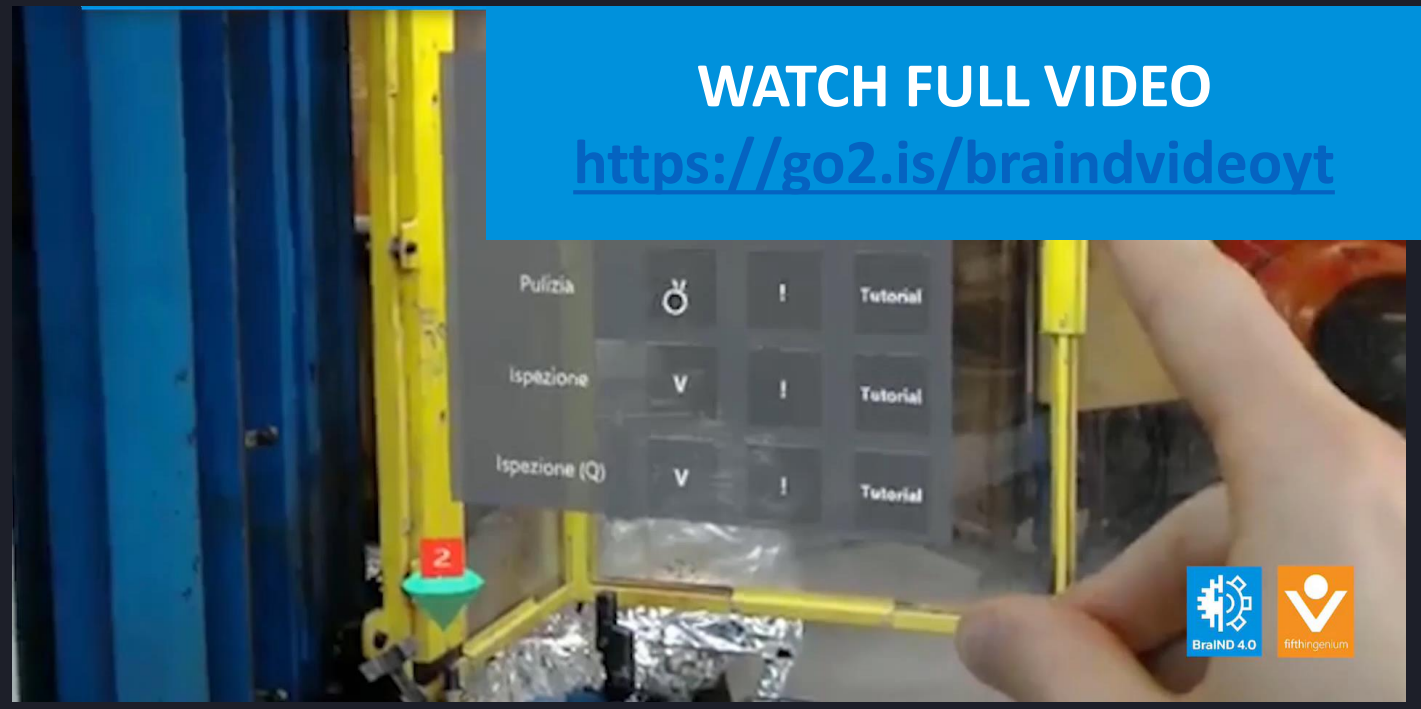
Use visual step-by-step instructions and AR training guides to reduce complexity and avoid errors.

REAL-TIME INFORMATION

Visualize Internet-of-Things and live data from IoT platform and accelerate decisions.

REMOTE COLLABORATION

Deliver expert knowledge and fast access to information with AR-enhanced support.



3D REMOTE SUPPORT – EXPERT TELEPORTATION

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WATCH FULL VIDEO
https://go2.is/3dremotesupport

SOLUTION

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TINALP

Creating advanced learning experience with
Mixed Reality & **Augmented Intelligence**

OPTIMIZE & DIGITALIZE PROCESSES

IMPROVE TRAINING & SKILLS DEVELOPMENT

CREATE A SAFE TRAINING ENVIRONMENT

VISUAL EDITOR - POWERPOINT FOR MIXED REALITY

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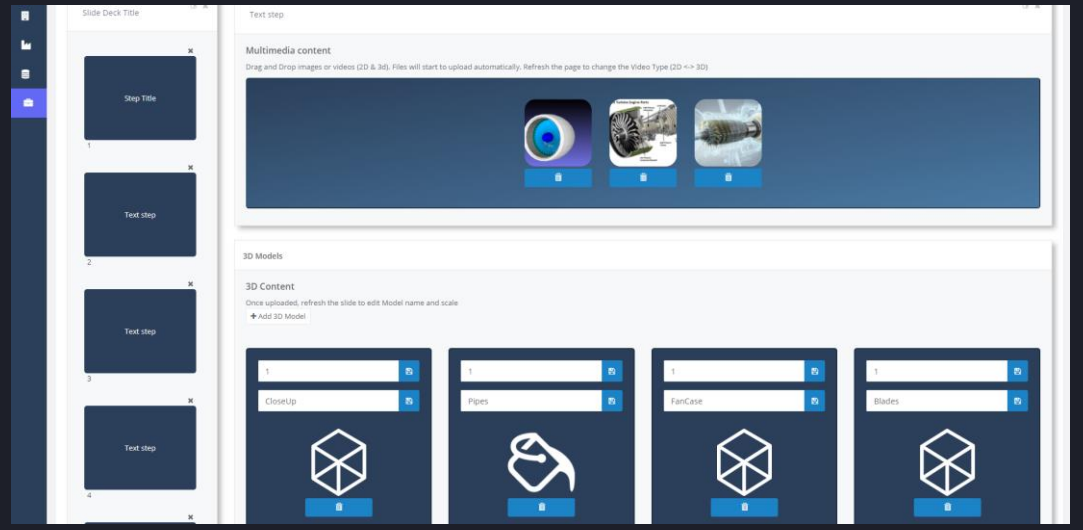
CREATION

NOT ANOTHER CAD

COST EFFECTIVE

QUICK AND EASY TO LEARN

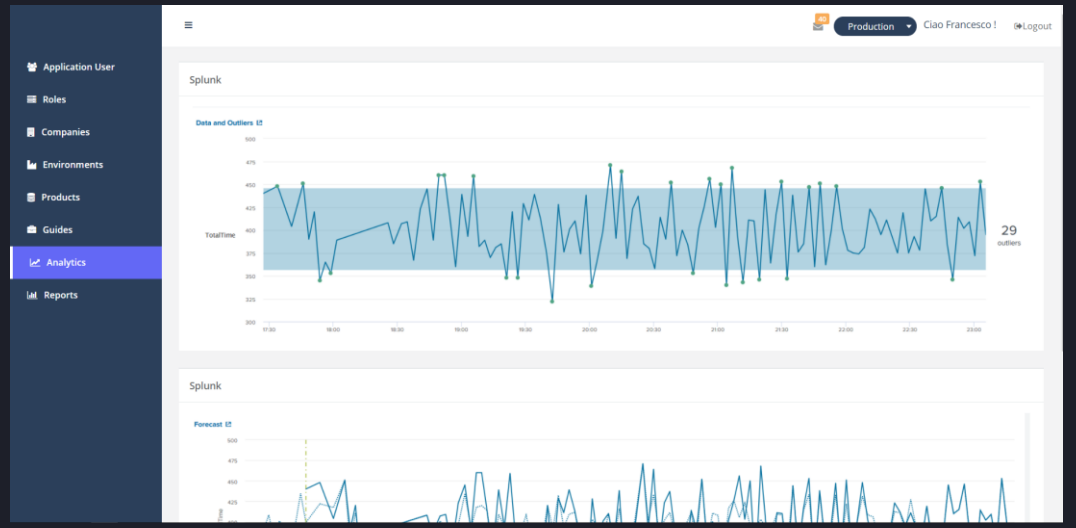


DEPLOY

SECURE GLOBAL DEPLOYMENT

ADVANCE AI REPORTING

INTUITIVE MANAGEMENT



Advanced learning experience
with Mixed Reality & Augmented Intelligence

WATCH FULL VIDEO

https://go2.is/tinalplessoncreation

WATCH FULL VIDEO
https://go2.is/tinalp

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Vodafone Action for 5G winner 2020/21

UNIQUE AR EXPERIENCE

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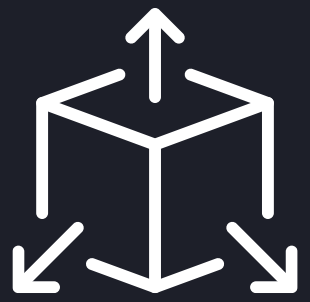
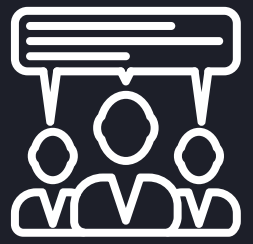


REAL 3D CONTENT

FULLY HANDS-FREE EXPERIENCE

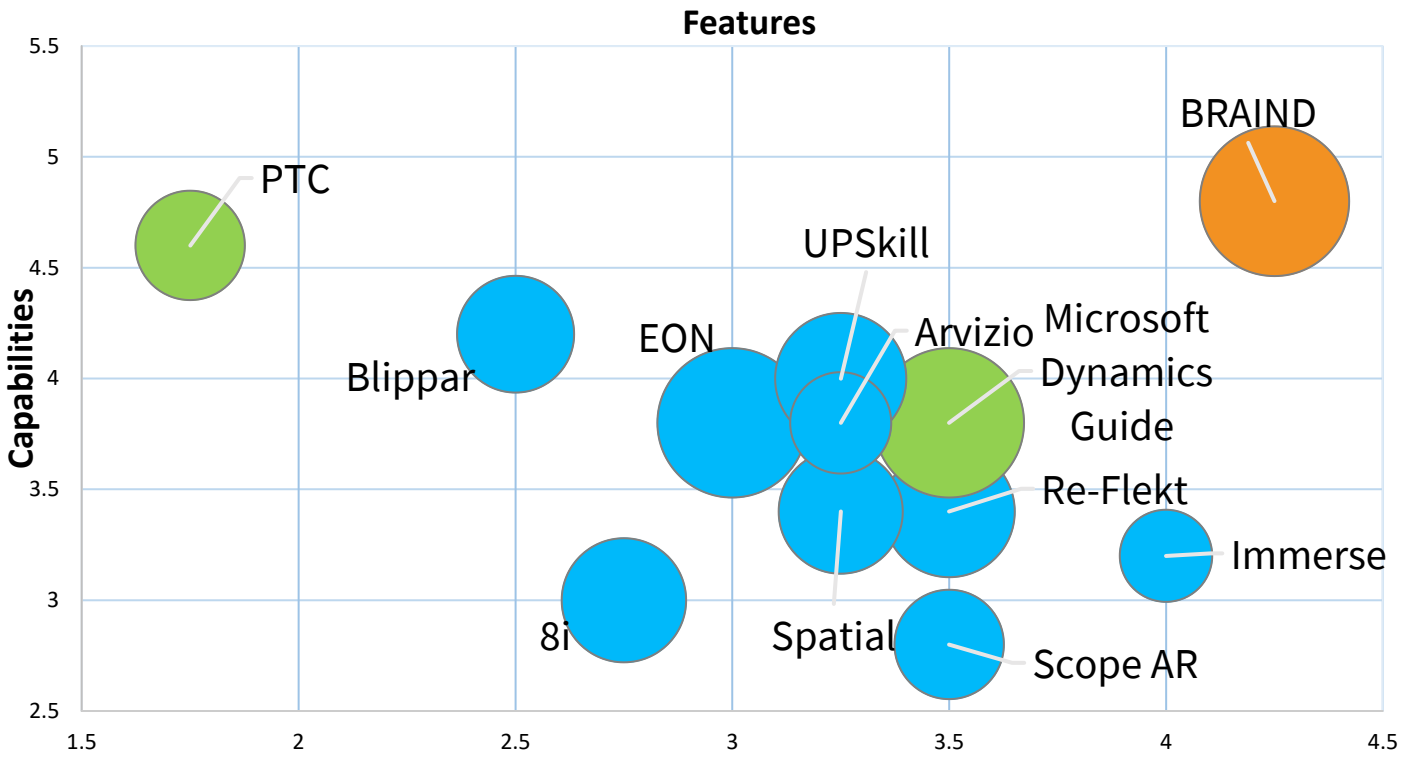


SHARED EXPERIENCE

ANY PLACE AND ANY TIME

PROPRIETARY ULTRA LOW LATENCY 3D SYNCHRONIZATION TECHNOLOGY

BRAIND COMPETITORS



CAPABILITIES*

Product Customization
Multi-Devices AR/VR/Mobile
Third-Party Software Integration
Scalability
5G Native

FEATURES**

Planning & Prototyping support
Operational guide
VR/AR Collaborative Shared Experience (local/ remote)
VR/AR Training
Monitoring & Track

*Forrester, The CIO's Guide To Augmented, Mixed, And Virtual Reality
**Forrester, New Tech: Augmented Reality, Virtual Reality, And Mixed Reality, Q1 2019

COMPETITIVE ADVANTAGES

- Leading-edge AR/MR modular & customizable platform leading to rapid on-boarding of new customers
- Meet security & privacy needs with a scalable Edge to Cloud solution going from hybrid deploy and 5G Multiaccess Edge Computing
- Advanced Collaborative Multiusers Sharing Experience on same physical location or remotely
- Open product ecosystem

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FULLY INTEGRATED

solution for **industrial machinery manufacturers**
who need to differentiate themselves and offer
superior man-machine interfaces and performances

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USE CASES

CUSTOMER HISTORY

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USE CASES

USE CASE: MAINTENANCE

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MAINTENANCE	
3D MANUAL	MR CHECKLIST

BRAIND modules (3D Manual and MR Checklist) allow you to digitize through augmented reality the processes of assembly, maintenance and monitoring, with the ability to display data in real time and get remote support from an operator in augmented reality.

KEY BENEFITS:

- Reduction of production line downtime
- Increased reliability
- More adherence to procedures
- Increased safety

Demo:
https://youtu.be/s2feG8E_cRo
https://youtu.be/_HHjQjiOJGU

USE CASE: PLANNING & SAFETY

BRAIND modules (Layout and 3D Model Viewer) allow to use augmented reality to support the set-up and layout operations of line stations, ensuring compliance with the rules of ergonomics, safety and physical space occupied by the various components.

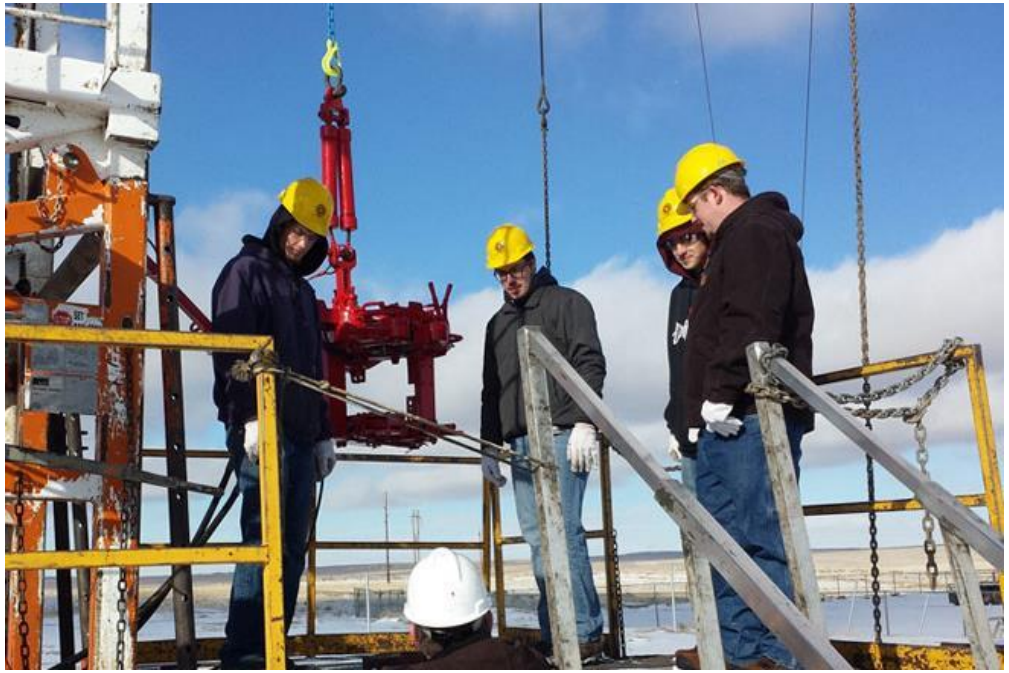
KEY BENEFITS:

- Increased workspace safety
- Reducing the risk of errors
- Cost reduction
- Reducing the risk associated with all-digital design

PLANNING & PROTOTYPING	
LAYOUT	3D MODEL VIEWER

Demo:
https://youtu.be/OhZr6mok_yA
https://youtu.be/upAc9UP1WZk
https://youtu.be/s2feG8E_cRo

USE CASE: TRAINING



TRAINING & SALES	
TRAINING	CATALOGUE

BRAIND modules (Training and Skills) can be used to training the workforce in order to learn how to use actual/new machinery and digital tools. The Mixed Reality simulation allows individual virtual training and self assessment.

KEY BENEFITS:

- Reduction in travel costs
- Accidents prevention
- Increased tracking of employee learning activities
- Increased workspace safety
- Increased learning engagement

Demo:
https://youtu.be/4GFhHUIVA0M

USE CASE: AUDIT & QUALITY ASSURANCE

MAINTENANCE	
3D MANUAL	MR CHECKLIST
REMOTE ASSISTANCE	

BRAIND modules (3D Manual, MR Checklist and Remote Assistance) can support and improve audits and quality control tasks remotely, integrating the ability to show checklists, display and collect data in real time, with an expert who at all times can verify that all requirements are met.

KEY BENEFITS:

- Reduction in travel costs
- More adherence to procedures
- Quality improvement
- Paper cost reduction

Demo:
https://youtu.be/s2feG8E_cRo
https://youtu.be/_HHjQjiOJGU

CASE HISTORY

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CUSTOMER HISTORY

MAINTENANCE ASSISTANCE

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CUSTOMER: IVECO (FCA Group)

CHALLENGE:

Supporting operators during maintenance, to ensure that operations are carried out in the correct order and in the established manner.

SOLUTION:

Augmented reality application that guides the operator step by step in maintenance, with the indication of safety devices, possibility of accessing manuals and videos, and the possibility of indicating malfunctions or problems that are immediately reported to the head of the shift.

Demo:
https://youtu.be/s2feG8E_cRo

FCA FIAT CHRYSLER AUTOMOBILES

IVECO

ADVANCED REMOTE SUPPORT

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CUSTOMER: HUDIPHARMA

CHALLENGE:

Ensuring business continuity and **providing efficient Remote Assistance** to its clients, especially **during the COVID-19 pandemic**, when traveling costs and times spiked, by allowing a remote expert to being “phygitally” present near the machine and the local operator.

SOLUTION:

By using BraIND 4.0 3D Remote Support the client was able to achieve full remote assistance which cut travel cost times and improved its clients satisfaction.

Hudi PharmaX
Passion to perform

Demo:
https://go2.is/3dremotesupport

3D TRUCK VISUALIZER

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CUSTOMER: IVECO

CHALLENGE:

the cost of producing a single prototype of a truck door exceeds $60K. You want to be able to evaluate different solutions and try them on the existing truck cabin.

SOLUTION:

visualization of the hologram exported by CATIA, in real scale, superimposable to the physical model of the truck, with the possibility to manipulate it and change color, and view the entire cabin 3D model.

FCA FIAT CHRYSLER AUTOMOBILES

IVECO

Demo:
https://youtu.be/OhZr6mok_yA
https://youtu.be/upAc9UP1WZk

CAR COCKPIT VISUALIZER

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CUSTOMER: LAMBORGHINI

CHALLENGE:

visualize and simulate new cockpit concepts for future cars, without the need to produce them physical prototypes but only virtual ones that can be tested by operators on the car.

SOLUTION:

display of new animated cockpits as holograms for a human operator within an existing car and simulation of new functionalities and features

LAMBORGHINI

Lamborghini

3D CAR CONFIGURATOR

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CUSTOMER: FERRARI

CHALLENGE:

the design team of the new car concept would like to see the model in full scale and be able to see different configurations, study its reflections, and understand its proportions

SOLUTION:

shared experience for up to 6 people which see the car at the same time in full scale and can make changes on the different external and internal configurations

Ferrari

WORKPLACE DESIGN & SAFETY RISKS ANALISYS

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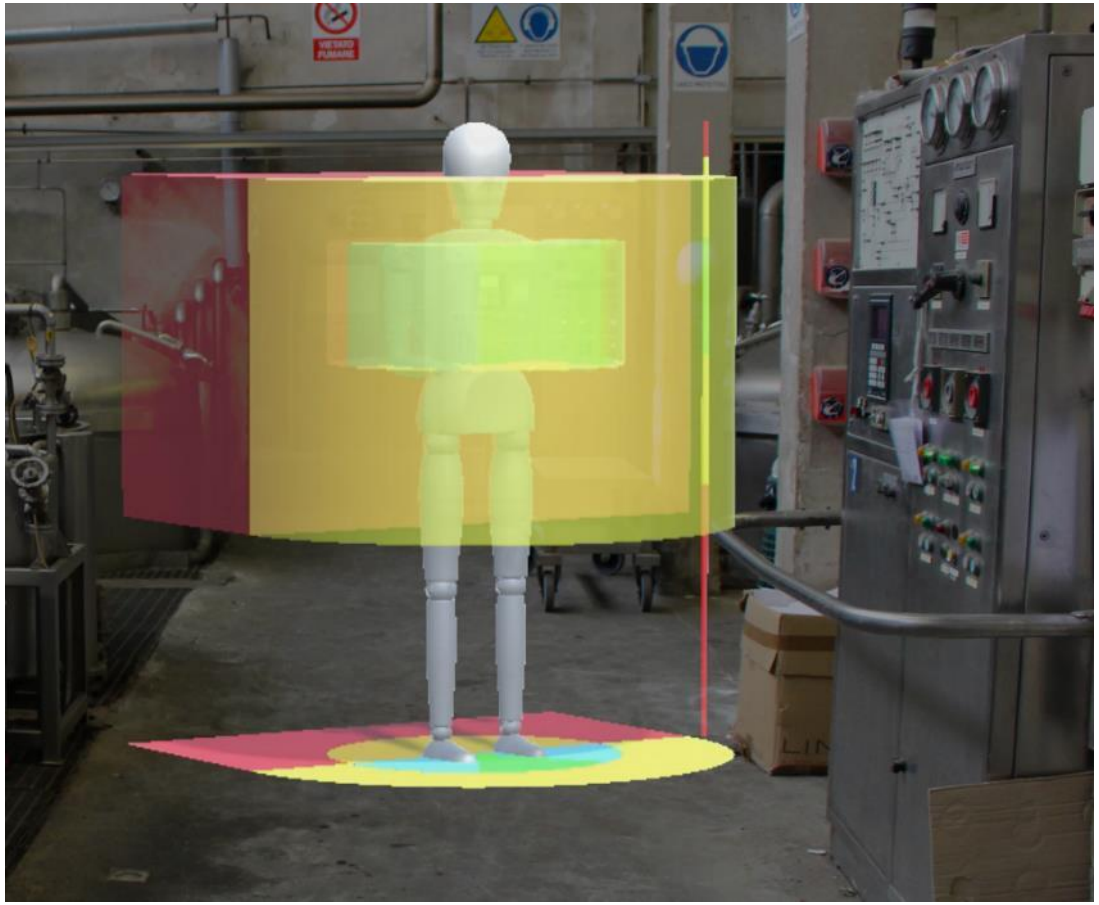

CUSTOMER: IVECO

CHALLENGE:

support the design team of a new part of the production line in configuring the spaces to ensure ergonomics and the safety of workers.

SOLUTION:

possibility of positioning the hologram of machineries to evaluate the overall dimensions and of a "standard worker" to visualize the parameters/areas of ergonomics and safety

FCA FIAT CHRYSLER AUTOMOBILES

IVECO

Demo:
https://youtu.be/s2feG8E_cRo

REALTIME DATA VISUALIZATION

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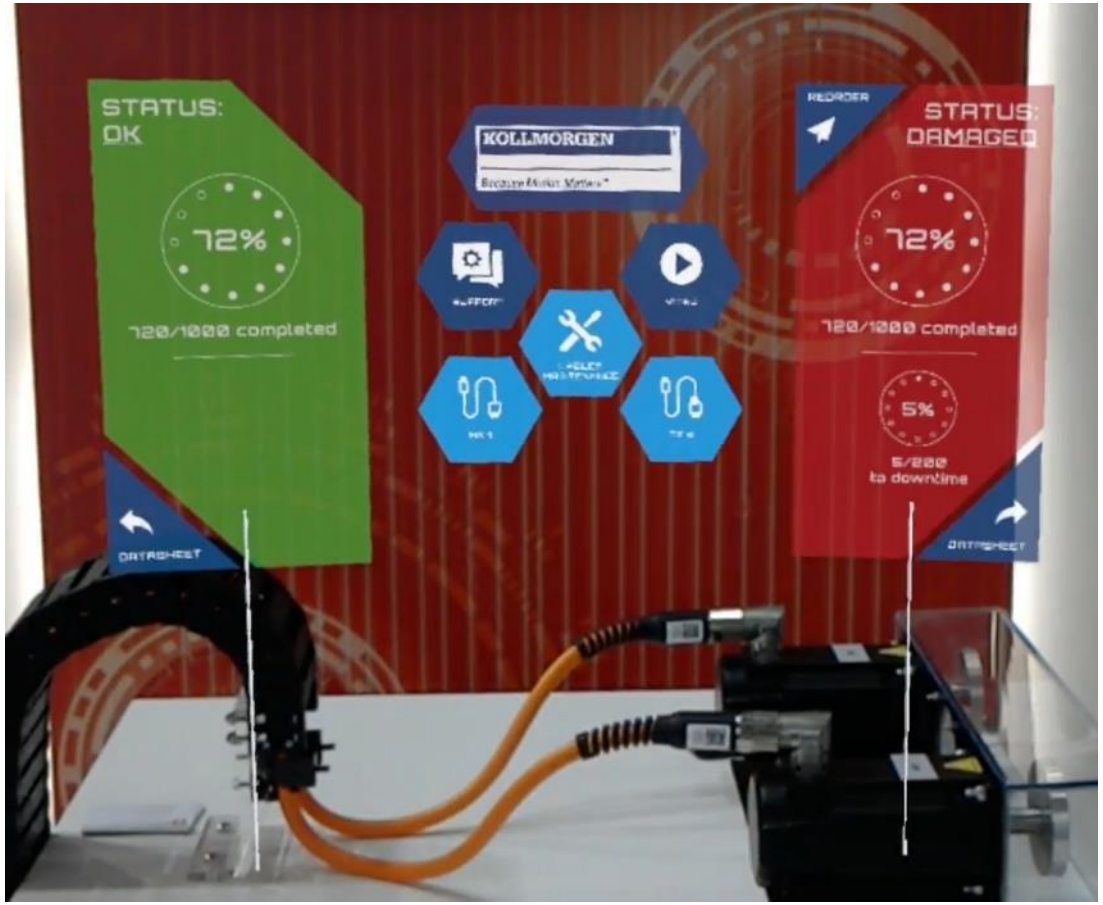

CUSTOMER: HTC (HIGH TECNOLOGY CABLES & CONNECTORS)

CHALLENGE:

offer the operator the possibility to receive real-time data from smart cables via IoT solution

SOLUTION:

display and interaction with real-time data of smart cables (collected from IoT devices/sensor of cables) through augmented reality headset and IoT platform

Demo:
https://youtu.be/_HHjQjiOJGU

TOOLS INVENTORY

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CUSTOMER: IVECO

CHALLENGE:

audit operation tools, the work shift cannot begin if all the tools are not present, only the shift leader can proceed with the replacement of missing tools.

SOLUTION:

IoT system with IP cameras using Machine Learning for the identification of the instruments and automatic detection of those missing, with a cascading alert system.

FCA FIAT CHRYSLER AUTOMOBILES

IVECO

PREDICTIVE MAINTENANCE

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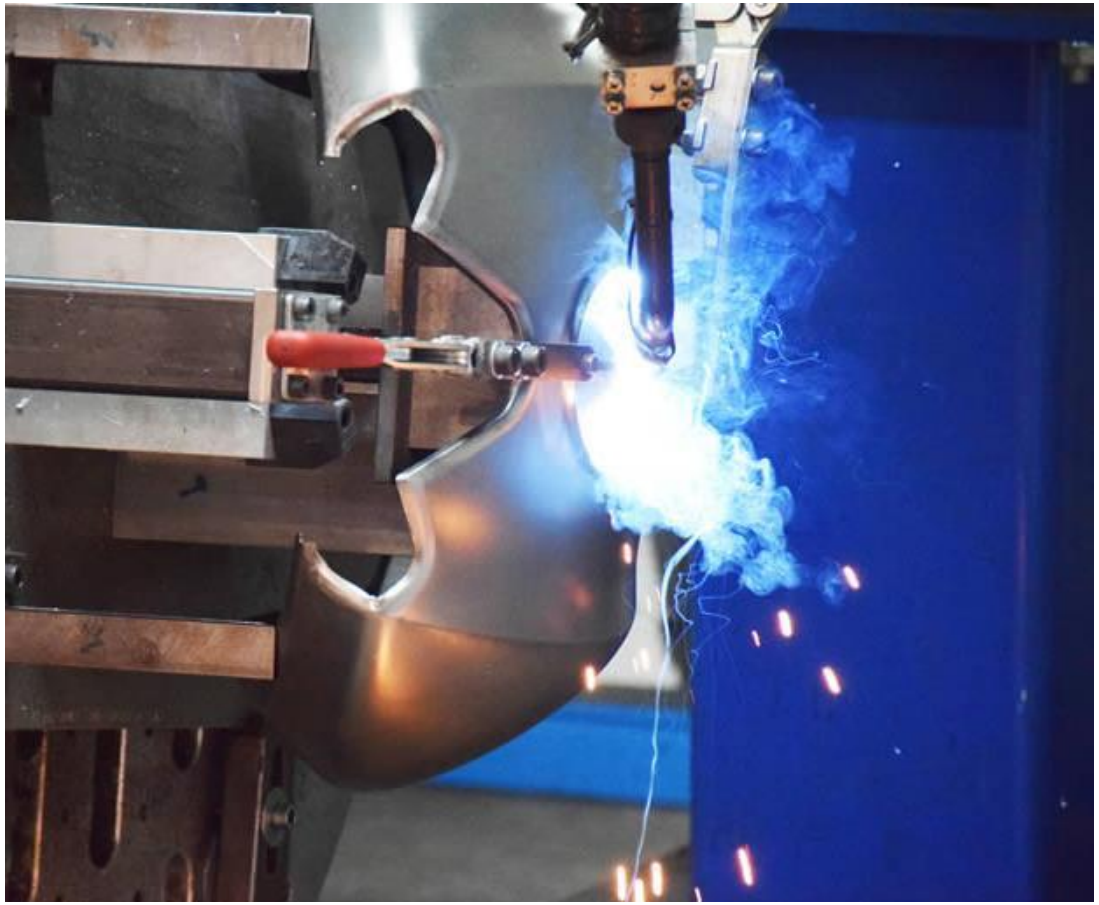

CUSTOMER: IVECO

CHALLENGE:

evaluate the accumulation of dust in the welding bench and optimize cleaning operations.

SOLUTION:

creation of a dedicated sensor for data sampling and integration with a system for data collection and processing with ML approach to estimate the best time for performing maintenance and cleaning operations.

FCA
FIAT CHRYSLER AUTOMOBILES

IVECO

MORE UNDER NDA

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SPACE

DEFENSE

CHEMISTRY

FOOD

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