

TIRI's efforts to address Social Issues



Headquarters
Aomi, Koto-ku, Tokyo Japan



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Tokyo-Thailand Business Connecting 2026
Tokyo Metropolitan Industrial Technology Research Institute (TIRI)
President, Atsushi KUROBE

Agenda

1. about TIRI
2. TIRI's efforts to address Social Issues
 - examples of Technical Seeds※ from our R&D
 - examples of our contribution to Product Developments



※ Our [technical seeds book](#) is published every year, which can be found at our website
<https://www.iri-tokyo.jp/research/seeds/#seedsbook>

about TIRI



Mission

To promote SMEs especially in Tokyo through the support of technology

Profile

[Staff] (FY2025)

about 270 research engineers

[Technology Covered]

Materials, Devices, Equipments, 5G, IoT, Robots, IT
Product design, Food, Human Life Engineering, etc.

[Testing Services]

We provide “Testing services” and “DIY testing”
for more than 9,000 companies per year

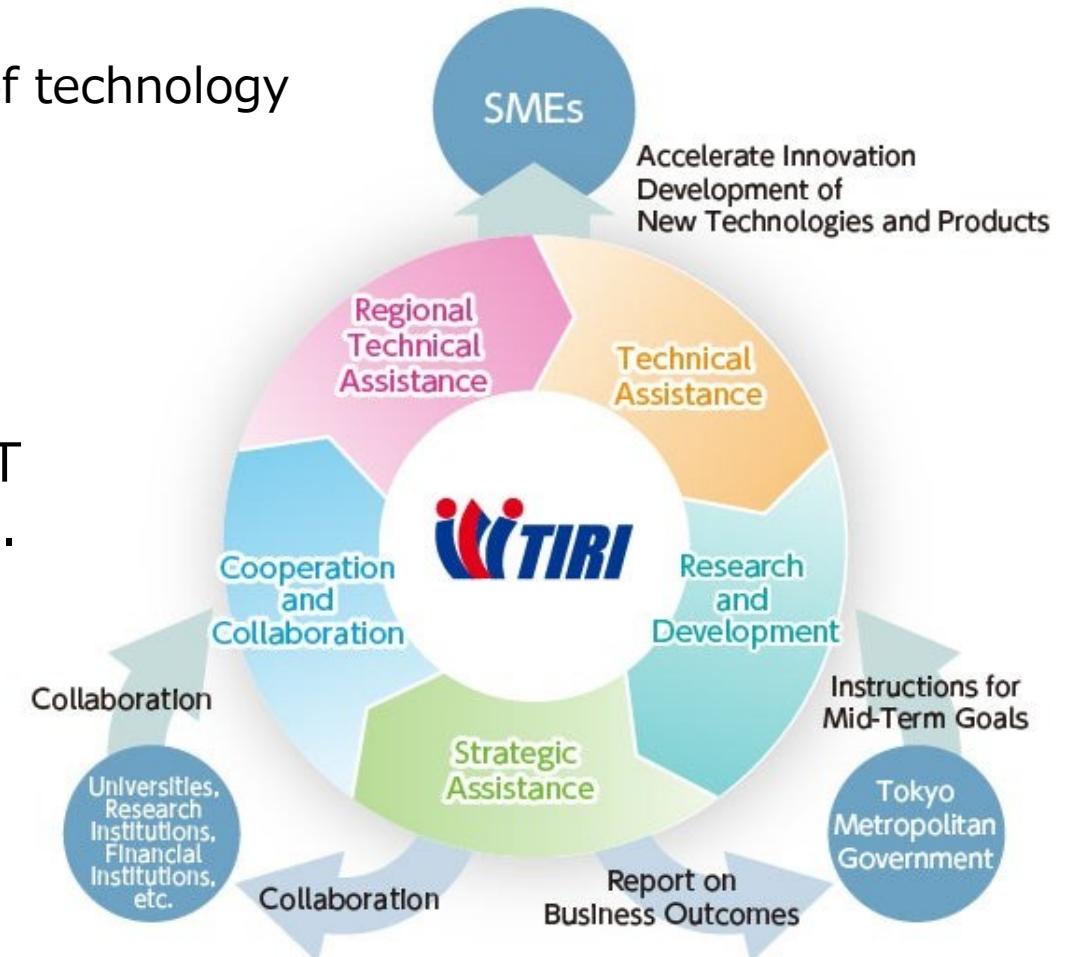
[Research activities] (FY2024)

Fundamental research : 58 themes

Joint research : 27 themes

External funding research : 100 themes

Fully Leverage All Our Strengths to Become
Dependable Technology Research Institute



TIRI's efforts to address Social Issues



TIRI's efforts; aligned with each Technology Readiness Level
→ Fundamental research, Joint or Projected research, Technical supports

AI & IoT application for plating process

Subject

Optimized Control for the plating process

AI estimation

- (1) Estimation of amount of plating solution during the process
- (2) Estimation of change in plating solution concentration

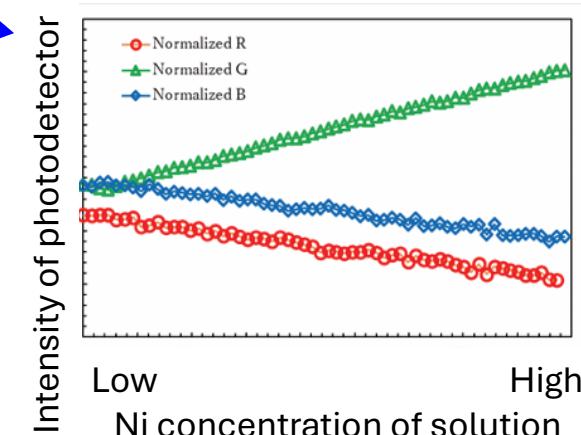
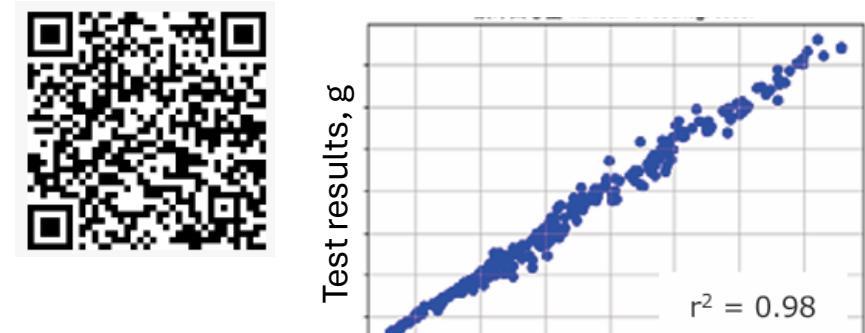
during the process

IoT application

(3) Reading instrument display value using camera image analysis during the process

→ Adequate process management and defect improvement

Reducing environmental impact and costs



Technical seeds by fundamental research (DX)

Development of a sensor to detect the sign of Landslides

Subject

Early detection of Landslides

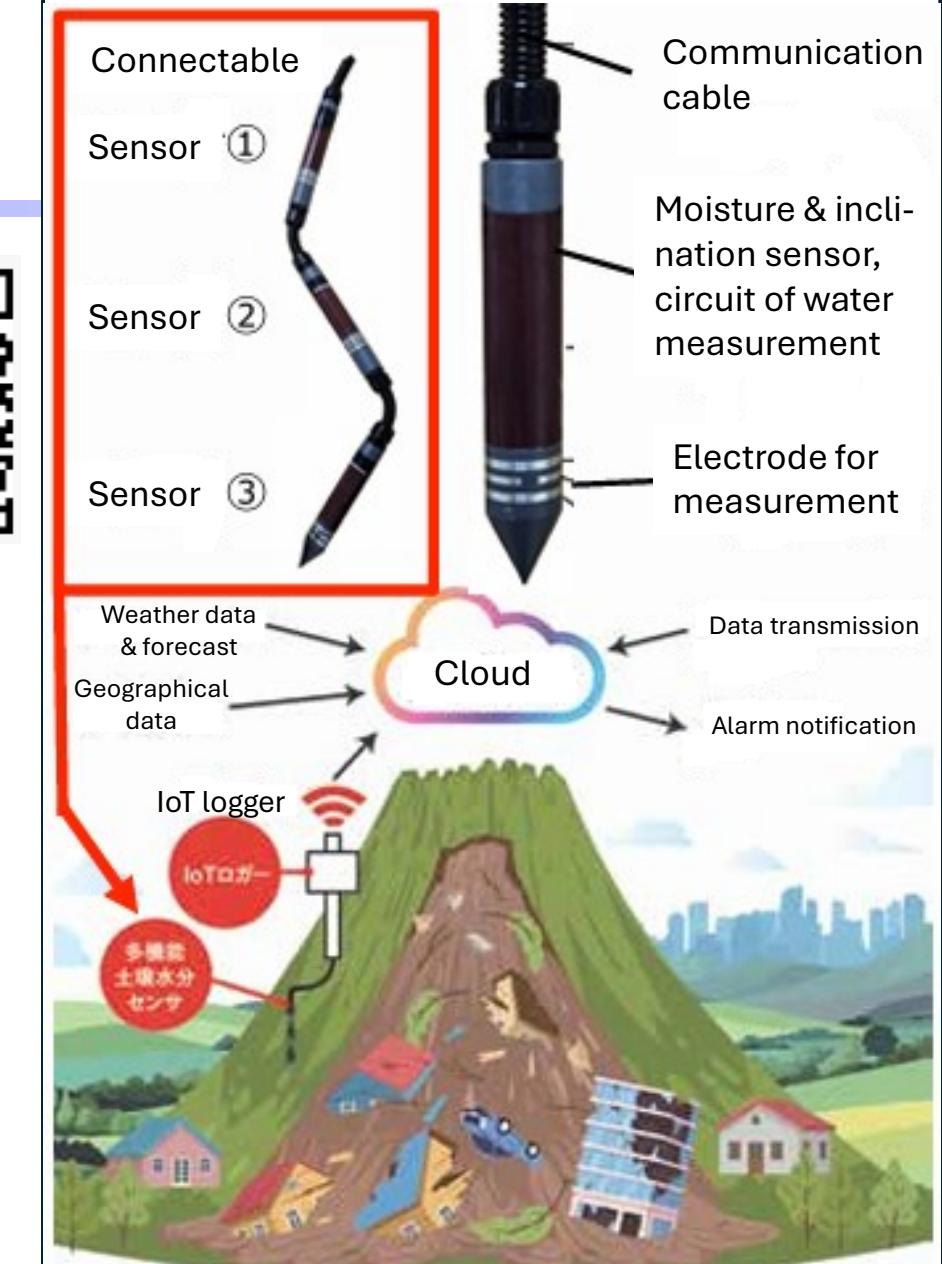
- Moisture measurement of soil
- Inclination measurement of ground slope

Development of the integrated sensor

- (1) **Moisture sensor** measured by water dielectric constant
- (2) **Inclination sensor** with 0.01° resolution
- (3) **IoT logger** send the data to cloud system (AI judgement)

Merits

High accuracy, no excavation required



Development of Thermoelectric material

Subject

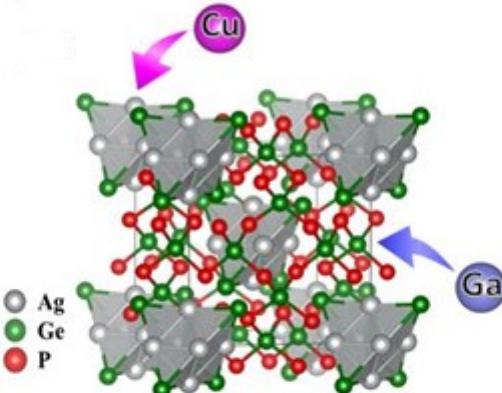
Materials converting waste heat into electricity as energy saving

Thermoelectric materials without including harmful elements

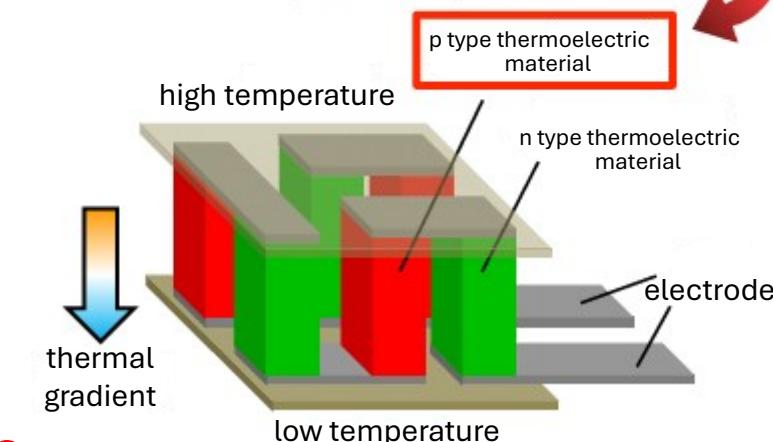
Novel Thermoelectric material at mid temperature range

- (1) Phosphorus-based thermoelectric material
without including harmful elements
- (2) Excellent mechanical and thermal expansion properties
against thermal stress
- (3) Proposal of n-type thermoelectric material and metal electrodes

→ Power generation using exhaust heat from factories and
automobiles, stand alone power source for IoT sensors, etc.



p type phosphorus-based thermos electric material



Examples of product developments (1/2)



【GX product】

Earth leakage monitoring device (So Brain Co. Ltd.,)

The company obtained TIS certification by the support of TIRI

The company began local production in Thailand

by the management support of Tokyo SME

→ Sales began in early 2025



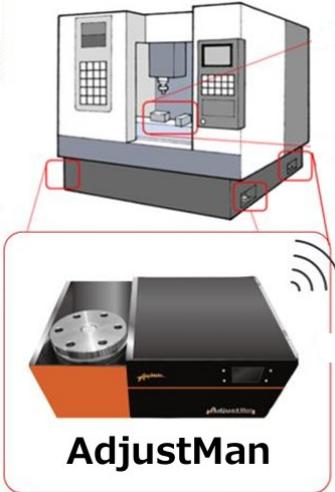
【DX product】

AdjustMan (Any Design Co. Ltd.,)

TIRI Innovation partnership award!!

Leveling instrument that dramatically reduces work time
from over 60 minutes to less than 3 minutes

→ Sales began in November 2024



Examples of product Developments (2/2)

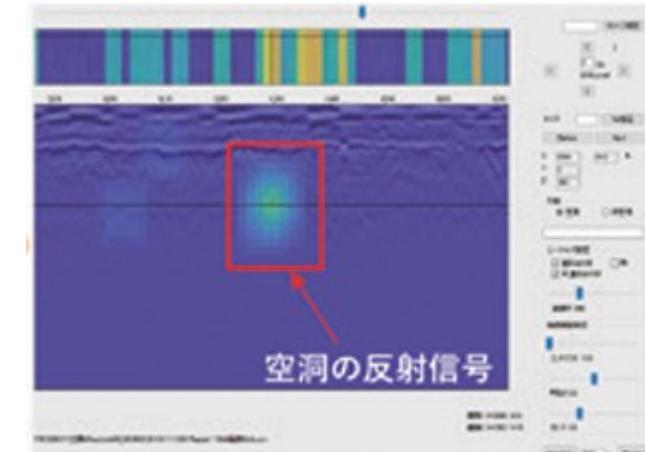


【AI product】

WISE (WALNUT Co. Ltd.)

AI-based analysis software for civil engineering structures developed through the "IoT Promotion Project for Small and Medium-sized Enterprises"

→ Sales began in end of 2020



【DX product】

L5G series (iDAQS Co. Ltd.,)

Local 5G base station experiment kit developed through the "5G, IoT, and Robot Promotion Project for Small and Medium-sized Enterprises"

→ Sales began in summer 2022



Conclusion



1. The difficulties of addressing social issues
 - It takes time to build up technology (it usually takes several years)
 - It's easily influenced by trends (efforts may end in vain)

2. Accumulation and integration of elemental technologies

will be required to overcome those

3. Important TIRI's roles

Supporting SME and start-up, as well as the promotion of Open Innovation



Thank you for your kind attention!!



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Bangkok Branch HP](#)