

# DEMYSTIFYING ENABLING TECHNOLOGIES

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A series of examples portraying innovative technology solutions made by Orgalim industries can unlock a more prosperous future for the society we live in

# DEMYSTIFYING ENABLING TECHNOLOGIES

Orgalim represents Europe's technology industries, providing innovative technology solutions which are underpinning the twin green and digital transitions and can unlock a greener, healthier and more prosperous future for the European Union and its citizens.

## Enablers of the green transition and sustainability

Our companies manufacture the technologies needed for decarbonisation and environmental sustainability across society, including in industry itself. For instance, we make the equipment that reduces the CO<sub>2</sub> footprint of industry and buildings and facilitates the electrification of the energy system.

These enabling technologies are the reason why Europe currently has an undisputed global

leadership in the rapidly growing green tech sector. Many of the best-in-class companies and technologies are here in Europe. The vast majority are SMEs and mid-caps.

## In focus: enabling technologies in the EU taxonomy on Sustainable Finance

The co-legislators of the EU acknowledged the important role of enabling technologies when adopting the Taxonomy Regulation in 2020. Article 16 of the Regulation provides a legal base for the inclusion of the enabling activities in the taxonomy. It states:

“An economic activity shall qualify as contributing substantially to one or more of the environmental objectives set out in Article 9 by directly enabling other activities to make a substantial contribution to one or more of those objectives, provided that such economic activity:

1. Does not lead to a lock-in of assets that undermine long-term environmental goals, considering the economic lifetime of those assets;
2. Has a substantial positive environmental impact, on the basis of life-cycle considerations.

**This document provides examples of enabling technologies in four areas: climate mitigation, water preservation, circular economy and pollution prevention. It is a living document that will be updated as relevant.**



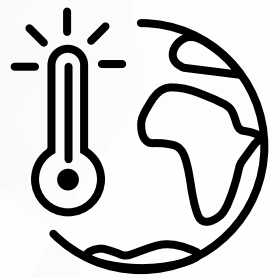
# CLIMATE MITIGATION

## SMART BUILDING MANAGEMENT



### What is it?

A platform using a collaborative Internet of Things (IoT) to enable a scalable, secure, and global architecture to make buildings of all types more efficient.



### Did you know?

Large buildings with a smart building management solution can increase operational energy efficiency by up to 30%, as well as improve their engineering efficiency and cybersecurity.

See example here: [EcoStruxure Buildings](#)

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# CLIMATE MITIGATION

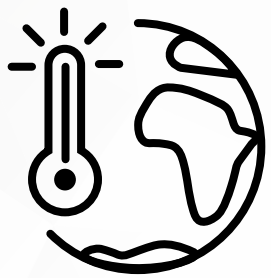
## HIGH SPEED 2D LASER CUTTER

### What is it?



A beam of light emitted through a special lens to cut metal in all shapes and sizes for a multitude of uses.

### Did you know?



New high speed 2D laser cutters can reduce the use of cutting gas by 70%. The increased precision also reduces the risk of waste caused by faulty production.

See example here: [Highspeed Eco](#)

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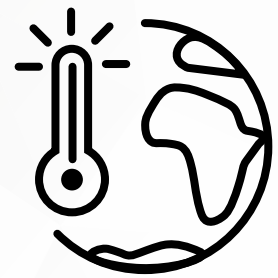
# CLIMATE MITIGATION

## HIGH, MEDIUM, & LOW VOLTAGE ELECTRICAL CABLES



### What is it?

Energy cables of different sizes are necessary for a modern energy grid. They enable the connection of renewable energy sources, the interconnection between countries and the electrification of transport and smart buildings.



### Did you know?

In order to succeed with Europe's decarbonisation goals, electrification is essential. Over 44,000 km of new cables must be installed to enable the grid to handle the increased usage of renewable energy.

See example here: [Energy Infrastructure](#)

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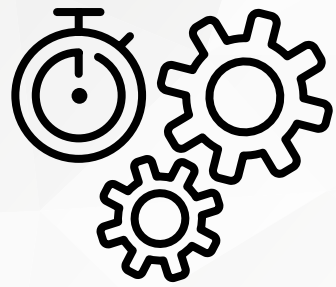




# CLIMATE MITIGATION

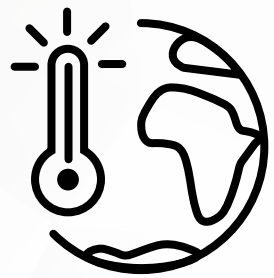
## VARIABLE SPEED DRIVES

### What is it?



A device used to control the speed of an electrical motor by changing the frequency and voltage of power supplied to the motor. This is useful in slow operations that use too much energy, for example.

### Did you know?



Variable Speed Drives can reduce of energy consumption by up to 40% when applied to an electrical motor. That means that the CO<sub>2</sub> footprint is reduced significantly and the motor's lifetime is extended.

See example here: [What is a Variable Frequency Drive?](#)

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# WATER PRESERVATION

## SIMPLIFIED HYDROPONICS

### What is it?



Hydroponics is a method of growing plants without soil; instead, nutrients are provided via a water-based system.

### Did you know?



Hydroponics reduces water use for crops by 90% compared to conventional soil-based systems, thus dramatically improving the sustainability of farming.

See example here: [Growing Solutions](#)

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# WATER PRESERVATION

## ADVANCED WATER LEAK DETECTION

### What is it?



A system that monitors water infrastructure. By combining real-time data and historical data, it can detect, prevent and mitigate leaks.

### Did you know?



Advanced leak detection combines real-time network intelligence and historical metrics to detect leaks faster, thus helping decrease water leak occurrences by up to 15%.

See example here: [Digitisation of Water Network Management](#)

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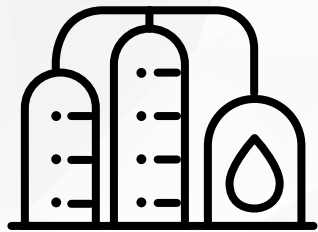




# WATER PRESERVATION

## WATER TREATMENT PLANT 4.0

### What is it?



A water treatment plant 4.0 uses the latest technology to control, monitor and simulate every step of the process in order to optimise energy consumption.

### Did you know?



By installing and implementing a state-of-the-art energy management system, Canal de Isabel II is able to save 15% in total energy consumption and reduce CO<sub>2</sub> by 10%.

See example here: [Treatment Plant 4.0](#)

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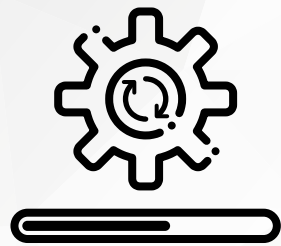




# CIRCULAR ECONOMY

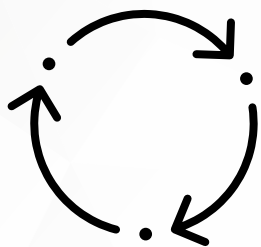
## OPC UNIFIED ARCHITECTURE RETROFITTING OF MACHINES

Photo Courtesy of TRUMPF 2022 ©



### What is it?

OPC Unified Architecture (UA) is a cross-platform application that enables data exchange from sensors to cloud applications and vice-versa.



### Did you know?

By adding an OPC UA interface to older machines, users are able to utilise the newest communication technologies. This enables the machines to adapt to the newest standards and prolong their life.

See example here: [Extending Machine Life](#)

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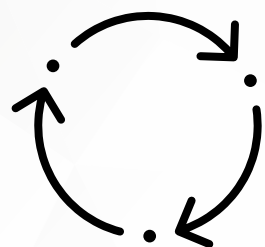
# CIRCULAR ECONOMY

## REFURBISHMENT OF MACHINES



### What is it?

Refurbishment consists of reassembling and replacing components to restore a machine to its original state when manufactured.



### Did you know?

Refurbishing a 12-tonne machine can save around 16 tons CO<sub>2</sub> on the body parts alone and up to 20 tons CO<sub>2</sub> when accounting for the elimination of downstream processes also.

See example here: [TRUMPF - Extending Machine Life](#)

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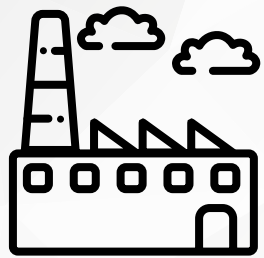




# POLLUTION PREVENTION

## FLUE GAS SCRUBBERS

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### What is it?

Flue gas is a mixture of combustion products and process gas with impurities that is emitted from power plants and industrial processes into the atmosphere. A scrubber is a multifunctional device that cleans the gas and retains heat for higher efficiency.



### Did you know?

Flue gas scrubbers can almost entirely remove acidic gases and ammonia, two highly potent pollutants, from power plants and industrial processes.

See example here: [Air Emission Control](#)

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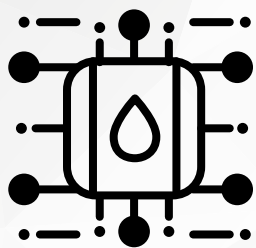
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# POLLUTION PREVENTION

## ADVANCED AI & BLOCKAGE PREDICTORS

### What is it?



A monitoring system that uses immediate data from sewer overflows, manholes and an advanced AI system to identify abnormal behaviour in waste water.

### Did you know?

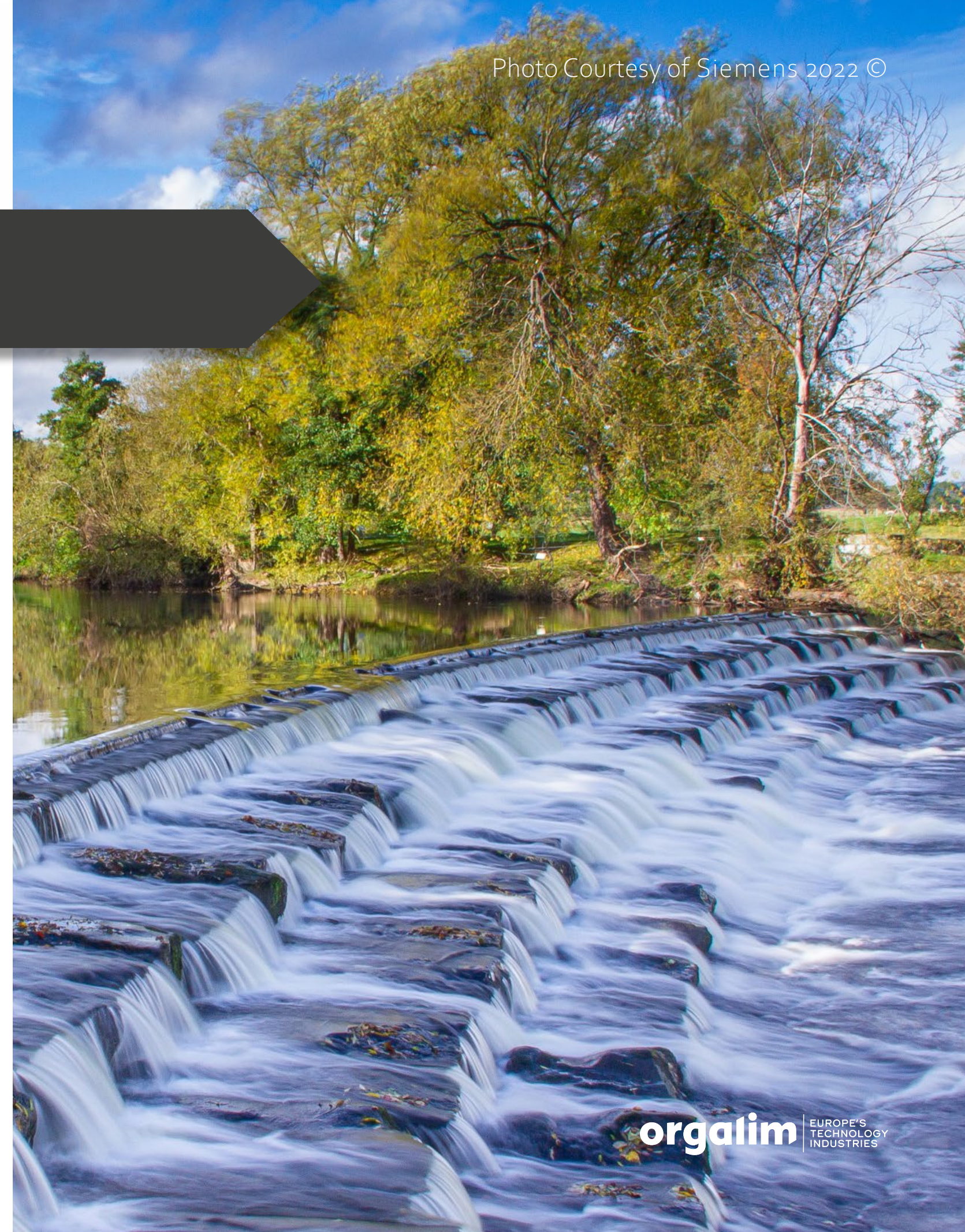


Using advanced AI combined with real time rainfall data, detection and reaction to potential waterway pollution issues are 3-4 times more effective.

See example here: [AI Pollution Prevention System](#)

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Orgalim represents Europe's technology industries, comprised of 770,000 innovative companies spanning the mechanical engineering, electrical engineering, electronics, ICT and metal technology branches. Together they represent the EU's largest manufacturing sector, generating annual turnover of over €2,000 billion, manufacturing one-third of all European exports and providing 11 million direct jobs.

## KEEP IN TOUCH



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