

### Constant high quality of purified water supply and wastewater discharge

#### The Client

Konica Minolta Glass Tech (M) Sdn Bhd (KMGT) is a wholly owned subsidiary of Konica Minolta Opto. Inc. (KM) that produces glass substrates for hard disk drives (HDDs). The company was formed in 2003 through the merger of Konica and Minolta. KM is currently the world leader in imaging technology specializing in the manufacture of glass substrate hard disks. Compared with aluminium, glass substrate excels in heat resistance and shockproof, and is suitable for higher density storage media.

- Polished water: 153m<sup>3</sup>/h
- Process City Water: 40m<sup>3</sup>/h
- Wastewater: 276m<sup>3</sup>/h
- Low DI: 46m<sup>3</sup>/h
- High DI: 37m<sup>3</sup>/h
- Contract type: Design, Build, Operate and Maintain

#### The Client's Needs

The raw water quality supplied by the public utility provider fluctuates significantly, thereby gravely affecting KMGT's operations. The sensitivity of the manufacturing process of glass substrate hard disks requires a robust and reliable water supply, a wastewater treatment that is compliance to Malaysia's Standard B specification, and a wastewater facility that is capable to handle the extreme fluctuation of the influent coming from the production process.



KMGT wanted to partner with a company not only to provide robust facilities but more importantly, one that is capable of providing high quality of services to meet its high standards of operations.

#### The Solution

SKS Veolia Water completed the construction phase in 2007 and commenced its operations. Since then, SKS Veolia Water has been providing De-ionized Water (Low and High DI), Polishing Water and Processed City Water as well as the treatment and discharge of wastewater.

SKS Veolia Water worked with Konica Minolta for several months to analyze the quality of wastewater from other similar plants. SKS Veolia Water's ability to provide strong service guarantees coupled with exceptional technical support were the main reasons that SKS Veolia Water was selected.

With Konica Minolta, SKS Veolia Water has demonstrated its capability to meet unscheduled requests from Konica Minolta for higher supply of UPW by proactively installing systems to meet production requirements.

## The Benefits

### System Benefits

- Constant production of 2 grades of high DI and Low DI Water
- Use of chemical free solution – continuous deionization technology (CEDI) for producing high purity water without the costs associated with the chemicals regeneration and waste neutralization
- All suspended solids including microorganisms are removed effectively with Ultra Filtration Membrane
- Actiflo® small footprint reduces the WWTP area significantly, while performing the clarification effectively

### Operation & Maintenance Benefits

- High plant availability and constant achievement of quality parameters
- Dedicated site based team supported by Veolia experts to ensures continuity
- High standard of plant operation and safety

## Process Description

SKS Veolia Water has subsequently chosen Veolia Water Solutions & Technologies to design & build the Deionized Water Plant and Wastewater Treatment Plant (WWTP). The solutions offered by Veolia Water Solutions & Technologies are:

The **CEDI system** is used to polish RO product water and remove CO<sub>2</sub>, Silica and TOC from the stream. This system uses ion exchange resins and electricity to produce continuous and consistent high quality water with no regeneration downtime.

The WWTP incorporates an **Actiflo®** Unit, which is a very high-rate clarifier exclusively developed and patented by Veolia. Actiflo® is a compact process that operates with microsand (Actisand™) as a seed for floc formation. Actiflo® has a small footprint which ranges between 5 to 50 times smaller than conventional clarification systems of similar capacity.

The WWTP was also designed by applying the principle of Fenton Process, which utilizes the oxidation process to reduce the concentration of contaminants such as TOC with the application of H<sub>2</sub>O<sub>2</sub> in which FeSO<sub>4</sub> acts as a catalyst.