

TEHCROSS NEWS

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Providing Right Solutions For Your Ships

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News 01. Techcross Expands into Anti-Biofouling Business



Techcross, one of the leading ballast water management system manufacturers, has opened the door to a new business. It signed a Memorandum of Understanding (MOU) with a total of four customers, including three major domestic shipping companies and one Japanese shipping company at the end of last year. Through this agreement, each company agreed to research and develop technologies related to ship biofouling prevention and treatment equipment through mutual cooperation.

Biofouling refers to a phenomenon in which various substances such as bacteria and aquatic micro-organisms accumulate on the surface of an artificial structure in contact with liquid,

causing the structure to be corroded or difficult to move. The development of technologies for bio-fouling prevention and treatment devices to prevent this phenomenon is drawing attention as a new business area. In fact, after enacting the BWM Convention in 2004, the International Maritime Organization (IMO) also promulgated Guidelines on management and control for reducing the movement of invasive hazardous species by ship-attached organisms at the 62nd MEPC meeting in July 2011. Although the destruction of the marine ecosystem due to harmful micro-organisms contained in the ballast water is perceived as a serious issue, it also recognized that the direct movement of organisms and disturbance of the ecosystem by the organisms attached to the ship cannot be overlooked.

According to major researchs, it is estimated that more than 60% of aquatic organisms invading the coast of California in the United States were caused by hull-attached organisms, and even during the 2016 Rio Olympics, water pollution in the rowing stadium caused by biofouling has led athletes to visit hospitals. Biofouling has emerged as a problem even outside the maritime industry. In February 2020, the IMO Subcommittee on PPR (Pollution Prevention and Response) in London agreed to implement effective guidelines for resolving biofouling and review continuously for practicable measures. Although it has not been legalized yet, industry experts say that legalization of biofouling is also a matter of time as environmental regulations are being tightened.

Currently, there are methods put into practice to prevent biofouling, but they are limited to passive activities, such as using antifouling paint to reduce deposits or cleaning the hull in a dry dock. However, there is a problem that biofouling cannot be treated lightly as the attachments of the hull increase the frictional force and the weight of the ship, thereby increasing the fuel cost and reducing the operational efficiency of the ship. Accordingly, Techcross, which is taking the lead in marine environment regulation based on its experience in the ballast water treatment industry, aims to establish related regulations and predominate in the biofouling prevention and treatment business through a MOU signed with four domestic and foreign companies. The anti-biofouling technology scheduled to be introduced in the market by Techcross is aiming the total solution in the field of biofouling management by securing both after-treatment and prevention technologies at the same time.

Techcross is developing the treatment solution that helps to eliminate biofouling by eco-friendly method in the land-based or onboard treatment facility after underwater robot cleaning process, as well as the physical or chemical method of prevention solutions to avoid the biofouling attached on the niche area such as propeller and rudder where it is hard for underwater robot to approach. Through this anti-biofouling technology, ships will not only be able to improve fuel efficiency by about 5-10% or more, but will be able to contribute to the greenhouse gas reduction policy that IMO is pursuing as a major policy. In addition, this technology has the potential to be applied not only to marine and plant businesses, but also to water treatment facilities, manufacturing and processing industries, and agricultural and farming industries, raising the expectations even further.

Event Schedule

Public Event

- 20 ~ 22 May : Barishop 2021 / Imabari, Japan

TEHCROSS Event

- 25 May : Foundation Day

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News 02. Techcross Announces New Technology for Turbidity Correction

Techcross, a leading company in electrolysis water treatment, announced a new technology. It is a technology that minimizes the effect of the turbidity issue when measuring the concentration of TRO (Total Residual Oxidant), which is indispensable for electrolysis water treatment, and is characterized by TRO sensing even in very turbid water quality. In the case of electrolysis water treatment, the process of maintaining a certain level of disinfection efficiency or measuring residual chlorine (oxidant) concentration is essential. It is because these measurements can determine the level of electric power to be applied and amount of neutralizing agent used.

The electrolytic ballast water treatment system is no exception. Particularly, as compared to measuring a relatively clear water quality in a fixed space such as a swimming pool, it is important for ships travelling every port in the world to ensure constant performance in any harsh environment. Accordingly, the new technology by Techcross is expected to be a good alternative for ships, especially for customers operating to areas with high turbidity such as Shanghai, China, and for water quality inspection agencies. This can be supported by the results of the test conducted by Techcross which showed that measurement can be performed in a very turbid water quality up to 850 NTU with an improved treatment results, which is expected to save the electricity cost to prevent unnecessary measurement in very turbid water quality.

This new technology is a Techcross original technology that has been applied for patents in South Korea and is currently conducting final performance tests. It is scheduled to be released to the market by May after completing all of the tests required for approval. When this technology is commercialized, it is expected to broaden the range of options by presenting another alternative to customers who have had difficulty measuring TRO due to turbidity problems.

News 03. Venture 100 Billion Company



Techcross was selected as a Venture 100 Billion Company, which is annually announced by the Ministry of SMEs and Startups. Techcross more than

doubled its revenue from 77 billion Korean won in 2018 to 180 billion Korean won at the end of 2019, becoming a new Venture 100 Billion Company. To celebrate this achievement, Director Kim Mun-hwan of the Busan Regional Department of SMEs and Startups visited Techcross Busan Factory to award a trophy, meet with the workers on site, and discuss various government support programs. The achievement is significant considering the impact of the global recession on the shipbuilding and marine industry. Techcross is continuing to engage in preemptive investments and aggressive R&D projects to expand its market presence.

Meanwhile, 30 more venture companies achieved 100 billion Korean won in revenue at the end of 2019, bringing the number up to 617. In Busan, there are 26 such companies including Techcross. These companies are making significant contributions to Korea's national economy through outstanding performances in employment, revenue, R&D, and industrial property rights.


News 04. Certification of Excellent Company from Busan



Techcross received the Certification of Excellent Company from the Busan Metropolitan Government. The certification appropriately honors companies and entrepreneurs who contributed to the local economy. In addition, it aims to promote a favorable environment for businesses. Techcross received the certification at the end of 2020, and for the next

three years, it will receive administrative and financial benefits from the metropolitan city including: (1) special funding and credit guarantee for SME operation and development; (2) preference for participating in overseas market development delegation and overseas trade fairs; (3) suspension of tax audits as per Article 11 of Operation Rules of Busan Metropolitan City Tax Audit; (4) promotions on the selected companies and entrepreneurs; (5) other support determined as necessary by the mayor.

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