

# Akim Tek tank terminal reduced start-up time with a Smart Wireless Tank Gauging system

## RESULTS

- Safe and reliable communication
- Minimized installation cost, including major cable savings
- No excavation or digging
- Engineering and commissioning time savings

## APPLICATION

Wireless tank gauging for terminal storage tanks.

## CUSTOMER

Akim Tek Güvercinlik in Turkey, is a privately owned tank terminal, and a sub-contractor of BP. This terminal has a strategic geographical location, close to main roads and the railway. It is the only terminal in Ankara, and the oldest in Turkey being built in 1946. It stores mainly gas and diesel.

An average of 700-750 m<sup>3</sup> of oil products comes every day by train from the Atas Refinery in Mersin – 7 days per week. There are three product line connections from the train unloading to the main terminal. Stored products are then loaded onto trucks to supply gas stations all over central Turkey.

## CHALLENGE

The terminal had been inactive for nearly 15 years, when the decision was taken to resume operation. The field cabling from the storage tanks to the control room was obsolete.

Digging in the area where the terminal is situated is difficult since it is very rocky. The fact that the terminal is divided into two parts, with separating walls, adds complexity to any infrastructure work. The sole cost for new cabling would have been approximately \$ 30.000.

There were also project requirements for an early start-up, in the middle of winter, when the weather conditions, with rain, snow and frost, would have been harsh for installation work.

## SOLUTION

When it was time to update the system, Smart Wireless radar technology from Emerson was selected.

Mr. Haydar Cömert, terminal manager at Akim Tek, had previous experience of the wired Rosemount Tank Radar system. Compared to mechanical systems he finds that radar enables the terminal to confidently fill the tanks to a higher level.



**“If you are going to use radar, use Rosemount Tank Gauging. Accuracy is very high, and there are no special maintenance requirements. Products are excellent, and the technical support capability is great”**

**Mr. Haydar Cömert,  
Terminal Manager Akim Tek**



*Mr. Cömert with the THUM Adapter antenna unit which sends data within the wireless field network.*

## Oil & Gas

The Akim Tek management preferred the Smart Wireless Solution due to both economical and practical reasons.

The main reason was time savings and to have a system up and running quickly. However, the savings Akim Tek had with the wireless installation was \$ 20.000, which is close to 70% compared to a wired system.

Each of the 15 tanks is equipped with a TankRadar Rex level gauge with a Smart Wireless THUM Adapter, and a multiple spot temperature sensor. Field network data is sent to the control room via the Smart Wireless Gateway. TankMaster and TankMaster.net provide an operator interface for tank inventory management.

Akim Tek also uses flow rate data calculated by TankMaster to control the critical pump functions.

### 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

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**ROSEMOUNT**  
Tank Gauging



*TankRadar Rex radar level gauge installed with the Smart Wireless THUM Adapter antenna unit.*



*The wireless tank gauging system from Emerson fulfills the high requirements of the Akim Tek team. The system has been up and running since December 2010/January 2011.*

  
**EMERSON**  
Process Management