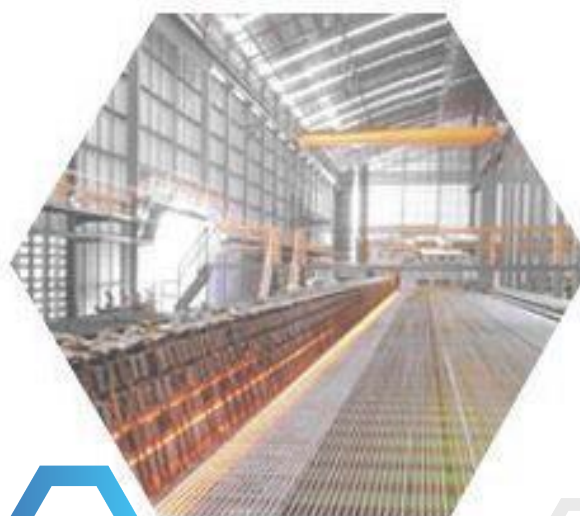




VR MASTER CO.,LTD.



YOUR PARTNERSHIP IN POWER & CONTROL

VR MASTER began supplying industrial systems since 2003 and has been in developing automation solutions for integrating with industrial drives, sensors from European and USA partners for a wide range of applications and industries including: Metals, Cement, Pulp & Paper, Petrochemical, Sugar, Water, etc.

Up to today **VR MASTER** provides the experience and know-how in many installations in Thailand, Malaysia, Indonesia, Cambodia, Vietnam, Middle East and Laos.

To deliver quality products and systems, **VR MASTER** is seriously investing in human resources and technical learning development. Our engineering group is continually developing new solutions and designing application software and customer support system. Also, reliability is rated an essential factor when designing our systems.

Our Vision

“ To become a leading company with expertise in design and development of industrial control system that fits to customer requirement ”

Our Mission

“ Execution at standard level and advance technology by experienced and understanding team to deliver quality and efficiency of works to customer specific requirement ”



VRM
Solutions

www.vr-master.com

“ Your Partnership in Power & Control ”

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SUBSIDIARY COMPANY : **VRM SOLUTIONS CO., LTD.**



CEMENT INDUSTRY SOLUTIONS

VR MASTER automation system solutions are utilized for the entire process in the cement industries in South East Asia.

VR MASTER drive and automation systems solution comprises Process Controllers, Programmable Logic Controllers with intelligent I/O and HMI software. In addition, a comprehensive and complementary range of LV/MV AC and DC Drives, LV/MV AC and DC Motors are part of our package. All our products are available with a variety of open fieldbus interfaces for connectivity and networking.



Remote I/O capabilities enable connectivity with distant Crushing and Packing Sections, among others, through fiber optic cables, thus saving on control/signal cable costs. The modular architecture and Hot Swap design of our systems make it possible to replace I/O modules on the fly, without unnecessary downtime. Advance Control function library allows an easy implementation of precise closed loop control, making for better optimization, tighter integration and faster process stabilization.

DRIVES SYSTEM

DC Drives

We can offer a world class digital DC Drives with exciting features utilizing the best technologies. Backed by high quality of engineering support and service, it is the most powerful and reliable DC drive. Available in rating as high as 4000A in single converter or higher in 12 pulse configuration, it is widely used in applications like Kiln and Roller Press.

AC Drives

LV or MV AC drives from VR MASTER are rugged, reliable and easily adaptable to a variety of applications like Fan, Pump, Compressor, Conveyor and many more. Available up to 100MW, our drives also includes an automatic energy saving feature, which optimizes the motor flux as a function of motor load and speed to enhanced performance and substantial energy saving to the end users.

AUTOMATION SYSTEM

In a capital intensive industry such as cement manufacturing, companies need to maximize the utilization of fixed assets.

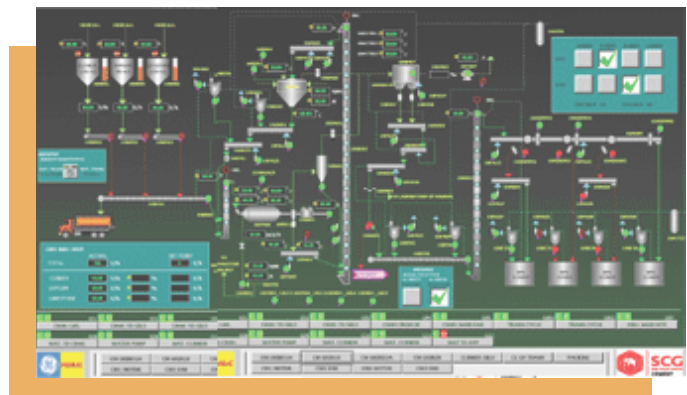
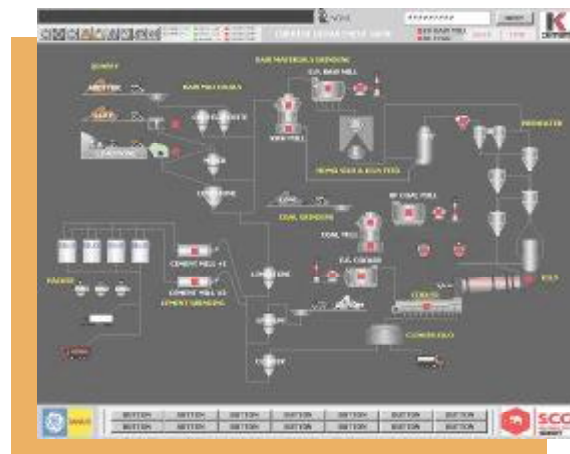
VR MASTER provides the solutions to modernize operations and build effective Manufacturing Execution Systems (MES). Designed with key industry drivers in mind, such as process optimization, our applications can reduce operating costs and minimize waste as well as help companies comply with more stringent environmental regulations.

Process Controller

In today demanding automation market, no single architecture meets all requirements for cost effective performance the way VR MASTER control system does. Our controllers are ideal for applications calling for redundancies, large I/O count and third party connectivity. Our solutions are configurable from a centralized process controller with plant wide remotely distributed I/O stations to peer-to-peer configurations, networking and integration of fieldbus I/O data.

Human Machine Interface (HMI)

Our Windows based HMI/SCADA , offers event based operation and is ideally suited to applications requiring optimized response times. It is a solid and reliable.Client/Server based solution that gives you the power and security to precisely monitor and control every aspect of your operating environment, equipment and resources. It will help you respond more quickly to equipment operation issues, reduce waste and improve quality with better time-to-market and profitability.



METAL INDUSTRY SOLUTIONS

VR MASTER's automation and drives system solutions have been utilized extensively for Steel Melting Plant, Wire Rod and Bar Rolling Mills, Cold Rolling Mills, Tube mills and Finishing Applications in the metals industries.

Additionally, VR MASTER has upgraded and installed new completed Wire Rod and Bar Rolling Mills, Cold Rolling Mills, Dust Collector System for EAF and Wire Drawing Lines. In the area of long products, VR MASTER has enhanced proven solution for Rolling Mills for the entire process.

VR MASTER also specializes in retrofitting obsolete DC drives from many manufacturers including GE, Reliance, BMB, CEGELEC, Siemens and ABB.



DRIVES SYSTEM

DC Drives

Our digital DC Drives completed with high reliability components in system panels have been installed and utilized extensively for many application like dust collector fans, mill stands, flying shears, cooling bed, pinches in Thailand, Malaysia, Middle-East, etc. Backed by high quality of engineering support and service, it is the most powerful and reliable DC drive. Available in rating as high as 4000A in single converter or higher in 12 pulse configuration.

AC Drives

We can offer LV or MV AC drives for application in metals where rugged, reliable are essential factors. Our AC drives system can do most of the applications in metals ranging from roughing, intermediate up to finishing mills as well as applications like Fan, Pump, Compressor, Conveyor and many more. Available up to 100MW, our drives also includes an automatic energy saving feature, which optimizes the motor flux as a function of motor load and speed to enhanced performance and substantial energy saving to the end users.

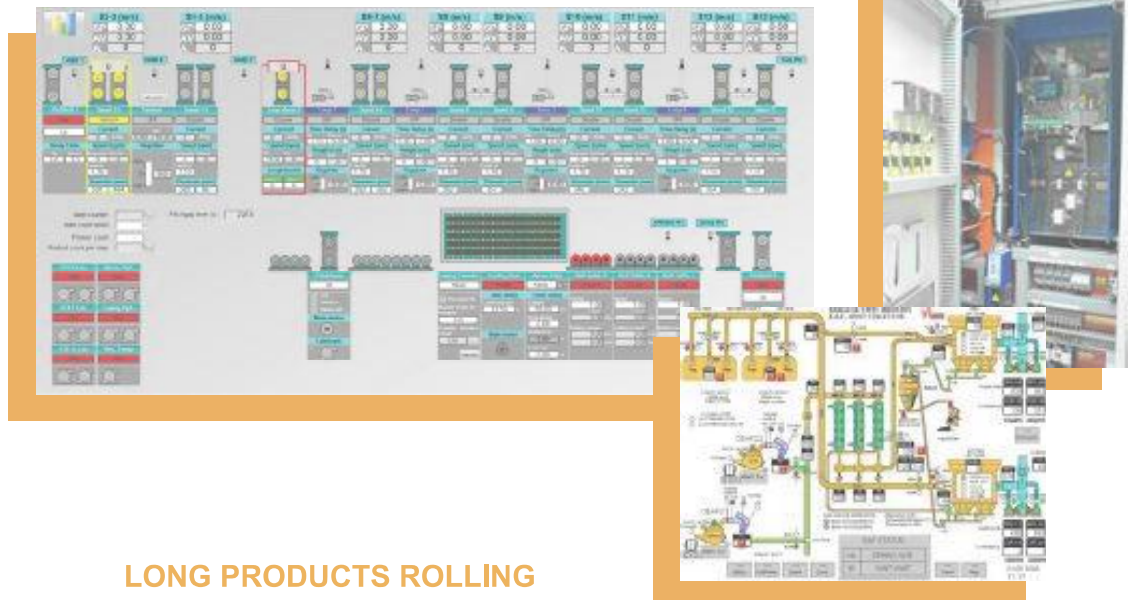
AUTOMATION SYSTEM

In today's competitive market, the metals industry demands innovative solutions to increase quality and flexibility. VR MASTER has proven know-how and experience in providing the competitive solutions to modernize operations and meet our customer requirement. Our solutions have been developed for years by our experienced engineers and have been utilized in many installations both in Thailand and abroad.

Our automation platform will be based on either GE or SIEMENS architecture upon customer specific requirement backed by experienced teams to support.

STEEL MELTING PLANT

VR MASTER's automation and drives system solutions have been used in dust collector system to improve air quality out from Electric Arc Furnace (EAF). We can supply completed control system either new installation or upgrade the existing system to the latest controller technology and communication.



LONG PRODUCTS ROLLING

VR MASTER long products rolling control systems ensure your mill can run with the highest line speed, most accurate shear control and lowest downtime possible. Our engineered solutions for drive and automation systems for long products have proven to be ideal for the unique requirements of these applications.

COLD ROLLING MILLS FOR FLAT PRODUCTS

VR MASTER control systems for flat products ensure your mill can run with the highest line speed, most accurate tension control and lowest downtime possible.

In Cold Rolling Mill applications VR MASTER had experienced in renovation the drives control system with our engineering team. We can provide the total solutions with a range of electrical motors, drives, automation system (automation levels 0, 1 and 2), and LV and MV distribution, electrical and automation engineering to give our clients the best competitive solutions .

STEEL WIRE

SYSTEM SOLUTION

VR MASTER control systems ensure your mill can run with the highest line speed, most accurate speed control and lowest downtime possible. Our engineered solutions for drive and automation systems for steel wire have proven to be ideal for the unique requirements of these applications.

PULP AND PAPER INDUSTRY

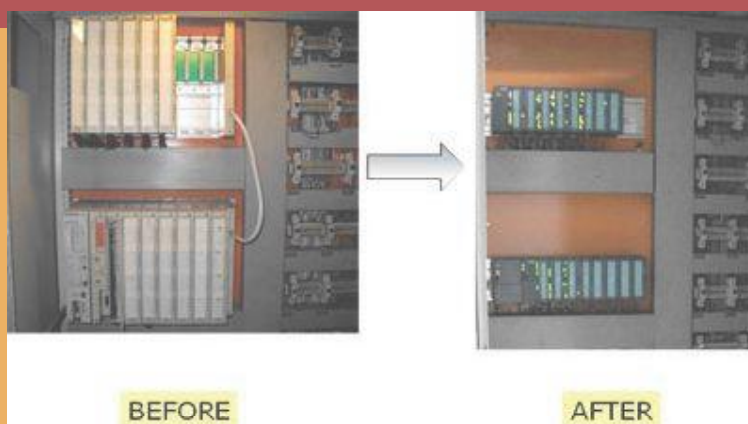
VR MASTER has been providing innovative solutions to the Pulp and Paper Industry since 2003's. Our solutions have helped paper customers improve productivity, reduce downtime and improve paper quality.

VR MASTER specializes in upgrading existing paper machine drive systems to improve performance and reliability. We have extensive experience applying our drives to replace and upgrade DC drives, and AC drive systems. We can provide around the clock service and support with our hotline.

VR MASTER is a system provider in electrical and automation system for all your needs. With extensive experience in rebuilding and retrofitting automation and drive systems,



VR MASTER has gained solid customer trust by providing proven designs resulting in enhanced reliability, increased throughput, and improved efficiency. Successful upgrade and retrofits have been completed on many different sites.



PLC System Upgrade

PETROCHEMICAL INDUSTRY

VR MASTER automation and drives system solutions have been utilized extensively for manufacturing process of associated downstream products of petrochemicals. We offer proven solutions for maximizing the availability and productivity of your plant. Our responsibility from basic engineering to product selection and integration results in comprehensive solutions for all customers needs. Our open and flexible automation system allows integration of the most popular hardware and software components.



VR MASTER has upgraded and installed new automation and drives system for Petrochemical manufacturing process at the biggest polyester plant in Thailand. Our proven automation solutions for process control and monitor the entire process including instrumentation loops and meet our customer expectation.

VR MASTER also specializes in retrofitting obsolete DC drives from many manufacturers including GE, Reliance, Siemens and ABB.

VR MASTER experience extends into consulting and give recommendation to our customer for the right solutions matching with their budget and requirement.

VR MASTER system solutions for fiber line process include:

- LV main incoming panels for drives distribution
- DC drives system and DC motors
- DC drives retrofit
- AC drives system and AC motors
- PLC panels
- HMI SCADA



SUGAR INDUSTRY

VR MASTER automation and drives system solutions have been utilized extensively in different area of sugar cane making process. We offer proven solutions for maximizing the availability and productivity of your plant. Our responsibility from basic engineering to product selection and integration results in comprehensive solutions for all customers needs. Our open and flexible automation system allows integration of the most popular hardware and software components.

VR MASTER, system solutions for sugar process include:

- LV main incoming panels for drives distribution
- DC drives and DC motors
- DC drives retrofit
- DC drive panels
- MV AC Drives and MV motors
- PLC panels
- HMI SCADA

Automation and Drives System for Sugar Mill
Major Applications Implemented in the field:



Centrifugal Machine



MDB/MCC Panel



Cane Carrier



Milling train

WATER INDUSTRY

VR MASTER automation system solutions have been utilized extensively for multiple filters and backwash of water manufacturing process. We offer proven solutions for maximizing the availability and productivity of your plant. Our responsibility from basic engineering to product selection and integration results in comprehensive solutions for all customers needs. Our open and flexible automation system allows integration of the most popular hardware and software components.



Water Plant

VR MASTER has upgraded and installed new automation system for water manufacturing process at a main water supply plant in Bangkok. Our automation solutions with redundant system for CPU and Ethernet networking to give high availability and productivity of the plant and meet our customer expectation. VR MASTER automation system automatically controls the water process for filters and backwash upon preset schedule from plant operator.

Our team experiences extend into consulting and give recommendation to our customer for the right solutions matching with their budget and requirement.

VR MASTER system solutions for water manufacturing process include:

- LV/MV main incoming panels for drives distribution
- AC drives system and AC motors
- PLC/PPS panels
- HMI SCADA

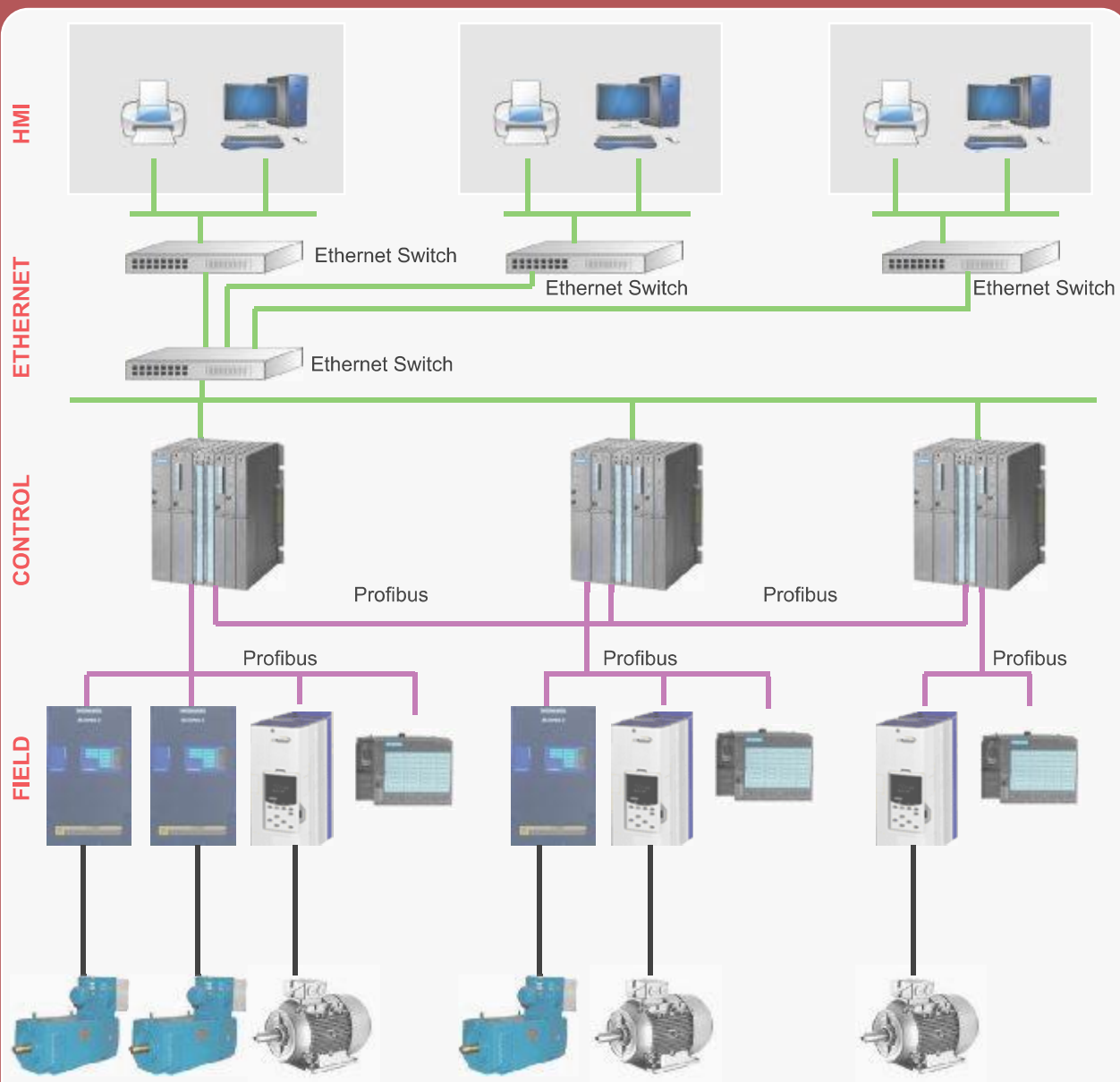


SCOPE OF SUPPLY

ELECTRICAL AND AUTOMATION SOLUTIONS / TURNKEY PROJECTS

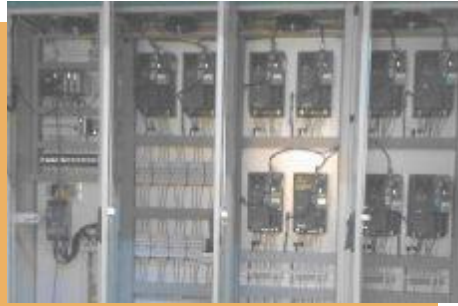
We supply completed or partial turnkey electrical projects to our clients as the following services:

- Technical Assessment
- Engineering and application software
- Supply of equipment: transformer, switchgear, motors, main and auxiliary panels/switchboard
- Supply of variable speed drives
- Supply of integrated automation systems
- Installation and engineering
- Commissioning of the installation
- Maintenance, training, spare parts, documents and other customer services



PRODUCT

SWITCHBOARD



DRIVES SWITCHBOARD



PLC CONTROL BOARD/ DESK

SENSORS



SENSORS FOR STEEL INDUSTRY



TACHOGENERATOR, ENCODER

PRODUCT

DRIVES



LOW VOLTAGE DRIVES



MEDIUM VOLTAGE DRIVES



DC DRIVES

INVERTERS FOR PHOTOVOLTAIC PLANTS



MOTORS



LOW VOLTAGE MOTORS



MEDIUM VOLTAGE MOTORS



DC MOTORS

PRODUCT

SWITCHBOARD



MEDIUM VOLTAGE SWITCHBOARD



LOW VOLTAGE SWITCHBOARD

AUTOMATION

CONTROLLERS
I/O, REMOTE I/O, FIELD BUS
OP, HMI SCADA
MOTION CONTROL
PROCESS SOLUTIONS
SOFTWARE
NETWORKING EQUIPMENTS



SUPPORT & SERVICES

Technical Consultant

VR MASTER is mainly concerned in providing the market with its know-how in the electrical equipment, Training and industrial process automation systems. Our know-how is of fundamental importance when it comes to equipping the whole production plant. The experience we have acquired since 2003, in the different industrial sectors enable us to provide Technical Consultancy and Assessment Services for:

- Turnkey Projects
- Projects with specific engineering and supply (partial solutions)
- Level 1, 2 process automation



Training

At VR MASTER we train the client's personnel in the use of the installation and equipment employed. The courses are lectured by VR MASTER technical personnel, specialized in the system.

Repairs and Spare parts

Our Service department controls all the spare parts stocks required for the correct operation of each installation. In addition we control all the repairs carried out on equipment supplied by us within the scope of the project.

Technical Assistance

VR MASTER has available highly qualified technical personnel to provide Technical Assistance Services 24 hours/day 365 days/year.

Comprehensive Maintenance

VR MASTER provides corrective and preventive maintenance services by high qualified personnel.

Covers all the systems: Automation, Communications, Display, Network, Drives and Control, etc., both software and hardware through the technical resources and tools available on-site.

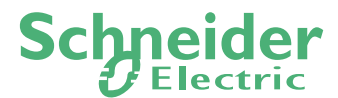
On-line Technical Assistance

At VR MASTER we believe in and are fully committed to:

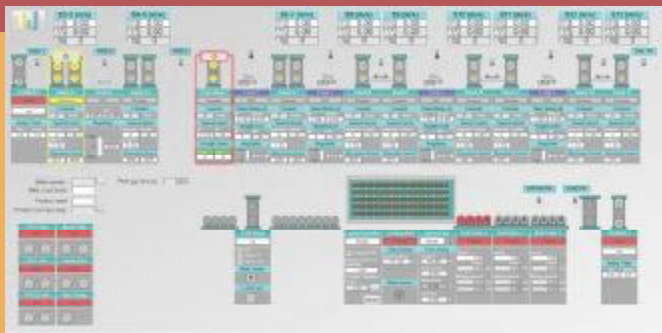
- New technologies, innovation, productivity and competitiveness
- Information and Communications Technologies (ICT)

Using state-of-the-art telecommunication resources, directly from our offices, we are able to connect with the installations control, supervision and diagnosis systems (Automation units, HMI). With this technology we can avoid the need of having technical personnel travel to the locations where assistance is required. Hence, a cost-saving since traveling expenses are eliminated.

MAJOR REFERENCE SITES



MAJOR REFERENCE SITES



BUSINESS PARTNERS





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