



## INDUSTRY

Innovating to increase resource efficiency and reduce industrial production risks

The use of resources essential for industrial production is increasing globally. The growing scarcity of these resources in turn leads to increased production costs and risks.

On a global scale, industries now use 22% of all available water resources. At the local and regional scale, water scarcity restrains the capacity to augment production volume. Pollution through wastewater and waste discharge impacts the environment and is increasingly being regulated with stricter requirements.

In this context, sustainable water and energy use, waste minimisation and reuse as well as resource efficiency are essential focus areas for a step towards more viable industrial production.

### THE CHALLENGES

- Coping with reduced resource availability
- Lessening increased environmental pollution from industrial and other sources
- Meeting the need for stricter environmental regulations
- Reducing industrial production costs
- Improving the efficiency of technologies for treatment and reuse of resources
- Systematising technology verification and testing
- Managing the environmental impact of increasing industrial waste streams

### OUR APPROACH

At DHI, we adopt a holistic approach to industrial production and technology. We look at the entire industrial value chain including:

- the use of resources
- the potential for reuse and optimisation in the production process
- the emission of waste streams and how environmental impacts can be reduced

### OUR SOLUTIONS

We support you in achieving resource efficiency and reduction of waste leachates. We also engage in innovation and testing of new technologies, which can provide value to industries and enhance their sustainability. Our solutions are tailor-made to suit our clients' needs. They build on our detailed knowledge of production processes, technologies and regulatory requirements.

### THE ULTIMATE GOAL

ENHANCED SUSTAINABILITY, CONTROLLED POLLUTION AND REDUCED COSTS

## OUR EXPERTISE

### RESOURCE-EFFICIENT PRODUCTION

In order to ensure that industrial production and resource efficiency go hand-in-hand, we offer services for:

- water and energy savings and reuse
- resources recovery
- waste minimisation and reuse
- sustainability assessments and indicators

### POLLUTION CONTROL

To ensure pollution control during industrial processes, we engage in:

- management and regulation of industrial pollution sources
- wastewater monitoring, characterisation and conceptualisation of treatment plant design
- alternative water resources (for example, greywater)

### TREATMENT TECHNOLOGY, INNOVATION AND TESTING

To help you develop, test and verify innovative, efficient and sustainable treatment technologies, we provide:

- laboratory and field testing of treatment technology
- sustainability of technologies
- technology verification

### WASTE AND SOIL STRATEGIES AND SOLUTIONS

To efficiently assess and monitor environmental impacts of industrial waste streams, we support you in:

- characterisation and classification of waste and soil
- decision and technical support for legislation
- Environmental Impact Assessment (EIA) and Risk Assessment
- waste minimisation and reuse

“ On a global scale, industries now use **22% of all water resources**.  
In high income countries, this figure reaches 70%.

## CASE STORIES



Cooling water is used extensively in a number of industries. Cooling systems are significant consumers of energy and their efficiency has a big impact on the production of some plants. We conducted research and development to examine the various possibilities of improving the cooling system energy efficiency by applying new and advanced algorithms based on online water distribution models. The result: improved efficiency, energy savings and reduced CO2 footprint.



For most industries, constant efforts are required to reduce the overall consumption of water, energy and chemicals. We have the expertise to support the industry in all phases of cleaner production measures, with respect to water-based production processes. In doing so, we help to reduce CO2 and water footprints and environmental impacts. We also facilitate significant savings in water and energy consumption costs.



As society becomes wealthier, there is a growing need to conserve and recover resources from waste. It is also becoming vital to properly manage residual waste in an environmentally sustainable manner. We can assist you with the evaluation of recovery potential of waste streams. Thus, we can aid in reducing waste quantities and lessening the pressure on natural resources. We also facilitate potential cost savings by reuse and recycling.

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