

# Hitachi-AIST Cooperative Research on Circular Economy - Overview of Hitachi-AIST Cooperative Research on Circular Economy



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## Motivation

### Challenges for the realization of a circular economy in Japan

- Share the issues expected to transition to a circular economy society
  - Collaborate to realize a truly circular economy society that accelerates economic growth
- Industry

Academia
- Sharing a social image that does not hinder resource circulation and leads to economic growth
  - Creation of examples of specific digital solutions that have realized improvement of environmental value
  - Formulation of rule-making strategies based on global standardization trends that recognize each other's region

### New cooperative creation between AIST and Hitachi



- Drafting a social image of a circular economy that stakeholders can unite and share
- Dissemination of the path to transition from the current situation to the ideal situation, and the ideal methodology and rule



## Overview of the Hitachi-AIST Circular Economy Cooperative Research Laboratory

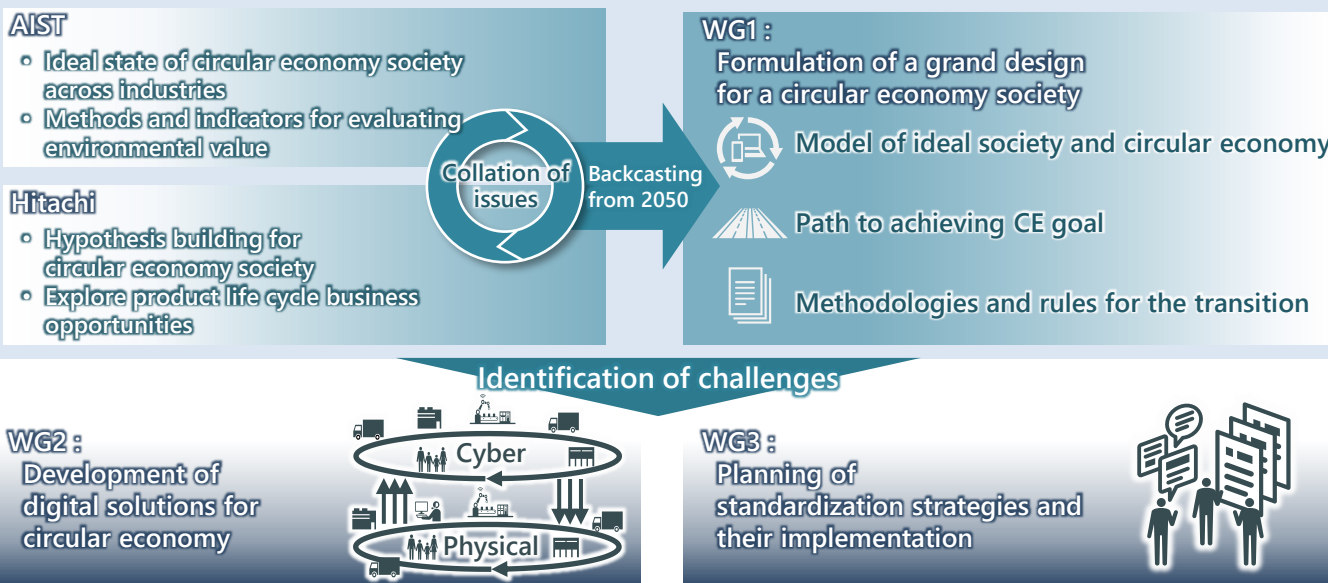


Propose a grand design for a circular economy society, develop digital solutions to realize it, standardize strategies, and widely disseminate them to society

- Establishment of a collaborative laboratory at AIST's Waterfront Center (Aomi, Koto-ku, Tokyo) in October 2022
- Promote open research activities through open forums, etc.
- Participate about 40 specialists, including life cycle assessment, resource recovery system, manufacturing and service engineering, from Hitachi and AIST in the joint research

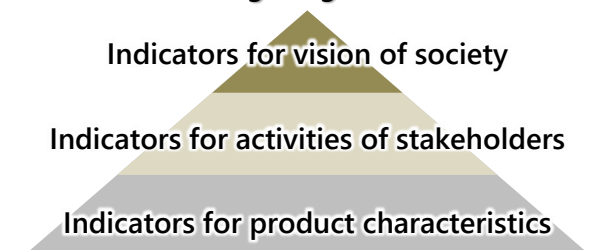
## Activities of Our Laboratory

- This laboratory consist of the following three Working Groups (WGs).
- The activities of each WG to date are as follows and are also presented at this conference.



## Circularity Indicators

- Circular indicators are recognized as important issue to estimate the contribution and achievement towards the circular economy in quantitative.
- The task group which consists of representatives from each WG collected the indicators related to circular economy from the world-widely published literatures (e.g. [1][2]).
- The number of collected indicators are more than 300 and categorized as shown of schematic drawing in figure.



## Conclusions and Outlook

- We introduced activities of three WGs established in Hitachi-AIST Circular Economy Cooperate Research Laboratory.
- We plan to widely disseminate the vision, methodology, and rules for realizing a circular economy and society discussed by each WG to the world.
- Our laboratory will advance its activities so that it can lead the field of circular economy society globally.

[REFERENCE]

1. UN Environment Programme, Resource Efficiency, <https://www.unep.org/explore-topics/resource-efficiency>

2. World Business Council for Sustainable Development, Circular Transition Indicators (CTI), <https://www.wbcsd.org/Programs/Circular-Economy/Metrics-Measurement/Circular-transition-indicators>