News Release

RESONAC

Resonac Holdings Corporation
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May 7, 2024

Resonac Participates Semiconductor Assembly Test Automation and Standardization Research Association (SATAS)

~ SATAS accelerates development of technologies for leading-edge semiconductor packaging by utilizing expertise and experience in leading-edge packaging ~

Resonac Corporation (President: Hidehito Takahashi, hereinafter "Resonac") has started to participate in the "Semiconductor Assembly Test Automation and Standardization Research Association" (hereinafter "SATAS"), which aims to automate processes of packaging, assembly and testing in production of semiconductor integrated circuits (hereinafter "back-end processes")

SATAS was established on April 16, 2024. It consists of 15 organizations including standard-setting organizations and private enterprises. SATAS aims to establish technologies for automation of back-end processes and standard specifications for back-end processes, develop equipment for back-end processes, and verify pilot lines. STATAS's final goal is to put fully automated system for back-end processes into practical use by 2028.

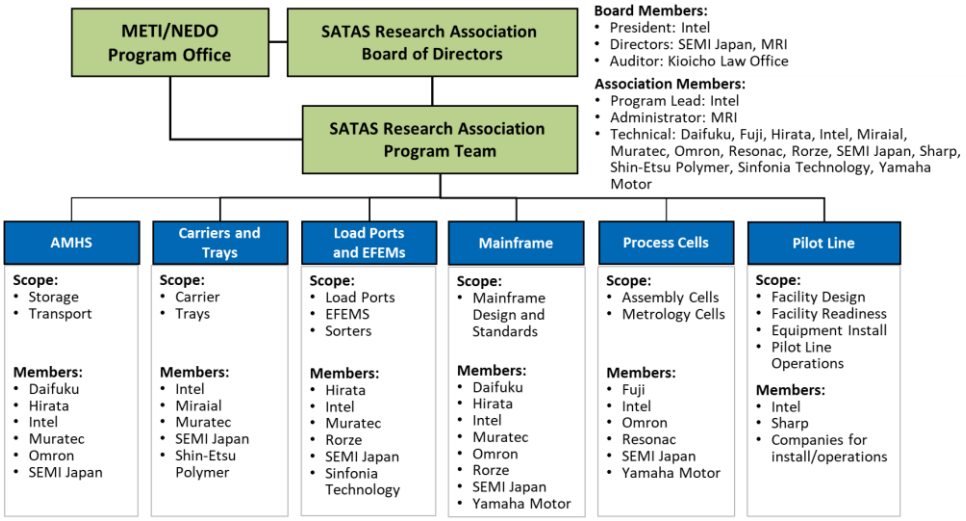
As a semiconductor manufacturer, Resonac will accelerate SATAS's technical development by utilizing the company's expertise and experiences accumulated through R&D on leading-edge semiconductor packaging technologies and back-end processes.

In the field of high-performance semiconductors for generative AI and self-driving cars, the demand for which is rapidly increasing, back-end technologies including 2.xD and 3D packaging technologies*1 are evolving as key technologies. However, many of back-end processes including conveyance and delivery of intermediate products between the steps are handled by humans. Therefore, it is said that back-end processes' most pressing need is automation.

Resonac produces many materials for use in back-end processes of semiconductor manufacturing which have top market shares. Furthermore, in Kawasaki City, Resonac has Packaging Solution Center*2, which is an institution to develop technologies for the whole back-end processes and can conduct trial production of leading-edge semiconductor packages. Resonac will contribute to SATAS's effort to develop technologies for automation of assembly and product quality inspection processes for leading-edge semiconductor packages by utilizing the company's expertise and experiences accumulated through R&D.

*1: 2.5D packaging is a technology to place semiconductor chips in parallel on the interposer. 3D packaging is a technology to laminate chips with TSV (through silicon via).
*2: Packaging Solution Center is a base of Resonac to promote open innovation on evaluation and packaging technology. It has full lineup of leading-edge equipment to manufacture semiconductor packages and evaluation equipment.

Overview of the Semiconductor Assembly Test Automation and Standardization Research Association

<table>
<tr><td>Date of Establishment</td><td colspan="2">April 16, 2024</td></tr>
<tr><td rowspan="4">Board of Directors</td><td colspan="2">President: Kunimasa Suzuki (President, Intel K.K.)</td></tr>
<tr><td colspan="2">Director: Tomoki Takahashi (Value Creation Process Manager, Information and Communications, Mitsubishi Research Institute, Inc.)</td></tr>
<tr><td colspan="2">Director: Masahiko Hamajima (Representative of SEMI Japan)</td></tr>
<tr><td colspan="2">Auditor: Mieko Mio (Attorney-at-Law Kioicho Law Office)</td></tr>
<tr><td>Association Member
*Japanese alphabetical order</td><td>Intel K.K.
OMRON Corporation
Sharp Corporation
Shin-Etsu Polymer Co., Ltd.
Sinfonia Technology Co., Ltd.
SEMI Japan
Daifuku Co., Ltd.
Hirata Corporation
FUJI Corporation
Mitsubishi Research Institute, Inc.
Miraial Co., Ltd.
Murata Machinery Ltd.
Yamaha Motor Co., Ltd.
Resonac Holdings Corporation
Rorze Corporation</td><td>Association Member
*Japanese alphabetical order</td></tr>
<tr><td>SATAS Structure</td><td colspan="2"> 
</td></tr>
<tr><td>Headquarters Location</td><td colspan="2">Mitsubishi Research Institute, Inc., 2-10-3 Nagatacho, Chiyoda-ku, Tokyo</td></tr>
<tr><td>Description of Business</td><td colspan="2">SATAS promotes research and development related to the automation and standardization of semiconductor back-end processes. Focusing on the back-end processes, which will have a significant impact on the economics of semiconductor production, SATAS promotes standardization of equipment and systems necessary for labor saving and automation, and verify it on prototypes, commercial models, and a pilot line.</td></tr>
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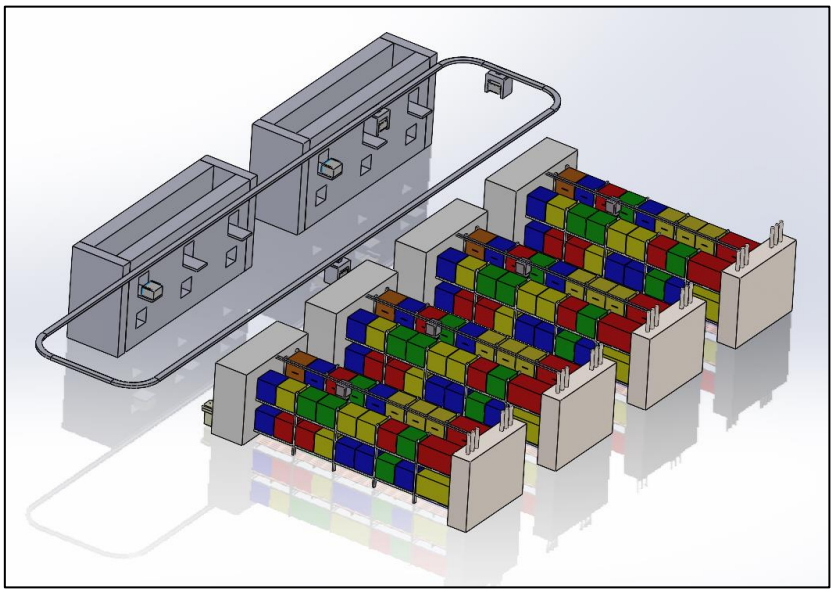

Image of Assembly-Test process automation pilot line

[About the Resonac Group]
The Resonac Group is a new company established as a result of the integration of the Showa Denko Group and the Showa Denko Materials Group (former Hitachi Chemical Group) in January 2023. The Group's annual sales of semiconductor and electronic materials amount to about 340 billion yen. The Group especially has an extensive lineup of semiconductor materials for back-end process which have global top market share. The integration of the two companies has enabled the Resonac Group to design functions of materials as well as to develop them in-house, going all the way back to raw materials. The new trade name "RESONAC" was created as a combination of two English words, namely, the word of "RESONATE" and "C" as the first letter of CHEMISTRY. The Resonac Group will make the most of its co-creative platform, and accelerate technological innovation with semiconductor manufacturers, material manufacturers, and equipment manufacturers inside and outside Japan.

For detail, please refer to our Website.
Resonac Holdings Corporation: https://www.resonac.com/

For further information, contact:
Media Relations Group, Brand Communication Department (Phone: 81-3-6263-8002)
Resonac Holdings Corporation