

INSIDE  
FUTURE  
INSIDE

# STEEL INDUSTRY 5.0

INDUSTRIA SIDERURGICA 5.0

# COMPANY OVERVIEW

## Pioneering automation and robotics in critical industrial processes for over three decades

Polytec is an Italian company that has been developing **automation** systems and **robotics** for critical industrial processes for over 30 years.

The synergy between Polytec and the other companies of **BM Group**, an industrial group with over 350 direct employees, has enabled Polytec to establish itself as a leading international **integrator of systems** to pursue the digital and energy transition of industry.

**Polytec intralogistics**: specialised in the development of tailor-made intralogistics solutions.

**Hydroalp**: EPC contractor for green hydrogen production and hydropower plants.

**Nyox**: supplies industrial photovoltaic plants also through on-site and off-site PPA, thanks to its collaboration with Edison Next.

## Pionieri nell'automazione e nella robotica dei processi industriali critici da oltre tre decenni

Polytec è un'azienda italiana che da oltre 30 anni sviluppa sistemi di **automazione** e **robotica** per processi industriali critici.

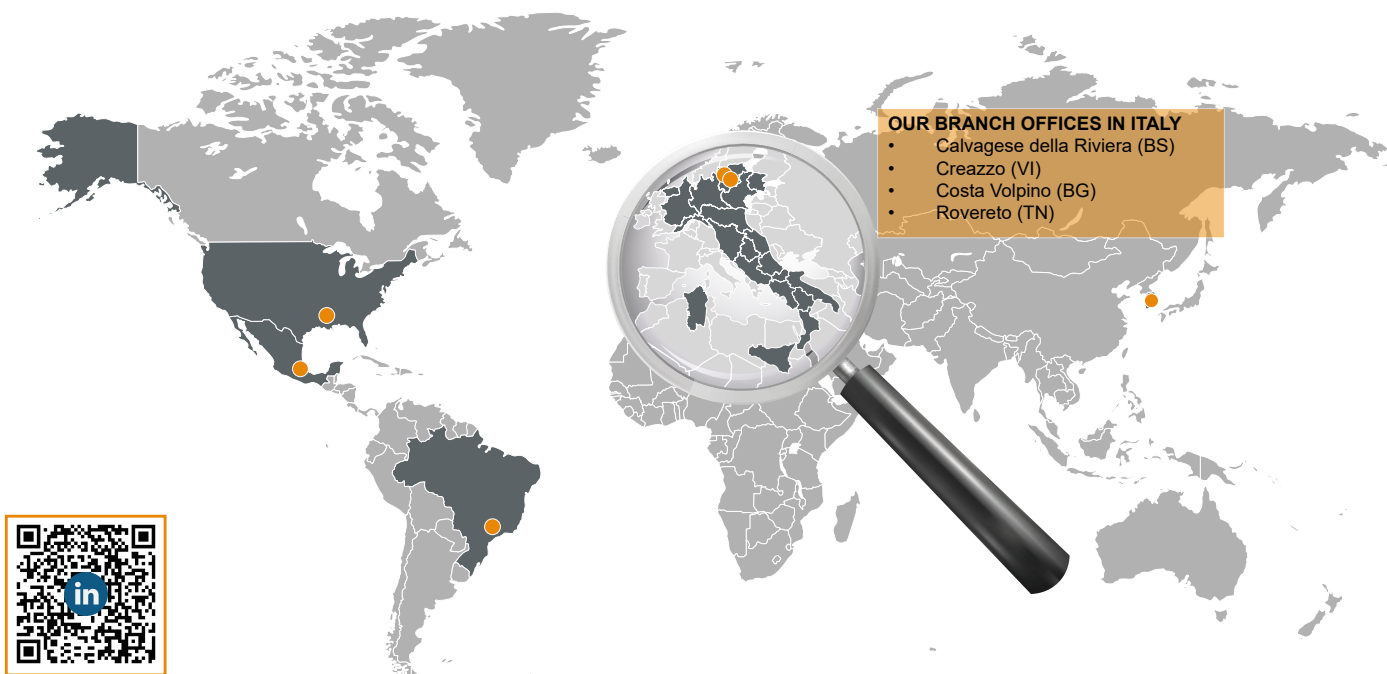
La sinergia tra Polytec e le altre aziende di **BM Group**, gruppo industriale con oltre 350 collaboratori diretti, le ha permesso di affermarsi come system integrator leader a livello internazionale per perseguire la transizione digitale ed energetica dell'industria.

**Polytec intralogistics**: specializzata nello sviluppo di soluzioni di intralogistica tailor-made.

**Hydroalp**: EPC contractor per impianti di produzione di idrogeno verde e idroelettrici.

**Nyox**: realizza impianti fotovoltaici industriali anche attraverso la formula di PPA on-site e off-site, grazie alla collaborazione con Edison Next.

# BRANCH OFFICES



## Polytec

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# OUR COMPETENCIES

## ELECTRICAL AND AUTOMATION SYSTEMS

1. Electrical engineering
2. Automation panels
3. Distribution boards
4. Customized on-board machine
5. Industrial control software
6. Product and production tracking platforms
7. Technological packages
8. Service and After Sales

## PLANT ENGINEERING

1. Conceptualization and feasibility study
2. Engineering design
3. Procurement and materials management
4. Construction and installation
5. Commissioning and startup
6. Operations and maintenance
7. Continuous improvement and optimization

## INDUSTRIAL ROBOTICS

1. Feasibility studies with 3D acquisition of cloud of points
2. Engineering and 3D drawings
3. Robotic simulation
4. Electrical and software development
5. Electrical and mechanical manufacturing
6. Assembly and construction
7. Software development
8. Internal cold commissioning
9. Factory Acceptance Test
10. Installation and hot commissioning
11. Training
12. Service and After Sales

### Some of our best seller robot applications:

Temperature and sampling | Quality control |  
Skimming and cleaning | Marking and tagging  
| Handling and palletizing | Bending | Welding  
| Tailor made mechatronic projects

TECHNOLOGY  
TRAINING  
CENTER ●●●

## OUR MOTTO

FROM  
OPERATOR



TO  
SUPERVISOR

## MARKETS WE SERVE

Aluminum | Cement | Energy | Environment | Infrastructures | Intralogistics | Mining |  
Naval | Oil & gas | Petrochemical | Pharmaceutical | Plastics & rubber | Pulp & paper |  
Renewables | **Steel** | Stone & Tile | Textile

## CERTIFICATIONS

ISO 9001/14001  
ISO 50001 Energy  
ISO 45001 Safety  
UL 508A/CSA 22.2

## PARTNERSHIPS

Rockwell Gold O&M Partner  
Siemens solution partner Factory Automation  
Siemens solution partner Drives and motion  
ABB value provider



GOLD  
OEM Partner  
ROCKWELL AUTOMATION

Solution  
Partner

Automation  
Drives

ABB

—  
VALUE  
PROVIDER

SIEMENS

# We make the **steel industry** attractive for **future generations**

Let's dress together your steel mill

**SAFETY** **EFFICIENCY** **QUALITY**

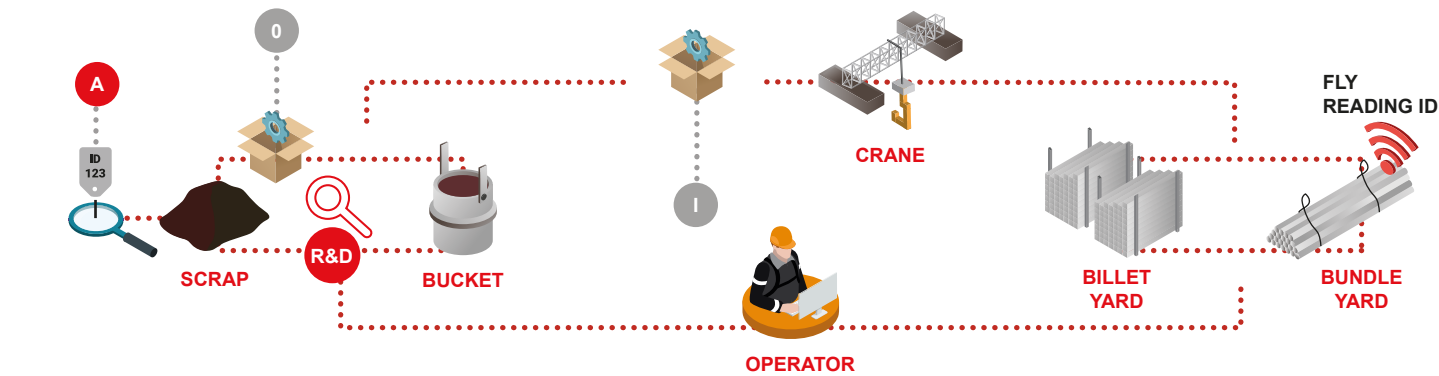
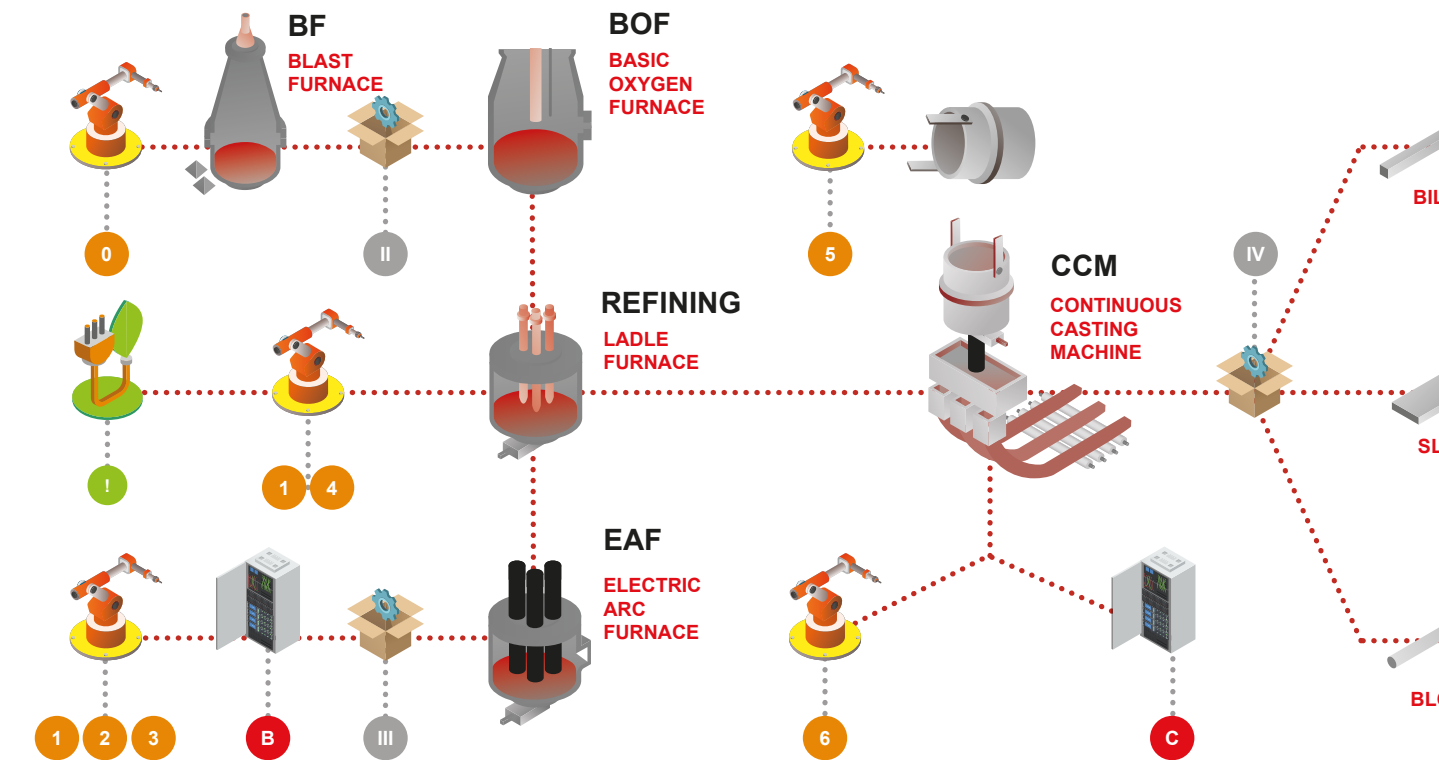
PIANO  
TRANSIZIONE 5.0



## MELTSHOP



0 1 2 3 4 5 6  
B C II III IV I #  
\*



## GREEN ENERGY PRODUCTION

- Photovoltaic systems**
- Engineering, Procurement, Construction
  - Power Purchase Agreement on-site
  - Power Purchase Agreement off-site
- Green hydrogen**
- Turnkey plants
  - Plug & play solutions - H2ALP
  - Plant auxiliary systems

## INTRALOGISTICS, AMR & SMART WAREHOUSES

- AGV/AMR platforms
- AGV forklifts
- Navigation systems
- Intralogistics customized solutions
- Platform interconnected with customer's ERP

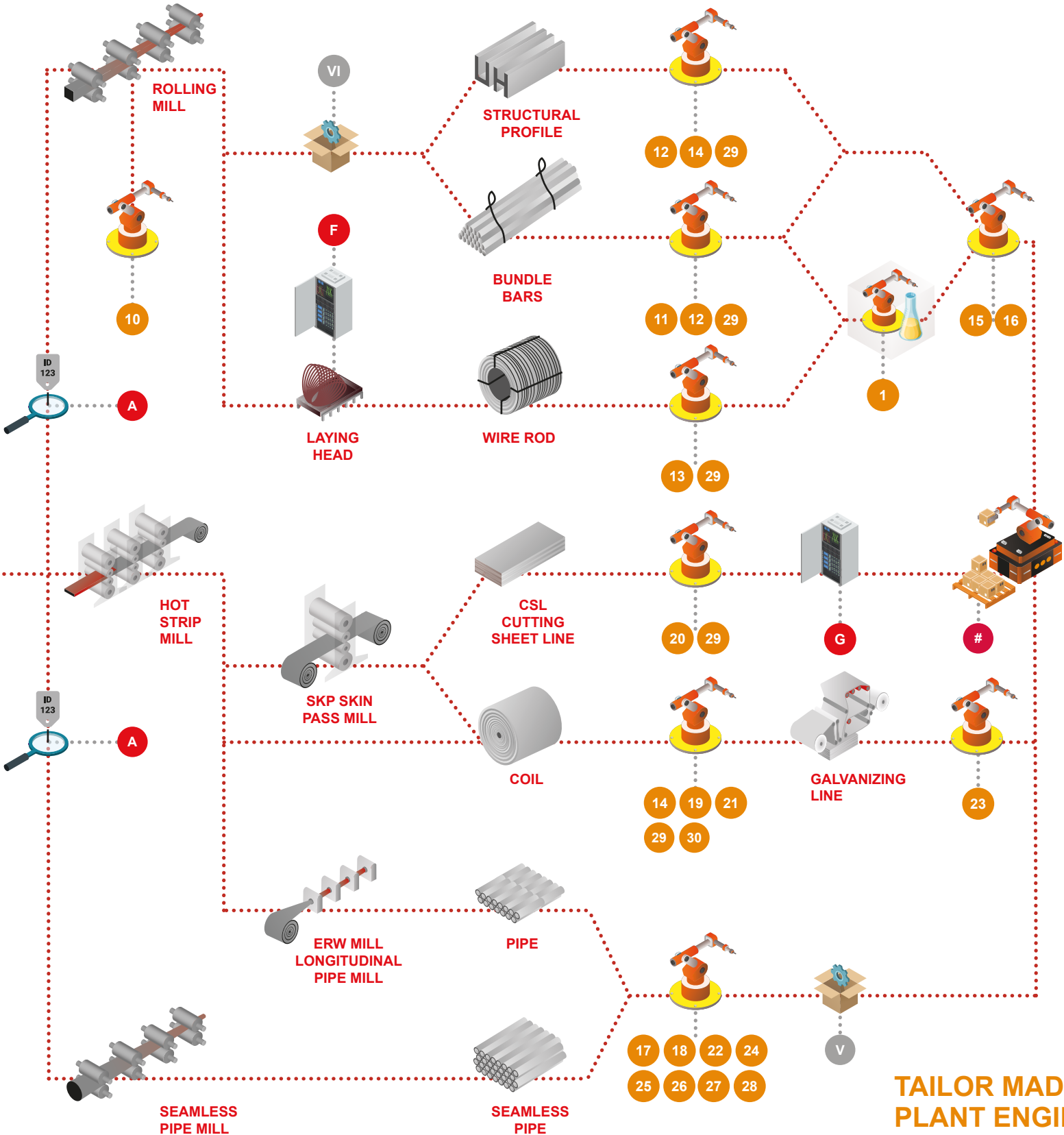


## ELECTRICAL AND AUTOMATION EQUIPMENT

- Electrical systems
- Process automation
- Machine retrofitting
- Plant revamping
- DCS-controlled systems

## SEMI-FINISHED PRODUCTS

7 8 9 D I # \*



## LONG PRODUCTS



1 10 11 12 13 14 15  
16 A E F VI I #  
\*

## FLAT PRODUCTS, TUBE & PIPE



14 17 18 19 20 21 22  
23 24 25 26 27 28 29  
A G V I # \*

## SCRAP YARD

A 0 I I # \*

## TAILOR MADE MECHATRONICS & PLANT ENGINEERING

Thanks to our multidisciplinary expertise, we develop complex mechatronic projects and greenfield plants based on customer requirements.

**PolySAMPLE BF/BOF** ..... 0  
Automatic temperature measurement and sampling robot for BF/BOF  
Robot automatico per misurazione temperatura e campionamento per BF/BOF

**PolyLAB** ..... 1  
Automatic cell for the preparation and analysis of steel samples  
Isola robotizzata per la preparazione e l'analisi di campioni di acciaio

**PolySAMPLE EAF** ..... 2  
Automatic temperature measurement and sampling robot for EAF  
Robot automatico per misurazione temperatura e campionamento per EAF

**PolyEBT/SPOUT** ..... 3  
Automatic robot for EBT/SPOUT lancing and cleaning on EAF  
Robot automatico per apertura e pulizia EBT/SPOUT su EAF

**PolySAMPLE** ..... 4  
Automatic temperature measurement and sampling robot for refining area  
Robot automatico per misurazione temperatura e campionamento per area di raffinazione

**PolyLADLE** ..... 5  
Robotic cell for ladle sliding gate maintenance  
Isola robotizzata per la manutenzione del casetto siviera

**PolyCAST** ..... 6  
Multi-tool robotic solution for continuous casting machines  
Soluzione robotica multi-utensile per colata continua

**PolyTAG BLE** ..... 7  
Robotic cell for automatic hot product tagging  
Isola robotizzata per l'etichettatura prodotti caldi

**PolyMARK B** ..... 8  
Automatic robot for slab and billet marking  
Robot per marcatura bramme e billette

**PolyREAD** ..... 9  
Billet identification system before the entry into re-heating furnace  
Sistema di identificazione delle billette prima dell'ingresso nel forno di riscaldamento

**PolyGAP** ..... 10  
Robotic system for profile measurement between stands in a rolling mill process  
Sistema robotizzato per la misura del profilo tra gabbie in un processo di laminazione

**PolyTEST** ..... 11  
Cooling bed sampling robot  
Robot per il taglio e prelievo provino sulla placca di raffreddamento del laminatoio

**PolyTAG FC** ..... 12  
Automatic robot for bundle bar tagging  
Robot automatico per etichettatura di fasci di barre

**PolyTAG V** ..... 13  
Automatic robot for wire rod tagging  
Robot automatico per etichettatura vergelle

**PolyPROBE** ..... 14  
Robotic cell for hot/cold profile sample cutting  
Isola robotizzata per taglio provino di profili caldi/freddi

**PolyARC** ..... 15  
Automatic cell for ARC and SPARK chemical analysis of steel bars  
Isola robotizzata di analisi chimica ARC e SPARK delle barre di acciaio

**PolyMARK** ..... 16  
Downstream product marking system  
Sistema di marcatura prodotti downstream

**PolyTAG T** ..... 17  
Automatic robot for tube bundle tagging  
Robot automatico per etichettatura dei fasci di tubi

**PolyMARK T** ..... 18  
Robotic cell for pipe marking  
Isola robotizzata per la marcatura di tubi

**PolyMARK C** ..... 19  
Robotic cell for coil marking  
Isola robotizzata per la marcatura coil

**PolyMARK L** ..... 20  
Robotic cell for flat product marking  
Isola robotizzata per la marcatura di prodotti piani

**PolyDESTRAPPING G** ..... 21  
Robotic cell for destrapping  
Isola robotizzata per il taglio delle regge

**PolyBUNDLE** ..... 22  
Robotic cell for the automatic bundling of steel products  
Isola robotizzata per il confezionamento automatico di prodotti di acciaio

**PolySKIM** ..... 23  
Automatic robot for skimming and dross removal for zinc bath  
Robot automatico per la scorifica del bagno di zinco

**PolyGREASE** ..... 24  
Robotic cell for the application of grease on thread  
Isola robotizzata per l'applicazione del grasso sul filetto

**PolyMAN** ..... 25  
Robot for application and pre-screwing of couplings on threaded seamless pipes  
Robot automatico per applicazione e pre avvitamento di manicotti su prodotto finito

**PolyPRO** ..... 26  
Robot for screwing protectors on threaded seamless pipes  
Robot per avvitatura protettori su tubi filettati senza saldatura

**PolyCAP** ..... 27  
Robotic cell for cap application on seamless pipes  
Isola robotizzata per l'applicazione di tappi su tubi senza saldatura

**PolyMARK M** ..... 28  
Robotic cell for seamless pipe coupling marking  
Isola robotizzata per la marcatura dei giunti per tubi senza saldatura

**PolyMOVE** ..... 29  
Robotic cell for product handling and palletizing or depalletizing  
Cella robotica per la movimentazione dei prodotti e la pallettizzazione o depallettizzazione

**PolyDESLAGGING** ..... 30  
Robotic cell for deslagging cycle  
Cella robotizzata per il ciclo di deslagging

**ActiveTRACKING** ..... A  
Global tracking system  
Sistema di tracking globale

**ActiveARC** ..... B  
3-phase EAF/LF electrodes arc control system  
Sistema di controllo degli elettrodi EAF/LF trifase

**ActiveCAST** ..... C  
Continuous casting machine (CCM) control and automation system  
Controllo di processo e automazione della colata continua

**ActiveRHF** ..... D  
Process control and automation system for reheating furnace  
Controllo di processo e automazione del forno di riscaldamento

**ActiveROLL** ..... E  
Rolling mill control and automation system  
Controllo processo e automazione del laminatoio

## LEGEND/LEGENDA



ROBOTIC CELL  
ISOLA ROBOTIZZATA



AUTOMATION PLATFORM  
PIATTAFORMA DI AUTOMAZIONE



TECHNOLOGICAL PACKAGE  
PACCHETTO TECNOLOGICO

**ActiveHEAD** ..... F  
Wire-rod laying head bar synchronization  
Sistema regolazione formaspire

**ActiveSHEAR** ..... G  
Shear control system  
Sistema di controllo cesoie

**PolySCRAP** ..... O  
System for scrap yard 3D volume mapping  
Sistema per la mappatura 3D del volume del parco rottami

**PolyCRANE** ..... I  
Automatic unmanned crane guidance system  
Sistema di guida automatica della gru senza equipaggio

**ActiveCAST IRON** ..... II  
System for cast iron temperature measurement in the blast furnace  
Sistema di misurazione temperatura della ghisa nell'altoforno

**PolySLAG** ..... III  
Slag detection system for remote tapping  
Sistema di rilevamento scoria per lo spillaggio remoto

**PolyTRACK** ..... IV  
Tracking and vision system for hot products  
Sistema di tracking e visione di prodotti caldi

**PolySCAN** ..... V  
System for automatic defect identification  
Sistema per identificazione automatica difetti

**PolyCHECK** ..... VI  
Bar straightness control  
Controllo rettilineità barre

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