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@ International Forum on
Revitalization of Local Communities

A Gift for the Next Generation
- Engaging with the SDGs -

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SDGs – Philosophy and Vision

- ○ Vision for sustainable earth and inclusive development
- ○ Enhancing competitiveness in a stable and peaceful society
- ○ Sharing common value for proactive action
- ○ Transforming social system, business structure and science, technology and innovation (STI) in a holistic manner
- ○ Respecting history and culture in each nation and region (indigenous knowledge and wisdom)

Paradigm Shift of Research and Development

Science *in* society
Science *for* society

- Foresight, horizon scanning
- “Back-casting” (backward from goals)
- Mission-oriented innovation

Data-driven technologies

- Deeper learning technologies based on computing and AI technologies
- Structuring and rules for data collection, deposit and integration
- Capacity buildings and enhanced ICT literacy

Proximity of Science to Society

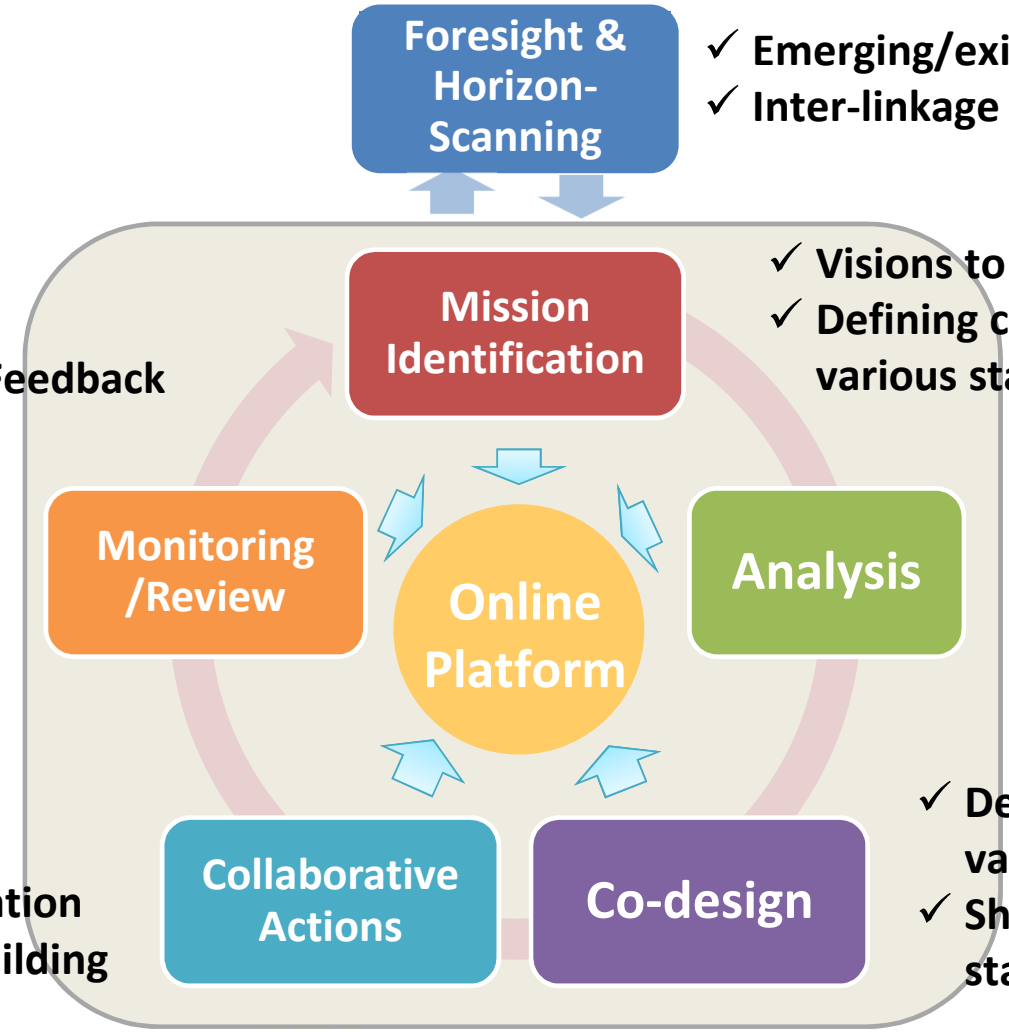
Co-creation

- Trans-disciplinary research
- Open science, Open innovation
- Function of universities and national research institutes as hubs for co-creation

Diversity

- History- and culture-based diverse values
- Citizen engagement across genders and generations
- International cooperation, brain circulation

STI Implementation Process



✓ Emerging/existing issues and technologies
✓ Inter-linkage (synergies and trade off) analysis

✓ Visions to achieve in relation to the SDGs
✓ Defining challenges/issues to tackle with various stakeholders

✓ Gaps between current status and goals
✓ Socio-economical factors to be taken into account

✓ Designing action plans with various stakeholders
✓ Sharing roadmaps with various stakeholders

✓ Regulation
✓ Financing
✓ Standardization
✓ Capacity building

✓ Feedback

Application of Data-driven Technologies

Data-driven smart society (Society 5.0)

- Sustainable development
- Enhance competitiveness

Social design (Vision, Co-creation, Co-production & Implementation)

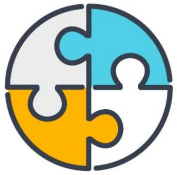
- Cyclical implementation process and roadmaps
- Tackle ambitious goals

Deepening and integrating data science and technology (Identification of tacit knowledge hidden in data)

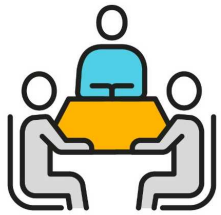
- Infrastructure for data transfer
- Capacity buildings of data scientists
- Address ethical issues
- Fill digital gaps
- Prepare for the workforce shift

- Integrated science (Science beyond silos)
- Multi-stakeholder engagement

MUTUAL BENEFITS



UNITY



MEETING

COOPERATION

TEAMBUILDING

COLLABORATION STRATEGY

Priority on Capacity Buildings

New Value Created for Society 5.0

SIP 戦略的イノベーション創造プログラム
Cross-ministerial Strategic Innovation Promotion Program

COI STREAM 今の夢。10年後の常識。新しい未来を作りたい。

JST MIRAI 未来社会創造事業

i-Construction

J-Startup

Connected Industries

Autonomous Rice-Planting Vehicle

（SIP： Technologies for Creating Next-generation Agriculture, Forestry and Fisheries)

- Speedy and accurate planting without a driver
- Only one person needed for planting and setting

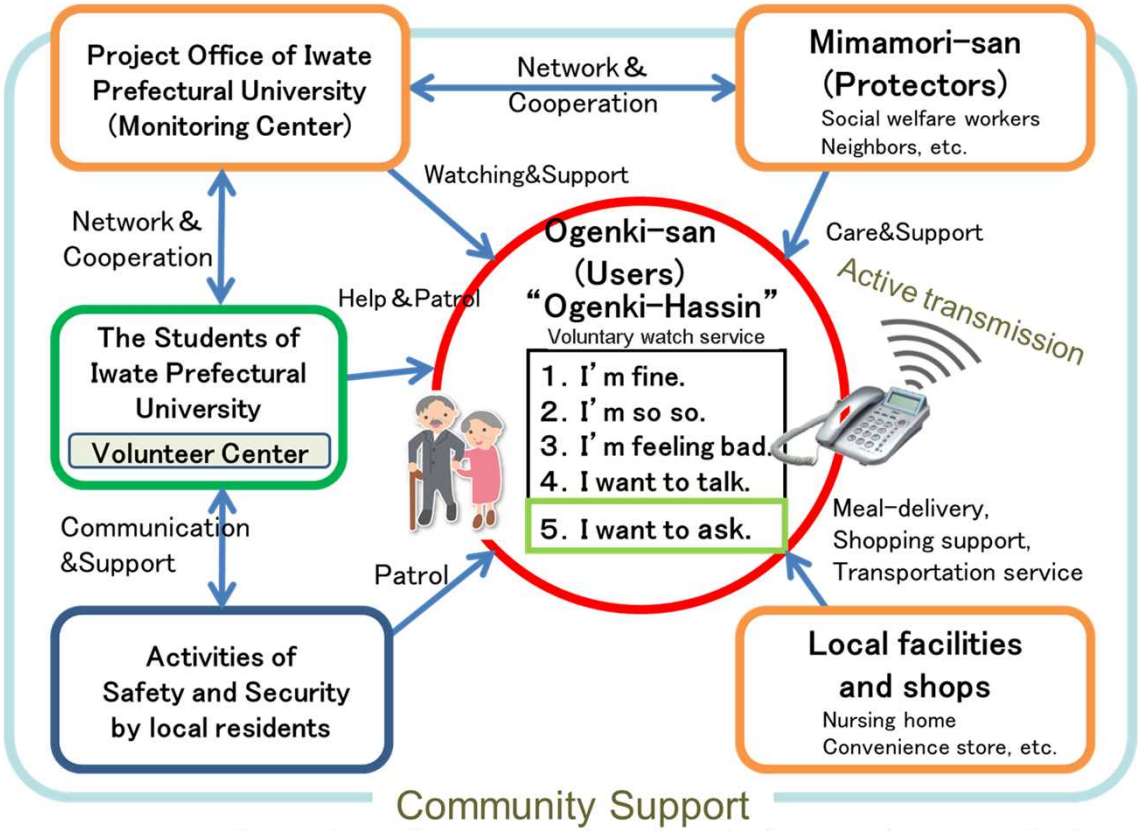
Autonomous unmanned vehicle for rice-planting
(Autonomous demonstration in the test field)

NARO Press Release (Japanese);
https://www.naro.affrc.go.jp/publicity_report/press/laboratory/iam/075850.html

ICT-based & Local Engagement

“Aging in Place with ICT ” (RISTEX)

- Community tailored support network called “How are you” network for the elders with regional resources
- Trial run of the network in Iwate Prefecture, in line with community’s emergency system
- Support network distributed nationwide by NTT Docomo via an application called “Tsunagari hotto-support (Connections to make you feel at ease)” since 2014
- Collaboration with Kochi pref. (Yusuhara Town) and Fukushima pref. (Namie Town) to use available resources in the region to create this system



Reference; https://www.jst.go.jp/ristex/korei/en/02project/prj_h22_03.html

Engagement of Local Stakeholders

University-led PPS for Co-creating Values

Hirosaki University Center of Healthy Aging Innovation

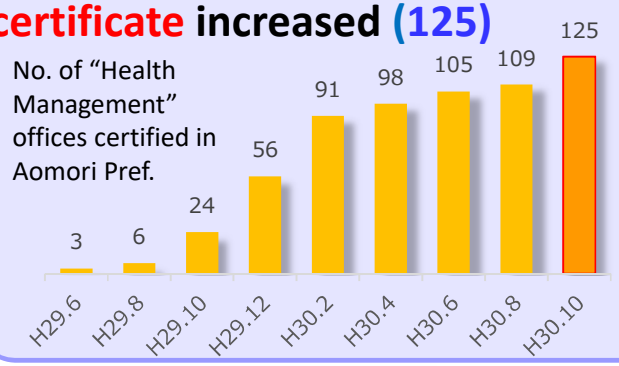
-From Redeeming the "Lowest Life Expectancy Pref." to Promoting Health Around the World-

Local Community

- All cities & towns advocate "Promoting Health" (40)
- Health leaders/supporters increased (2,300)

Workforce

- Health Management certificate created
- Number of companies with this certificate increased (125)



Edu. and Capacity Building

Implementation of Health Education with board of education (100schools)

Learning at Schools Health Ed.: Active Learning

Demo. at Home [Reduce lifestyle diseases!]

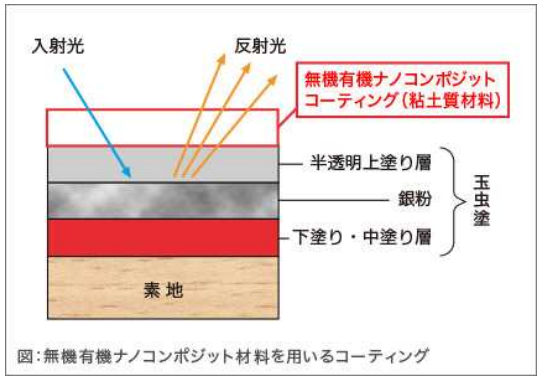
Sharing knowledge learnt at schools
Learning lifestyle diseases in family and try to promote health

From now on **Establishment of social systems for promoting health at "Center for Promoting the Happiest Health (Sukoyaka)" (PPPs for demonstration and PoC of the data-driven STI)**

Creating Community-based, Diversified values

“Tamamushi (jewel beetle) Lacquerware”

[Tohoku Kogei Co., Ltd.] (Program to Promote Post-Earthquake Revitalization under promoting tech. transfer and innovation)



図：無機有機ナノコンポジット材料を用いるコーティング

Creating a lacquerware nanocomposite coating technology with clay-based film ‘CLAIST’ that fulfils the strength and long-term durability requisites for daily use.

“Innovation on Production and Automotive Utilization of Biofuels from Non-food Biomass” (SATREPS)

Using non-food biomass (Jatropha as a major feedstock), the high quality biodiesel ("H-FAME") and its automobile compatibility was successfully manufactured and tested.


FAME 製造
パイロットプラント
(1ton/day)

H-FAME

タイでの実車走行試験に用いたいすゞ製ピックアップトラック

https://www.jst.go.jp/global/english/kadai/h2110_thailand.html

Development and demonstration of upgraded indigenous technologies and local resources

From Local to Global

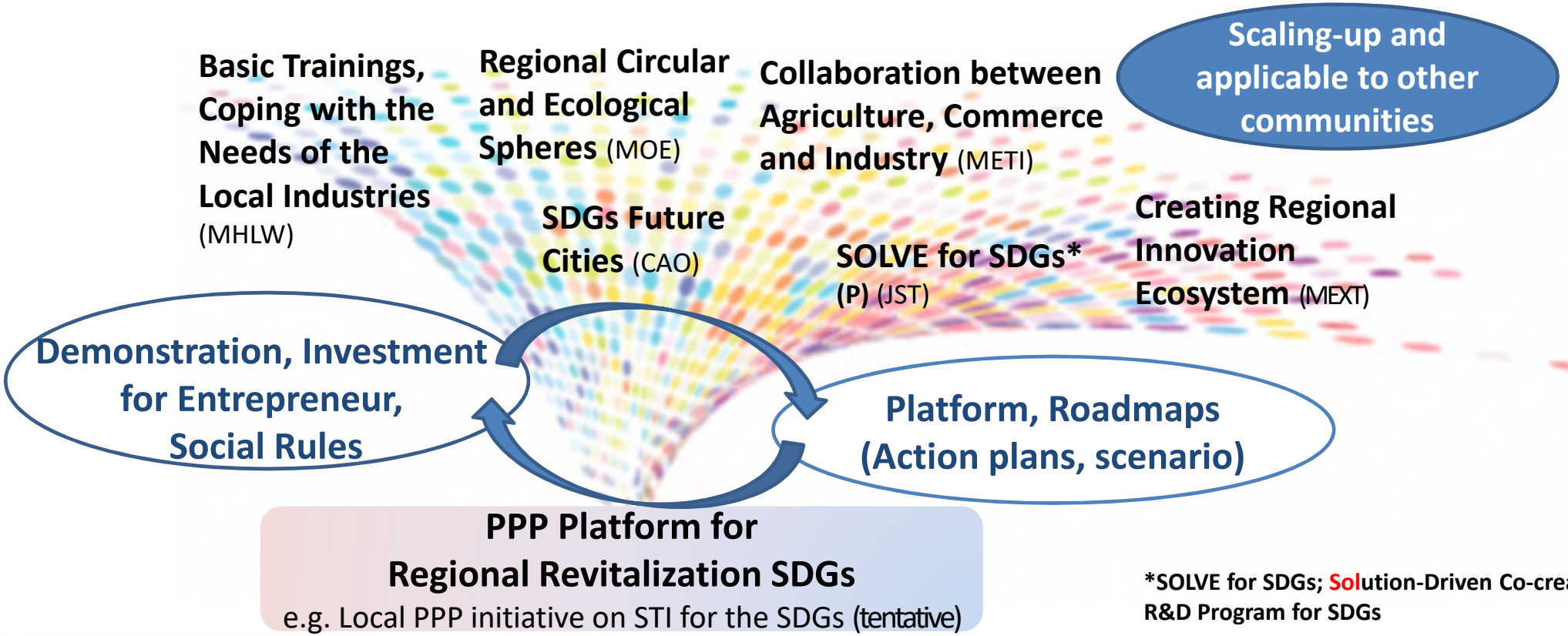
Innovation × Demonstration for local issues

- Integration of Science and technologies
- User-perspective (social acceptance)
- Inclusive structure and systems
- Business model design
- Capacity buildings
- Financing

Creating new value and communization

STI/Society 5.0 for SDGs & Revitalization of Local Communities

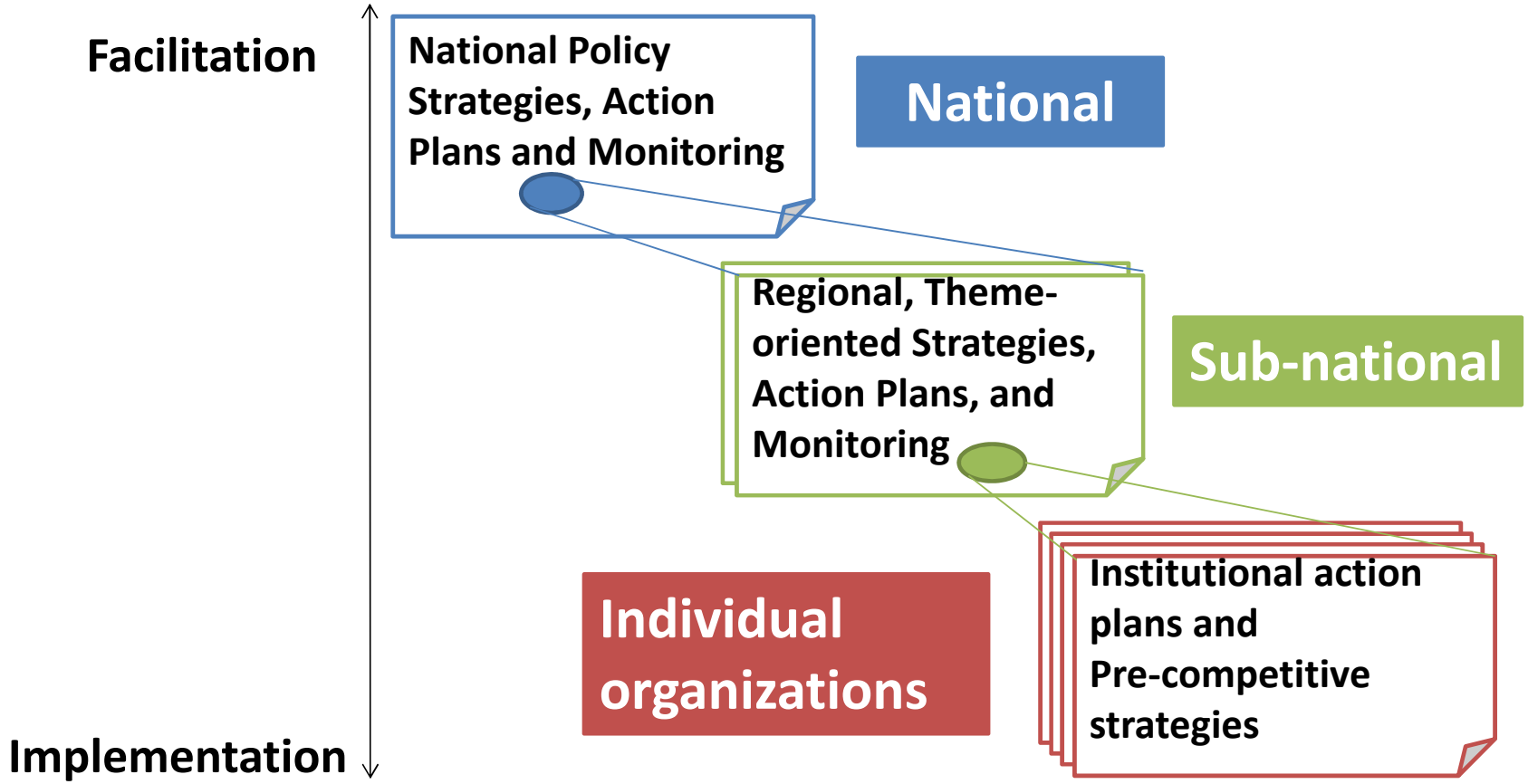
- Promoting partnerships beyond organization and disciplines through “empathy, co-design and co-production”
- Requiring those who connect stakeholders and promote such partnerships in communities



*SOLVE for SDGs; Solution-Driven Co-creative R&D Program for SDGs

Hierarchy of STI for SDGs roadmaps

Communication and monitoring tools among multi-stakeholders for implementing the SDGs




Prosperity for the Future
& Next Generations
Co-existence of human beings and Nature
Human security
Respect of national and regional inheritance and experience
Thank you for your attention