Press Release

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Keio University Global Research Institute (KGRI)

Building a Proof-of-Concept Environment for Interoperability Between Japan and Taiwan's Digital Trust Infrastructures
－KGRI and ITRI Advance Technical Validation of International Mutual Recognition Based on a Three-Layer Model－

Keio University Global Research Institute (KGRI) and Taiwan's Industrial Technology Research Institute (ITRI) are developing a proof-of-concept environment that connects the Digital Trust Infrastructures of Japan and Taiwan to assess the feasibility and interoperability of International Mutual Recognition. The joint proof of concept is based on the three-layer model proposed by KGRI. KGRI and ITRI will sign a Strategic Cooperation Agreement (SCA) at the 16th Cyber Security International Symposium and advance their collaboration. To put this initiative into practice, the two institutions will work with Taiwan, a global leader in the semiconductor industry, to jointly develop the infrastructure, contributing to stronger global supply chains that support economic security.

1. Main Points of Research

・KGRI[*1] and ITRI[*2] are advancing a joint proof of concept for international mutual recognition between the digital trust infrastructures of Japan and Taiwan.

・Based on the three-layer model proposed by KGRI [*3][*4], the project will connect proof-of-concept infrastructures in both regions and technically assess interoperability and the feasibility of international mutual recognition through trust functions such as digital signatures and verification.

・The development of this infrastructure in collaboration with Taiwan, a global leader in the semiconductor industry, will contribute to strengthening global supply chains that are vital to economic security.

2. Background of Research

Cross-border data flows require more than mechanisms for exchanging data. Users also need mechanisms to verify the authenticity of the issuer and the integrity of issuer documents. Enabling these checks across different institutional and technical environments is a key challenge for trusted data flows.

Following Japan's G7 presidency and India's G20 presidency in 2023, KGRI has advanced demonstrations on International Mutual Recognition with the European Commission and relevant institutions in India [1–5]. This initiative extends that collaboration to Taiwan and will build technical knowledge on verification between the Japanese and Taiwanese infrastructures. ITRI is carrying out the project under a commission from the Administration for Digital Industries (ADI) [*6], which is part of Taiwan's Ministry of Digital Affairs (MODA) [*5], and has partnered with TAIWAN-CA INC. [*7] and Chunghwa Telecom [*8] to jointly develop the proof-of-concept infrastructure and connect the bilateral environments.

3. Content of Research and Results

In Japan, KGRI will lead development of the proof-of-concept digital trust infrastructure in cooperation with private-sector companies. In Taiwan, ITRI will lead the development of the corresponding infrastructure. The two environments will then be connected.
In the connected environment, the project will assess the feasibility and interoperability of international mutual recognition through the validation of digital certificates and the application and verification of digital signatures on documents. The proof-of-concept environment will be demonstrated at the 16th Cyber Security International Symposium [*9].

4. Future Developments

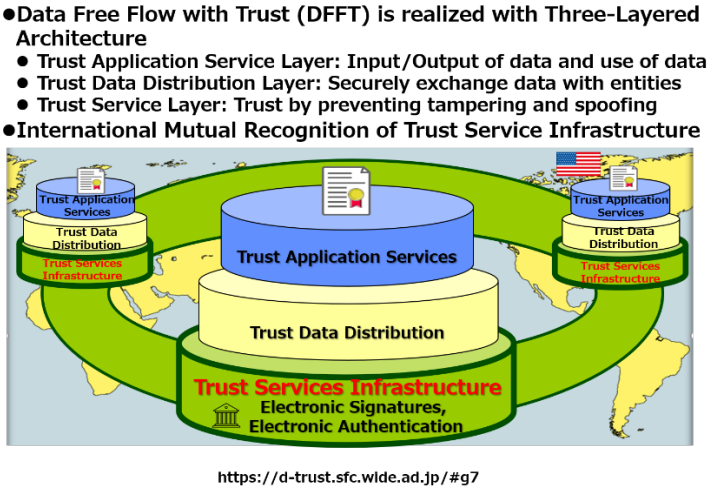
Through the joint proof of concept, the two institutions will build technical knowledge and aim to realize Data Free Flow with Trust (DFFT) [*10] between Japan and Taiwan. They will apply the findings to collaboration on digital trust infrastructures with other regions, beginning with ASEAN and extending to the EU, India, the United States, the Global South, and other regions.

References

[*1] https://www.keio.ac.jp/en/org/kgri/
[*2] https://www.itri.org/eng
[*3] https://d-trust.sfc.wide.ad.jp/#g7
[*4] https://www.keidanren.or.jp/policy/2025/026.html
[*5] https://moda.gov.tw/en/
[*6] https://moda.gov.tw/en/ADI/
[*7] https://www.twca.com.tw/index?lang=en
[*8] https://www.cht.com.tw/en/home/cht
[*9] https://symp.cysec-lab.keio.ac.jp/2026oct/
[*10] https://www.digital.go.jp/policies/dfft

Glossary

※1 Digital Trust: Mechanisms that enable users of a document to verify that its issuer has not been spoofed and that the document has not been tampered with.
※2 Three-Layer Model: The model proposed by KGRI, which organizes the functions of Trust Application Services, Trust Data Distribution, and Trust Service Infrastructure into layers and enables them to work together.



Related Publications and Documents

[1] The G7 Digital and Tech Ministers' Meeting Stakeholders' Conference on Digital Technologies for Trust Released on 13 March, 2023, URL= https://d-trust.sfc.wide.ad.jp/#g7
[2] S. Kai, T. Kondo, N. Karimi, K. Mersinas, M. Sel, R. Yus, and S. Tezuka, "International Mutual Recognition: A Description of Trust Services in US, UK, EU and JP and the Testbed 'Hakoniwa'," Proceedings of the 20th International Conference on Security and Cryptography (SECRYPT 2023), pp. 764–771, 2023. DOI: 10.5220/0012124200003555. Keio University
[3] Keio University, Comparison Report of International Mutual Recognition for Trust Services Infrastructure, Oct. 30, 2024. URL= https://d-trust.sfc.wide.ad.jp/assets/pdf/JP-EU-India_Comparison_Report_International_Mutual_Recognition_r9.pdf
[4] Keio University, "International Trusted List – Japan Proposal for Submission to ISO," ETSI TC ESI Contribution ESI(25)000324, 2025. ETSI Portal
[5] Keio University, "Proposal to ISO: Digital Trust List Framework," ETSI TC ESI Contribution ESI(25)000500r2, 2025.

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