

thyssenkrupp and Wilhelmsen solidify partnership to leverage Additive Manufacturing solutions for maritime industry

- thyssenkrupp' strength in Additive Manufacturing (AM) to enhance maritime industry's leveraging of innovation for improved services
- Partnership further bolster AM ecosystem for commercially viable maritime services in the region

<28 SEPTEMBER, SINGAPORE> thyssenkrupp marked a milestone today with the formalization of its partnership with Wilhelmsen Ships Services, one of the largest maritime services providers in the world, in an official signing ceremony.

With the signing of the Letter of Intent to establish a Joint Venture, thyssenkrupp and Wilhelmsen will collaborate on delivering maritime spare parts using 3D printing, leveraging on thyssenkrupp's deep expertise in AM alongside Wilhelmsen's in-depth maritime expertise and direct ongoing experience in understanding the needs of vessel fleet managers.

Based on current data, maritime fleets spend approximately 13 billion USD a year on spare parts; with 50% of these vessels being older than 15 years, availability of parts are limited. This makes fulfillment of orders for maritime spare parts costly and complicated, and in fact, supply chain overheads involved may oftentimes far outstrip the cost of the part itself.

Moreover, traditional manufacturing processes such as machining and casting often involve long lead-times stretching into months. As a result, ship managers must carry high stock levels of parts to ensure that they can fulfill orders, leading to high capital costs.

AM, thus, provides a solution to these issues by improving lead-time and costs considerations as suitable components are fabricated near the vessel location in a matter of weeks, sometimes days.

"We are already seeing very positive response from our Maritime customers on Additive Manufacturing adoption," shared Abhinav Singhal, Director of thyssenkrupp Innovations. "They are realising the benefits from faster lead times, reduced costs and having more resilience in their spare parts supply chain. This is going to be a true gamechanger for the Maritime industry and we are proud to offer it alongside Wilhelmsen."

"We are very excited to enter the next phase of our 3D printing journey, hand in hand with thyssenkrupp. This joint venture will, we believe, take the lead as the de-facto supplier of 3D printed maritime spare parts, continuing to bring the benefits of Additive Manufacturing

technology to shipping companies by reducing the cost of spare parts, lead times and environmental footprint”, says Hakon Ellekjaer, Head of Venture, 3D Printing, Wilhelmsen.

September 28, 2020

Page 2/3

The joint venture will thus position both thyssenkrupp and Wilhelmsen as leaders in the AM fulfillment platform for the maritime sector. It is expected be headquartered in Singapore, it will serve the key port locations around the world.

###

About thyssenkrupp:

thyssenkrupp is an international group of companies comprising largely independent industrial and technology businesses. Across 78 countries the group generated sales of €42.0 billion in fiscal 2018/2019. Under a strong umbrella brand our products and services make an important contribution to creating a better and sustainable future. The skills and commitment of our over 106,000 employees are the basis of our success. With our technologies and innovations, we work with our customers to develop cost-efficient and resource-friendly solutions to future challenges. We combine performance orientation with corporate and social responsibility.

About Wilhelmsen:

With the largest maritime network in the world Wilhelmsen Ships Service is active in 2,000 ports, in 125 countries worldwide. Supplying marine solutions including Unitor products, Timm ropes, Unicool refrigerants, and Unitor and Nal fleet marine chemicals, along with a complete portfolio of ships agency services and maritime logistics, last year we made product deliveries to 27,500 vessels and handled 75,000 port calls. The maritime industry's trusted partner in port, on board and offshore, our wide portfolio of products and services are available in every market and region, to every conceivable vessel type. Wilhelmsen Ships Service is part of the Wilhelmsen group.

Press contact:

thyssenkrupp Asia Pacific
Jürgen Wöhrmann
Head of Regional Platform Asia Pacific
P: +65 6890 1601
juergen.woehrmann@thyssenkrupp.com

Photo caption:

September 28, 2020

Page 3/3



From left: Håkon Ellekjær, Head of Venture, 3D Printing, Wilhelmsen Ships Service; Nakul Malhotra, Vice President Open Innovation, Marine Products, Wilhelmsen Ships Service; Kenneth Lim, Chief Technology Officer, Maritime Port Authority of Singapore; Juergen Woehrmann, Head of Regional Platform Asia Pacific, thyssenkrupp Asia Pacific; and Kenlip Ong, Head of Additive Manufacturing Tech Center, thyssenkrupp Innovations