



## Solution Overview

### Customer

Gulf Aluminum Rolling Mill Company

### Industry

Aluminum rolled Coils, Sheets and Circles

### Key Benefits

Reliable shop floor data collection  
Minimization of production downtime

### Applications Deployed

In-house developed Shop Floor Data Collection software

### Markets Served

Aluminum manufactured products

### Thin Client Hardware

Advantech 5820



### About ACP ThinManager®

ACP's ThinManager® is an enhancement to the basic Windows® Terminal Server operating systems such as Windows® 2000 and 2003 Server. The features added by ThinManager® focus on the industrial market, allowing users to replace the PCs they are now using on the factory floor with inexpensive "Windows terminals" that are much easier (and less expensive) to maintain. While any Thin Client will allow multiple instances of existing Windows® software to run on a single PC (the Terminal Server) only ACP Enabled Thin Clients running under ThinManager® provide the functionality, redundancy and I/O required in industrial installations.

# ThinManager Keeps Aluminum Rolling in the Harsh Conditions of the Arabian Gulf

*"As the environment in the Gulf is very harsh (temperatures may reach 115 deg with 80% humidity) it becomes increasingly difficult for us to stand and troubleshoot the problem in the shop-floor. ThinManager helps in centralized configuration, remote administration and one step easy replacement of the Industrial Thin Clients."*

— **Abdulla Al-Alaiwat, Manager ICT, GARMCO**

Based in Bahrain, Gulf Aluminum Rolling Mill Co. (GARMCO) is now the largest downstream aluminum facility in the Arabian Gulf region, with a capacity of 165,000 tons per year. GARMCO is literally next door to one of the world's highest volume aluminum smelters, Aluminum Bahrain, and this source of quality raw material combined with Bahrain's world class infrastructure and transport facilities have enabled GARMCO to bring first class rolled products to the market since their startup in 1986.

### The Challenge: Manage processes remotely and decrease downtime

To maintain the quality of their aluminum sheet and coil GARMCO can't afford to lose production time. They needed a reliable system they could deploy throughout the plant to provide timely production feedback with as little interruption as possible. But the environment in the Arabian Gulf is very harsh; the temperature may reach as high as 45 degrees Celsius (115 F) with humidity of 80%. These conditions make it extremely difficult to stand and troubleshoot any problems on the shop floor. This is also hard on equipment, which must be rugged enough to work continuously under these circumstances.

ACP ThinManager with ThinManager Ready industrial Thin Clients met both of these challenges.

Industrial Thin Clients from Advantech handled the harsh environment, and when clients need to be added or replaced ThinManager allows GARMCO to take a reserve unit off the shelf and plug it in with essentially no configuration required.

ThinManager also ensures that spare clients will not grow obsolete no matter how long ago they were purchased. This is especially important in an area where there

might be a delay receiving new hardware.

ThinManager's shadowing capability allows managers and operators to see (and control) the displays on the shop floor, allowing monitoring and troubleshooting of problems from a more comfortable environment.

GARMCO found ThinManager's remote reboot feature very useful while deploying a new application or debugging an existing one, especially because many of these clients run unattended.

### Thin Client Benefits

The move to Thin Clients has far exceeded GARMCO's expectations. The Thin Clients are running an Oracle Data Collection application developed especially for GARMCO and are installed throughout the plant in the hot mill, cold mills, annealing furnaces and finishing lines. This application runs on Windows Terminal Servers which interface to the process control devices and communicate with the operators. It provides online real time data to the business system, timely production scheduling information, and preparation data and business rules to the operators and the process control systems.

Thin Clients also connect to local devices such as weigh scales, bar code scanners, and printers and have enabled GARMCO to access and control all areas of the plant from a centralized location without physically tending to individual systems.

GARMCO's software matched with reliable industrial Thin Clients and ThinManager help GARMCO maintain their process with acceptable downtime. ThinManager also brings centralized configuration, remote administration and one step easy replacement of the clients. ACP is proud to be a part of GARMCO's success as they reliably deliver first class rolled products to the world.

