



**Client : Modern Aluminum Industries Co. Ltd (MODAL).**

**Project: Power Monitoring System.**

This is an application that fully utilizes the latest in automation hardware / software, and spans from the factory floor all the way to the enterprise.

The client MODAL extrudes aluminum pellets into sections, and then forms and cuts them as required. The sections are then treated for cleaning. Lastly they are painted and treated again.

All these processes are power intensive, and costing is a big issue in such industry where margin are very low. The cost of power is highly dependent on consumption and time of day.

The client approached us with this problem; they needed to know exact costs as they are incurred on each stage. To solve the problem we needed to interface to each stage of the process, and internally within the stage needed to know costs incurred.

At the extrusion stage, we needed to know the cost per mold, as different section forms consumed different levels of power, due to the pumps used, or due to the heating in the arc furnace, or the age of the mold.

The application starts by reading the daily production schedule. As an example, the application access the daily schedule to find out which mold is being used, then access the mold database and record's the usage of the mold and the number of pellets to be extruded. Once the extrusion starts the application starts recording the power used and stamps the date and time.

The same is true until all pellets for all molds are recorded.

In the second phase the application access a database that has the cost of power for the specific day & time. Cost of extrusion is calculated per mold and recorded in the daily cost sheets.

At the end of the shift all the data is moved to another part of the application that automatically generates the reports.





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