

The Robot Revolution and Industrial IoT International Symposium 2018
--Industrial IoT Future Images and International Standards Connecting the World--

Systematic approach by creating Future Images of Industrial IoT usage

Nov. 19, 2018
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Industrial IoT Initiative

- 1. World trend of IoT/the 4th Industrial Revolution**
- 2. Two actions we should take**



From factory improvement to total optimization of engineering chain and supply chain

Value Chain

Supplier

Company

Distribution

Customer

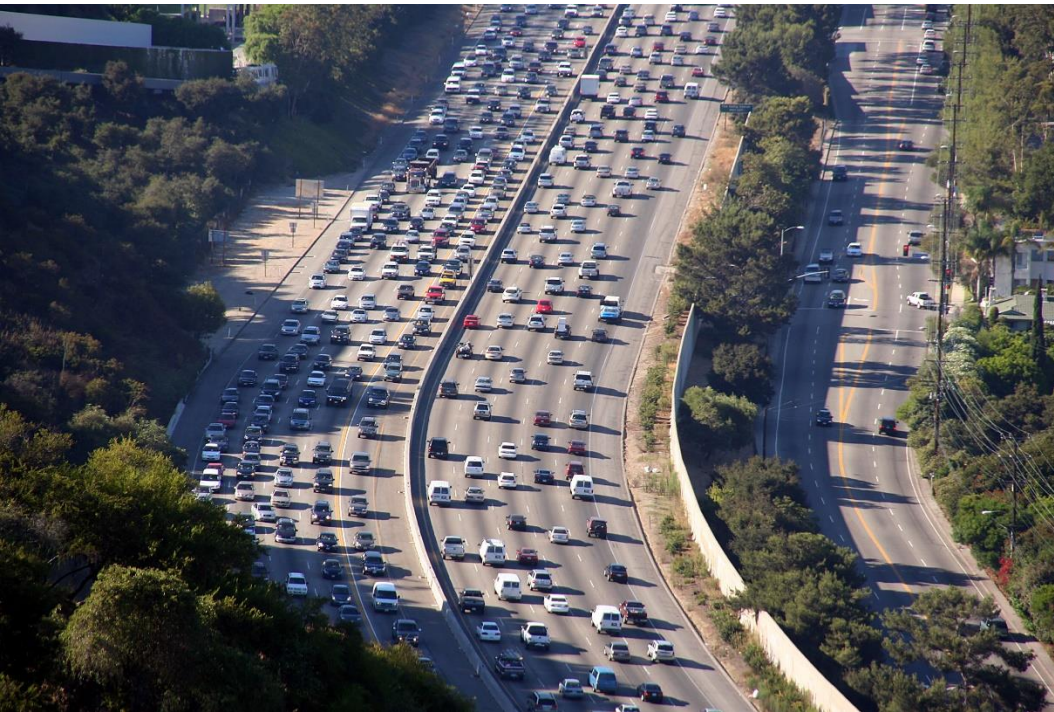
**From
single
product to
system**



From manufacturing / goods to services

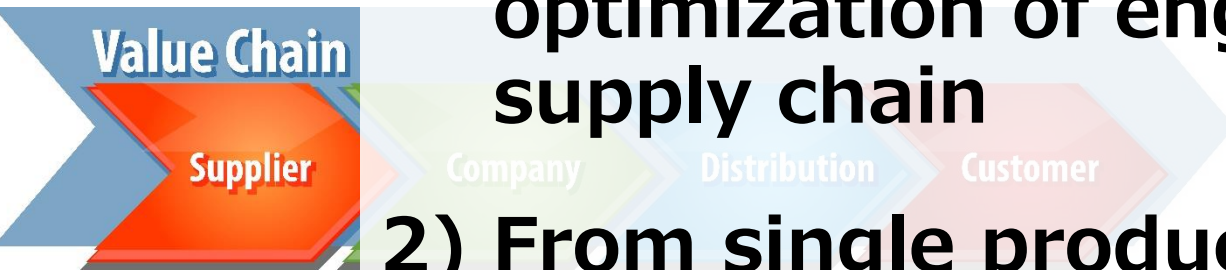


**Maximizing pre-competitive
collaboration, avoiding
useless competition**





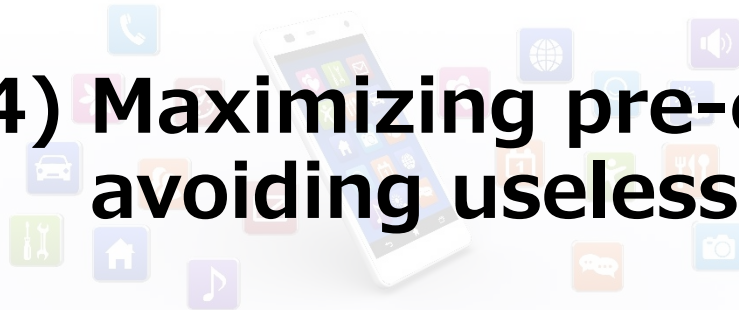
1) From factory improvement to total optimization of engineering chain and supply chain



2) From single product to system

3) From manufacturing / goods to services

4) Maximizing pre-competitive collaboration, avoiding useless competition



➤ SMEs

- Advancing overseas investments with their clients
- Technology transfer to developing nations
- Technology transfer in M&A
- Succession problems

➤ Large global manufacturers

- Powerful tools for accelerating overseas investments
- Chances for new business creation

➤ Large machinery manufacturers

- Easier access to global market

➤ FA System integrators

- Big business chances

- Integration cost goes down by international standardization on interfaces, etc.
- Added values go up by development of high performance modules

Pick low-hanging fruits

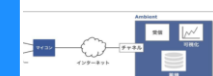
- factory floor improvement
- manufacturing process improvement

Get prepared by drawing future images

- new business and industry structure?
 - platform economy?
- International collaboration & standardization are the key*



“Online use case map”



センサーデータ可視化用クラウドサービス



iPadを遠隔操作パネルに



後付け電流・温度センサ



NFC*カードによる出荷作業管理



事業者状態モニタ用リストバンド



異常アラームを対処マニュアル
とともに提示

“Smart manufacturing cheering tools”



Smart manufacturing supporter nation wide forum

"Smart manufacturing cheering squad"

- **Future images differ**

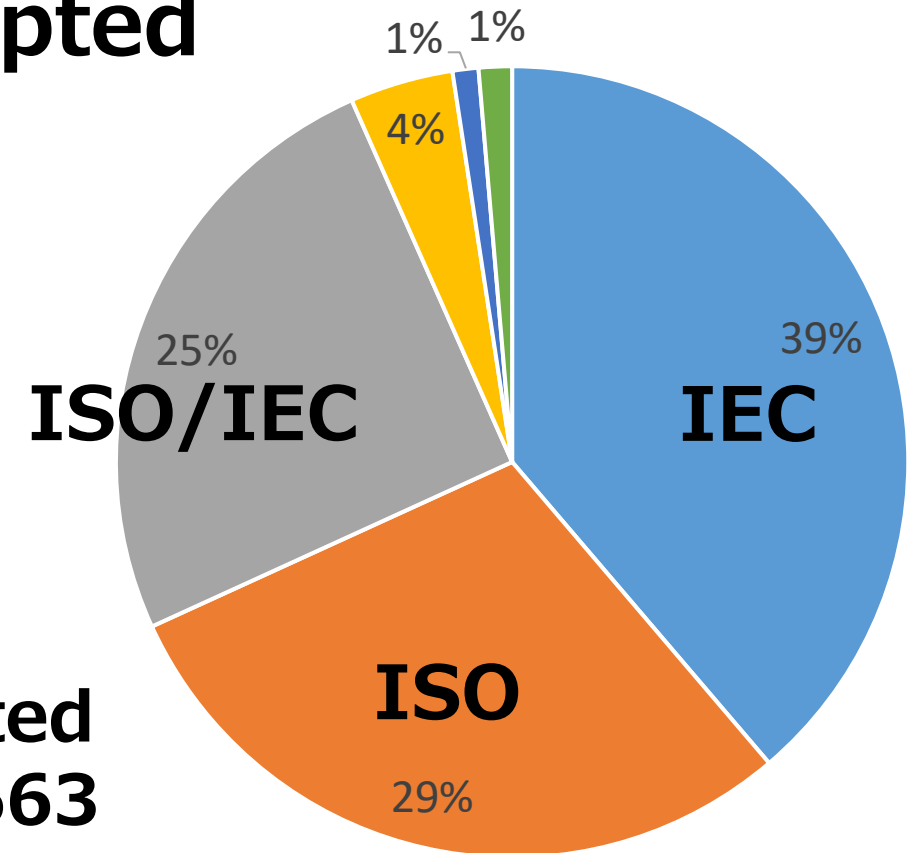
Industry to industry, Nation to nation, Person to person, ...

- **Draw future images together, and share**

- **Identify requirements for realizing them**

Standards, Regulations, Technologies, ...

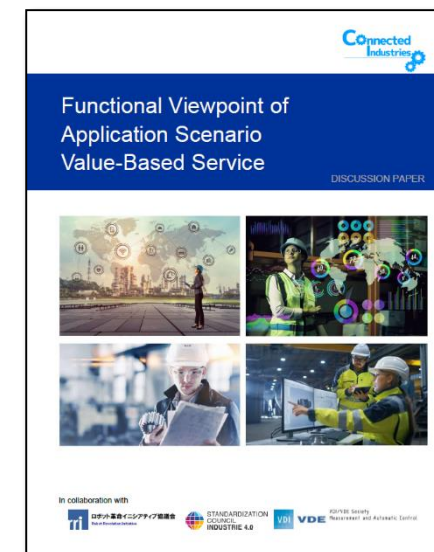
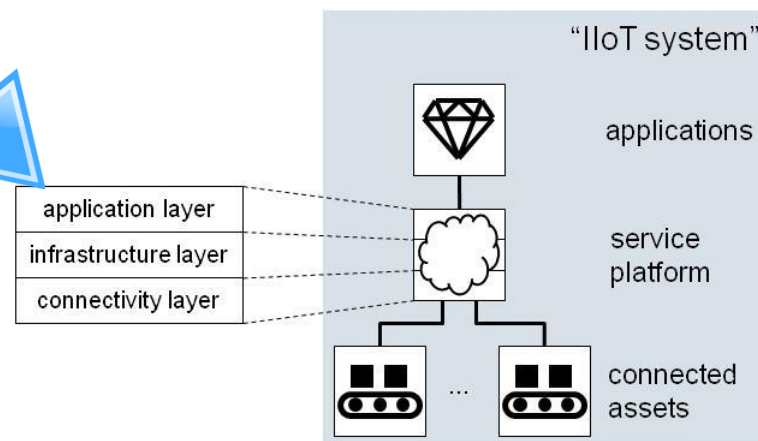
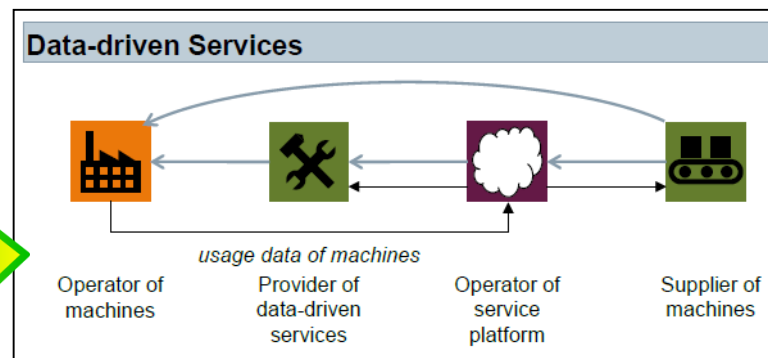
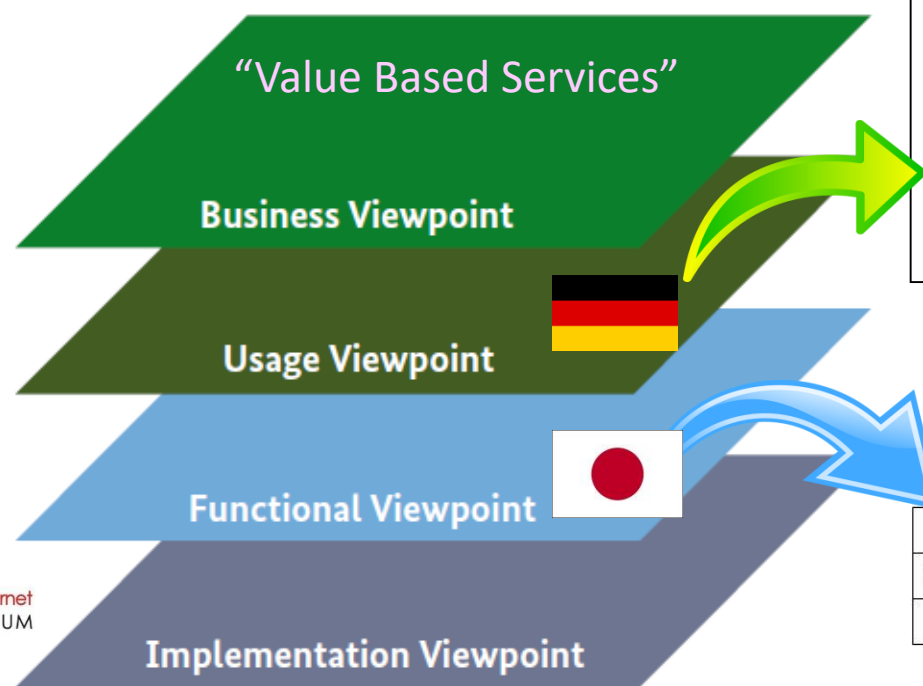
- IEC Systems Committee on Smart Manufacturing is about to start deliberation from Nov., 2018
- Systems approach will be adopted
- Drawing future images is the key method



**Existing related
standards : 663**

Drawing of future images (w/ Germany)

A **Use Case of Value-Based Services**, is chosen for explaining a future image. German experts issued a joint paper from “Usage Viewpoint” and Japanese experts issued one from “Functional Viewpoint” on 24th, Apr., 2018 in Hannover Messe.



Structure of today's symposium



DEUTSCHE AKADEMIE DER
TECHNIKWISSENSCHAFTEN



Federal Ministry
for Economic Affairs
and Energy



UNIST
Ulsan National Institute of
Science and Technology



ロボット革命イニシアティブ協議会
Robot Revolution & Industrial IoT Initiative



経済産業省
Ministry of Economy, Trade and Industry

**Business Future images of
Manufacturing and Service with
IIoT**

**Harmonizing Smart
Manufacturing Standards with
Future Images, including
Industrial Security**