



TALENT SWARM



Rapid Creation of Industrial Plant Digital Twins Operational Simulators Using Modelica and the Talent Swarm Platform

MODPROD

Center for Model-Based Cyber-Physical Product Development

Linköping University
February 6, 2019 Ver 1.0



ATAO OFFRART RIA
TAH BACRY

REMOTE CAMERA RIC-84

NAME	STATUS	LOCATION
ALICE	ONLINE	CONTROL ROOM
BOB	OFFLINE	CONTROL ROOM
CHARLIE	ONLINE	CONTROL ROOM
DAVE	ONLINE	CONTROL ROOM
EVE	ONLINE	CONTROL ROOM

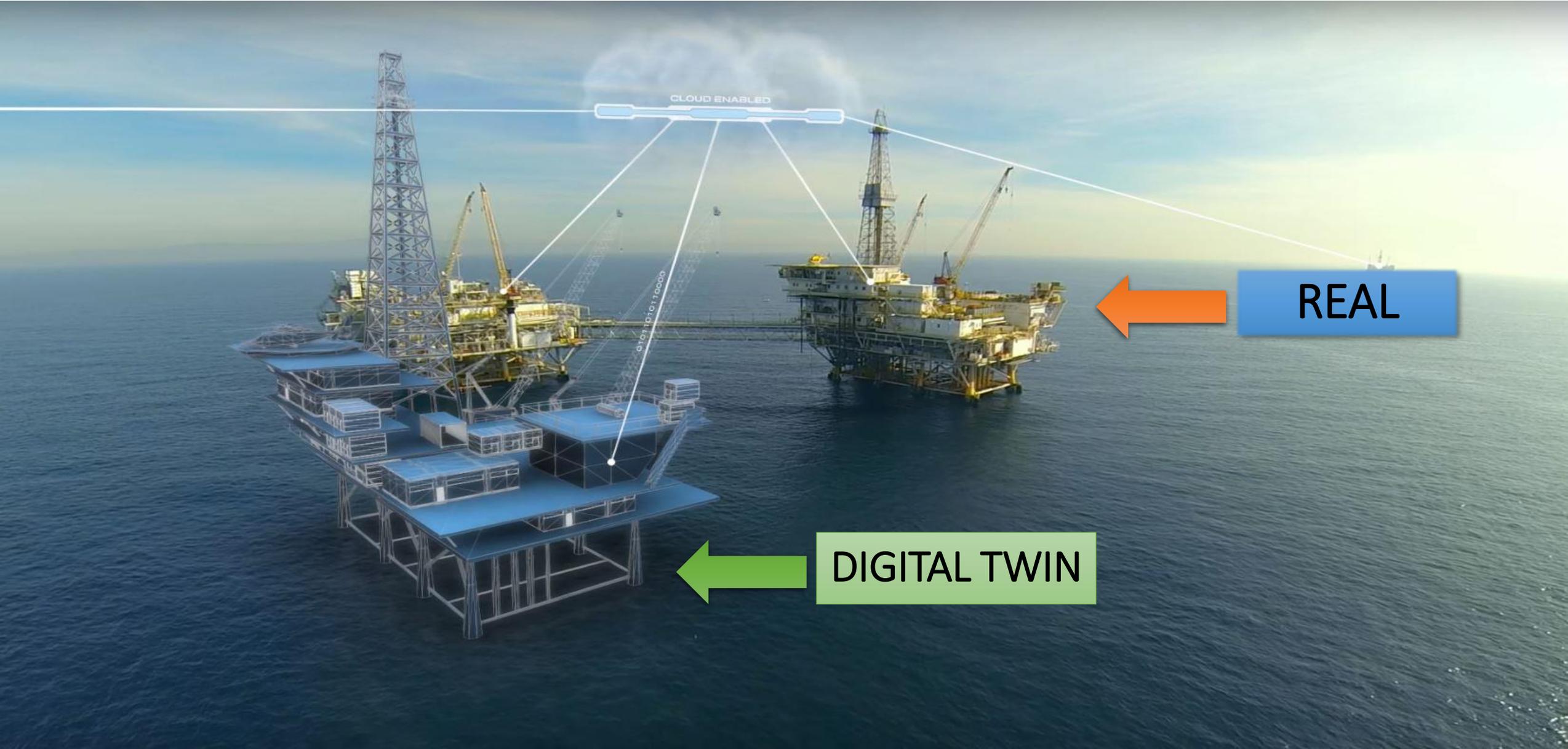
SYSTEMS OPERATING NORMALLY
ALL SYSTEMS ONLINE
NO ISSUES REPORTED

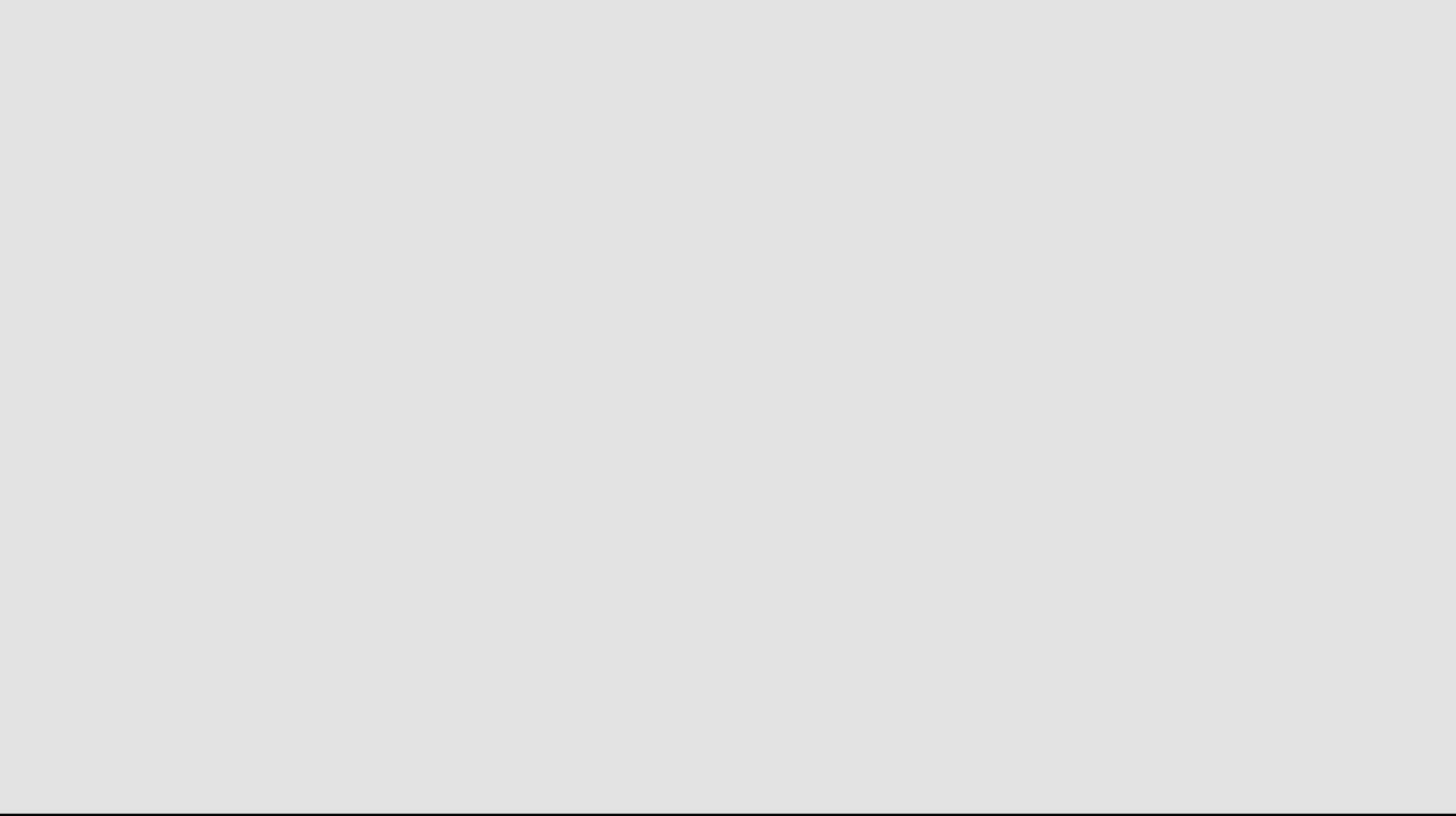
OS
MAY 23



Avatar "Tree of Life" - 2009

DIGITAL TWIN





OPERATION & MAINTENANCE

80% of **T**OTAL **C**OST OF **O**WNSHIP

HIGH EFFICIENCY ASSET MANAGEMENT SAVINGS

UP TO **30%** OF TOTAL COST OF OWNERSHIP



Top 10 Strategic Technology Trends for 2019

Intelligent



Autonomous Things



Augmented Analytics



AI-Driven Development

Digital



Digital Twin



Empowered Edge



Immersive Experience

Mesh



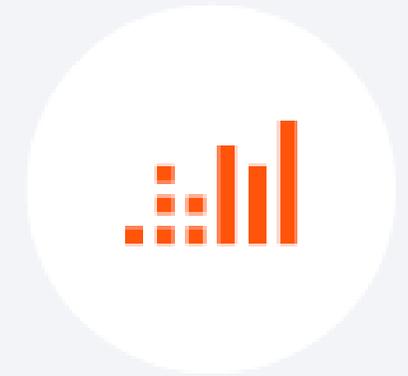
Blockchain



Smart Spaces



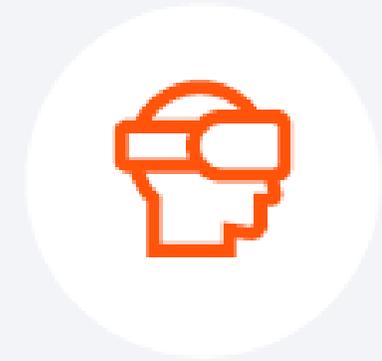
Digital Twin



Augmented Analytics



Blockchain



Immersive Experience

gartner.com/SmarterWithGartner

Gartner

Source: Gartner

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Product Lifecycle Management (PLM) Market Expected to Reach **US\$ 75.87 Billion by 2022**, Globally: Transparency Market Research

NEWS PROVIDED BY

[Transparency Market Research →](#)

Jul 21, 2015, 11:30 ET

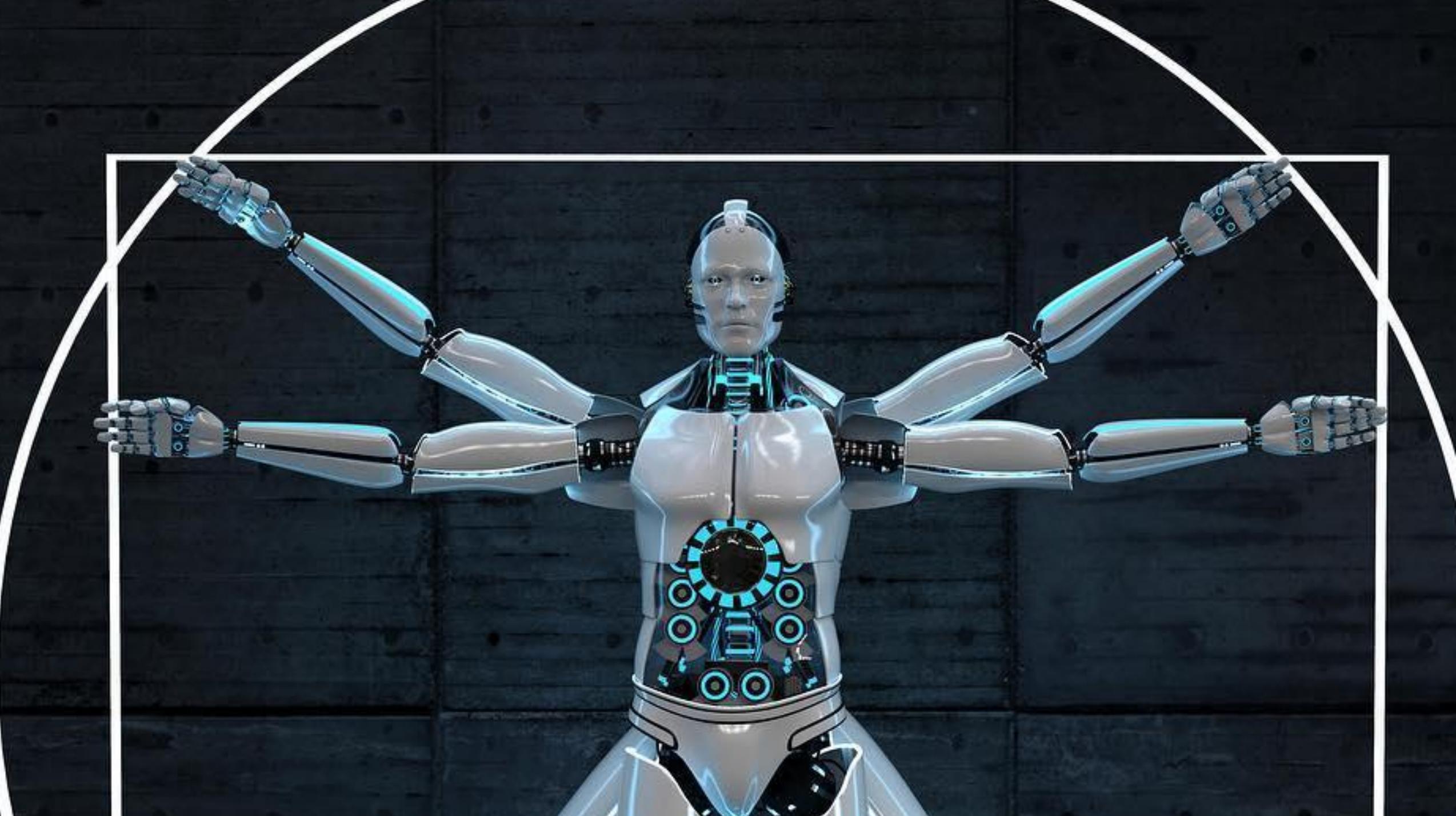
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ALBANY, New York, July 21, 2015 /PRNewswire/ --

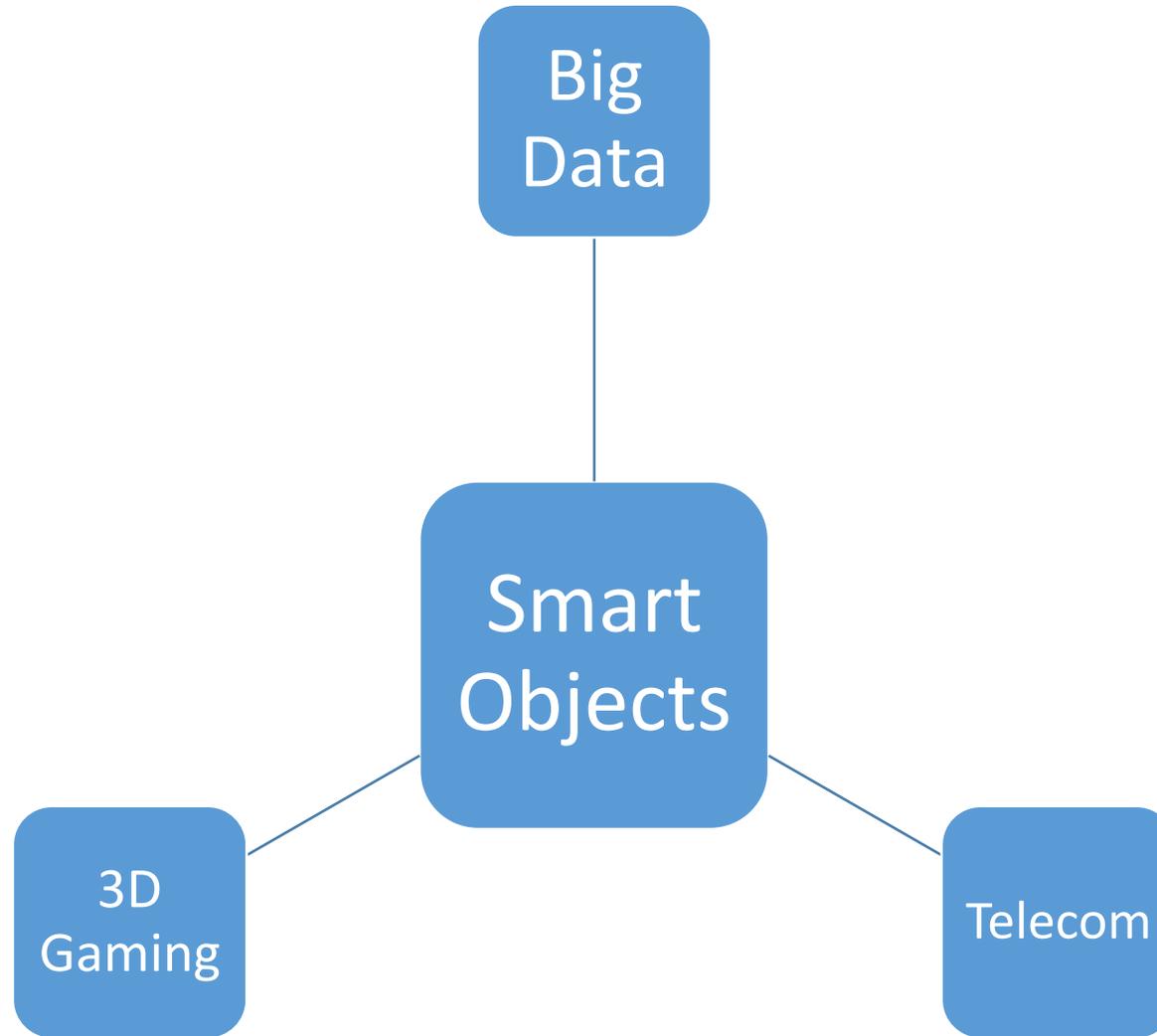
According to a new market report published by Transparency Market Research **Product Lifecycle Management Market - Global Industry Analysis, Size, Share, Growth, Trends and Forecast, 2015 - 2022**, the global PLM market is expected to reach a value of US\$ 75.87 Bn by 2022. The market is estimated to grow at a CAGR of 8.1% during the forecast period

US\$ 75.87 Billion by 2022,





TALENT SWARM





CAD MODEL

3D



TIME

4D



SUPPLIERS
& COSTS

5D



FACILITIES
MANAGEMENT
IoT
PERSONNEL

6D

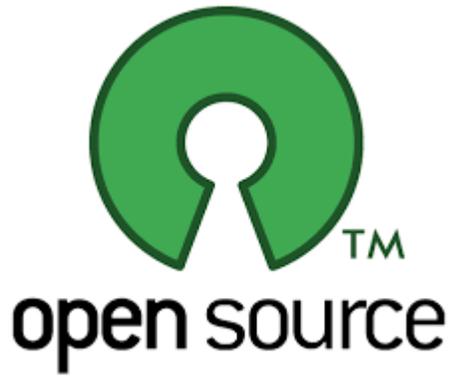


PHYSICAL
SIMULATION

7D




M O D E L I C A



IFC 4.0





CFIHOS participants, 29 May 2018

CFIHOS (Capital Facilities Information HandOver Specification) for process industries

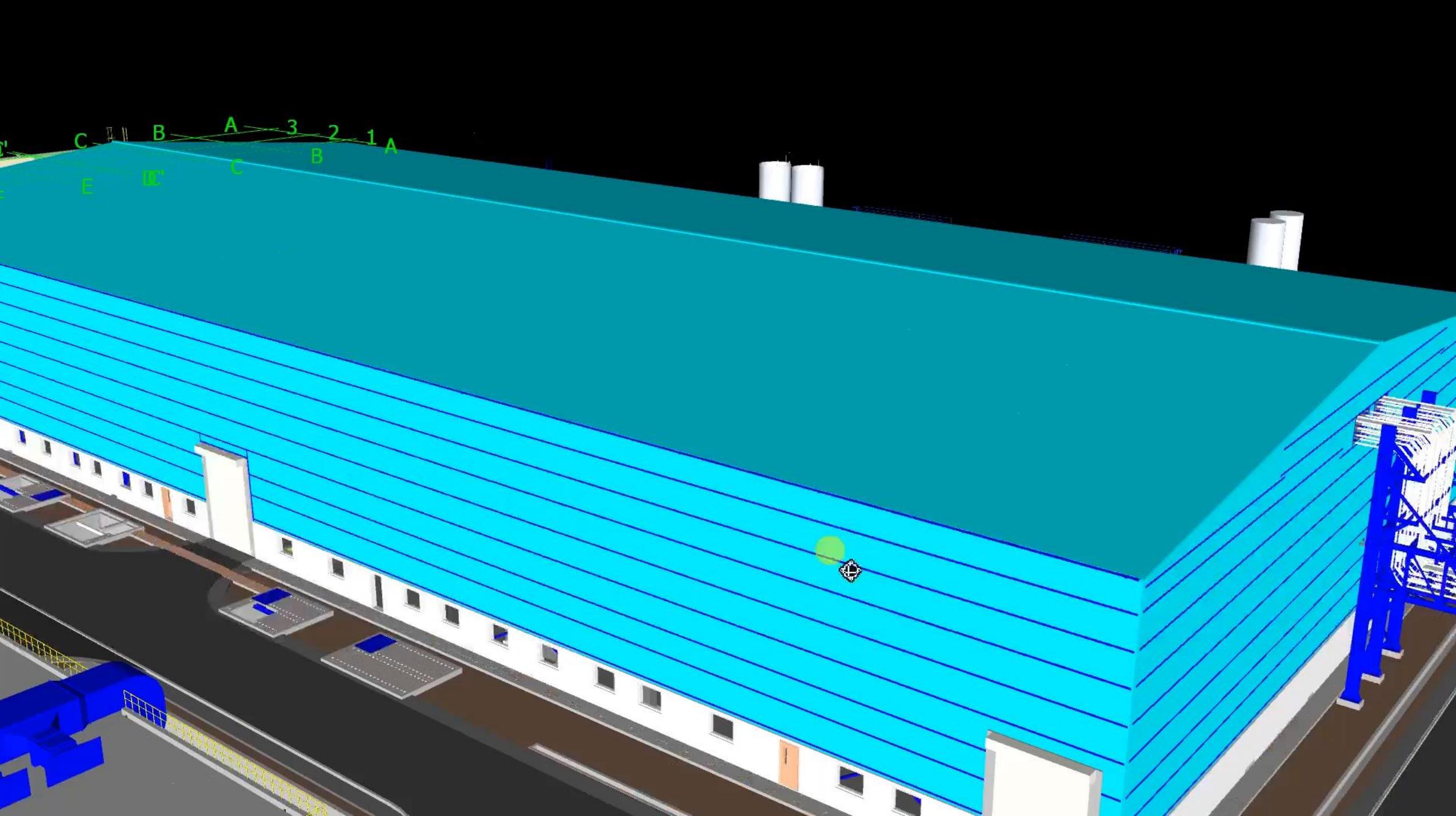




Cuevas de Almanzora
Almería, España





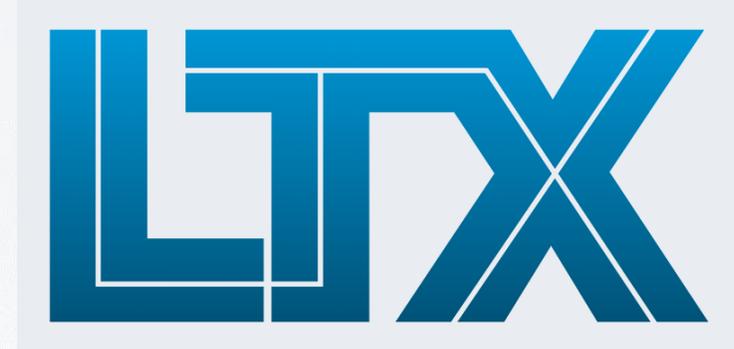




TALENT SWARM

Jim Novack

jim.novack@talentswarm.com



Leo Gall

leo@ltx.de

Ask: Join us in Industry 4.0!