



Case Study

Chemtura Testing SecureTrac for Worldwide Location Tracking of Hazardous Chemical Tankers

Chemtura Corporation is a global specialty chemicals company with leading positions in diversified markets. Major industries served include transportation, energy, electronics, and agriculture. Chemtura is trialling SecureTrac GPS satellite tracking units on its bromine tanks. Bromine is classed as a hazardous chemical.

Summary of Study

The system designed by SecureSeal Systems Ltd. (Enfield, UK) :

- *SecureTrac* – SecureSeal Systems' GPS satellite tracking and communication module
- *Access to the Securetrac portal* – accessible from any internet-enabled web browser

The self-powered *SecureTrac* unit monitors the tank movements - the 20 units were set to report their position three times per day. Location was reported back to the client via the *SecureTrac*'s satellite uplink.

Case Study Specifics

Company Profile

With global headquarters in Philadelphia, Pennsylvania, USA, Chemtura manufactures products in 14 countries and sells products in over 100 countries. They have approximately 4,300 employees in research, manufacturing, sales and administrative facilities in every major market of the world, with regional headquarters and shared service centres in São Paulo, Brazil; Shanghai, China; Middlebury, Connecticut, USA; and Manchester, United Kingdom/Frauenfeld, Switzerland.

Business and Technical Situation

Chemtura faces a number of different situations, all of which they are trying to be pro-active in addressing:

- a) Possible legislation that all Hazardous Chemicals in India need to be tracked at all times. Indian legislation aside, bromine is a *hazardous chemical* and the tanks travel around the world, so visibility and worldwide reporting is essential.
- b) Satellite rather than SIM reporting communication was needed to avoid roaming issues and also lack of coverage.
- c) Each empty tank is valued at approximately \$100,000. With a fleet of almost 450 tanks it's a sizeable investment. Valuable commodities are worth tracking.
- d) Tanks are expected to do 6 full turns per annum in Europe and 2.5 turns per annum to further distances (e.g. China or India). Because of delays in the system some tanks may only do 4 turns in Europe – the company needs to identify where the delays are taking place and why. This re-establishment of efficiency alone will easily cover the costs associated with tracking the tanks.
- e) The company essentially loses sight and control of the tanks as they leave the ports to move to customers or filling stations and depend on shippers/forwarding agents for any information. Tanks are loaded onto ships at port and go unreported until they arrive at the next port. This data is not always received in a timely manner from shipping agents
- f) They have a 15-day port-to-port contractual turnaround arrangement with an agent that fills tanks with bromine in Israel. Currently it takes more than 30 days on average. The agent denies they have tanks on site for that length of time; Chemtura would like to validate or invalidate that claim.

Solution proposed by SecureSeal Systems Ltd.

An on-board *SecureTrac* device to provide GPS tracking to monitor movement and location of the tankers. SecureTracs are wireless and self-powered for up to six years. Units can be programmed to report based on start/stop motion or for a set number of times per day.

Methodology

Twenty SecureTrac units were pre-programmed to report at regular intervals and fitted to the tanks. The online portal provides accurate GPS mapped position and geo-fenced locations from where the iso-tanks reported from several times per day on sea or land.

Case Study Outcomes

- 1) Tanks are clearly visible throughout the trial and shown to be crossing between Europe and the USA, down through the Suez canal, in transit to India and China, etc. Evidence was found that the filling agent in Israel was, on numerous occasions, keeping the tanks and not refilling them and returning them to port in a timely fashion as per the contract. One set of tanks was sitting at the agent's yard for over 63 days – well in excess of the 15-day contractual turnaround stipulated in contracts with filling agent.
- 2) Tanks are crossing oceans and countries around the world where communications are not always continuous – with SecureTrac the company had online access to a portal, which showed the tanker locations three times per day.
- 3) Tanks are in hostile environments (sea & salt air on ship decks) and need to sustain extreme conditions. The SecureTracs are built to military specification and proved to be robust and consistent.
- 4) The tracking units needed to be self powered for a minimum of 24 months as the tanks are only scheduled to return for maintenance once per annum. The SecureTrac battery lasts up to 6 years.

5) No roaming charges or lack of coverage issues were incurred.

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