

Case Study



Upgrade adds
10-15 years of life
to winders at
Asia Pacific Fibers,
Indonesia

CLIENT

Asia Pacific Fibers

Indonesia

PT Asia Pacific Fibers Tbk (APF) is an Indonesia-based integrated manufacturer of polyester. The company has a manufacturing facility for PTA, continuous polymer and staple fibre in Karawang, Indonesia. It also owns another manufacturing plant for filament yarn in Semarang, Indonesia.



Challenges

APF has a winder of Barmag make. The control system hardware of this winder was obsolete. APF was also facing a number of other issues with the machine, such as:

- Winding quality
- Limitation for product parameterization
- DOS-based monitoring systems
- Special purpose drives manufactured only by OEM (original equipment manufacturer)
- Outdated communication protocols
- Short life of systems
- Availability of spares and hardware
- Expensive services from OEM
- Lack of skilled manpower for maintenance
- High number of breakdowns and tripping
- Limited or no production reporting
- Inventory management was costly

A.T.E.'s automation team has handled many difficult upgrades in the past. Hence, APF got in touch with A.T.E. to see if the winder could be upgraded to improve its performance and to make it viable.

Solution

A.T.E. studied the machine and found that the machine was mechanically sound, but the electrical systems and controllers needed to be overhauled.

- A.T.E. carried out a complete survey of the electrical hardware and related systems
- Replaced the existing OEM made hardware with the latest PLC (programmable logic controller) and computer system
- The obsolete OEM-embedded controller was replaced with a S71200 PLC.
- The DOS-based control station was replaced with the latest Siemens WINCC SCADA (supervisory control and data acquisition)
- All existing hardware replaced with the latest PLCs
- Installed WINCC SCADA and HMI (human machine interface) systems with latest human machine interfaces
- Installed the latest PROFINET communication protocol, thus making the machine future-ready
- Replaced special purpose OEM drives with industry standard drives (such as Yaskawa and Siemens drives) which are easily available in market

Results

- Machine life increased by 10-15 years
- Spares are easily available at economical prices
- Monitoring is easy as GUI is graphical and easy to understand
- Parameterisation is made easy

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