A large offshore oil rig is silhouetted against a dramatic, cloudy sky at sunset or sunrise. The rig's derrick and various platforms are visible. In the distance, another smaller vessel or rig is on the horizon. The ocean surface is dark with some whitecaps.

Visualization solutions for harsh and hazardous areas

The background of the slide is a photograph of an industrial facility, possibly a refinery or chemical plant, with tall distillation columns and complex piping. A solid blue horizontal bar is positioned across the middle of the image, behind the text.

The safety you rely on

Delivering world-class reliability and safety in high consequence harsh and hazardous environments



MTL Azonix is a part of Eaton's Crouse-Hinds business and remains a brand that stands for safety in the harshest of environments. Whilst we began with the MTL100 series zener barrier, MTL Azonix alongside Crouse-Hinds, has grown into the premier name for a comprehensive portfolio of solutions for high-consequence harsh and hazardous environments.

As we continue to evolve, so does our brand. Our products are now united with Eaton's leading range of reliable, efficient and safe electrical power management solutions. MTL Azonix has a new look alongside Crouse-Hinds by Eaton, but the products and technology you trust remain unchanged.

**More protection. More technology.
Expect more.**

Only Eaton's Crouse-Hinds Business can deliver...

- Protection and safety of people and assets around the world with unsurpassed reliability and quality in every product we offer
- Industry leading innovation and product efficiency
- Product solutions designed and certified for global specifications
- Best-in-class, global sales, and customer service teams that provide local support
- Over forty years of industry knowledge and expertise

MTL Azonix Company Overview

MTL Azonix has been supplying ruggedized computers and data acquisition systems since 1993 to the oil and gas industry. With over 10,000 systems sold ranging from human machine interface (HMI) displays, data acquisition systems, wireless communication and I/O devices for hazardous environments, MTL Azonix has a strong technical understanding for the demands of outdoor and hazardous area environments. This experience guides us as we develop new and innovative products converging computer technology with application know-how to meet a wide range of customer requirements.

MTL Azonix offers the broadest range of hazardous area HMI products giving you the option of choosing the best solution to meet your technical requirements and business needs. At MTL Azonix, we understand that it is not just about the product but the overall cost of ownership experience. Manufactured in a world class manufacturing facility focusing on quality and on-time delivery and supported by a strong service center focused on customer satisfaction, our products give the best return on investment and help your business grow. We strive to lead the industry with our product innovation and cost effective solutions.

Our Product Value Proposition

- Totally sealed computers and displays that eliminate failures from contamination.
- Lower power designs, ensuring longer product life.
- Rugged electronic package that function over a wide range of temperatures, shocks, vibrations and EMI.
- Intrinsically Safe electrical design enabling small, light weight ease of connectivity HMIs, data acquisition and I/O devices.
- Certification to hazardous area standards by approved agencies.
- Full product support throughout the life of the product.
- Patented IS Ethernet and wireless communications.

Applications for MTL AZONIX Systems

- Directional drilling
- Gas compression stations
- Measurement and logging while drilling (MWD/LWD)
- Casing tools
- Mudlogging
- Blow out preventers
- Coil tubing
- Pressure managed drilling
- Well stimulation
- Geo balance drilling
- Production platforms

www.azonix.com

sales@azonix.com



Our designs push computing capability closer to the process

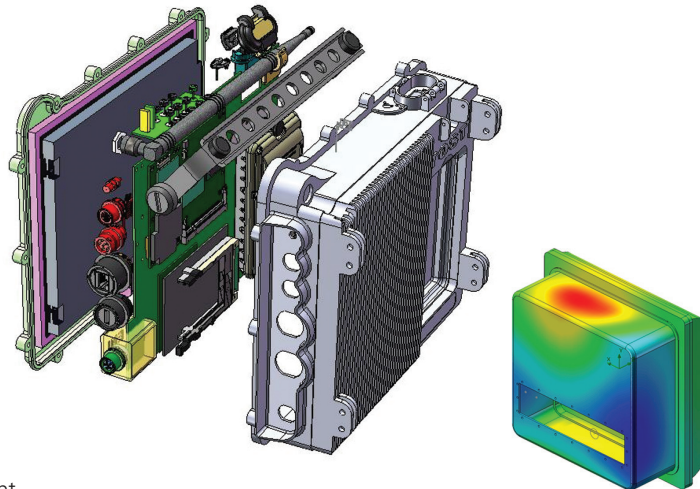
Making it rugged - design challenges

In order to mitigate the primary cause of all system failures, heat, MTL Azonix engineers specify high efficiency power supplies, low power LED backlit LCD's and low power CPU's. These highly reliable designs are then modeled in thermal management software to ensure the heat dissipation meets all environmental criteria. Our engineers work closely with our customers ensuring all critical requirements are achieved per demand of the rig floor environment.

Our design review process ensures that the materials, tolerances and manufacturing practices will produce the highest reliability in our products as intrinsic safety and ruggedizations is our core competency. This is also validated during our prototype build and test phase. In addition, reliability predictions are made in accordance with MIL-HDBK-217. With a design focus for obsolescence management, our products typically have a field life of eight to ten years. The design teams' focus on low MTBF is critical in the design process. Our product development process includes several levels of reviews where peers scrutinize each other's work and cross-functional teams evaluate the development process in all areas including design margin. Finally, in addition to in-house testing, we utilize certified third-party labs to validate that the components and assembled units are reliable.

Design Capabilities

- Integrated computer and display systems
- Intrinsically safe design
- LCD display design and optics technology
- Extreme ambient temperature design
- Embedded system design
- High speed barrier design
- Electronics packaging
- Thermal management
- FEA analysis
- Wireless communications
- Hazardous Area & MIL certification
- Solid Works / Pro E CAD capabilities
- MTBF Analysis- Mean Time Between Failure
- DFMEA Analysis- Design Failure Mode Effect Ar
- Thermal Analysis for superior thermal management



Process Capabilities

Lean Manufacturing
ISO 9001 and AS 9100 certified
Program Management
Configuration Management
Risk Management
RoHS Compliance
Hazardous Area Certification



MTL Azonix customers expect a quality product that performs in harsh and rugged environments

Operational philosophy

Operational Excellence

Op-Ex principles are our foundation and our core building blocks in everything we do. Lean Manufacturing principles are used in the entire life cycle of the product from design to order entry to production, shipping and after sales service. We utilize kaizen events as our core methodology for continuous improvements. These events are focused improvement projects with cross functional teams dedicated to developing and implementing a solution to a defined problem in 5 days or less.

Visual Metrics

We utilize Key Performance Indicators (KPIs) to monitor the overall business on a daily basis. We also have KPIs for every key function from design to order entry to a production cell to kanban systems. These metrics are posted prominently and reviewed on a daily basis as an integral part of our PDCA (Plan Do Check Act) based real time quality assessment system. Any deviations from the target are analyzed via Pareto charts and problem solving tools are deployed to drive corrective action and improvement.

Dedicated Production Cells

The production cell is at the core of our Lean Manufacturing System. All materials, information and tools are available at the point of use and dedicated supply chain and engineering resources are assigned to cells to ensure maximum cell uptime.

Quality Management System

MTL Azonix is certified to ISO 9001:2008 and has been certified to ISO 9000 since 1996. We are also certified to AS 9100 at all our locations.

Supplier Quality

As part of our QA system, we have an extensive Supply Chain Management System. Our approach covers:

- Selection of new suppliers
- Supplier scorecards and rating
- Non conforming material review
- Monitoring of OTD and quality levels of existing suppliers.
- First Article Inspection for new suppliers / new part / modification to parts
- Joint continuous improvement initiatives with suppliers

Obsolescence Management

Obsolescence Management is a service we provide to insure that we have a predictable supply of the key components and subassemblies used in our products throughout their life cycle. Through frequent road map reviews between our critical component suppliers and our supply chain team, we are notified in advance of scheduled updates as well as end of life situations. With this information we are able to design for the next generation and secure sufficient inventory to provide a seamless transition with no down time or loss of service to our customers.

Quality Assurance

MTL Azonix customers expect a quality product that performs in harsh and rugged environments. To meet these expectations MTL Azonix has implemented a quality assurance program which includes ISO 9000 and AS 9100. Vendor qualification and regular quality performance monitoring is posted through our visual performance system which includes Key Performance Indicators.



Field proven in
oil exploration

MTL Zone 1 workstations and displays

MTL AZONIX ProPanel® PRO4500 Z1

ZONE 1 WORKSTATION

The MTL AZONIX ProPanel® PRO4500Z1 is the ultimate hazardous area workstation for the rig floor.

Leveraging the latest in portable computing technology, we are able to integrate full client computing performance into a small light-weight enclosure.

The MTL AZONIX ProPanel® PRO4500Z1 also introduces new technologies, driven by our Intrinsic Safety knowledge, extensive customer research and accumulation of field data from a fleet of thousands of systems.



- 15" sunlight readable work station
- Capacitive glass based touch-screen
- Intel® Core™ i7 2655 processor
- IS wireless 802.11 b/g/n protocol



MTL Azonix Drilling Unit (ADU)

Directional drilling rose dial

The MTL AZONIX Drilling Unit (ADU) was developed as a cost effective directional drilling display to help users validate the azimuth and inclination.

Featuring a large rose dial displaying the last four tool readings at five degree increments the ADU helps to reduce errors and with a clean tool face display readings can be read from over 15 feet away, minimising operator fatigue.

The ADU has four configurable displays that can be programmed to show any relevant drilling data.

- Single connection- power and data
- Configurable displays
- Lightweight / rugged and sealed

MTL Zone 2 workstations

MTL Azonix Barracuda 15 and 19 WS

Rugged zone 2 workstation

The MTL AZONIX Barracuda can be utilised in rig floor applications such as MWD / LWD, mudlogging or well stimulation in oil and gas operations where a display or workstation must be able to withstand harsh shock and vibration and meet hazardous area certification. The system's small footprint and VESA hole pattern allows for easy mounting in spaceconstrained work areas, making it equally suitable for use in machine automation environments where a standalone system must be mountable to various surfaces, from a standard pedestal to a boom, pole or custom panel mounting.

The MTL AZONIX Barracuda is available in several configurations, depending on industry and specific application requirements. The system offers a full military hardened MIL-STD 810FG and IP66 compliant sunlight-readable touch-screen display.

The MTL AZONIX Barracuda incorporates an Intel® Core™ i7 processor workstation that offers a removable SSD or compact flash storage and runs Microsoft Windows 7 operating system. It is a portable, rugged controller/monitor that can be transported from site to site or easily mounted in permanent locations. The power, wireless and I/O signals connectivity are via connectors and not glands for fast rig-up/rig-down in difficult installation locations, eliminating cable cost and labor. This system allows the user to display real time data in the harsh environment of the process being monitored and make adjustments to it locally.

Visualisation solutions for harsh and hazardous areas





- New Intel® Core™ i7 2.5GHz processor
- New 15 & 19 inch, sunlight-readable display
- New glass base projected capacitive touchscreen
- New wide temperature range -40°C to +60°C
- New built-in high gain 802.11n wireless LAN
- IECEx C122 / ATEX zone 2 / AEx Class 1 zone 2 approvals



Continuously striving for asset uptime while balancing performance with financial sensitivity

MTL remote terminals

New generation of remote operating terminals

Introducing a new and unique modular design concept, the MTL GECMA Work Station (WS).

The MTL GECMA WS has been designed to address the environmental challenges of obtaining visualisation within harsh and hazardous areas. Packed full of features and state of-the-art technology the range includes Remote Terminal (RT), Thin Client (TC) and Personal Computer (PC) to meet a wide variety of applications.

Suitable for the strictest of hygienic conditions and aggressive production environments, with a slim, flexible modular construction including individually certified modules to allow safe maintenance in hazardous areas.

The new MTL GECMA WS builds upon the significantly large installed base of its predecessors and is now available as an upgrade for existing MTL GECMA Challenger and Explorer legacy installations.



- Platform, modular design concept
- Suitable for Ex zone 1/2/21/22
- Slimline housing
- Specified for use in hazardous areas
- Full HD, 16:9 for 22" and even larger for the 24" version
- Display options 19" - 24", in different resolutions
- Fibre optic or copper data transmission
- Highest dependability
- Future proof 'transparent' USB interface
- Savings of software licence costs
- Ex-approvals



Explorer 15i / 18i PC Terminal

Challenger remote terminals and Explorer PC's are still an optimum solution for even the most demanding of tasks of on-site operation and visualization typically found in Pharmaceutical, Chemical, Petrochemical, Oil & Gas and Off-shore manufacturing.

Spare parts are still available for these legacy products please contact your local sales team.



We strive to lead the industry with our product innovation and cost effective solutions

Testing Capabilities

Environmental

- Vibration
- Shock
- Temperature
- Humidity

Electrical

- Earth Bonding
- HIPOT AC
- HIPOT DC
- Programmable AC power
- Electronic load test



Quality Assurance

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Lean Manufacturing System

The production cell is at the core of our Lean Manufacturing System. All materials, information and tools are available at the point of use and dedicated supply chain and engineering resources are assigned to cells to ensure maximum cell uptime.

Op-Ex principles are our foundation and our core building blocks in everything we do. We utilize kaizen as our core methodology for continuous improvements. These events are focused improvement projects with cross functional teams dedicated to developing and implementing a solution to a defined problem in 5 days or less and involves everyone in every part of our business.



EATON Crouse-Hinds series

The safety you rely on.

See the complete MTL hazardous area communication product portfolio at www.azonix.com

U.S. (Global Headquarters):
Eaton's Crouse-Hinds Business
1201 Wolf Street
Syracuse, NY 13208

(866) 764-5454
FAX: (315) 477-5179
FAX Orders Only:
(866) 653-0640

CrouseCustomerCTR@Eaton.com

For more information:

If further assistance is required, please contact an authorised MTL Distributor, Sales Office, or Customer Service Department

AUSTRALIA

MTL Instruments Pty Ltd,
10 Kent Road, Mascot, New South Wales, 2020, Australia
Tel: +61 1300 308 374 Fax: +61 1300 308 463
E-mail: mtlsalesanz@eaton.com

BeNeLux

MTL Instruments BV
Ambacht 6, 5301 KW Zaltbommel
The Netherlands
Tel: +31 (0)418 570290 Fax: +31 (0)418 541044
E-mail: mtl.benelux@eaton.com

CHINA

Cooper Electric (Shanghai) Co. Ltd
955 Shengli Road, Heqing Industrial Park
Pudong New Area, Shanghai 201201
Tel: +86 21 2899 3817 Fax: +86 21 2899 3992
E-mail: mtl-cn@eaton.com

FRANCE

MTL Instruments sarl,
7 rue des Rosières, 69410 Champagne au Mont d'Or
France
Tel: +33 (0)4 37 46 16 53 Fax: +33 (0)4 37 46 17 20
E-mail: mtlfrance@eaton.com

GERMANY

MTL Instruments GmbH,
Heinrich-Hertz-Str. 12, 50170 Kerpen, Germany
Tel: +49 (0)22 73 98 12-0 Fax: +49 (0)22 73 98 12-2 00
E-mail: csckkerpen@eaton.com

INDIA

MTL India,
No.36, Nehru Street, Off Old Mahabalipuram Road
Sholinganallur, Chennai- 600 119, India
Tel: +91 (0) 44 24501660 /24501857 Fax: +91 (0) 44 24501463
E-mail: mtlindiasales@eaton.com

ITALY

MTL Italia srl,
Via San Bovio, 3, 20090 Segrate, Milano, Italy
Tel: +39 02 959501 Fax: +39 02 95950759
E-mail: chmninfo@eaton.com

JAPAN

Cooper Crouse-Hinds Japan KK,
Unizo Nogizaka Bldg. 7th Floor, 8-11-37, Akasaka, Minato-ku,
Tokyo, Japan 107-0052
Tel: +81 (0)3 6434 7890 Fax: +81 (0)3 6434 7889
E-mail: mtl-jp@eaton.com

NORWAY

Norex AS
Fekjan 7c, Postboks 147,
N-1378 Nesbru, Norway
Tel: +47 66 77 43 80 Fax: +47 66 84 55 33
E-mail: info@norex.no

RUSSIA

Cooper Industries Russia LLC
Elektrozavodskaya Str 33
Building 4
Moscow 107076, Russia
Tel: +7 (495) 981 3770 Fax: +7 (495) 981 3771
E-mail: mtlrussia@eaton.com

SINGAPORE

Cooper Crouse-Hinds Pte Ltd
100G Pasir Panjang Road, Interlocal Centre
#07-08 Singapore 118523
Tel: +65 6645 9888 Fax: +65 6645 9811
E-mail: sales.mtlsing@eaton.com

SOUTH KOREA

Cooper Crouse-Hinds Korea
7F. Parkland Building 237-11 Nonhyun-dong Gangnam-gu,
Seoul 135-546, South Korea.
Tel: +82 6380 4805 Fax: +82 6380 4839
E-mail: mtl-korea@eaton.com

UNITED ARAB EMIRATES

Cooper Industries/Eaton Corporation
Office 205/206, 2nd Floor SJ Towers, off. Old Airport Road,
Abu Dhabi, United Arab Emirates
Tel: +971 2 44 66 840 Fax: +971 2 44 66 841
E-mail: mtlgulf@eaton.com

UNITED KINGDOM

Eaton Electric Ltd,
Great Marlings, Butterfield, Luton
Beds LU2 8DL
Tel: +44 (0)1582 723633 Fax: +44 (0)1582 422283
E-mail: mtlenquiry@eaton.com

AMERICAS

Cooper Crouse-Hinds MTL Inc.
3413 N. Sam Houston Parkway W.
Suite 200, Houston TX 77086, USA
Tel: +1 800-835-7075 Fax: +1 866-298-2468
E-mail: mtl-us-info@eaton.com

Azonix Corporation

Eaton Experience Center
3413 North Sam Houston Parkway West
Suite 210
Houston TX 77086, USA

Azonix Business Center Toll Free: +1-866-929-6649
Azonix Business Center: +1-832-251-8800
Azonix Business Center Fax: +1-281-921-8207

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Eaton Electric Limited,
Great Marlings, Butterfield, Luton
Beds, LU2 8DL, UK.
Tel: + 44 (0)1582 723633 Fax: + 44 (0)1582 422283
E-mail: mtlenquiry@eaton.com
www.mtl-inst.com

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