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BUILDING YOUR IDEAS

COMPANY PROFILE

ENGINEERING & INNOVATION

OUR STORY

2005 — **CPI-ENG SRL**
CPI-ENG Srl starts its activity

2012 — **MOD ENGINEERING**
CPI-ENG's operative branch

2019 — **CB HOLDING GROUP**
AQC INDUSTRIES
Joint venture company 50% Italy - 50% France.
Focus on AI, Deep Learning and Machine Learning
application for Automatic Quality Control

2020 — **OPENING IN TRIESTE**
Opening of manufacturing premises in Trieste

2024 — **ACQUISITION OF NAVAL DESIGN COMPANY**
CPI-ENG acquires a company operating in the naval,
shipbuilding and plant engineering sector

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CPI-ENG AT A GLANCE

MORE THAN 120
ENGINEERS AND TECHNICIANS

4 BRANCHES
TRIESTE, ITALY
MUGGIA, ITALY (MANUFACTURING)
MARGHERA, ITALY
CHISINAU, MOLDOVA

6,5 M/€
TURNOVER

MANUFACTURING PLANT
600 m²

JOINT VENTURE
IN PARIS, FRANCE

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CPI-ENG BY SECTORS

CPI-ENG MANUFACTURES AND ASSEMBLES MACHINES AND DEVICES IN DIFFERENT INDUSTRIAL SECTORS.

PACKAGING

BIOTECH

STEEL MAKING

GLASS

PRECISION MACHINERY

NUCLEAR

AUTOMATIC & SEMI-AUTOMATIC MACHINES

WOOD

IoT & DOMOTICS

OIL & GAS

TEXILE

HO.RE.CA

NAVAL

ENGINE & POWERGEN

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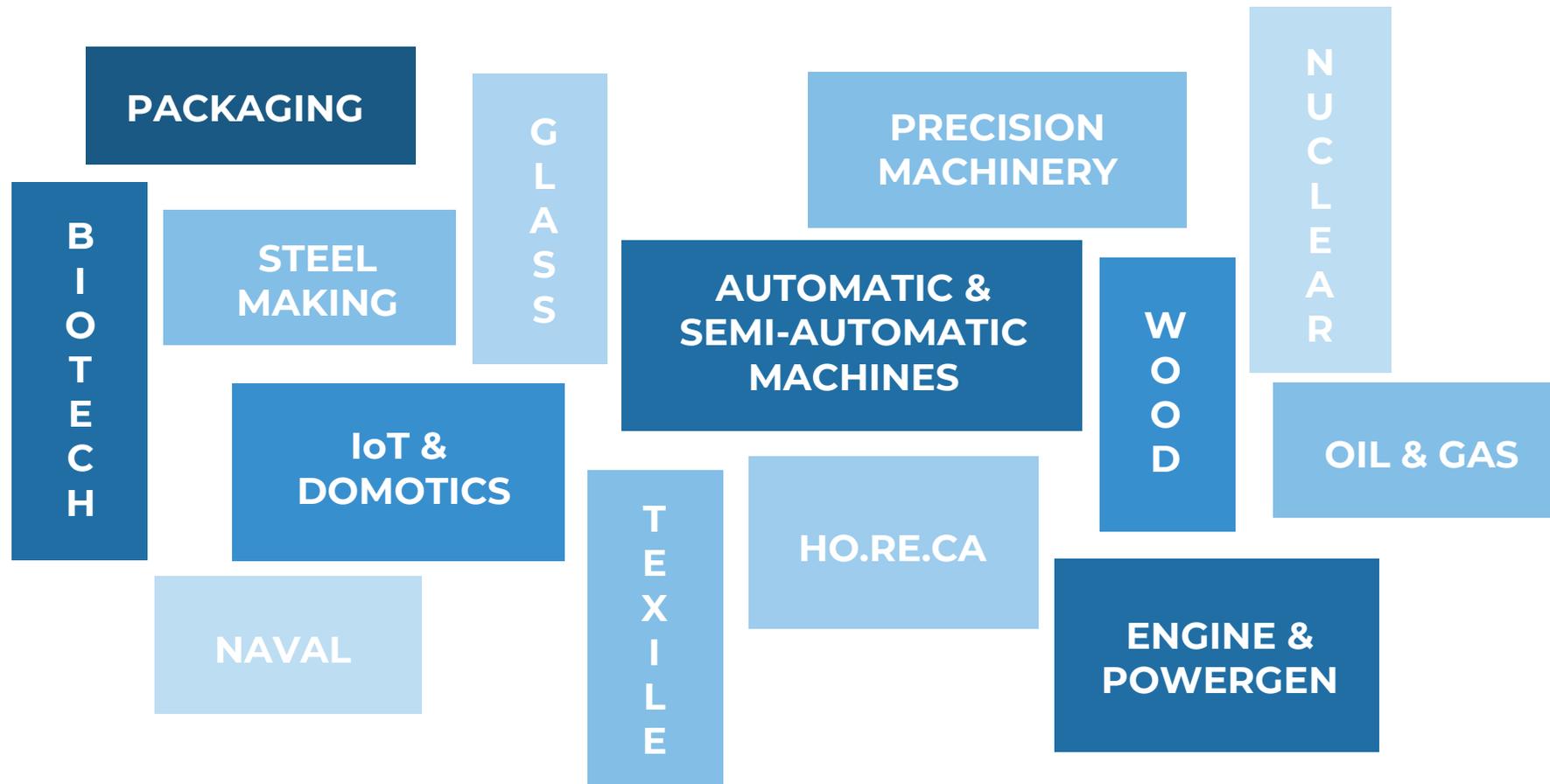
BUSINESS UNIT

ELECTRONICS & FIRMWARE

MECHANICAL

TECHINCAL DOCUMENTATION

PIPING

NAVAL STRUCTURES

NAVAL INSTALLATIONS

ENGINEERING & CONSULTING

NAVAL DESIGN

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MANUFACTURING & ASSEMBLY

R&D and INNOVATION

SUPPLY CHAIN & COST ANALYSIS

MANUFACTURING & ASSEMBLY

MODELING & SIMULATION

SOFTWARE DEVELOPMENT

TEST ENGINEERING

PROTOTYPING

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MECHANICAL

From REQUEST to SOLUTION

Following your needs (new development, completion of concept, basic/detail design, upgrading, cost down, ...), we can support clients in many kinds of engineering development with our experience in:

- Food engineering
- Biomedical
- Robot/Automation
- Motor engineering
- Macro & Micro mechanical engineering
- Piping engineering
- Structural engineering

For all our designs, we can offer service of validation with calculation and simulations.

NAVAL DESIGN

- Naval structures

- Naval installations

- Piping systems

- Mooring and outfitting

- Hull classification plans and detailed drawings

- Intact and damage stability booklet

- Equipment and engine plans

- Detailed equipment and engine room coordination plans

- Basic and detailed electrical design

- Noise and vibrations analysis

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ELECTRONICS & FIRMWARE

NEED-DRIVEN ELECTRONICS

- design and layout of multi-layer PCB boards for both high and low power appliances

- selection of COTS ICs and components for optimum cost/performance

CUSTOM FIRMWARE DEVELOPMENT

- firmware design, development, and testing for data acquisition and control, based on industry-standard MCUs

- development of real-time control and DSP algorithms in resource-constrained, embedded systems

- design and implementation of the communication architecture both for M2M and IoT-connected systems

Design and optimization of electronics and firmware for compliance with certification standards

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SUPPLY CHAIN & COST ANALYSIS

We can support our customers in the supply chain as far as supplier research is concerned.

We have an increasing network of trusted supplier with whom we develop prototypes and who can follow the project industrialization.

Every project is developed considering costs to deliver the best product in terms of technical performance and reach the target cost.

We can also perform cost reduction improving components engineering or making an analysis on suppliers.

# MODELING, SIMULATION AND DATA SCIENCE

- mathematical modeling and advanced simulation of mechanical, hydraulic and electronic systems

- statistical estimation of states and parameters using Kalman filters

- systems identification for advanced control applications

- development of SISO and MIMO control systems (PID, model predictive control, LQR)

- robust statistical data analysis for experimental model validation, also using machine learning techniques where appropriate

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PROTOTYPING

- development of proof-of-concept prototypes, from electronic boards to complete mechatronic assemblies and devices

- agile iterations on prototype design

- smart adoption of additive manufacturing techniques for cost reduction and flexible design

- depending on customer requirements, prototypes can undergo iterations evolving to pre-series and production-ready devices

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TEST ENGINEERING
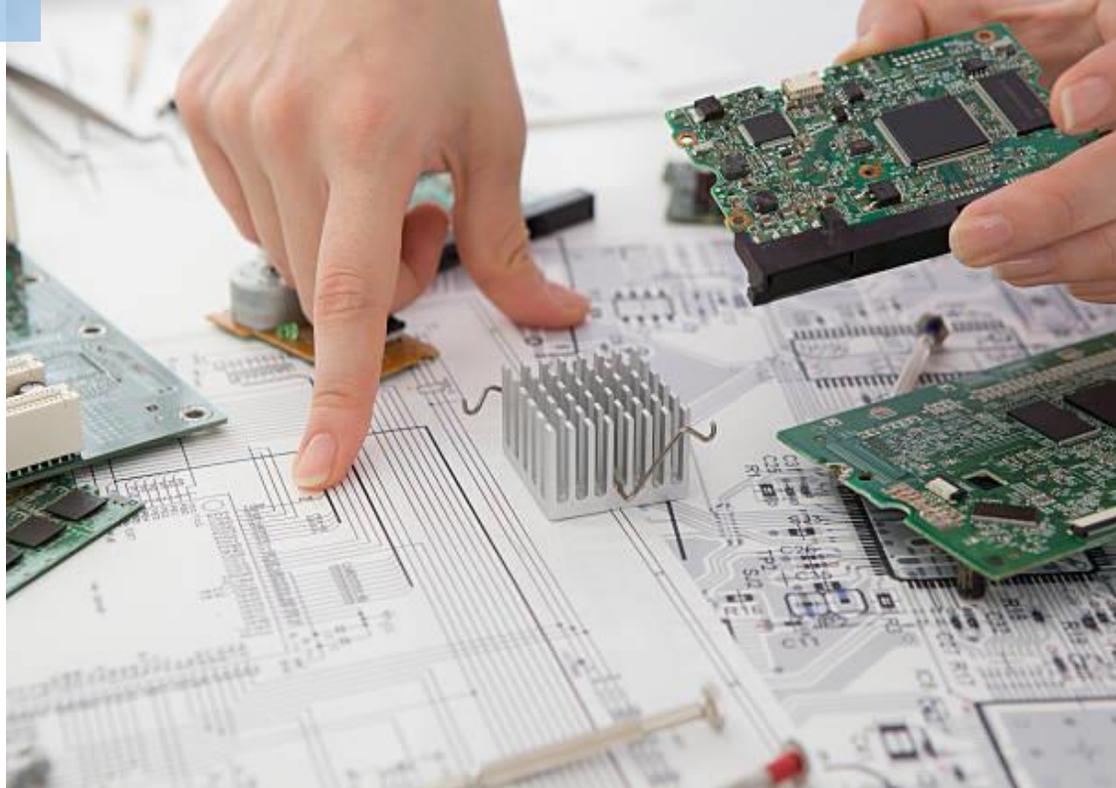
- envelopment of dependable test protocols to validate prototype iterations, ensuring precise compliance with customer specifications

- development of complete test benches for testing customer-supplied components or assemblies according to specifications

- broad test categories, including functional testing of electronics and firmware, thermal testing, endurance testing with work cycle simulations, sensor and actuator reliability and accuracy

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SOFTWARE DEVELOPMENT

- development of desktop, embedded, and web-based HMIs for machine control and monitoring

- implementation of high-performance desktop, embedded and cloud algorithms

- setup of *ad-hoc*, state-of-the-art cloud infrastructures for data collection, analysis, machine learning, monitoring and predictive maintenance

MANUFACTURING & ASSEMBLY

CPI-ENG manufactures and assembles machines and devices in different industrial sectors for OEM.

- creation, qualification and management of the supply chain
- production transfer and optimization of the assembly process
- precision electro-mechanical assembly
- creation of test benches and testing/life-time testing
- post-production support
- ISO 13485 certification in progress

From project to product
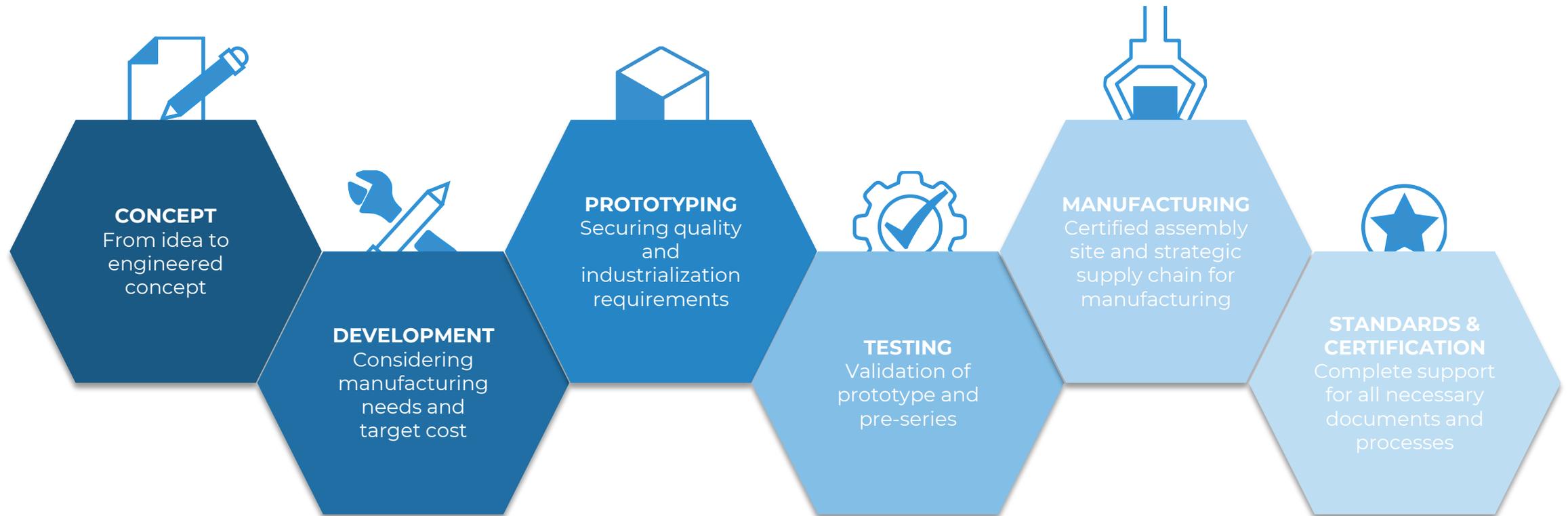Starting from a development specification, we are able to manage the entire production workflow, from the supply chain to final product validation.

Contract projects
Starting from the customer's project, thanks to a lean approach and the flexibility of the work and warehouse areas.

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COMPANIES SUPPORT PHASES

CPI- ENG IS ABLE TO SUPPORT ITS CLIENTS AT ALL STAGES BUT ALSO AT INDIVIDUAL STAGES

CONCEPT
From idea to engineered concept

DEVELOPMENT
Considering manufacturing needs and target cost

PROTOTYPING
Securing quality and industrialization requirements

TESTING
Validation of prototype and pre-series

MANUFACTURING
Certified assembly site and strategic supply chain for manufacturing

STANDARDS & CERTIFICATION
Complete support for all necessary documents and processes

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SYSTEM INTEGRATION

CPI- ENG GUARANTEES ALL THE SKILLS YOU NEED TO DEVELOP YOUR IDEA WITHIN THE SAME COMPANY.

OUR TOOLS AND PLATFORMS
SOFTWARE FOR DESIGN AND DEVELOPMENT

OUR CUSTOMERS

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