



“Green CPS Consortium, a General Incorporated Association” -Background of Establishment and Outline of Consortium Activities-

Toward an Earth-Friendly Society and Industry

As you know, the management strategy to sustain the global environment for the future of human civilization is the biggest and most urgent challenge we face. An effective approach to this is to utilize IT and data infrastructures to coordinate all economic activities beyond individual organizations. In today's global economic system, each organization operates individually based on the principle of economic efficiency, and as each organization expands its profitability and scale of operations, it works toward creating material and energy losses. What we need to do now is to control losses (waste) in economic activities as a whole through mutual cooperation among organizations in order to reduce various losses (waste) while promoting economic growth, and to create an environmentally friendly and Well-Being society and industry.

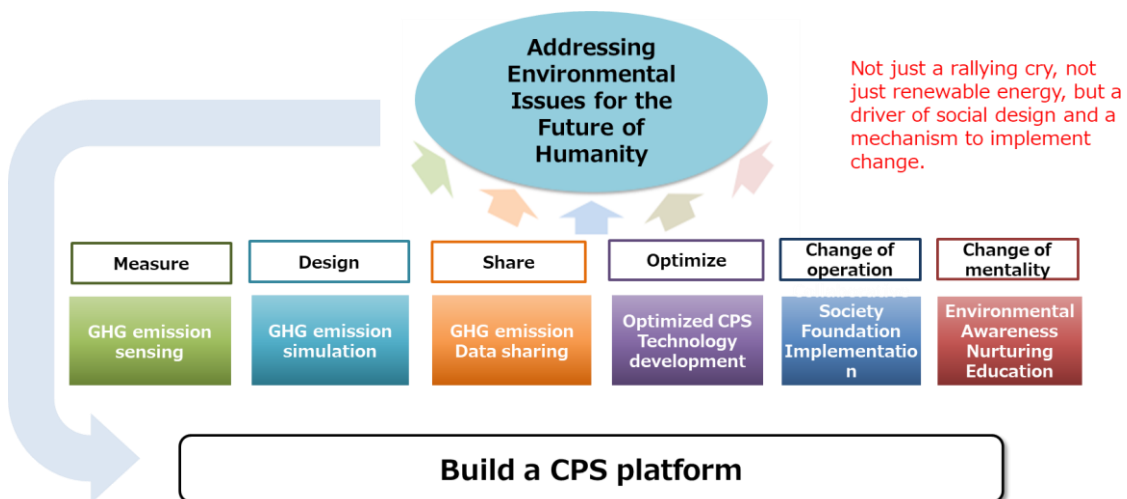
The consortium focuses on the potential of CPS (*1) and data sharing, and promotes social implementation of a new system that utilizes process simulation and AI to achieve total optimization across organizations. The goal is to promote GHG emission reductions through business process restructuring and supply chain data sharing, and to accelerate behavioral change in the industrial sector.

The consortium aims to obtain GHG (*2) emission evaluation indicators by utilizing process simulation, to accumulate GHG emission data for data compilation and mutual use, to build an operational system to promote the overall optimization of GHG emissions by integrating and linking diverse organizations and business categories, and to promote the development of a new system that will encourage individual behavior change of related organizations and promote the sharing of GHG emission data among them. In addition, we will promote an educational system that encourages individual behavior change and promotes awareness.

Lean (*3) for the industry as a whole cannot be achieved by simply building up the activities of each organization, and a direct link between the field and management is

essential. It is effective to design the ideal state through process simulations that link the field, management, and different types of operations, and then optimize collaborative activities by utilizing the CPS.

Through "designing carbon neutrality," we will explore the possibility of realizing a "Well-Being" society by balancing environmental issues and growth potential.



(*1) CPS (Cyber Physical System): A system to optimize management for the target value by integrating and operating different types of data and systems.

(*2) GHG (Green House Gas): Gases that contribute to global warming, such as carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons.

(*3) Lean: A lean and muscular management system.

Purpose and Activities of the Consortium

In order to realize the above background and aims, we believe it is important to develop the activities as a multi-organizational collaboration with fundamental technologies at the core and have decided to establish a general incorporated association that brings together the knowledge of industry, academia, and government. Here, we will jointly develop new green strategies and promote activities to disseminate them widely in society together with stakeholders.

We plan to promote this activity as an activity to build the society of the future with the participation of academic experts in carbon neutrality, circular economy, production systems, etc., manufacturing, telecommunications, electric power, construction, logistics, finance, and consulting firms, as well as government and overseas public organizations.

We are planning to spread this activity as an activity that will build the society of the future.

The aims of the activities of the consortium are listed below.

- **Designing carbon neutrality**
By shifting from conventional "calculation from phenomena" activities to GHG assessment based on the design of business systems and operations, it will be possible to identify measures to reduce GHG emissions in the course of on-site reform activities.
- **Enables accurate evaluation and reflection of on-site and corporate efforts**
In addition to the evaluation of results, it will be possible to ask what measures were taken and what efforts were made to achieve the results. Designing specific on-site activities to achieve these results and making these activities transparent will lead to an evaluation of the company's efforts.
- **Accumulating GHG emissions, converting them into data, and promoting their mutual use**
We aim to establish a framework that contributes to GHG reductions by allowing each participant to accumulate GHG emissions data from Japan and overseas, as well as to consolidate and upgrade its own knowledge, and disseminate and mutually utilize this knowledge.
- **Development of a CPS to promote overall optimization of GHG emissions**
Building a CPS
We will promote activities to build various collaborative applications on the "Green CPS Platform. This platform will also provide support functions for optimizing operations by integrating GHG emissions and economic efficiency, and promote the establishment and diffusion of a foundation for a sustainable society. We will also study the application of CPS toward the implementation of the digital twin, circular economy, and social CPS.
- **Provide learning opportunities for each organization and support their improvement**
Understand the activities of each company at the subcommittee meetings in this

organization and gain opportunities to share knowledge and learn in order to lead to further reforms in participating companies.

- **Foster environmental awareness among employees**

One goal of this activity is to foster awareness of environmental issues. This is not merely a matter of achieving a given goal, but also of promoting education to understand from experience why something must be done and how output can be achieved. By creating awareness through a gaming-like experience, we hope to spread the power of action toward social issues.

This activity is intended to promote the contents that cannot be realized by individual organizations alone, with the cooperation and collaboration of many people, and we look forward to the participation of many companies and organizations.

Green CPS Consortium

Contact: e-mail: info@greencps.com