Fire and Gas Systems

Fire and gas detection and mitigation systems are key to maintaining the overall safety and operation of industrial facilities. Maintaining a high level of process and plant safety is always our first critical concern. They include offshore petroleum exploration and production, onshore oil and gas facilities, refineries and chemical plants, marine operations, tank farms and terminals, pipelines, power plants, mining and paper mills. A Fire and Gas safety system continuously monitors the abnormal situations such as a fire, or combustible or toxic gas release within the plant and provides early warning and mitigation actions to prevent escalation of the incident and protect the process or environment. By implementing an integrated fire and gas strategy based on the latest automation technology, plants can meet their plant safety and critical infrastructure protection requirements while ensuring operational and business readiness at project start-up.

Fire and Gas Systems

Turn Key Systems

Application Development

Engineering

Supply and Services

Supervision to installation
Commissioning
Field assistance
Training

Product and Systems Design

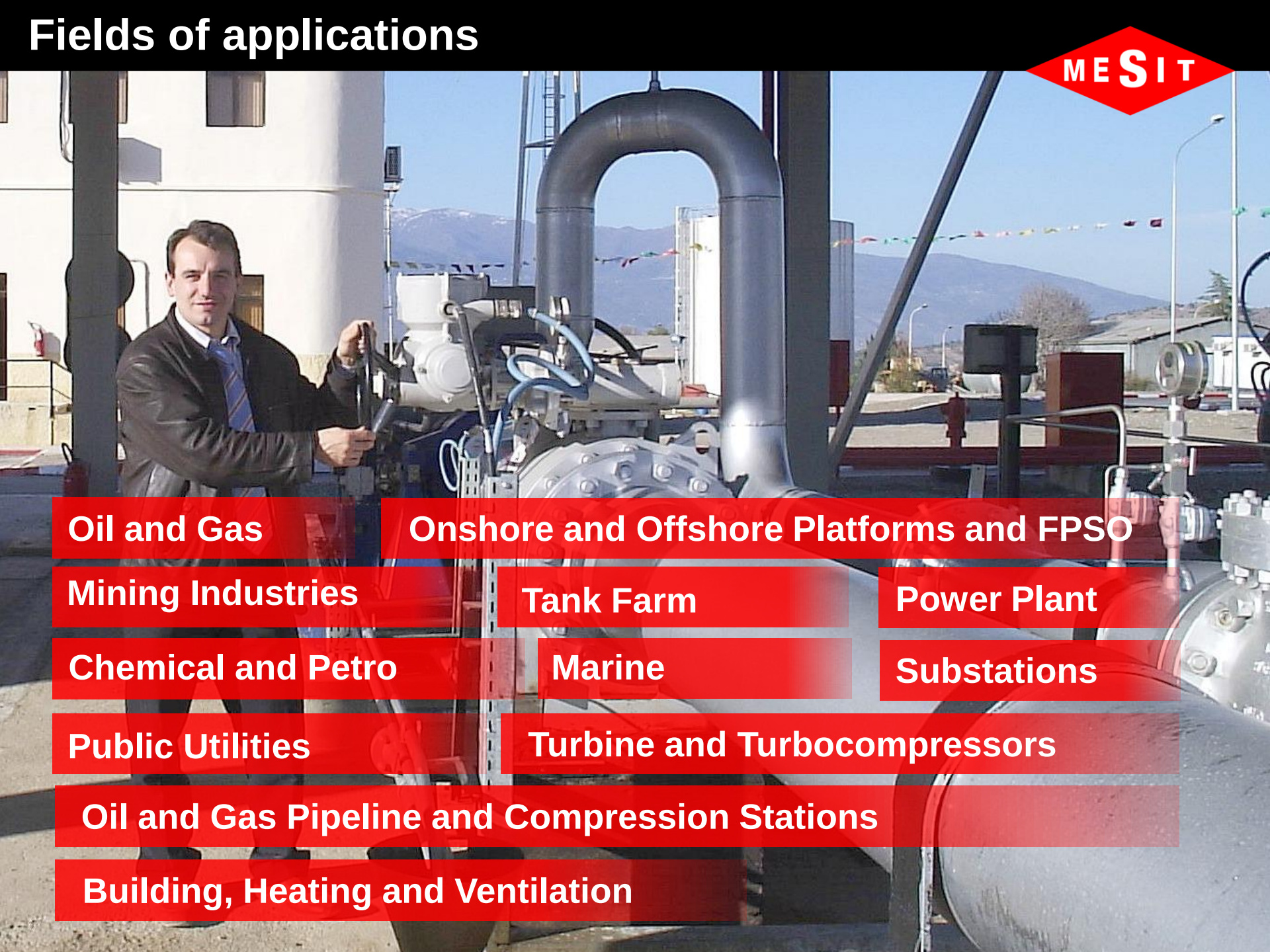
Construction

Revamping and Retrofitting

Maintenance

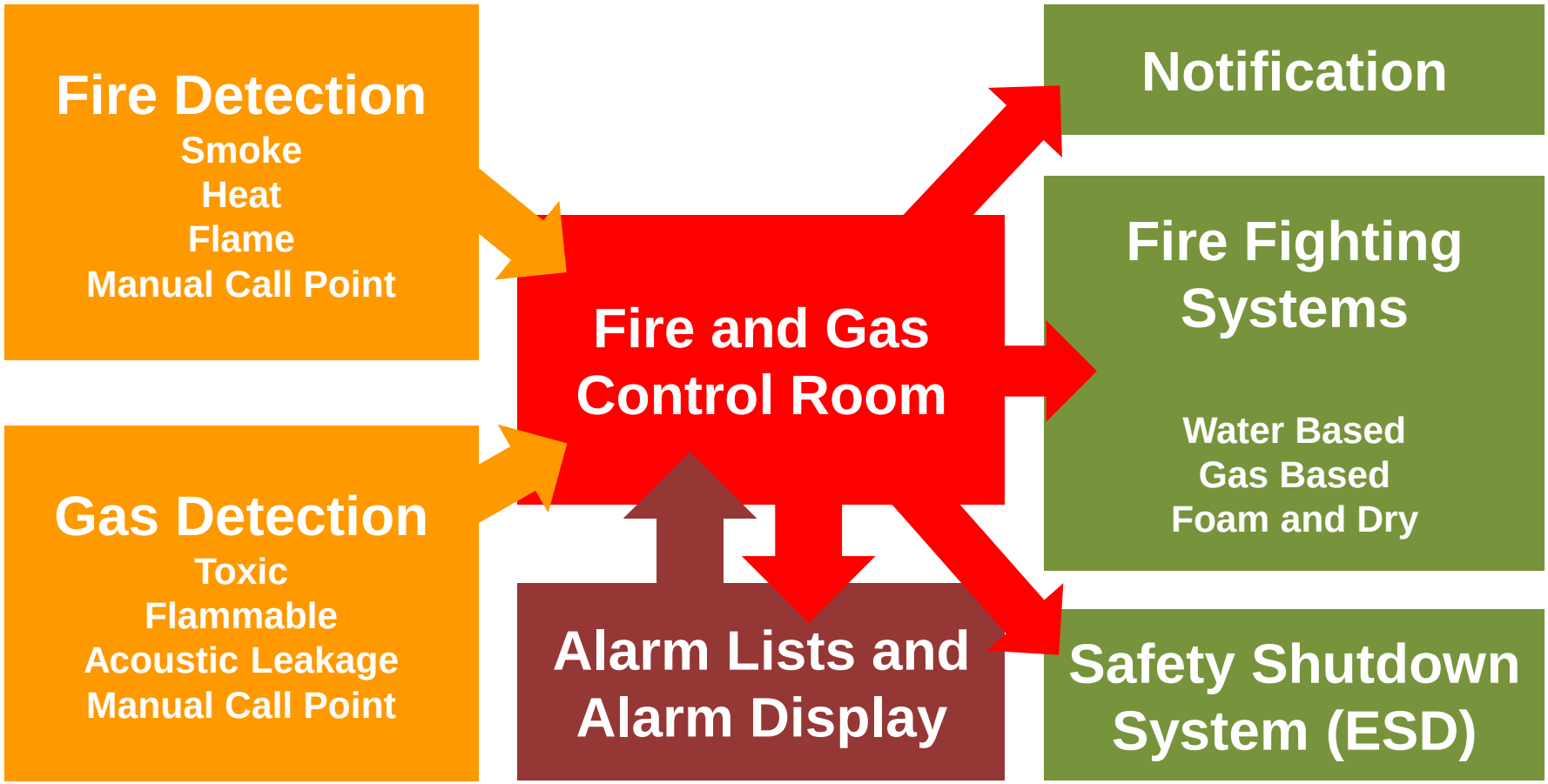
According to international standards, Mesit safety implementation is organized under a series of protection shields starting from plant design, process control systems, work procedures, alarm systems and mechanical protection systems. The safety shutdown system is a prevention safety shield which takes automatic and independent action to prevent a hazardous incident from occurring, and to protect personnel and plant equipment against potentially serious harm. Conversely, the fire and gas system is a mitigation safety shield tasked with taking action to reduce the consequences of a hazardous event after it has occurred.

Fields of applications



- Oil and Gas
- Onshore and Offshore Platforms and FPSO
- Mining Industries
- Tank Farm
- Power Plant
- Chemical and Petro
- Marine
- Substations
- Public Utilities
- Turbine and Turbocompressors
- Oil and Gas Pipeline and Compression Stations
- Building, Heating and Ventilation

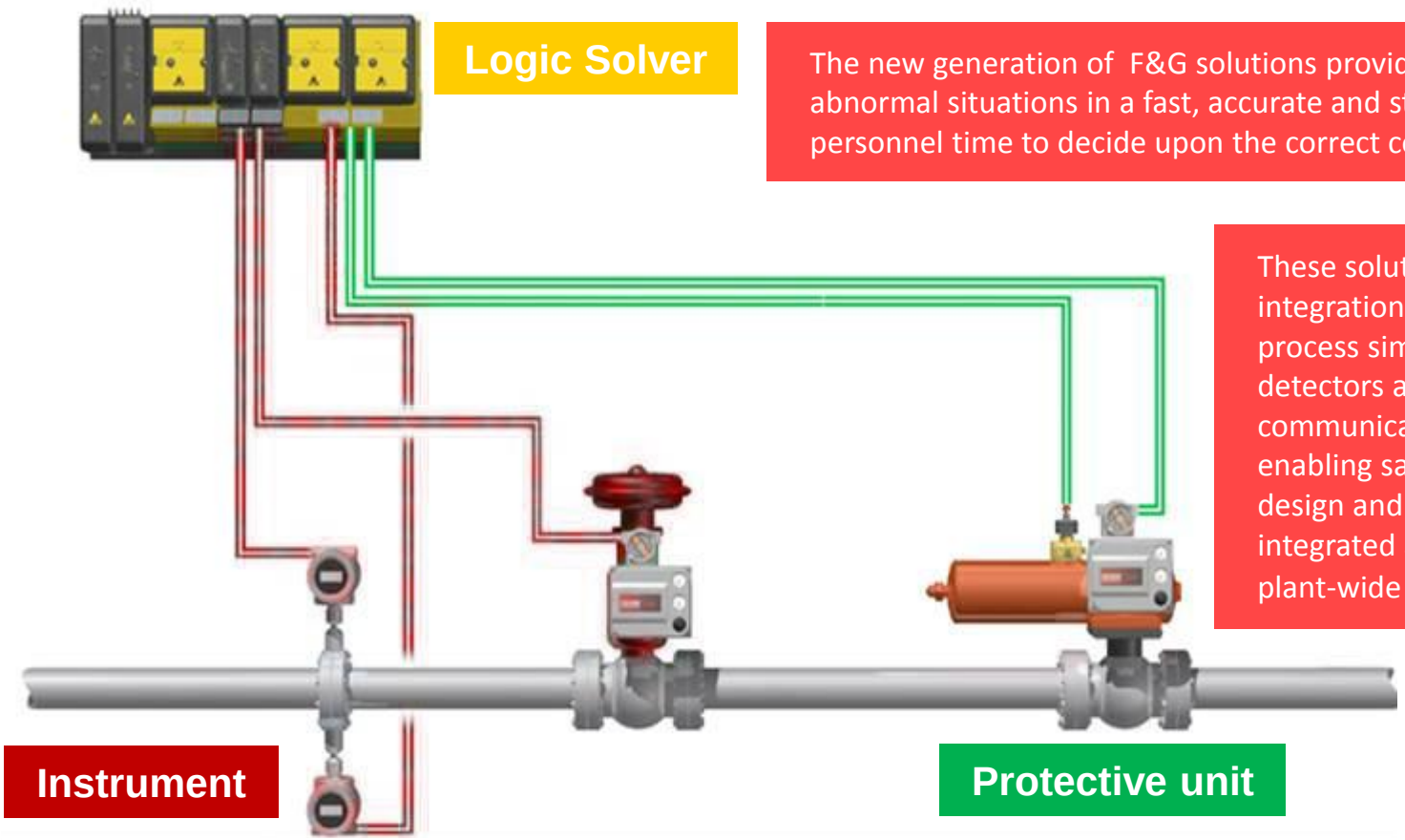
Integrated Fire and Gas solutions



Fire and Gas Control Room is the central control unit of the overall Fire and Gas detection and control system. The controller receives alarm and status or analogic signals from field monitoring devices required for fire and gas detection. The controller handles the required actions to initiate alarms and mitigate the hazard.

Safety Instrumented System (SIS)

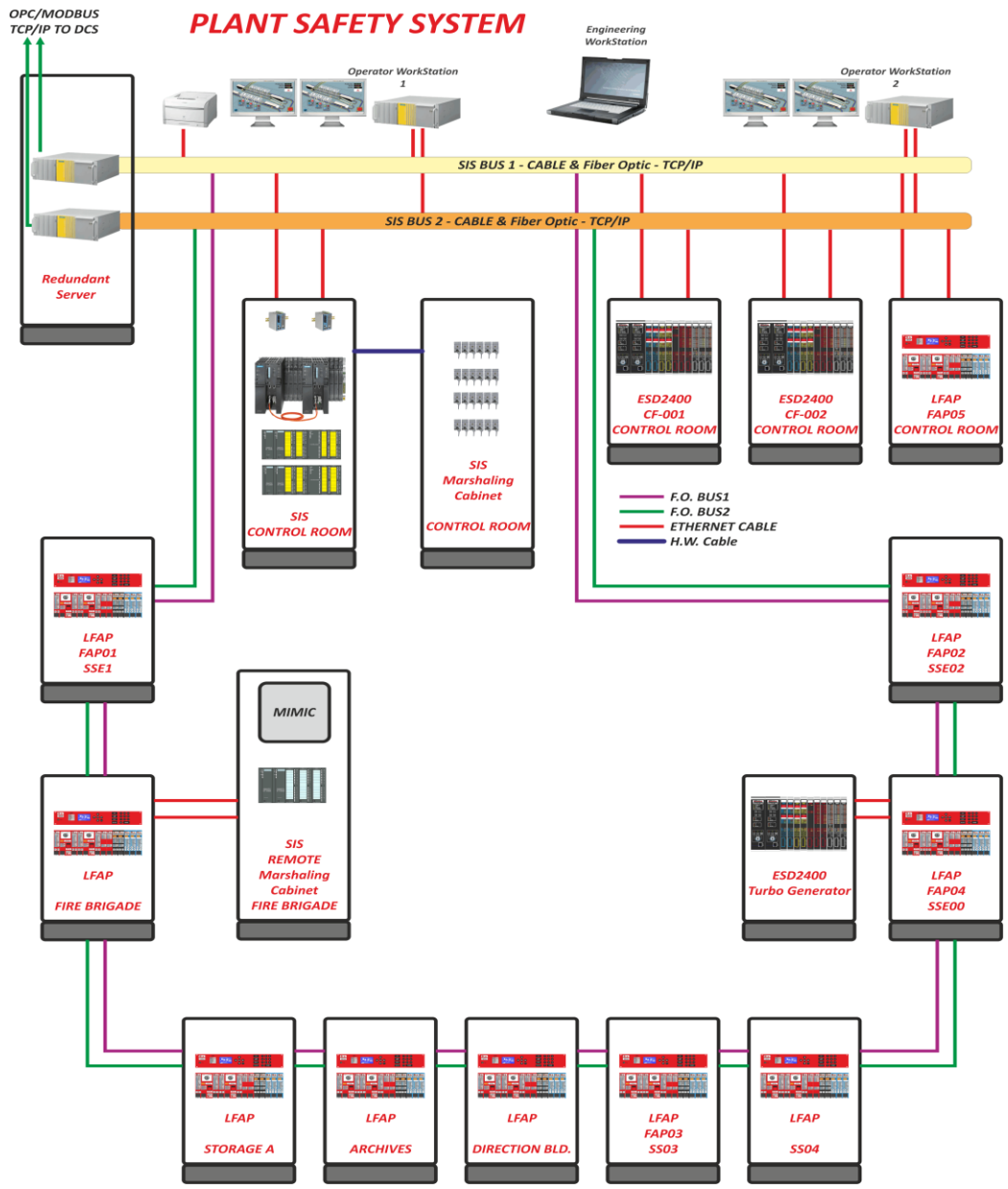
The Fire and Gas system automatically initiates executive actions minimizing escalation of safety incidents and protecting personnel, property and the environment. Integration at the controller level provides plant-wide **Safety Instrumented System (SIS)** point data, diagnostics and system information, as well as alarms and events, operator displays and sequence of event information to any station. This minimizes intervention and shutdowns, reduces hardware costs, and allows plants to recover more easily from process upsets.



The new generation of F&G solutions provides alerts of abnormal situations in a fast, accurate and structured way, giving personnel time to decide upon the correct course of action.

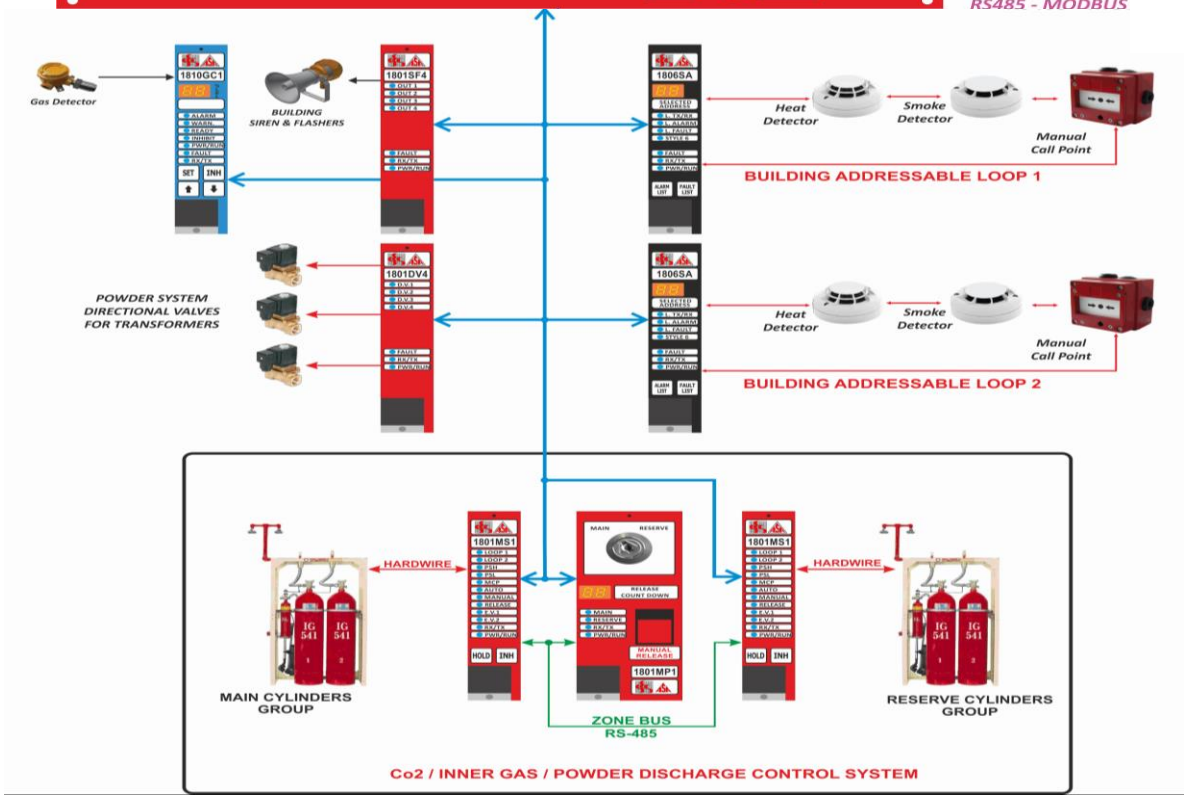
These solutions include new integration capabilities with process simulation tools, F&G detectors and control communication protocols, enabling safety engineers to design and build large integrated and distributed plant-wide safety strategies.

Safety Instrumented System (SIS)



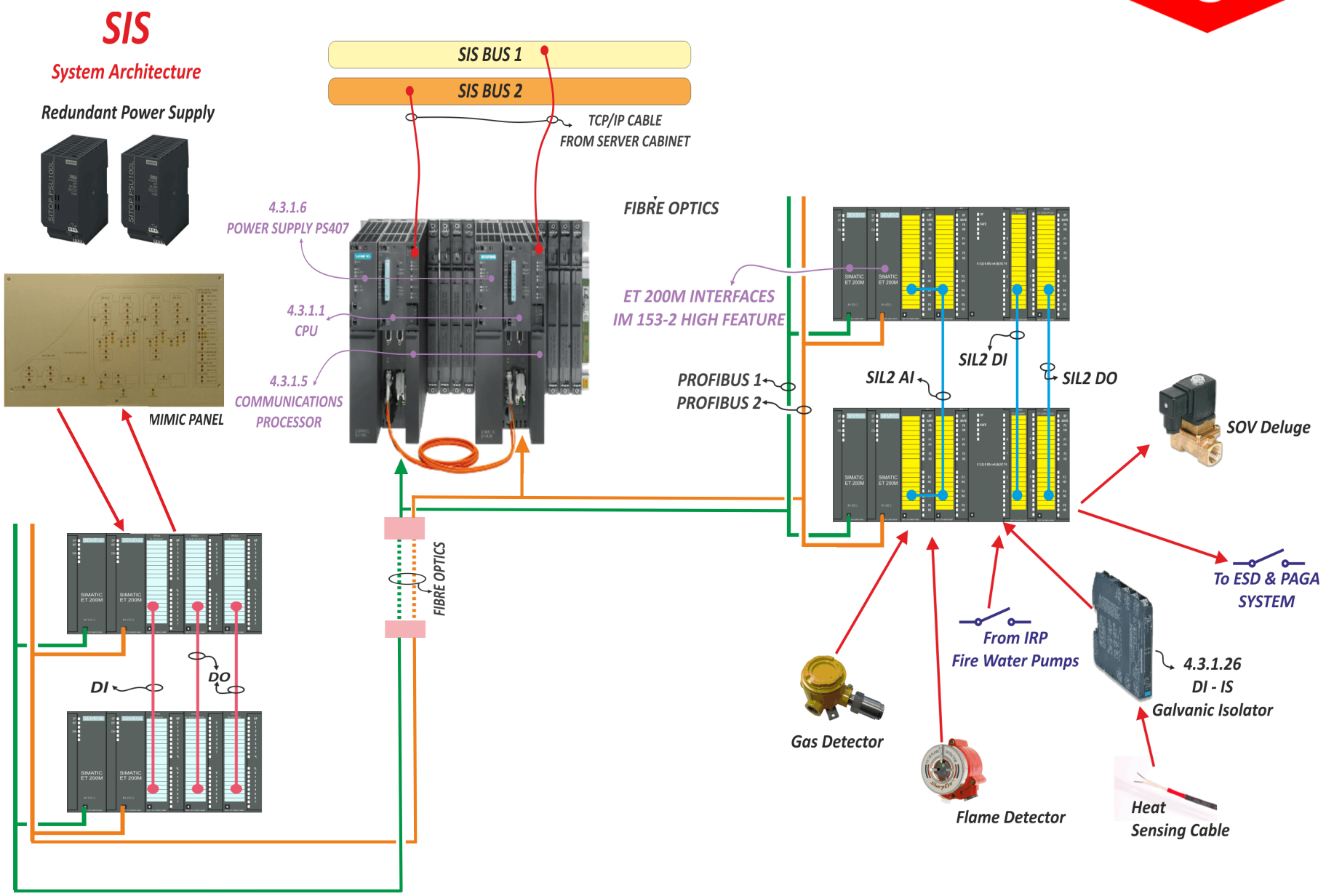
Fire and Gas safety systems are integrated with the plant automation system through a secure communication network, transfer alarm signals, fault signals and system diagnostics. Information from all related systems can be transferred, gathered and handled at the same location, and an additional layer can be achieved to monitor the status and operability of the total F&G detection and control system. Safety system platforms based on a modular redundant diagnostic technology execute automated safety functions and provide the interfaces and input functions for standard connection of a wide range of Fire and Gas detection devices. Applications include emergency shutdown, process shutdown, fire and gas systems, burner management, compressor control, pipeline management or any critical safeguarding in the process industry.

Safety Instrumented System (SIS)



With innovative simulation solutions, safety engineers can easily test the impact of safety strategies on the overall plant design and operations before implementation. This reduces overall risk and the impact of system modifications and, ultimately, increases profitability by bringing new plants into full production much faster. In addition, new field device configuration tools allow plant personnel to automatically configure intelligent safety devices and integrate them into the control system database. Facilities subsequently save money by using a single tool to manage all equipment assets.

Safety Instrumented System (SIS)



Fire and Gas Detection and Control

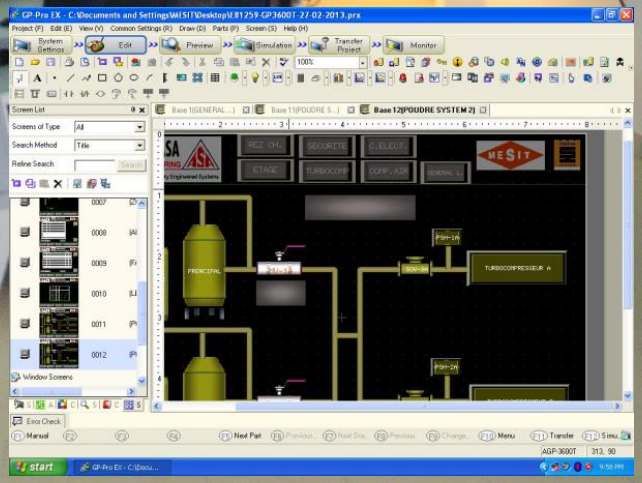
- Fire and Gas Protection Products and Systems
- Flame and Gas Detectors – Control Cards and Panels
- Safety Automation Products and Systems
- Evacuation Management Products and Systems
- Emergency and Process Shutdown Systems (ESD)
- Instruments and Control Panels

Fire and Gas Detection and Control

Calibration of Gas Detector on site

Touch Screen Control on field

Dedicated Software



Fire Fighting Systems

- Water Based Systems
- Gas Based System
- Foam and Dry Chemical System

Water Based Systems

Deluge and Sprinkler System

Water Mist System

Foam Bladder Tank Unit

Load, Mid, High Expansion Foam Generations

Gas Based Systems

Halon Alternative Gas Systems

NAF S III, Inergen, FM200, Argon Based, Nytrogen

CO_2 High Systems

CO_2 Low Systems

Foam and Dry Chemical Systems

Dry Chemical Skid Units

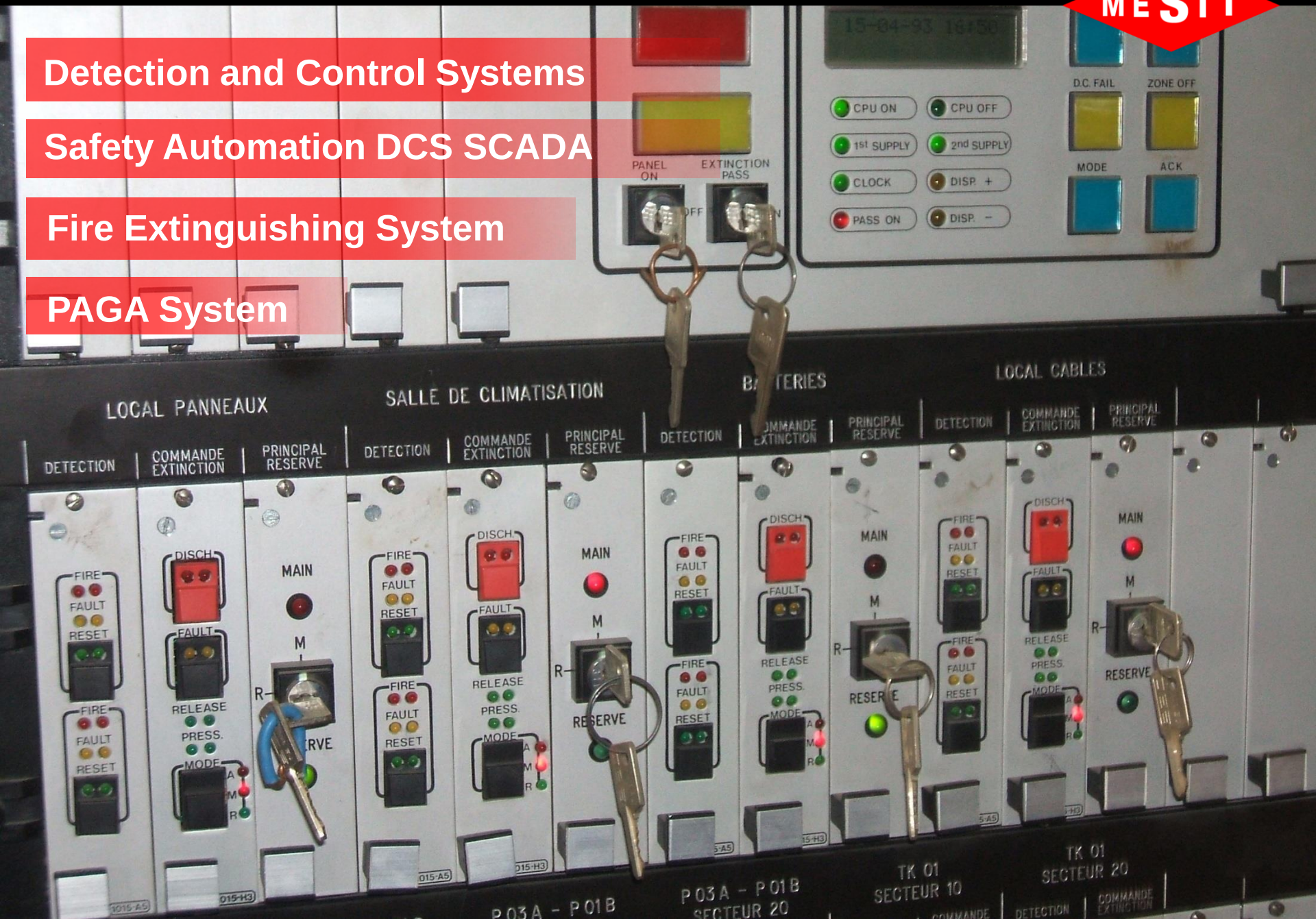
Twin Agent Skid Units

Manual and Electrical
Controlled Monitors from 2½“ to 10”

Equipment and Skids

- Self-oscillating and Manual Monitors
- Electrical Remote Control Monitors
- Portable and Wheeled Extinguishers
- Hoose Reels and Hydrants
- Trolleys

Systems


Detection and Control Systems
Safety Automation DCS SCADA
Fire Extinguishing System
PAGA System
MESIT
PANEL ON
EXTINCTION PASS
CPU ON
CPU OFF
1st SUPPLY
2nd SUPPLY
CLOCK
DISP +
PASS ON
DISP -
D.C. FAIL
ZONE OFF
MODE
ACK
LOCAL PANNEAUX
SALLE DE CLIMATISATION
LOCAL CABLES
DETECTION
COMMANDE EXTINCTION
PRINCIPAL RESERVE
FIRE
FAULT
RESET
DISCH
RELEASE
PRESS.
MODE
MAIN
RESERVE
TK 01 SECTEUR 10
TK 01 SECTEUR 20

Oil Pumping Station Beni Mansour

Supply and installation of the **Detection and Fire Extinction System**. A brand new detection system in different part of plant and extinction systems is with CO2, Powder, foam.
All managed from a control room with control panel UV/IR detector, DT, DF, BP, gas detector, deluge valves, extinction water sprinkler and CO_2 skid.

Oil Pumping Station Beni Mansour

Detection Control Panel, Detectors UV/IR, DT, DF, BP, Gas detector, Extinction Water Sprinklers and CO_2 skid

Oil Pumping Station Beni Mansour

Plant's Fire and Gas Management System

Mesdar Oil Production Plant

Revamping of the Detection and Self Extinguishing Fire System of the Sonatrach Mesdar Oil Production Plant

In Amenas Sonatrach Power Plant

LNG Polskie Project

SES-ASA Engineering
FIRE & GAS TECHNOLOGY
Safety Automation-Systems Manufacturer-Fire Fighting

MESIT

Fire and Gas Detection with Control System of a Gas Storage

LNG Polskie Project

SES-ASA Engineering
FIRE & GAS TECHNOLOGY
Safety Automation-Systems Manufacturer-Fire Fighting

MESIT

Fire and Gas Detection with Control System of a Gas Storage

Main Certification

Mesit operates according to the international standard: NFPA, ISO, ASTM, ASME, ATEX PED, UE, CENELEC, GOST with Fire Protection Products certified UL/ULC, FM, GOST. Our Quality Assurance System is described in full details in a comprehensive set of documents: “The Quality Assurance Manual” which includes operating procedures and instructions.

Sonatrach References

Brown & Root - Condor

Procurement Department

ATTESTATION

Nous soussigné la société Brown & Root –Condor , attestons par la présente que la société ***MESIT*** *a fourni dans le cadre du projet "* ***Unité Réinjection d'Eau – Bir Rebaa Nord*** *" un lot de matériel d'électricité à savoir : Tableau BT, Power Center 380 V ,Tableau d'éclairage , MCC , Transformateurs 2000 KVA , Panneau synoptique et assuré une Prestation d'assistance technique sur chantier.*

Nous attestons par ailleurs que la société MESIT a exécuté les clauses contractuelles dans les règles de l'art

Le Procurement Manager

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sonatrach

BRANCHE HYDROCARBURES
DIVISION PRODUCTION
DIRECTION REGIONALE
RHOURDE NOUSS
DIVISION MAINTENANCE
REF / N° 740 / DP / RN / MN / 2000

Rhourde Nouss le , 09/08/2000

ATTESTATION

Nous soussignés, Sonatrach – Branche Hydrocarbures – Division Production - Direction Régionale de Rhourde Nouss – Division Maintenance, attestons que les dix (10) moniteurs de température et d'alarme fournis par la société MESIT (Italie) et installés au niveau

- de l'usine de traitement de gaz
- de la centrale électrique

répondent parfaitement à la demande et donnent entière satisfaction.

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sonatrach

AC / IVITE AMONT
DIVISION PRODUCTION
Direction Régionale In Amenas
INA / N°: **457** /MN/13.

In Amenas, le : 03/07/2013

ATTESTATION DE BONNE EXECUTION

Je soussigné Monsieur CHAIB Djelloul, Directeur Regional, Sonatrach - activité amont Direction Régionale In Amenas, que la société MESIT (Mittel European Sensors Instrument Technology) a réalisé on EPCC, dans le cadre du contrat N°1/08/INA/37, le projet suivant:

« L'étude, fourniture, installation et mise en service d'un turboalternateur complet d'une puissance de 8,2 MW ISO »

Description du projet:

- Etudes (engineering de détail, études de faisabilité, documentation finale)
- Etudes (études du sol avec carottage, risques des agents atmosphériques vents, pluie etc.., faisabilité et sécurité)
- Fourniture équipements et matériels : (machines, mécanique, électricité MT et BT, systèmes traitement air, gaz et huile, instrumentation, automation et système de contrôle, anti-incendie et sécurité)
- Pièces de rechange pour deux ans
- Travaux de génie civil
- Installation et montage
- Management et supervision
- Commissioning et démarrage
- Formation du personnel

Nous Attestons que tous les travaux effectués par la société MESIT sont de qualité supérieure et sont déroulés dans les règles de l'art. Ils ont été achevés avec professionnalisme, éspirit de partenariat et dans le respect des délais avec notre pleine appréciation et satisfaction

L'ensemble des équipements installés par MESIT sont de qualité et conforme aux normes en vigueur et fiabilité est établie durant leur service.

La présente attestation est délivrée, pour servir et valoir ce que de droit.

D. CHAIB
Directeur Régional In Amenas

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sonatrach
Direction Régionale
Hassi-Messaoud
Division Appros

ATTESTATION

La Division Approvisionnement, de SONATRACH Direction Régionale de Hassi Messaoud, déclare avoir acheté à plusieurs reprises, auprès de la Société MESIT Italie, des appareils de Régulation et des Instruments de Mesure tels que :

- Thermocouples pour turbines à gaz,
- Capteurs, détecteurs, transmetteurs, indicateurs,
- Systèmes de téléjeugeage et comptage, débitmètres.
- Appareillage et instruments pour contrôle/commande des turbines à gaz GE, FIAT.

Nous attestons que ce matériel, après sa mise en service sur nos Installations Industrielles depuis plus de 2 ans, a donné entière satisfaction.

Fait à Hassi Messaoud le 05/11/2002

Le Chef de Division Approvisionnements

A. HAMITRI

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sonatrach — HOLDING RAFFINAGE & CHIMIE — SOCIETE NATIONALE DE RAFFINAGE DE PETROL
CAPITAL SOCIAL : 12.000.000.000 DA
NAFTEC Spa

DEPARTEMENT APPROVISIONNEMENT

ATTESTATION DE BONNE EXECUTION

Nous soussignés NAFTEC Raffinerie de Skikda, attestons par la présente que la Société MESIT S.R.L est en relation de travail avec nous depuis 1988 pour :

- La fourniture de matériel électrique
- La fourniture de moteur électrique
- Les appareils de contrôle et de régulation
- La réalisation de la rénovation totale du système de traçage électrique de la station de bitume située au Port de Skikda.

Ce Fournisseur à satisfait à toutes ses obligations d'une manière satisfaisante.

Pour servir et valoir ce que de droit.

LE DIRECTEUR DE LA RAFFINERIE DE SKIKDA

A.BENCHOUIA.

Naftec Spa – Raffinerie de Skikda
BP.108 – 21000 SKIKDA
Tel: (213-38) 75.79.99 – 75.79.65 – 75.79.51 à 53 – 75.20.77
Fax: (213-38) 75.79.79 - Télex: 87800 – 87822 – 87978 - 87918

Algerian References

SONATRACH RTI	In Amenas, Zina, RDN	Fourniture de transformateurs, batteries, moteurs et autres équipements	2015
ARCELOR MITTAL	Annaba	Cannes pyrométriques	2014
SONATRACH	Arzew	Thermocouples	2014
SONELGAZ	Ravin Blanc Oran	Thermocouples	2014
SONATRACH	Skikda	Anodes en magnésium	2013
SONATRACH/SINOPEC GSS	Zarzaitine	PDR pour areo-réfrigerant de l'unité FGL	2013
SONATRACH	Skikda	Anodes en zinc	2012
SONATRACH	In Amenas	Rénovation et fourniture PDR pour réducteur d'engrenage Batignolles Chatillon	2012
SONELGAZ	Adrar	Fourniture tuyauteries et raccords pour le poste gaz de la central d'Adrar	2011
ARCELOR MITTAL	Annaba	Cannes pyrométriques	2011
SONATRACH	Laghouat	PDR actuateurs électriques BIFFI	2011
SONELGAZ	In Salah	Acquisition d'un moteur de lancement pour les groups TG5001 de la centrale électrique d'In Salah	2011
SONELGAZ	Tiaret	Vanne de Tête TG Fiat	2010
EN GTP	Alger	Appareils de mesure, de contrôle et de test. Appareillages pour tests hydrostatiques de canalisation	2010
ARCELOR MITTAL	Annaba	Cannes pyrométriques	2010
ENIP	Arzew	Groups électrogène	2010
SONATRACH	Hassi Messaoud	Revamping de l'unité R200 (turbine TG7)	2009
SONATRACH	In Amenas	Etude, fourniture et mise en service d'un Turboalternateur complet d'une puissance de 8.2 MW ISO	2009
NAFTEC	Arzew	Fourniture, installation et mise en service du système de chauffage bitume a induction à la raffinerie de Arzew	2008
SONATRACH	Mesdar	Système de détection et extinction incendie	2008
NAFTAL	Plusieurs site	Fourniture des 70 bras de chargement carburants	2008
SONATRACH	Rhourde Nouss	Moteurs électriques 5,5 KV	2007
SONATRACH TRC	Tebessa	Pièces des rechanges Turbines et compresseurs pour la station de pompage de Ain Naga et la base de Oued Saf Saf	2007
E.N. GTP	Beni Mansour	Système de détection et extinction incendie, instrumentations et appareilles électriques pour station de pompage	2006
SONELGAZ	Oran	Système de mesure du débit vapeur surchauffée de la centrale de Ravin Blanc d'Oran	2005
NAFTEC	Skikda	TDI pour reforming raffinerie de Skikda	2004
SONATRACH	Rhourde Nouss	TDI installation Gaz	2003
BROWN AND ROOT CONDOR	Sonatrach TRC/EDV DEV	Filtre à panier	2002
ENIP	Skikda	Moteur électrique 500KW	2002
SONATRACH	Hassi Messaoud	Débitmètre ultrasonique	2001
SONATRACH	Hamra	Fournitures des divers lots de éléments filtrant , panier de filtration et joints	2001
ENIP	Skikda	Moteur électrique 500KW	2001
NAFTEC	Skikda	Moteur électrique 300KW, 232KW, 277KW, 75KW, 55KW	2001
BRWON AND ROOT CONDOR	Sonatrach/Agip BRN Bir Reba	Tableau Basse Tension unité d'injection, Power center 380V 50Hz 3200A, Tableau d'éclairage et usage, Tableau de distribution services en courant continue, Panneau synoptique Transformateurs 2000KVA 5.5/0.4KV ,Tableau d'interface, Tableau motor control center.	1999
SONATRACH	Hassi Messaoud	Transformateur de courant de protection et mesure 36KV 50HZ, Différente système d'annonciateur d'alarme	1999
SONATRACH	Hassi Messaoud	Système de teléjaugeage pour différent type de réservoirs – coffrets – câbles instrumentation et control	1999
SONATRACH	Engineering and construction pipeline Bacin de Gadames	Câble moyenne tension – control – signal – bulk material – coffrets	1998
NAFTEC	Skikda	Transformateurs 5500/400V 2000KVA câbles de control, câbles de puissance, coffrets boite de jonction	1998
SONATRACH	Rhourde Nouss	Revamping unité d'azote, unité dépuration d'eau Stilmas, control et revamping centrale ele. R/N	1997
SONATRACH	Hamra	Pompes doseuses, pompes d'inhibition, tubes de instrumentation pneumatiques, raccords, distributeurs d'air, etc.	1997
ENIP	Skikda	Tableau control moteurs et MCC 5.5KV pour polyéthylène	1996
SONATRACH	Rhourde el Baguel	Revamping régulation turbine Thomassen	1995
SONATRACH	Hassi Massaoud	Revamping régulation turbine FIAT TG7	1994
NAFTEC	Raffinerie de Skikda	Système de alimentation et control et chauffage ligne de bitume ancien port	1992

References

SES-ASA Engineering
FIRE & GAS TECHNOLOGY
Safety Automation-Systems Manufacturer-Fire Fighting

MESIT

ADNOC	Ruwais Refinery GUP Plant (UAE)	Simplex Fire and Gas System Network	1999
ADNOC	Asab Gas Dev. Project Abu Dhabi (UAE)	Fire and Gas Fault Tollerant System based on ABB August TMR – Fire and Gas Equipment	1998
ADNOC	Ruwais Refinery EUM Plant (UAE)	Fire and Gas Systems based on Simplex 4120 Network – Field Equipment – Redundant Supervising station	1998
ADMA-OPCO	Abu Dhabi (UAE)	Deluge System	1998
MIDOR	Midor Refinery (Egypt)	Simplex Fire and Gas Network Nodes Mimic Panel – Supervising System	1998
SARKUX	Cagliari (Itaky)	Fire and Gas System Simplex 4100 and Triconex ESD	1998
WYETH LEDERLE	Cyanamid Catania (Itaky)	Turnkey design of Water and Foam deluge System FM200 – Fire and Gas detection	1998
KOC	Project GC27 and GC28 (Kuwait)	Deluge and Foam potection System Fire and Gas System based on 1810 series I/O cards complete with Fire and Gas field equipments	1997
ADNOC	Ruwais Refinery Berth Expansion (UAE)	5/40 Allen Bradley PLC's and Annunciator panel –Supervising Workstation	1995
ARAMCO	Riyadh Product Supply System (SA)	2400 series intelligent I/O cards – serial communication with DCS	1997
ADNOC	Yarn Yaphour (UAE)	Design, Manufactoring and Commissioning wellhead Fire and Gas Panels conneceted to RTU system – Passive conditioning shelter for desert installation	1993
ARAMCO	Safanya Pft (SA)	Design, Manufactoring and Commissioning addressable Fire and Gas System with battery backup and Gas detection	1992
ARC	Zaf Pft Zatchi Field (Congo)	Integrated Process Control System with Fire and Gas/ESD System based on 90-70 GE-Fanuc PLC's	1992
ARC	Zaf1, Zaf2, Zaf3 Pfts Zatchi Field (Congo)	Integrated Fire and Gas/ESD Systems based on 2400 series	1996
AGIP	Kitina Pft (Congo)	Foam and Deluge Systems – Clean Gas FM200 Extinguishing Systems	1996
NAOC	Brass and Clough Creek Oil Center (Nigeria)	Clean Gas NAF SIII Extinguishing Systems – Deluge and Foam Systems – Fire Detecion and Fire Fighting Systems	1996
NAOC	Ebocha Oil Center (Nigeria)	Clean Gas NAF SIII Extinguishing Systems – Fire Detecion and Fire Fighting Systems	1997
NAOC	Ebocha Oil Gathering Center (Nigeria)	Clean Gas NAF SIII Extinguishing Systems – Deluge and Foam Systems – Fire Detecion and Fire Fighting Systems	1996
NAOC	Obama Tebidaba (Nigeria)	Clean Gas NAF SIII Extinguishing Systems – Deluge and Foam Systems – Fire Detecion and Fire Fighting Systems	1996
PETROVIETNAM	CGCS Ptfs (Vietnam)	Clean Gas Systems Detection – CO2 and Deluge Systems	1997
PETROBRAS	PXXV Ptf (Brasil)	CO2 Extinguishing System Water and Foam monitors	1995
PETROBRAS	FPSO PXXXI	Electrical remote monitors – Manual monitors – Foam Premixer	1997
PEMEX	Tula Refinery (Mexico)	2400 series intelligent I/O cards – Fire and Gas Alerting field equipment	1995
PEQUIVEN	PVC II El Tablazo (Venezuela)	2400 series intelligent I/O cards	1997
TPL	Pralca Plant (Venezuela)	2 TMR ESD Systems and auxiliary Panels	1991
FIAT	Fiat Auto Plant Cordoba (Argentina)	Fire Fighting Deluge System	1996
JULIN ALPHA ALCHOLS	Chemical Plant PR (China)	TMR ESD System ASL CS300	1996
VINYITHAI PLC	Map ta Phut (Tahiland)	Fire and Gas System 2400 series with I/O cards	1995
ACT	FPSO-HZ field Shekou (China)	Fire alarm and extinguish System with I/O cards	1990
CNTIC	Amminia-Urea Plant Urumqi (China)	Fire and Gas/ESD System 2400 serie with I/O cards	1995
CNTIC	Zhong Yuan (China)	Fire and Gas System based on 2400 series intelligent I/O cards	1994
SINOPEC	Maoming (China)	Fire and Gas Analyzer System 2400 series intelligent with I/O cards – Fire and Gas field equipment	1994
CHINA PETROLCHEMICAL INTERNATIONAL CO.	QILU 140K T/A LDPE Plant (China)	Fire and Gas System 2400 series with I/O cards	1997
AGIP	Cortemaggi Gas Plant (Italy)	Valmet DCS – IS Elcom serie 1000 panel Barrier Interface – Fire and Gas/ESD System	1992
ENICHEM	Port Torres PVC Plant (Italy)	DCS Extention	1991
AGIP	Ripalta Gas Plant (Italy)	DCS Process Control System	1992
ENICHEM	Porto Torres EVCM Gas Plant (Italy)	DCS Process Control System	1993
SNAM	Algerinian Gas Pipeline (Italy-Algeria)	Fire and Gas Panel and Extinguishing CO2 System	1991
SNAM	Various Compression Station (Italy)	Fire Fighting Systems CO2 Extinguishing systems for turbine enclosures	1995

Worldwide References

- ALGERIA
- SAUDI ARABIA
- ARGENTINE
- AUSTRIA
- BELGIUM
- BOSNIA
- BRAZIL
- BULGARIA
- CANADA
- CROATIA
- EGYPT
- EMIRATES
- ESTONIA
- FRANCE
- GERMANY
- ENGLAND
- GREECE
- INDIA
- IRAN
- ITALY
- KAZAKHISTAN
- KUWAIT
- LIBYA
- LITHUANIA
- HOLLAND
- PAKISTAN
- POLAND
- PORTUGAL
- QATAR
- ROMANIA
- RUSSIA
- SPAIN
- SWEDEN
- USA

سوناطراك

sonatrach

Thanks!