

INNOMOTICS

Performance on tap.

Our solutions for clean water



Clean water: the world's no 1 fundamental need.



Clean water is life. And a fundamental need. For environments, health, populations, livelihoods, fields, crops, factories and households.



Only 0.014% of water is fresh, clean and on tap. 1/3 of the world's people still yearn for access to safe drinking water.



At the same time, 80% of our sewage goes to waste, untreated. And yet it's a valuable resource.

Providing the technology and the expertise to change that, is our passion.

Making clean water available. For people, dry lands and fertile crops.

Desalination answers to the world's growing demand for clean water. Innomotics provides the expertise – and the solutions – for water and wastewater safety around the globe.

We help to bring clean water to people who – until now – have no access. This ensures health and livelihood, development and growth.

Transforming waste into a valuable resource.

Water and wastewater treatment plants rely on Innomotics' sophisticated technology to perform and deliver the water resources that are so urgently needed.

And significantly protecting environments along the way. Safely and sustainably.

Storing, pumping, moving for water and power supply

Providing clean water and power requires water to be moved and stored.

Innomotics provides integrated solutions for pumping, reservoir and hydropower systems, contributing to the effective utilization of water and renewable energy resources.

Water, water everywhere. And not a drop to drink?

The opposite to drought is the abundance of natural water, often untamed and not safe to drink.

Innomotics contributes to the protection of vulnerable areas from flood threat, providing the expertise and the drives for safe drainage and stable barrier systems.

Performance on tap. water solutions full circle.

Innomotics' engineering approach is comprehensive. The scope of expertise on water and water facilities goes full circle.

Extensive experience in complex design and submittal procedures helps reduce costs, time and effort.

Innomotics' EPC (engineering, procurement, construction), contractor, OEM (original equipment manufacturer) and integrator customers around the globe have a deep appreciation of this unique advantage.

Make it yours!

Drinking water stations

- Sustainable solutions with drive systems

Sewage network pumping station

- Small footprint to optimize civil facilities

Wastewater treatment

- Innovative concept to optimize plant efficiency
- For hazardous and non-hazardous areas
- Digitalization

Water treatment plants

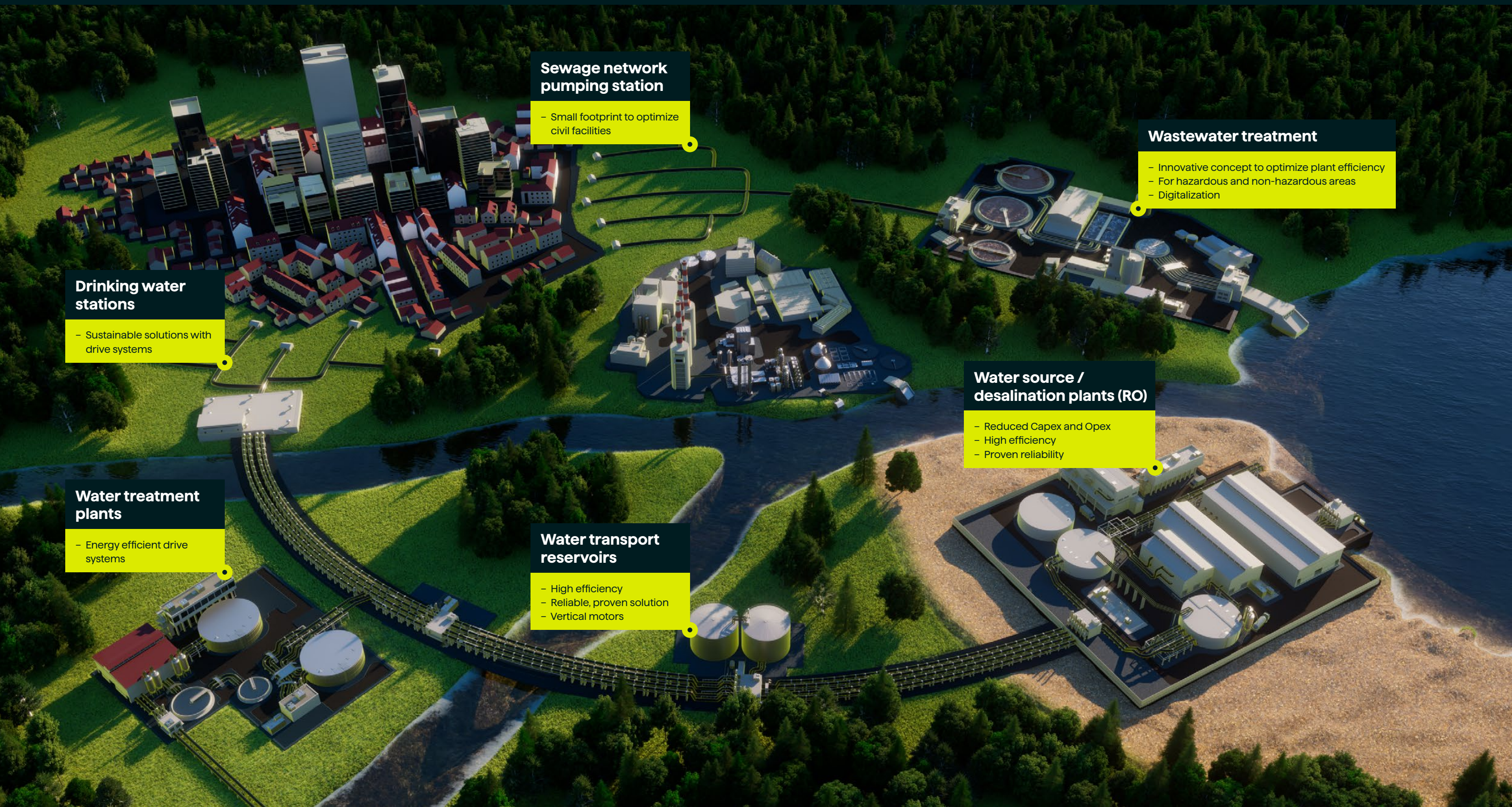
- Energy efficient drive systems

Water source / desalination plants (RO)

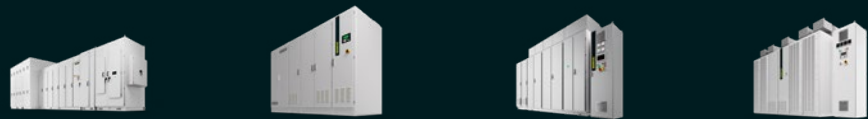
- Reduced Capex and Opex
- High efficiency
- Proven reliability

Water transport reservoirs

- High efficiency
- Reliable, proven solution
- Vertical motors



Turn on high performance for water utilities.



	Perfect Harmony GH180	GM150	Perfect Harmony GH150	GL150
Type of drive	Multi-cell voltage source inverter featuring Innomotics Perfect Harmony technology (PH VSI)	General purpose medium voltage drive converter for single-motor applications. Variable and constant torque.	Multi-cell voltage source inverter featuring M2C technology (M2C VSI) [Modular multilevel converter (M2C)]	Current Source inverter with load-commutated inverter technology (LCI)
Drive cooling	Air (A), water (W)	Air (A), water (W)	Air (A) incl. optional integral A/W and A/A-HEX, water (W)	Air (A), water (W)
Power range	A: up to 17 MVA W: up to 34 MVA	A: 1 to 10.1 MVA W: 2 to 24 MVA	A: 4-35 MVA W: 4-47.6 MVA	A: 14-30 MVA W: 6-85 MVA
Transformer	Integrated	Separated	Separate	Separate
Input section	A: 4Q (AFE) W:2Q (DFE) and W/partial recharge	2Q (DFE)	2Q (DFE)	4Q
Type of motor	IM, SYN, PEM, WRIM	IM, PEM, SYN	IM, SYN	SYN
Output voltage	A: 2.3 to 11 kV W: 4.0 to 11 kV	A: 2,3 to 4,16kV W: 2,3 to 6,6kV	A: 4.6 to 13.8 kV W: 4.16 to 11 kV	1.4 to 10.3 kV
Degree of protection	IP42 W: IP54	A: IP22 (standard), IP42 (optional) W: IP43 (standard), IP54 (optional)	IP43, IP44, IP54	A: IP20, IP32, IP42 (on request) W: IP41, IP44
Long cable capabilities	2300m; longer distances on request	up to 100m (standard) >100 with output reactor	1000m; longer distances on request	Option L05 up to 1000m

Innomotics MV Drives and HV Motors are predestined for all water and wastewater applications. Designed to save energy, reduce operating costs, save space, and deliver reliability for your water utilities.

The Innomotics Waterline portfolio includes high-speed two-pole, high-pole, vertical and horizontal designs – standard or custom engineered to your specifications.



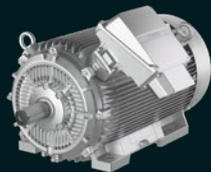
	Innomotics HV C	Innomotics HV M
Power range	0.15 – 2.2 MW	0.5 – 29 MW
Voltage range	2 - 11 kV (also available in low voltage version)	3 - 13.8 kV (also available as low voltage version)
Frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Shaft height	315 – 560 mm	450 – 900 mm
Number of poles	2 - 8 (more pole numbers on request)	2 - 12 (more pole numbers on request)
Speed	up to 3.600 rpm	up to 3.600 rpm (higher on request)
Winding	Copper Strip Wound	Copper Strip Wound
Insulation	Class F, MICALASTIC* Global Vacuum Pressure Impregnation (GVPI)	Class F, MICALASTIC* Global Vacuum Pressure Impregnation (GVPI)
Enclosure	Cast iron	Cast iron, welded steel
Bearings	Antifriction bearings, Sleeve bearings	Antifriction bearings, Sleeve bearings
Cooling type	IC411, IC416	IC611, IC616, IC666, IC81W, IC86W
Type of construction	IMB3, IMB35, IMV1	IMB3, IMV1
Degree of protection	IP55, IP56, IP65	IP55, IP56
Basic standards	IEC 60034-1, IS 12615	IEC 60034-1
Efficiency	up to 97.5%	up to 98%

Switch to efficiency in water facilities.

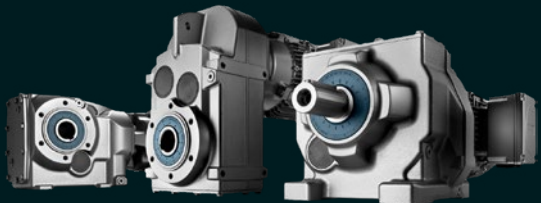
Save energy and reduce costs with the Innomotics low voltage motor portfolio.

Carefully engineered for pumps, compressors and fans in all public and private water utilities, Innomotics low voltage motors offer best-in-class reliability and energy efficiency.

Water and wastewater applications include customization with coating and mechanical corrosion protection options.



	General Purpose	Severe Duty
Technology	Asynchronous	Asynchronous
Enclosure material	Aluminum	Cast-iron
Power rating	0.09 – 45 kW	0.09 – 1,000 kW
Shaft height	63 – 200 mm	71 – 450 mm
No. of poles	2, 4, 6, 8	2, 4, 6, 8
Rated voltages	200 – 690 V	200 – 690 V
Ambient temperatures	-40° to +60° C	-40° to +60° C
Designs	B3, V1, B35 (more on request)	B3, V1, B35 (more on request)
Degree of protection	IP55 – IP66	IP55 – IP66
Cooling type	IC411, IC416, IC418	IC411, IC416
Explosion protection	Ex ec, Ex tb, Ex tc (as Innomotics XP)	Ex db, Ex eb, Ex ec, Ex tb, Ex tc (as Innomotics XP)
Efficiency	IE3, IE4	IE3, IE4
Applications/Industries	Applications such as pumps, fans, compressors, mills, crushers, conveyor systems, retrofit projects, etc.	Applications such as pumps, fans, compressors, mills, crushers, conveyor systems, retrofit projects, etc.



Innomotics SG Geared Motors SG Geared Motors

Innomotics offers compact, versatile geared motor solutions that integrate seamlessly into the drive train. Precise and powerful, they provide more flexibility, power, and standardization.

- Helical Geared Motors
 - Bevel Geared Motors
- Parallel Shaft Geared Motors
 - Worm Geared Motors

Proven induction motors and innovative synchronous motors based on reluctance or permanent magnet technology achieve the highest efficiency class, IE5.

- Up to IE5 energy efficiency rating
- Variety of options for customization
- Certified to global water and wastewater standards
- Compact design and light weight



	Synchronous-reluctance	Permanent Magnet
Technology	Synchronous reluctance	Synchronous permanent magnet
Enclosure material	Alumimum, Cast-iron	Alumimum, Cast-iron
Power rating	0.55 – 45 kW	0.37 – 250 kW
Shaft height	80 – 225 mm	71 – 280 mm
No. of poles	4 (rated speed 3000 and 1500 rpm)	2, 4 (rated speed 3000 and 1500 rpm)
Rated voltages	400 – 480 V	400 – 480 V
Ambient temperatures	-40° to +40° C	-40° to +40° C
Designs	B3, V1, B35 (more on request)	B3, V1, B35 (more on request)
Degree of protection	IP55 – IP66	IP55 – IP66
Cooling type	IC411, IC416	IC411, IC416
Explosion protection	none	none
Efficiency	IE4, IE5	IE5 (on request IE6)
Applications/Industries	Applications such as pumps, fans, compressors, mills, crushers, conveyor systems, retrofit projects, etc.	Applications such as pumps, fans, compressors, mills, crushers, conveyor systems, retrofit projects, etc.

Digital services. Your toolkit against downtime.

An example: smart digital solution for process drive trains.

All the data you need to decide and prevent downtime. In seconds.

- Diagnostic digital solution
- Machine learning algorithms integrate Innomotics expertise
- Rapid and early decision making
- No extra connectivity required
- Alerts before problems occur
- Dashboard for quick diagnostics
- Safe basis for informed remedial and preventive measures

Inspiration for the future of clean water:

Innomotics invents, designs, builds and puts it all in place, linking up smart products, digital solutions and clever services.

The result: digital solutions that fit your facility and your budget. Today and in future.

Innomotics Inspire IQ

Inspire IQ Digital Platform

IQ Suite

The Innomotics analytical platform for data transparency improves fleet transparency and minimizes unplanned downtimes.

IQ Shift

Optimize operational lifecycles and identify risks in advance. Follow expert action recommendations and improve outage planning by advance ordering and optimized inventory.

Inspire IQ Digital Services

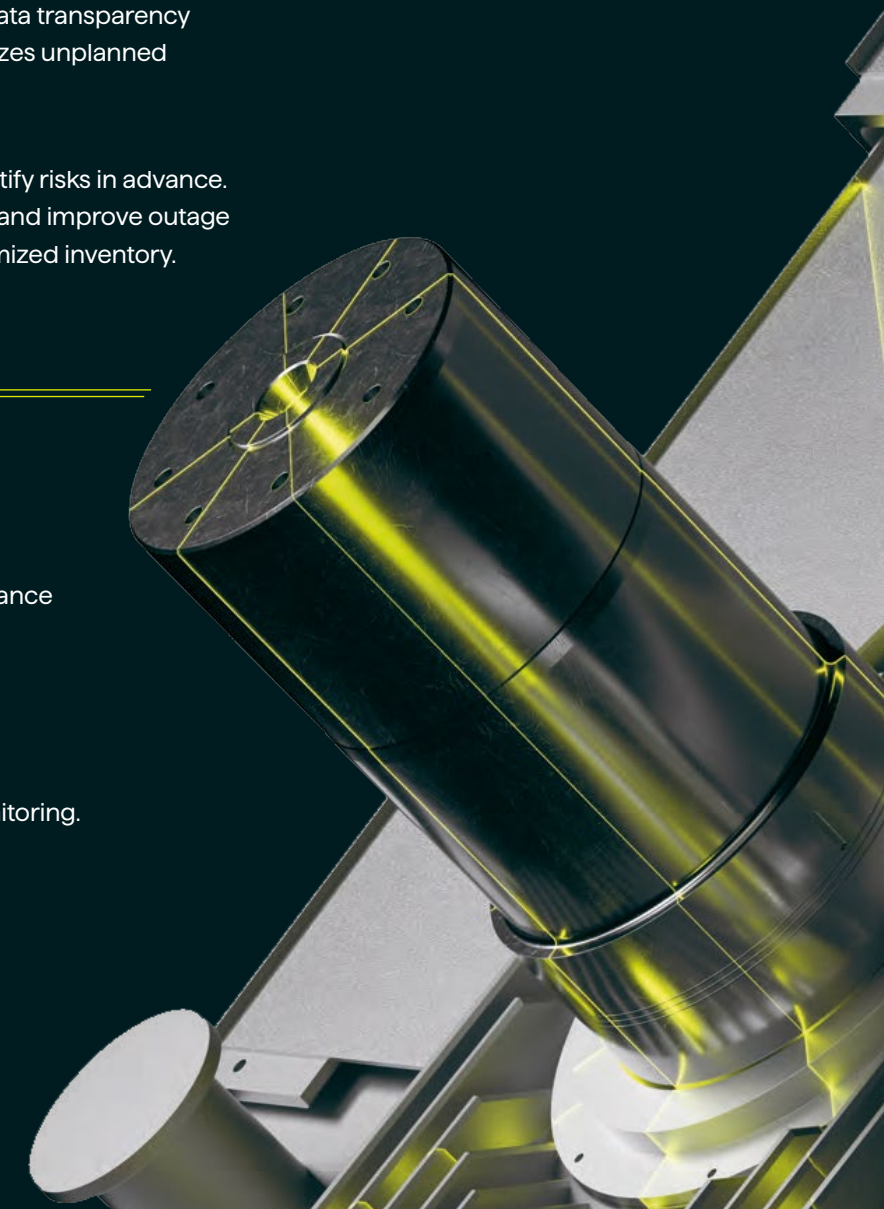
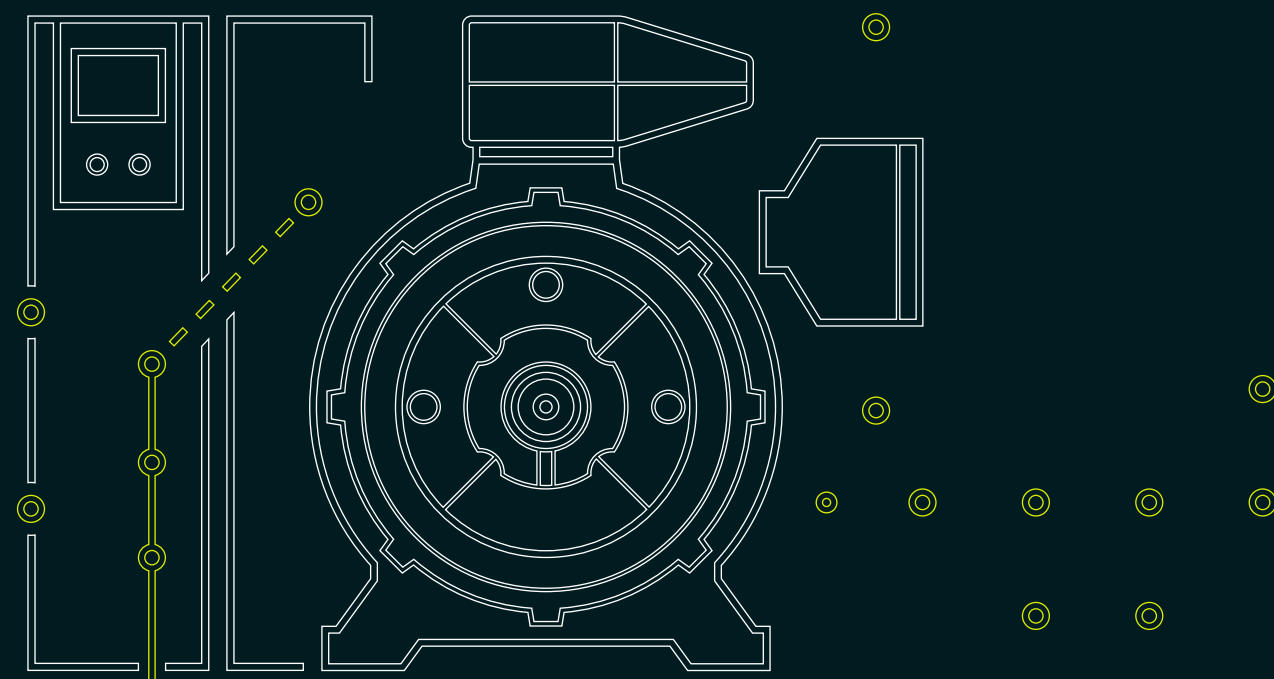
We provide digitized value and performance services for your assets.

Rapid Response

The service solution for fast recovery.

Guided Supervision

The service solution for continuous monitoring.



Reliable motion, at your service. Taking care of your utilities.

Innomotics is committed to the water and wastewater industry, taking care of your facilities through regional and local support, repair centers and fast supply of original spare parts.

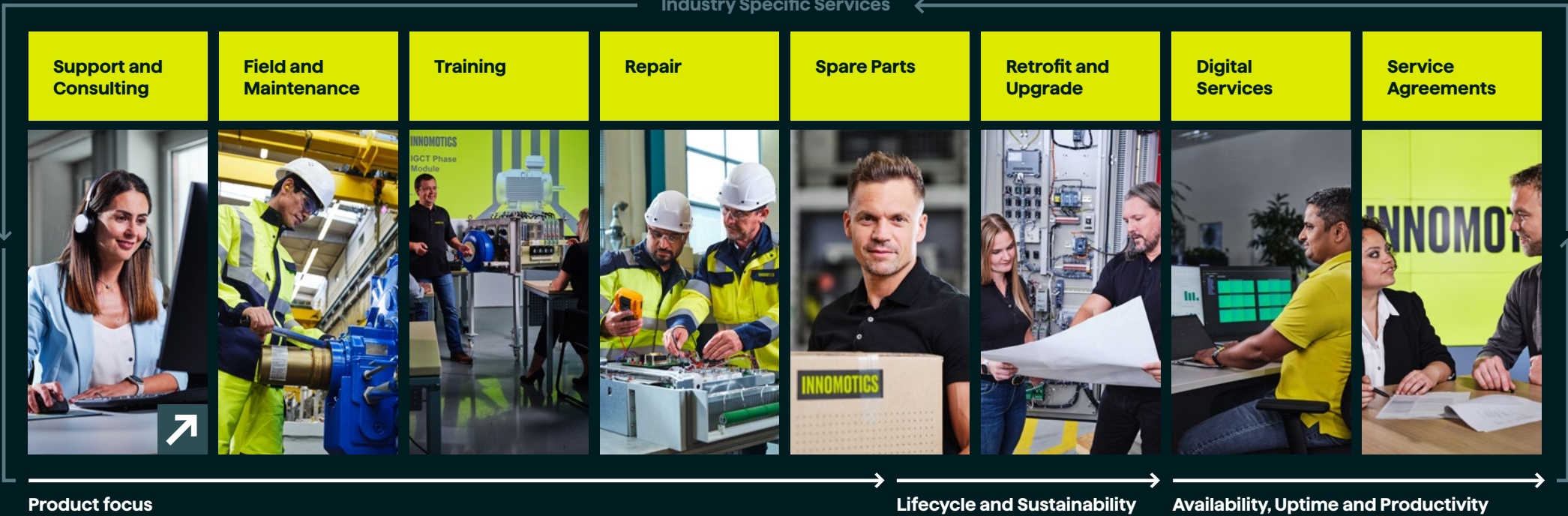
Ensuring safe, reliable function is our 24/7 concern.

We're at your side and on your site for your peace of mind.
Wherever and whenever you need us.



49 countries worldwide
+ 2,000 dedicated service experts
24/7 availability
365 days a year

Discover the full scope on [Innomotics.com](https://www.innomotics.com)
Your assets must perform at top level. We make sure they do. Our services provide you with everything you need to keep your plant running efficiently, reliably and sustainably.



Applications in water: Our credentials

Experience and scope

Our track record and references in water and wastewater projects are extensive. Customers around the globe who continue to rely on our expertise and experience are our proudest references—proof that our work speaks for itself.



Desalination

Reversed osmosis desalination plants.

Challenges

- Plant performance and efficiency
- Small footprint and high power density
- Optimum availability and reliability

Innomotics solutions with low and medium voltage motors and drives

- Pumps for sea water intake
- Intermediate booster pumps
- Pumps for filtered water



Water Treatment

Water treatment for reuse in infrastructure and industry.

Challenges

- Efficiency and system integration
- Optimum availability and reliability

Innomotics solutions with low and medium voltage motors and drives

- Transfer lift pumps
- Booster pumps
- Circulating pumps



Wastewater Treatment

Decontamination in household, municipal and mining sewage.

Challenges

- Plant performance, efficiency and low noise levels
- Resilience to harsh environmental conditions

Innomotics solutions with low and medium voltage motors and drives

- Sewage pumps
- Transfer pumps
- Return sludge pumps
- Air compressors
- Active sludge blowers
- Circulating pumps

Applications in water: Our credentials

A selection of global references:

- Mega irrigation projects, Egypt
- Large-scale desalination plants, Al Khafj and Shoibah, UAE
- Pump station, Oman
- Lift irrigation project, India
- Pumped hydro storage project, India
- Water treatment plant Thu Duc 3, Vietnam
- Water treatment and pumping, Changi NEWater, Singapore
- Pump stations and flow control optimisation, digitalization, Australia
- Mine pipeline, Chile
- Water and wastewater treatment and digitalization projects, USA
- Flood control system, USA

Consult with your regional representative for more information on references and detailed case studies.



Irrigation

Transport, sprinkling, lift irrigation and storage in rural and industrial irrigation.

Challenges

- Reliable improvement of crop yield
- Improvement in supply infrastructure
- Rural livelihood and income

Innomotics solutions with low and medium voltage motors and drives

- High water volume capacity
- Capex and opex significantly reduced
- Energy efficiency thanks to air cooling
- High water volume capacity
- Digital condition monitoring



Hydropower

Water treatment for reuse in infrastructure and industry.

Challenges

- System engineering and services for integrated renewable energy project
- High power pumping to upstream reservoir (power storage for low daytime demand)
- Downstream power generation (power utilization for peak nighttime demand)

Innomotics solutions with low and medium voltage motors and drives

- Turbine, transfer and storage pumps
- Transformers and PLC panel for multiple pumps startup



Water transportation

Transport / transmission of water in municipal, industrial and mining facilities.

Challenges

- High water volume
- Reliable transportation/transmission between water and wastewater treatment plants, deslination plants and reservoirs

Innomotics solutions with low and medium voltage motors and drives

- Horizontal transfer pumps
- Booster pumps (vertical slow speed)
- High pressure pumps (vertical high speed)

Strong heritage. New horizons.

**Aligned to market needs.
Designed for your industry.**

Innomotics expertise draws on 150 years of engineering heritage. A large installed base in the water and wastewater industry around the globe provides you with excellence in know how and experience in how to.

Beyond that, our business divisions are power lines answering to a range of market and industry needs.

- Motors and Generators
- MV Drives
- Digital Services
- Solutions
- Customer Services

Find more on [innomotics.com](https://www.innomotics.com)

^ Metals

Blast furnace blowers
Sinter fans
Wire rod mills

^ Marine

Main marine drives
Booster drives
Shaft generators

^ Minerals

Conveyor and mill drives
E-houses
Mine winders

^ Power Generation

Starting generators
Boiler feed pumps

^ Oil and Gas

Large compressors
Large pumps

^ Chemicals

Extruders
Large compressors

^ Water and Wastewater

Large pumps

^ Automotive

Conveyors

^ Pulp and Paper

Refiners

^ Food and Beverage

Mixing and shredding



INNOMOTICS

Published by
Innomotics GmbH

Innomotics GmbH
Vogelweiherstr. 1-15
90441 Nuremberg
Germany

innomotics.com

VRWW-B10025-00-7600
© Innomotics 2025

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Security information

Innomotics provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Innomotics' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial security measures that may be implemented, please visit

www.innomotics.com/cybersecurity

Innomotics' products and solutions undergo continuous development to make them more secure. Innomotics strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.



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