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GE Infrastructure  
Water & Process Technologies  
Microelectronics Industry

# pure leader



imagination at work



# your experienced source

# for ultrapure water solutions

Microelectronics manufacturers worldwide trust GE Infrastructure Water & Process Technologies for reliable ultrapure water (UPW) production.

Glegg and Osmonics treatment systems and Betz chemistries have supported the industry since its inception. Today, we keep customers on the forefront with:

- Turnkey UPW systems
- E-Cell\* electrodeionization (EDI)
- Water recovery and reuse systems
- Energy reduction programs
- Ultrapure water from seawater or brackish water sources in areas of scarcity

These and other innovations help you protect product quality, generate substantial savings, and improve environmental compliance.

We also deliver cost-effective treatment chemistries for boilers, cooling towers and other plant infrastructure. With a broad offering of equipment, filters, membranes, chemicals and services, we provide complete water and process quality solutions.

GE field representatives apply years of experience in microelectronics to help you get the most from your processes. You can trust us to manage your utility and process water while you focus on your business. We can help you:

- Use resources efficiently
- Reduce operating, maintenance, and overhead costs
- Improve regulatory compliance
- Streamline chemical and fluid management processes
- Upgrade water systems without up-front capital expenditures
- Transfer operational risks to water and process specialists through outsourcing solutions



# reusable resource

## **New frontiers in water reuse and waste reduction**

GE is a globally respected company with the strength, resources and capability to function as a business partner. Our technologies help you gain a competitive edge and maintain profits in the face of relentless cost pressure and tightening environmental regulations.

Our water recovery and reuse systems help customers deal with growing water scarcity and rising water costs. We lead the industry with innovative systems that produce ultrapure water from a broad range of process waste streams:

- Chemical mechanical planarization (CMP)
- Electro-less plating solutions
- Wafer polishing
- Dicing and back grinding
- Clean rinse
- Cooling water blowdown

To help you comply with environmental regulations, our wastewater treatment systems help reduce:

- Heavy metals
- Waste acids
- Particulate
- Organic compounds
- Other pollutants

At one microchip manufacturer, a custom water treatment chemistry enabled reclaimed wastewater to replace municipal water as make-up for cooling towers. The company saved a total of USD \$300,000 per year in city water expenses and reduced chemical usage from increased cycles of concentration and lower blowdown volume.

We tailor reuse, recovery and waste treatment systems to your specific needs with field-proven technologies that include:

- Chemical precipitation
- Microfiltration
- Membrane separation
- EDI polishing



# we don't just promise value

## Quality performance with global consistency

We deliver UPW systems that exceed SEMI and other industry guidelines and standards for nano technology. GE representatives served on the SEMI committee that established today's UPW guidelines.

For one United States integrated circuit manufacturer, GE assumed charge of existing UPW, acid neutralization and fluoride treatment systems, deploying an onsite operations manager and six operators. Process and equipment improvements generated annual savings of USD \$700,000 on water, chemicals and consumables, plus a USD \$300,000 per year reduction in wastewater permit charges.

On the plant utility side, water treatment chemistries for process cooling and hot water help customers maintain reliable infrastructure while driving down maintenance, operation and energy costs.

## Complete service and support

GE provides complete support services tailored to your needs and budget. Your options range from comprehensive build, own, operate and maintain (BOOM) agreements, to PlantGuard\* programs that provide routine and specialized maintenance and high-quality consumables for a fixed monthly fee. We also provide equipment financing and extended warranty options.

## Constant innovation, continuous improvement

The advantages GE brings today will grow even bigger tomorrow. The GE Global Research Center, part of a USD \$200 million annual R&D investment, makes discoveries each year that can directly benefit your business. Our new and developing technologies for the microelectronics industry include:

- InSight\* remote monitoring and diagnostics for your boilers and cooling towers via the Internet
- Mobile Water systems for emergencies and other short-term needs
- New waste treatment polymers that enhance dewatering and reduce waste volumes
- Z.Plex\* filtration technology, providing fine particle removal with a quantum leap in life and dirt-holding capacity

As our customer, you also have access to technologies and services from other GE businesses:

- GE Fanuc
- GE Energy
- GE Commercial Finance
- GE Infrastructure Security
- GE Consumer & Industrial Lighting

# we prove it

## Our people: Your greatest resource

GE people understand your business and your processes. Working on your site as trusted members of your team, they help you by:

- Analyzing processes and prescribing treatments
- Performing diagnostics and troubleshooting
- Servicing and maintaining equipment
- Using Six Sigma methods to solve your most difficult problems and optimize processes

Our industry-exclusive Value Generation Plan identifies what is important to you and documents how we:

- Improve productivity
- Reduce costs
- Enhance environmental compliance
- Save energy

Our Internet Customer Portal lets you check the status of orders, invoices and shipments.

GE people, solutions and technologies help you prosper today and ensure a successful and profitable future.

