

Success Story

With ABB's help PM6 startup makes Muda Paper the largest industrial grade paper producer in Malaysia.

Following the success of their past technical collaboration experience on the PM4 Paper Machine Project with ABB, Malaysia's leading Paper Mills, Muda Paper Mills Sdn Bhd once again invited ABB to take part in providing the complete technical design and supply of critical motors, major parts and state of the art process control instrumentation solutions for its latest 150,000 tons per year PM6 installation project at its Mill located in Kajang.

As the largest industrial grade paper producer in the country, Muda Paper recycles as much as 600,000 tons of wastepaper per annum. In order to ensure that its paper mills are constantly fed with sufficient quantity of waste paper which is the main raw material for recycling, Muda Paper has over the years built up a strong network of waste paper collection centers strategically located in most of the major cities throughout Malaysia namely Penang, Butterworth, Ipoh, Johor Bahru, Kajang, Melaka, Batu Pahat, etc.

Following the commissioning of PM6, Muda Paper is now faced with another challenge, that is, to ensure the continuous availability of raw material to feed the paper mills. Recently there have been occasions when the mill encountered a temporary shortage of waste paper collection domestically. To overcome this, Muda Paper has no choice but to resort to importing wastepaper from countries from as far as Japan, Australia, New Zealand, United Kingdom, Denmark and Sweden.

PM6 – From Sudbrook, UK to Kajang, Malaysia

The St. Regis Group in the UK had one of its Mills located in a small town named Sudbrook in Wales. When St. Regis decided to close down the Sudbrook mill, they put the paper machine up for sale on the market. Through an agent, Muda Paper was informed of the newly on-the-market paper machine.



PM6 was purchased at the end of 2007. However, the engineering team had to put on hold the plan to dismantle the PM6 for shipment for 5 months until the end of winter season in Wales. In June 2008, engineering teams from both Kajang & Tasek Mills, together with their experienced supervisors and subcontractors, started dismantling works on the PM6. The whole process took 8,400 mendays to complete.

The installation of PM6 did not commence as soon as it arrived in Malaysia due to the effect of the US economic recession in the last quarter of 2008 on the company. At the height of the recession, Muda Paper suffered a double blow as sales plunged by 30% and price dropped by 20%. In the meantime, restoration work and services of PM6 were still being carried out. The economy recovered in the third quarter of 2009 and the installation of PM6 resumed on full force soon after. The entire project was completed in about 15 months in December 2010. PM6 started machine trial run in early January this year and the company declared the machine fully commissioned in the second half of 2011. Since then the production output has been ramped up progressively to eventually achieve 12,000 metric tons per month.

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The Project

Historically, ABB was used when PM6 was in Sudbrook. Therefore, in line with Muda Paper's main objective to reduce cost, ABB was chosen to supply its range of solutions through the "replugging" system.

The delivery comprises of paper machine sectional drives, DCS, QCS, single drives, transformers and low voltage motors. ABB's key advantage over other competitors was the ability to offer an entire range of solutions, which are technically proven and easily integrated, based on a common automation platform.

Electrification of PM6 includes dry type distribution transformers, sectional and single Variable Frequency Drives (VFD) and low voltage motors. The dry type transformers require minimal maintenance and unlike the oil type transformers, cause no leakage concerns. Moreover, considerable savings in energy can be foreseen with the use of ABB's transformers in the distribution of power.

PM6's automation system is supported by ABB's Distributed Control System (DCS) and Quality Control Systems (QCS). ABB's DCS system includes AC800M Controller with new Operator Stations and S800 I/Os and the QCS system includes AC800M Controller with new operator stations, Basis Weight Sensor, HemiPlus Moisture sensor and SP 1200 frame. The system of controllers is connected by networks for communication and monitoring.

ABB system is completely integrated and flexible because the drives and motors across the process and the paper machine are standardized to ABB drives and motors. Therefore, maintenance is easier with lesser holding cost, as there are lesser parts to hold in the inventory in case of a breakdown.

A few criteria were taken into account when assessing ABB's product. The project was awarded to ABB based on ABB's product strength, integration, experience, quality, history and service capabilities. Additionally, the cooperation between local and regional support offered by ABB proved important to Muda Paper. Service tool such as the online Remote Diagnostic Services (RDS) included in the scope reinforced ABB's commitment to service for the project. The on-line RDS is available around-the-clock, 24 hours – 7 days – 365 days a year. The execution of DCS and QCS is done from the ABB Pulp and Paper Regional Center in Singapore.

Despite being new to the DCS system, the operators feel the program is user-friendly as there were no major problems during the transition period. Prior to PM6's installation, the operators were sent to the Tasek mill to get themselves accustomed to the DCS system as the same system is used there.

To maintain the quality and smooth running of the paper machines, Muda Paper conducts its service maintenance

once a month where the machines are shut down for half a day. Major maintenance is always scheduled and carried out once a year during the Eid festival. The machines are shut down for 3 to 4 days.

Costing a total of RM180 million (USD 61 million), the project also includes an additional unit of power generator and an upgrade to the water treatment plant. The PM6 project opened up new market for Muda Paper when the quality of medium liner is upgraded to be comparable to Amcorp Australia and Siam Kraft Thailand.

"The relationship between Muda Paper and ABB is, thus far, a happy marriage," said Mr Lim Chiun Cheong, the Deputy Managing Director of Muda Holdings Berhad. He also added, "It is a long term relationship. When choosing a supplier, we look at certain criteria such as reliable after-service." ABB has been a devoted partner in the "marriage" and is committed in providing constant service and inter-minable assistance to Muda Paper.

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