



REDEFINING ADDITIVE

AMAZEA



“Into the Sea” with JAMADE GERMANY and BigRep: Debuting the World’s First Serial 3D Printed Underwater Scooter at the *Boot* Trade Show in Germany.

Opening a new dimension for Additive Manufacturing in serial production: Manufactured with large-format 3D printer the BigRep ONE, the breakthrough AMAZEA underwater scooter by tech company JAMADE GERMANY features 75% 3D printed parts.

Duesseldorf/Berlin, 18 January 2020 – The world’s first serial 3D-printed underwater scooter for consumers, **AMAZEA**, created by e-mobility tech company **JAMADE GERMANY** and printed on **BigRep ONE** 3D printers, was unveiled today at **boot Duesseldorf**, Germany (**hall 5, booth C04**), the world’s biggest water sports trade and boat show (January 18-26th).

For the first time ever a consumer water sports mobility device will be 75% additively manufactured (AM) with serial-produced, custom 3D-printed parts: The AMAZEA scooters’ body and front parts are being produced on three BigRep ONE large-format 3D printers using engineering-grade materials by BigRep, the global leader in large-scale 3D printing and additive solutions.

“AMAZEA is an industry-first breakthrough with the potential to redefine maritime vehicle technology and the consumer experience in water sports around the world,” said **JAMADE Managing Partner Janko Duch**, who founded the company together with **Martin Oser** and **Detlef Klages** in July 2018. “We opted for the BigRep ONE due to its cost efficiency, accuracy and quality when compared to the extremely high investment for traditional tools, particularly in the first year’s lower quantity,” the founders explained. German-based JAMADE is specialized in the development and manufacturing of e-powered water sports equipment for the end consumer market.

The large-format BigRep ONE 3D printer was key to a successful product launch, providing the high flexibility and speed AM offers, also making the development process much more time-efficient. JAMADE started on white paper and progressed through product development. Offering a big 1m³ print volume, the BigRep ONE 3D printer provided unmatched cost efficiency, operational reliability and excellent technical qualities during JAMADE’s prototyping and the end-use parts’ serial production. The material is **BigRep’s Pro HT**, an easy-to-use filament designed for end-use applications. With a softening resistance of up to 115 °C, it offers a significant increase in temperature resistance (compared to average PLA), and minimal warping and shrinkage, which makes it perfectly suited for marine environments. As a material derived from organic compounds, Pro HT is biodegradable under the correct conditions, CO2 neutral and environmentally friendly.

“This scooter is a BigRep showcase of our digital solutions empowering production by leveraging the full potential of large-format 3D printers with high-performance filaments,” says **BigRep Managing Director Martin Back**. “It also signifies the rapid progress of 3D printing into the serial production of consumer end products, opening a new dimension for AM in similar niche but high-tech markets as well.”

The underwater scooter, which pulls the diver attached to it forward through the water, is an environmentally friendly, emission-free and low-noise method of exploring marine life without disrupting the eco-system. AMAZEA is an agile underwater scooter based on the “catamaran principle” and replicating a dolphin’s special body ergonomics that enable faster movement.



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The stylish design offers a robust frame available in various bright colors. Thanks to an electric BI motor drive powered by two engines (3.1 KW each) and a rechargeable lithium-ion battery set up in the scooter's front, the high-performance scooter offers a maximum speed of 20 km/h (underwater) or 30 km/h (gliding above water) and can be operated up to depths of 18 meters. Thanks to its light weight of just 25 kg (without battery) and a user-friendly control panel, handling is very easy.

3D printing offers real customization. Changes in size or shapes, and customer feedback or requests are able to go straight into the product. Large-format printing also ensures the scooter's water-resistance: If the front or body were assembled using several smaller parts, openings would be a potential risk for leaks.

Large-format 3D printing enabled the quick turnaround and quality needed for this first of its kind water scooter.

About AMAZEA by JAMADE GERMANY GMBH

JAMADE GERMANY GMBH was founded in July 2018 as a technology company in the field of electro mobility. We focus on development, production and sale of electrically powered sports equipment in various fields of application – exemplary in technology, sustainability and service. At our location in Wipperfuerth (Germany), we develop, manufacture and sell innovative, exclusively electrically powered products – Made in Germany – which, in harmony with nature, satisfy the needs of both leisure activists and nature lovers alike. As a company, we generate an environmentally compatible sector in the fun sports and leisure market through product developments and technical innovations.

About BigRep

BigRep develops the world's largest serial production 3D printers, creating the industry benchmark for large-scale printing with the aim to reshape manufacturing. Its award-winning, German-engineered machines are establishing new standards in speed, reliability and efficiency. BigRep's printers are the preferred choice of engineers, designers and manufacturers at leading companies in the industrial, automotive and aerospace sectors. Through collaborations with its strategic partners – including Bosch Rexroth, Etihad Airways and Deutsche Bahn – and key investors – including BASF and Koehler – BigRep continues to develop complete solutions for integrated additive manufacturing systems, as well as a wide range of printing materials on an open-choice source. Founded in 2014, BigRep is headquartered in Berlin with offices in Boston and Singapore. Leading the way in one of the world's key technologies, our multinational engineering teams are highly trained, interdisciplinary and customer-focused.

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See BigRep at events: <https://BigRep.com/events/>



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