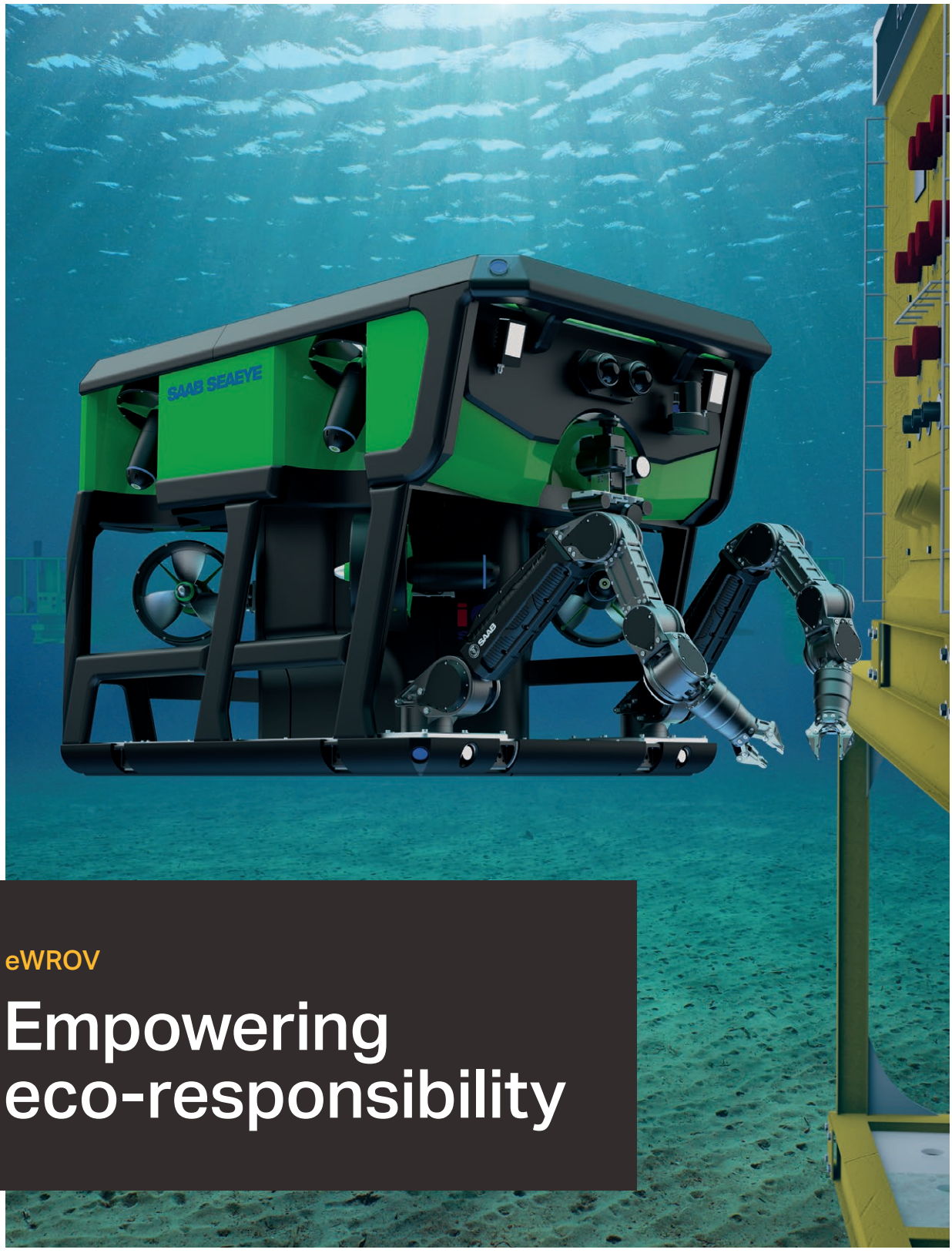

eWROV

Empowering eco-responsibility

Capability guaranteed

A more efficient and environmentally friendly system makes the eWROV the world's most capable and intelligent all-electric, work-class underwater robot. It epitomises Saab Seaeye's goal of empowering subsea robotics through cutting-edge technology.

The latest addition to Saab Seaeye's underwater portfolio, the eWROV is a full-sized Class III B ROV system. Electrification is the key to improved performance, and the eWROV takes electric underwater vehicle capabilities to the next level.

The goal of carbon neutrality is a growing focus among the global community, and the eWROV has been designed with eco-responsibility in mind. As well as being more efficient, electric systems use limited oil, making the eWROV significantly more environmentally friendly than equivalent hydraulic work-class systems.

Saab has been among the first to produce a full-size work-class vehicle that can deliver the same overall power and performance as a 250 hp hydraulic equivalent. Delivering lower lifetime cost, acoustically quieter performance and maximum capability, the eWROV can support operations across all markets, including surveying, IMR, construction, drill support and decommissioning.

Operational modes

In addition to conventional local offshore control, the eWROV is compatible with the below operational concepts which are being adopted by the industry.

Onshore controlled
The eWROV has the in-built capability to be operated from onshore command and control centres, advancing the potential for long-distance control. A reduced need for on-site personnel brings considerable savings to the user, as well as improving safety and boosting eco-credentials further by removing the need to fly in personnel using helicopters.

Resident-ready
The eWROV is capable of long-term immersion and can remain submerged at an underwater docking station until its next mission.

Autonomous
Autonomous capability is an existing and mature technology already used in the Saab Seaeye Sabertooth platform. As the eWROV uses the same iCON control system, full autonomy is possible.

SAAB SEAEYE > **eWROV**

ALL-ELECTRIC TMS

Top Hat TMS that enhances capability and provides freedom of movement by decoupling ROV from vessel motion, while all-electric solution maximises control and reliability

System overview

Requiring less maintenance than ever, the eWROV system is inherently reliable.

Electric thrusters are the key to electrifying WROVs; capable of generating 560 kgf, the eWROV's power efficiency is far greater than hydraulic systems, with better acceleration, braking and reversal.

Conventional high-voltage AC power transmission systems result in large, heavy subsea transformers on the ROV and PDUs on the surface. State of the art DC power transmission system enables significantly smaller and lighter units, both topside and subsea. It also allows the use of smaller diameter umbilicals and existing client-owned umbilicals.

Electric manipulators are enablers for electrifying WROVs, and support the whole electrification ethos. They offer significant advantages over hydraulic alternatives, including more precise positioning with force feedback, increased dexterity, lower water weight and greater reliability – expanding the potential for more autonomous and resident applications. Featuring an advanced control system with an open interface, they allow both manual and automated operation. Highly accurate, modular electric joints enable enhanced arm control, path planning solutions and actuator re-use.

The intelligent control of nodes (iCON) system is the backbone of the system. Pioneered by Saab Seaeye, iCON is an intelligent architecture of configurable hardware and software modules for creating smart underwater robotic solutions. iCON's modular network of distributed devices and software provides real-time system control and feedback from the heart of every subsystem, making it ideally suited to ever more remote and autonomous operations. A complete common technology ecosystem, operation, training and maintenance is made simpler and more efficient with the expandable and future-proof iCON.

iCON

A common technology ecosystem and intelligent architecture of configurable hardware and software modules, providing real-time system control and feedback

ADVANCED PERCEPTION SYSTEMS

High-precision positioning for vehicle station keeping and target tracking, as well as advanced, millimetre-level accuracy situational awareness which, coupled with a similarly precise manipulator, will soon allow for automated manipulative tasks

ELECTRIC THRUSTER

Highly reliable, acoustically quiet electric propulsion for low maintenance, long-duration applications

ELECTRIC MANIPULATORS

Dual 7 function robotic manipulators offering advanced control, more precise positioning, increased dexterity and greater reliability

POWER SYSTEM

State of the art DC power transmission and distribution system for reduced size and lower weight power subsystems and umbilicals

System overview

ROV SYSTEM	
Nominal vehicle power	180kW (241HP)
Peak vehicle power	200kW (268HP)
Depth rating	3,000 msw (5,500 msw optional)
Operating conditions	3 g vertical 1 g horizontal (Sea State 6)
Electrical input (mains)	380–480 Vac + 690 V, 50–60 Hz

ROV	
General specification	
Dimensions (L x W x H)	2.8 m x 1.8 m x 1.9 m
Weight	<4,000 kg
TFL	3,000 kg
Payload	>250 kg
Performance	
Forward/aft speed	2.3 m/s
Lateral speed	1.5 m/s
Vertical speed	1 m/s
Bollard pull	
Forward/aft	>1,200 kgf
Lateral	>1,200 kgf
Vertical	>1,200 kgf
Auto function control	
Standard	Auto heading, auto depth, auto altitude, auto pitch, StationKeep, displacement/step control, auto waypoint follow
Optional	API interface, advanced perception, obstacle avoidance, AUV behaviours
Optional hydraulic system	
HPU (flow/pressure)	2 x 135 lpm/207 bar
Battery compatible	Yes
Manipulators	Dual Saab seaeye eM1-7 electric manipulators

TMS	
General specification	
Type	Electric Top Hat
Drive	All electric
Dimensions (D x H)	2.4 m x 2.4 m
Weight	3,000 kg
Depth rating	4,000 m
Tether capacity	850 m (28 mm tether)

UMBILICAL	
Weight in air	4.4kg/m
Weight in water	3.4kg/m
Diameter	34mm

SURFACE CONTROLS	
Local control	Saab Seaeye Pilot Console (Pilot chair optional)
Onshore control	Saab Seaeye Pilot Console (Pilot chair optional)

Saab Seaeye
20 Brunel Way,
Segensworth Roundabout,
Fareham PO15 5SD
solutions@saabseaeye.com

saabseaeye.com

SCAN TO SEE
MORE ONLINE

Specifications may change without prior notice and are subject to system configuration.

Document reference:
Brochure, eWROV – EN v1.1

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