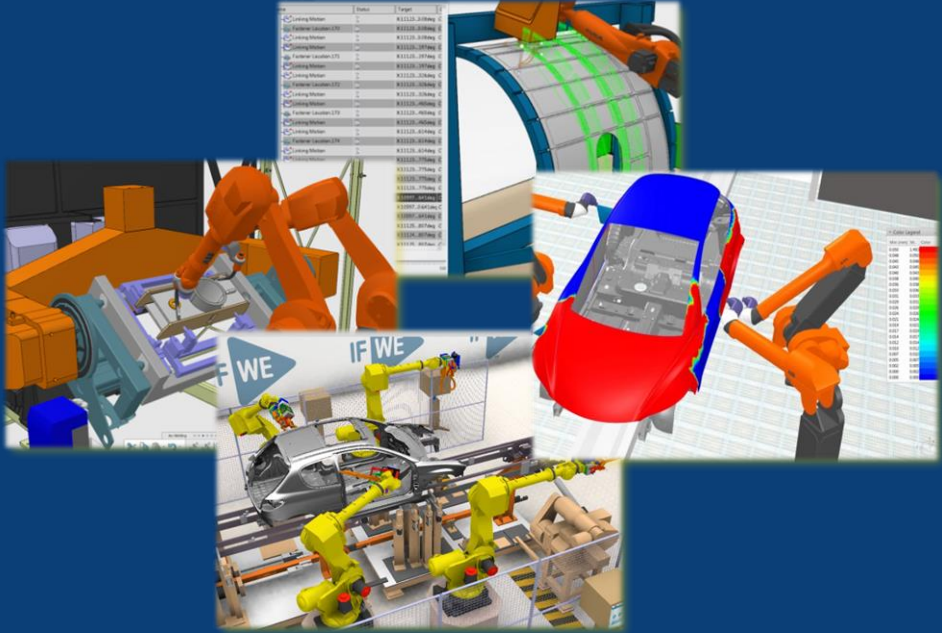


DELMIA Robotics & Virtual factory



3DEXPERIENCE®



DIGITAL MANUFACTURING



PROCESS ENGINEERING

- Manufacturing Engineer
- Process Engineer
- Service Process Engineer
- Assembly Simulation Engineer
- Manufactured Items Engineer
- * Manufactured Part Process Engineer
- Fastener Process Engineer
- Assembly Simulation Expert
- Time Study Expert
- Work Instructions Author
- Assembly Structure Preparer for Marine
- Product & Packaging Manufacturing Engineer
- Manufacturing Engineer for Marine
- Process Engineer for Plant Construction
- Process Engineer for Marine
- Fluidic Systems Work Preparer for Marine
- Structure Work Preparer for Marine



FABRICATION

- NC Prismatic Machine Programmer
- Cutting Tool Technologist
- NC Mold & Die Programmer
- NC Machine Simulation Engineer
- NC Mill-Turn Machine Programmer
- NC Prismatic & Mill-Turn Machine Programmer
- NC Milling Machine Programmer
- Material Deposition Machine Programmer
- Material Deposition Machine Specialist
- Powder Bed Machine Programmer
- Fabrication Riveting System Programmer for Aerospace



VIRTUAL FACTORY

- Plant Layout Designer
- Process Simulation Reviewer
- Factory Simulation Engineer
- Machine & Tooling Designer
- Equipment & Layout Engineer



ROBOTICS

- Assembly Robot Programmer
- Fabrication Robot Programmer
- Surface Robot Programmer
- Robotic Workcell Simulation Engineer
- Body-in-White Robot Programmer
- Body-in-White Robotics Engineer
- Assembly Riveting System Programmer for Aerospace
- Fabrication Robot Workcell Programmer for Industrial Equipment



ERGONOMICS

- Ergonomist
- Ergonomics Specialist
- Work Safety Engineer
- Ergonomic Workplace Designer (FD03)

MOM + COLLABORATIVE OPERATIONS



COLLABORATIVE OPERATIONS

- 3DLean Member (FD01)
- * Operations Experience Manager



PRODUCTION

* Controlled Availability (CA)

SUPPLY CHAIN PLANNING & OPTIMIZATION







SALES & OPERATIONS PLANNING



MASTER PLANNING

Portfolio R2021x for Robotics

Fastener Planning	Robotics Simulation	Programming	Optimization	Virtual Commissioning
	<p>Robotic Workcell Simulation Engineer (RSN) RTS / DME</p>			
	<p>Assembly Robot Programmer (RAM) RTS / RSE / ROL</p>			
	<p>Fabrication Robot Programmer (RFP) RTS / RAE / ROL</p>			
	<p>Surface Robot Programmer (RSG) RTS / RSF / ROL</p>			
	<p>Body-In-White Robot Engineer (RBWRT) RTS / RSE / ROS</p>			
	<p>Body-In-White Robot Programmer (RBWPR) RTS / RSE / ROL / ROS / RCV</p>			
	<p>Assembly Riveting System Programmer for Aerospace (RARSA) RTS / RSE / ROL / ROS / RCV</p>			
	<p> Fabrication Robot Workcell Programmer for Industrial Equipment (RARWI) RTS / RAE / ROL / ROS / RCV</p>			



3D Experience

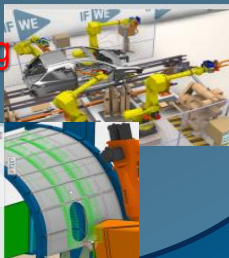
DELMIA Robotics - r2021x

Different apps to cover different robotics processes

RSE - Robot Spot Simulation

Spot Welding

Drilling & riveting



RTS - Robot Simulation

Handling & Packaging

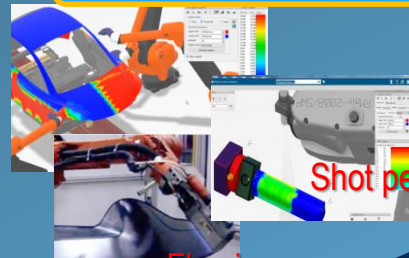


RSF – Robot Surface Simulation

Painting

Shot peening

Flaming



RAE – Rob Arc Simulation

Arc Welding

Sealant Deposition

Laser Cutting



ROL - Robot Programming

RCV – Robot Virtual Commissioning

ROS – Robot Optimization

RSN - Robotic Workcell Simulation Engineer

On Premise Availability

Cloud Availability



WHAT

Design and validate robot handling systems in the Virtual Factory to keep robots in production, eliminate costly robot tooling crashes and accelerate start of production.

WHO

Robot Simulation Engineer



Key Activities and associated Values

- Allows to design tooling and equipment of the robotics workcell.
- Validate a complete robot handling systems to secure and accelerate the start of production
- 1408 Industrial Robot models provided
- Supports advanced logic and I/O
- Includes Realistic Robot Simulation (RRS-I)

Roles Provided

Robotics Engineer

RTS

3D Design for manufacturing Engineer

DME



RAM - Assembly Robot Programmer

On Premise Availability

Cloud Availability



WHAT

Define, validate and offline program robot systems in the Virtual Factory to keep Spot welding and Drill and Riveting robots in production, eliminate costly robot and tooling crashes, and accelerate start of production.

Key Activities and associated Values

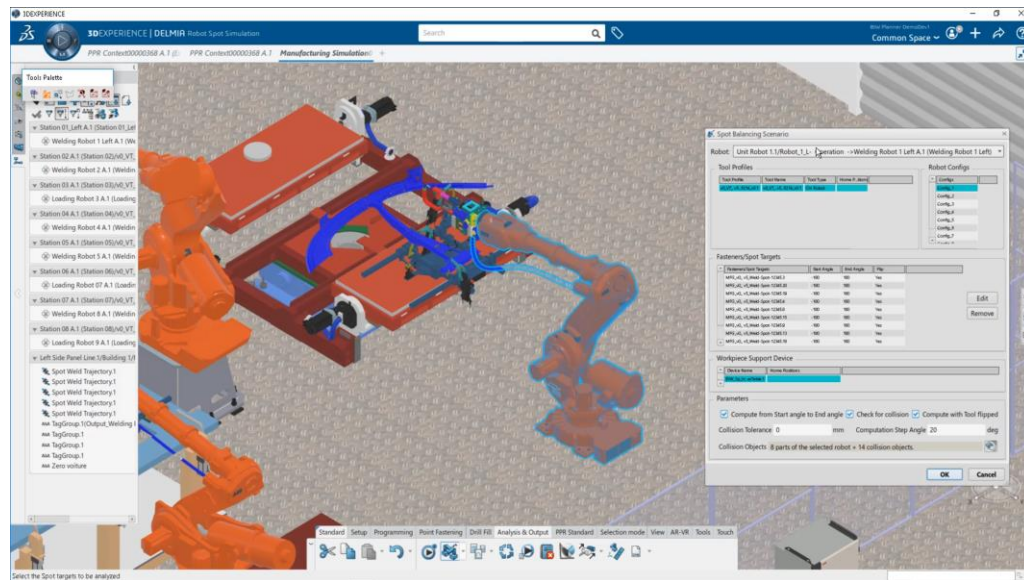
- Simulate and validate complete robot welding and drill and riveting systems to eliminate costly crashes
- Offline program robots to keep the real robots in production longer.
- Offline robot programming enables simultaneous engineering in order to accelerate the start of production

Roles Provided

Robotics Engineer	RTS
Robotics Spot Engineer	RSE
Robotics Offline Programming	ROL

WHO

Robot Programmer, Robot Simulation Engineer



RFP - Fabrication Robot Programmer

On Premise Availability [Cloud Availability](#)



WHAT

Define, validate and offline program robot welding and sealant deposition systems in the Virtual Factory to keep robots in production, eliminate costly robot and tooling crashes, and accelerate start of production.

WHO

Robot Programmer, Robot Simulation Engineer

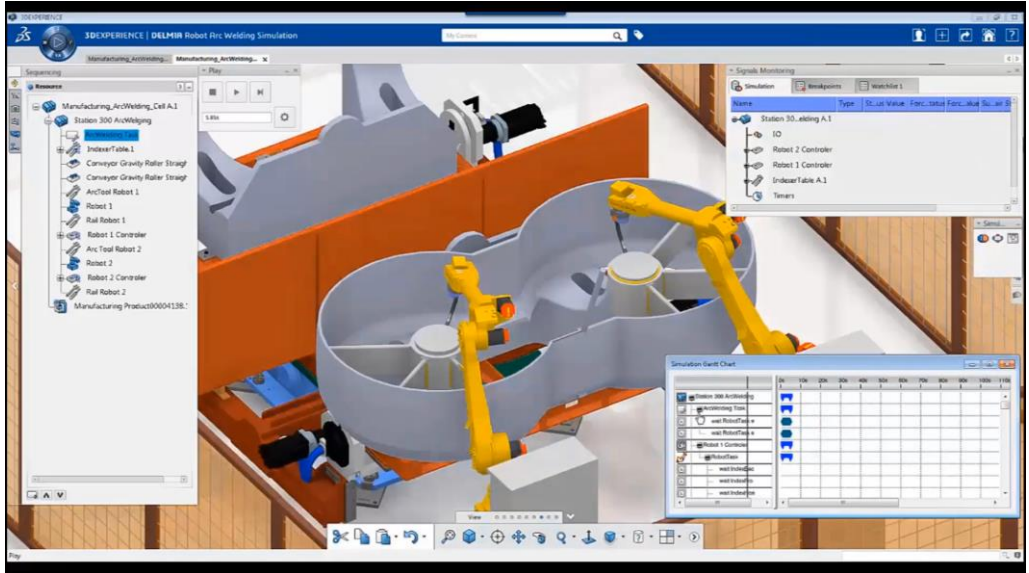


Key Activities and associated Values

- Simulate and validate complete welding, sealant deposition and handling robotics systems to eliminate costly crashes
- Offline program robots to keep the real robots in production longer.
- Offline robot programming enables simultaneous engineering in order to accelerate the start of production

Roles Provided

Robotics Engineer	RTS
Robotics Arc Engineer	RAE
Robotics Offline Programming	ROL



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RSG - Surface Robot Programmer

On Premise Availability

Cloud Availability



WHAT

Define, validate and offline program robotic painting systems in the Virtual Factory to keep robots in production improve the quality of the painting process and accelerate start of production.

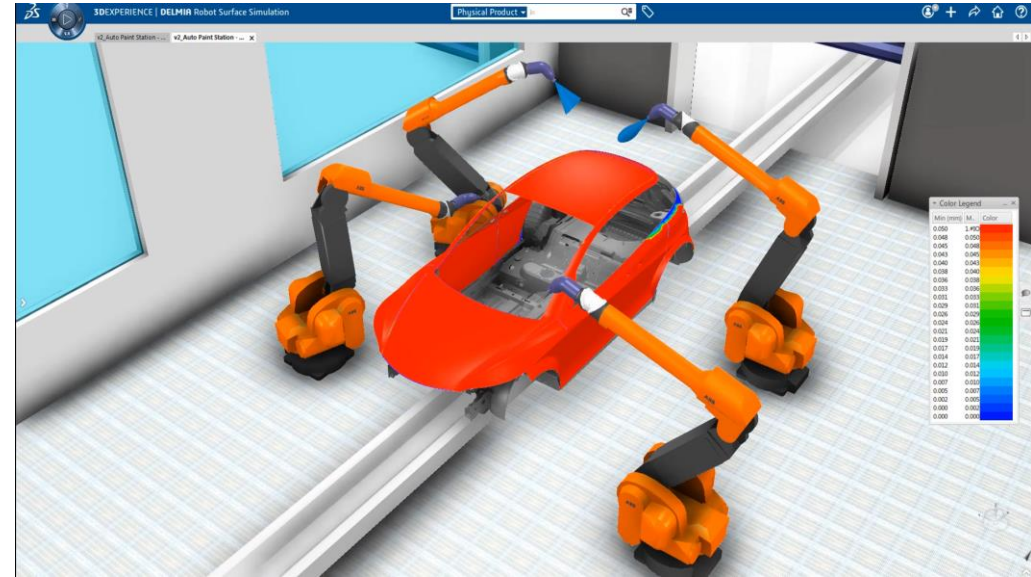
WHO

Robot Programmer, Robot Simulation Engineer



Key Activities and associated Values

- Simulate and validate complete robot painting systems to eliminate costly crashes
- Offline program robots to keep the real robots in production longer and improve paint process quality.
- Offline robot programming enables simultaneous engineering in order to accelerate the start of production



Roles Provided

Robotics Engineer	RTS
Robotics Surface Engineer	RSF
Robotics Offline programmer	ROL

RBWRT - Body In White Robotics Engineer

On Premise Availability Cloud Availability



WHAT

Validate and optimize the Body In white robotics processes with Robotics simulation and validation in a Virtual Factory context. This collaborative solution reduces engineering time and optimizes the workload balance to increase the production rate

WHO

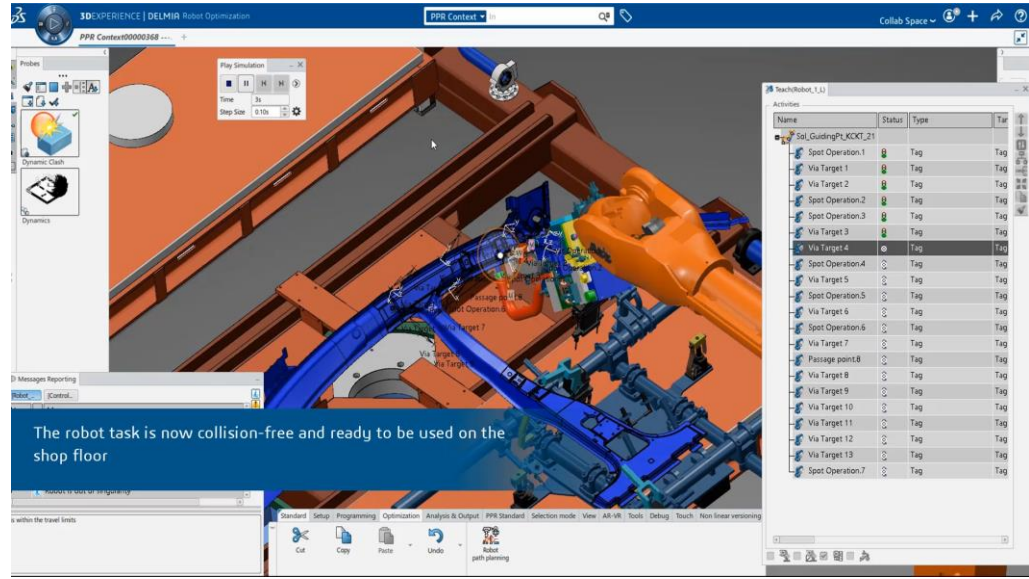
Manufacturing Engineer, Process Planner, Robot Simulation Engineer

Key Activities for Targeted Industry

- Perform robot reachability studies to ensure planned fasteners are feasible
- Extended capabilities to complete and validate the full robotics workcell before off line programming
- Automated tool analysis helps minimize the number of weldguns to reduce tooling cost

Roles Provided

Robotics Engineer	RTS
Robotics Spot Engineer	RSE
Robotics Optimization Expert	ROS



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RBWPR - Body In White Robot Programmer

On Premise Availability [Cloud Availability](#)



WHAT

Define, validate and offline program Body in White robot systems in the Virtual Factory to keep robots in production, eliminate costly robot and tooling crashes, and accelerate start of production.

WHO

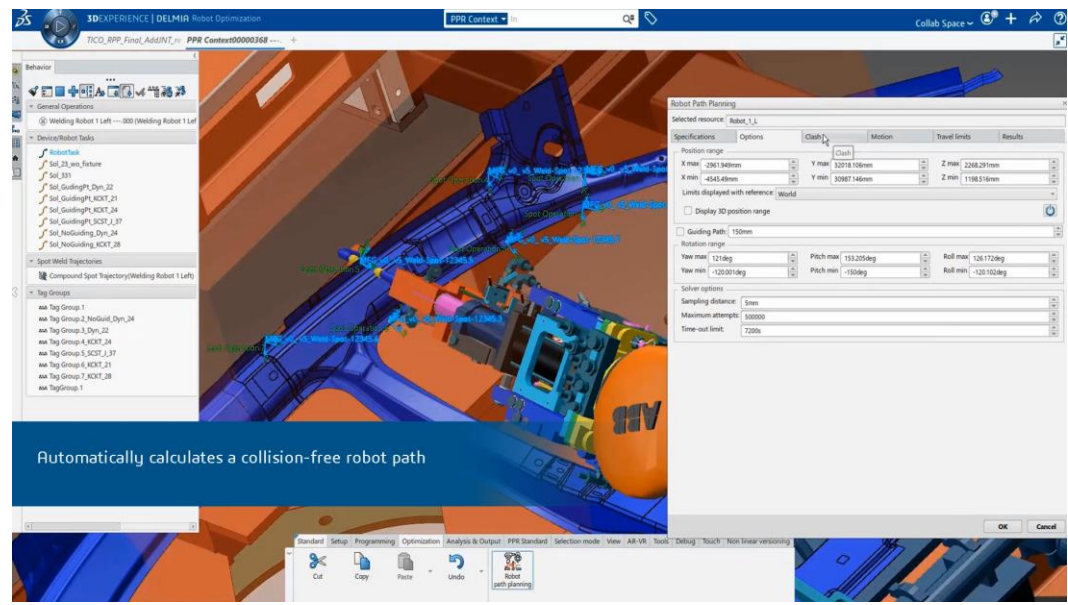
Robot Programmer, Robot Simulation Engineer

Key Activities for Targeted Industry

- Simulate and validate complete robot welding and handling systems to eliminate costly crashes
- Offline program robots to keep the real robots in production longer.
- Offline robot programming enables simultaneous engineering in order to accelerate the start of production

Roles Provided

Robotics Engineer	RTS
Robotics Spot Engineer	RSE
Robotics Offline Programming	ROL
Robotics Optimization Expert	ROS
Virtual Commissioning Expert	RCV



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RARSA - Assembly Riveting System Programmer for Aerospace

On Premise Availability [Cloud Availability](#)



WHAT

Create, simulate, and validate complex Robots drilling and riveting programs for aerospace industry.

WHO

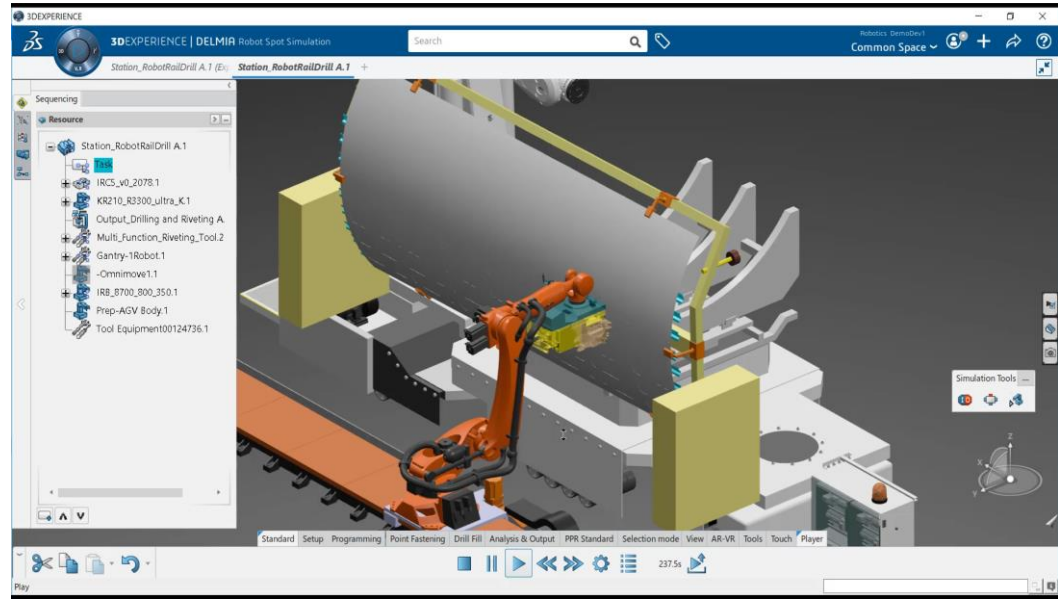
Drilling & Riveting Robotics Programmer

Key Values for Targeted Industry

- Simulate and validate complete a drilling and riveting Robots systems to eliminate costly crashes
- Offline program robots to keep the real robots in production longer.
- Offline robot programming enables simultaneous engineering in order to accelerate the start of production

Roles Provided

Robotics Engineer	RTS
Robotics Spot Engineer	RSE
Robotics Offline programmer	ROL
Robotics Optimization Expert	ROS
Virtual Commissioning Expert	RCV



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WHAT

Program, simulate, and validate Robotic fabrication systems in a 3D Virtual Factory context

Key Activities for Targeted Industry

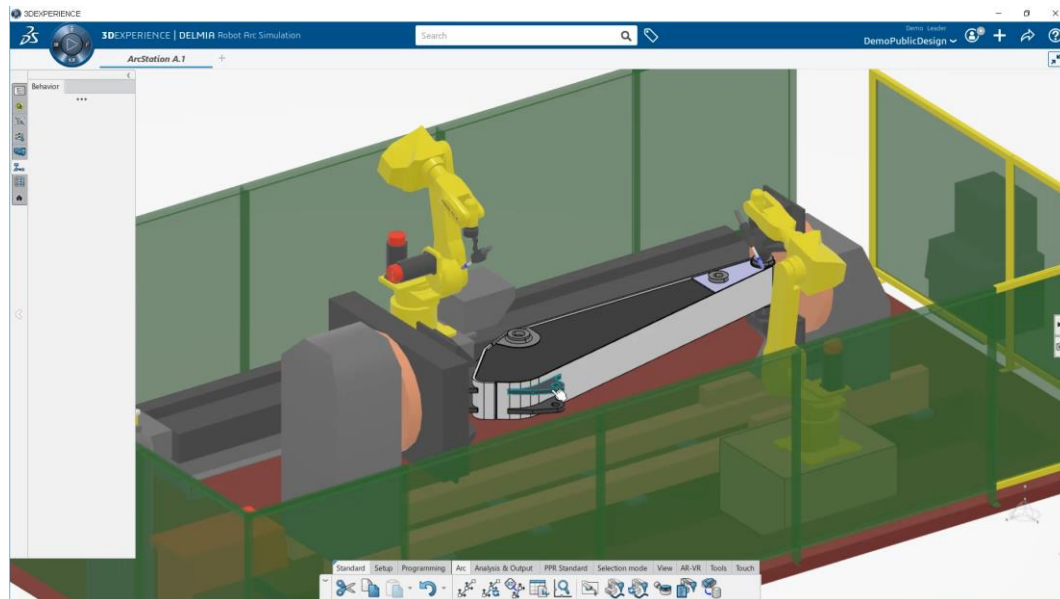
- Simulate and validate complete robotic arc welding, gluing and sealant deposition systems to eliminate costly crashes and optimize the production rate
- Deliver accurate, production-ready robot programs while keeping robots in production with offline robot programming
- Fully simulate the complete workcell, including PLC control logic by performing virtual commissioning.

Roles Provided

Robotics Engineer	RTS
Robotics Arc Engineer	RAE
Robotics Offline programmer	ROL
Robotics Optimization Expert	ROS
Virtual Commissioning Expert	RCV

WHO

Manufacturing Engineer, Process Planner, Robot Simulation Engineer



Portfolio R2021x for Virtual Factory

Equipment Simulation	Equipment Design	Plant Layout	Flow Simulation
<p>Process Simulation Reviewer (MAR)</p>	<p>Machine & Tooling Designer (EMR) EQE / DME</p>	<p>Plant Layout Designer (PLA)</p>	
<p>Equipment & Layout Engineer (ETR) EQS / ESD / DME</p>			
		<p>Factory Simulation Engineer (EFS) IEN / PLA</p>	

MAR - Process Simulation Reviewer

On Premise Availability

Cloud Availability



WHAT

Access to Manufacturing Process data for assessment, review and issue iteration with all stakeholders reduces manufacturing problems and accelerates start of production.

Key Activities and associated Values

- Review 3D annotated issues raised by other stakeholders to better iterate for resolution
- Replay assembly and equipment simulations to better understand any detected issue

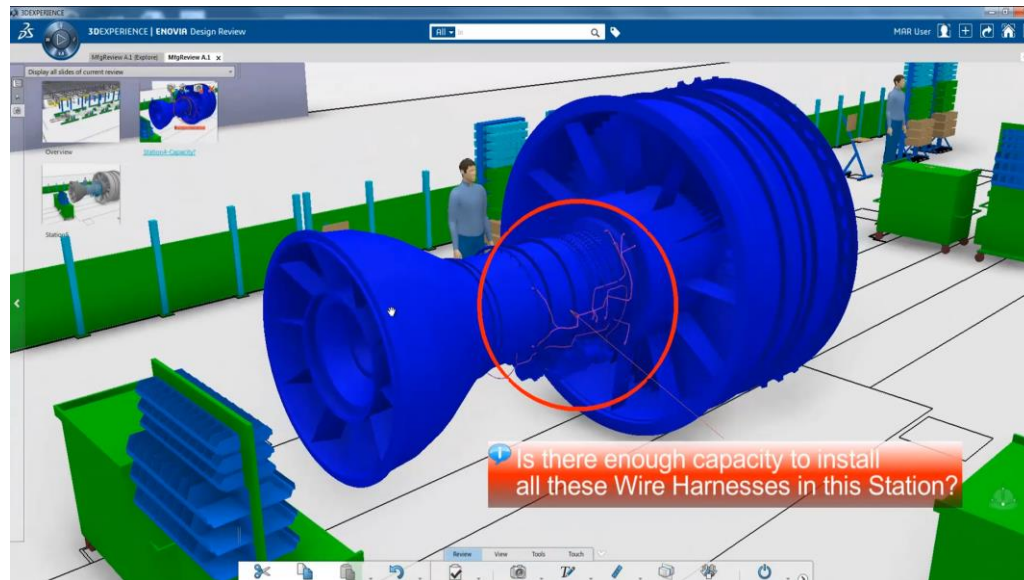
Roles Provided

Process Simulation Reviewer

MAR

WHO

Manufacturing Engineering Manager, Design Engineer



EMR - Machine & Tooling Designer

On Premise Availability

Cloud Availability



WHAT

Create Virtual Models of shop floor equipments such as Machines, Robots, 3D Printers, ... including kinematics

Key Values for Targeted Industry

- Create all the mechanical devices used in a manufacturing setting, from simple clamps to NC machine tools and complex robots to allow Programmers to validate & simulate their programs.
- Create virtual representation of physical 3D Printers including company know-how rules to ensure repeatability of the process

Roles Provided

3D Design for Manufacturing Engineer

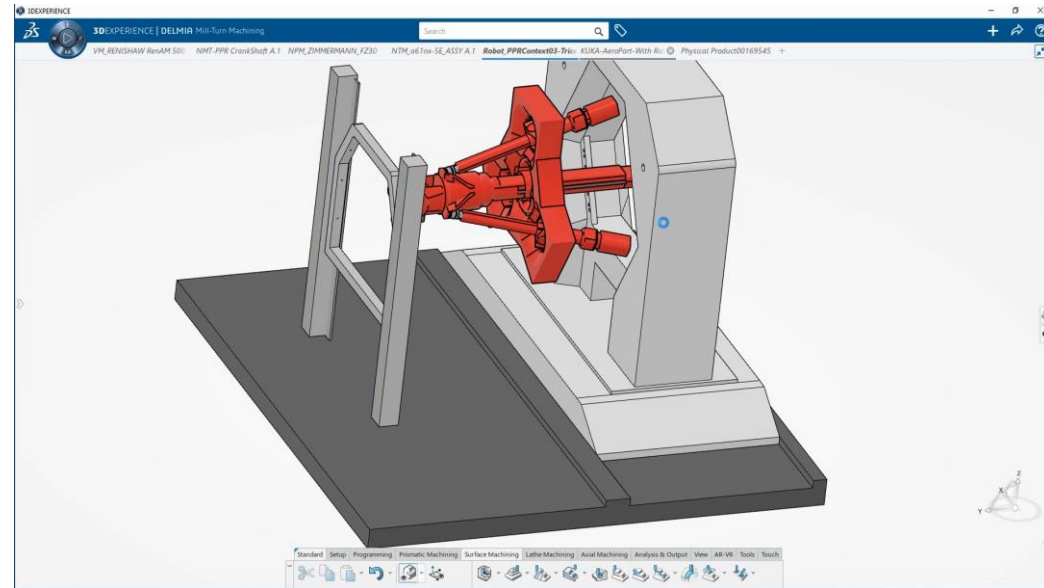
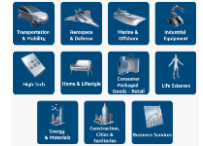
DME

Shop Floor Equipment Designer

EQE

WHO

NC Programmer, CNC Programmer, Tooling Designer



PLA - Plant Layout Designer

On Premise Availability

Cloud Availability



WHAT

Define 3D virtual factory layouts of workcells, lines, and complete plants. The virtual factory approach enables manufacturers to reduce capital expenditures, accelerate production ramp-up and ultimately increase productivity.

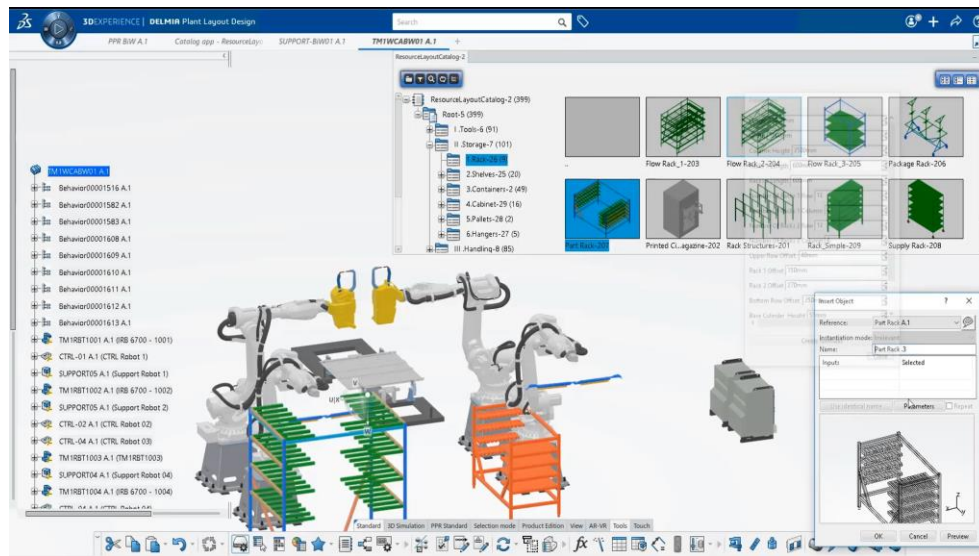
WHO

Layout Designer



Key Activities and associated Values

- Enables collaboration to create the factory layout and export it for build.
- Import a cloud of points to quickly create a 3D model of an existing line.
- Improve layout and equipment design to increase productivity



Roles Provided

Plant Layout Designer

PLA

ETR - Equipment & Layout Engineer

On Premise Availability

Cloud Availability



WHAT

Design & validate tooling, machines, and layouts to build the virtual factory

WHO

Workcell Designer, Layout Engineer



Key Activities and associated Values

- Enables manufacturers to reduce capital expenditures, accelerate production ramp-up and ultimately increase productivity with a virtual factory approach
- Create the factory layout and export it for build
- Simulate, validate and optimize mechanical equipment to accelerate start of production
- Improve layout and equipment design to increase productivity

Roles Provided

3D Design for Manufacturing Engineer	DME
Shop Floor Equipment Simulation Engineer	EQS
Shop Floor Designer	ESD

