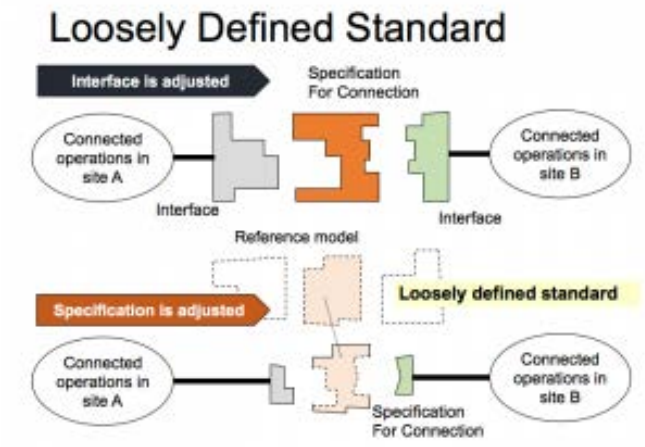
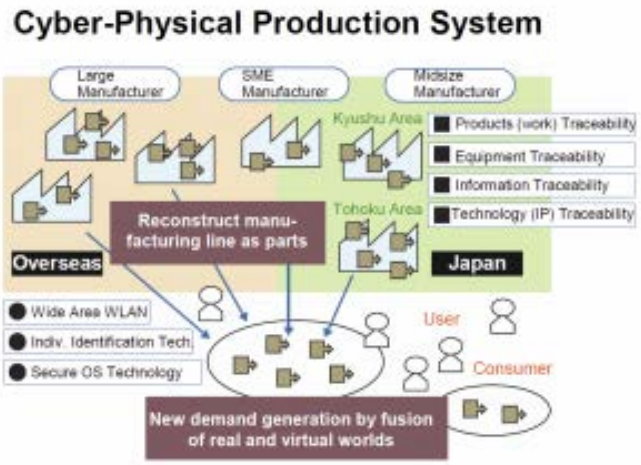
What is IVI?

The Industrial Value Chain Initiative (IVI) is a forum to design a new society by combining manufacturing and information technologies, and for all enterprises to take an initiative collaboratively.

Actively discussing how human-centric manufacturing will change with IoT, IVI aims at building a mutually connected system architecture, based on collaboration areas between companies. This means, IVI does not start from the area where an enterprise has its own competitive advantage (which should be kept), but investigates scenarios where companies naturally collaborate, and by this step by step gathers a broader understanding of more general connection models (reference models), without an urgency to build THE one general model out of it. This is why we employ the term “loosely defined standard”, as it means an adaptable model instead of a rigid system. A rigid new system would face many challenges in manufacturing environments, which are complex and typically heterogeneous, with a mixture of “old” and “new” elements. A pragmatic reality-based approach, starting from state-of-the-art today, seems therefore the most suitable to develop the next level of manufacturing. So, using the „loosely defined standard“ based connectivity, IVI works to increase the value for each enterprise by cyber-physical production systems.





Activities

Business Scenario Workgroups (WGs)

The Business Scenario WGs build up real-life scenarios connecting different enterprises. These projects lead to connection models, out of which in turn the IVI reference models will emerge. The Business Scenario WGs in 2016 are:

1. Digitalization of process information and knowhow on manufacturing
2. Connection of information on production preparation at design change
3. Utilization of robot program assets by CPS
4. Agile planning of production with real-time data on workers and things
5. Position control system for things at low cost
6. IoT to support workers in flexible manufacturing in kinds and volume
7. Traceability of quality data
8. Real-time management of quality data

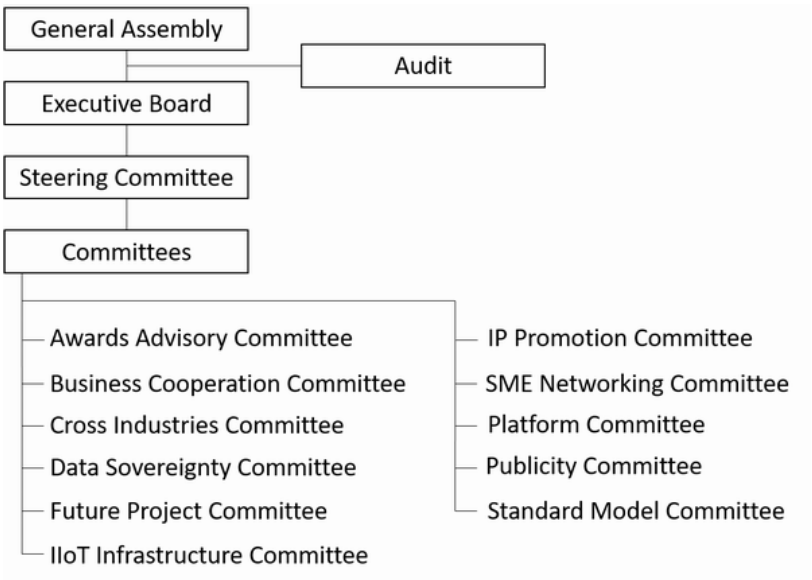
9. Promotion of CPS in supply chain with standard interface
10. Promotion of CPS in supply chain with standard interface (outbound logistics)
11. Collaboration among companies through shared process information
12. Managing manufacturing progress and delivery time among plants
13. Sharing technical information for horizontal integration of SMEs
14. Horizontal integration of SMEs and visualization of process information
15. Service for SMEs to notice information on manufacturing progress
16. Manufacturing innovation for interactive growth between human and plant equipment
17. Predictive maintenance of presses and panel transportation devices
18. Inclusive PM / Predictive maintenance for ALL
19. Predictive maintenance system to detect signs of equipment abnormality at low cost
20. Smart maintenance with machine IoT data
21. Smart maintenance with digitalization of knowledge
22. Improvement of productivity by visualization of equipment and workers
23. Mutual accommodation of facilities through shared production information
24. Managing actual operation status of all equipment in a plant
25. Increasing added value of after-sales service

Platform Workgroups

For each of following categories of platforms, the Platform WGs develop reference models specifying items that a platform needs to/should fulfill as requirements from users' points of view. They also evaluate IVI Platforms based on the reference models.

- PF01 Production engineering information platform
- PF02 Quality management information platform
- PF03 Production planning and control platform
- PF04 Supply chain management platform
- PF05 Small sized enterprise information platform
- PF06 Preventive maintenance platform
- PF07 Asset and equipment management platform
- PF08 Maintenance service management platform

Organization



Executive Board Members

- Hiroyuki KUMAGAI
- Hiroyoshi KONNO
- Yasuyuki NISHIOKA
- Osamu HORIMIZU
- Morihiko OHKURA
- Kazuo MIYAZAWA
- Atsushi MORITA
- Yasutaka KOGA

Audit

- Masakazu HANEDA
- Hironori HIBINO

Steering Committee Members

Committees

Business Cooperation Committee

This committee works on the development of business scenarios dealt in the business scenario WG. The committee members consist of facilitators of each business scenario, and deal with topics such as alignment of scopes among WGs and launch of new WGs.

Standard Model Committee

This committee works on the development of the “loose standard”. The Thing/Object reference model WG, the Information reference model WG, the activity reference model WG and the data reference model WG develop their respective models based on the contents from real business cases.

Platform Committee

This committee promotes IVI platforms by providing requirements and evaluating any candidates whch is

proposed by platformers. Platform working groups (PF-WG) are organized for each segment of information exchange environment.Then PF-WG manages a platform that will be used by collaboration scenarion WGs.

SME Networking Committee

This committee plans and conducts seminars promoting IoT to facilitate effort for connected manufacturing by SMEs rooted in local regions in Japan. In cooperation with local government and supporting institutions, it continuously supports the SMEs with verification experiments and networking also after the seminar.

Awards Advisory Committee

This committee gives a direction to IVI so that it can always sustain health as an organization and suit needs of society. The committee provides advices responding to requests from the executive board from an external viewpoint, as well as select members to receive an award set by the committee and give them a prize.

Publicity Committee

This committee works on the development of the policies and concrete plans required for external communication about IVI activities as well as the development of the contents and framework for information sharing with external groups.

Future Project Committee

IIoT Infrastructure Committee

Cross Industries Committee

IP Promotion Committee

Data Sovereignty Committee