From 1997 to 2009, throughout the entire progress of Heng An Group growing into the leading giant in household paper industry, three generations of ABB engineers have constantly supplied Heng An with world-class automation technology and efficient, high-quality services, which has become an important support for the group’s high production efficiency and low energy cost.

**Consistent for more than 10 years**

*ABB Automation matches up “Heng An Speed”*

"The engineer in charge of Heng An PM 8 is only 26 years old. He no doubt belongs to post-80 generation, and also to the third generation of ABB China engineers." Said Mr. Lin Shuming, the general manager of ABB North Asia P&P LBU, after Heng An PM 8 successful launched at 28th Dec, 2009. For more than 10 years, all Heng An’s paper machines have been using ABB’s automation technology. The localized, high-quality services provided by ABB China’s three generations of engineers will ensure those technologies deliver optimal performance - high production efficiency and low energy consumption.

**Facilitate Heng An’s expansion against the recession**

At the beginning of 2009, Heng An, the leading giant of household paper industry, chose to expand despite the economic recession. The group planned to install three paper machines, namely PM 8, PM 9 and PM 10.

Cooperating with Heng An for more than 10 years, ABB got the order of the drive and automation systems for all three PMs.

On Dec 20, 2009, Hunan Changde Paper Mill of Heng An group successfully launched PM 8, six days ahead of schedule. The paper machine operates smoothly with excellent evenness and produces qualified products on the day. PM 8 produces sanitary tissue, with width of 5.6 meters and designed speed of 2000 m/min. The paper machine employs Metso’s ViscoNip boot type press technology, ABB’s drive technology and high efficiency variable frequency motor. ABB’s drive system and high efficiency motor ensure the production line's efficient operation and low energy cost, especially with precision of speed control of one in ten thousands.

Mr. Yang Zhanjun, senior drive technology expert of ABB China P&P department, said that the application of drive technology on tissue paper machine has its particularity: the speed of paper machine is fast and the tension of tissue is very weak. This makes the drive control very difficult. In addition, the customer demanded that while two motors are operating simultaneously, one motor should run without encoder.

To accomplish that, ABB used its unique drive system on PM 8. The frequency variation technology of ABB drive system is more advanced than vector control system. By employing direct torque control (DTC) technology, the system could effectively secure the precision of paper machine control, reduce sheet break and downtime. Additionally, this encoder-free system has the same control effects with other systems with encoder on the market, but
with less maintenance and fault points. Currently, ABB’s DTC technology, in comparison with standard technology, could reduce 40% to 50% encoders. This not only saves the investment, but also increases productivity and reduces maintenance cost.

World Leading Automation Technology Matches with Leading Speed
Jiang Manxia, Secretary General of China National Household Paper Industry Association, said that, from 1997 of last century till now, household paper industry is in a great developing stage. The industry has imported nearly 90 world leading tissue paper machines; the productivity increased rapidly with rising quality; the ever-increasing varieties of products not only satisfy domestic demand, but also increase the export volume. There emerge a number of large-scale tissue paper manufacturers with annual productivity more than 30,000 tons; Heng An, Golden Hongye, Vinda and Zhong Shun even have annual productivity of more than 250,000 tons.

When talking about this history, Yang Zhanjun has many feelings. Since its beginning days, Heng An has always used world-class technology and equipments. Most of its paper machines have speed of at least 2000 m/min. This becomes an important factor of Heng An’s more than ten years’ cooperation with ABB. From 1997 to 2003, ABB’s 10 projects have covered all Heng An’s mills at Changde in Hunan Province, Jinjiang and Xiamen in Fujian Province, and Weifang in Shandong Province. Heng An group has equipped all its paper machines with ABB’s control systems, including drive system (multi-drive, single drive and motor), DCS, AC800M control system,
QCS, MCC automation and drive control integral system.

As early as 1997, ABB provided drive system for Heng An Changde paper mill. At that time, high speed tissue paper machine was pretty rare in China. ABB’s drive technology fulfilled Heng An’s need to control high speed paper machine, even without an encoder. More than 30 years ago, ABB had its independent pulp & paper automation department. This ensured that all the technology and equipments ABB provided to Heng An group are always leading.

Three generations of local engineers work their best

Yang Zhanjun thinks that, other than excellent technology and equipments with high performance-price ratio, Heng An has long-term cooperation with ABB because ABB has in addition high quality localized services.

"Engineers of post-80 generation are the third generation of ABB China's Engineers. They followed engineers of previous generations on large-scale pulp & paper projects. They studied, grew and are able to be independent. " Said Yang Zhanjun, "PM8 was completed by ABB's post-80 drive engineers independently on site. This shows that every ABB drive engineer could complete the installation and testing of drive system independently. This easily indicates ABB's engineering ability in pulp & paper sector."

In 1990s, ABB China P&P LBU required onsite help from foreign experts to complete the project. However, since 1997, the LBU has started to complete the project independently. Now the LBU could complete all projects without foreign help. For the past dozen years, ABB China's organizing and project execution ability has been recognized by customers. This is because they could strictly follow the work schedule and deliver high quality result.

The first generation of ABB China’s engineers travelled a long journey to Europe to attend professional training. After that, ABB China nurtured second and third generations of local engineers on China soil. Now, ABB China's local engineers are becoming teachers for more and more foreign colleagues.

"ABB China's project management team has average profession experience of 8 years; some of them even more than 30 years. The team's average age is 35, but for ABB US it is 55." Said Lin Shuming, this signifies the formation of a young, experienced and energetic Chinese localized service team. This clearly reveals the reason the household tissue enterprises such as Heng An chooses ABB as the long-term partner: localized convenient services turn world-leading technology into advanced productivity in the enterprise. PA