

CAPITAL MARKETS DAY 2025



AGENDA



2:00 – 2:40 **Opening a new era with 3D UNIVERSES**

Pascal DALOZ | Elisa PRISNER | Florence HU-AUBIGNY | Patrick JOHNSON

2:40 – 3:55 **Growth drivers and business value**

Enterprise

Philippe LAUFER

Life Sciences

Anthony COSTELLO

Consumer

Chris GROVES

Mainstream

Gian Paolo BASSI

4:15 – 4:35 **Financial impact**

Rouven BERGMANN

4:35 – 4:55 **Q&A**

Pascal DALOZ | Rouven BERGMANN | Elisa PRISNER | Florence HU-AUBIGNY | Patrick JOHNSON | Philippe LAUFER

4:55 – 5:05 **Conclusion**

Bernard CHARLES | Pascal DALOZ

CAPITAL MARKETS DAY 2025





Pascal DALOZ

Chief Executive Officer



Pascal DALOZ

Chief Executive Officer



Elisa PRISNER

Executive Vice President, Industry,
Marketing & Sustainability, Corporate
Strategy & Platform Transformation



Florence HU-AUBIGNY

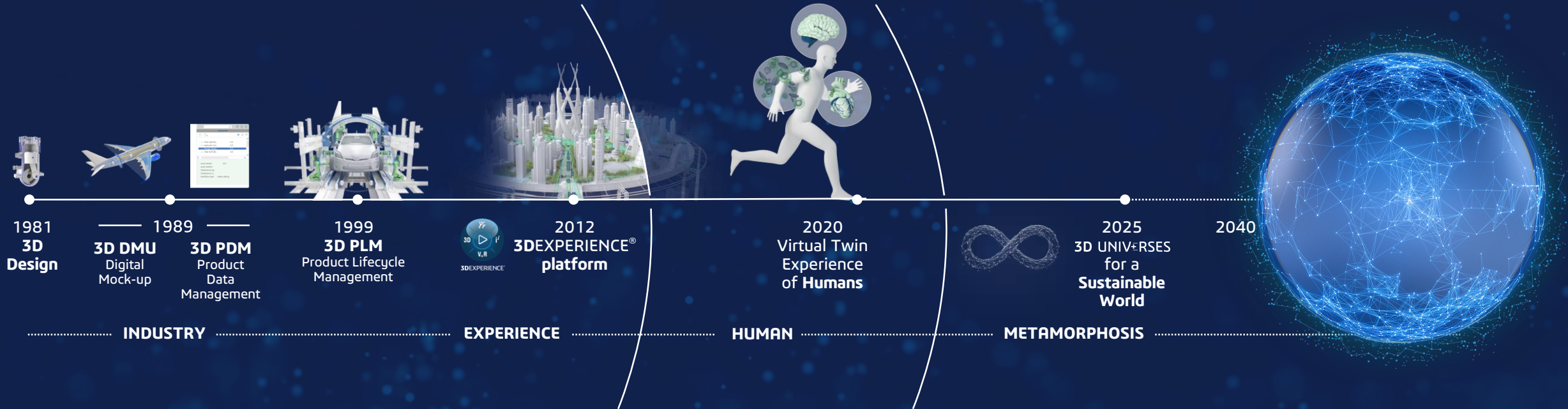
Executive Vice-President,
Research & Development



Patrick JONHSON

Executive Vice President,
Corporate Research & Sciences

BUILDING ON OUR HERITAGE, DELIVERING ON OUR AMBITION



WE HAVE BUILT THE LARGEST COMMUNITY IN THE MARKET

MANUFACTURING INDUSTRIES



LIFE SCIENCES & HEALTHCARE



INFRASTRUCTURE & CITIES





THE TRUSTED PARTNER FOR INDUSTRY TRANSFORMATION

TOP 10

Manufacturers of
semiconductors and
humanoid robots

90%

of electric vehicles

100%

of new drugs developed
by the 16 largest
pharmaceutical companies

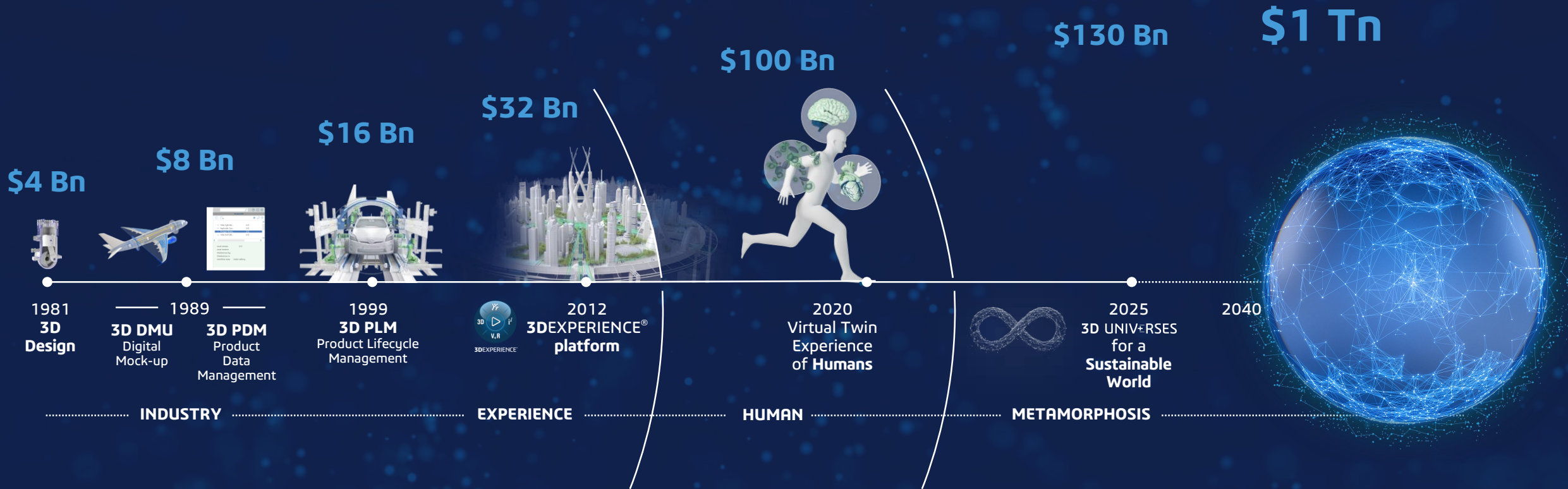
80%

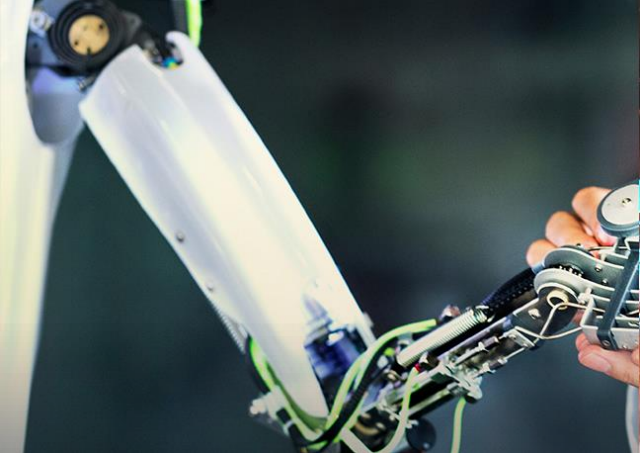
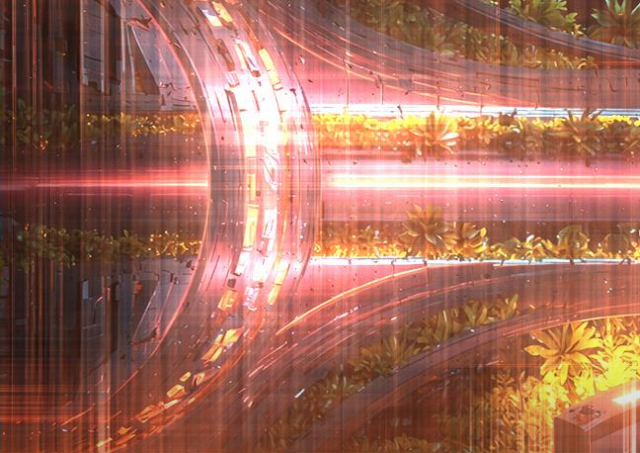
of next-generation
nuclear projects

TOP 10

Luxury groups

STEPPING UP IN A GENERATIVE ECONOMY





THE GENERATIVE ECONOMY IS A V+R ECONOMY



THE SHIFTS OF THE GENERATIVE ECONOMY



V+R EXPERIENCE

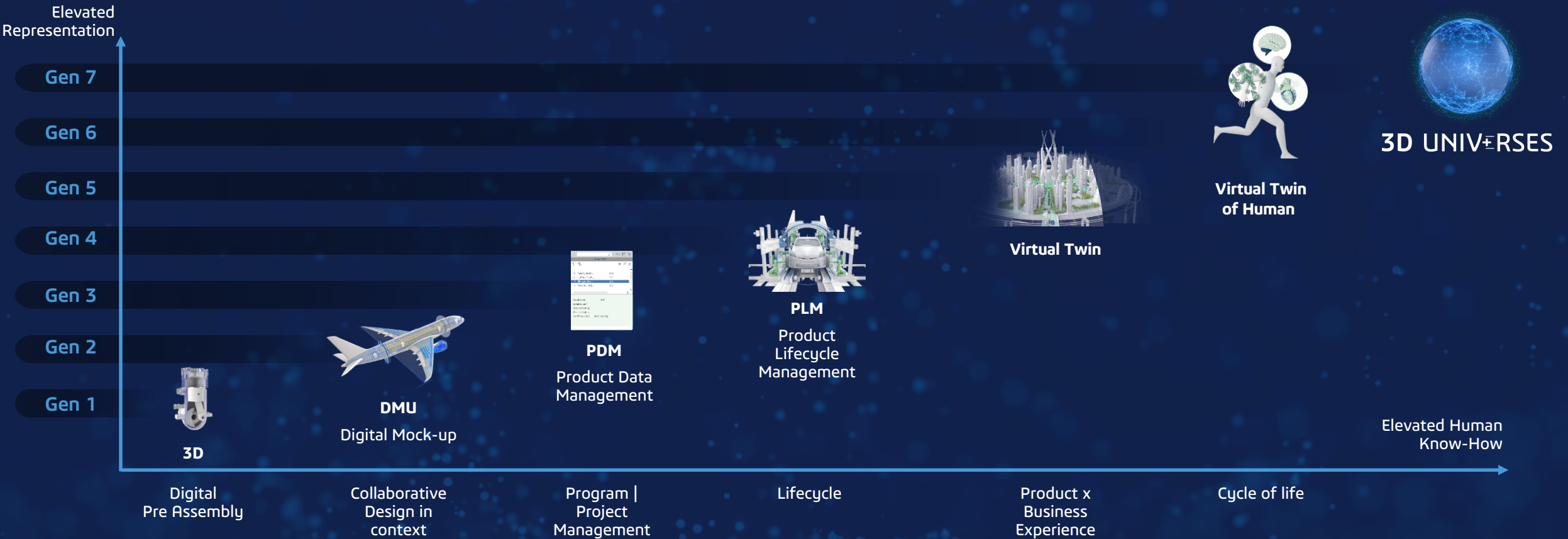


V+R ORGANIZATION



V+R BUSINESS MODEL

CREATING GAME CHANGING WORKING METHODS





3D UNIV+RSEES



AI FOR THE INDUSTRIES

3D UNIV+RSES



AI FOR THE INDUSTRIES

TRUSTABLE SECURE SOVEREIGN

3D UNIV+RSES



THE INDUSTRY-TRUSTED
**IP GENERATION &
MANAGEMENT COMPANY**

3D UNIV+RSES

MAGIC



PERFORMANCE



NEW POSSIBLES



FROM INDUSTRIES TO V+R END-OBJECTS

MANUFACTURING INDUSTRIES

 Vehicles	 Small Satellites	 Commercial Aircraft	 Personal Electronics	 Data Centers
 Space Launchers	 Cellular Network	 Warship	 Passenger Mobility Services	 Semiconductor
 Sustainable Packaging	 Alternative Food	 Elevators & Escalators	 Home Furniture	 Autonomous Mobile Robot
 Batteries	 Military Aircraft	 Perfume & Cosmetics	 Autonomous Vehicles	 General purpose robots
				



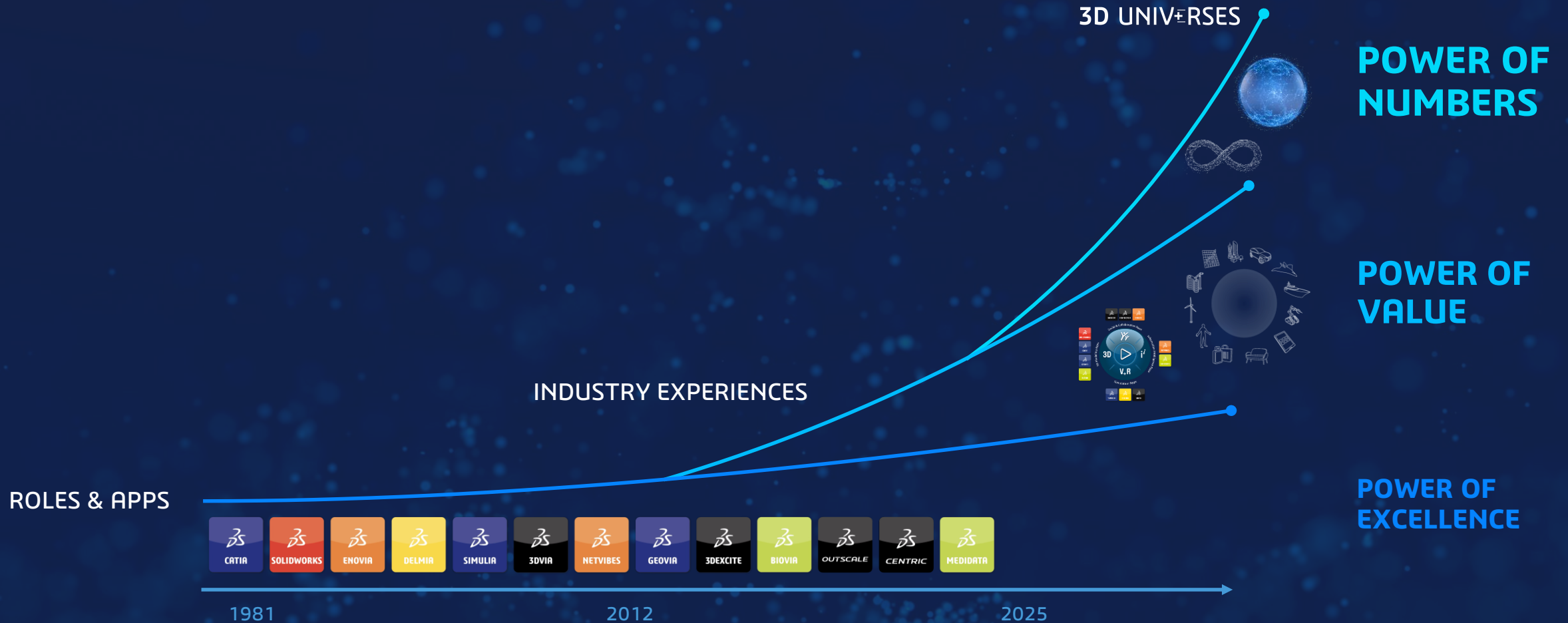
LIFE SCIENCES & HEALTHCARE

 Medical Devices & Equipment	 Advanced Therapies	 Molecular Therapies	 Digital Therapies & Companions
 Medical Robots & Personalized Implants	 Digital Biomarkers & Evidence	 Medical Diagnosis & Decision	 Medical Diagnosis & Care Services
			

INFRASTRUCTURE & CITIES

 SMRs/AMRs	 Green Steel	 Rail Infrastructure Projects	 Modular Housing
 Prefabricated Construction System	 Electrical Grids	 Rail Freight Logistics	 Climate Change in Cities
			

FROM SOFTWARE TO EXPERIENCE AS A SERVICE



THE SHIFTS OF THE GENERATIVE ECONOMY

V+R EXPERIENCE



From
PRODUCT
to
SOFTWARE DEFINED EXPERIENCES

V+R ORGANIZATION

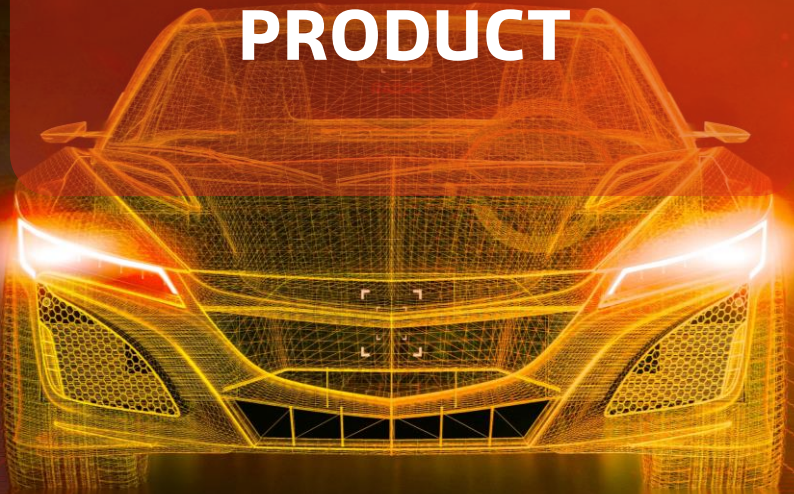
From
PROCESS-DRIVEN
to
GENERATIVE ENTERPRISE

V+R BUSINESS MODEL

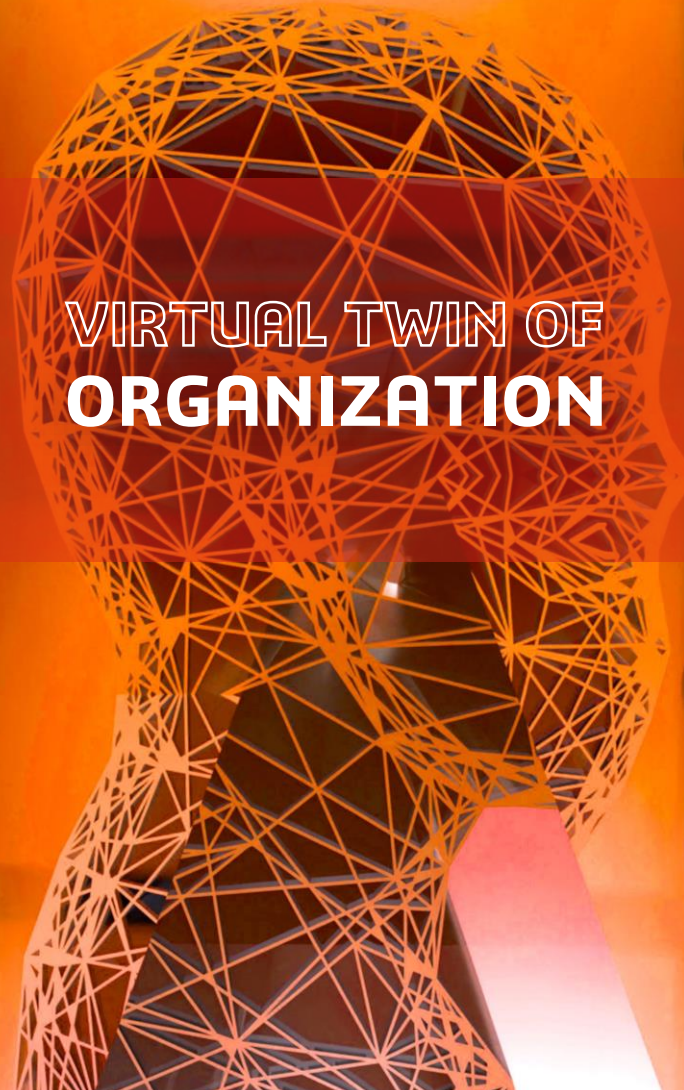
From
ASSET-BASED
to
IP-BASED

3D UNIVERSES SHAPE A NEW VALUE EQUATION

VIRTUAL TWIN OF
PRODUCT



VIRTUAL TWIN OF
ORGANIZATION



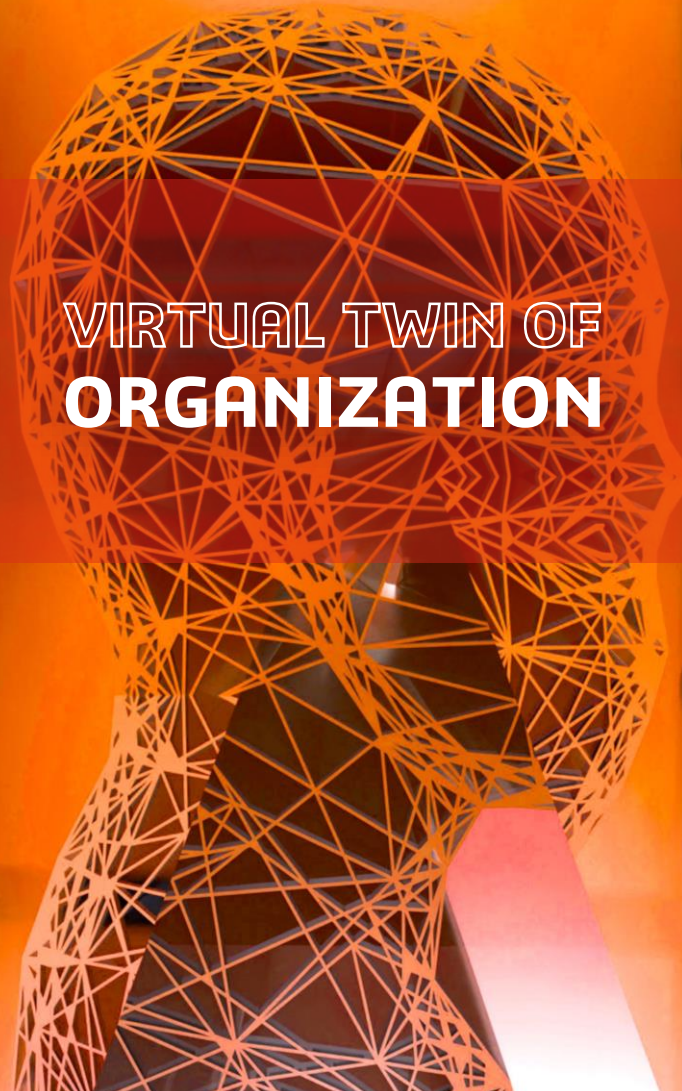
VIRTUAL TWIN OF
BUSINESS MODEL



3D UNIVERSES SHAPE A NEW VALUE EQUATION



VIRTUAL TWIN OF
PRODUCT



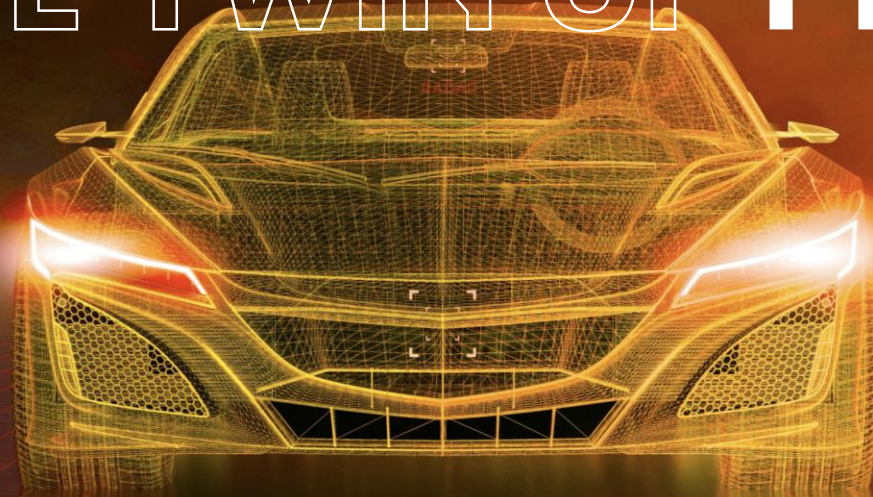
VIRTUAL TWIN OF
ORGANIZATION



VIRTUAL TWIN OF
BUSINESS MODEL

3D UNIVERSES SHAPE A NEW VALUE EQUATION

VIRTUAL TWIN OF PRODUCT



3D UNIVERSES SHAPE A NEW VALUE EQUATION

VIRTUAL TWIN OF ORGANIZATION

3D UNIVERSES SHAPE A NEW VALUE EQUATION

VIRTUAL TWIN OF BUSINESS MODEL

3D UNIVERSES SHAPE A NEW VALUE EQUATION

\int^V

VIRTUAL TWIN OF
PRODUCT

X

VIRTUAL TWIN OF
ORGANIZATION

X

VIRTUAL TWIN OF
BUSINESS MODEL

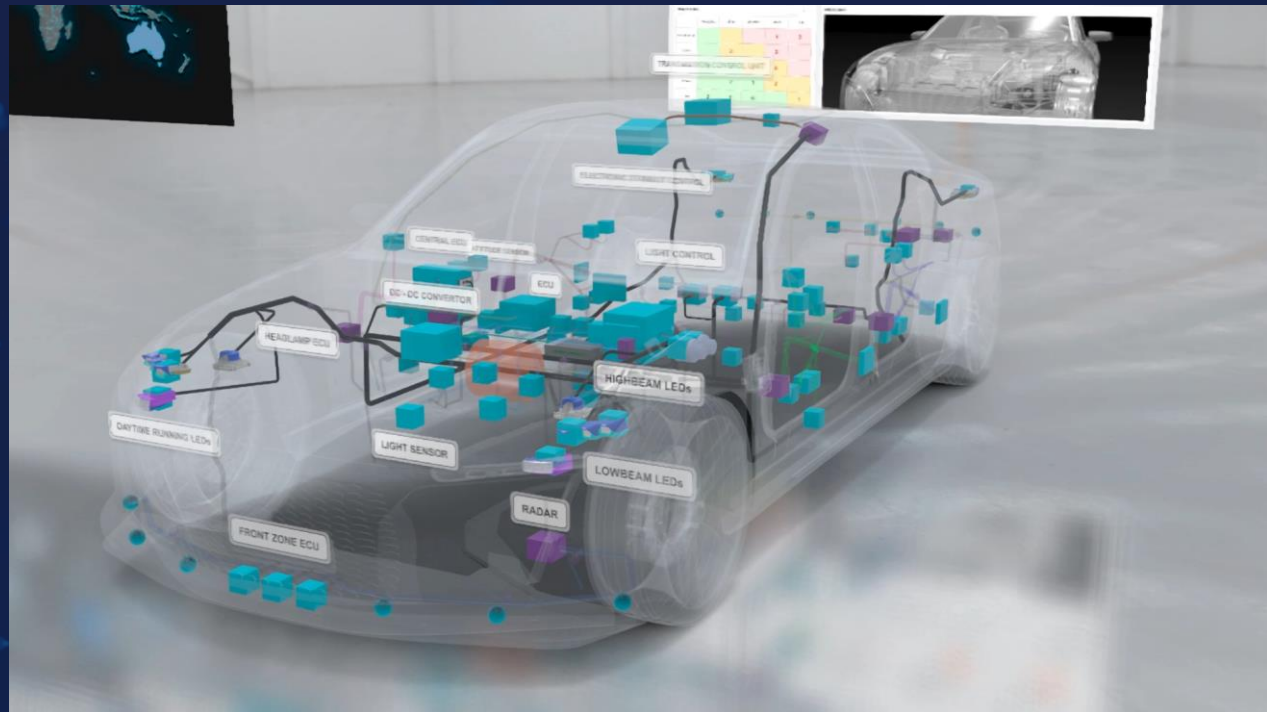




REGULATIONS

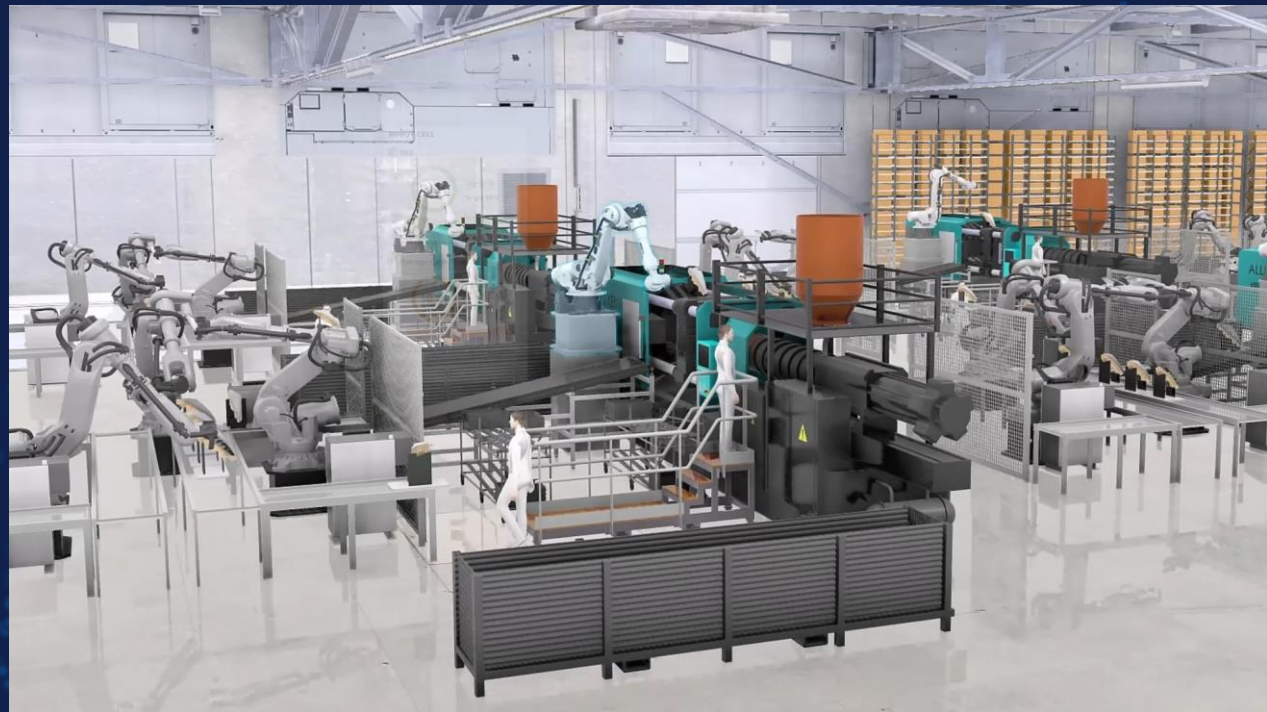
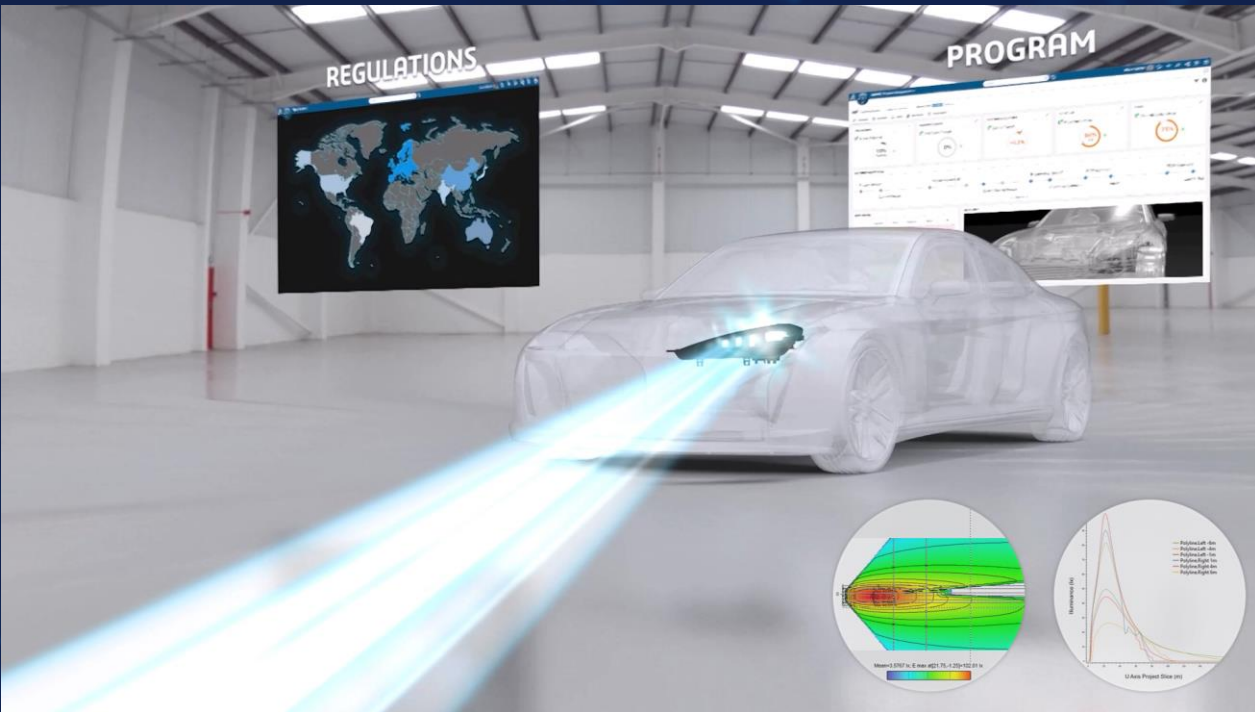
PROGRAM

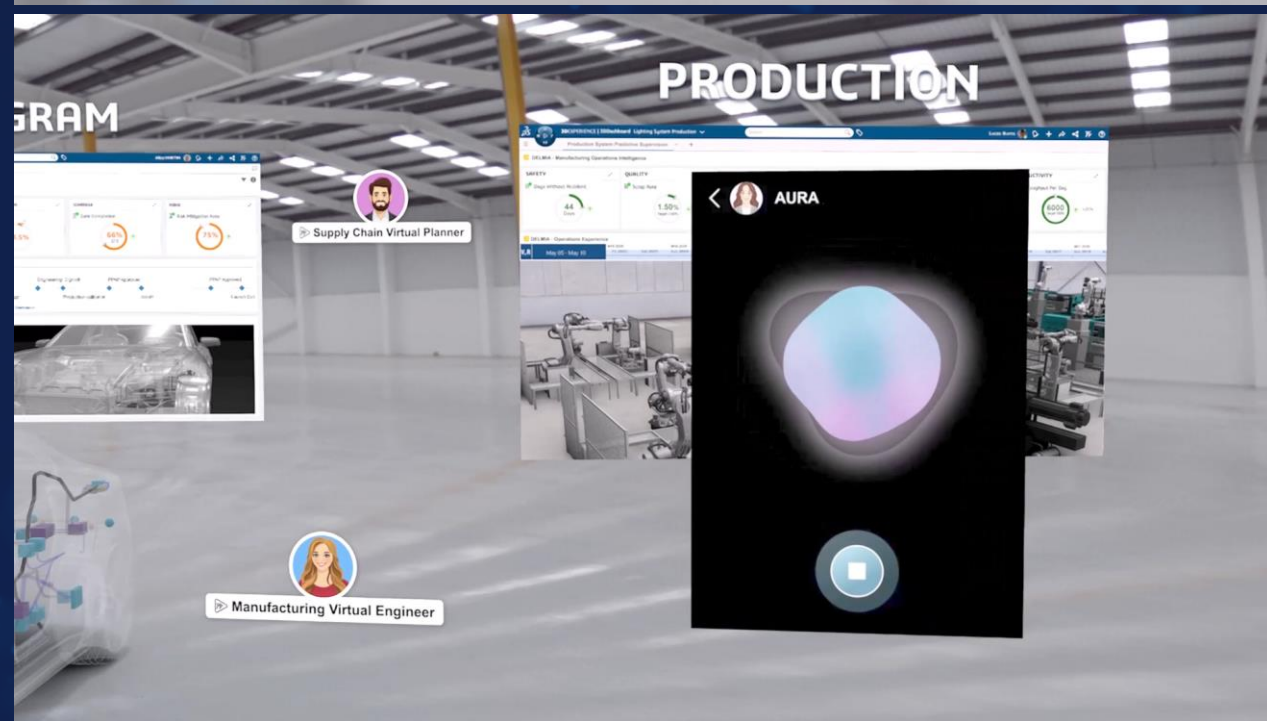
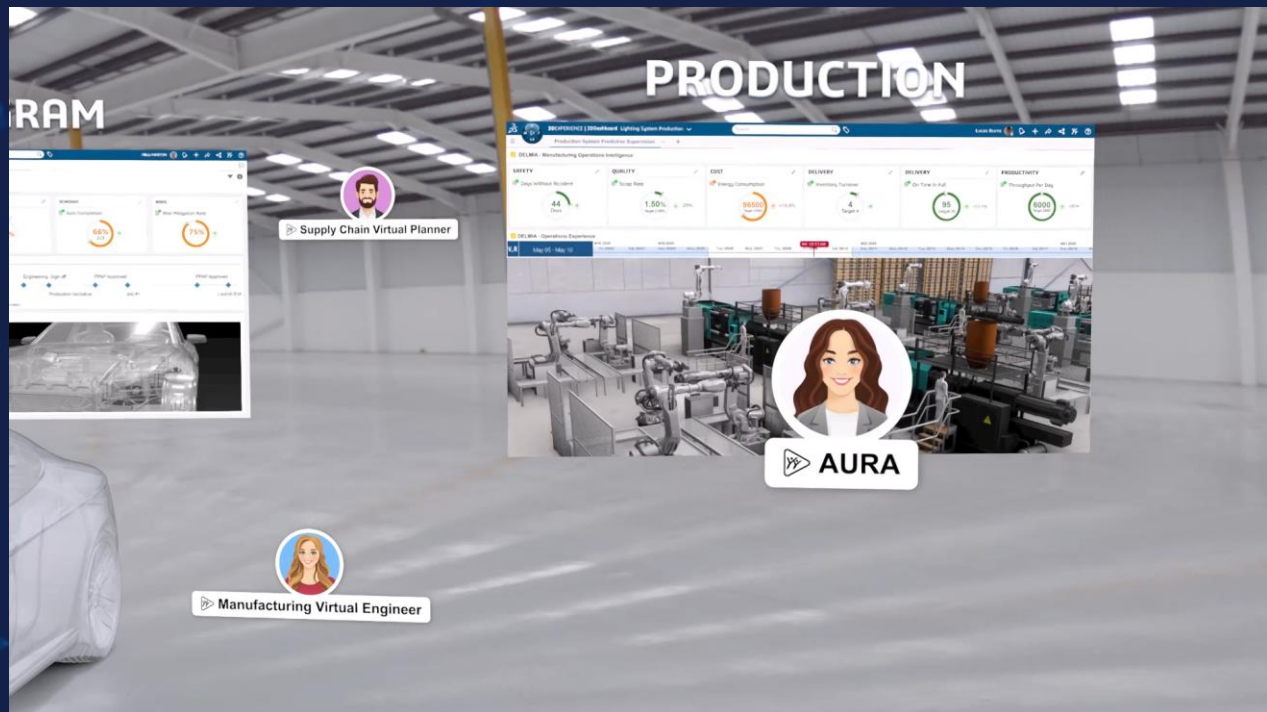
PRODUCTION

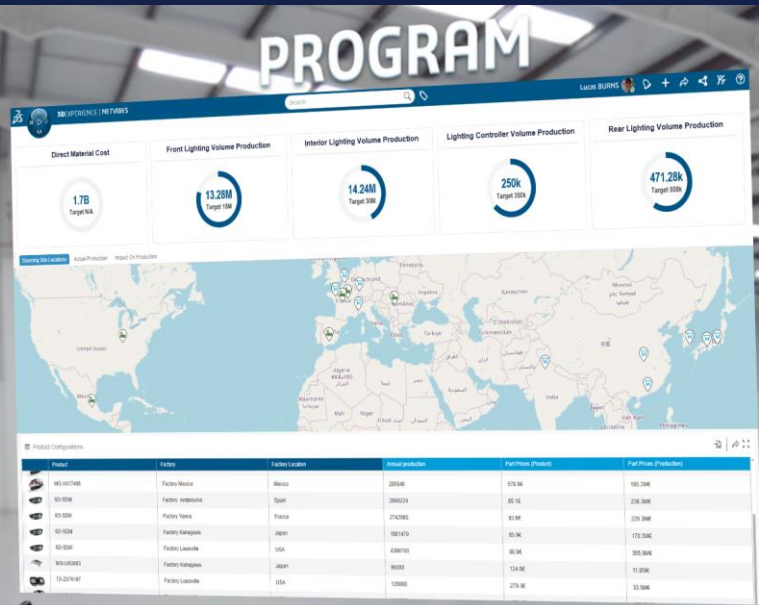


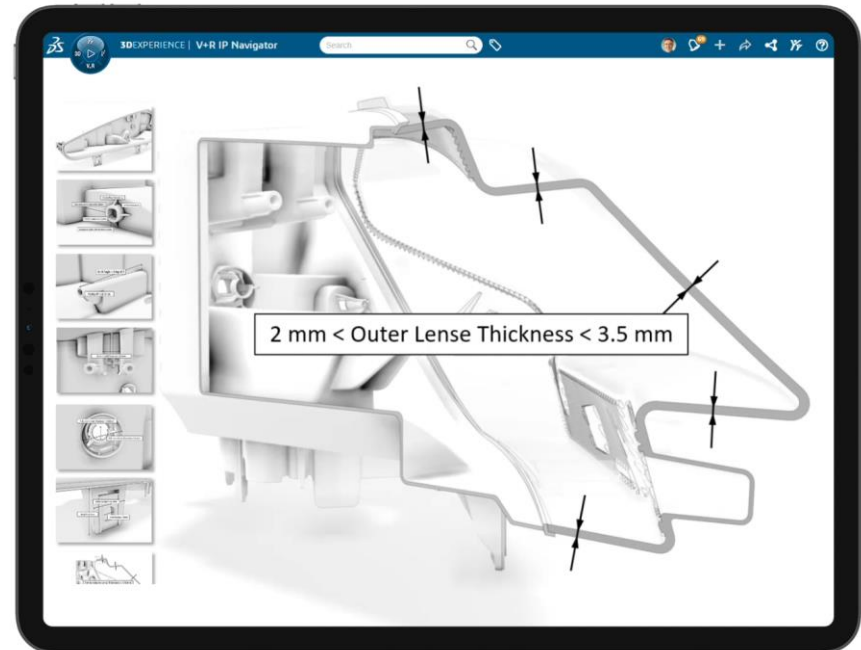
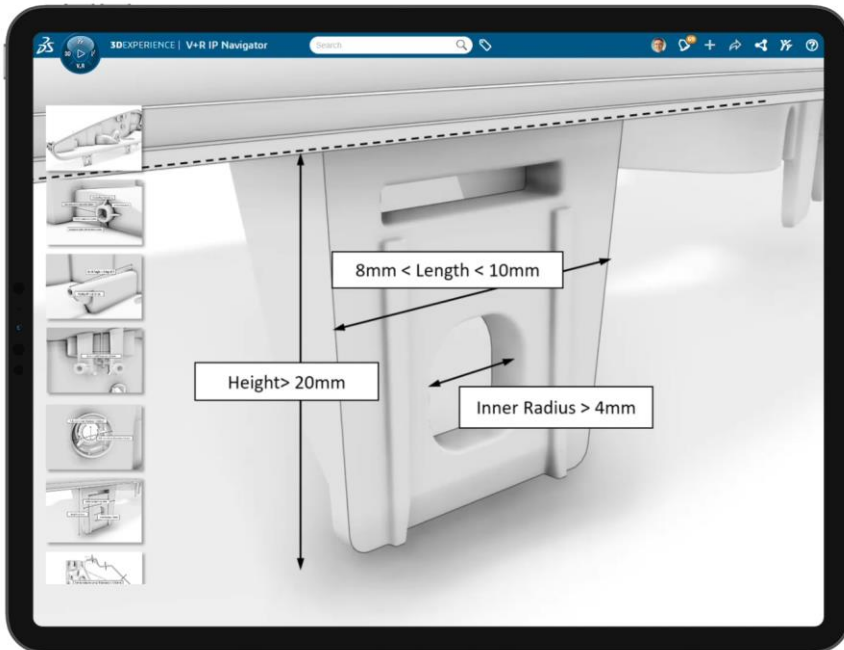
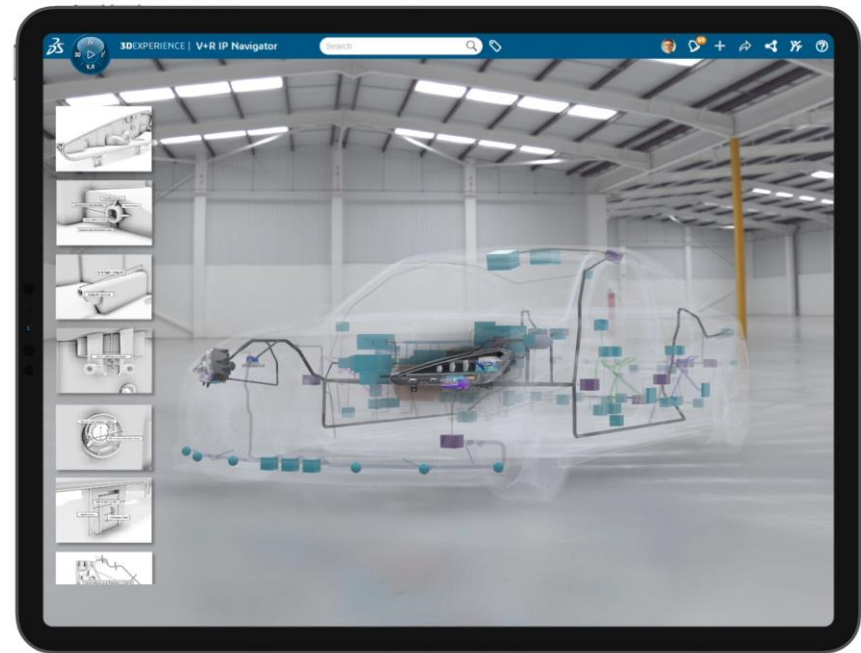
REGULATIONS

PROGRAM









3DEXPERIENCE | 3DDashboard Lighting System

System Architecture | Generative Product Structure

ENOVIA - Requirements

CATIA - Systems Structure Design - Lighting System Functional and Logical Architecture

Product Virtual Architect

Lighting systems program requirem...

Lighting systems requirement

- Lighting systems program requirements
- Regulation Requirements
 - European Union (EU)
 - U.S. Environmental Protection Agency (EPA)
 - Japan (Ministry of Land, Infrastructure, Transport and Construction)
 - China (Ministry of Industry and Information Technology)
 - India (Ministry of Road Transport and Highways)
 - Australia (Department of Infrastructure, Transport, Regional Development and Postal Services)
 - Brazil (National Traffic Department - DENATRAN)
 - South Korea (Ministry of Land, Infrastructure and Transport)
- Vehicle requirements
 - Powertrain System
 - Fuel and Emissions Control System
 - Braking System
 - Steering System
 - Suspension System
 - Climate Control and HVAC System
 - Safety Systems
 - Navigation and Connectivity System
 - Driver Assistance Systems (ADAS)
 - Vehicle Control and Security Systems
 - Chassis and Body Systems
- Headlamp System Specifications
 - Taillights System Specifications
 - Lateral Turn Signal System Specifications
 - Brake Lights System Specifications
- Production requirements
 - Manufacturing
 - Quality Control
 - Assembly Documentation

Light the Road

- Adapt beam to road conditions
- Adapt beam to vehicle dynamics

Avoid dazzling other drivers

- Indicate driving situation
- Indicate vehicle issue

Communicate with other drivers

- Indicate intention to turn
- Indicate braking
- Indicate reverse direction

Make the vehicle visible

Preserve Vulnerable Road Users

- Adapt light intensity to outside light
- Adapt to Fog, Hard Rain and Snow

Adapt to the environment

Resist the Environment

Lucas BAILEY 08:10 PM

Generate the product structure corresponding to the requirements such as Styling input from the OEM?

Product Virtual Architect 08:10 PM

Yes, I'm generating it starting from the logical architecture definition

Start writing

3DEXPERIENCE | 3DDashboard Lighting System

System Architecture | Generative Product Structure

ENOVIA - Requirements

CATIA | 3D Compose

Product Virtual Architect

Lighting systems program requirem...

Lighting system A.1

- HIGH BEAM A.1
- LOW BEAM A.1
- DAYTIME RUNNING LIGHT A.1
- HEADLAMP ECU A.1
- OUTER LENSE A.1
- HOUSING A.1
- BRACKET A.1
- SLIDER BLOCK A.1
- HIGH BEAM HOLDER A.1
- WIRING HARNESS A.1
- VENTILATION CAP A.1
- SUPPORT A.1
- SEALING GASKET A.1
- LED LINER A.1
- HEAT SINK A.1
- FRAME BEZEL A.1
- EQUIPMENTS SET A.1
- DUST CAP A.1
- COVER A.1
- CONNECTOR POWER A.1
- FRONT LENSE A.1

Lucas BAILEY 08:10 PM

Generate the product structure corresponding to the requirements such as Styling input from the OEM?

Product Virtual Architect 08:10 PM

Yes, I'm generating it starting from the logical architecture definition

Here are the lighting modules generated from the logical architecture.

- HIGH BEAM A.1
- LOW BEAM A.1
- DAYTIME RUNNING LIGHT A.1
- HEADLAMP ECU A.1

Lucas BAILEY 08:10 PM

Complete the product structure with the ancillary parts.

Product Virtual Architect 08:10 PM

I will leverage the previous headlamps, identify the missing parts and complete the product structure definition.

Start writing

3DEXPERIENCE | 3DDashboard Lighting System

System Architecture | Generative Product Structure

CATIA - Requirements To Tests

Product Virtual Architect

Requirements

- Headlamp System Specification
 - Functional Requirements
 - Headlight Activation
 - Manual Activation
 - Automatic Activation
 - Low Beam
 - High Beam
 - Daytime Running Lights
 - DRL Activation
 - DRL De-Activation
 - Adaptive Headlights
 - Dynamic Adjustment
 - Lateral Orientation
 - Headlight Leveling
 - Control
 - Leveling
 - Fault Detection

- Test Cases
- Headlamp System Tests
 - Functional Tests
 - Headlight Activation
 - Manual Activation
 - Engine Shutdown
 - Ambient Luminosity Variation Cycles
 - High-Low Beam Switch
 - High Beam with Fog Lights
 - Daytime Running Lights
 - Key On-Off Cycles
 - Engine On-Off Cycles
 - DRL Visibility from distance
 - DRL Adaptive Headlights
 - Maximum Lighting Area
 - Lighting Area Patterns Evaluation
 - Running Cars Crossing
 - Running Cars Following
- Test Results
- Headlamp System Tests
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 - Running Cars Following

Automatic Activation - B.2

The beam intensity must change depending on ambient light, the status of other lamps, or when it's used for another lighting function.

The beam intensity must ensure required visibility for the driver at all time. Transition of luminosity to enable visibility shall not exceed 1 second.

The automatic driving must respect the regulatory requirements, including:

- UNECE 6.1.9.2.5. In the case where main-beam headlamps are switched ON automatically
 - they shall be switched OFF automatically when oncoming or preceding vehicles
 - they shall be switched OFF automatically when the illumination produced by ambient lighting conditions exceeds 7000 lux

Ambient Luminosity Variation Cycles - A.1

1. Simulate permanent ambient light for the following conditions.

Condition	0.0001 - 0.001 lux
Overcast night (no moon)	0.1 - 0.3 lux
Full moon on a clear night	5 - 50 lux
Urban street lighting at night	50 - 100 lux
Indoors (dim lighting)	100 - 500 lux
Typical indoor lighting	1,000 - 5,000 lux
Overcast daylight	10,000 - 25,000 lux
Daylight (not in direct sunlight)	32,000 - 100,000 lux
Direct sunlight	

2. Cycle the ambient light alternance for these timing patterns

Ambient light 1	Ambient Light 2	Cycles Periods
Overcast night (no moon)	Direct sunlight	0.5s - 1s - 5s - 30s
Urban street lighting at night	Daylight (not in direct sunlight)	0.5s - 1s - 5s - 30s

Test Result

Passed - July 5th at 05:25 p.m. 350 Cycles executed

Hysteresis Behavior of Headlight Modes vs Ambient Light

Synthesis

- Automatic headlight comply the regulation
- Hysteresis avoids rapid transition of ambient light
- Latency for light transition is 0.5 second in average

Lucas BAILEY 08:10 PM

I will leverage the previous headlamps, identify the missing parts and complete the product structure definition.

Product Virtual Architect 08:10 PM

Yes, I'm generating it starting from the logical architecture definition.

Here are the lighting modules generated from the logical architecture.

- HIGH BEAM A.1
- LOW BEAM A.1
- DAYTIME RUNNING LIGHT A.1
- HEADLAMP ECU A.1

Lucas BAILEY 08:10 PM

Complete the product structure with the ancillary parts.

Product Virtual Architect 08:10 PM

I will leverage the previous headlamps, identify the missing parts and complete the product structure definition.

Lucas BAILEY 08:10 PM

Given the requirements, what are the test cases that I must run to be compliant?

Product Virtual Architect 08:11 PM

Here is a test plan proposed from your assets.

100% of the requirements are covered by tests.

Let me now run the Tests for your Headlamp system.

There you have it, the executable tests have all been played.

Lucas BAILEY 08:12 PM

Do you confirm that the Headlamp ECU complies with the requirements?

Product Virtual Architect 08:13 PM

Yes, Headlamp ECU is TRA10843POWRE.

Let me show you its key test result: Ambient Luminosity Variation Cycles.

Start writing

3DEXPERIENCE | 3DDashboard Lighting System

System Architecture | Generative Product Structure

CATIA - Requirements To Tests

Product Virtual Architect

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 - Dynamic Adjustment
 - Lateral Orientation
 - Headlight Leveling
 - Control
 - Leveling
 - Fault Detection
 - Non-Functional Requirements
 - Performance Requirements
 - Response Time
 - Adjustment Time
 - Reliability
 - Mean Time between Service
 - Fail Safe
 - Lifecycle
 - Power Consumption
 - Idle Mode Consumption
 - Active Mode Consumption
 - Safety Requirements
 - ISO 26262 Compliance
 - Defect Management
 - Environmental Requirements
 - Operating Temperature Range
- Test Cases
 - Headlamp System Tests
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 - Lighting Area Patterns Evaluation
 - Running Cars Crossing
 - Running Cars Following
 - Cornering at High Speed
 - Cornering at Low Speed
 - Headlight Leveling
 - Front Loading
 - Rear Loading
 - Hill Driving Test
 - Fault Detection
 - LED Short Circuit
 - LED power cut
 - LED signal cut
 - LED overheat
 - Diagnostic Journal Reading
 - Diagnostic Journal Writing
 - CAN Bus
 - Signals
 - CAN Bus signal detection
 - CAN Bus message verification
 - Test Results
 - Headlamp System Tests
 - Functional Tests
 - Headlight Activation
 - Manual Activation
 - Engine Shutdown
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Product Virtual Architect 08:10 PM

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Lucas BAILEY 08:10 PM

Complete the product structure with the ancillary parts.

Product Virtual Architect 08:10 PM

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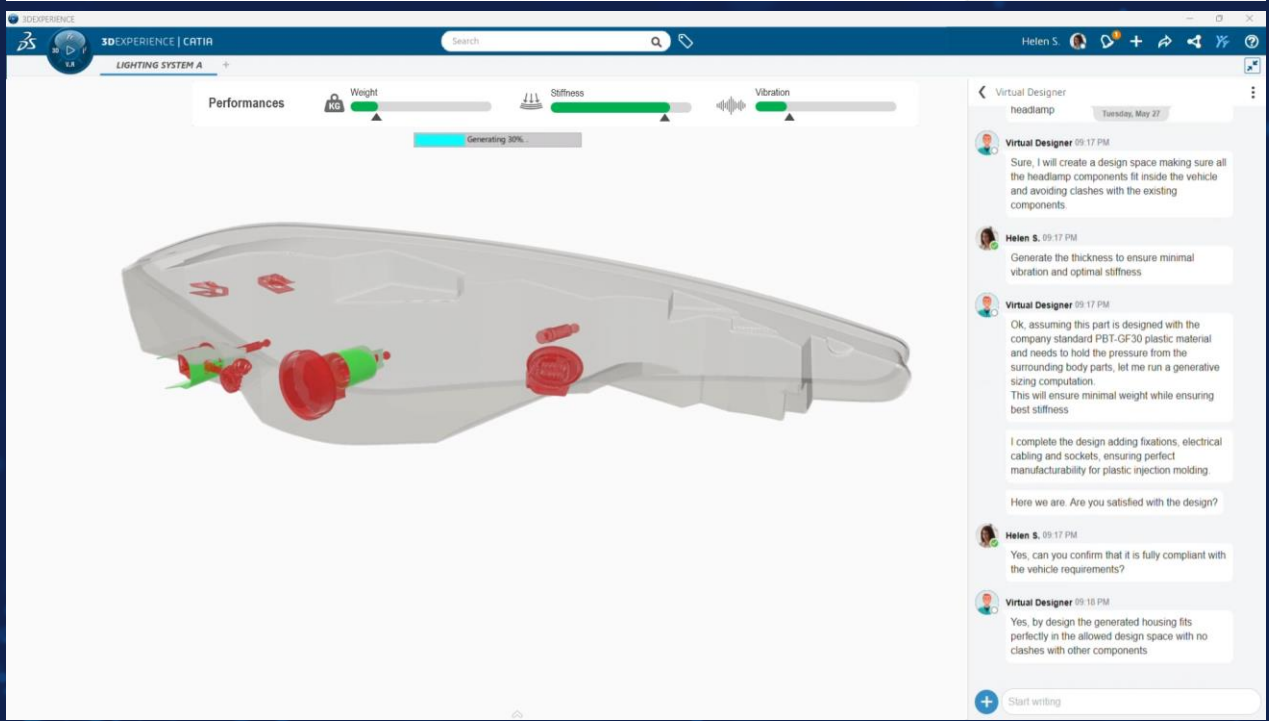
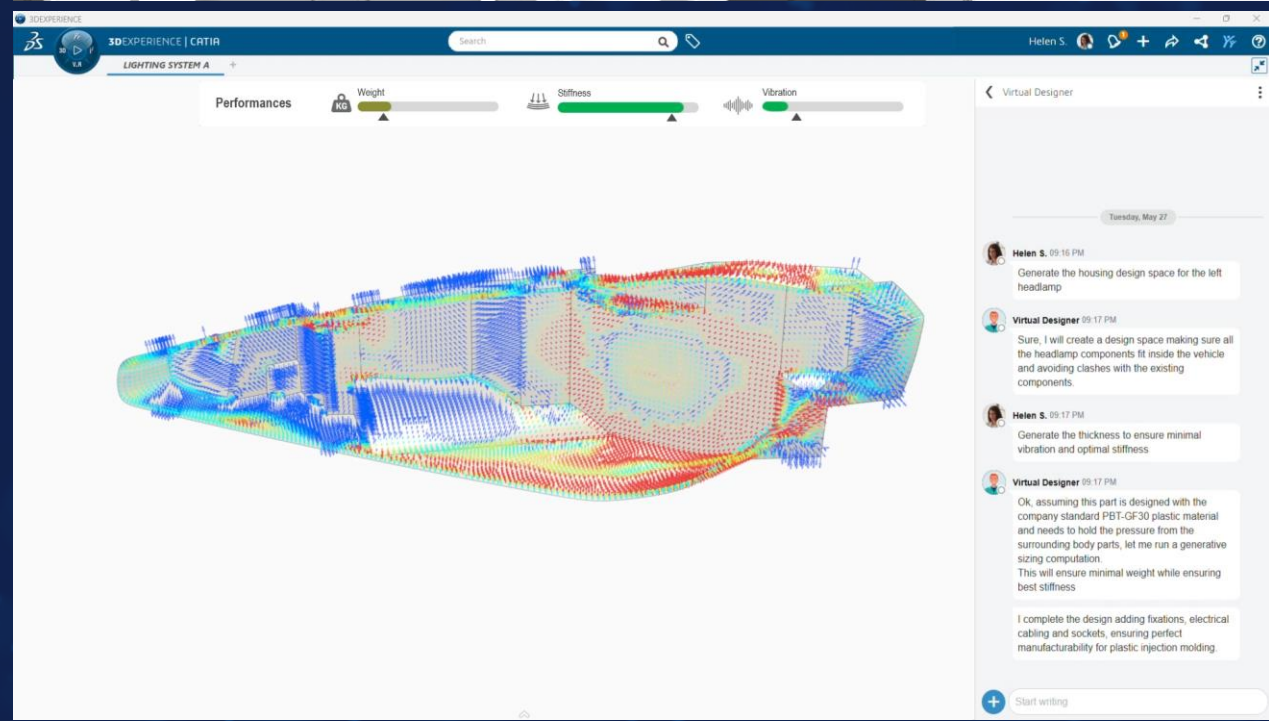
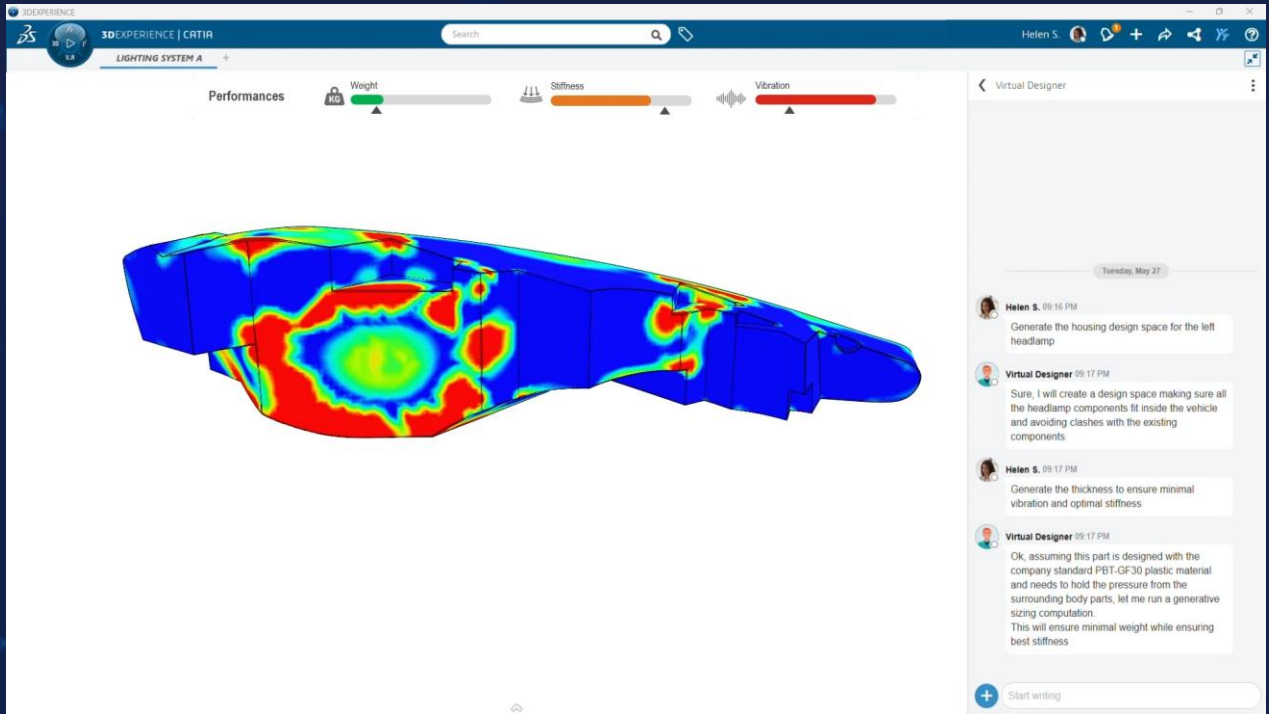
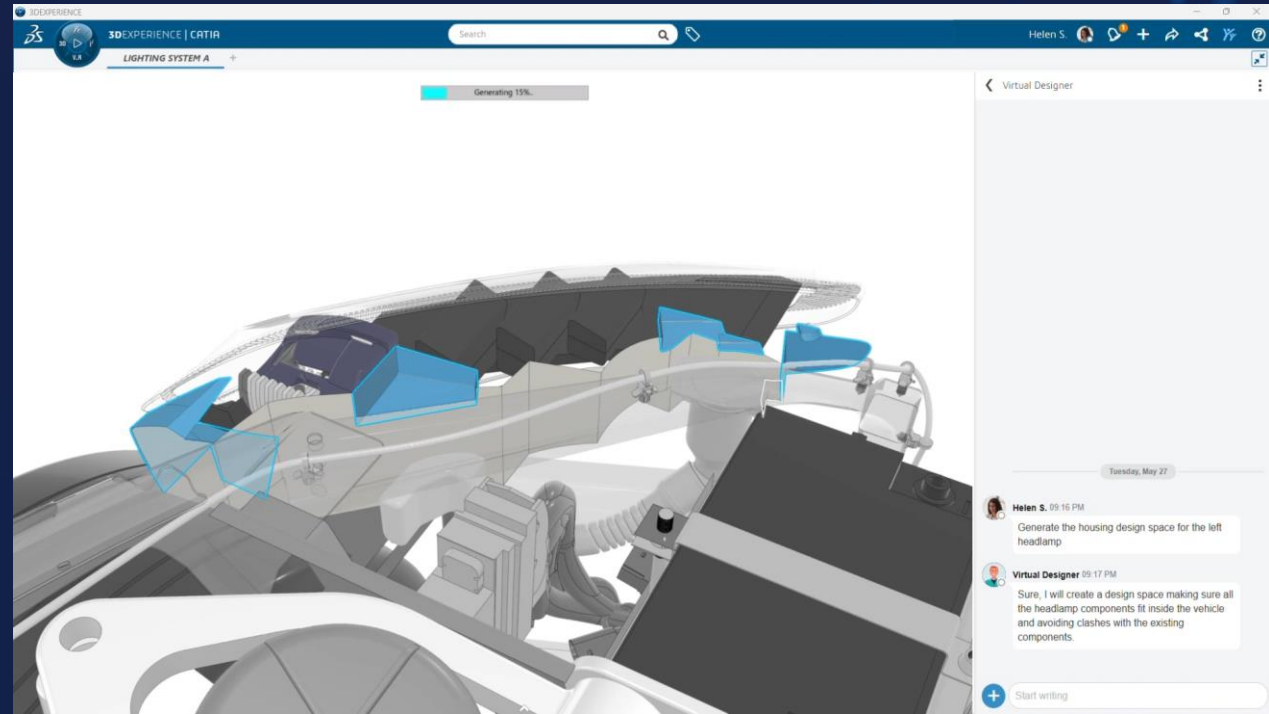
Product Virtual Architect 08:11 PM

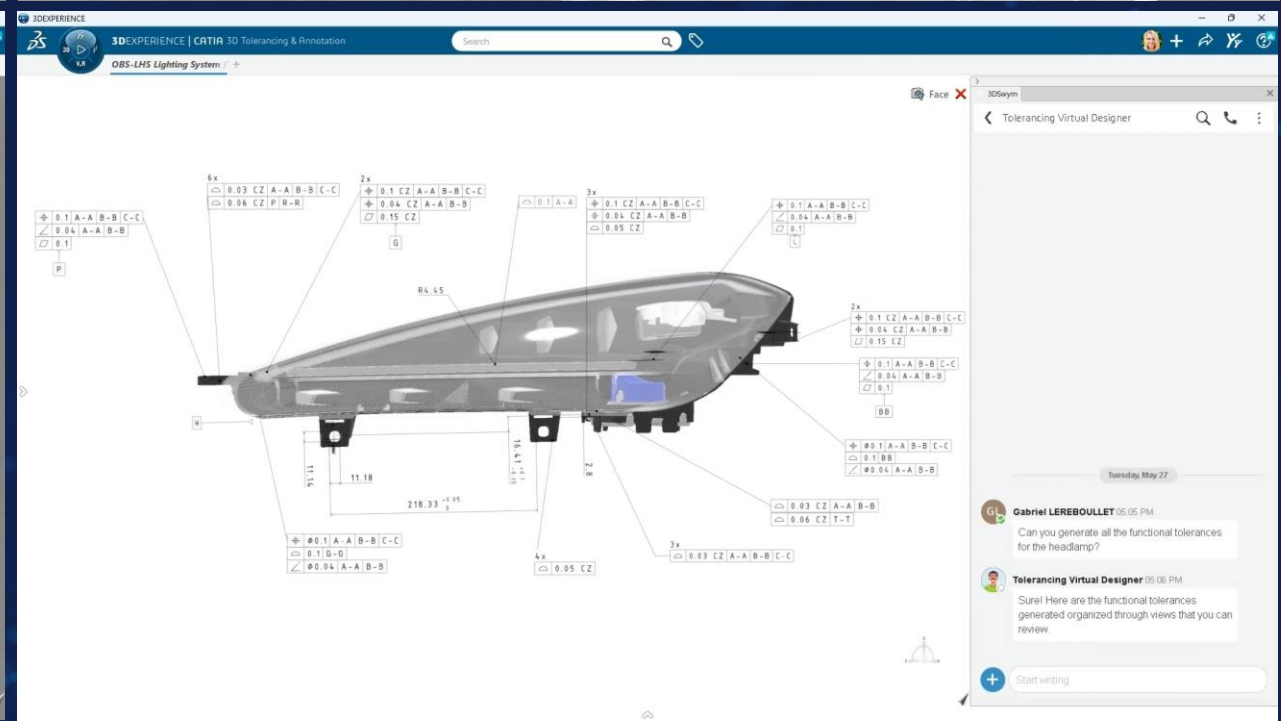
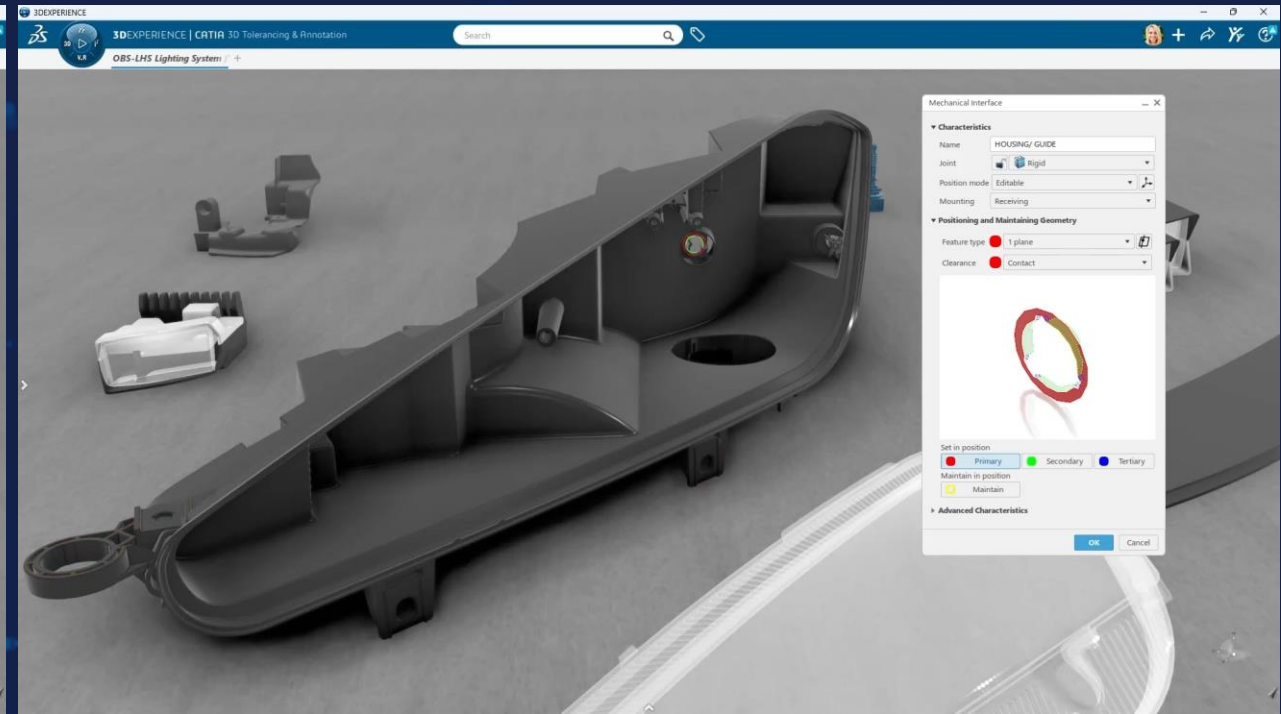
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100% of the requirements are covered by tests.

Let me now run the Tests for your Headlamp system.

Start writing





PROGRAM

ENOVIA | Program Management

Lucas BURNS

Lightning System
Owner: Alice MARTIN
Maturity Status: Progress Freeze

Summary
Schedule
Risks
Resources
Assessment

ENGINEERING

Time to Production

Previous programs

Current Program

-90.2%

MANUFACTURING

First Time Through

92%

COSTING & SOURCING

Cost vs Target

-1,5%

SCHEDULE

Gate Completion

88%
7/8

RISKS

Risk Mitigation Rate

100%

PROGRAM MILESTONES

Show more

RISK MATRIX

	Negligible	Minor	Moderate	Major	High
Almost certain					
Likely		2			
Possible	2	8	2	2	
Unlikely		7	1	2	
Rare	2	1	6		1

HEADLAMP

Virtual Companion

Program Virtual Manager

Thank you

Monday, May 26

Lucas BURNS 09:52 AM

Can you provide me a synthesis of the program progress so far?

Program Virtual Manager 09:52 AM

The new Lightning System program Engineering phases are over.

Production validation is the next gate. No major risk identify.

The integration of AI solutions in this program has yielded substantial benefits across all phases of the project. Most notably,

- All parts have been released on time.
- Time to production was reduced by 90.2% primarily driven by AI support - with gain for all disciplines.
- So far Manufacturing performance reached a 92% First Time Through (FTT) rate, reflecting improved design quality and reduced rework.
- Program is now **within budget & schedule**. All gates have been completed on time since deployment of AI.
- All major risks are mitigated thanks to AI-driven risk analysis and mitigation.

Overall, AI adoption has proven to be a key enabler of performance, efficiency, and quality throughout the lifecycle of this development program.

Start writing

MANUFACTURING INDUSTRIES

Program Virtual Control Room	Enterprise Value Stream Performance	Virtual Fastener Designer	Software and Electronics Virtual Engineer	Electrical & Fluids Virtual Engineer
Structural Virtual Designer	Aircraft Fluid Engineer	Multiphysics Immersive Experimentation	Physics Performance Advisor	Autonomous fleet orchestration
Mobile Augmented Quality Assessment	Production Virtual Supervisor	Supply Chain Virtual Planner	Manufacturing Virtual Engineer	Service Virtual Engineer

LIFE SCIENCES & HEALTHCARE

Production System Predictive Supervision	Risk-Aware Tech Transfer	System Biologist	Oncology Radiologist Assistant
Quality Virtual Officer	Computational Structural Biologist	Bioprocess Development	Live Study Monitoring Assistant



INFRASTRUCTURE & CITIES

SMR System Architecture Virtual Engineer	SMR Compliance Virtual Engineer	Supply Chain Volatility Intelligence	Virtual Renovation Coach
Building Virtual Twin Generation	Virtual Work Supervisor	Virtual Geologist	Geospatial Virtual Analyst



THE INDUSTRY-TRUSTED
**IP GENERATION &
MANAGEMENT COMPANY**

3D UNIV+RSES