

3D Connectivity for Digital Twins

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▶ **Threedy** Visual Computing Pioneers - building on 25 years of research!

- ✓ 25 years experience
- ✓ Founded Q3 2020
- ✓ 40+ Staff Q4 2022



Christian Stein
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Dr. Johannes Behr
CPO



Maik Thöner
CTO
Finance



Sascha Räsch
Organisation
& QA



Stefan Domdey
VP Sales



▶ **instant3Dhub** Platform technology for industrial 3D applications

▶ Customers



Mercedes-Benz

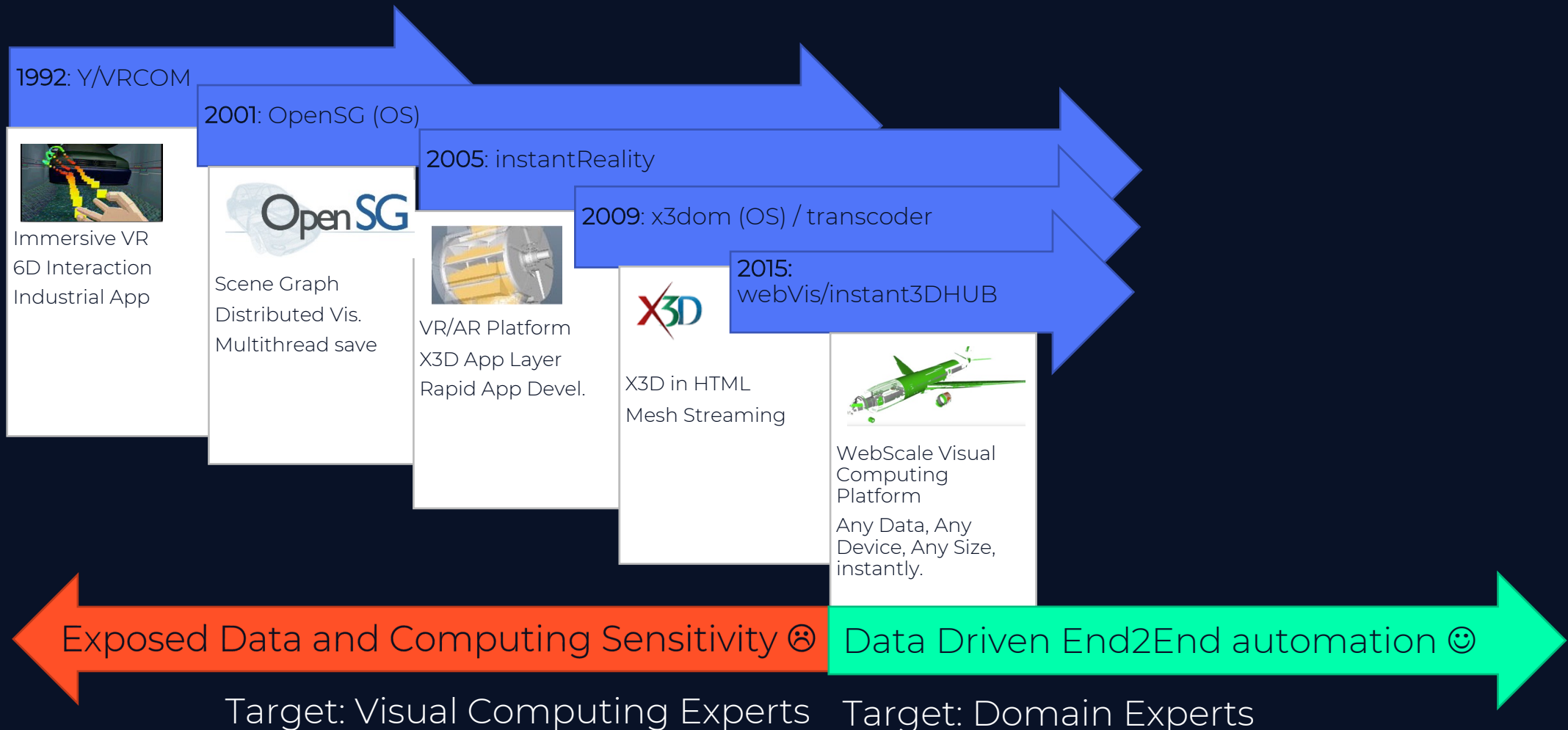


▶ Partners



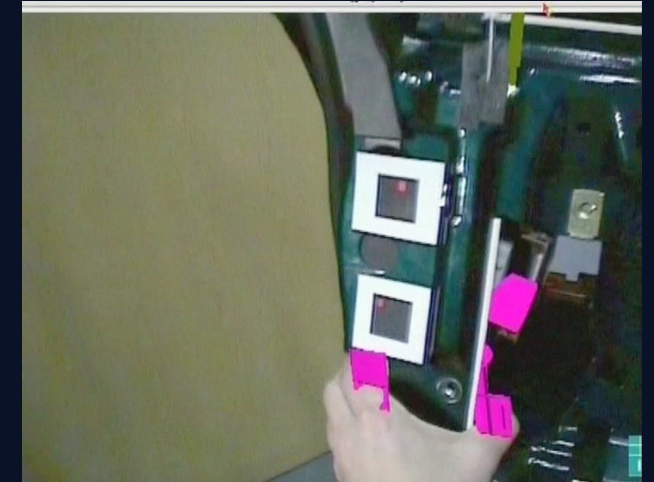
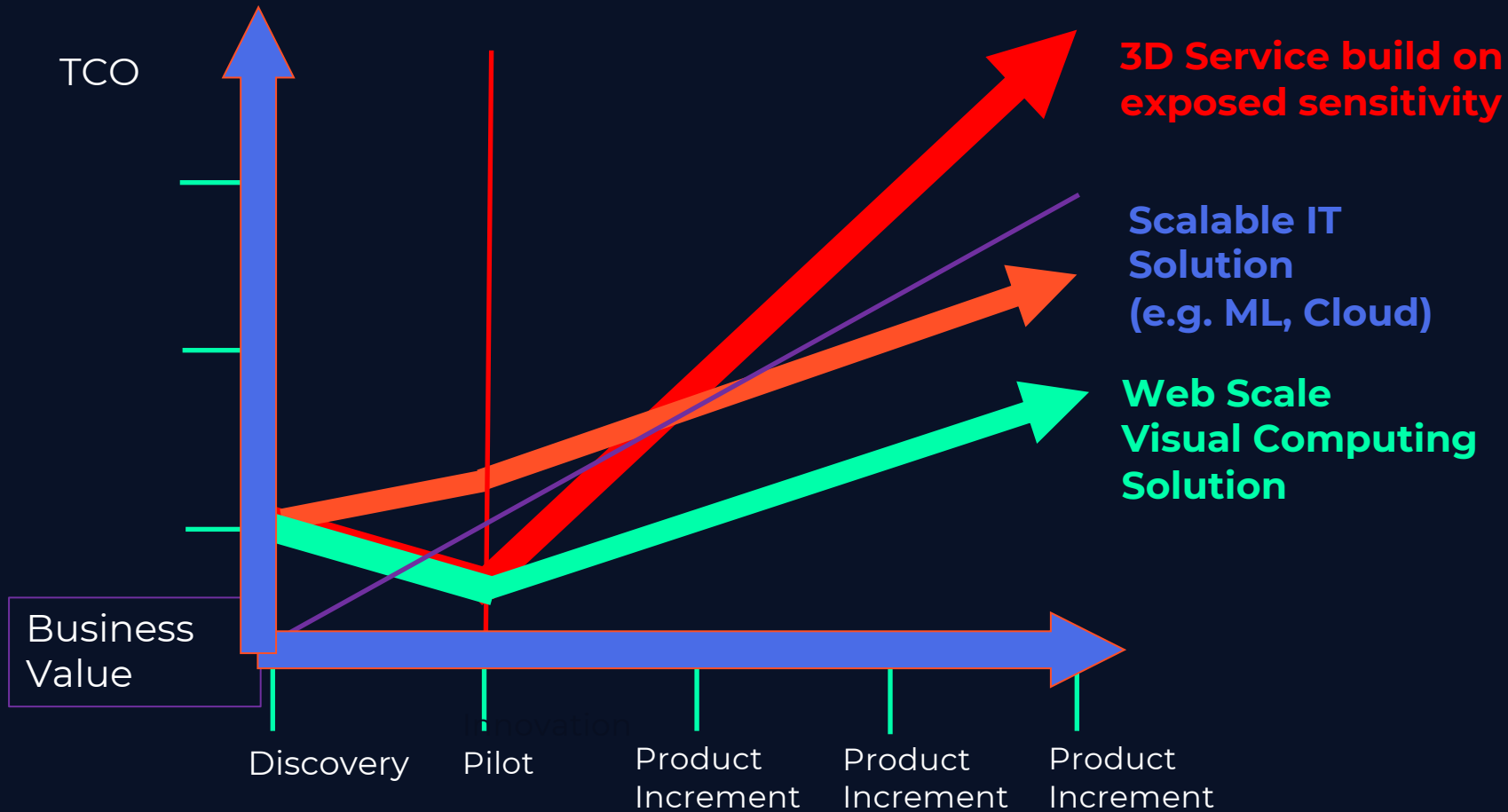
Fraunhofer IGD: Last 30 Years

5 software stacks for interactive 3D application



Core Issue: Application scalability

“Pilot Purgatory” leads to exploding TCOs

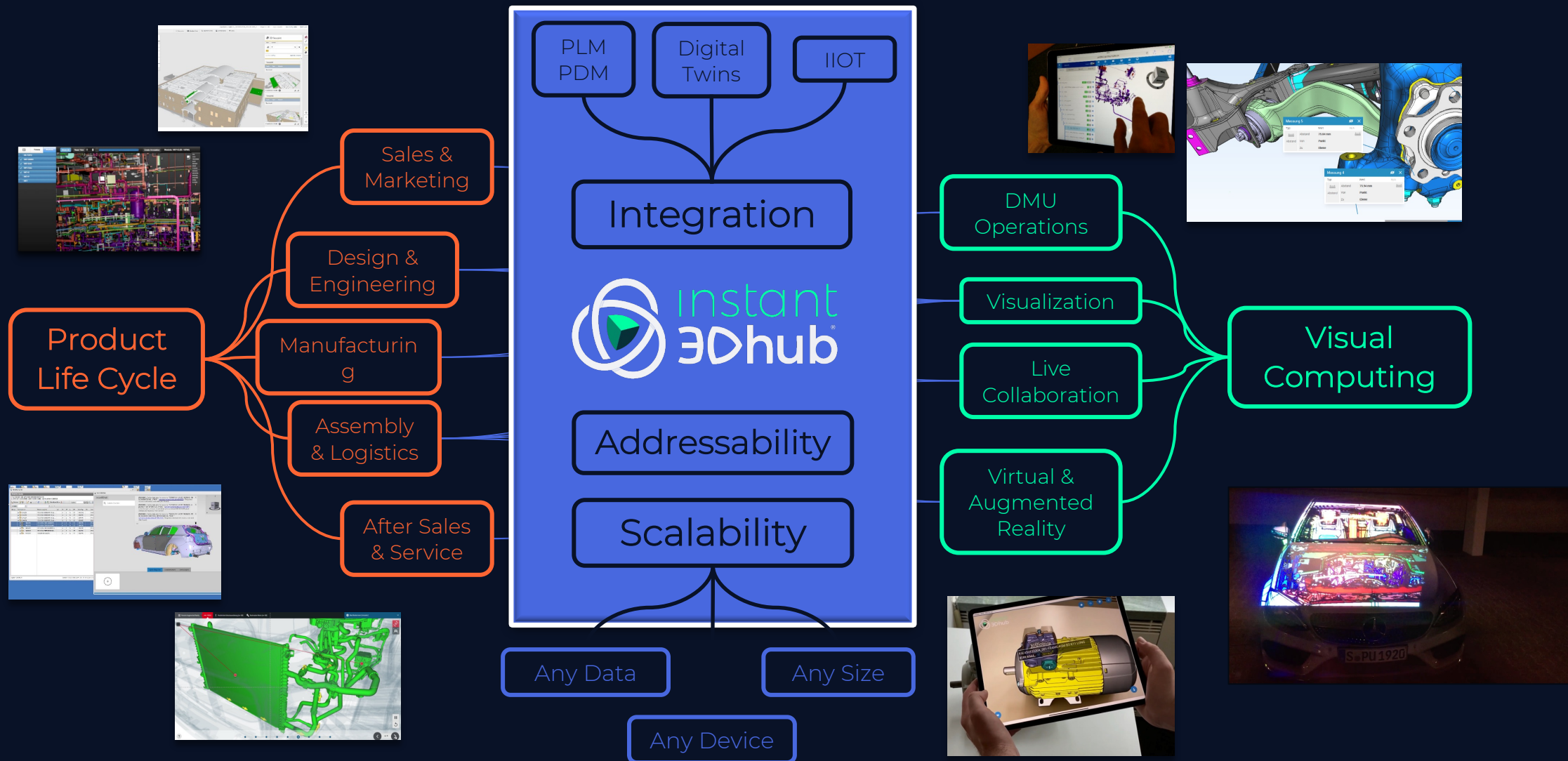


1998, Cebit, Fraunhofer IGD, BMW
“AR-Service is Killer App!”

Status 2022
No Standard Solution
TCO/Cost per Case to high!

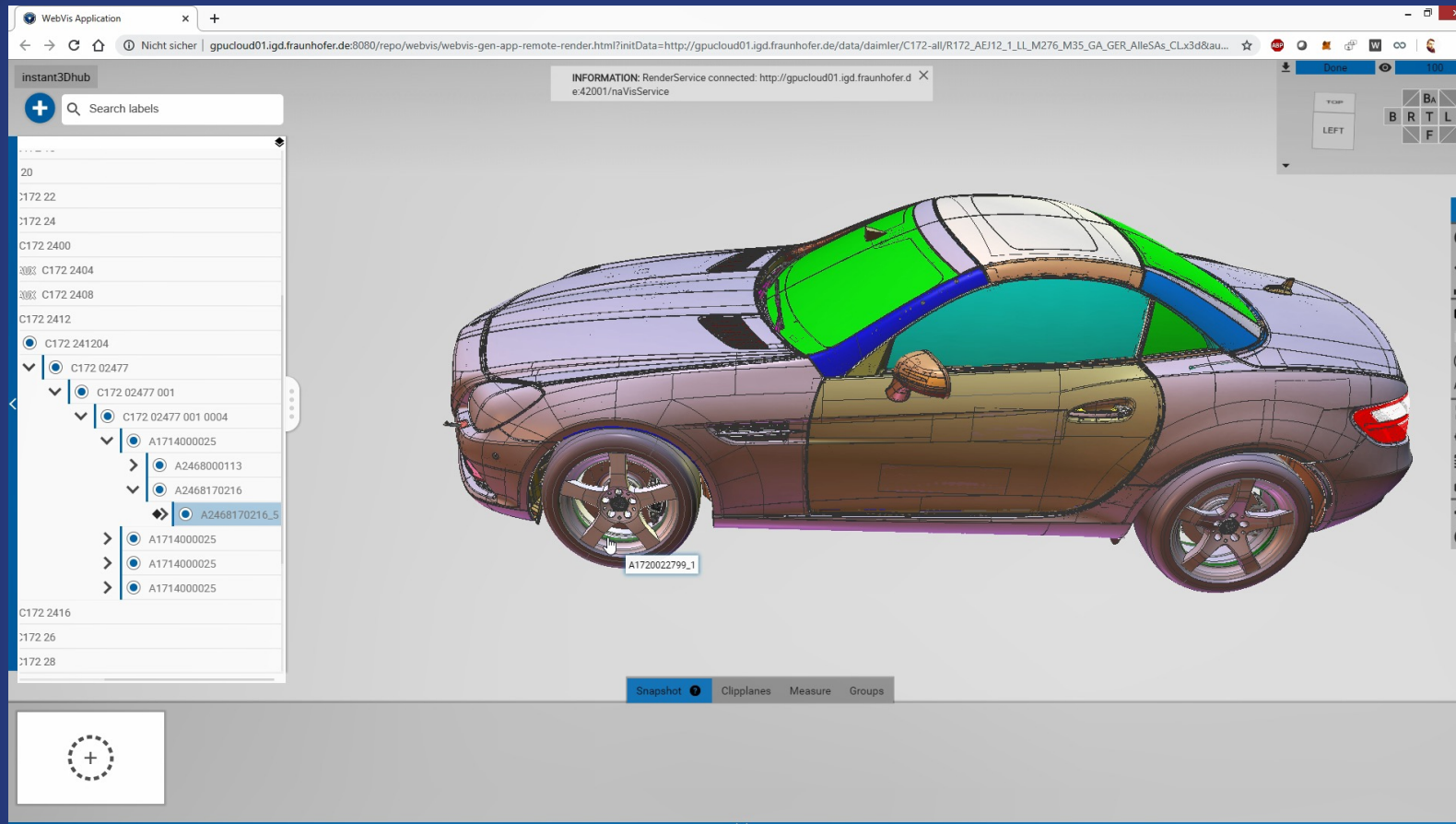
Visual Computing as a Service

First Data Driven End2End automation solution



Vision: "Google Maps" for 3D Data

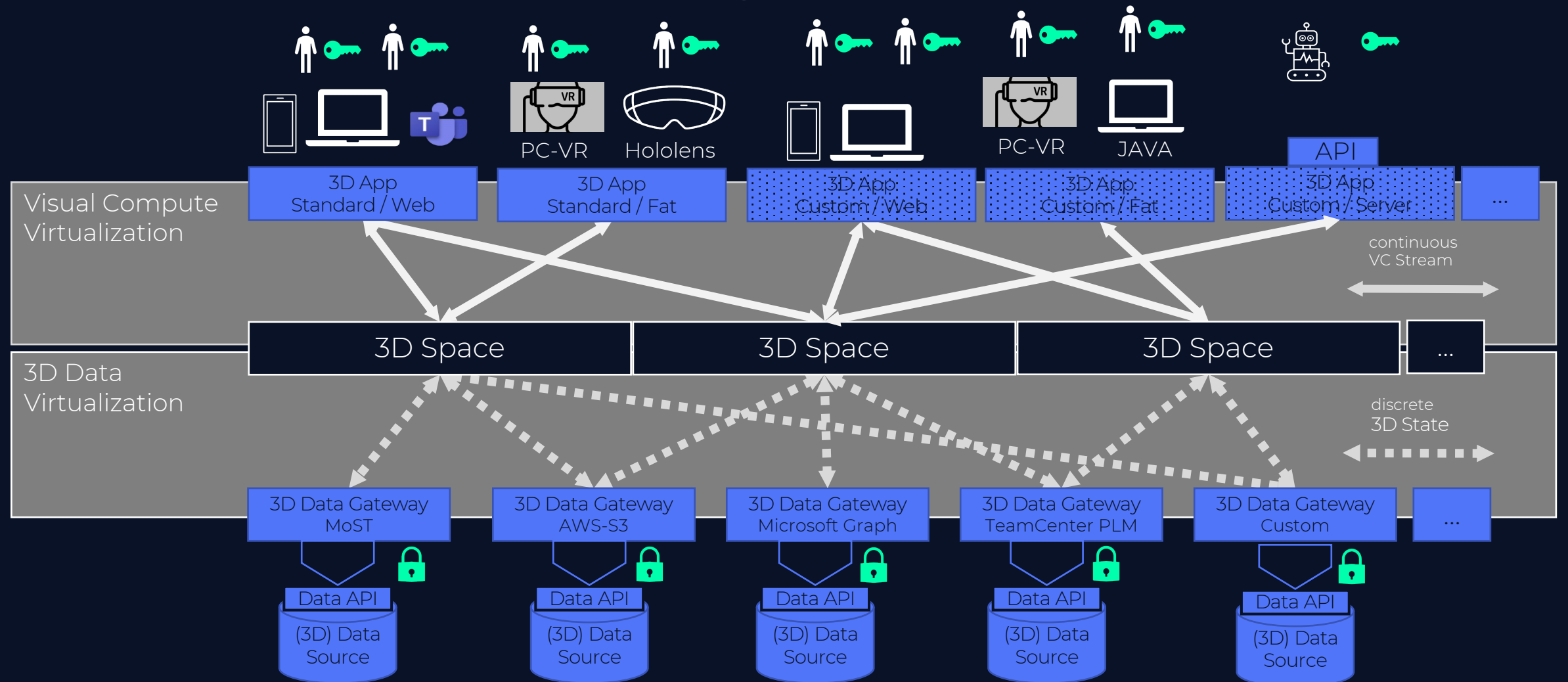
Any data, any device, any size, instantly



- Reference-based Integration: „Single Truth“ of Data
- Instantaneous Startup and Progressive transmission
- On-Demand Loading
 - Structure
 - Details
 - Metadata
 - Relations
- Pre-Packaged & Custom Apps

VCaaS as infrastructure middleware

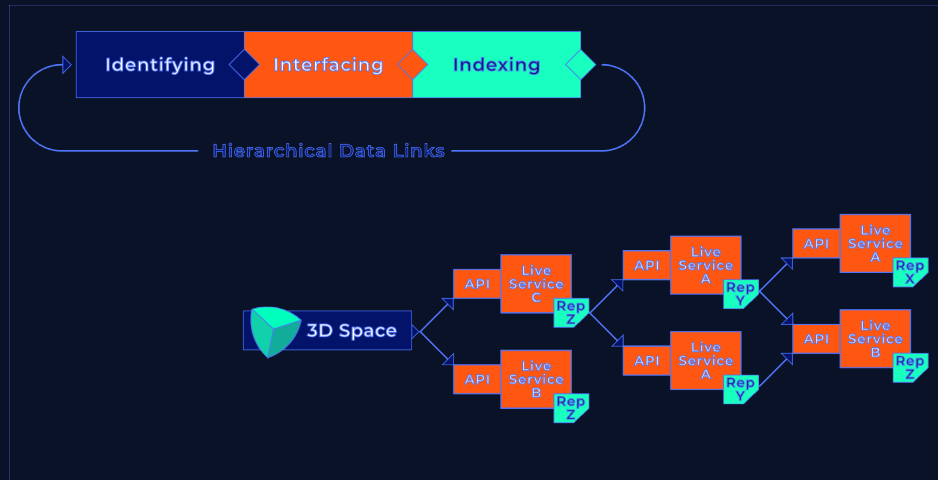
Connect, build and run digital 3D products



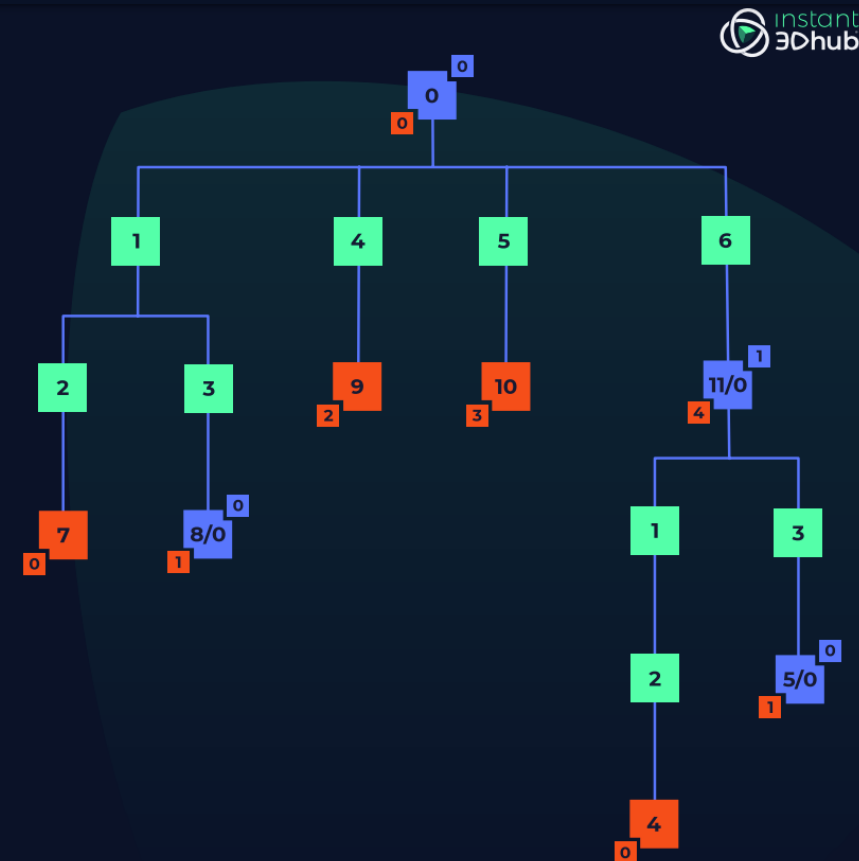
3D Data Addressability

Spatial, hierarchical and data format agnostic schema

Multi-Data Addressing



Data Fragment Addressing

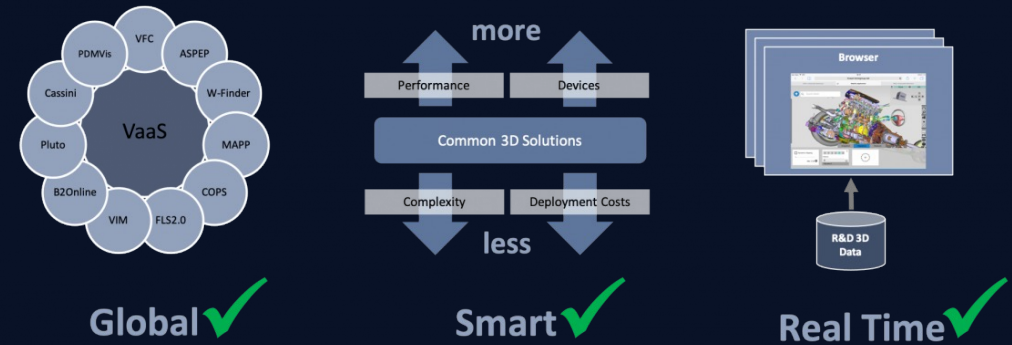


Customer Solution

Customer Solution 1/3: BMW

Visualization as a Service (VaaS)

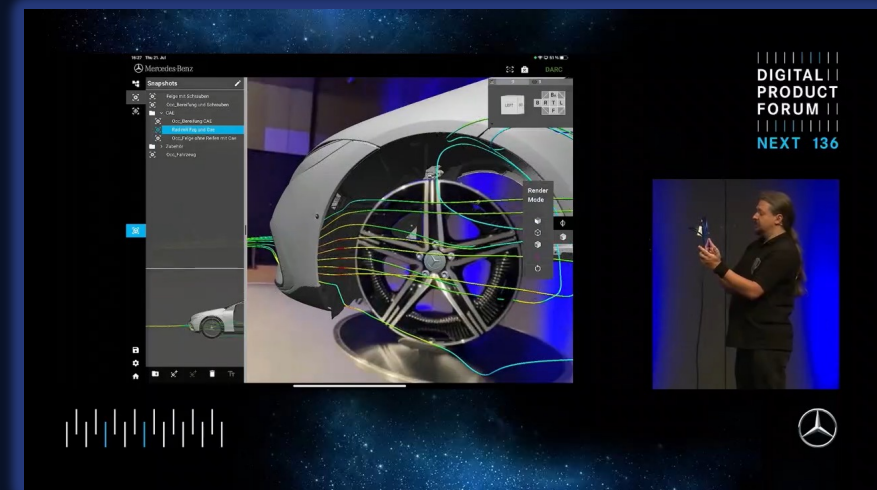
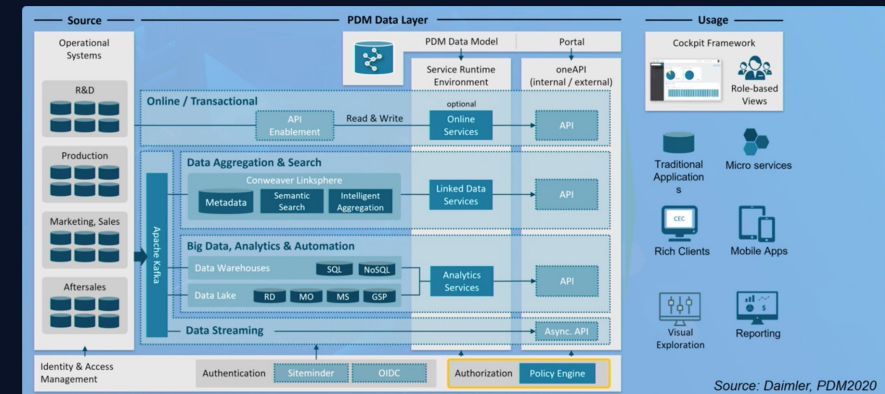
- Use-Case Cluster
 - Visualization as a Service
 - DMU, Multi-CAD
 - 3D Concepts
 - Review, Collaboration
 - AR-Editor
- Client Layer:
 - Standard/Custom Web-App
- Data Layer:
 - Custom Data-Gateways (PDM)
 - urn:bmw:prisma:dokuid:...
 - urn:bmw:caebench:...



Customer Solution 2/3: Daimler

PDM2020, Digital Twin Architecture

- Use-Case Cluster
 - Review, Collaboration
 - Live-AR (DARC)
- App Layer:
 - Standard/Custom Web-App
 - PC-VR, AR-Tracking
- Data Layer:
 - Custom Data-Gateways (PLM)
 - urn:daimler:smaragd:struct:...
 - urn:daimler:smaragd:data:...



Customer Solution 3/3: Siemens

Service Portal

- Use-Case Cluster
 - Service,
 - XR
- App Layer:
 - Custom Web-App
- Data Layer:
 - Standard S3 Data-Gateways





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