

JOINT JAPANESE-GERMAN NEWSLETTER

VOL.002

CONNECTING THE GERMAN AND
JAPANESE COMPOSITE INDUSTRY

7 NOVEMBER, 2023



Joint Japanese-German Newsletter
Connecting the Japanese and German Composite Industry

ICC INTERNAL

BRIDGE INNOVATION LABORATORY FOR ADVANCED COMPOSITE (ADCOM-BIL) ESTABLISHED IN ICC

~Development of innovative composites to realize a circular society~

Kanazawa Institute of Technology (KIT) and The National Institute of Advanced Industrial Science and Technology (AIST) announced in July 2023 that they established Bridge Innovation Laboratory for Advanced Composites (AdCom BIL) in Innovative Composite Materials Research and Development Center (ICC) in Hakusan, Ishikawa.

Bridge Innovation Laboratory (BIL) is a collaborative base that conducts joint research using research seeds held by AIST and Japanese regional universities, with the needs from companies at the core. This AdCom-BIL is the first BIL established in Japan.

Leveraging the material development strengths of AIST and ICC, we will conduct research and development of bio-derived composites towards the carbon neutral society. By promoting joint research with the local companies, we support the local companies creating new business and new industries, stimulate the local economy, and solve society's problems.

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Unveiling ceremony of AdCom-BIL
at ICC on July 14, 2023

Photo from left: Yojiro Hatakeyama (Director General/Ministry of Economy, Trade and Industry), Hiroshi Hase (Governor of Ishikawa Prefecture), Kazuhiko Ishimura (President&CEO/AIST), Yoshiro Izumiya (Chairman/KIT)



AIST TECHNOLOGY MAKES IT POSSIBLE TO MOLD WOOD

AIST, one of the largest public research organizations in Japan, focuses on the creation and practical realization of technologies useful to Japanese industry and society, and on “bridging” the gap between innovative technological seeds and commercialization.

Wood-based Sustainable Composites Group in AIST have been developing basic technologies for wood-based composites aiming at building and automotive applications that improve the energy efficiency as well as the comfortability based on materials science and industrial aspects.

■About the world's first technology “wood flow molding process”

The “wood flow molding process” is a patent technology originally developed by AIST. In this shaping technique, a solid wood contained with specific chemicals is hot-pressed in a mold, causing deformability and fluidity of wood to make a shape along the mold.

Since wood resources are renewable and sustainable if properly planned forestation and deforestation are performed, wood-based materials can contribute to global environmental issues such as carbon neutrality. Toward achieving the 2050 challenge, requirements of application expansion of wood based materials have been increasing, for example wood can be shaped and use like plastic and metal materials respectively.

AIST discovered that a solid wood generated a large deformability and showed fluidity under certain humidity, temperature and pressure conditions on a study of the basic physical properties of plant materials, and has developed the technological seed for "wood flow molding" using this phenomenon. We have been conducting various studies to improve this technology based on composites approach and have tried to make wood to be an industrial material through wood flow molding.

Research & developments have been carried out on the application of flow-molded wood to automobile interiors, construction, and daily necessities, taking advantage of the characteristics of its light weight and strength comparable to reinforced plastics, which far exceeds that of natural wood properties.

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TO LEARN MORE

<https://unit.aist.go.jp/mmri/en/groups/suscom.html>

https://www.aist.go.jp/aist_j/press_release/pr2018/pr20180205/pr20180205.html

<https://www.youtube.com/watch?v=iz6rWSKyHKE&t=7s>

NEWS FROM ICC MEMBERS

'WIND CHALLENGER' TECHNOLOGY USING WIND POWER TO PROPEL VESSELS TO BE EXHIBITED AT THE COP 28 JAPAN PAVILLION

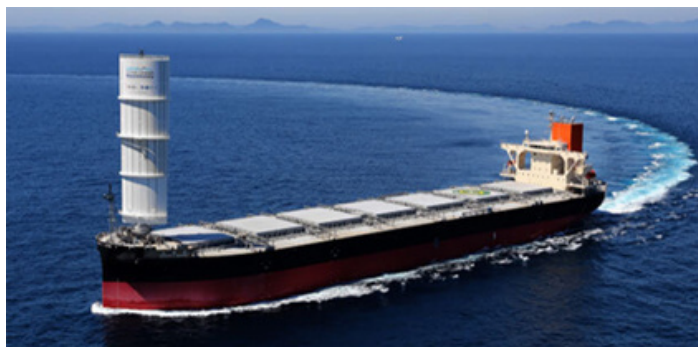
Wind Challenger technology, which has been introduced in the 1st ICC newsletter is going to be exhibited at the COP28 Japan Pavillion.

MOL, the owner of the ship with Wind Challenger, has been selected to exhibit in the Japan Pavilion, which will be hosted by the Ministry of the Environment at the 28th Conference of the Parties (COP28) to the United Nations Framework Convention on Climate Change (UNFCCC) to be held in Dubai, United Arab Emirates (UAE) from November 30 to December 12, 2023.

[READ MOL'S PRESS RELEASE](#)

[READ ICC Newsletter Vol.1](#)

[COP28 Official Page](#)



<1st vessel equipped with Wind Challenger, the SHOFU MARU>



<CG rendering image of Wind Hunter>

PUBLICATION

ANNUAL REPORT 2022 IS RELEASED

ICC's latest annual report "CREATION ON COMPOSITE 2022" has been released. This is the eighth annual report showing our achievement of the fiscal year of 2022. FY2022 became a new start year for ICC, marking the end of the COI program, which had been ICC's main research project since its establishment. The activities for building a post-COI platform has begun in earnest and we are conducting various kinds of research activities as an under-one-roof innovation platform to expand the application of composites.

Please enjoy reading our report.

[Annual Report Download Page](#)



EVENT

(REVIEW) INTERNATIONAL CONFERENCE "JISTES 2023 KYOTO"

The JISTES 2023 KYOTO, an international conference organized by the SAMPE Japan Chapter and chaired by ICC Director Prof. Uzawa, was held in late July and ended successfully with a large number of participants. As a pre-JISTES event, the 7th ICC Joint Hybrid Forum co-organized by Kansai FRP Forum and HACM was held the day before JISTES and the JISTES lecturers from overseas gathered at ICC and introduced composites initiatives in Europe, the U.S., Australia and other countries. The forum was followed by active networking; the speakers and participants engaged in fruitful exchange of technical information and relationship building.



JISTES 2023 Kyoto at Doshisha University



Pre-JISTES event at ICC

(UPCOMING) IPF JAPAN 2023 AT MAKUHARI MESSE (CHIBA)

IPF Japan 2023, one of the largest international plastics fairs in Japan for the plastics-related industry, which is held every three years, will be held at Makuhari Messe from November 28 (Tuesday) to December 2 (Saturday), 2023.

ICC has been invited to the Composites Area (COMPOSITE SPECIAL EXHIBITION-FRP) organized by the exhibition organizer and will exhibit in this area.

[IPF JAPAN 2023 Official Page](#)

(UPCOMING) JISSE 18 ~SAMPE JAPAN EXHIBITION 2023 AT TOKYO BIG SIGHT (TOKYO)

The 18th Japan International SAMPE Symposium and Exhibition (JISSE18) will be held at TFT Building & Tokyo Big Sight from November 29 (Wed) to December 1 (Fri), 2023. The theme of JISSE-18 is 'New Era of Composites, Further Exploration and Beyond' with the overall objective of exploring the latest research on composites and their future applications in aerospace, automotive, construction, and other industries.

ICC researchers will be presenting at the JISSE symposium. At the exhibition, ICC will have one booth in collaboration with the Hokuriku Advanced Composites Materials association (HACM). In addition, the Composite Highway Consortium (CHC), consisting of ICC, NCC, GCC, and public testing laboratories in the Tokai-Hokuriku region, will have a joint booth with about 30 companies.

[SAMPE JAPAN Official Page](#)

[SAMPE Exhibition 2023 Official Page](#)

About ICC

Innovative Composite Materials Research and Development Center (ICC) is one of Japan's largest innovation platform bases that supports research and development, education, and collaborative activities in the field of composite materials.

[ICC Partner Companies](#)

[Publications](#)

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