

# Altintel improves safety with Smart Wireless

## RESULTS

- Improved safety
- Minimized cost for cabling
- Quick installation and commissioning
- Easy to expand

## APPLICATION

Wireless tank gauging system for storage terminals.

## CUSTOMER

Altintel, is strategically located in the Izmit area, close to Istanbul. This seaport terminal is one of the largest for liquid chemical and petroleum storage in Turkey, with 51 storage tanks, 60.000 m<sup>3</sup> in total. Examples of stored products are pharmaceutical liquids, paints, plastics, and also hydrocarbons such as 95/98 gasoline, asphalt, diesel, and naphtha. The tank gauging system at Altintel is used for inventory control and when filling the tanks.

## CHALLENGE

When 9 more tanks were taken into operation in January 2011, there were a number of things to consider:

The stored products are extremely hazardous liquid chemicals. Any installed cable is a risk factor. Hydrocarbons need air to be flammable, but handling hydrocarbon oxides like certain solvents, ketones, alcohols, glycols, esthers and monomers, which already contain oxygen, are even more hazardous since a static electricity discharge is enough to cause a flame.

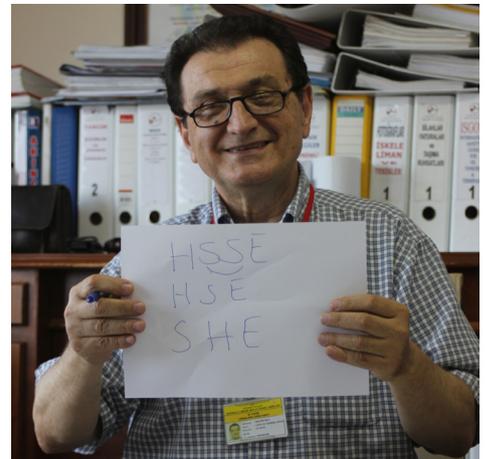
The cable infrastructure documentation for the plant is also missing, so it would have been extremely hard to dig. Every time a road machine has been used at Altintel, wires have been damaged.

Another challenge is energy power fluctuation. Although the terminal uses a UPS (Uninterruptable Power Supply) system, they experience frequent energy cut-downs.



**“Safety is a must!  
That is why we spend  
money on state-of-the-art  
tank gauging.”**

**İbrahim Ünlü, Terminal Manager,  
Altintel**



*Mr. İbrahim Ünlü, stresses the importance of having a strong company safety culture, with Health, Safety, Security and Environment (HSSE) in focus.*

### SOLUTION

Altintel decided to expand their tank gauging system from Emerson with Smart Wireless for the additional tanks. This choice was mainly made due to safety and practical reasons, but was also based on their previous product and supplier relationship trust.

At Altintel, each of the 41 tanks within the Emerson system is equipped with level, and temperature instrumentation, TankMaster, and TankMaster.net.

Each wireless node consists of a TankRadar Rex parabolic antenna radar level gauge, installed together with the wireless antenna unit, the THUM Adapter, and a multiple spot temperature sensor with 6 PT-100 elements.

Field data is sent via the wireless network to the Smart Wireless Gateway, which is the network manager. The gateway provides an interface between field devices and the TankMaster inventory management software or host / DCS systems. TankMaster is used for net volume calculations, reporting, alarm handling etc.

Altintel is under customs control. By using TankMaster.net government officials can follow transferred and stored volumes to be ensured there is no black market for the valuable liquids.

### Emerson Smart Wireless Solution

Emerson's Smart Wireless solution is based on IEC 62591 (*WirelessHART*), the industry standard for wireless field networks.

A *WirelessHART* device can transmit its own data as well as relay information from other devices in the network. The self-organizing mesh network automatically finds the best way around any fixed or temporary obstacle. Nodes can identify a network, join it, and self-organize into dynamic communication paths. Reliability actually increases when the network expands – the more devices, the more communication paths!

### RESOURCES

**Rosemount TankRadar Rex Technical Description, 703010En**  
**Smart Wireless Tank Gauging from Emerson Brochure, 201026En**  
[www.rosemount-tg.com](http://www.rosemount-tg.com)

*Technical details are subject to change without prior notice.*

#### Emerson Process Management

**Rosemount Tank Gauging**  
Box 130 45, SE-402 51 Göteborg, SWEDEN  
T: +46 31 3370 000 F: +46 31 25 30 22  
E-mail: [sales.rtg@emerson.com](mailto:sales.rtg@emerson.com)  
[www.rosemount-tg.com](http://www.rosemount-tg.com)

**ROSEMOUNT**  
Tank Gauging



*When using automatic tank gauging there is no need for anyone to go on top of the tank. The risk is high, especially during a transfer, when the static electricity in the tank can be as much as 35.000 V. It is a great advantage to watch from a distance.*



*Liquids are landed by tankers at the Altintel jetty, and further pumped into the storage tanks. 50-70 trucks are loaded daily, to provide Altintel's 2200 customers with their product blend.*

  
**EMERSON**  
Process Management