

Analytics in Shanghai

Serving the needs of the Asian market and beyond

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The design, construction and installation of analytical sampling systems are critical to the safe and efficient operation of modern industrial plants. This is especially true in heavy manufacturing process such as petrochemicals and refining. These sampling systems, and the large shelters that house them, were in the past typically built by specialized companies in North America or Western Europe and then shipped across the globe. The boom in petrochemical and oil and gas investment in China and Southeast Asia, and the Middle East changed the market dynamics. Responding to this need ABB made a strategic decision in 2002 to locate an Analytical Systems Integration Unit (SIU) in Shanghai, P.R. China.

Capital productivity

In doing this, ABB saw that it was positioning itself to better serve the needs of the Asian market, especially China. This included covering the long term service needs of its customers. By designing and building systems in China, ABB could both reduce the costs of fabrication and avoid large shipping costs from North America and Europe. To ensure success it was necessary for ABB to recruit and properly train local personnel with the necessary engineering skills and the motivation to ensure the on-time delivery of high quality analytical sampling systems.

The Shanghai SIU started operation in January 2003 with only four full-time staff. Initial projects were subcontracted to a local third party vendor for manufacturing. In the meantime a plan was formulated to develop a totally integrated SIU, which would employ all ABB personnel. All key functions would be located in the same facility in order to assure tight control of project management, quality and customer communications. The plan was fully realized in April 2004 when the operation moved to the Waigaoqiao Free Trade Zone in Shanghai.

It was also recognized that the Shanghai SIU would need to increase its personnel considerably in order to ensure that projects could be executed and delivered in a timely and efficient manner. The initial focus was to find project managers, analyzer specialists and system design engineers. ABB sets high expectations for techni-

cal excellence, knowledge of the business, experience, specialist skills, project management capabilities and inter-personal skills, which are all required to meet the challenges and the demands related to working with both Chinese and international clients.

ABB was fortunate to secure the services of knowledgeable Chinese personnel with experience of analytical systems from the oil, gas and petrochemical fields. The very capable local staff was supplemented by several key expatriates from Europe with a broad range of experience in supplying large scale analyzer systems globally.

Poorly designed analyzer systems have a significant additional financial impact over the life cycle of the plant due to plant shut-downs, design changes, increased maintenance, and increased call out charges and spare parts holdings.

ABB's goal was to deliver projects with the same quality, methodology and efficiency as from the SIUs in Europe and America. Despite the high experience levels of the local Chinese staff a considerable amount of skills training was required and implemented via the following courses:

- Project managers – ABB accredited Project managers course.
- Engineers and designers – external and internal technical courses tailor-made to meet their job requirements.
- Sales, engineering and service personnel – ABB product and third party analyzer courses.
- Workshop personnel – electrical, mechanical and welding courses.
- All staff – safety training.

ABB's Shanghai SIU is now a totally integrated operation and has a staff of 61, which is engaged in the following disciplines: external/internal sales, project management, engineering, design, procurement, business support, quality assurance, manufacturing, inspection, testing, commissioning, training, service and support. The 2000m² Shanghai SIU facility was custom designed and purpose built to meet our manufacturing floor space requirement complete with test, welding, stores and material quarantine areas.

The Shanghai SIU initially served the rapidly expanding market in China, especially in the chemicals sector. Now, after building upon a strong reputation for providing quality analyzer systems, the Shanghai SIU exports systems to other countries in the Asia Pacific region, as well as servicing the European and Middle Eastern markets.

Since its start in 2003 and until the end of 2006, the Shanghai SIU has



Factbox Major project applications awarded to ABB Shanghai SIU

Application	System delivered	Year of order
LDPE	2 Houses	2003
OXO & AA/AE	5 Houses + Field Systems	2003
LDPE	pH/Conductivity/Hydro Leak	2003
LOP	7 Houses + Field Systems	2003
MA/PA/FA	7 Houses + Field Systems	2003
Olefins	4 Houses + Field Systems	2004
Thermoxidizer	1 House	2004
Methanol	1 House	2004
Isocyanates	7 Houses + Field Systems	2004
Naptha	FTIR Analyser/Sample	2005
Acetic Acid	1 House + Field Systems	2005
CEMS	3 Houses	2006
OXO & AA/AE	2 Houses	2006
Acetic Acid	1 House	2006
Silicone	9 Houses	2006
Refinery	8 Houses + Field Systems	2006

successfully delivered over 47 analyzer houses. These deliveries include about 185 ABB analyzers **Factbox**. Over 33 percent of the delivered analyzers are manufactured by ABB, while the remaining share is sourced from various third party suppliers. There are several customers in China, who use third party analyzers, but still require ABB to design, construct and deliver the sampling system due to the quality of its work.

ABB considers its people its greatest asset and the staff in Shanghai is not viewed any differently. It has been instrumental in ensuring a continually expanding operation resulting in both an increased market share and client



base. Sales personnel are encouraged to bring prospective customers to the facility to see the quality of the ABB products first hand.

The Shanghai SIU has been awarded and works to the following quality assurance standards:

- ISO 9001: 2000
- ISO 14001: 2004.

Since its start in 2003 and until the end of 2006, the Shanghai SIU has successfully delivered over 47 analyzer houses. These deliveries include about 185 ABB analyzers.

The Shanghai SIU assumes total responsibility for the project from purchase order to client handover; ongoing service support is also available via ABB's strong service network, which is present in China as well as in almost any other end-user destination country. Services range from spare parts support and demand service to full resident maintenance service contracts. ABB in China currently has a dozen service engineers dedicated to analytical systems. This enables ABB to provide its customers with excellent local after sales support. Within China this is a real ABB advantage,

since most suppliers do not manufacture analytical systems in the country. The number of service engineers will continue to increase both in China and abroad as customers demand faster response times from this highly trained cadre of personnel.

This full value-chain approach provides the clients with a single communication channel, and the same ABB multi-discipline project team is involved in the project throughout its life cycle. This results in reduced costs, long term reliability, ease of maintenance and most importantly, lower total cost of ownership due to partnering with a single solutions provider.

The number of service engineers will continue to increase as customers demand faster response times.

The majority of clients now realize that poorly designed analyzer systems have a significant additional financial impact over the life cycle of the plant due to plant shutdowns, design changes, increased maintenance, and increased call out charges and spare parts holdings.

ABB Shanghai SIU's fully integrated operation with a multi-national and multi-discipline staff has the experience and track record to handle major global analyzer system projects. ABB is able to take advantage of the cost structure of the operation, which allows the SIU to deliver quality analyzer systems at extremely competitive prices in this very price oriented market place.

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