



# ENSURING OPERATIONAL RELIABILITY IN HYDRANT FUELING SYSTEMS

Valve inspection in aviation fuel infrastructure

## The Situation

Exolum is a leading international logistics company specializing in the transportation, storage, and handling of liquid products (primarily fuel) across Europe, US and Latin America. Their infrastructure spans pipelines, terminals, and airport fueling systems, all requiring the highest safety and operational standards.

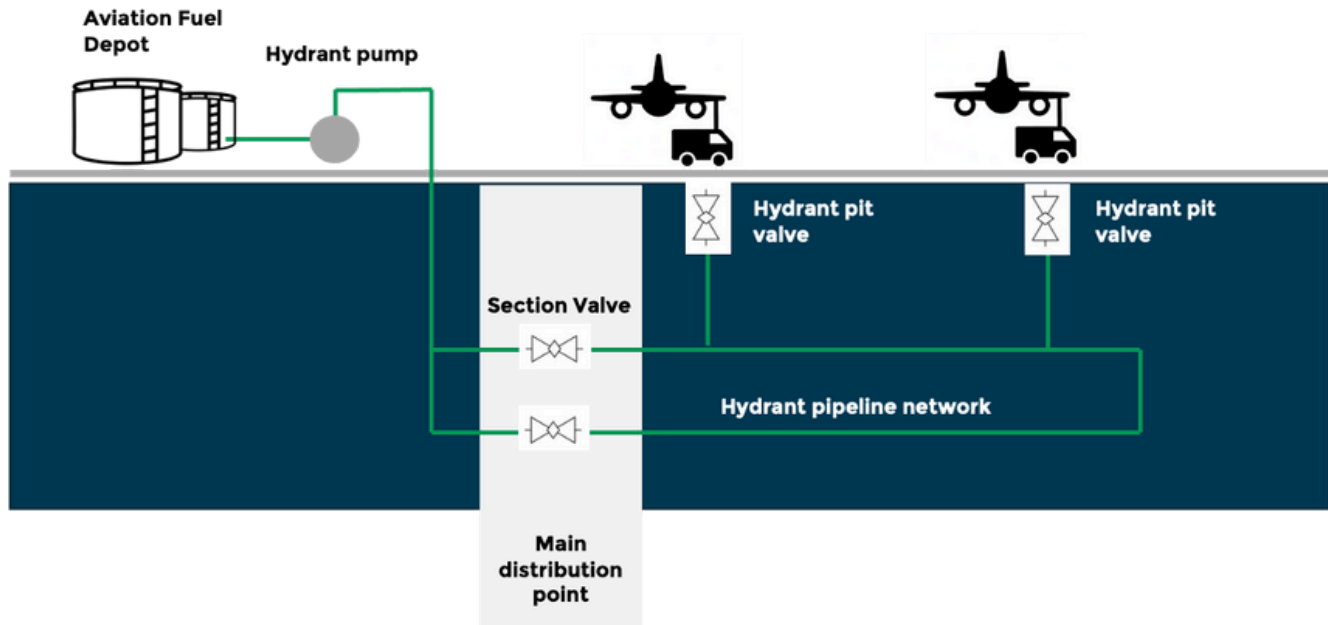
## The Challenge

At Jorge Chávez International Airport in Lima, Exolum manages the fueling infrastructure, including underground hydrant systems that ensure a continuous supply of fuel to aircrafts. Before the opening of the new airport, tests revealed potential leakage within the hydrant system.

Due to the complexity of the network, identifying the source of the issue posed a significant challenge. Leaking hydrant pit valves may lead to continuous fuel seepage, reducing pressure in the hydrant system and disrupting fuel delivery to aircrafts. Therefore, Exolum was looking for a fast and easy solution to test these valves for leakage.



**Figure 1: Illustration of hydrant system with hydrant pit valves**



## The Solution

Senseven's smart and mobile inspection system was applied and 14 suspected plug valves inspected

### Valve Sense in a nutshell:






- Mobile inspection system based on acoustic emission
- Allowed fast inspections due to software guided inspection process
- Provided real-time acoustic signals and AI-driven leak detection and quantification
- No special knowhow required, anyone in the team can inspect valves



## The Result

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Thanks to the pinpoint accuracy of Valve Sense, Exolum was able to:

-  Identify several leaking plug valves, due to poor manufacturing quality
-  Isolate and replace only the faulty valves, avoiding unnecessary replacements
-  Restore full operational functionality of the hydrant system before the official airport opening
-  Prevent loss of fuel and mitigate environmental risk
-  Improve inspection speed and set maintenance/replacement priorities

*" Valve Sense helped us to localize the issue quickly and efficiently. The system made it easy to inspect each valve and focus our maintenance on what mattered."*

Daniel Fernández Pérez – Pump and Pipeline Management Technician, Exolum

