




COOPER Safety

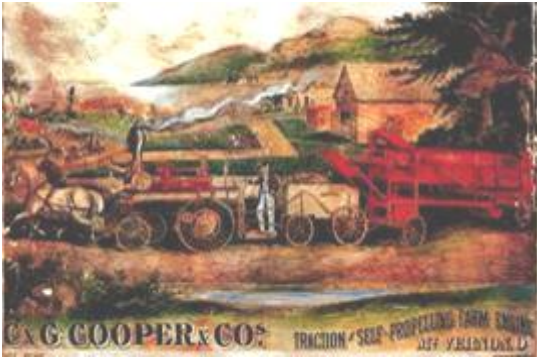


Company Profile 2012

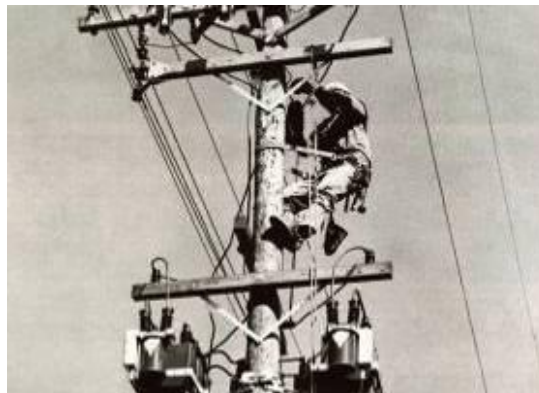
COOPER



Proud History... Bright Future



**Celebrating
177 Years!**



Building Upon a Legacy of Innovation, Service & Expertise

Electrical Businesses

Energy & Safety Solutions



Power Systems
\$1,100+/- million
#1 North America



Crouse-Hinds
\$950+/- million
#1 Worldwide



Safety
\$700+/- million
#3 Europe

Electrical Products Group



Lighting
\$1,050+/- million
#3 North America



Bussmann
\$400+/- million
#1 Worldwide



B-Line
\$350+/- million
#1 North America



Wiring Devices
\$200+/- million
#3 North America

World-Class Collection of Electrical Businesses



YOUR PARTNER FOR THE OIL & GAS INDUSTRY

- Global footprint with you wherever your business takes you
- A broad product offering to maximize safety, standardization and savings
- Innovative solutions for today and tomorrow



**B-Line
Bussmann
Crouse-Hinds
Lighting
Power Systems
Safety
Wiring Devices**

A best-in-class partner for the oil & gas industry

Within Cooper Industries



COOPER Crouse-Hinds



COOPER Bussmann



COOPER Lighting



COOPER Power Systems



COOPER B-Line



COOPER Wiring Devices



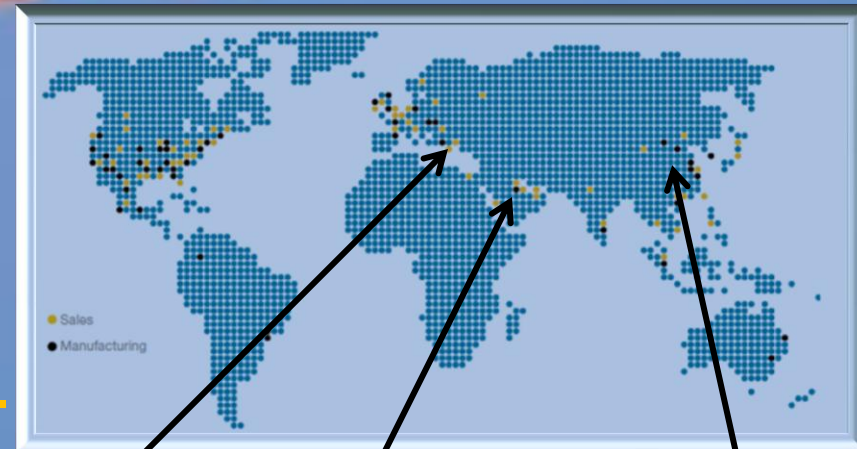
COOPER Safety

Based in Houston, Cooper Industries is a leading manufacturer of electrical products and tools with a turnover of \$ 6,5 billion and 30,000 employees.



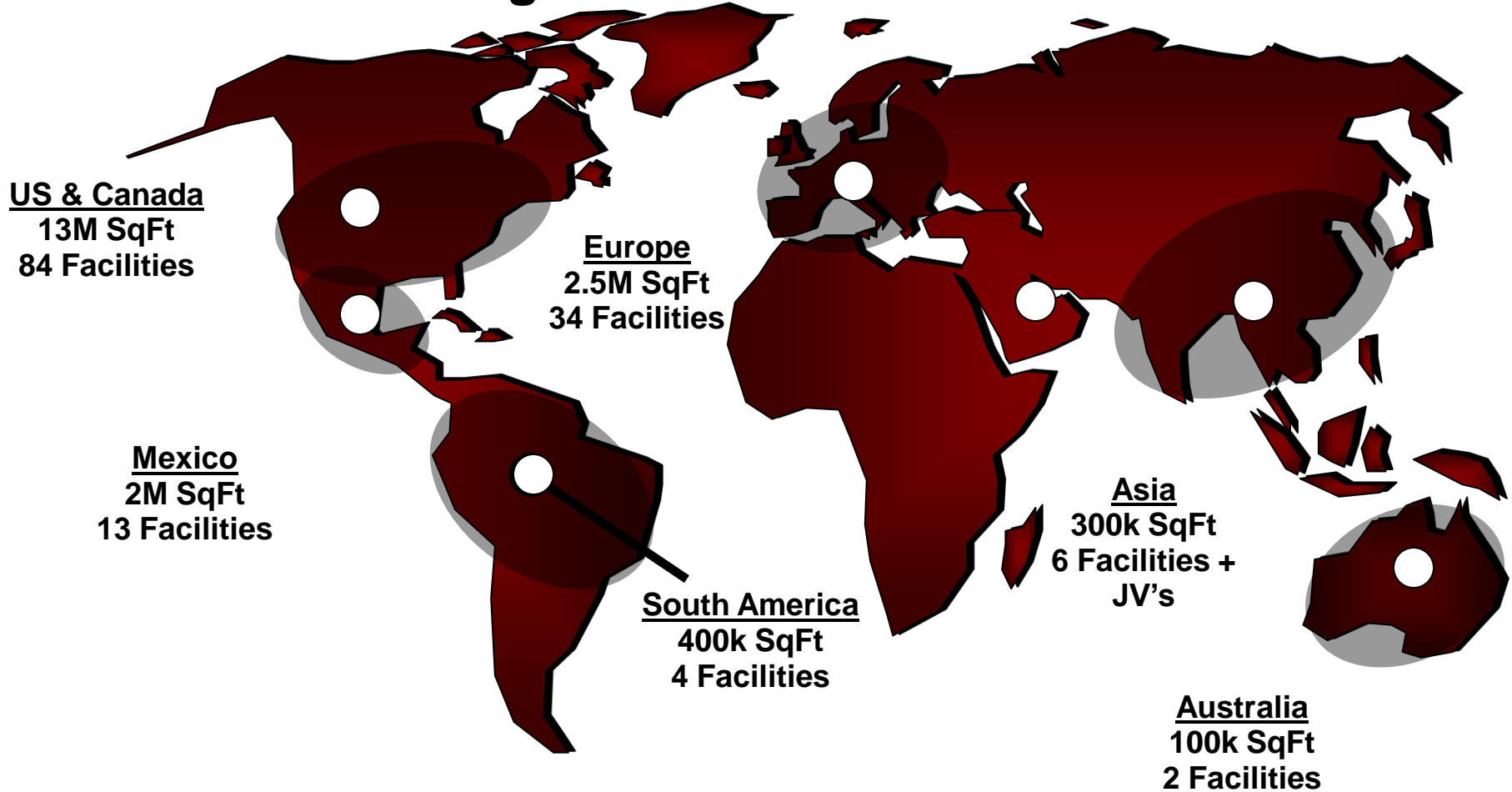
Global Manufacturing and Distribution Network

Manufacture in **23 countries**
Sell into more than **100 countries**
38% of product **sold outside U.S.**
More than **100,000+ SKUs**
143 Locations worldwide

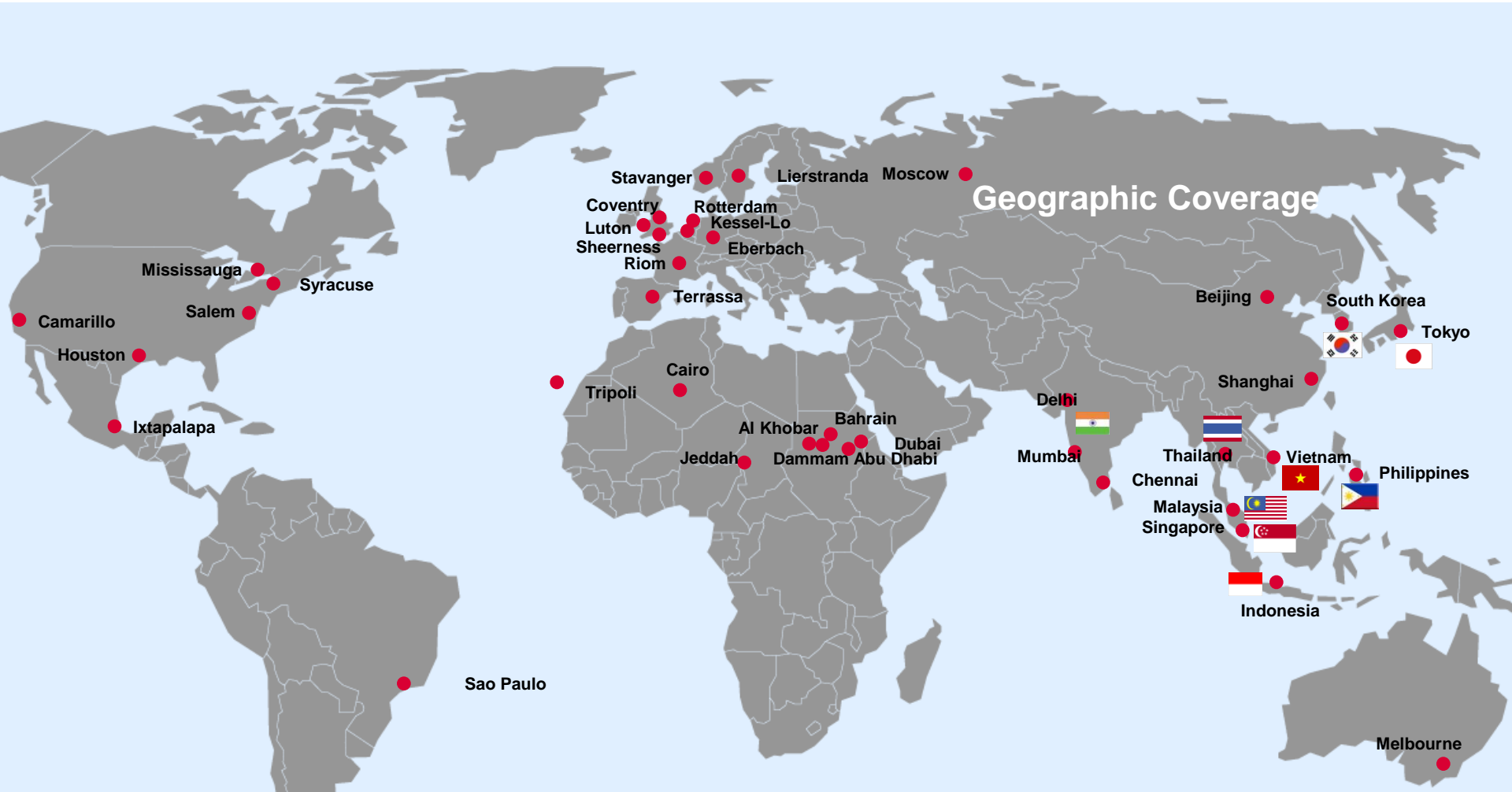


Whatever it takes Whatever you need Wherever you are

143 Manufacturing and Distribution Center Locations



Delivering products of the highest quality, to the right place at the right time, anywhere in the world



We are **worldwide** present for you

Comprehensive Product Solutions

Signal, Alarms & Surveillance

High powered speakers, strobes and horns for indoor and outdoor applications cover large areas with crisp, intelligible warnings.

Motor Control/Electrical Distribution

High-speed fuses protect large drive systems that run motors on drilling rigs.

Lighting

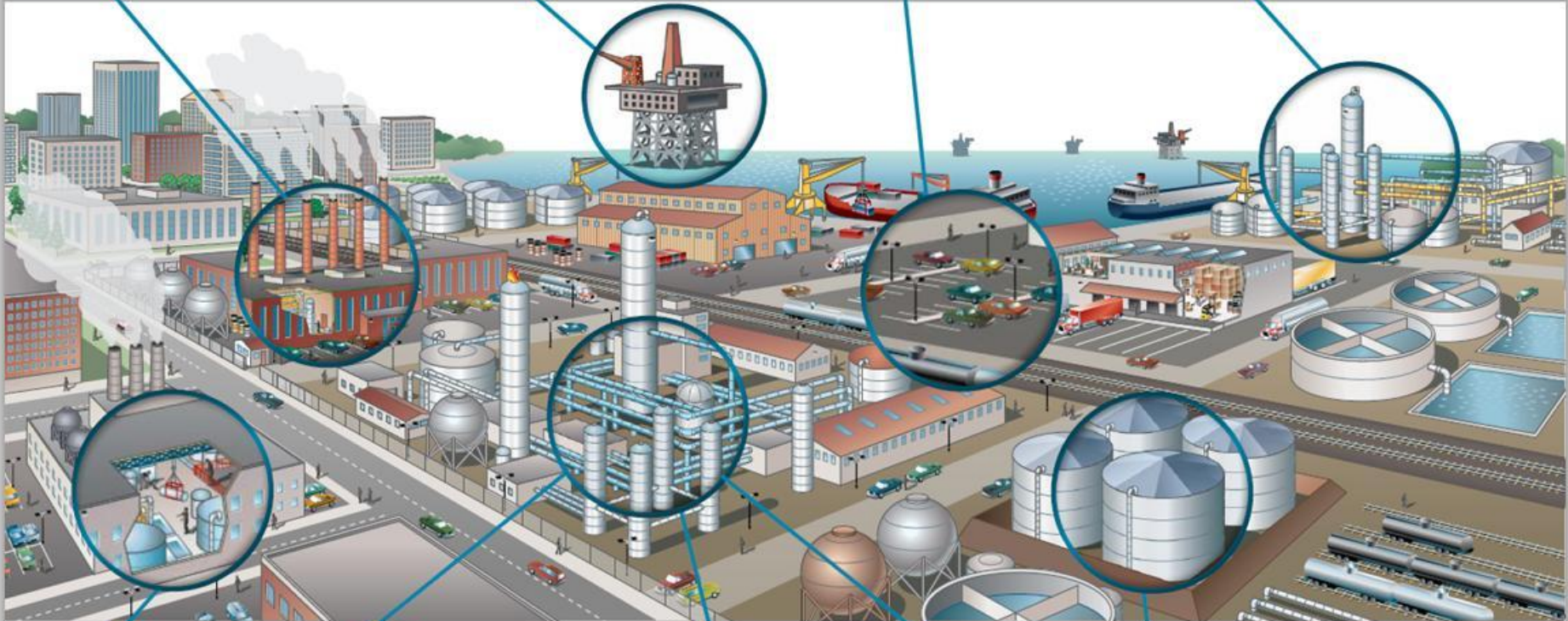
Outdoor area luminaires provide street lighting and floodlighting solutions.

Support Structures

Safety grating on walkways and platforms utilizes a unique serrated surface to provide superior slip resistance to traditional methods.

Instrumentation

CCTV cameras centrally monitor all critical areas in order to efficiently respond to a series of simultaneous events.



Lighting

Cooper illuminates your way no matter the environment—hazardous, emergency or simply general lighting applications.

Enclosures

Junction boxes are used in threaded rigid conduit systems in hazardous and non-hazardous areas to house terminal blocks, relays and other electrical devices.

Motor Control/Electrical Distribution

Explosion-proof VFDs are highly flexible AC drives which can be mounted next to the motor in hazardous locations.

Connectivity

Rugged construction and numerous interlocking designs safely and reliably connect power where needed, including hazardous areas.

Wireless

Wireless products monitor tank farms, forming part of the plant energy management system and OBL alarm monitoring system.

Industrial Fittings & Cable Glands

Used for protection of large drive systems that run motors on drilling rigs.

Thousands of Products, Hundreds of Solutions, ONE COOPER

World's leading provider of **products and service** for electrical systems in hazardous environments

Oil + Gas



Chemical/Pharmaceutical



Heavy Industrial

Food/Beverage

Explosion protection is vital in many places. Cooper products protect personnel and electrical systems in **harsh industrial environments**

Refining



Mixing + Stirring



**Measurement
+ Filling**



Surface Coating

Hazardous and Corrosive Areas

- LED
- H.I.D.
- Fluorescent
- Floodlights
- Induction
- Incandescent

Emergency Lighting for Both Hazardous and Non-Hazardous Areas

- Exit signs (LED Available)
- Emergency lighting systems (LED Available)
- Compact fluorescents
- Obstruction lighting and visual signals (LED Available)

General Indoor/Outdoor

- Quarters lighting utilizing incandescent, fluorescent, H.I.D. and LED luminaires
- Exterior parking and walkway lighting
- Exterior building floodlighting



NEC and IEC standards for both hazardous and non-hazardous areas

Pin and Sleeve Devices

- Hazardous and non-hazardous areas
- Interlocking units for additional protection
- Nonmetallic units for corrosion protection

IEC 309 Devices

- Light industrial, heavy duty and hazardous areas
- IP44 and IP66 variations

Low Amperage & Signal Transmission

- LynxPower Passive Connectors
- LynxPower Network Connectors

High Amperage Products

- Roughneck Connectors
- Posi-Lok System
- Pin & Sleeve
- IEC 309 Devices
- Cam-Lok

Well Head Penetrators

Submersible, Networking

- Burton Subsea Connectors



Portable Power Solutions

- Custom cable assemblies
- Power distribution panels
- Custom power carts & specialty products

NEMA Configured Devices

- Specialty products
- Locking devices
- Plugs and connectors

Specialty Products

- Single-pole
- Multi-pin
- Ex-Link

Electrical Thread Conversion Products

- Adaptors
- Reducers

Rugged construction, extensive configurations and custom capabilities

Conduit Outlet Bodies and Boxes

- Multiple configuration sizes & materials

Cable Glands

- Built to NEC/IEC Standards
- Armored or Non-armored

Sealing Fittings and Compounds

- Standard sealing fittings
- Sealing fittings with drains
- Retrofit & Expanded Fill



Industry leader in circuit protection, power management and safety

Foundation Fieldbus

- Power supplies
- Wiring components
- Diagnostic tools
- Displays
- Industry standards for Foundation & FF-831

Intrinsic Safety I/O

- Galvanic isolators
- Zener safety barriers
- HART multiplexing equipment and annunciators
- Beacons and sounders

Surge Protection

- Power
- Process control
- Network and communications
- Telecom and wireless
- RF systems



Electronic instrumentation and protection for process control

Upstream

- Oil and gas well-head monitoring systems
- Pipeline pressure, flow and valve monitoring
- Cathodic protection/leak detection monitoring
- Underground gas storage monitoring
- Pump/compressor station monitoring/control

Downstream

- Oil/gas tank level gauging/monitoring
- Distribution pipeline pressure, flow and valve monitoring
- Plant IP camera and annunciator security management
- Production emissions monitoring and reporting
- Water and electrical utilities custody transfer verification/monitoring
- Electrical apparatus temperature profiling and monitoring



Providing reliable, secure, robust communications

Junction Boxes and Empty Enclosures

- Explosion-proof and flameproof metallic enclosures
- Customized entry options and control panels
- Enclosures With Components
- Explosion-proof and flameproof metallic/non-metallic enclosures

Instrument Housings

- Hazardous rated metallic or non-metallic enclosures
- Explosion protected terminal boxes



Enclosures built to meet the most demanding IEC/NEC environments

Bolted Framing and Strut

- Structural grade steel
- Materials and finishes
 - stainless steel
 - carbon steel
 - aluminum

Cable Ladder

- Industry leading spans reduce cost
- superior strength and safety
- industrial grade:
 - Stainless
 - fiberglass

Pipe Hangers

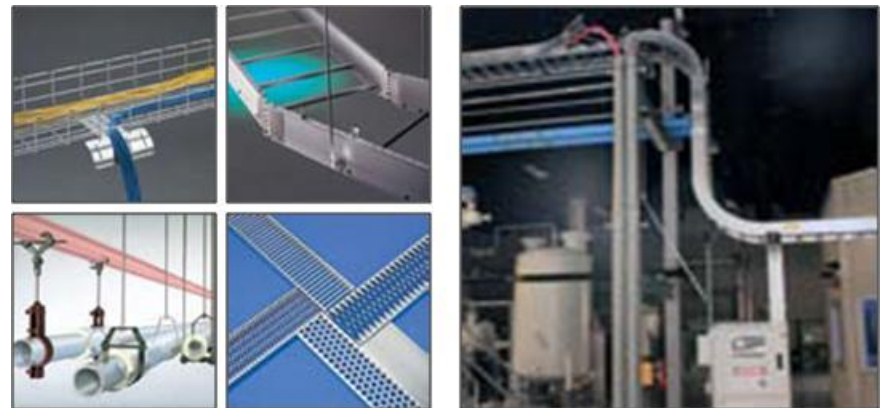
- Patented technology eases installation
- Materials and finishes for any environment
- exceed industry standards within design and manufacture

Flextray

- Field fabricated reduces installation
- Materials for any environment including:
 - Offshore
 - Coastal
 - Indoors

Safety Gratings

- Serrated surface
- Open diamond design allows for debris to pass through the grating without becoming trapped and creating a hazard
- The longest spans and highest loads in the industry



Solutions designed for electrical and mechanical subsystem applications

Deliver the right message to the right people at the right time to save lives, mitigate casualties and minimize chaos. Cooper notification products operate in extreme environments utilizing a secure technology that protects its network during a disaster and reconfigures automatically if a unit goes down. Alerts and messages continue broadcasting without interruption. We offer a system which can be built around your budget and specific needs – from light-weight flameproof horns to explosion-proof relays and bells.

- **Process Shutdown**
- **Alarm and Emergency Signaling**
- **Condition Signaling**
- **Security Alert**
- **Equipment Obstruction Warning**
- **Individual Building Notification**
- **CCTV Systems**
- **Outdoor Warning Systems**
- **Portable Alerting Systems**
- **Fire Systems**
- **General Alarm**
- **Public Address**
- **System Status/General Warning**



Delivering the right message to the right people at the right time to save lives

Our time-tested and innovative conduit fittings, cord connectors and cable glands move power where you need it simply and safely in any electrical installation. We deliver solutions for both non-hazardous and hazardous areas where safety is the utmost of importance.

Conduit Outlet Bodies and Boxes

- Multiple configuration sizes & materials
- Cable Glands
- Built to NEC/IEC Standards
- Armored or Non-armored

Sealing Fittings and Compounds

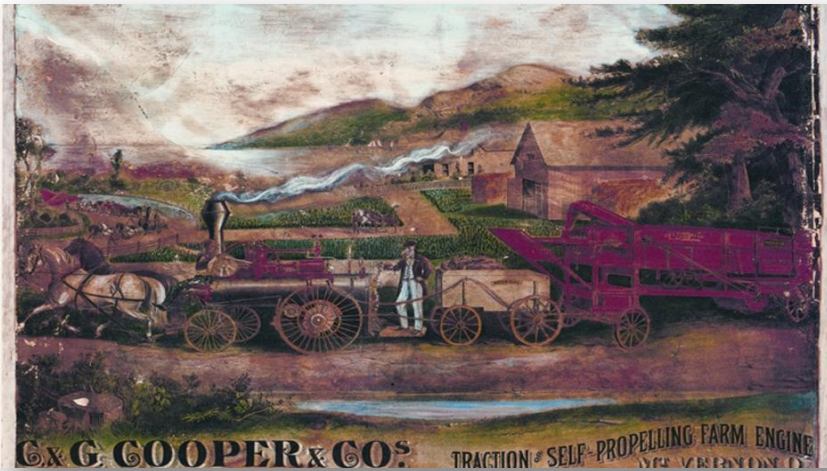
- Standard sealing fittings
- Sealing fittings with drains
- Retrofit & Expanded Fill

- Unions and Elbows
- Conduit Hubs
- Reducers and Plugs
- Couplings
- Ultra High Pressure and Secondary
- Process Seals



Time-tested, innovative conduit fittings, cord connectors and cable glands

Proud History



Cooper Technology Center (CTC)



LED Innovation Center



Asia Technical and Training Center



Building on a legacy of innovation

- One of the largest single source electrical/instrument bulk material offerings
- Global technical EPC support to help ensure project-wide coordination
- 3D Model Products, Lighting Design, and CCTV System Design for reduced engineering time and site standardization
- Global operations to support your onsite project needs, OEM supply and aftermarket service
- Efficient, on-time supply chain helps deliver cost reductions while maintaining Cooper quality
- On-site installation support and training to facilitate safe and consistent installations and start-ups
- Globally Connected EBS (Enterprise Business System) via SAP helps provide standardization, traceability, accurate business records, and cost reductions

A photograph of an industrial facility at night, viewed from across a body of water. The facility is illuminated with various lights, and several smokestacks are emitting plumes of smoke or steam. A bright lightning bolt strikes the facility in the center. The lights from the facility reflect on the water's surface.

More than 175 years of quality and experience

EX Lighting



Signals, Alarms & Surveillance



Motor Controls & Distribution



Fittings & Glands



Instrumentation



CCTV



Connectivity



Wireless



Enclosures & Structures



**Comprehensive Product Solutions For
Global Oil & Gas Applications**

EX Lighting



Signals, Alarms & Surveillance



Motor Controls & Distribution



Fittings & Glands



Instrumentation



CCTV



Connectivity



Wireless



Enclosures & Structures

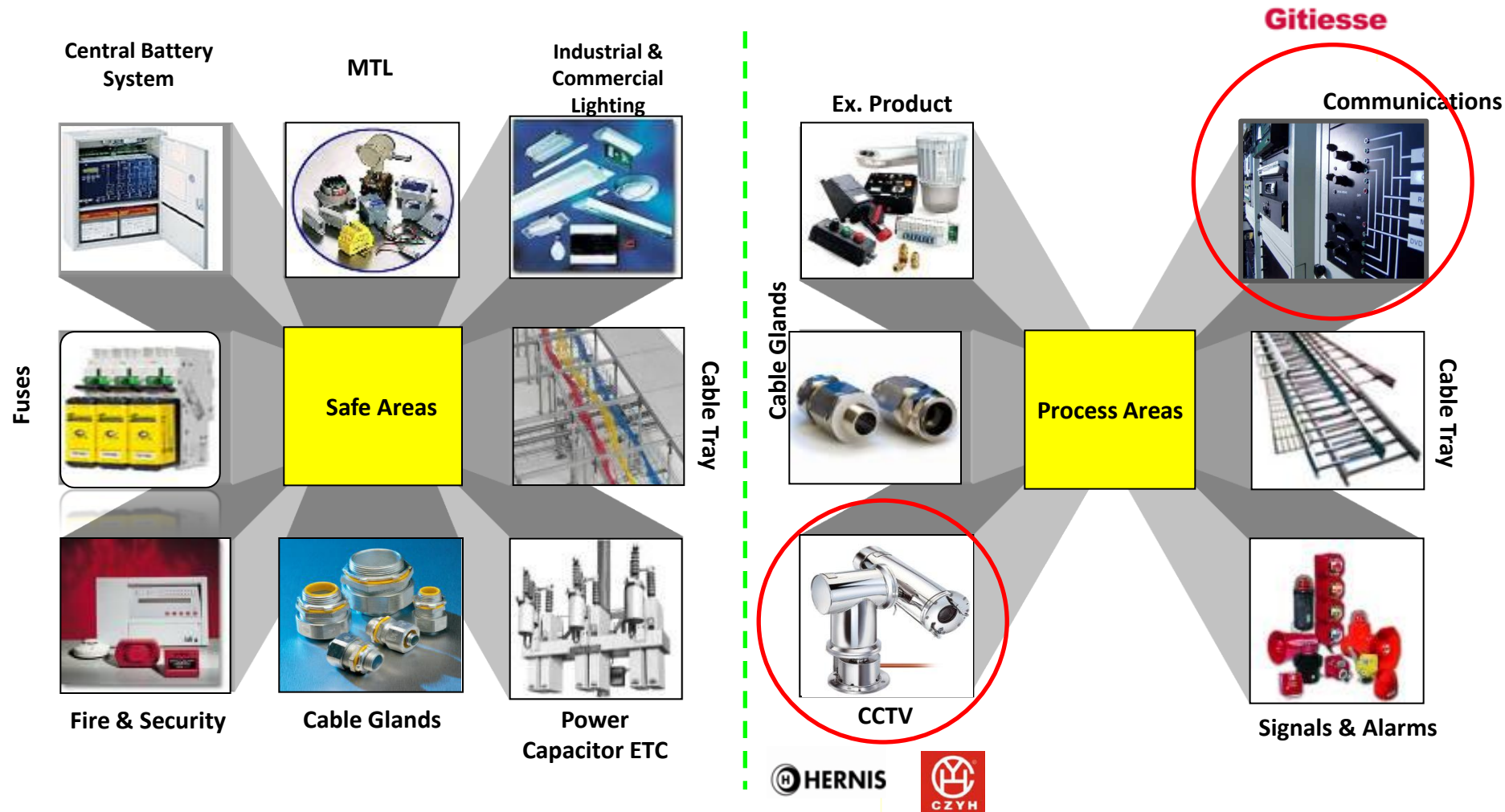


**Comprehensive Product Solutions For
Global Oil & Gas Applications**



Hazardous Area Communications

**COOPER** Safety



Cooper adds 3 new system companies to the group in 2011

Signalling



Loudspeakers



Mass Notification



EX CCTV Systems



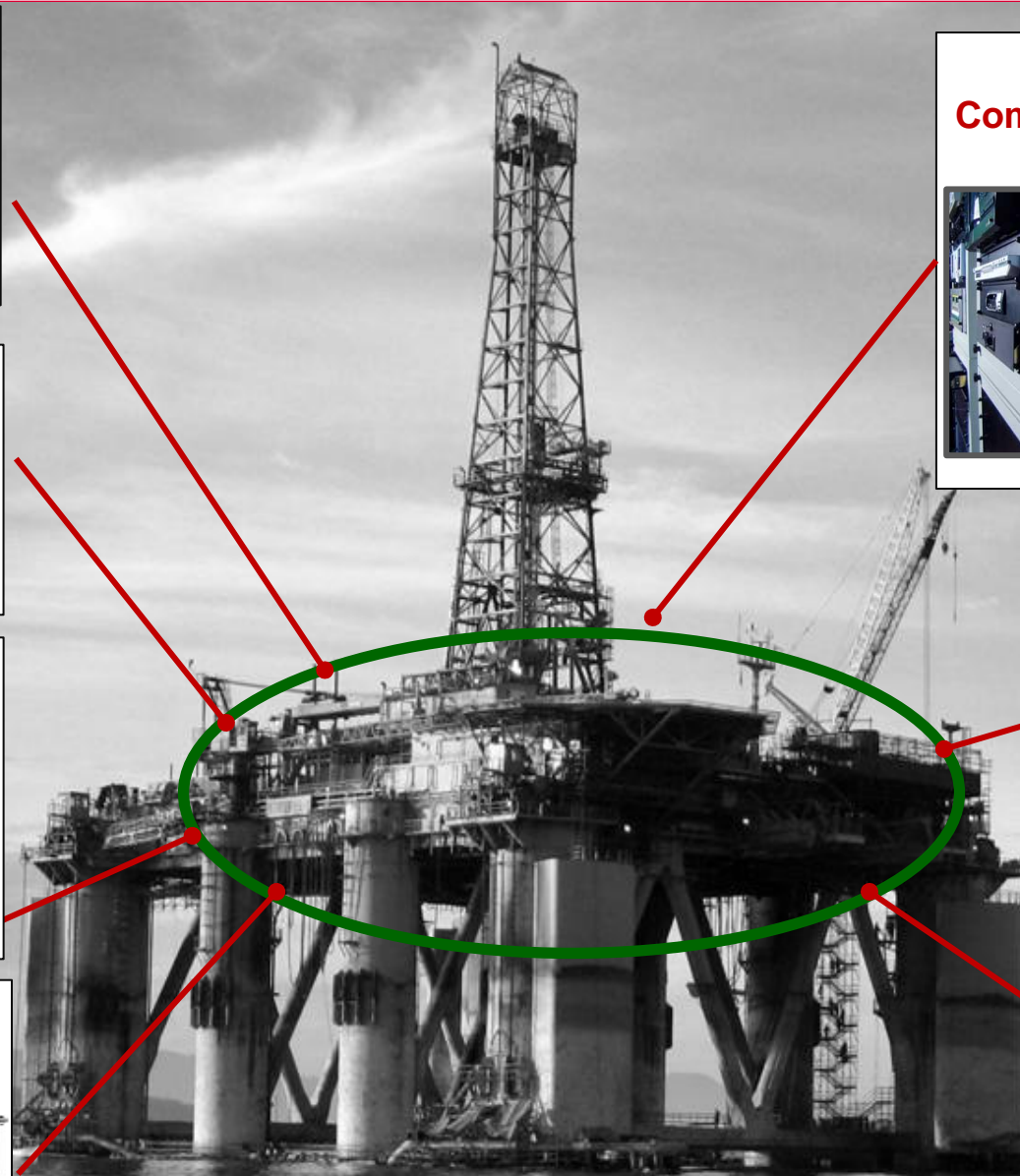
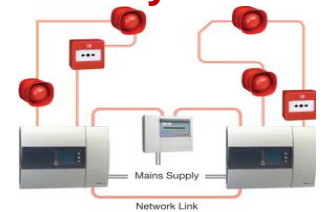
Digital Communications



Emergency Lighting



Fire Systems



- **Global Oil & Gas markets both onshore and offshore.**
- **Global Projects.**
- **Markets where Safety legislation is enforced.**
- **Price is not the primary concern.**
- **Specifiers are concerned with long life and performance.**

Fabrication



Obstruction



Oil & Gas



FPSO



Drilling



Helideck



Wind Farms



Mining



Signals & Alarms



Communications



Gitiesse

CCTV Systems



CCTV systems



Mass Notification



Cable Glands & Adaptors



- **Cooper MEDC** – \$40m sales revenue, 235 employees, Pinxton, UK – Signalling / Alarms / Loudspeakers
- **Cooper Hernis** – \$51m sales revenue, 140 employees, Arendal, Norway – CCTV systems
- **Cooper Gitiesse** – \$34m sales revenue, 65 employees, Genoa, Italy – Integrated Multi Media Communications system or “IMCOS”
- **Cooper Yuhua** – \$15m sales revenue, 220 employees, Changzhou, China – CCTV cameras

- **Combined 2012 sales \$140m**
- **Projects businesses in Oil & Gas & Marine & Mining**
- **Two engineered systems businesses and 2 components businesses**
- **3 are Global , Yuhua is China only....so far.**

Building A Hazardous Area Communications Platform

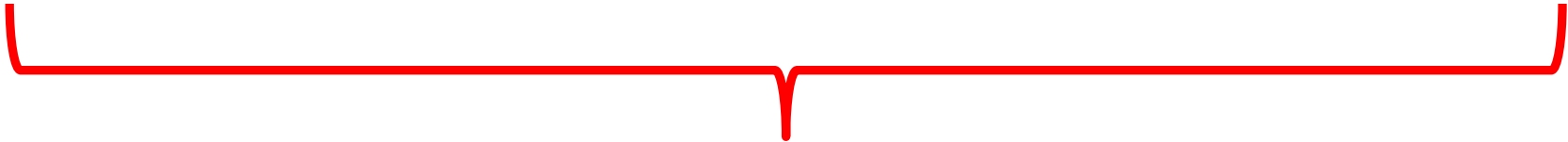
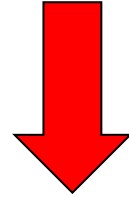
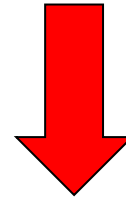
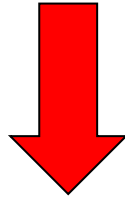
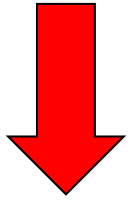
We Will Grow Faster As A Team

| Gitiessse

| HERNIS

| Yuhua

| MEDC

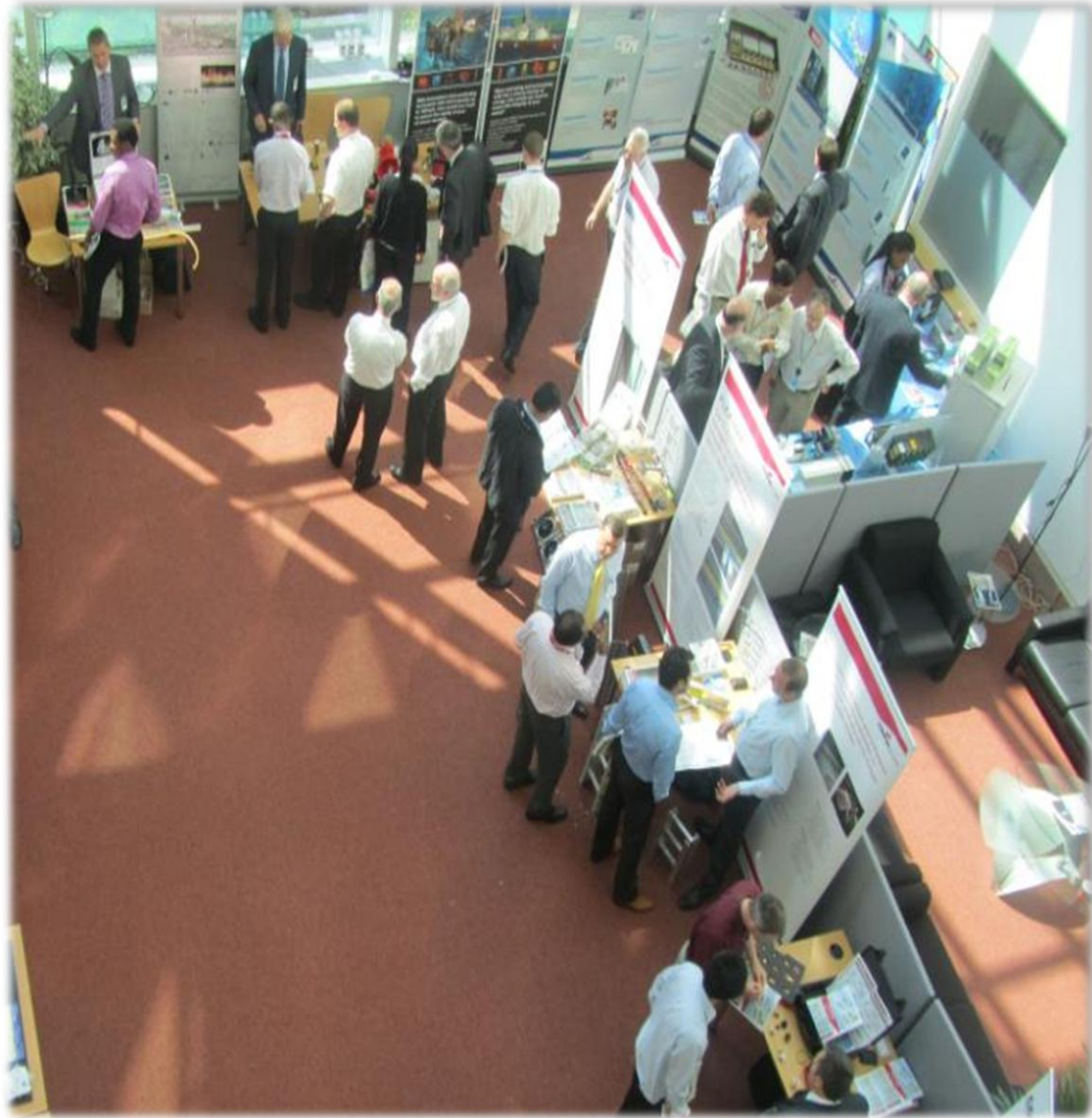


In many cases the customers are the same and we are duplicating our efforts, while at the same time limiting our ability to be truly global



Product-Centric

- Largely Tactical, Reactive
 - Cooper-centric
- Product & Technology focus
 - Differentiate via Features
 - Respond to RFQs
 - Engagement targeted at Engineering and Procurement



Lots of “show and tell”

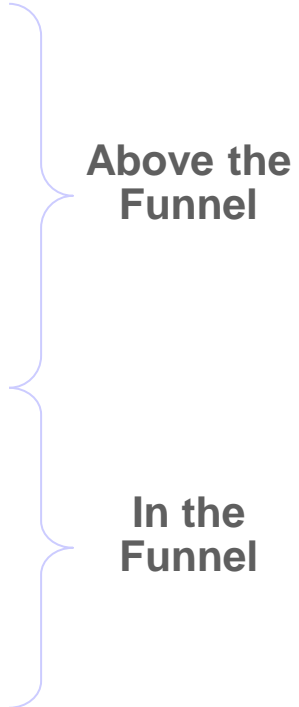
Changing Our Sales and Marketing DNA

Transformation

Product-Centric

Solution-Centric

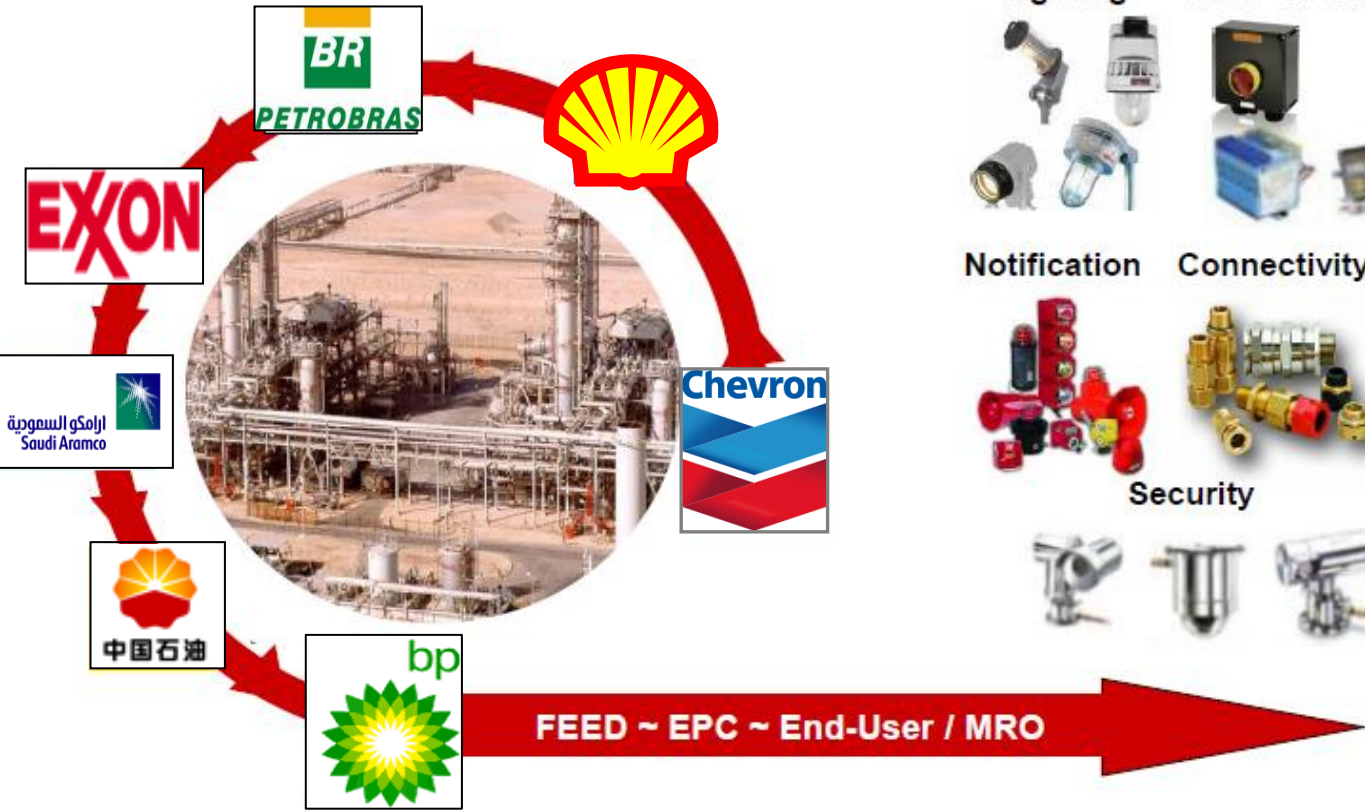
THINK DIFFERENTLY	Company defines itself by the products it makes	Company defines itself by customer transformation it creates (problems it solves)
COMMUNICATE DIFFERENTLY	Company “launches” products and “reverse engineers” problem/solution linkages	Company “launches” problems and communicates problem/solution linkages clearly (sales “conversations”)
ENGAGE DIFFERENTLY	Selling disciplines focus on product superiority	Selling disciplines focus on problem diagnosis and value defensibility
REINFORCE DIFFERENTLY	Reinforcement is focused on new product capabilities or is an afterthought	Formal reinforcement for solution-centric disciplines are proactively implemented



- **Proactively Solve Problems**
 - **Customer-centric**
- **Business Issue and Pain focus**
- **Differentiate via Delivered Value**
 - **Strategic Engagement**
- **Expanded Contacts include Operations and Management**



One Connected Cooper Team!



- COOPER** | **MEDC**
- COOPER** | B-Line
- COOPER** | **HERNIS**
- COOPER** | Crouse-Hinds
- COOPER** | **Gitiesse**
- COOPER** | **ML**



Companies within Platform



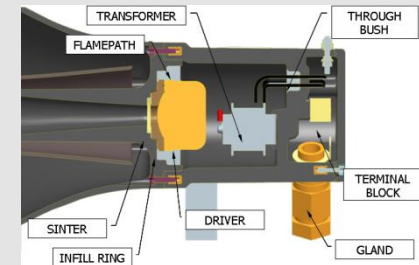


MEDC

Founded in 1975 in the UK manufacturing equipment for the mining industry.

Cooper Industries

Became part of Cooper Industries 2004. Continues leading edge design in EX products with new cutting edge technology



GRP Designed EEXd products

Product range

Fire Alarm Call Points



Strobes / Beacons / Steady Lights



Loudspeakers



Status Lamps



Horns / Sounders



Combination Units



Industrial & Marine Range

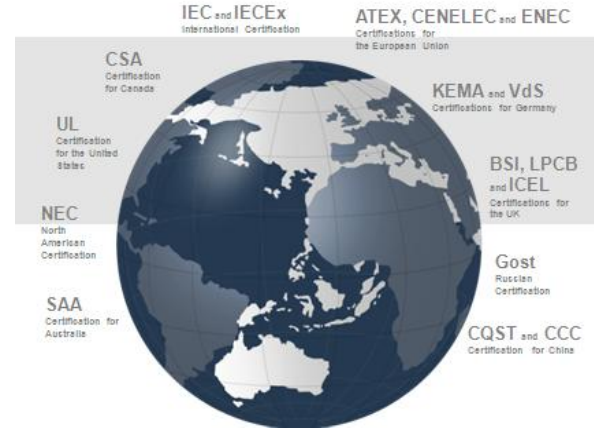


Control Distribution



Andrew - BP © BP Plc

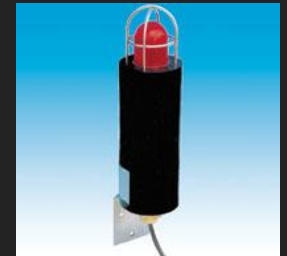
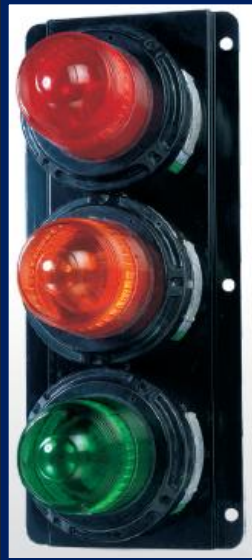
Our value to the customer is any colour, any configuration any certification GRP, Stainless steel & Aluminium



Model		Certification		Voltage		Lens Color		Lens Guard		Entries		Tag/Duty		Options		Finish	
Description Xenon (stainless steel)* Xenon strobe, alloy† Xenon strobe, high temperature, alloy†	Code SM87HXBS SM87 HXBA SM87 XBTA	Voltage 24V d.c. 48V d.c. 110V a.c. 120V a.c. 240V a.c. 254V a.c.	Code 024 048 110 120 240 254	Color Red Blue Green Amber Yellow Clear	Code R B G A Y C	Entries 1/2" NPT 3/4" NPT Top Bottom RHS LHS	Code 3 4 *T *B *R *L	Option None Yes*	Code N Y	Option None Yes*	Code N Y	Finish Natural Black Red Blue Yellow Green White Special*	Code N R B Y G W S				
SM87 XBTA only available UL listed and 24V d.c. * Not available UL Listed † Not available CSA Certified.		Certification Code UL UL CSA C		Guard Code None N Yes Y		Label Code None N Yes* Y		* Please specify.		* Please specify.		* Please specify.					



Explosion protected Signaling Products



Explosion protected Audio Products





Explosion protected Manual Alarm Products





**Saudi Kayan
Saudi Arabia**
\$10B
Petrochemical
complex

MEDC signals &
alarms for fire &
gas package



Aramco Karan

Offshore Gas
Platform

MEDC signals &
alarms for fire &
gas package



**Ras Laffan
Qatar**

Qatar Gas & Ras
Gas LNG plants

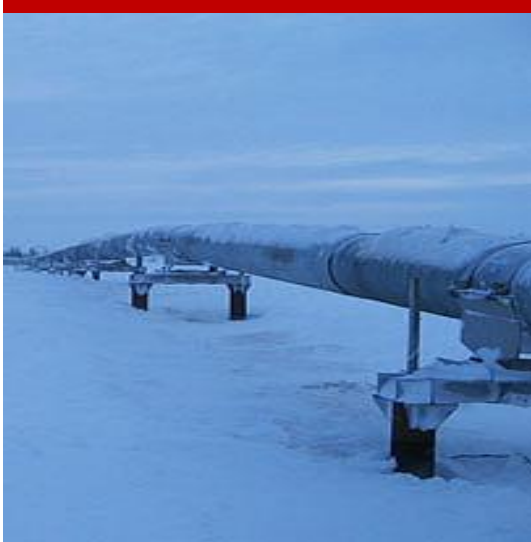
MEDC signals &
alarms for fire &
gas package



Aramco Manifa

Gas processing
plant

MEDC signals &
alarms for fire &
gas package



Vankor Pipeline Russia

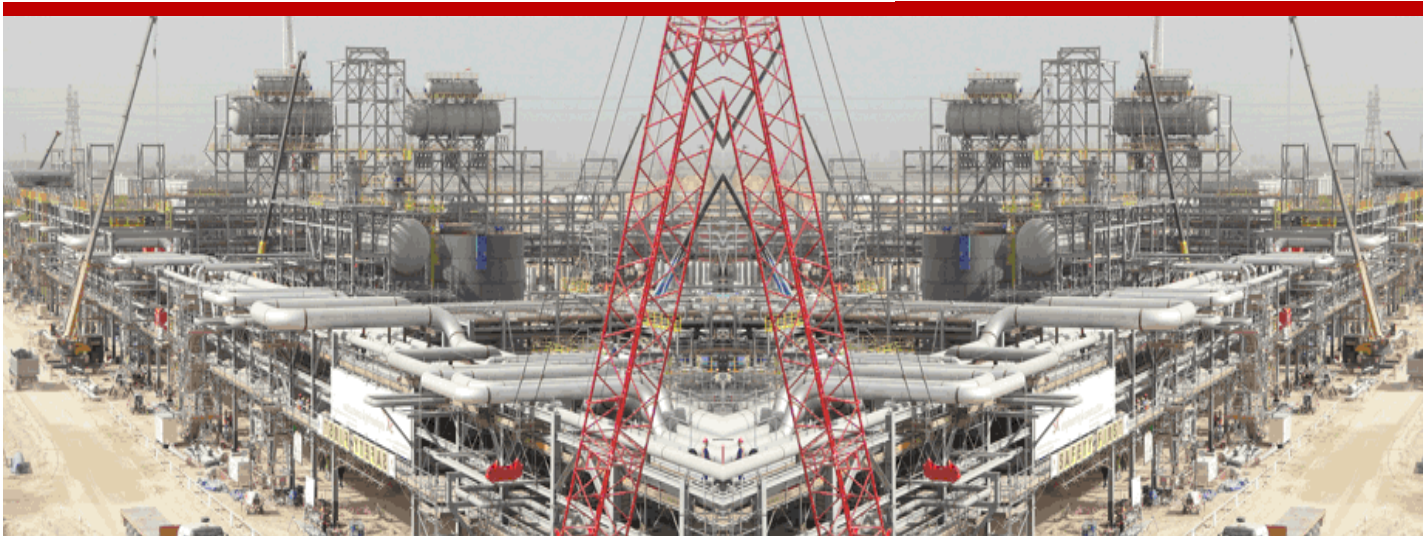
345 mile pipeline

MEDC signals &
alarm for gas
detection



Petro Rabigh Aramco JV Petrochemical plant

MEDC signals &
alarms for fire &
gas package



SATORP Jubail Export Refinery

\$10B JV between
Aramco & Total

MEDC signals &
alarms for F&G,
PAGA
Hernis CCTV
System

Technical Base and Innovation

- Low cost camera stations for application in hazardous areas both Onshore and Offshore
- Supporting Range of EXd Product including Telephones, Microphones, Loudspeakers, Monitors and Enclosures
- Certified product and associated licenses for the Chinese Market
- Specific Range of camera stations for mining applications with associated approvals

Products / Technologies



Range of EXd Camera Stations For hazardous Areas



Certified Solutions For Mining Applications



Range Of Supporting EXd Product

Certified EX Products for China Onshore & Mining

IMCOS DIGITAL

THE MOST ADVANCED
MULTIMEDIA COMMUNICATION
SYSTEM FOR
OFFSHORE MARINE APPLICATIONS

MADE BY
COOPER GITIESSSE - ITALY

IMCOS DIGITAL

Type Approved by seven Classification Companies :



- American Bureau of Shipping
- Det Norske Veritas
- Germanischer Lloyd
- Registro Italiano Navale
- Bureau Veritas
- Lloyd Register of Shipping
- China Classification Society

IMCOS DIGITAL

- One single cable for DATA – VOIP – CCTV – TVSAT
- Main Back bone in fibre optic.
- High speed data rate.
- Redundancy Criteria.
- Remote Teleassistance.
- Audio and Video Digital Memory Bank.

- VOIP and STREAM VIDEO facilities.
- DIGITAL Video Recording facility.
- Email – Internet – Video on demand.



All Delivered In One Integrated Digital Solution **IMCOS™**

TVSAT

Public Address

Self Power Telephones

General Alarm

Talk Back

Automatic Telephones

Radio/TV

CCTV

Digital memory Bank

**Music Generation
and distribution**

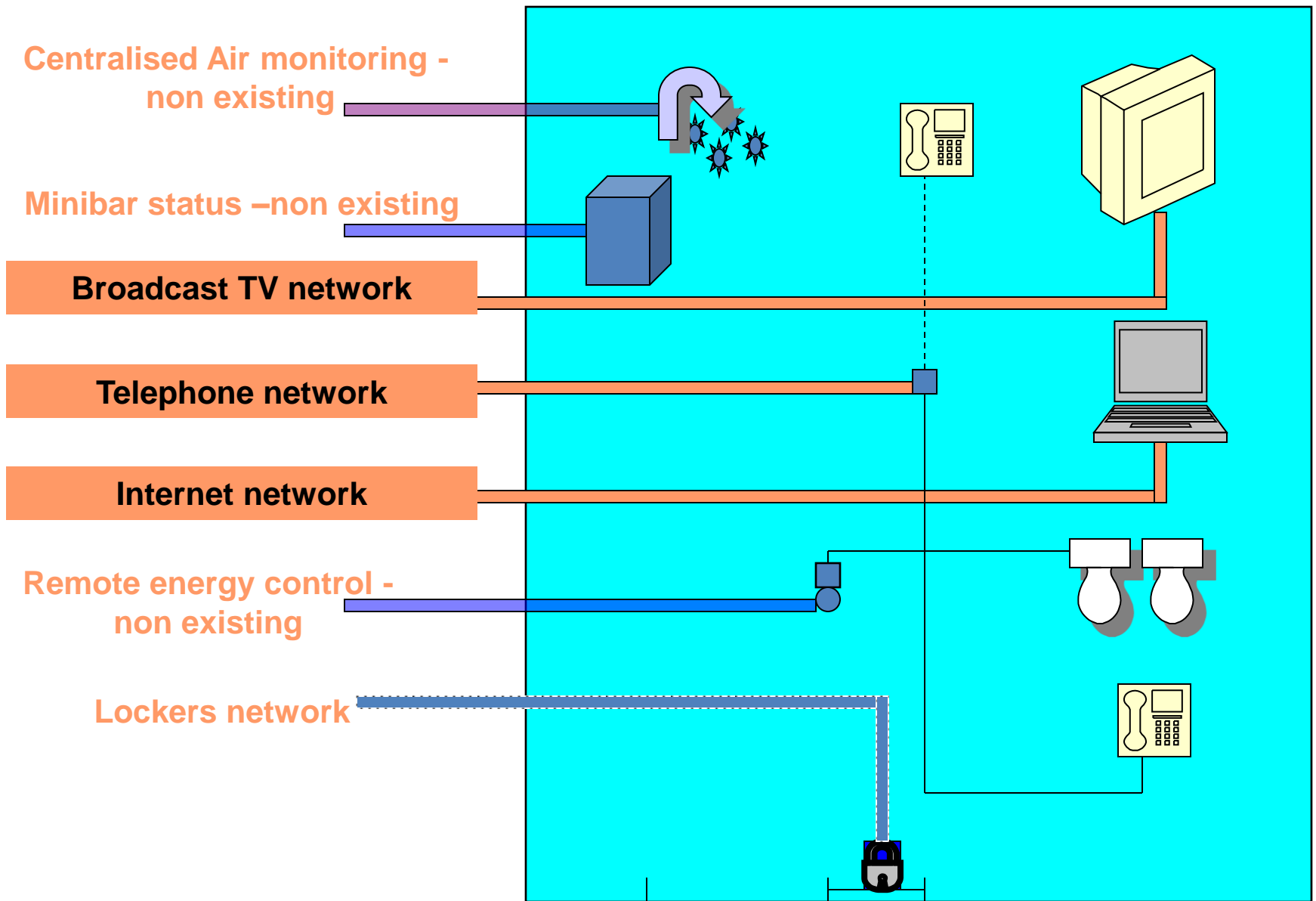
**Audio/Visual
Columns in E.R. Area**

**Ethernet
Network**

As manufacturers of integrated multimedia communication, Cooper Gitiessse engaged into finding new ways for better performances at less cost for yards and owners

One of the primary goals is eliminating multiple cable networks.

- *By means of the latest LAN technology and TCP/IP applications offers a new approach to the communication network cabling*
- *The “single cable - single task” principle now can be replaced by the “single cable - multiple tasks” one*



**Typical traditional cabin connections:
At least 3 separate networks**

Broadcast TV & all interactive TV services

Telephones VOIP

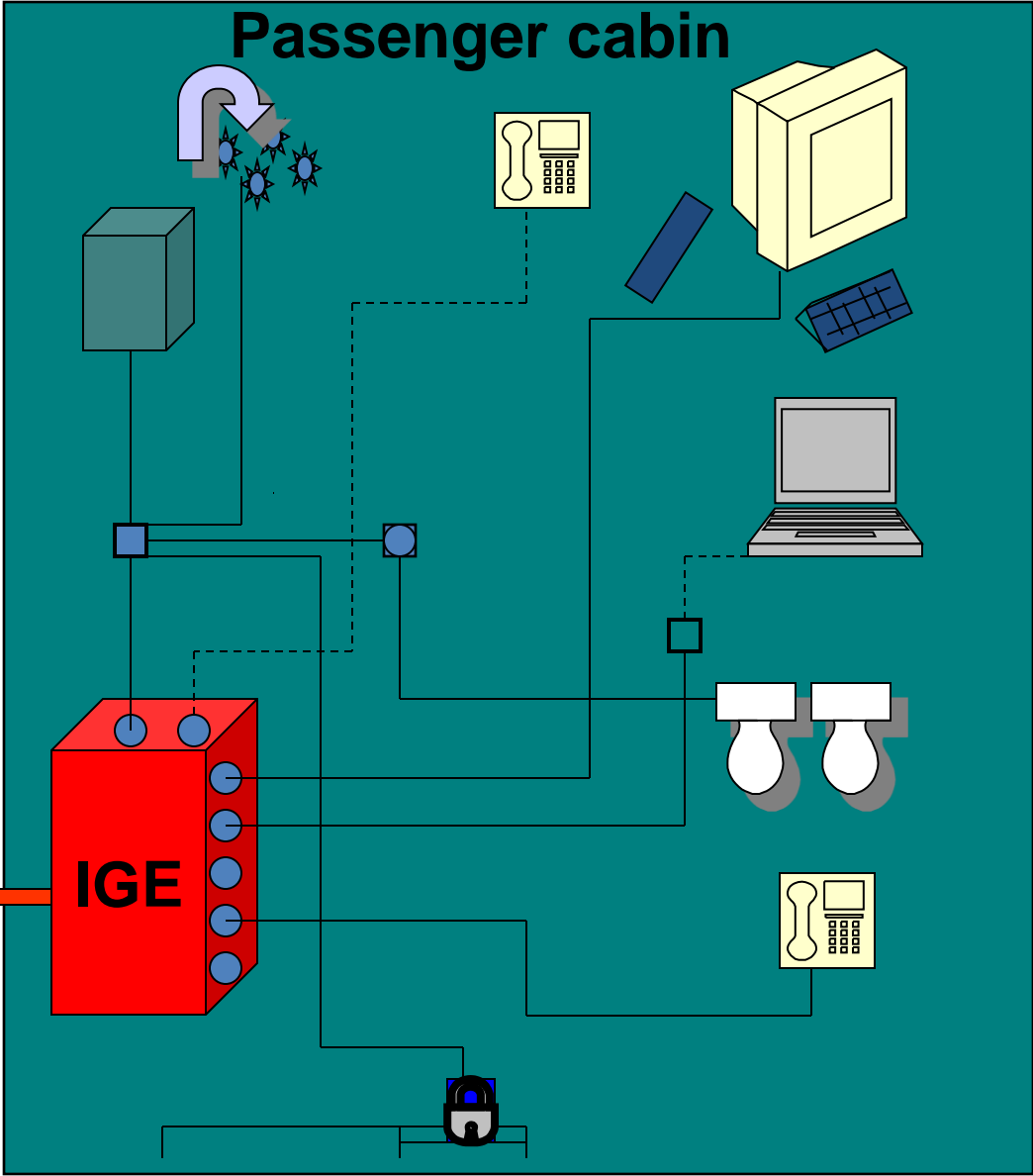
Internet

centralised Lockers possible

Centralised Air mon. possible

Centralised energy control possible
minimal status possible

digital network (CAT 7 cable)

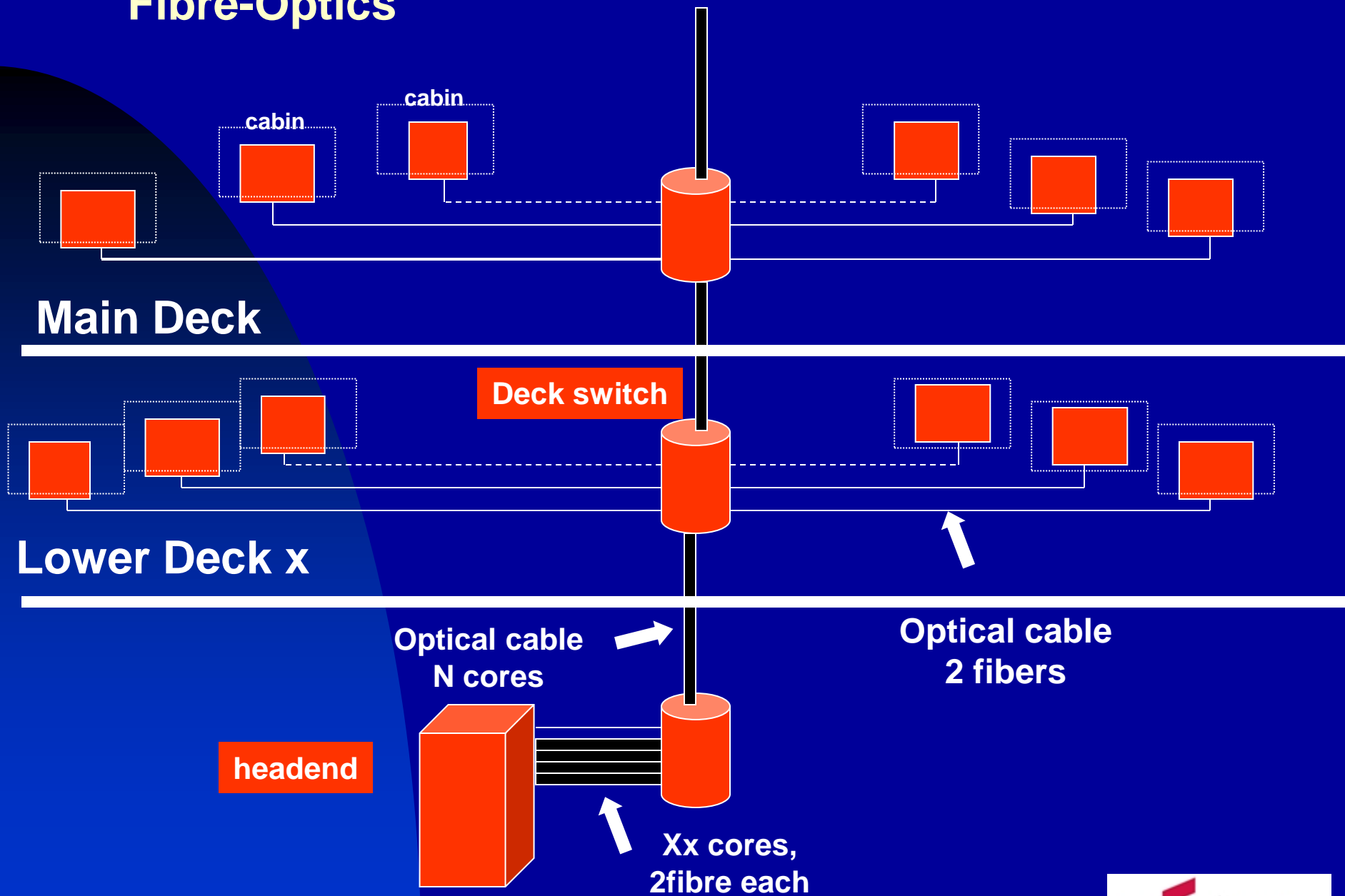


IMCOS™ digital solution for cabin connection

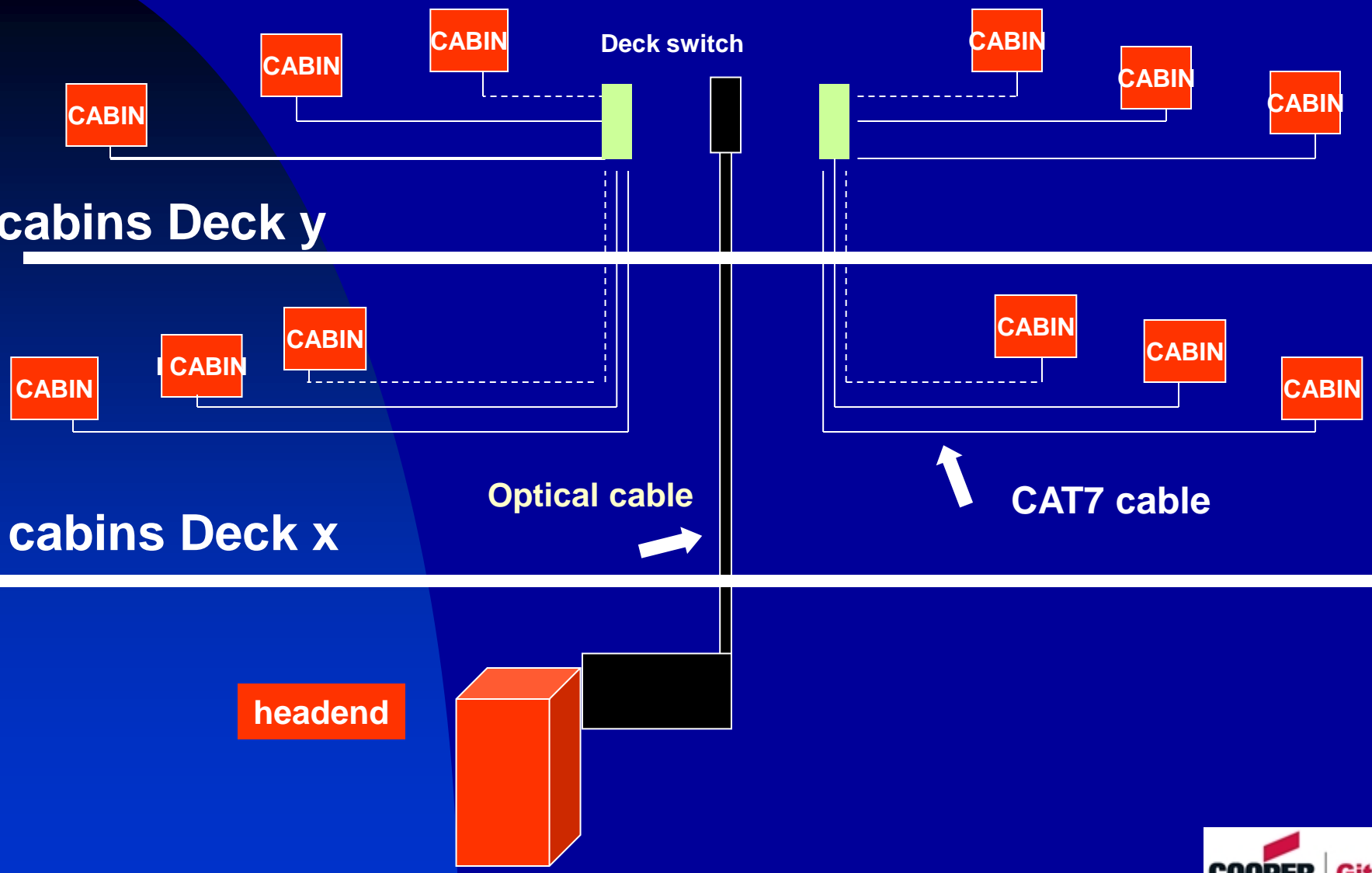
IGE means “ **IMCOS Gateway Equipment**”.

- This active box transforms and interfaces the comms peripherals into clients of the installation WAN (wide area network)
- IGE can use either Cat7 conventional cable or optical cable network

Offshore distribution concept Fibre-Optics



Ship distribution concept CAT7



The IMCOS DIGITAL can be remotely managed by the onboard Server or through a satellite data media (Inmarsat, Vsat, etc.) directly from the Onshore CCR and the server access is protected by password.

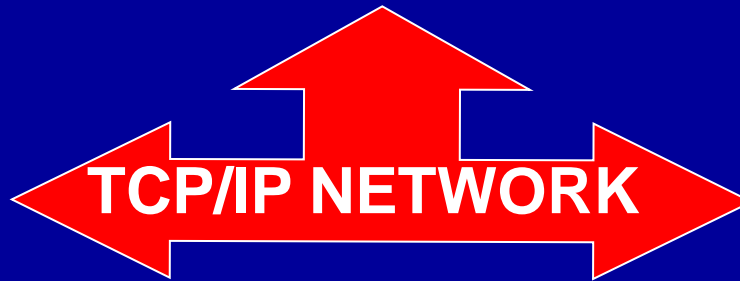
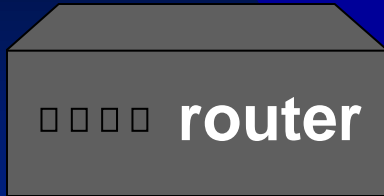
The user can read IMCOS DIGITAL status & configuration as IP addresses etc.

- Provide quick access for configuration upgrades and quick troubleshooting from shore***
- Remote tele-assistance programming of telephone PABX, peripheral computers, file downloading, TV programs refreshing, etc.***

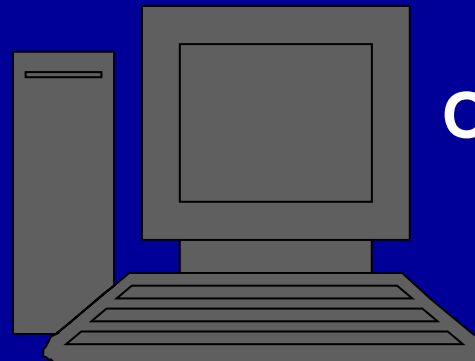
IGE remote management

Onboard
server

IMCOS
DIGITAL

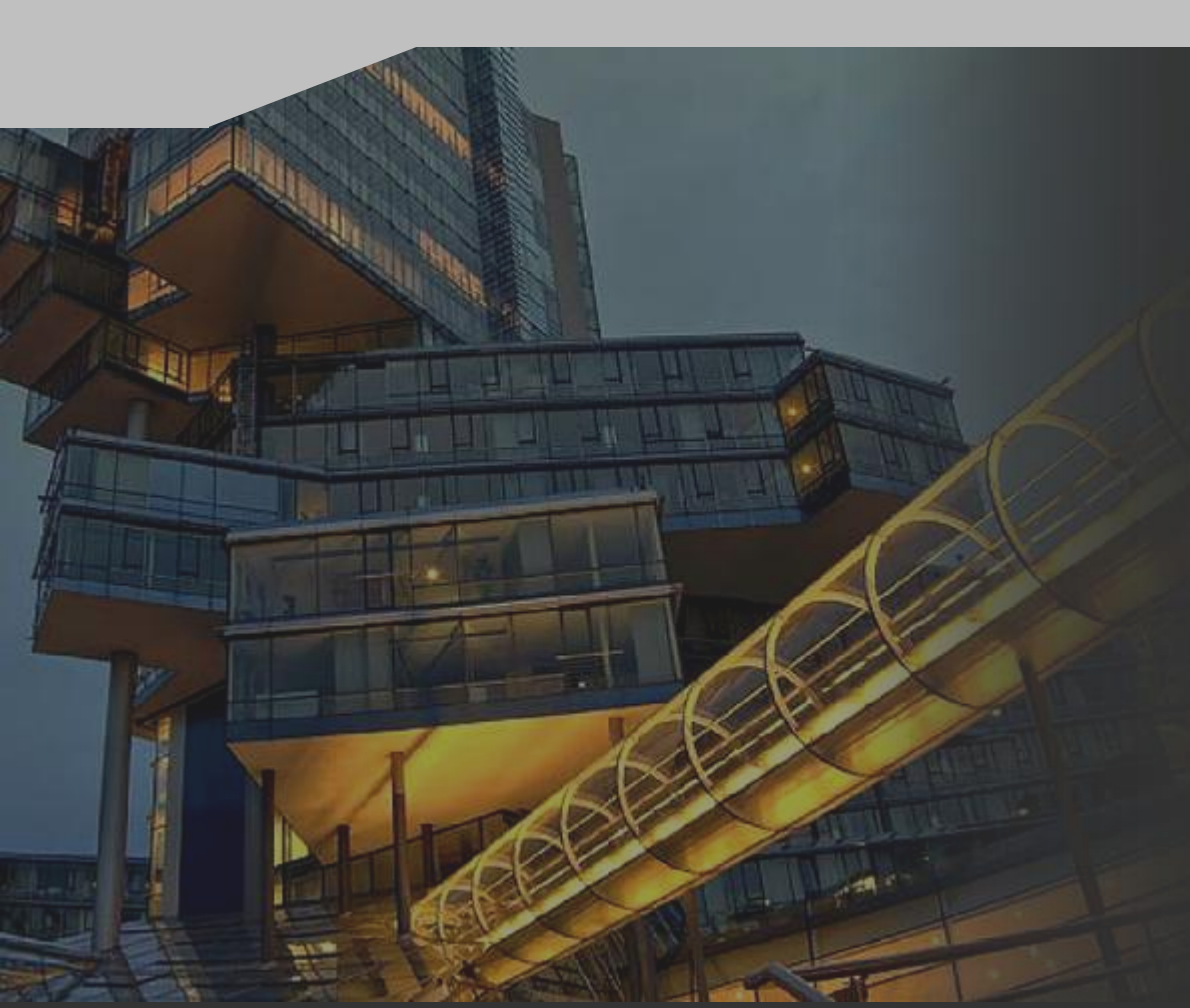


satellite data
transfer



Onshore CCR





THANK YOU

EUGENE LIM
Regional Sales Director, Asia Pacific

