



**EMR**  
integrated solutions

# CASE STUDY



**MOTOROLA SOLUTIONS**

**PLATINUM RESELLER**

Professional and Commercial Radio Devices Specialist



**EMR boosts airside safety with  
emergency fuel shutdown system  
at Dublin Airport**

Pic l-r: Rioch Farrelly, CLH, Mark Quinn and Dean Reardon, EMR

## COMPANY OVERVIEW

# CLH GROUP

The CLH Group is a leading international company in the transport and storage of petroleum products in Europe and one of the leading companies in this sector in the world. CLH manages Europe's largest network of refined fuel products and is ranked second in Europe in terms of storage capacity and seventh in the world.

In total, the company has more than 1,700 employees and a logistics system consisting of more than 6,000 kilometres of pipelines, 54 storage facilities and 34 airport facilities, with more than 9 million cubic meters of capacity, located in five countries.

In Ireland, CLH is almost three years into a 20-year contract with the Dublin Airport Authority to design, re-develop and operate the fuel farm that serves Dublin Airport.





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# THE REQUIREMENT

When CLH assumed responsibility for Dublin Airport's fuel facility in 2016, the airport had storage for 2.4 million litres of fuel. This has now increased to 15 million litres and the company is in the process of constructing an underground fuel hydrant pipeline so aircraft can be refuelled in airside locations. This will eventually negate the need for fuel trucks to carry out the task.

Directly refuelling from airside saves airlines valuable time and, with shorter aircraft turnaround times demanded, operators such as the Dublin Airport Authority are conscious of the need for efficient refuelling of their clients' fleet.

To address the potential of fuel leakage or spillage airside, Rioch Farrelly, operations and quality engineer with CLH Aviation Ireland was tasked with sourcing an emergency fuel shutdown system that would immediately cut any uncontrolled release of jet fuel supply to the hydrant at aircraft stands. The system also had to be accessible from fuel support vehicles.

The immediate requirement was for a system at Pier 4 in Dublin Airport with future extension to Piers 1 and 3.



"We needed what we call a 'Head of Stand' emergency stop system so that in the event of an uncontrolled fuel release, anyone in those locations could activate an emergency stop which would shut down the loading pumps and associated valves. We were under huge time pressure to get this in place. It had to be fully tested and operational before the underground hydrant went live."

Rioch Farrelly, operations and quality engineer with CLH Aviation Ireland

# THE SOLUTION

## SOLUTION COMPONENTS

- Deployment of EMR's **Emergency Fuel Disconnect System (EFDS)** at 8 airside enclosures and 16 fuel support vehicles.
- Solution consists of a weather-proofed enclosure with Motorola integrated digital telemetry and emergency radio network
- SCADA interface and local controller
- Front-mounted emergency button and camera with still image or video download capability
- Remote emergency stop button alarm solution for airside fuel hydrant vehicles
- Motorola TRBONET Enterprise PC dispatch system



Having reviewed the requirements, EMR installed its **Emergency Fuel Disconnect System**, which consists of an integrated wireless telemetry and emergency shutdown facility.

This provides CLH with an integrated communications solution to remotely monitor and manage all airside fuelling facilities within Dublin airport. It services both underground hydrants and mobile refuelling trucks.

A Motorola digital radio network supports wireless voice and telemetry communication between the various airside enclosures, fuel hydrant support vehicles and the control room based TRBONET PC dispatch system, which monitors the status of each of the enclosures.

"At the moment, most of the aircraft are loaded through above-ground fuelling trucks but we're slowly moving across to the underground hydrant farm. We needed an emergency fuel shut down system which would cover both."

Rioch Farrelly, operations and quality engineer with CLH Aviation Ireland

In the event of an airside emergency, an emergency stop button is pressed, which in turn routes a telemetry message to the SCADA system immediately shutting off the flow of jet fuel to the aircraft.

The addition of security cameras to the airside enclosures allows airside authorities to view an image\* of the person activating the emergency button in case of accidental activation, thereby increasing system security.

Using Motorola wireless radios as an integral component of the EFDS delivers significant benefits in that they can be integrated into the Motorola TRBONET Enterprise PC despatch system.

The system provides live 24 x 7 monitoring, status updates and automated emergency call handling from the pier-based emergency enclosures.



\*Images are used in strict accordance with GDPR legislation.

It also gives control room staff a live map of Dublin Airport, indicating the physical location of each enclosure. Colour codes indicate the status of the system at each enclosure.

The SCADA controller allows CLH to carry out scheduled testing of the enclosures and hydrant support vehicles, without interfering with the live system or aircraft flight schedules.

It is a critical component of health and safety operating procedure, strictly enforced by the airport operator, Dublin Airport Authority.

“It's an innovative solution which displays the strength of our extensive systems integration and automation skills. It also leverages the power of Motorola TRBONet technology, with robust support for wireless voice and telemetry communication between the various airside enclosures.”

Dean Reardon, account manager with EMR

# THE BENEFITS

EMR's EFDS greatly enhances airside safety for all airport staff. They can immediately react to accidental fuel releases by accessing the emergency enclosures, which are located close to all aircraft stands at Pier 4.

"We were under significant time pressure to get this emergency system in place. The EMR team pulled out all the stops to deploy one which met our requirements. Our control room staff now have an immediate visual indication of the system and the status of each enclosure and fuel vehicle airside."

Rioch Farrelly, operations and quality engineer with CLH Aviation Ireland

Back at CLH operations, staff have a granular view of each enclosure and this is visually represented on screen via their SCADA system. They know the exact location of each enclosure and its power status. This saves time when re-setting or troubleshooting the emergency system.



## BENEFITS AT A GLANCE

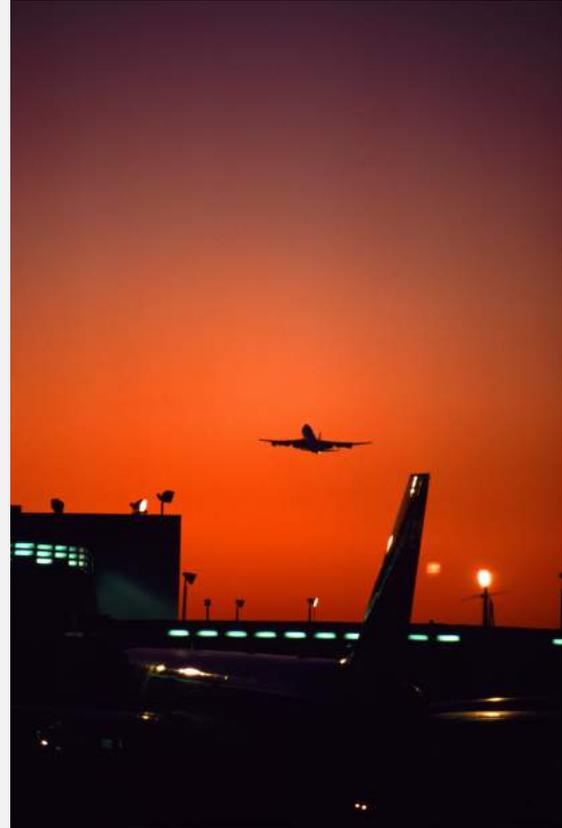
- Enhances airside safety for staff
- Provides real-time, visible status of each emergency enclosure through existing SCADA
- Allows for remote activation of the emergency fuel disconnect system on airside refuelling vehicles
- Full audit trail of emergency activations with photographic and video evidence of activator
- Facilitates easy incident reporting for Dublin Airport Authority

Pic L-r: Rioch Farrelly, CLH and Dean Reardon, EMR

## WHY EMR?

"The team at EMR were extremely knowledgeable and they brought that expertise to bear in the design, planning and deployment of a quality system, which was completed within a matter of weeks."

Rioch Farrelly, operations and quality engineer with CLH Aviation Ireland



## ABOUT EMR

EMR Integrated Solutions is a leading provider of communications, SCADA and instrumentation solutions. With a track record stretching back to the early 1980s and a management team with a wealth of industry experience, the company has established a strong, successful foothold in markets as diverse as retail, hospitality, utility, transport, telecoms and public safety. The organisation has customers across Ireland, the UK and Europe and has the expertise, engineering know-how and project management capability to deliver large, complex, integrated solutions on time and within budget.



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