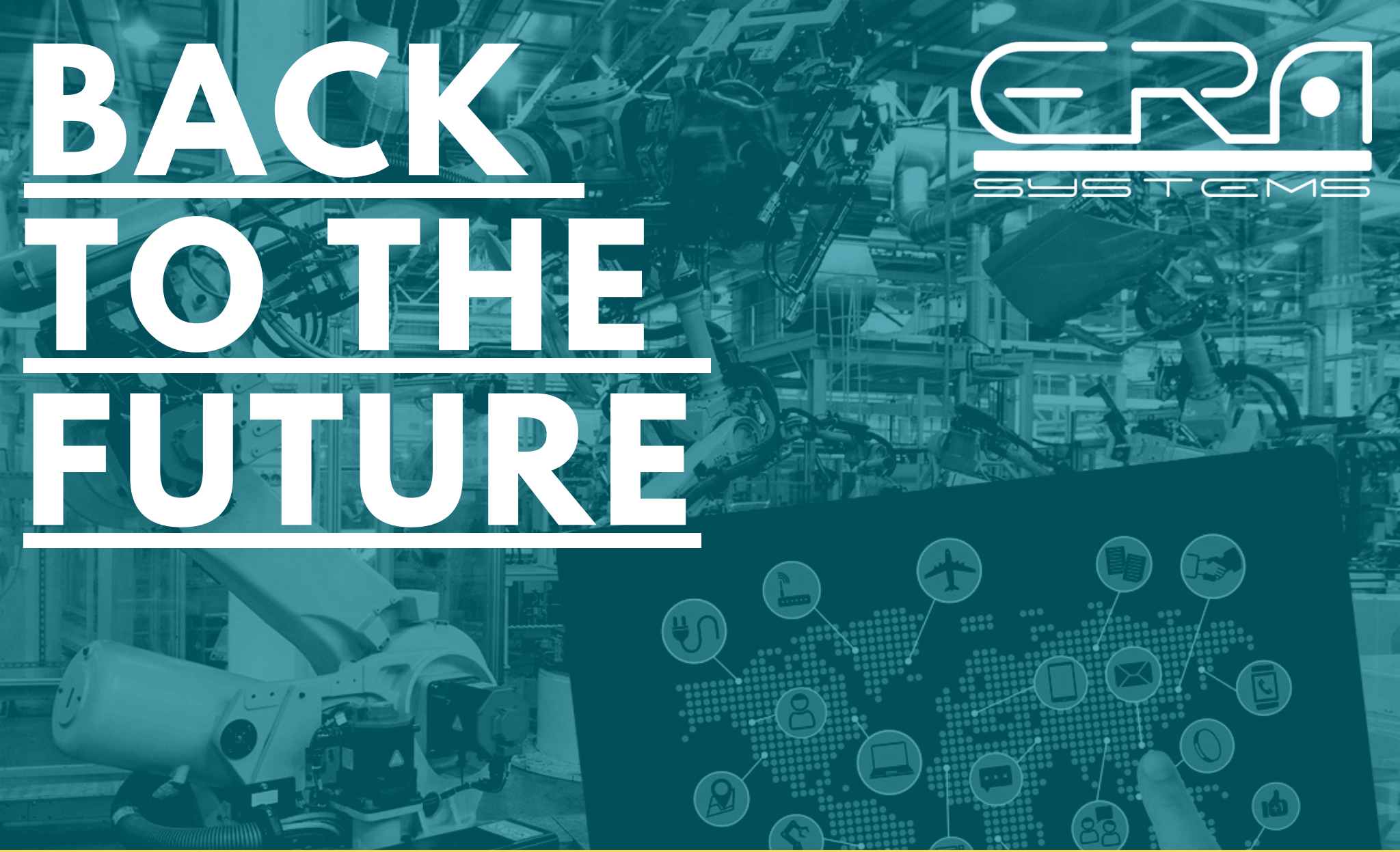
BACK TO THE FUTURE



ERA SYSTEMS – Engineering for Robotics and Automation

SERVICES, SKILLS AND TECHNICAL TEAM PORTFOLIO

LET'S FACE IT, ROBOTS ARE COOL

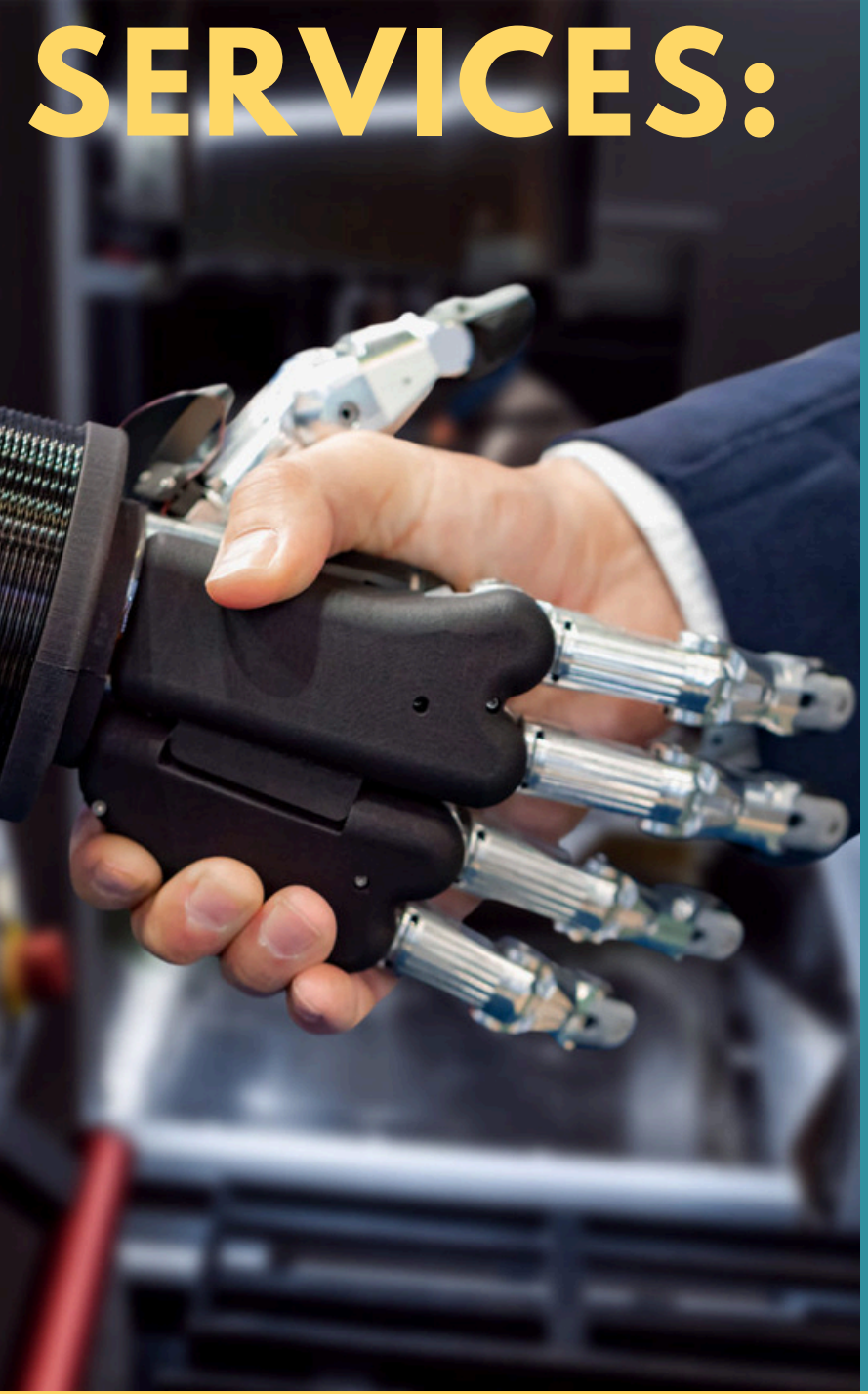
WHAT ARE ROBOTS DOING?

Any repetitive task is a candidate for robotic manufacturing, especially if it's difficult or dangerous for a human, or takes place in a hostile environment. What's more, adding force sensing and vision systems lets a robot adapt to changes in part position or orientation, increasing flexibility and versatility.

Good jobs for robots include:

Machine Tool Tending
Material Removal
Palletization and De-Palletizing
Material Handling
Welding, Gas Metal Arc Welding
(Submerged Arc and Resistance) Assembly

SERVICES:



- *Design, programming, rigging, installation and commissioning (turnkey solution) for **FANUC , Staubli and ABB industrial robots cells.***
  ** **FANUC** Robotics Europe partner. **Staubli** Robotics partner.*
- *Design, programming, rigging, installation and commissioning (turnkey solution) of automatic systems with PLC control - local or distributed (**SCADA**).*
  ***We are partners with **Phoenix Contact, Siemens, Eaton-Moeller, Wago, and Mitsubishi**. We work, among others, with **SICK, IFM, Wenglor, Cognex, uEpsilon** - regarding the sensors and security part.*
- *Offline redesigning and reprogramming for **FANUC, Staubli** and **ABB industrial robots** that are already installed, for modifications or new item implementation.*
- *On-site reprogramming of **FANUC, Staubli** and **ABB industrial robots** that are already installed, for modifications or new item implementation.*
- *Reprogramming and re-design existing automated facilities, for modifications or new item implementation.*
- *Training for operating, programming online and offline, and debugging **FANUC** and **ABB robot** for all levels, providing digital and on paper teaching materials, including offline simulators of robots.*
- ***2D** and **3D** CAD design. **CNC** machining supervision.*
- *Electrical design. Electrical panel wiring and equipment commissioning.*
- *Programming and configuration of **SICK, Wenglor, IFM, Keyence safety systems.***

SKILLS

- Programming and operating on ***Fanuc, Staubli*** and ***ABB industrial robots.***
- 3D design environments, offline programming and simulation for robotic applications: ***FANUC RoboGuide, Staubli SRS and ABB RobotStudio***.
- Designing and programming for the automated ***PLC systems: Siemens, Phoenix Contact.***
- Technical design and industrial robotized cell layout design.
- Designing industrial security systems, active and passive.
- Electrical design for industrial control systems.
- Mechanical design for fastening devices and advanced gripping systems. Advanced TOOLING desing.
- Designing of operating pneumatics and vacuum systems.
- Programming and configuring frequency converters.
- Programming languages and platforms: ***FANUC Robot Language, ABB RAPID, Siemens Step7, Siemens WinCC, Siemens TIA Portal, Phoenix Contact PC Works, Phoenix Contact Visu+, Schneider TSX PLC, PL7 PRO.***
- Artificial vision systems: ***Fanuc Robot Vision 2D & 3D, ABB Robot Vision***: ***Meta Vision SLPS Seam Finding and Tracking System, Cognex, Wenglor, Photoneo 3D Vision Systems.***
- Robotized technologies to track conveyors: ***FANUC (Visual) Line Tracking, Staubli ValTrack and ABB Line Tracking***.
- Virtual design and digital processing: ***Autodesk AutoCAD 2D/3D, CATIA 3D, Solidworks 3D, E-Plan Electric, WS-CAD.***

TECHNICAL TEAM PORTFOLIO:

Applications in aerospace, automotive, nuclear, energy, rail, fuel production, wood & metal, ceramics and other industries in Romania and abroad:

• **Client: PARAGON; Period: 2026**
Location: Otopeni
Field: Personal identification and access devices production
Purpose: **Software programming** and **commissioning** for 2 **FANUC SCARA Robots** for part handling, with **Visual Tracking** using a ***Keyence 15MP*** camera.

• **Client: AUTOLIV; Period: 2025-2026**
Location: Sf. Gheorghe
Field: Automotive parts production
Purpose: Software programming and commissioning for 4 **FANUC Robots** for part handling and machine tending for magnesium injected steering wheels.

• **Client: MUSA; Period: 2025**
Location: Pitești
Field: Metal sub-assemblies for Automotive production
Purpose: Designing, building, assembly and commissioning of a **Spot Welding cell** with a **Fanuc R-2000 robot** and **ARO** spot welding equipment.

• **Client: BIOGEN; Period: 2024 - 2025**
Location: Bucharest
Field: Laboratory equipment production
Purpose: Designing, building, assembly and commissioning of an automatic machine for **IMM** unloading of **Petri Dish** parts, with 6 **Siemens servo-drives and Rollon linear axes.**

• **Client: SPALLI Collection; Period: 2024 - 2025**
Location: Bucharest
Field: Luxury Furniture Manufacturer
Purpose: Designing, building, assembly and commissioning of a production cell with a ***Fanuc CRX*** cobot, 2 axis ***Kyrus*** positioner, ***Schunk*** tool changer system and ***Metabo*** tooling for wooden chairs finishing.

• **Client: DOURDIN Romania; Period: 2023-2024**
Location: Dourdin Plant, Buftea
Field: Plastic parts manufacturer
Purpose: Designing, building, assembly and commissioning of a robot production line with 8 robotic cells with **FANUC** robots, **Weiss** indexing tables and **Herrmann Ultrasonic** cutting equipment for film trimming of plastic parts for automotive industry.

• **Client: MATEC CNC Technik Sibiu - DRÄXLMAIER Romania project; Period: 2023**
Location: MATEC Plant, Sura Mica
Field: Automation System Integrator.
Purpose: Designing, building, assembly and commissioning of an assembling machine for electric cars cables connectors.

• **Client: GREINER Assistec SRL; Period: 2020-2024**
Location: G.A. Plant, Leresti; Field: Plastic parts manufacturer.
Purpose: Designing, building, assembly and commissioning of multiple robot tools, jigs, semi/automatic turntables for metal inserts feeding, safety and automation equipment. Implementation of a ***FANUC*** robotic cell equipped with a ***Photoneo 3D Vision*** system and ***Piab KENOS*** vacuum gripper, controlled by a ***Siemens PLC + HMI***. Modular jig system for ultrasonic welding of plastic parts.

• **Client: GF Casting Solutions SRL - Period: 2022**;
Location: GF+ Plant, Bradu; Field: Aluminium casting parts manufacturer
Purpose: Designing, building, assembly and commissioning of a robot milling tool, a milling jig set and a pneumatic turntable controlled by a **Siemens PLC.** Commissioning of a FerRobotics Active Contact Flange system on a **FANUC** Robot.

• **Client: DIAPLAST Production SRL - Period: 2021;**
Location: Diaplast Plant, Argeselu; Field: Plastic parts manufacturer.
Purpose: Designing, building, assembly and commissioning of a production cell with a FANUC robot for metal insert feeding, part LASER measurement and part LASER marking, controlled by a **Siemens PLC + HMI**.

• **Client: DOURDIN Romania SRL - Period: 2020**;
Location: Staubli Robotics Headquarters, Bucuresti; Field: Automotive supplier;
Purpose: Design and testing for plastic parts deburring application with **STAUBLI** robots.

• **Client: MARTUR Automotive Seating Systems, Turkey - Period: 2016 - 2020;**
Location: Martur Plant, Oarja, Argeș; Field: Seating systems production;
Purpose: Designing, programming and commissioning of a software program for the control of **ABB** robots, used for on-line modification of mold pouring trajectories.

• **Client: Academia Tehnica Militara Bucuresti - Period: 2019;**
Location: ATM bucuresti; Field: University;
Purpose: Designing, assembly, programming and commissioning of 3 **FANUC** handling robot cells.

• **Client: SEGULA Integration SRL - Period: 2019;**
Location: SEGULA Factory, Mioveni; Field: Automation System Integrator;
Purpose: Technical support for commissioning of 4 **FANUC** robot cells for spot welding.

• **Client: SAINT GOBAIN Glass Romania SRL - Period: 2019;**
Location: SG Plant, Calarași; Field: Glass manufacturer;
Purpose: Programming and commissioning of **FANUC** robot for glass sheet handling.

• **Client: KING STEEL SRL - Period: 2019;**
Location: King Steel Factory, Cristian; Field: Metal structures manufacturer;
Purpose: **ABB** Robots diagnosys and maintenance

• **Client: BIOBUILDS SRL - Period: 2018-2020;**
Location: Moreni, Dambovita; Field: Passive House Builder;
Purpose: Designing, assembly, programming and commissioning of 2 **ABB** handling robot cells for passive houses structures assembly.

• **Client: LINDE Hellas - Period: 2018;**
Location: LINDE Schimatari, Greece; Field: Liquid gas producer;
Purpose: Programming and commissioning of a **Siemens PLC** automation system for gas tanks filling station.

• **Client: FSA Sisteme de asamblare SRL - Period: 2018;**
Location: FSA Headquarters, Cluj-Napoca; Field: Automation System Integrator;
Purpose: Training of beginner to middle level for **ABB** robots.

• **Client: CM Metal Trading SRL - Period: 2018;**
Location: CM Metal Headquarters, Timisoara; Field: Fronius Welding Systems Supplyer;
Purpose: Training of beginner to middle level for **FANUC** robots.

• **Client: S.C. Hendrickson Romania SRL - Period: 2018;**
Location: Hendrickson Plant, Sibiu; Field: Automotive Industry;
Purpose: Designing, assembly, programming and commissioning of a **FANUC** painting robot cell for truck leaf springs.

• **Client: S.C. PolyTech Industry SRL - Period: 2017 - 2018;**
Location: Polytech Factory, Brasov; Field: Composite panels industry;
Purpose: Programming of a **FANUC** cutting and deburring robot cell for composite panel processing.

• **Client: S.C. TIMKEN PWP SRL - Period: 2017;**
Location: Timken Plant, Aricesti Rahtivani; Field: Bearings Industry;
Purpose: Designing, assembly, programming and commissioning of a **FANUC** handling robot cell for ND Testing with Eddy Currents.

• **Client: Emirates Agro - Period: 2017;**
Location: Emirates Agro Factory, Dragalina; Field: Food Industry;
Purpose: Commissioning of an automated installation for alfa-alfa processing.

• **Client: Dacia S.A. - Period: 2017;**
Location: Dacia Plant, Mioveni; Field: Automotive Industry;
Purpose: Programming and commissioning of an **ABB** handling robot for pinion sand blasting.

• **Client: S.C. Hendrickson Romania SRL - Period: 2016;**
Location: Hendrickson Plant, Sibiu; Field: Automotive Industry;
Purpose: Designing, assembly, programming and commissioning of a **FANUC** painting robot cell for truck leaf springs.

• **Client: Wittmann-Battenfeld Austria, Romanian Branch - Period: 2015-2016;**
Location: Wittmann-Battenfeld Headquarters, Bucharest; Field: Plastic injection molding equipment;
Purpose: Automation application design for Wittmann-Battenfeld clients.

• **Client: Consola Grup, Bucharest - Period: 2015;**
Location: Consola Green Energy Plant, Bod; Field: Wood pellet production;
Purpose: Reprogramming and commissioning of an automation installation with 4 **Siemens PLCs** that control a wood pallet factory.

• **Client: CM Metal, Timișoara - Period: 2015;**
Location: CM Metal Headquarters; Field: Welding equipment;
Purpose: Designing, assembly, programming and commissioning of a ***FANUC*** welding robot cell (6 axes robot + 2 axes positioner), used to test **Fronius** weld equipment.

• **Client: Green Power Technologies Europe, Bucharest - Period: 2015;**
Location: BG Pellets Plant, Troyan, Bulgaria; Field: Pellet plant production;
Purpose: Design, wiring and commissioning of automation systems for a pellet mill on logs, controlled by a **Siemens SCADA** System.

• **Client: Unison Engine Components Bucharest, GE Aviation Division - Period: 2014;**
Location: Unison Plant, Bucharest; Field: Aerospace industry, combustor manufacturing;
Purpose: Designing, assembly, programming and commissioning of a **FANUC TIG** welding robot cell, equipped with a Fronius power source, Dynalog Autocal robot calibration system and a Meta Vision 3D LASER seam finding/tracking system.

• **Client: Cummins Generator Technologies Romania - Period: 2014;**
Location: Cummins Plant; Craiova; Field: Energy industry, generator manufacturing;
Purpose: Designing, assembly and commissioning of an anti-gravity tool support system for heavy crimping tools used for generator's stator manufacturing.

• **Client: Romanian Railway Group - GFR, Bucharest - Period: 2013**
Location: The RELOC Company, Craiova, Dolj; Field: Rail Freight
Purpose: Designing, wiring and commissioning of automation systems for the maintenance of the diesel engine in a warm state in LDE 060-DA 2100CP type locomotives.

• **Client: SC REMAR SA, Paşcani - Period: 2011-2013;**
Location: The REMAR Company, Paşcani, Iaşi; Field: Manufacturing wagons for railway passenger transport;
Purpose: Offline programming and simulation, the study of accessibility and robot configuration, structure and additional equipment and operation of a robotized cell with 13 axes for welding train bogies – with a **FANUC** robot. Advanced training for operating personnel of the cell.

• **Client: SEBA Recycling, Bucharest - Period: 2012-2013;**
Location: The Visor LTD factory, Madan, Bulgaria; Field: Pellet modular production and briquetting plants;
Purpose: Design, wiring and commissioning of automation systems for a pellet mill on logs, controlled by a **Phoenix Contact PLC.**

• **Client: CIE Automotive, Spain - Period: 2012;**
Location: The CIE Automotive Factory, Zdanice, Czech Republic; Field: Automotive parts production;
Purpose: Programming and commissioning of 4 **FANUC** robots, precision handling, serving four CNC machines. Security systems installation and cabling.

• **Client: Wienerberger, Austria - Period: 2012;**
Location: Wienerberger plants, Romania; Field: Bricks production;
Purpose: Training of middle-advanced level for the operating personnel of a palletizing cell, served by FANUC robots. Preventive maintenance to over 25 **FANUC** robots - M410iB/300 - Palletizing. Changing the reducer, motor, grease, making back-up and recalibration.

• **Client: Industrial Engineering Contracting, Belgium - Period: 2011-2012;**
Location: The Ford Romania SA Plant, Craiova, Dolj; Field: Automotive industry;
Purpose: Programming and commissioning of 6 industrial **KUKA** robots in glazing cells (window installation) for the assembly line model of the new Ford B-Max.

• **Client: RENAULT, France - Period: 2011-2012;**
Location: The Renault Plant 1, Tangier, Morocco; Field: Automotive industry
Purpose: Installation and commissioning of 8 Spot Welding robots (welding clamps operated with electrical actuators) with varying welding pliers - Tool Changer, 1 **ABB** Robot for etching - VIN code, with a **SICK** engraving system, and 4 crimp Robotized cells Roller Hemming type, each with 4 ABB robots and 2 rotating plates (as external axes for robots).

• **Client: SC TUBORG SA Romania - Period: 2011;**
Location: Tuborg Brewery, Bucharest, Romania; Field: Bottling beverages;
Purpose: Periodic electrical & mechanical inspection of 6 **FANUC** robots. Changing the gearbox on axis 2 for 2 **FANUC** robots.

• **Client: SC Cemacon Zalău, Romania - Period: 2011;**
Location: The Cemacon Factory, Zalău, Romania; Field: Bricks manufacturing;
Purpose: Periodic electrical and mechanical inspection of 10 **FANUC** robots.

• **Client: CIE Automotive, Spain - Period: 2011;**
Location: The CIE Matricon Factory, Târgu Mureş, Mureş; Field: Automotive parts production;
Purpose: Programming and commissioning of 4 **FANUC** robots serving 4 CNC milling machines in the production line of steering boxes for FORD.

• **Client: Spumotim, Timişoara -Period: 2011;**
Location: The SPUMOTIM Factory, Poiana Lacului, Argeş; Field: Automotive parts production
Purpose: Training of middle-advanced level for operating personnel of the foam casting cell, served by **FANUC** robots.

• **Client: Cogeme S&T, Italy - Period: 2011;**
Location: The Cogeme S&T Factory, Micești, Argeş; Field: Automotive parts production;
Purpose: Training of middle-advanced level for operating personnel of metal machining cells serviced by **FANUC** robots.

• **Client: Nuclear Electrica SA, Bucharest - Period: 2011;**
Location: Nuclear Fuel Factory, Pitşsti, Argeş; Field: Production of nuclear fuel for the energy industry;
Purpose: Designing, installing and commissioning of a robotic cell for precision handling, served by an artificial vision system with **FANUC** robot, for handling uranium pills grids.

• **Client: SEBA Industrial SRL, Bucharest - Period: 2010 - 2011;**
Location: SEBA Industrial Site, Bucharest; Field: Pellet modular production and briquetting plants;
Purpose: Designing, wiring and commissioning of the automation facility for a sawdust pellet mill controlled by a **PLC Phoenix Contact.**

• **Client: DEKO-RAME SRL, Sibiu - Period: 2009 - 2010;**
Location: The DEKO-RAME Frames Factory, Miercurea Sibiului, Sibiu; Field: Manufacturing of photo frames for IKEA
Purpose: Designing, installation and commissioning of 8 **FANUC** robotic cells with artificial vision system and conveyor tracking, serving two assembly lines of photo frames.

• **Client: REAL Hypermarket, Bucharest - Period: 2009 - 2010;**
Location: REAL Stores, Romania; Field: Frozen and chilled food storage;
Purpose: Designing, installation and commissioning of automation kits controlled by a GE PLC and active security system for doors on refrigerating food deposits.

• **Client: Nuclear Electrica SA, Bucharest - Period: 2008 - 2009;**
Location: Nuclear Fuel Factory, Piteşti, Argeş;Field: The production of nuclear fuel for the energy industry;
Purpose: Designing, installing and commissioning of a robotic cell for precision manipulation with a **FANUC** robot. Manipulation of Uranium rods to a welding machine for ends sealing.

• **Client: Gh. Asachi Technical University, Iaşi - Period: 2008;**
Location: Faculty of Automation and Computer Science, Iaşi; Field: University education;
Purpose: Commissioning a **FANUC** robot with artificial vision system.

• **Client: Transylvania University, Braşov - Period: 2008;**
Location: Department of Product Design and Robotics, Braşov; Field: University education;
Purpose: Commissioning of a Sensor Control AG artificial vision system on an **ABB** robot; commissioning and programming of a Barret hand gripping system on an **ABB** robot.

• **Client: IPEC SA, Alba Iulia - Period: 2008;**
Location: The IPEC Factory, Alba Iulia; Field: Pottery production for IKEA;
Purpose: Designing and testing a **FANUC** robotic cell with artificial vision system and conveyor tracking, for handling ceramic plates out of a drying oven.

• **Client: ASSA ABLOY Romania, Bucharest - Period: 2008;**
Location: The Urbis Factory, Bucharest; Field: The production of metal parts for doors;
Purpose: Designing, installation and commissioning of a **FANUC** robotic cell for deburring and polishing door handles.

• **Client: Bucharest Polytechnic Institute - Period: 2008;**
Location: IMST Department, Bucharest; Field: University;
Purpose: Commissioning of a **FANUC** welding robot cell and a **FRONIUS TPS 4000** weld system.

• **Client: Technical University of Cluj Napoca - Period: 2008;**
Location: Department of industrial robots, Cluj; Field: University education;
Purpose: Designing, installing & commissioning of 2 **ABB** robotic cells, one of manipulation, served by an artificial vision system and one for welding, with 3 external axes, accompanied by a **FRONIUS** welding equipment.

•**Client: GLOBAL CONSULTING SPA., Italy - Period: 2008;**
Location: The FIAT factory, Tichy, Poland; Field: Automotive industry;
Purpose: Installing and commissioning of 85 **COMAU C4G** Robots for handling and Spot-Welding.

• **Client: Dinometal, Brasov - Period: 2007;**
Location: The Dinometal Factory, Stupini, Brasov; Field: The production of stainless steel and aluminum parts;
Purpose: Designing, installing and commissioning of a **FANUC** welding robotic cell, served by two positioning systems and a **FRONIUS** welding equipment.

• **Client: IPEC SA, Alba Iulia - Period: 2006 - 2007;**
Location: The IPEC Factory, Alba Iulia; Field: Pottery production for IKEA;
Purpose: Installing and commissioning of over 30 **ABB** robots, grouped into cells of 4, used in operations of: deburring, polishing and and finishing of ceramic plates.

• **Other Clients: Altur Slatina, Compa Sibiu, Calipso Voluntari, Procter&Gamble, Desicor Portugalia, Parmalat, Velocity Reşiţa, Astra Arad, BMT Aerospace, OMCO Mould, I.G. Watteeuw, IATC, Lufkin GE Oil & Gas Ploiești, Metalica București, Hendrickson Sibiu, Oehler Mecanica Avrig, Piroux Industrie Pitești, RAAL Bistrița, Romradiatorare Brașov, Autoliv Brașov, Turbomecanica București, ELJ Automotive Titu, Bilstein Sibiu, and others.**
Period: 2006-2016
Purpose: Designing and simulating robotic cells for various industrial applications.

OTHER APPLICATIONS & PROJECTS:

Designing and manufacturing mechanical parts, commissioning and training for a SCARA Adept Cobra 600 robot at the Land Forces Academy in Sibiu.

- Studying the mechanical configuration of the robot
- Studying the software to program the robot
- Designing and monitoring the application's specifics in the production of mechanical components
- Commissioning and programming the robot for on-site testing
- Training the operators

Commissioning and training for a NAO humanoid robot at the Land Forces Academy in Sibiu.

- Study of specialized software programs
- Programming the robot

Design and execution of mechanical parts, commissioning and training for a Mitsubishi SCARA robot equipped with an artificial Cognex vision system at Transylvania University Brasov.

- Studying the mechanical configuration of the robot
- Studying robot programming software
- Studying the software's configuration for the artificial vision chamber
- Connecting and programming the artificial vision system
- Designing and monitoring the application's specifics in the production of mechanical components
- Commissioning and programming on-site test systems
- Training the operators

Commissioning and training for 2 NAO humanoid robots and 3 DrRobot – teaching robot – at Transylvania University of Brasov.

- Study of specialized software programs
- Programming robots
- On-site testing of the robots

"I INVEST A LOT OF TIME AND PASSION TO BECOME THE BEST AT WHAT I DO."

*- Dragoș Cristian **MIRCEA**,*
Robotics & Automation Professional

LET'S MAKE SOMETHING AWESOME TOGHETER

Dragos Cristian MIRCEA

Robotics & Automation Professional
ERA SYSTEMS

Mobile: +40 725 104 201
E-mail: dragos.mircea@erasystems.ro
office@erasystems.ro
www.erasystems.ro