



E&A



AUTOMATION



Automation

The equipments provided by **FIMI**Group result from decades of experience and worldwide deliveries of lines with similar applications. Our target is to provide our customers with the most suitable solutions for the specific demands of each new project.

According to our understanding we are able to meet customers principal requirements concerning:

- » Reasonable investment and operating costs;
- » High productivity and flexibility;
- » Output of products with reproducible, small tolerances;
- » Sales standards, market requirements and tendencies;
- » Low maintenance operation and downtime.

FIMIGroup created a specific division for the automation on its lines:
FIMI Automation

FIMI Automation operates in the electric switchboards design and development field since 1997.

The know-how of our always up-to-date team and the exchange of information between our project managers make it possible for us to follow every step of the process: initial study, electric design, production, software development and system starting.

- » ELECTRICAL DESIGN AND DOCUMENTATION
- » ELECTRICAL SWITCHBOARDS.
- » PLC SOFTWARE.
- » SUPERVISORY SYSTEMS.



KNOW-HOW

Design

- » PROJECT FEATURES ANALYSIS, FEASIBILITY, SAFETY.
- » COMPLETE DOCUMENTATION DEVELOPMENT WITH ADVANCED ELECTRICAL CAD TECHNOLOGY.
- » FUNCTIONAL CIRCUIT DIAGRAMS, ITEMIZED MATERIAL LIST, CABLE LIST.

Production

- » MAKING OF EVERY PRODUCT WITHIN OUR FIRM BY OUR SKILLED STAFF.
- » USE OF HIGH QUALITY EC EQUIPMENT.
- » DISTRIBUTION ELECTRIC SWITCHBOARDS.
- » AUTOMATION ELECTRIC SWITCHBOARDS CONTROL DESKS.





Software development

- » UP-TO-DATE EXPERTISE WITH NEW TECHNOLOGIES AND SOFTWARE.
- » SUPERVISION SYSTEMS FOR A STABLE MONITORING OF SYSTEM VALUES AND DATA EXCHANGES WITH THE CUSTOMERS.
- » PLC PROGRAMS DEVELOPMENT FOR AUTOMATION WITH SPEED, CURRENT AND TORQUE CONTROL.
- » MOTION SYSTEMS FOR AXIS POSITIONING AND INTERPOLATING.
- » SECURITY PLC PROGRAMMING FOR INJURY PROTECTION AND EMERGENCY BUTTONS.

Installation and start-up

- » SYSTEM INSTALLATION AND STARTING SERVICE ALL OVER THE WORLD WITH TECHNICAL STAFF TRAINING.
- » INTERNATIONAL EXPERIENCE THROUGHOUT EUROPE, USA, ASIA, SOUTH AMERICA AND MIDDLE EAST.

Support

- » CUSTOMER SUPPORT THROUGH TELESERVICE OR RAPID ON-SITE INTERVENTION, ALSO AVAILABLE FOR ADJUSTMENTS.

OUR SUPPLY

FIMI Group scope of supply for each project normally includes:

- » Electrical equipment;
 - » Level 1 system - Basic Automation;
 - » HMI system with diagnostic operator support and control desks;
 - » Level 2 system;
 - » Cold and hot commissioning;
 - » Training;
 - » Supervision to electrical erection activity;
 - » Electrical erection activity;
 - » Electrical erection material.
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FIMI Automation *safety focused automation philosophy*

As being partner also for all safety requirements and as being particularly sensible to operators safety, **FIMI Automation** is always prompt not only to support customers with the relevant safety devices and systems, but also to provide the most current know-how according to international safety standards and regulations such as **comprehensive risk assessment** and, if required, **risk reduction plans**, essential to keep the residual risk in machine construction within tolerable limits.

Risk assessment provides gradual optimization of machine safety and “proof” in case of damage. Conformity with the new machinery directive, and thus exportability and security against liability, will be granted by **FIMI Automation** through **application of the EN ISO 13849-1 and EN 62061 standards**. These has enabled us to introduced not only qualitative observations but also quantitative aspects, whereby “**functional safety**” and the “**safety functions**” play an important role.

FIMI Automation *green technology focused philosophy*

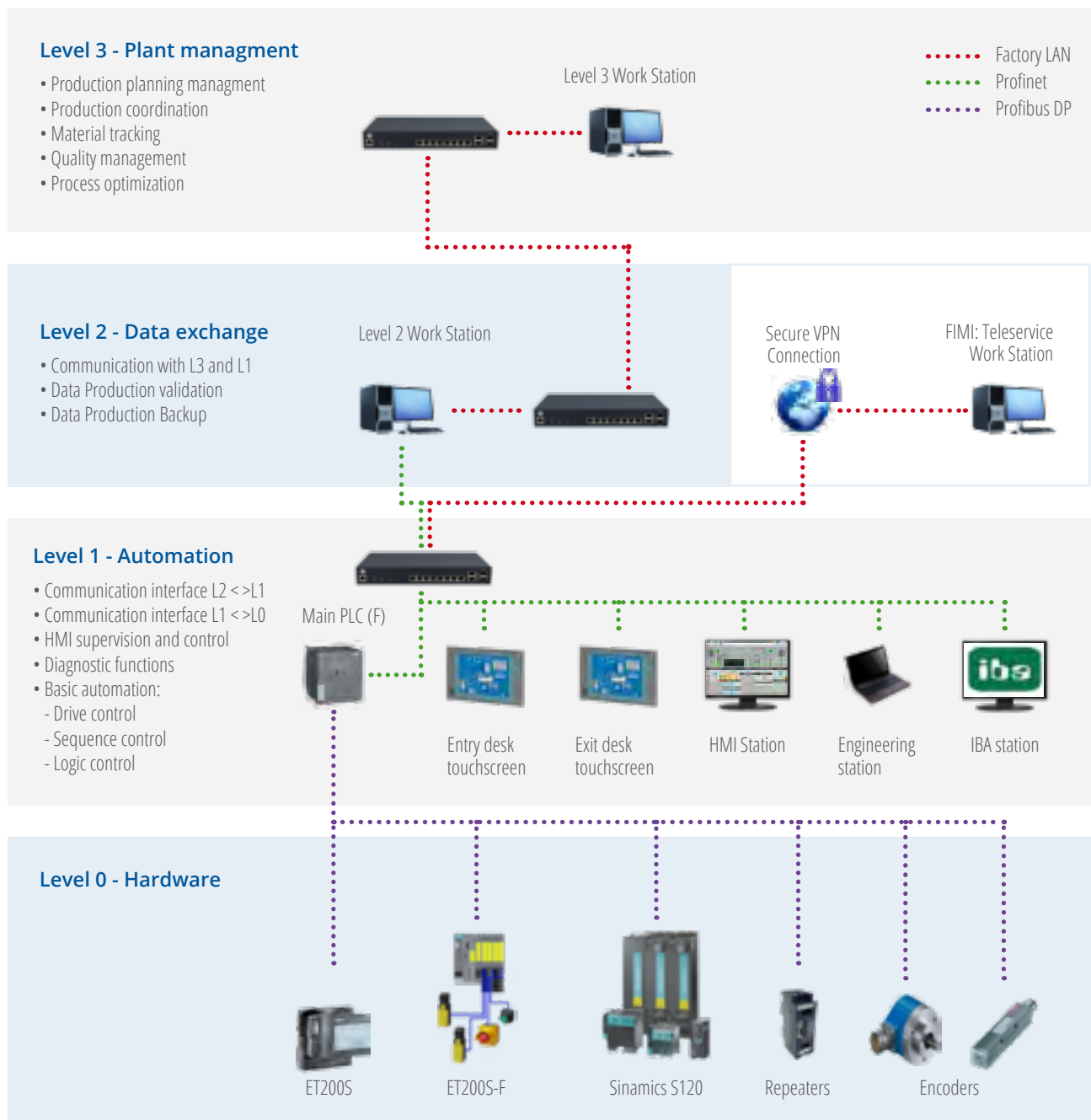
Nowadays energy&cost savings and green technology cannot be neglected while designing and developing a new plant as **energy efficiency boosts the competitiveness of manufacturing companies enabling to reduce stress and pollution on our environment**.

That’s why at **FIMI Automation**, **high-efficiency motors and variable frequency drives have become a standard**: latest drives technology used on **FIMI** Group lines enables to recover kinetic energy created by motors during stopping or braking and to convert it into electricity as well as to feed it back into the power grid; this is especially effective for our applications because of frequent starts and stops and high inertia load deceleration.



▲ Modern Main Control Desk of Heavy Gauge CTL lines

Standard Network Architecture



Level 0 System contains all the mechanical components and the electrical equipment that compose the production line. These devices implement a control logic established by the upper levels of the system.

Level 1 System represents the operational center of the production line. The main component is PLC, an industrial digital computer adapted for the control of manufacturing processes. In order to allow operators to monitor and control the production line, it is possible to place

- » Operator Pulpit, that allow the movement of some components of the production line;
- » Operator panels, graphic supervision systems that allow operators to perform short localized production processes;
- » HMI Station, located on the main operator pulpit, allow operators to:
 - *Manually enter production data;*
 - *Monitor and supervise the entire production process;*
 - *Receive information regarding faults and or anomalies;*
 - *Receive information coming from safety system.*

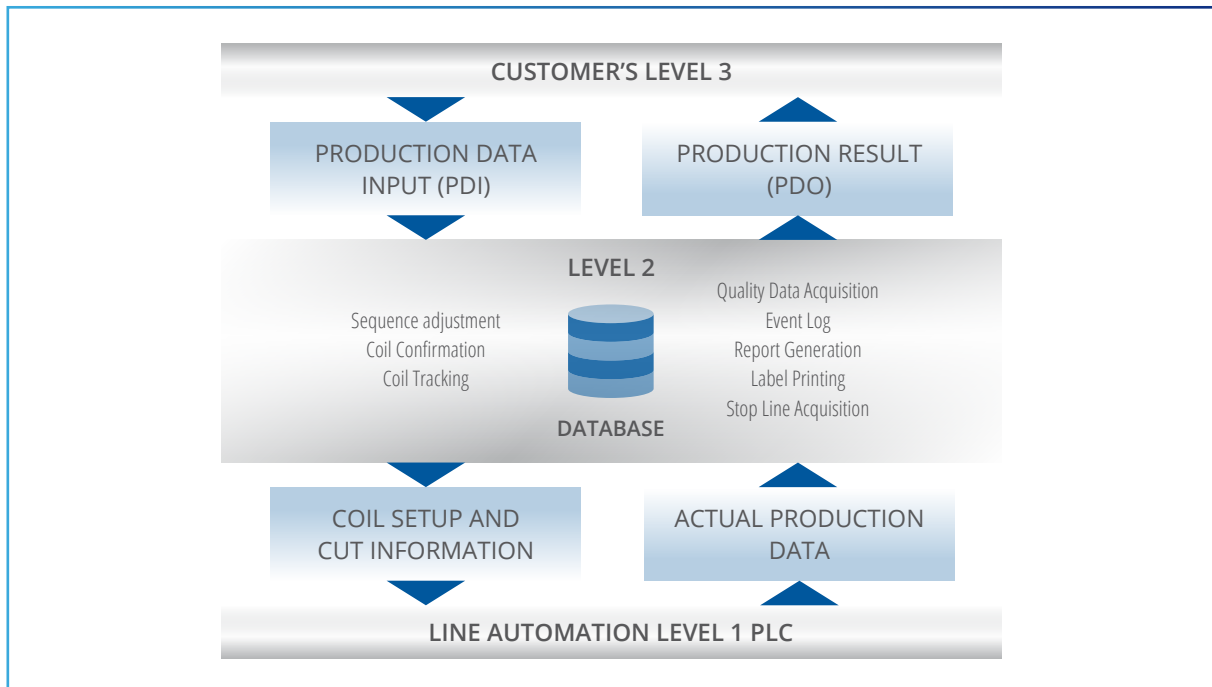


▲ Plant synoptic and parametrization

Level 2 System is dedicated to collect production data coming from Customers production planning system. Given the variety of business management systems currently on the market, over the years we have developed the ability to offer different solutions for specific customer needs. Level 2 system is intended to exchange and to manage coils and production information providing the following main functions:

- » Receive PDI from Level 3;
- » Store PDI to be send to the finishing line;
- » Allow modification and manipulation of PDI data;
- » Input PDI in case Level 3 is not available;
- » Send the PDI data to the finishing line;
- » Store PDO from finishing line;
- » Generate PDO reports (shift, day, month);
- » Monitor alarm and record alarm status of finishing line;
- » Send PDO data to the Level 3 system;
- » Track material.

Levels



Teleservice support

Long distance worldwide service, better known as **Tele-service**, is nowadays possible by easy access to the Internet connection. At Customer's site, the Line Level 1 control system is equipped with the so called VPN Server in order to connect it with the engineering station located at **FIMI Automation** Headquarter in Italy by means of a secure VPN tunnel (Virtual Private Network) through on Ethernet protocol.





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