Personnel & Asset Tracking

Automatic Muster  ●  Passive RFID Tracking  ●  802.11 WiFi Tracking  ●  Real Time Visibility Solutions
Extronics expertise in Personnel & Asset Tracking for hazardous areas is built on substantial foundations: A strong background in the deployment of wireless networks into harsh environments coupled with over 20 years experience of the particular requirements of hazardous areas in process industries. Through substantial investment in R & D and technical skills, Extronics has developed a range of tracking solutions from complete Personnel Location Systems to low cost RFID asset tags.

Real Time Visibility Solutions
Extronics enterprise visibility solutions use standard Wi-Fi networks to accurately locate and manage assets and people in a wide variety of hazardous process environments, from offshore production rigs to chemical plants. The system includes indoor and outdoor real-time asset location (RTVS), long range Active RFID, choke-point visibility and telemetry; enabling customers in numerous industries to drive revenues and cut costs.

Possible applications include the tracking of people on plant for health and safety reasons so that in the event of an emergency all personnel can be located, e.g. for automatic mustering points such as on refineries or on an offshore platform. Valuable assets such as expensive drilling tools and machinery can be tracked and instantly located thus saving valuable operator time and improving plant utilisation. Alternatively batches of chemicals can be monitored as they pass through the production process to later optimise the process and real-time data can be transmitted back to central systems.

PROJECT
Personnel Mustering System
Wintershall has been producing oil in Libya since 1958. At their largest Libyan site, As Sarah near the Jakhira oasis, Wintershall wanted an automatic system to account for their team of over 500 production workers in the event of a plant emergency.

Through consultation with Extronics partner, Trans-Sahara Communications, Wintershall decided to replace the existing manual T-Card system with the automatic iMUSTER system. This is based on Extronics active RFID technology and certified for use in ATEX / IECEx Zone 1 environments.

Following a comprehensive site survey, a Wi-Fi network was installed throughout the production area to provide the infrastructure for the iMUSTER system. At the designated Muster stations, iCITE100 tag exciters were deployed which trigger the active tags carried by the workers to indicate their presence. The system is controlled via advanced MobileView software and provides the fastest possible method of accounting for personnel.

The Extronics iTAG500 offers a wide range of passive UHF tags in different form factors and levels of ruggedness for attachment to all types of asset such as cables, valves, instruments, enclosures, machinery, pallets, bags and drums etc. With read ranges of up to 35 metres, the iTAG500 range can provide a tracking solution that fits customers’ business need and integrates easily into process and systems.

PROJECT
Passive RFID Tracking Solutions
Low cost, passive RFID has historically struggled to perform in hazardous areas such as the petrochemical industry because of interference from metals and liquids. Through a partnership with Omni-ID®, Extronics has been able to utilise Omni-ID’s unique plasmonic structure to launch a range of tags which has eliminated this problem. The iTAG500 range of intrinsically-safe UHF RFID tags are low-cost, high performance tags which enable customers to track assets and manage their supply chain with over 99.99% accuracy.

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Product Development
Extronics success has been built on innovative product development. A substantial proportion of turnover is re-invested into a comprehensive R & D programme to provide effective solutions to the production problems posed by hazardous areas. The products below were developed by Extronics to help track both Personnel & Assets in Hazardous Areas.

iTAG100
The iTAG100 is a small, long-life Wi-Fi based Active RFID tag that can be placed on any asset, allowing the Extronics system to locate assets that are not Wi-Fi enabled. Certified as Intrinsically Safe to both ATEX and FM standards, the iTAG100 is suitable for the most rugged of environments.

iWAP102LR
A Zone 1 and 21 Location Receiver which is deployed as part of a real-time location system. Location Receivers provide robust and sophisticated Time Difference of Arrival (TDOA) location measurement capabilities. This is used where enhanced accuracy is required in large outdoor areas.

iCITE100 - Zone 1 Tag Exciter
When a tag is within an exciters field it triggers that tag to transmit a message that is received by the standard Wi-Fi infrastructure. This provides instant and accurate knowledge that a tagged asset or person has passed through a gate, doorway or entered some other tightly defined area.

MobileView Software
This powerful software provides a simple means of tracking the location, status and condition of assets and personnel. MobileView unifies asset visibility data from many sources, e.g. Extronics iTAG100 Wi-Fi Tags, Passive RFID, GPS and sensors, and turns this data into automated business processes - delivering a scalable, proven software solution.

iTAG500 - Oil & Gas
A selection of the intrinsically safe Extronics iTAG500 RFID tags which are particularly applicable to the Oil & Gas industry. With read ranges from 8 to 35 metres these tags are typically used in applications to improve asset utilization and management, safety and compliance, and supply chain operations.

iTAG500 - Logistics
A range of intrinsically safe passive UHF RFID tags designed to provide real-time information on where vehicles and equipment are at any given time and their condition. Typical applications include: Yard Management Asset Tracking and Management Maintenance, Repair and Operation (MRO) Supply Chain Efficiencies.
Extronics – Making Hazardous Areas Safer

Founded in 1992, Extronics is a leading global designer and manufacturer of intrinsically safe and explosion proof equipment. From our UK headquarters, we serve customers that work in potentially explosive environments, especially those in the chemical, pharmaceutical, petrochemical, oil and gas industries.

Wireless Networks
Over the last few years, Extronics has led the way in helping companies to unlock their data from hazardous areas via standards-based wireless technology. Through innovative product development, technical design capability & technical partnerships with companies such as Cisco® and Aruba®, Extronics has become recognised as a leader in this particular field.

Vision Technologies
As a result of a substantial investment programme in both R&D, equipment and technical skills, Extronics has become a world leader in vision technologies for hazardous areas. This expertise includes the design and production of the world's first intrinsically-safe digital camera, the iCAM501 Ultra, as well as innovative monitoring solutions, video monitors and HMIs.

Engineering for Hazardous Areas
The Extronics engineering team possesses the expertise and experience necessary to create bespoke engineering solutions based upon the various concepts of protection in hazardous environments. This engineering expertise has enabled Extronics to create a range of innovative Ex d solutions which are available as standard items – dramatically reducing both lead time and production costs.

Personnel & Asset Tracking
Personnel and asset tracking solutions are of particular importance to companies with designated hazardous areas. Extronics wireless expertise provides the framework for the delivery of a range of Active & Passive RFID based tracking solutions. Solutions designed to dramatically improve worker safety, production efficiency and asset management.