# Robotics Blueprint activity based on SSES (Sensor-Rich Soft End-Effector System)

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# Vision

› Robotics can contribute to achievement of SDGs


Robotics

Contribution


SDGs

【https://www.mofa.go.jp/policy/oda/sdgs/pdf/Japans_Effort_for_Achieving_the_SDGs.pdf】

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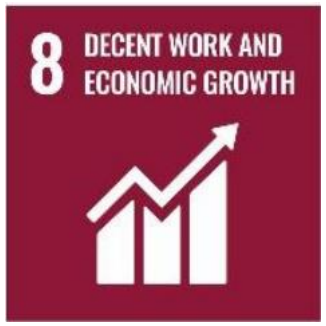
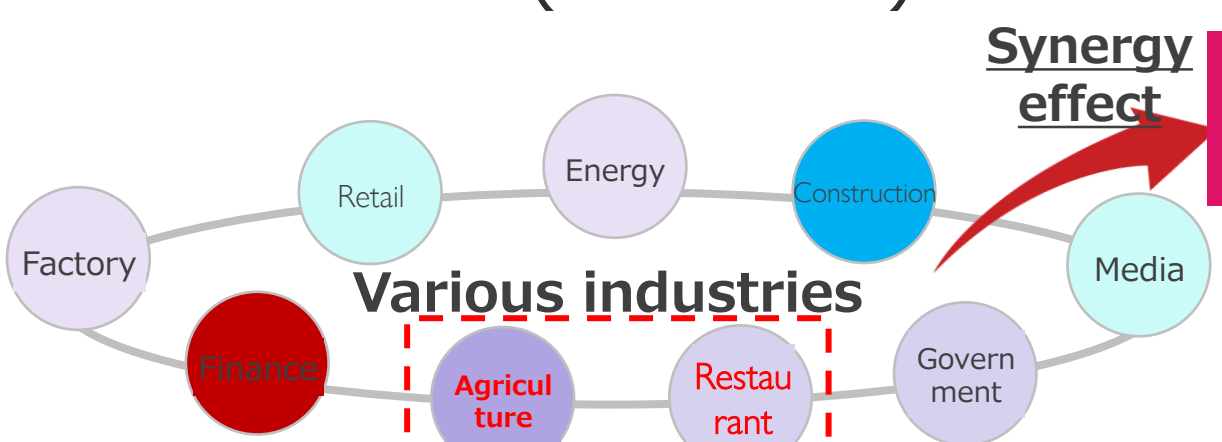
# How to contribute SDGs

- Build robotics platform (SDGs #9)
- Apply to various industries (SDGs #8)

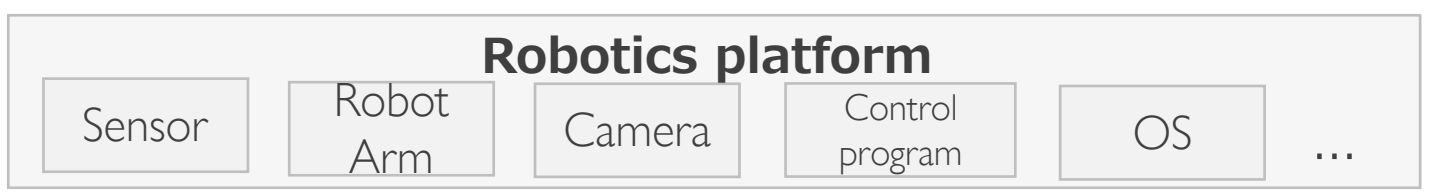








**However,**
**difficult to apply to several industries**

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# SIP and SSES

## › SSES is one of theme in SIP (Cross-ministerial Strategic Innovation Promotion Program)

### Features of SIP

- Cross-ministerial efforts through industry, academia and government cooperation.
- Focused, end-to-end R&D from basic research to practical application and commercialization. Utilize results in reform of regulations and/or systems, special wards, government procurement, etc. Significant for international standardization.
- Intellectual property management system facilitating strategic corporate use of R&D outcomes.
- 11 programs were adopted for the 1st term (2014-2018), and 12 new programs for the 2nd term (2018-2022).
- 28 billion yen is allocated as budget per year to all programs in total.

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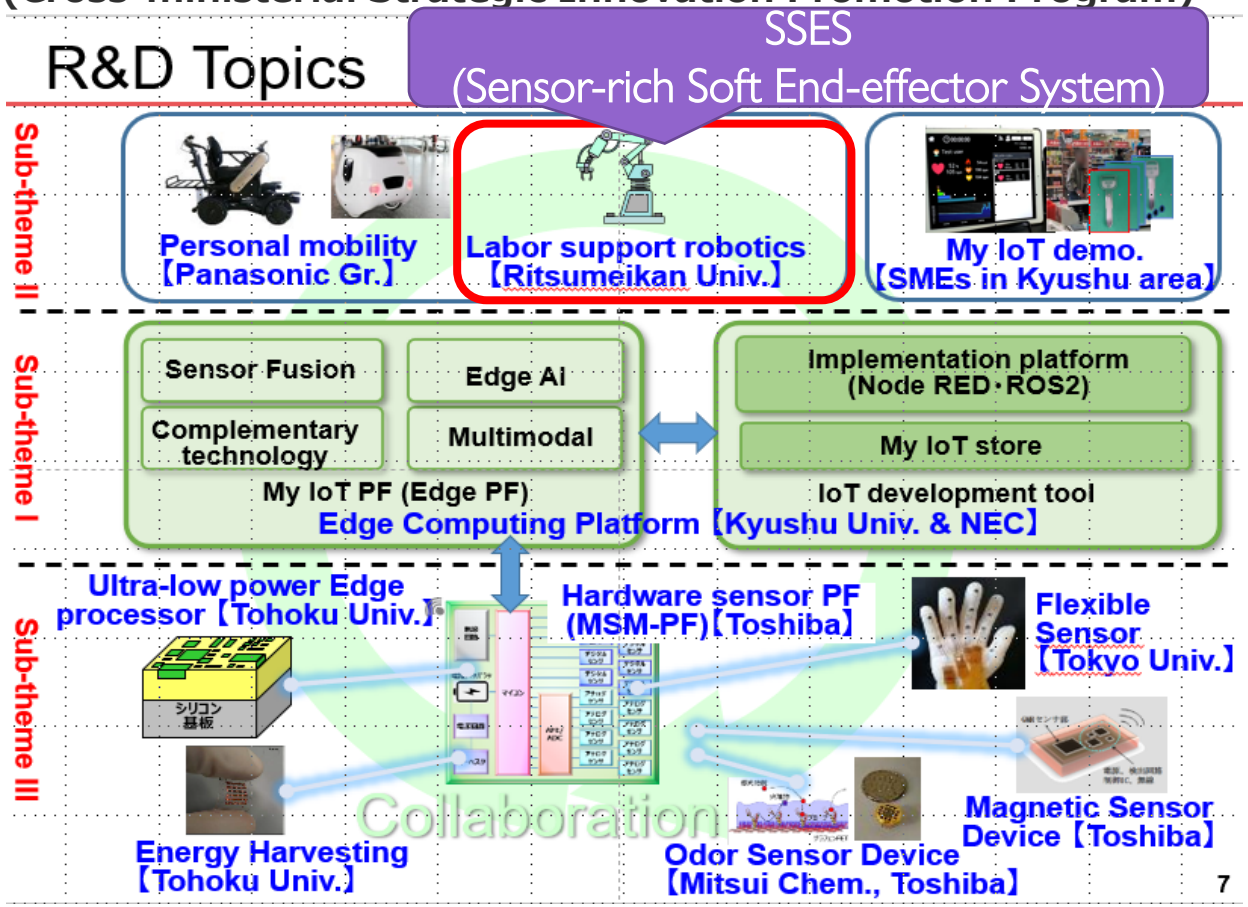
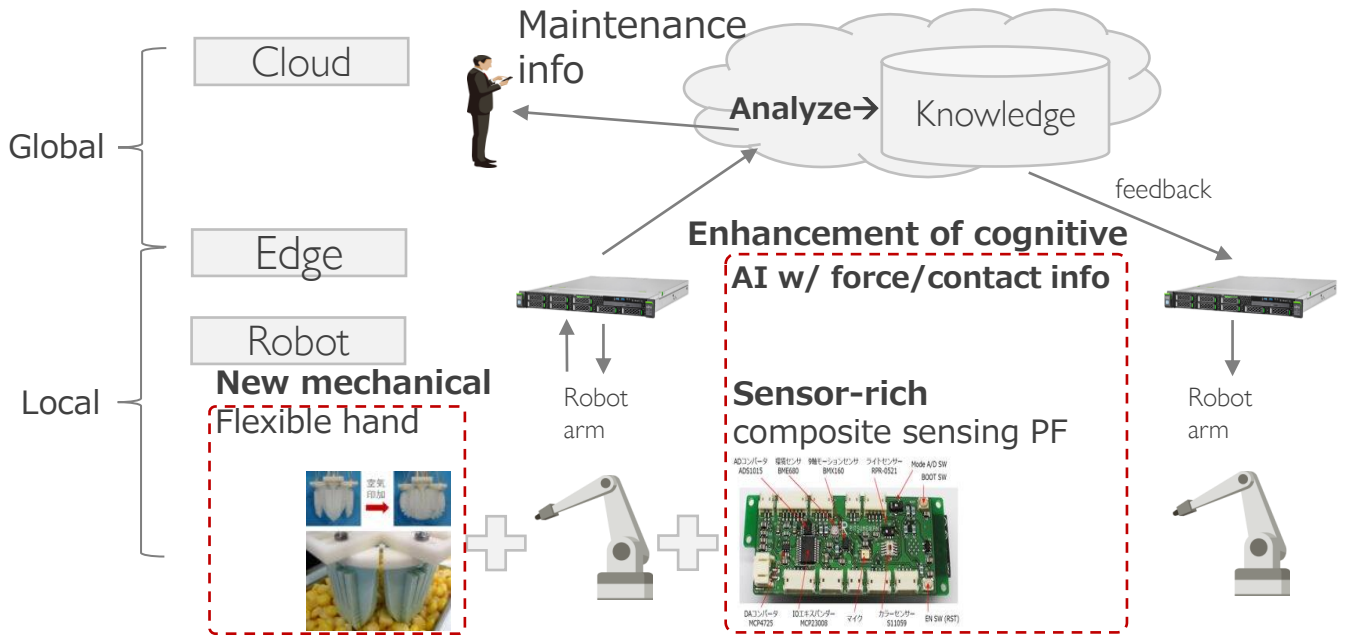



"Introduction of SIP. Dr Saso, in 09/15/2021 Akraino IoT Area webinar"

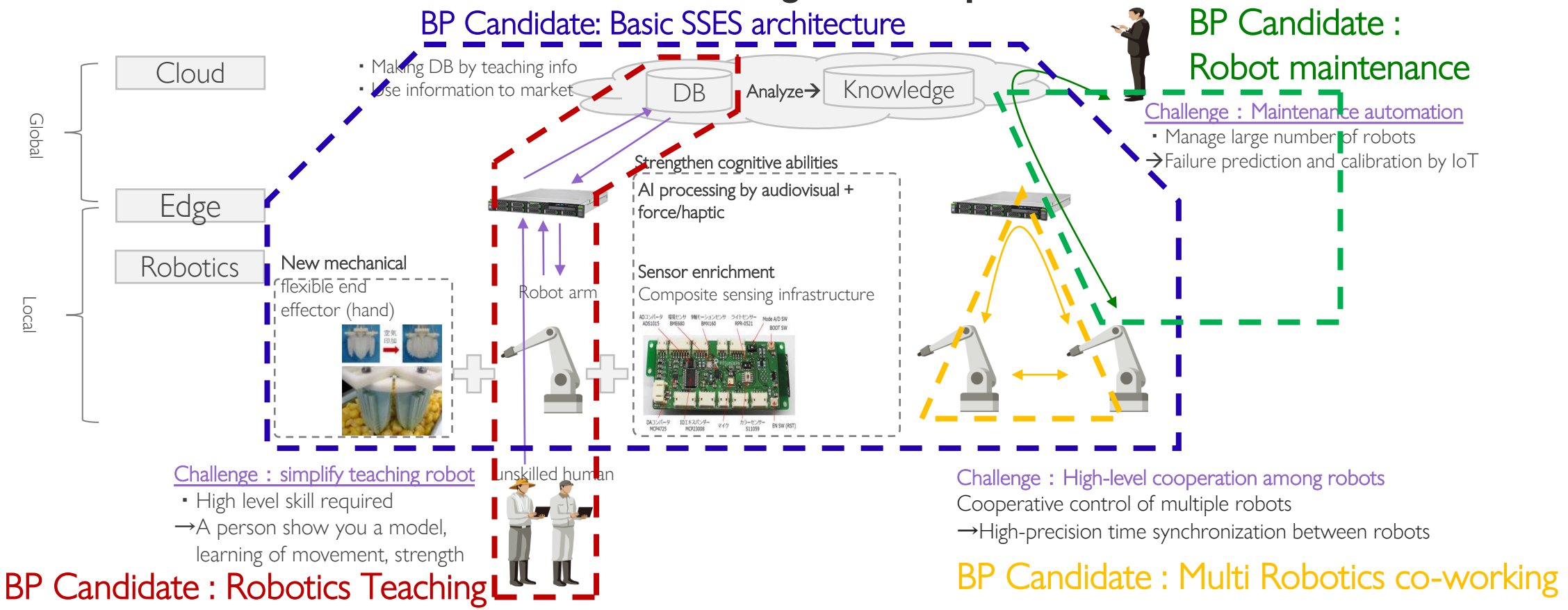
# Robotics PF(SSES) overview

- **Background : Difficult to apply current robots**
  - High-mix small-lot production
  - Objects with diverse shapes, flexibility, and frictional properties
  - Uncertain environment
- **SSES Approach**
  - Enhancement of cognitive ability
    - Sensor-rich technology for multi-dimensional data acquisition
    - AI/IoT technology with force/contact information
    - IoT maintenance and inspection technology
  - New Mechanical
    - Flexible hands by Polymer Materials
    - Advanced 3D printing technology



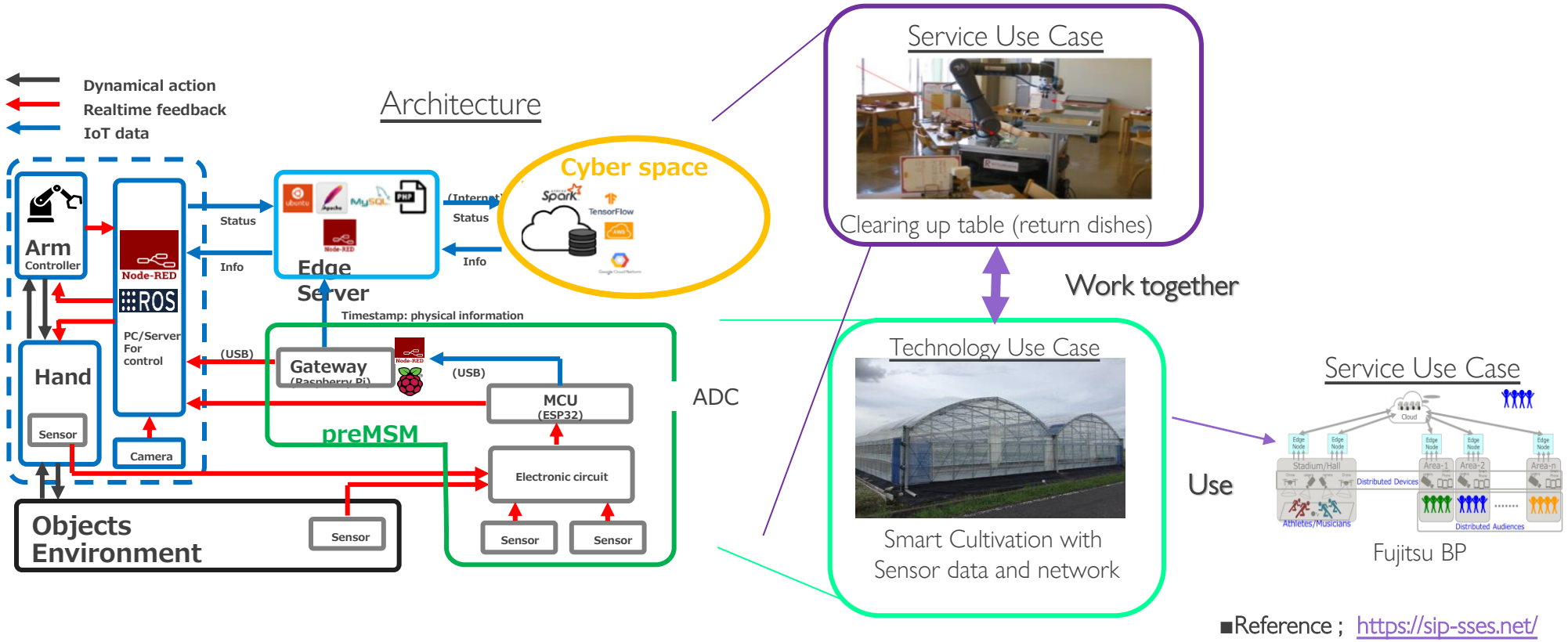
# BP candidate for robotics infrastructure (SSES)

- **There are challenges in promoting SSES robotics.**
- **Would like to discuss solution for these challenge as Blueprint candidate in Akraino**



# Blueprint Concept about SSES basic architecture

› As first step, we will propose to launch Blue Print families with RITSUMEIKAN's and their partner's technologies




■Reference ; https://sip-sses.net/

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# Plan about Robotics BP family Incubation

- Dec.7 Presentation about robotics BP family and SSES basic architecture Blueprint in TSC
- Dec.8~15 P-SC review
- Dec. 16 TSC vote

- Welcome participants
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# Thanks