ABB Rapid and Accurate Project Development (RAPID) capital cost estimator helps chemical company achieve an accurate project cost estimate, suitable for making business stage-gate decisions.

The client is a major dilutor of sulphuric and hydrofluoric acid located in South Wales. The site was forecasting a significant increase in hydrofluoric acid from their sole supplier which they were obliged to accept.

As part of their long term production planning, they needed to identify capital costs associated with upgrading their existing hydrofluoric acid dilution plant to enable them to store the increased volume of chemical.

ABB was engaged to provide a RAPID cost estimate for the construction of a new plant. This was to also include the basic and detailed engineering required. The client required the estimate to be produced within a short time frame without incurring a large cost.

**Solution**

By using ABB’s RAPID capital cost estimating tool and through our deep understanding of the project delivery process, we were able to develop an accurate estimate from a basic conceptual process definition combined with key engineering data.

The tool provided the client the flexibility for optioneering in that different plant configurations could be costed relatively simply by changing the base process design.

By using the outline scope definition and allowing the algorithms to do the hard work, ABB was able to deliver a sanction grade estimate at a considerably reduced cost when compared to a traditional approach to front end engineering.
The capital cost estimate generated by ABB was compared to the client estimate and debated. The client conceded that its estimate was incomplete. They confirmed that although the main plant equipment costs were compatible they had:

- Missed basic and detailed engineering costs
- Underestimated non-direct costs including connecting pipework
- Underestimated construction costs, including scaffolding, crane hire, site supervision, etc.

ABB also provided the following process safety services on the project:

- Review of hazard studies
- Preliminary PHAST modelling
- Support in preparing the site COMAH report

**Benefits**

- Low cost accurate sanction grade estimate (accuracy ±30%)
- Deliverable provided within a short time frame
- Flexibility to change key criteria quickly without incurring large costs (e.g. main plant items, process configuration, plant footprint, etc.)