

# Center of excellence

Serving local and global markets from China

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With the goal of minimizing project risk and increasing engineering reuse and quality, ABB Process Automation has established an organizational model called “Center of Excellence”, or CoE. Each ABB industry unit has established one or more CoEs to serve the unique needs of a particular market or industry. The role of the CoE is to develop products and applications for a particular market and to then make them available for global use by local ABB units. The CoE is also responsible for technical development and technical leadership in project execution, together with

local ABB units. Local ABB units are distributed in different countries around the world and represent the interface to the ABB customer during project execution, as well as for daily contact. The CoE represents ABB’s industry know-how, while the local ABB unit is the contact to the customers. Finally, the CoE provides strategic sales support to major project pursuits around the world, ensuring that ABB is offering the most optimum solution to meet a customer’s budget and functional requirements.

Historically, ABB CoEs were based primarily in Western Europe and North America. Traditionally, this is where ABB's core competencies resided for many industries. However, in view of the huge capital investments in Asia, coupled with the wide supply of highly educated engineers throughout the region, it was time for ABB to commit to an Asian based CoE. The booming steel industry in China gave ABB its chance. Within ABB's Metals business, it was decided to establish a CoE for Processing Line and Tube Mills (CoE PLT), in Beijing, China. Since its establishment in 2002, the CoE PLT has become one of the most successful units in ABB Process Automation. Benefiting from the local dynamic and booming steel industry and its own technical and engineering competence, CoE PLT has undergone a rapid development, and has strived to extend its footprint in and outside China.

#### Why China for processing line and tube rolling mill CoE?

"It has been proven as a very wise decision," said Christer Skogum, head of CoE PLT and Process Automation division North Asia. *"In our global management team, we have a clear and common understanding – many of the future demands exist in the 'new' world, and our local team is ready to take on the business in both the new markets as well as the old traditional markets"*

"Our first-ever center of excellence in Asia has achieved a remarkable achievement," proudly added Fu Jianpeng, head of the local business unit for metals in China, "we have increased business 500 percent since its establishment."

Today 50 percent of the world's steel production is in Asia, and 85 percent of the incremental growth is in China. The country reached 349 million tons in 2005 and forecast an additional 10 percent growth in the year after. The rapidly growing market gives CoE PLT a fabulous opportunity to develop its business and people. The new projects in China are among the world's leading lines in terms of capacity and technology. Some examples where CoE PLT has delivered process automation solutions are:

- Pangang Group Ø340 tube mill line – world largest seamless steel tube production line
- Ningbo Baoxin stainless steel line – world largest stainless steel processing lines
- Taiyuan Iron & Steel – world largest cold annealing and pickling processing line
- Baosteel processing line – the world third fastest steel production line

#### A mixture of local and expatriate experts form a winning team

The success of the CoE PLT was dependent on ABB's ability to deliver the high quality of engineered solutions which were expected of the customers, but to use local Chinese engineers and project managers for implementation. The decision was taken to relocate key ABB Metals engineers to Beijing, where they could develop local competence while using the experiences built over many years with projects in Europe and the Americas. The project operation team continues to be the key to success.

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Narendra Gupta, an ABB veteran in the metal field, who has been in China since 1999, leads the operation team. The team focuses on project

execution and management as well as technology development and localization. The CoE's early successes have allowed the local team to build up extensive field experience in technology, application and project management.

*"Our team is formed by a group of young professional, well-educated and very hard working people. They are located where the business is in the world and where abundant skilled engineers are available at world-class cost structure," said Christer. "They are always ready to learn new things and will bring our metals business to the next level."*

#### References in the domestic market

Pangang Group Ø340 tube mill line – world largest seamless steel tube production line

ABB's CoE PLT China team helped Pangang Group Chengdu Iron & Steel Co., Ltd. (CSST) build a tube production line for the largest scale in 2005 ■.

The seamless steel tube production line was a key project in metal industries. This was recognized as high technology project by the National Reform and Development Commission during the period of macro control on metals and some other over-heated industries. The line has set a few records in the metal industry:

- The Ø340 tube mill line adopted the most advanced technology including the latest process control system and medium voltage drive system.



## Risk management

- The diameter of 340 mm is the largest scale seamless steel tube in China.
- The shortest cold and hot commissioning period (less than three months).
- The sole line in the industry which has a one-time hot trial success.

ABB's scope of delivery includes MV and LV drives, basic automation, level II process control and LV motors.

The Ø340 line is another successful reference of ABB CoE PLT China team, after the completion of two similar projects in Tianjin City and Hunan Province.

Ningbo Baoxin stainless steel line – world largest stainless steel processing line  
ABB technology supported the development of the world's largest stainless steel processing line in Ningbo Baoxin Stainless Steel Co., Ltd. **2**, and helped Baoxin more than double its production capacity.

CoE PLT provided equipment and systems to help develop the largest hot and cold annealing and pickling line in the world, as well as state-of-the-art rolling mills. ABB will supply specialized technologies for rolling, flatness control and metal conditioning, as well as process control products, drives and motors.

This work will support Baoxin's drive to boost its current annual output of 300,000 tons of finished products to 700,000 tons. ABB has already designed, engineered and commissioned a complete annealing and pickling line for another part of the Ningbo facility, as well as providing other specialized equipment and technologies.

Taiyuan Iron & Steel – world largest cold annealing and pickling processing line  
CoE PLT won an order from Taiyuan Iron & Steel Group, to supply the world largest cold annealing and pickling processing line in 2004.

**1** Pangang Group's Ø340 tube mill line is China's largest seamless steel tube production line



**2** ABB helped the Chinese steelmaker Baoxin more than double its production capacity and create the world's largest hot and cold annealing and pickling lines



Under the terms of contract, ABB is providing the customer with a basic automation system, a computer process system, and AC drives and motors for the line. Production capacity is expected to reach 500,000 tons annually. The delivery is slated for completion in one year.

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Taiyuan Iron & Steel (Group) Co., Ltd. (TISCO), founded in 1934, is a giant iron and steel complex whose main product is steel plate. It is China's largest stainless steel production enterprise.

Baosteel processing line – the world third fastest steel production line  
CoE PLT helped Baosteel **3** to build a steel processing line with a speed of 1,040 meters per minute, making it the fastest production line in China, and the third fastest in the world.

This is the first carbon steel production line at Baosteel Shanghai headquarters.

ABB has successfully executed many projects for Baosteel group, one of the major iron and steel makers in China.

CoE China – serving industry needs outside China  
The success of the CoE PLT in China rapid, but not surprising. However, the real key to a successful CoE is the ability to support projects globally, not just within the Chinese market. CoE PLT is supporting many orders outside of China, in countries as diverse as Netherlands and Mexico. These

projects include AC/DC motors and drives, automation systems, control desks, movement control centers (MCCs), electrical and mechanical erection, full system engineering and commissioning.

#### The key to success

ABB has CoEs in metals, chemicals, oil and gas, pulp and paper, marine and other industries. ABB is convinced this is the right approach to ensure consistent project execution, regardless of industry, scope or geographic location. The success of the CoE PLT in Beijing shows that such centers can be located close to the market demand without sacrificing quality or efficiency.

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