

# PROTECTING PRODUCT PURITY IN FUEL STORAGE

Valve inspection in fuel storage operations

## The Situation

Exolum is a global leader in liquid logistics, managing an extensive network of pipelines, storage terminals, and airport refueling systems across Europe, US and Latin America. As part of its fuel storage operations, Exolum ensures precise handling of a wide range of fuel types with strict quality requirements.

## The Challenge

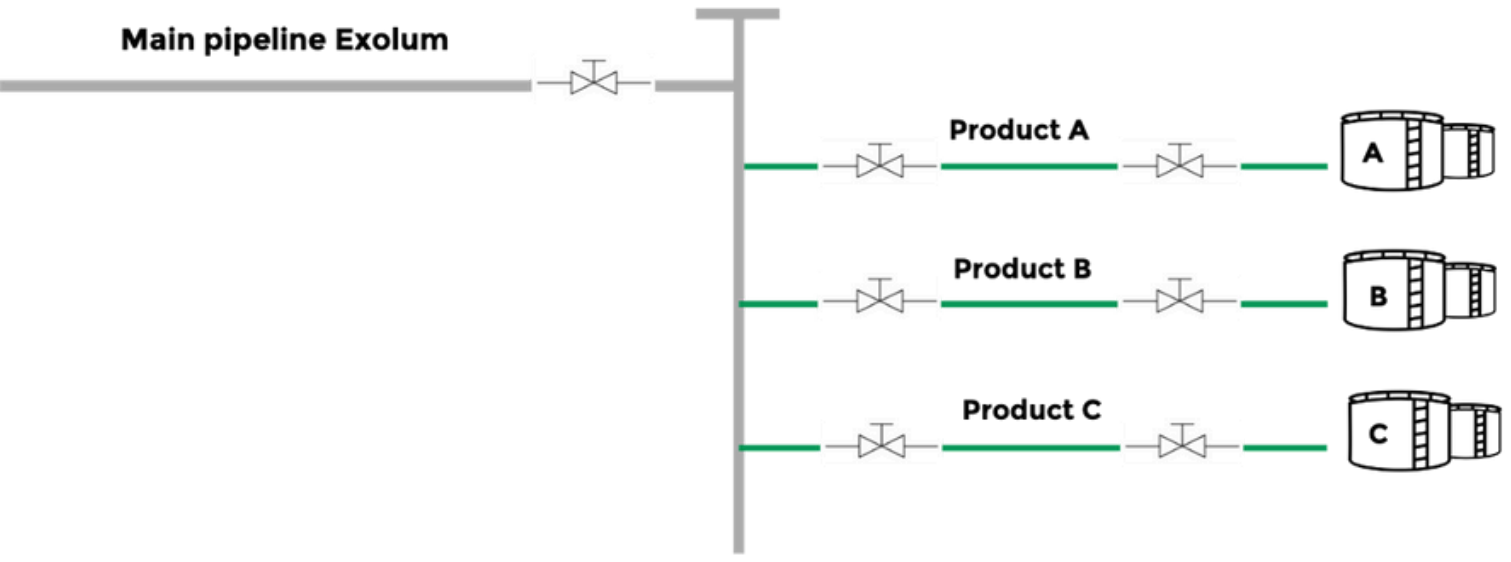
---

At Exolum's fuel storage terminal in Barcelona, a main pipeline is carrying multiple products (e.g. gasoline, diesel, kerosene) one after the other, routing them into dedicated storage tanks via branching lines controlled by ball valves.

To prevent cross-contamination, only the dedicated product should end up in the storage, relying on the tightness of isolating ball valves. Internal leakage in these ball valves can mix fuels, risking contamination of tanks holding over 20 million liters. That would require complete product disposal or reprocessing - an extremely costly and time-consuming issue.

So how to proactively prevent or detect such leakage in an early stage?

Figure 1: Preventing contamination in fuel storage



## The Solution

Exolum deployed Valve Sense, Senseven’s smart and mobile inspection system. The aim: to validate that the ball valves don’t show any leakage

### 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

---

Using Valve Sense, Exolum was able to:



Verify valve integrity in the pipeline system



Avoid cross-contamination of valuable fuel stocks



Digitally document valve health and inspection history for compliance and traceability

*"It's great how quickly you can test for critical leaks with Valve Sense. Inspecting valves used to be complicated and time-consuming in the past, but now it only takes us two minutes per valve."*

Daniel Fernández Pérez – Pump and Pipeline Management Technician, Exolum

