Improving Gas Safety With Finnish Gas Detection Solutions

20.5.2015

Detector
innovative gas detection systems

Who are we

- A Finnish private owned share holding company, which is specialised in developing, designing, manufacturing, selling and servicing equipment and purpose made systems for detecting and monitoring gas concentrations in the air
- Established at year 1981
- Residence in Turku in Finland

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Results with values

- Quality assurance with SFS-EN ISO 9001
- Complete Solutions, controllers, detectors, alarm devices, remote alarms, interconnections, uninterruptible power supplies, services, software…
- Affordable Gas Detection Systems, right instrument to right places, digital systems, decentralized and modular systems, life cycle support
- Every customer is important, site specific documentation
- Compatibility with 4-20mA linear output and field buses
- Continuity with experience, more than 30 years on the market

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FOOD INDUSTRY

Oy Gustav Paulig Ab:n Uusi paahtimo
Arla Ingman Oy
Valio
Atria
HK-Ruokatalo
Saarioinen
Snellman Oy
Korpela Oy
Vaasan & Vaasan
Fazer Oy
Olvi Oy
Oy Sinerbrychoff Ab
Raisio Yhtymä
Genencor Oy
Viking Malt Oy
Kilon Logistiikkakeskus, Inex Partners
Polarica Oy Ab
Altia Oyj, Koskenkorvan tehdas
Lännen tehtaat Oy
Yrjö Wigren Oy
Helsingin Tukkutori Oy, Helsinki

SHIPS

Mein Schiff 1 - 4(Germany)
Freedom of the Seas (USA)
Liberty of the Seas (USA)
Independence of the Seas (USA)
Oasis of the Seas (USA)
Allure of the Seas (USA)
SuperSpeed 1, Color Line (Norway)
SuperSpeed 2, Color Line (Norway)
Viking XPRS, Mariehamn
Viking Grace, Mariehamn
Merivoimat, Kaapelivene K-410
Merivoimat, Kaapelivene K-411
Rajavartiolaitos, VL Uisko, Turku
Rajavartiolaitos, VL Tursas, Turku
Spirit of Britain, P&O Ferries (GB)
Stena Hollandica, Stena Line (GB)
Master Ice Fern (Cyprus)
M/S Finnarrow, Finnlines
Trawlers in Norway and Iceland

PROCESS INDUSTRY

Tamfelt Oy
Fortek Oy
Stora Enso Oy
UPM-Kymmene Oy
Rolls Royce Oy
Boliden Oy
OMG Nickel Oy
Wärtsilä Diesel Oy
Paroc Oy Ab
KWH - Mirka Oy
Orion Oyj
Noiro Oy
IDO-Kylpyhuoneet Oy
Avesta Polarit Stainless Oy
Kemira Oy
Outokumpu Poricopper Oy
Finnish Chemicals Oy
Arabian tehtaat Oy
Hackman - Iittala Oy
Gyproc Oy
Moventas Parkano Oy
Mäkelä-Metals Oy
Metso-Paper
Outotec Oy
Yara Suomi Oy
Ecocat Oy

SWIMMING BATHS AND SPAS

Spa Caribia
Spa Eden
Spa Aulanko
Swimming Centre Ulpukka
Impivaara Spa
Tapiola Swimming Bath
Yrjönkatu Swimming Bath
Tropiclandia Spa
Kalajoen Hiekkasärkät
Saariselkä Spa
Vuokatti Sport Centre
Kuntoutuskeskus Kapraka
Vesihelmi Spa
Tampere Swimming Centre
Siilinjärven kuntoutuskeskus
Raksila Swimming Bath
Pirkkola Swimming Bath
Kuntoutus- ja liikuntakeskus
Hämeenlinna Swimming Bath
Jämsänkoski Swimming Bath
Kemijärvi Swimming Bath
Kivimäki Swimming Bath
Lappeenranta Swimming Bath
Pyynikki Swimming Bath
Sotka Swimming Bath

OIL RAFFINERIES AND FUEL STORES

Neste Oil Oy
Teboil Oy
Oilon OY
Gasum Oy
Aspo Oy

RESEARCH CENTRES AND UNIVERSITIES

VTT Tuotekehitys- ja tutkimuslaboratorio
Oulun Yliopisto
Åbo Akademi
AEL / Insko
Pirkanmaan Ammattikorkeakoulu
Tampereen Yliopisto
Taideteollinen Korkeakoulu
Kemian osaamiskeskus
Teknillinen Korkeakoulu
Jyväskylän Yliopisto
Nokia Oyj
Kauhajoen elintarvike ja ympäristöntutkimuslaboratorio
Peltosalmen maatalousoppilaitos
Novida - Uudenkaupungin ammattiopisto
MTT - Maa- ja elintarviketalouden tutkimuskeskus
Helsingin Yliopisto
Lappeenrannan teknillinen korkeakoulu
Heinolan seudun ammattioppilaitos
Tampereen teknillinen yliopisto
Joensuun yliopisto
Turun Yliopisto

PAINT SHOPS AND CHEMICAL STORES

Nor-Maali Oy
STX-telakat
Kankaanpää Works
Maston Oy
Ruukki Oy
Transpoint Oy, ADR-varastot
Fenestra Oy
Taerosol Oy
Pentisol Oy
Technip Offshore OY
Sisu-Auto Oy
Lival Oy
Sandvik Oy
Berner Oy

BIOGAS PLANTS

Päijät-Hämeen Jätehuolto Oy
Biovakka
Topinojan biokaasulaitos
Vambio
ASJ Stormossen biokaasulaitos
Tarastejärven Biokaasupumppaamo
Altia Oy, Biokaasulaitos

ICE HOCKEY RINKS

Turku-halli
Hakametsä ice rink
Espoon Areena
Espoonlahti ice rink
Hartwall Areena /ice hall
Impivaara ice rink
Jyväskylä ice rink
Jääkenttäsäätiö ice rinks
Kalajoki ice rink
Kauniainen ice rink
Kempele ice rink
Kokonniemi ice rink
Kuopio ice rink
Kuusamo ice rink
Kärppähalli, Raksila
Lappeenranta ice rink
Linnainmaa ice rink
Mariehamn ice rink
Mikkeli ice rink
Naantali Ice rinks
Oulu ice rink, Raksila
Paloheinä ice rink
Paloka ice rinks
Rauma ice rink
Savonlinna ice rink
Tesoma ice rink
Tikkurila ice rink
Vaasa ice rink
Vantaa ice rink
Varissuo ice rink
Vihti ice rink
Virtain ice rink
Par Is ice rink

POWER PLANTS

Haminan Energia Oy
Kuusankosken aluelämpölaitos
Fortum Power and Heat Oy
HUS, Lohjan sairaala
Lahden Energia
Keravan Energialaitos
Virkkalan Lämpö Oy
Ahveniston lämpövoima
Alhoniityn lämpökeskus
Hämeen Sähkö / Iittalan lämpö
Hämeenlinnan energialaitos
Jyväskylän energialaitos
Saarijärven energialaitos
Tapiolan lämpö
Tohman lämpö
Hattulan kunta
Kumpuniemen Voima Oy
Meri-Porin voimalaitos

WATER TREATMENT PLANTS

Helsingin Vesi Oy
Mussalon jäteveden puhdistamo
Espoon Vesi, Suomenojan jäteveden puhdistamo
Oulun Vesi Oy, Kurkelanrannan puhdistamo
Kuopion jätevedenpuhdistamo
Lapinlahden jätevedenpuhdistamo
Paroisten puhdistamo
Mussalon Satama (Lieteasema)

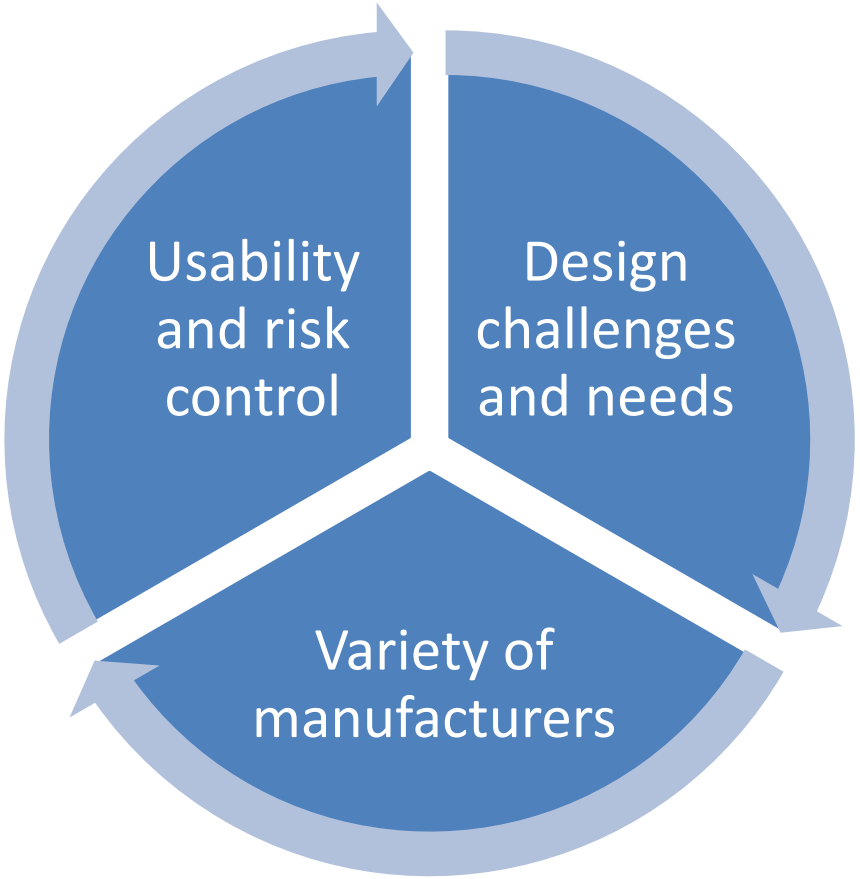
HOSPITALS AND LABORATORIES

HUS, Peijaksen sairaala
HUS, Lastenlinna
Lapin keskussairaala
TYKS, PET keskus / Magneettikuvaus
Pohjois-Karjalan sairaanhoitopiiri, keskussairaala
HUS, Biomedicum
Satakunnan Keskussairaala
Porvoon sairaala
Työterveyslaitos
TAYKS, Pikonlinnan sairaala
Etelä-Karjalan keskussairaala
Kanta-Hämeen keskussairaala
Keskuslaboratorio Oy
Kotkan keskussairaala
SPR / Veripalvelu
Uudenmaan Aluetyöterveyslaitos
Vaasan Keskussairaala
Säkylän terveyskeskus
Keravan terveyskeskus
Lauttasaaren terveysasema
Vantaan Lääkäriasema
Röntgentutka Oy, Koskimagneetti

Internationalization

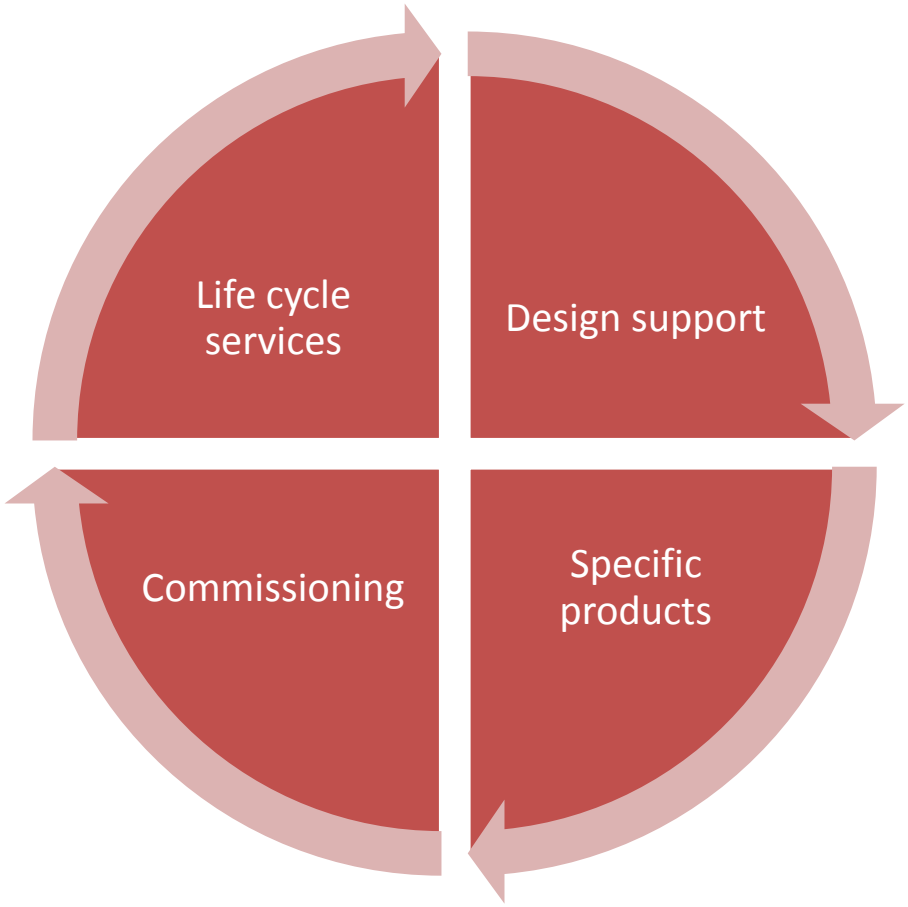
- Partnership contract established at the end of 2014 with NAFFCO FZCO, the leading fire safety supplier in the Arab Emirates

Growing Safety Challenges



- Increasing size and complexity of gas operated systems and sites
- Changes in standards and safety requirements
- Adoption and control of various manufacturer and site specific technologies and procedures
- Demands for risk management and traceable testing
- Safety concerns during site construction

Solutions and approaches



- Support at early stages of safety system design
- Wide selection references, designs and solutions to specific needs
- Resources to research and design a feasible solution
- Testing and calibration documentation available online, anytime
- Support for commissioning and initialization of systems

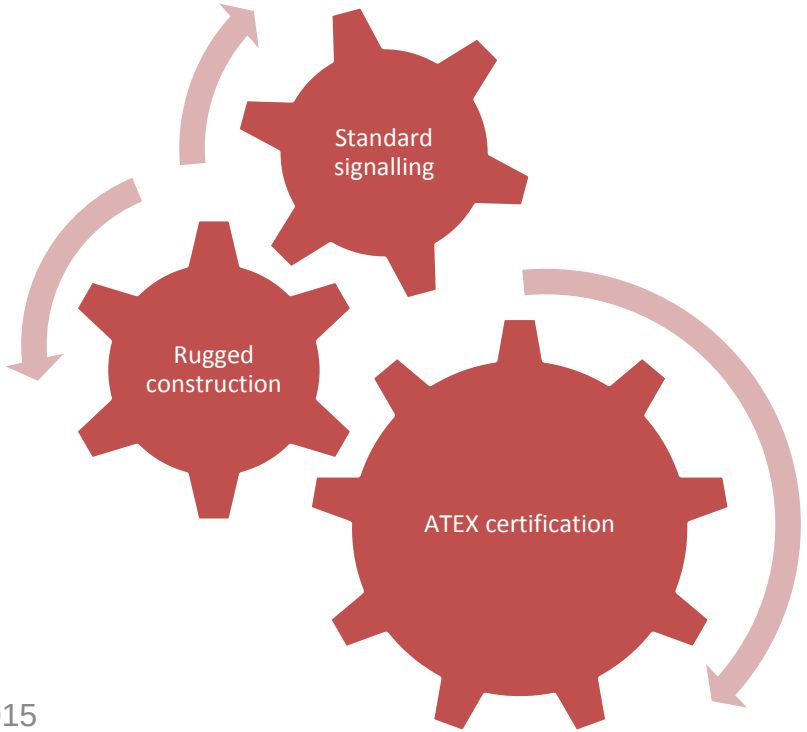
Detectors

- Installation in ATEX zone 0, 1, 21, 2 and 22, rugged construction and standard signalling for straightforward design and installation
- Non-intrusive calibration with support services relieve maintenance challenges and cost

II 2 G Ex d IIC T6

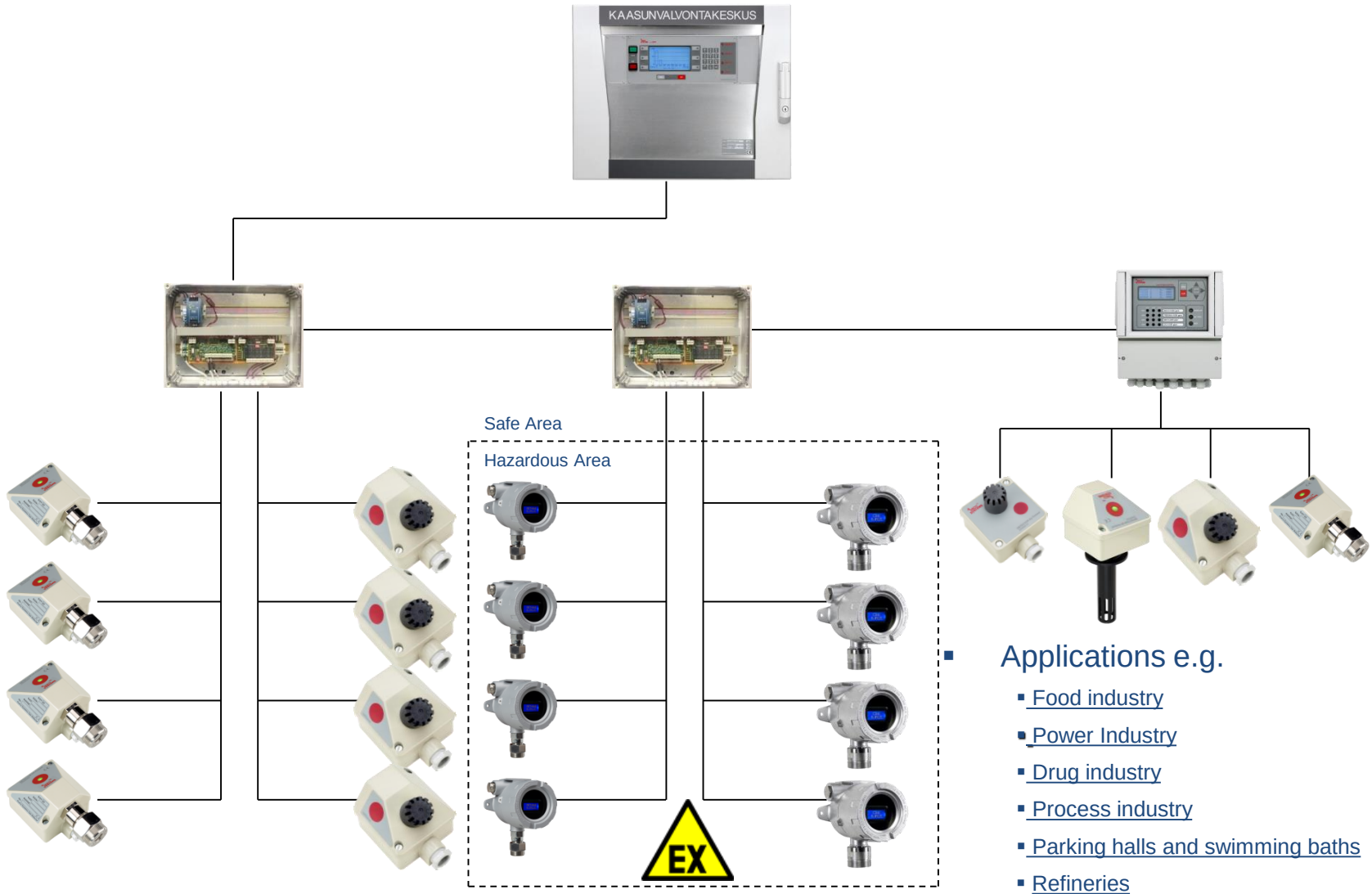
II 2 D Ex tD A21 T85 °C IP 65

II 1 G Ex ia IIC T4



SCAN Series Controllers

Decentralization



- Applications e.g.
  - Food industry
  - Power Industry
  - Drug industry
  - Process industry
  - Parking halls and swimming baths
  - Refineries

Portable Display and Calibration Tool

IR Communicator 2 ia

for non-intrusive calibration in ATEX zone 0, 1 and 2

II 1 G Ex ia IIC T4 Ga

IR Communicator 3 (IRC3)

for non-intrusive calibration in safe areas
parameter configuration
reporting

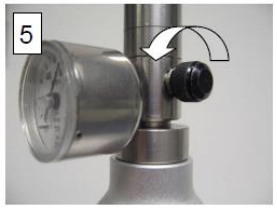
Weather Protection

Protection Enclosures

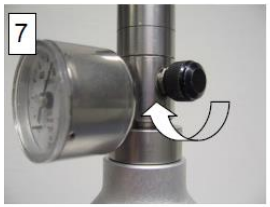
Double skin for splash proof protection
AISI 316

Proof Test and Calibration Equipment

- Wide range of test and certified calibration gases available
- Light weigth aluminum cylinders with 34, 58 and 110 normal litre capacities
- Large volume high pressure containers also available
- Easy to use flow valves and regulators
- Detector product specific smart fit sensor head adapters for fast and repeatable test and service work

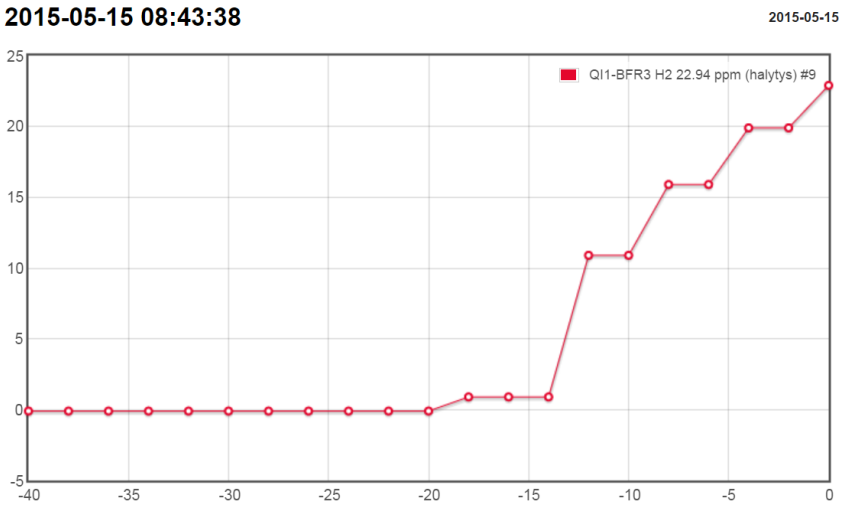


0,5…1 l/min 2 min
1 % CH4 = 17…23 % LEL
2,5 % CH4 = 45…55 % LEL
→ OK



Cloud Services

- Calibration reports
- Online documentation
- Gas detection events
- Maintenance and operation logs



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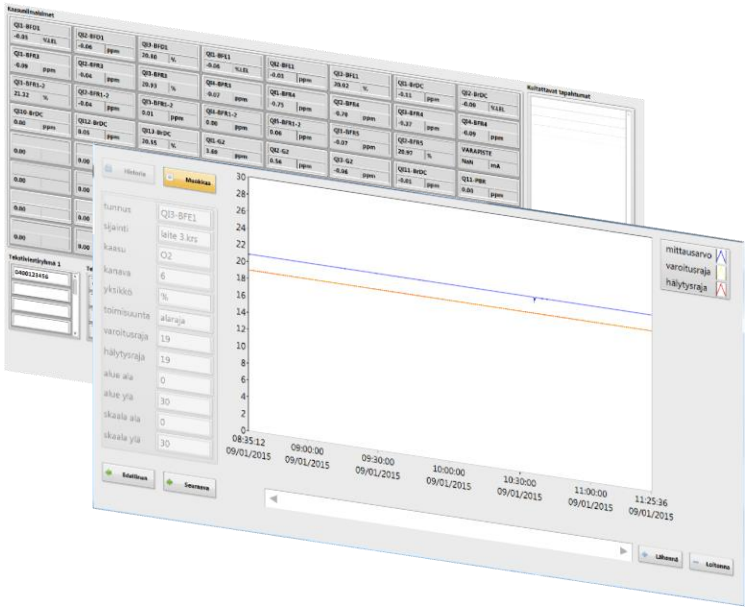
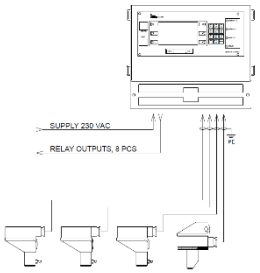
Software Solutions

- PC based remote displays and datalogging solutions
- Field buses, ethernet and GSM SMS communication

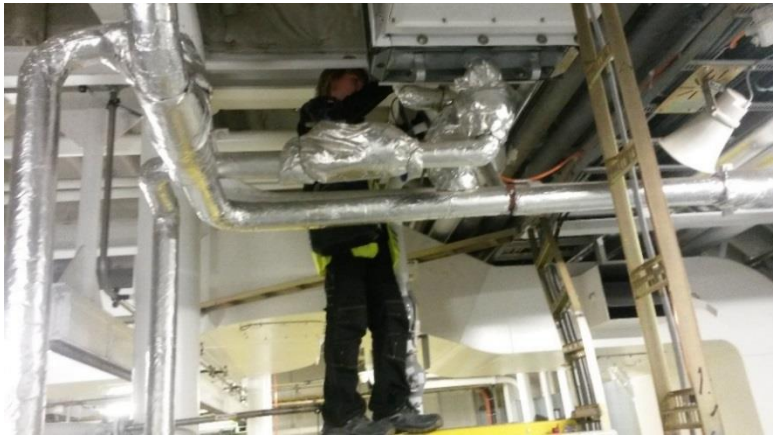




System Design and Project Documentation

Product Support Materials and Documentation

- Technical product brochures
- Manuals
- Application references
- Website



Survey and documentation of Customer Needs

- Acquaintance of site
- Evaluation of site hazards and risks
- Evaluation of possible safety solutions to lower risk
- Interfaces and site automation systems

Quotation Documentation

- Solution description, how the proposed equipment lowers the risk
- Cost estimation, maintenance evaluation
- Delivery and commissioning schedule

Delivery and Installation Documentation

- General Arrangement
- Product user manuals and installation instructions
- System cabling and interface connection diagrams

Installation Inspection and Commissioning Support

- Transferring responsibility from installing party to user party
  - Installation report
  - Commissioning report

On-site perspectives

On-site Service Work

- Preparation
- Permissions
- Proof and bump tests
- Documentation
- Responsibility

Calibration and Maintenance Principles

- High and low calibration points, measurement span versus alarm limits
- Testing versus calibration, when to calibrate, why to test

Test Gas and Calibration Equipment Handling, Safety

- Pressurized containers
- Regulator, air flow, adapter and hose
- Gas selection, gas mixtures with oxygen or nitrogen balance
- Direct actuation of safety measures in case of alarm
- Disabling alarms and removal of them
- Personal protection and awareness of possible danger

Authorization

- Principles and purpose
  - Responsibilities and possibilities
  - Safety
- Collection of contact information
  - Electronic form
- Preparation of authorization
  - Authorization number
- Delivery of authorization licenses
  - Personal license card
  - License number is used as calibration operator identifier in IR communicator 3
    - License holder is responsible for correct calibration and parameter operations
    - License number is shown on calibration reports to identify operator, which is mandatory for safety related equipment
    - Equipment serial number and calibration operator identifier are needed to identify possible causes of malfunction

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Thank You!