HYPERTEC®
SOLUTION
innovation & passion

Automation Day UniCt

21 Dicembre 2022

ABOUT US

Innovation ı Passion ı Competence ı Preparation

Hypertec Solution is an innovative engineering company with high expertise in the following industrial fields: **Automotive, Aeronautics, Aerospace, Oil & Gas, Machine tools, Automatic Machine**.

Hypertec Solution is present on the national territory with **3 Operetion Seats** and today, with **over 80 engineers**, supports industrial companies by offering the best in **mechanical design, mechatronics, FEM and CFD Analysis and Automation Software Development**.

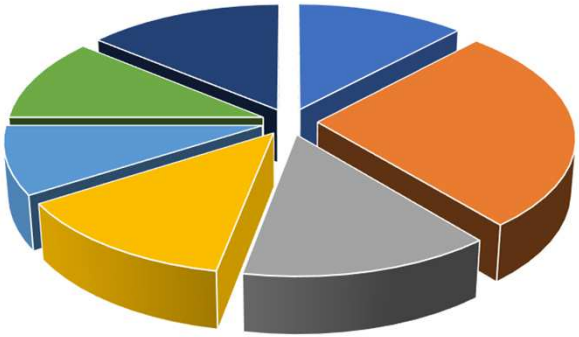
HYPERTEC® SOLUTION innovation & passion

OUR MARKET

Earth moving machinery
8%

Machine tools
5%

Avio&Aerospace
15%



Automatic machines
27%

Special machines
13%

Oil&Gas
21%

Automotive
11%

HYPERTEC SOLUTION
innovation & passion

SERVICES & SW PLATFORMS

- **M**echanics **D**esigne
- **C**AE **S**imulation
- **A**utomation **S**oftware **D**evelopment
- **C**ostruction **P**rototypes and **T**est **B**enches
- **E**xperimental **T**est
- **P**roject **M**anagement

creo
CATIA
PLM Software SIEMENS NX
FEMAP
OpenFOAM®
SOLID EDGE
Ansys
NX NASTRAN®
SOLIDWORKS
AUTODESK® INVENTOR®
Rockwell Automation
B&R
KISSSOFT Calculation programs for machine design
RuleDesigner®
BECKHOFF New Automation Technology
Schneider Electric
SIEMENS Ingenuity for life

CERTIFICATIONS & ACCREDITATIONS

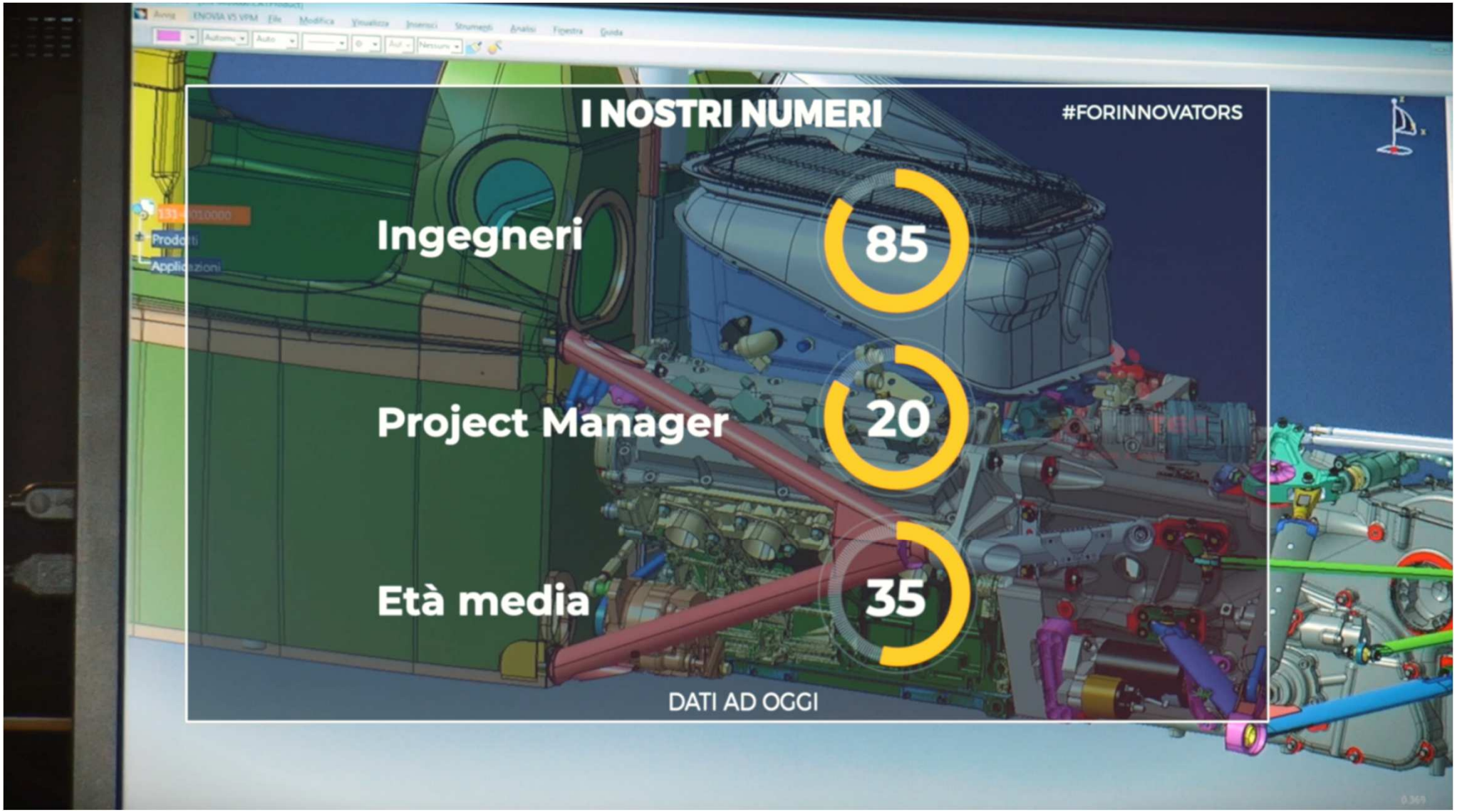
ISO 9001:2015 Quality Management System

Industrial **L**aboratory for **R**esearch and **D**evelopment

Network **A**ccredited **S**uppliers - CRIT Srl

HYPERTEC®
SOLUTION
innovation & passion

HYPERTEC®
SOLUTION
innovation & passion



HYPERTEC® SOLUTION
innovation & passion

HYPERTEC® SOLUTION
innovation & passion

Automation Project

1 Project Specifications Analysis

2 Software Development

3 Debug & Commissioning

4 Plant Installation

OUR THESIS PROPOSALS

- **Visualization systems, virtual reality and augmented reality**

  By augmented reality, we mean the enrichment of human sensory perception through information, generally manipulated and conveyed electronically, which would not be perceptible with the 5 senses;
  allows the use of digital technology to add data and information to the vision of reality and facilitate, for example, the selection of products and spare parts, repair activities and in general any decision relating to the production process;
  Part of the training phase on this issue would be managed in partnership with Schneider Electric, for which we are Qualified System Integrators and from which we received a specific request.

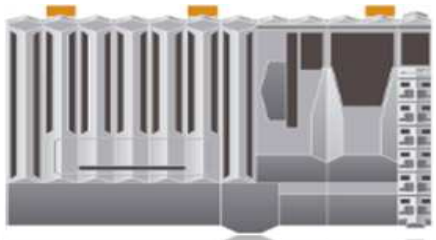
HYPERTEC® SOLUTION innovation & passion

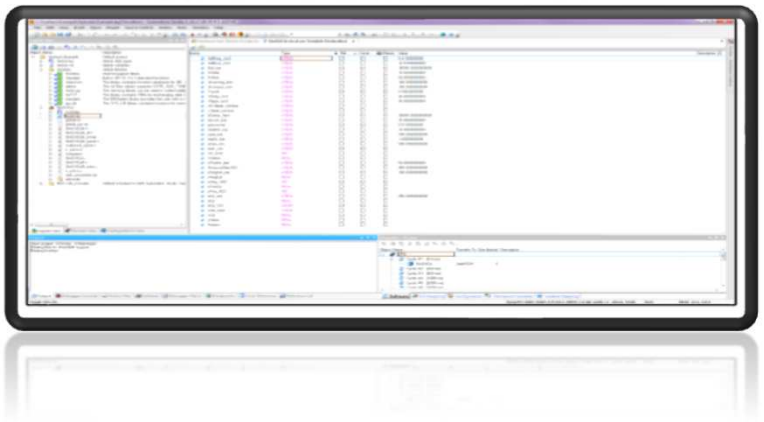
- **Virtual Commissioning (Virtual Model & Digital Twin)**

  simulation platform of the real operation of a machine or plant; allows you to interface the mechanical 3D model with the sw. automation.

  Opportunity: Acquire know-how on platform and modeling.

PLC
HIL/SIL

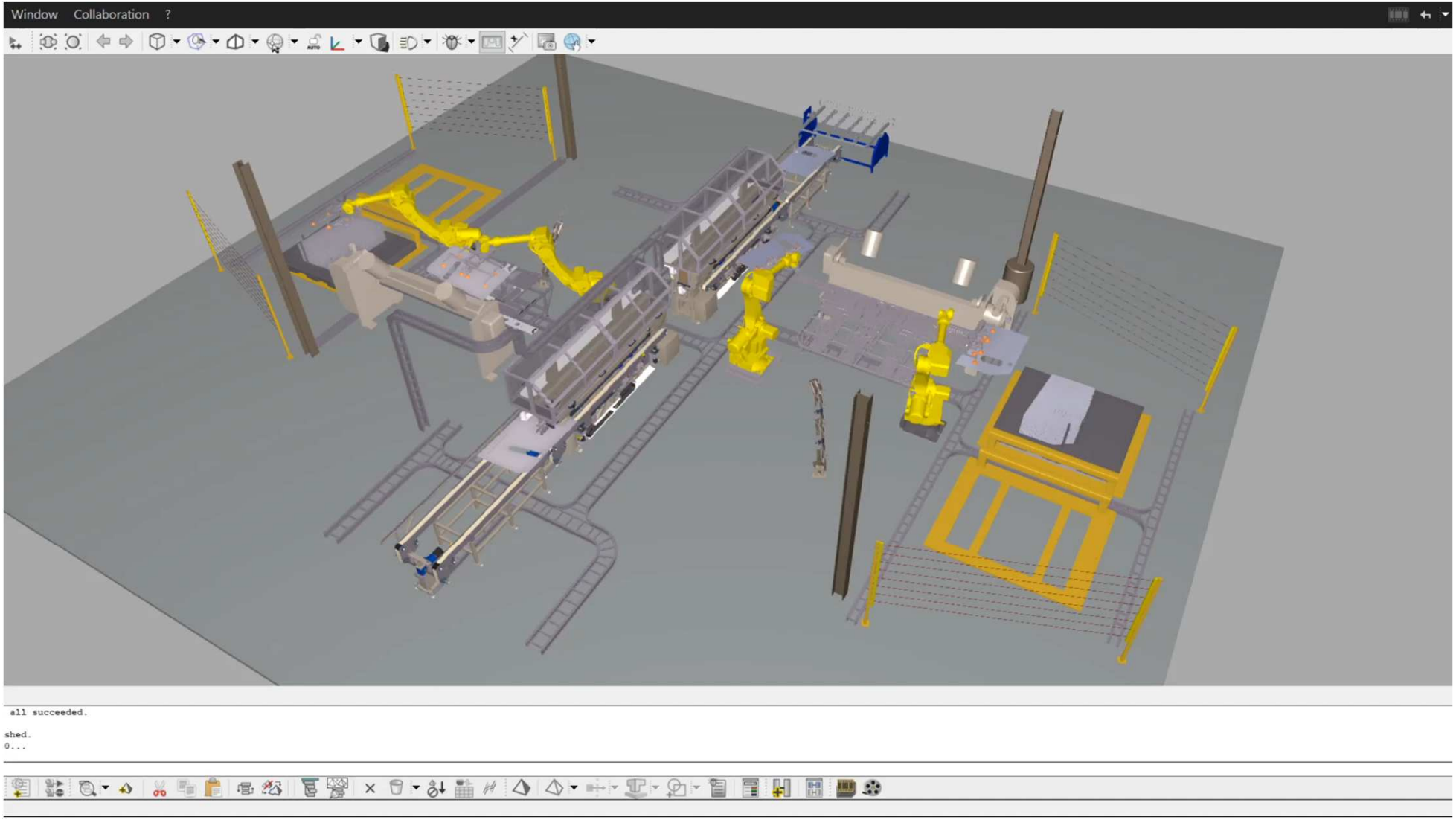




Virtual

Real

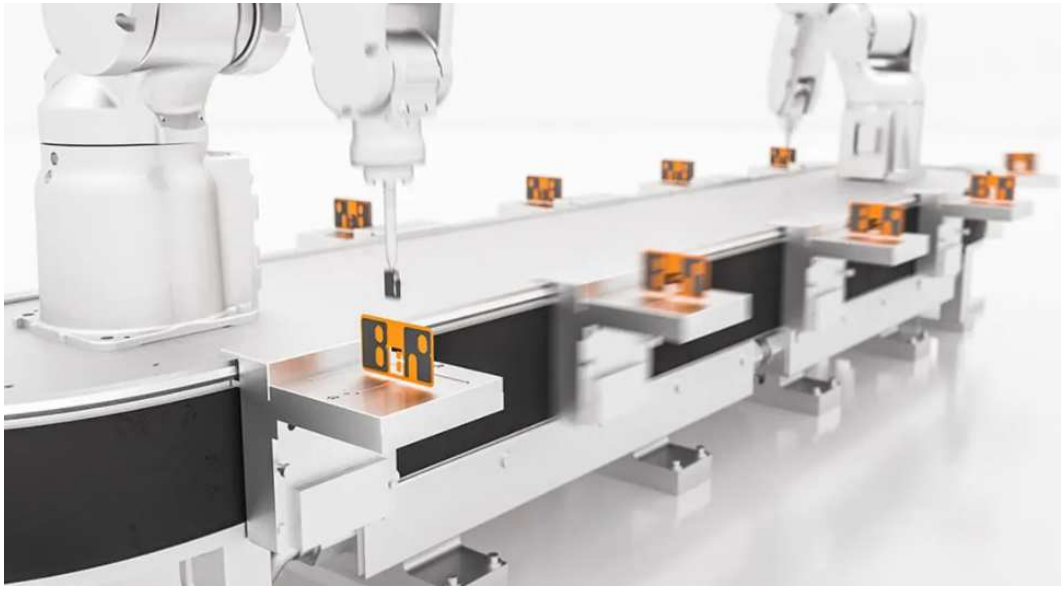
HYPERTEC®
SOLUTION
innovation & passion



- **Control sw development for Magnetic Transport Systems (SuperTrak – Acopos 6D)**

  The system uses magnetic technology to drive individually controllable trolleys that move on tracks thanks to long-stator linear motors.
  Development of plant layout and control algorithm. Possibility to simulate on virtual model.

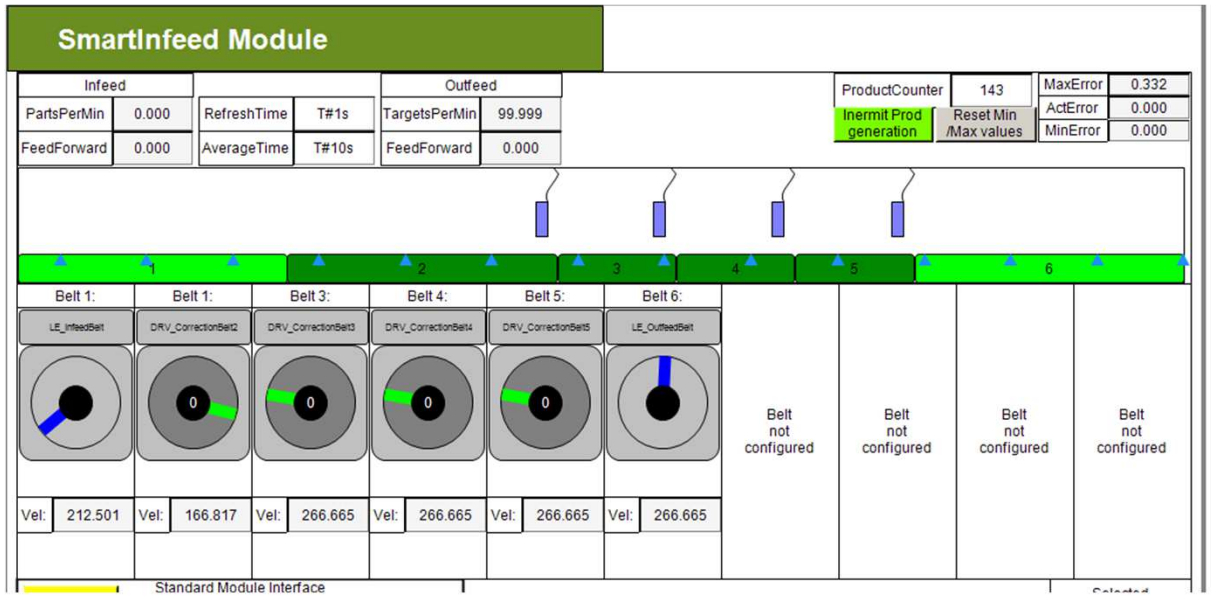
  Opportunity: acquire know-how on the B&R Automation Studio platform and specific control libraries.

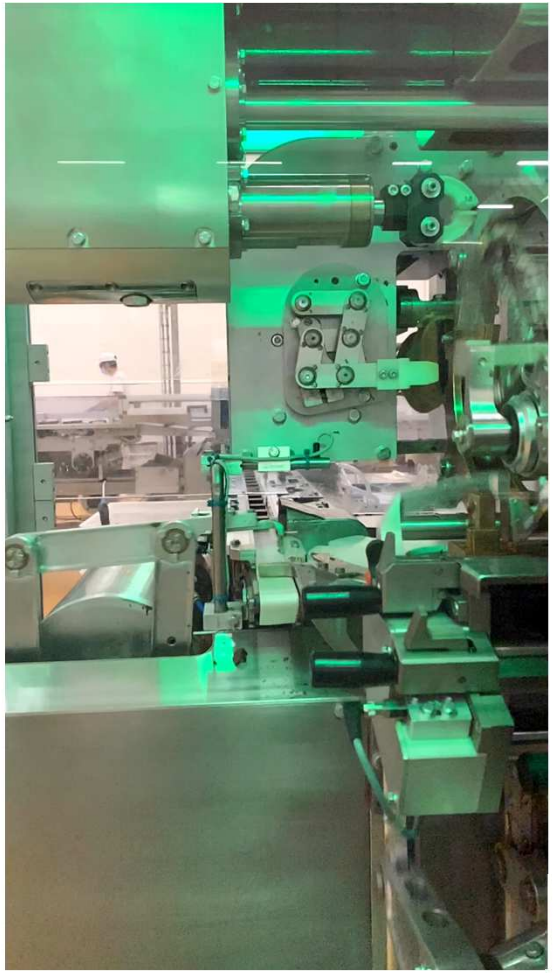


- **SmartInfeed Library Schneider-electric**

  Feed system with singularization and timing products.
  Development of algorithms, within a Schneider architecture/library, to optimize phase correction system and improve speed performance with the use of an integrated simulator.

  Opportunity: acquire know-how on specific libraries and product timing problems such as flowpack systems.

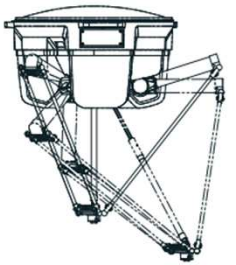


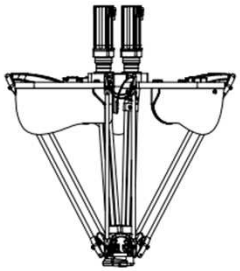


- **Integrated robotics NG**

  Integrated management of commercial and non-commercial robots within the development environment.
  Possibility to simulate the operation on Virtual Commissioning model

  Opportunity: acquire know-how on the platform and on the specific control libraries.



Per tutti i robot SE la configurazione è basata sul tipo di robot:

- P-Series

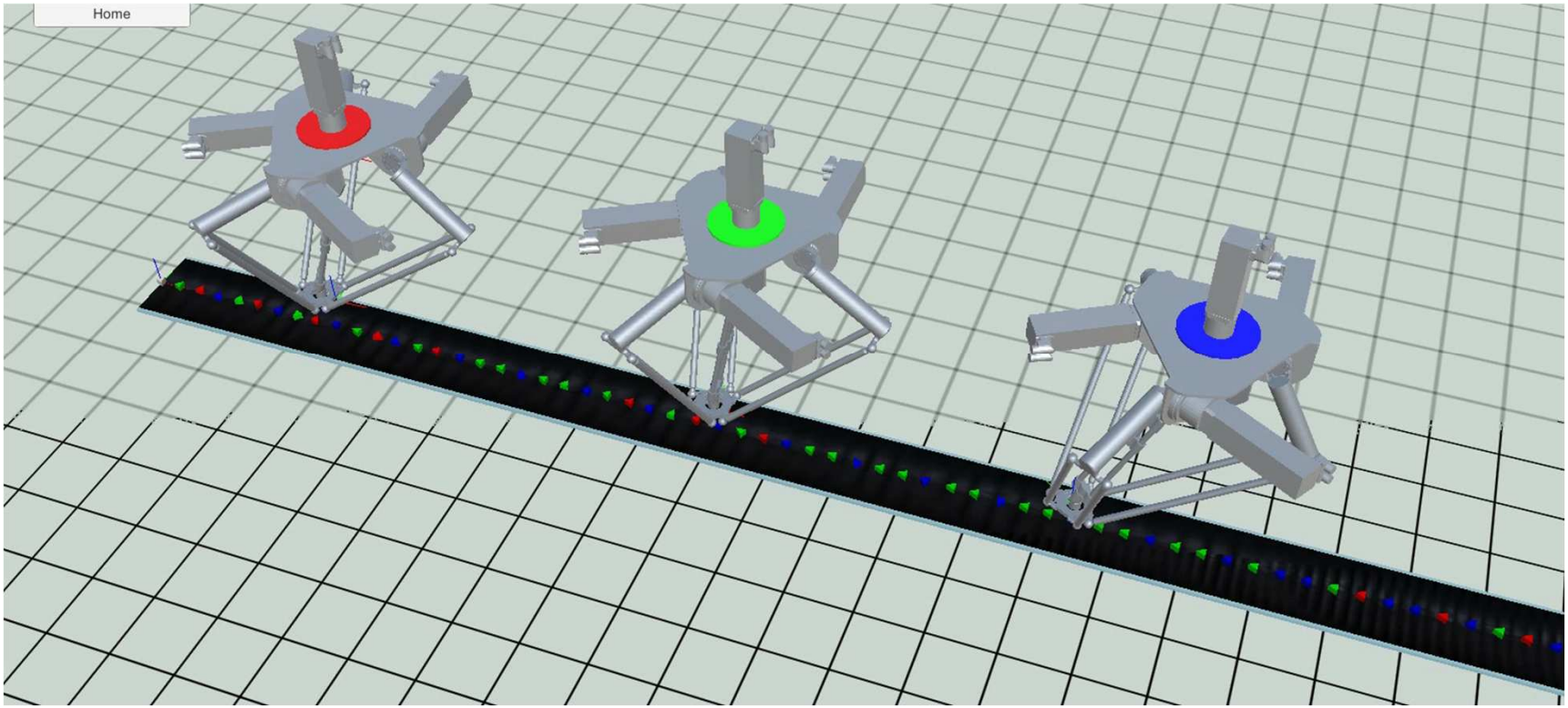
```
// Configuration Example of Robot P-Series
fbRobotPSeries.InitializeRobot( i_etRobotType             := SERP.ET_RobotPSeries.VRKP4S0FNC00000,
                                i_ifDriveA                := DRV_Robot_A_SH,
                                i_ifDriveB                := DRV_Robot_B_SH,
                                i_ifDriveC                := DRV_Robot_C_SH,
                                q_etDiag                  => etDiag,
                                q_etDiagExt               => etDiagExtSERP,
                                q_sMsg                    => sMsgBuffer,
                                q_xRotationalAxisRequired => xRotationalAxisUsed);
```

- T-Series

```
stRobotInterface.iq_ifConfiguration.SchneiderElectricRobot( i_ifRobot   := fbRobotPSeries.ifSchneiderElectricRobot,
                                                            q_etDiag    => etDiag,
                                                            q_etDiagExt => etDiagExtRM,
                                                            q_sMsg      => sMsgBuffer);
```

- S-Series

- **Robotics “New Generation” Schneider-Electric – multipicking**

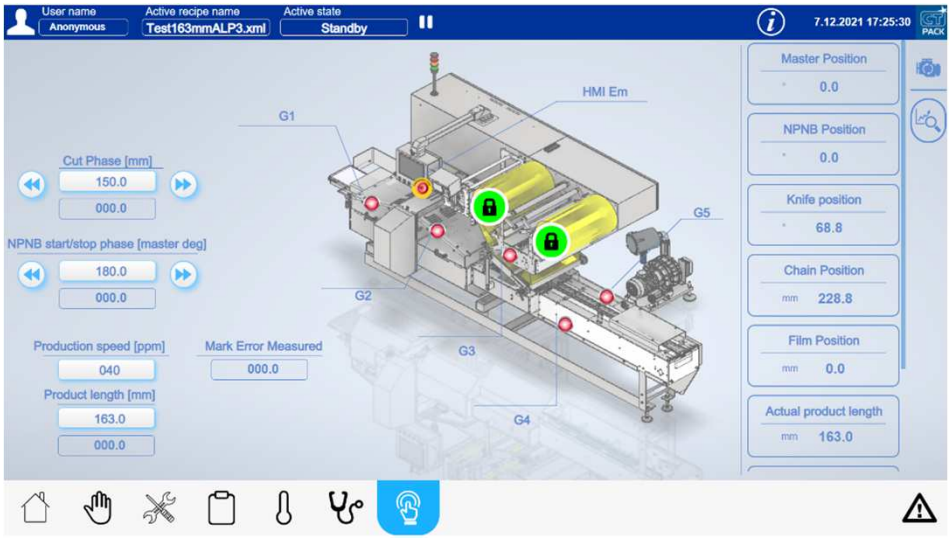


Opportunity: acquire know-how on "Robotic New Generation" libraries with object oriented programming method.

HYPERTEC® SOLUTION
innovation & passion

- **HMI/SCADA Web Based**

  Sviluppo di interfacce operatore per macchine ed impianti industriali, su piattaforme web oriented.



Ing. Giulio Fantini

giulio.fantini@hypertec.it