

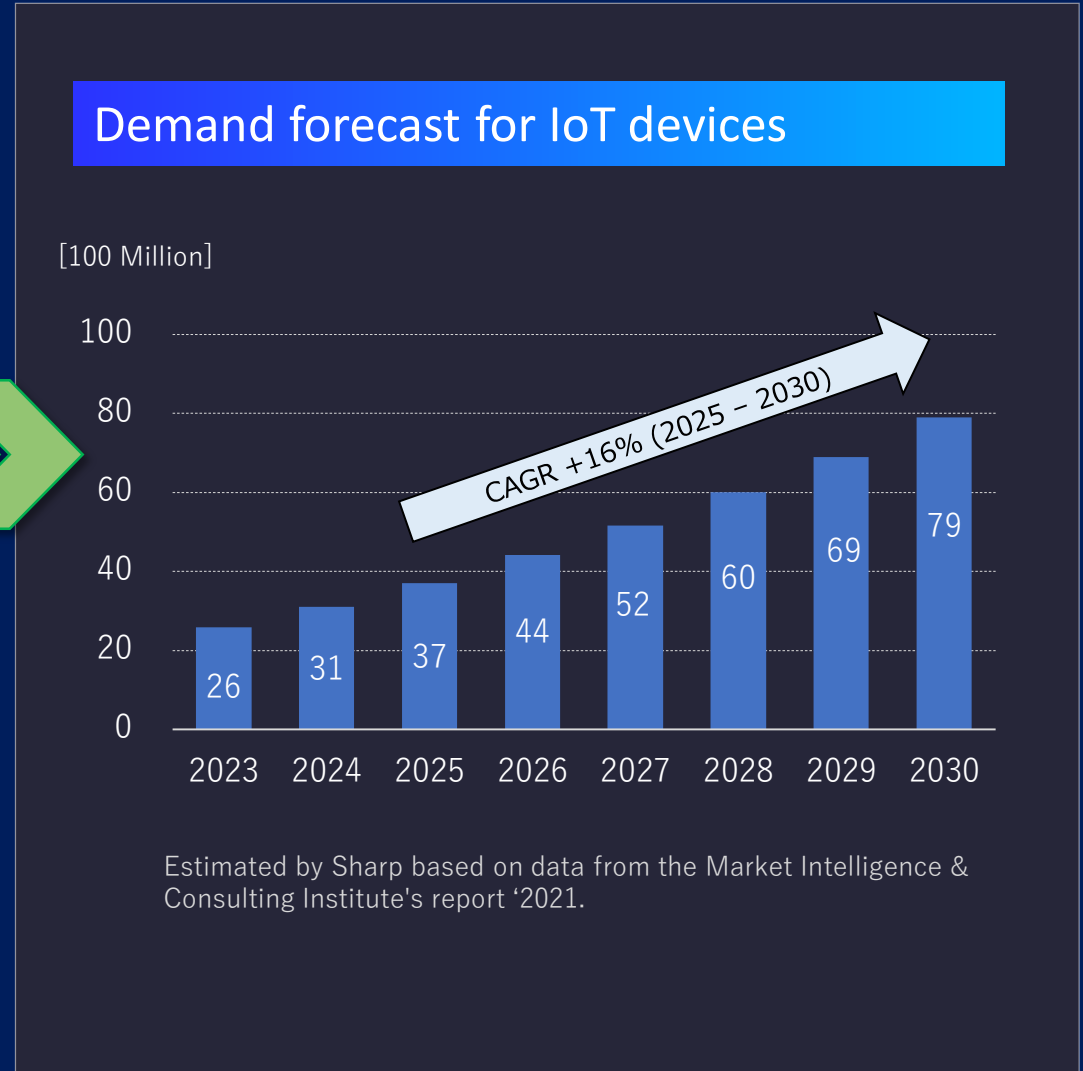
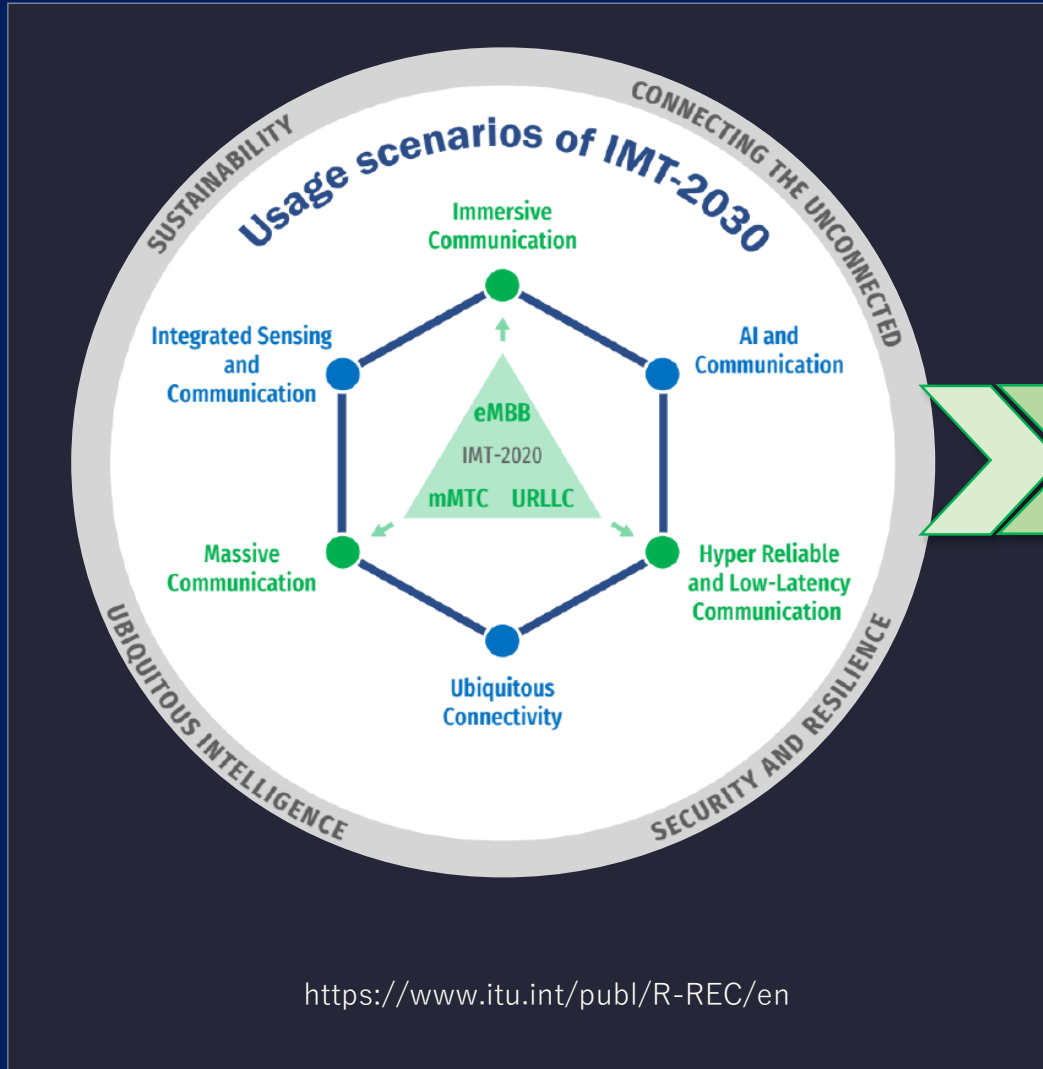
Expectations for Beyond 5G in an AI society

SHARP CORPORATION

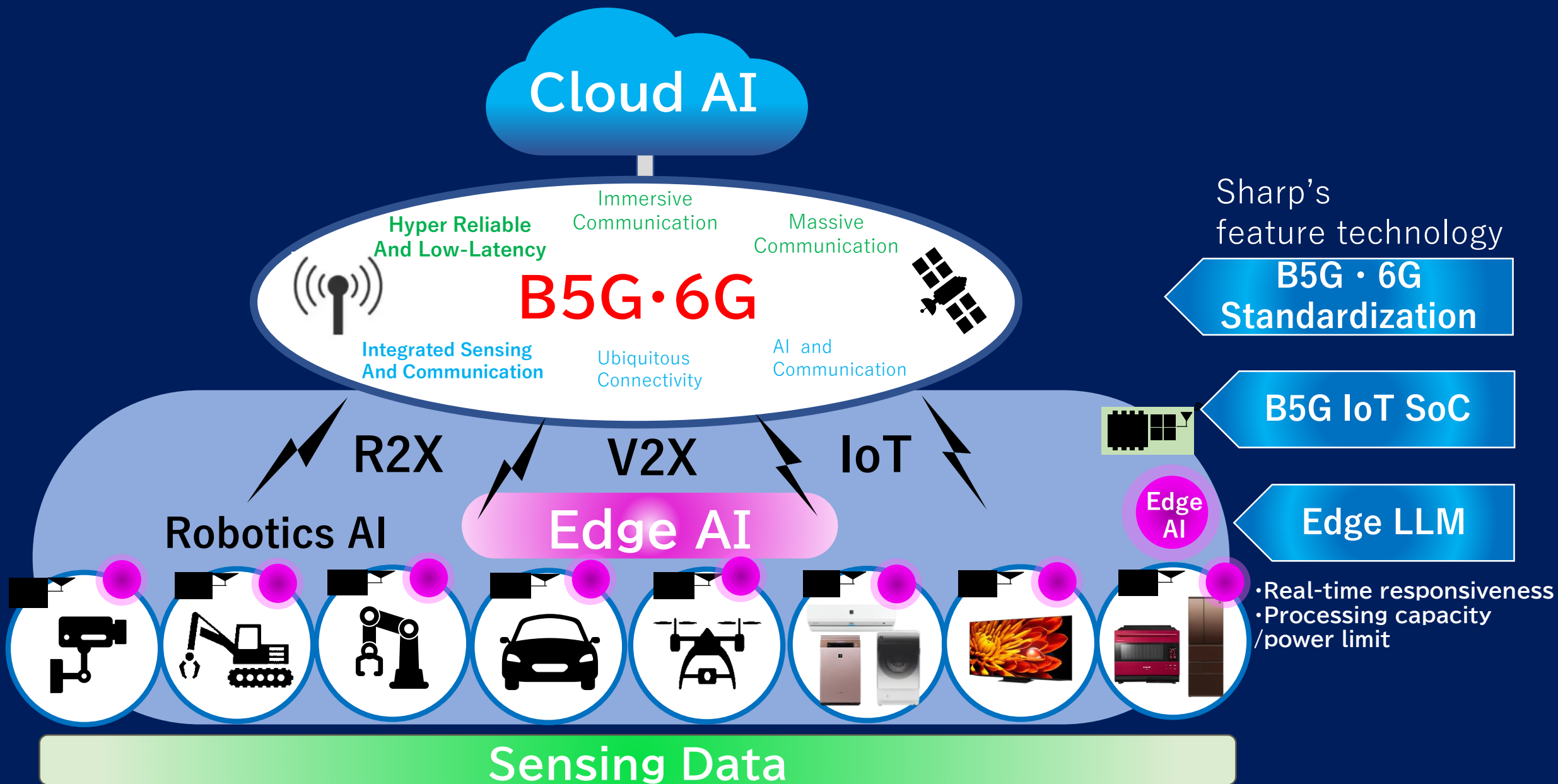
Mototaka TANEYA

**EXECUTIVE MANAGING OFFICER
CHIEF TECHNICAL OFFICER, HEAD OF R&D**

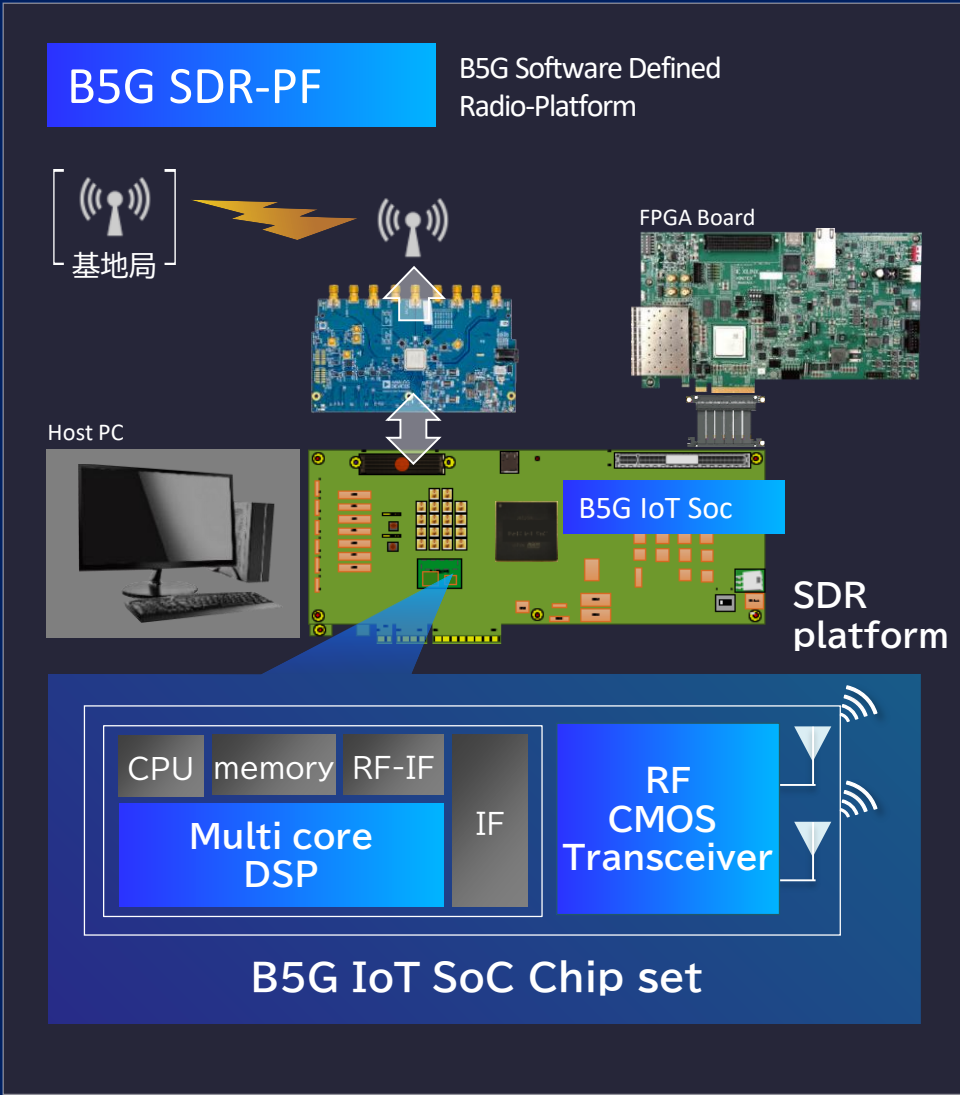
- ◆ **Expansion of usage scenario**
- ◆ **Sharp's approach to Beyond5G**
 - [1] **Research and development of SoC for IoT communication in Beyond 5G era**
 - [2] **Research and development of Robotics AI in Beyond 5G era**
 - [3] **Research and development of V2X in Beyond 5G era**
 - [4] **Sharp's Standardization Activities and Standard Essential Patent related to 4G/5G**
- ◆ **To further accelerate efforts toward Beyond 5G**



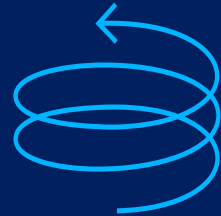
Sharp's approach to Beyond 5G



[1] Research and development of SoC for IoT communication in Beyond 5G era

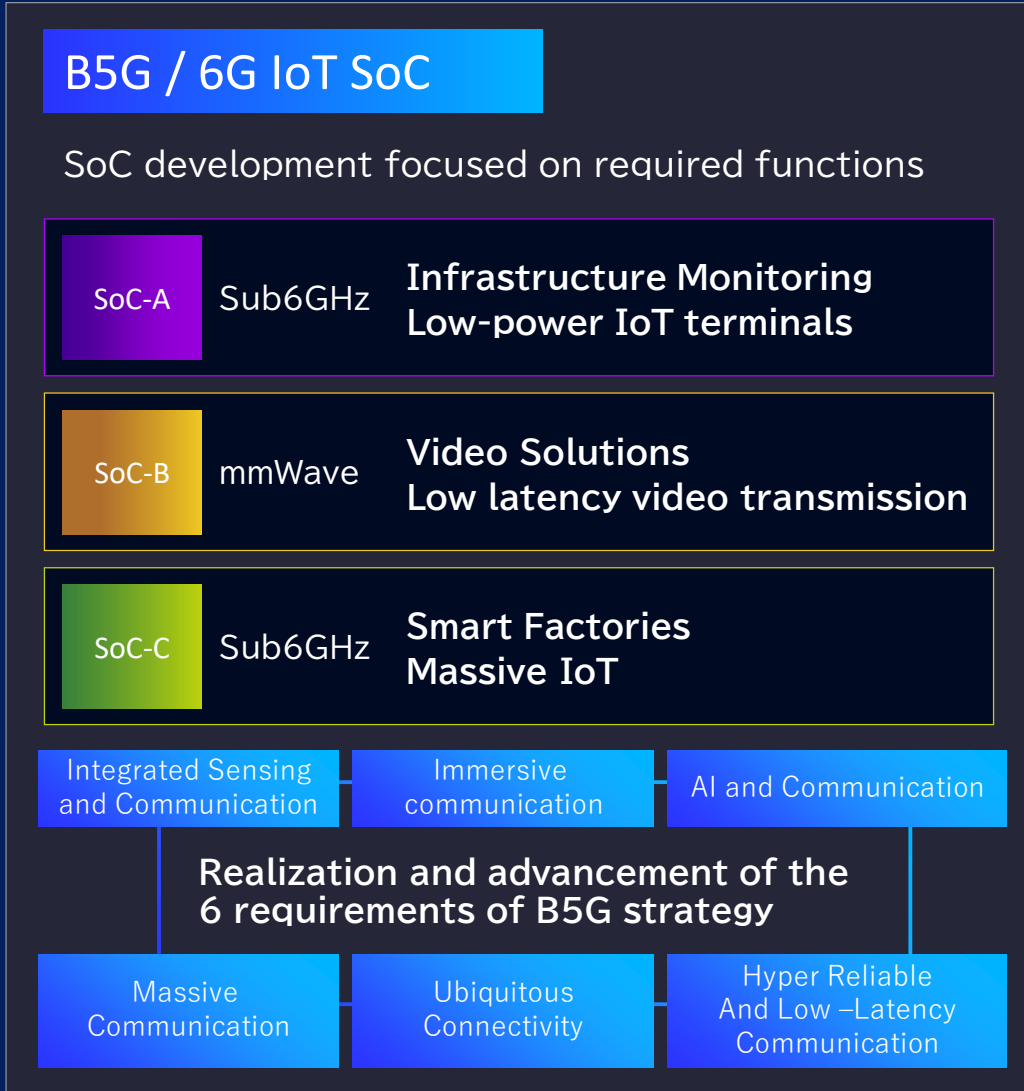


Helical evolution of SoC



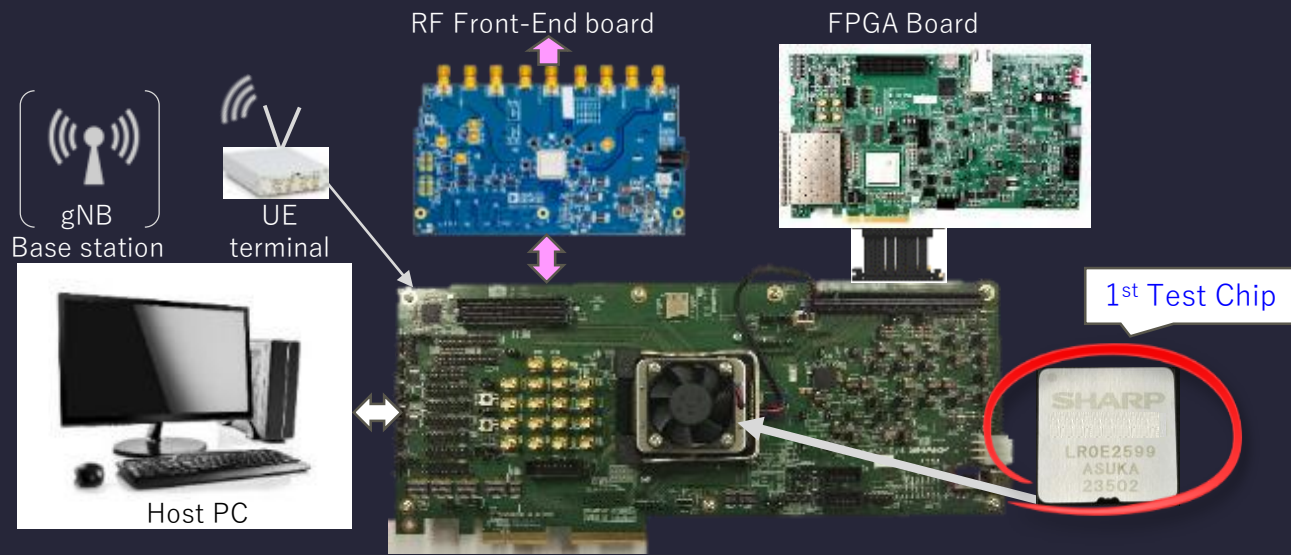
Optimize functionality For each use case

Ex) Customized processing of cell search or handover for low latency and low power consumption of L5G



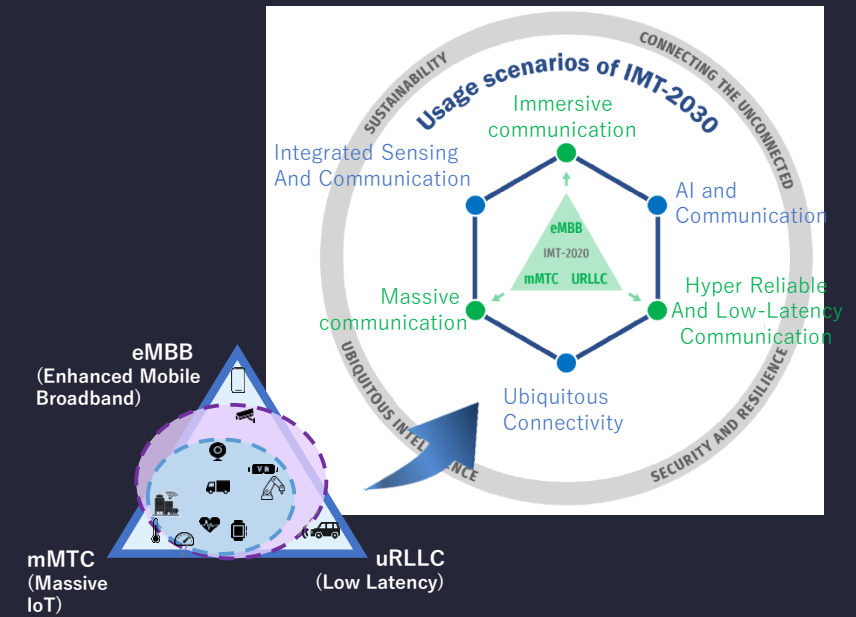
[1] Research and development of SoC for IoT communication in Beyond 5G era

R&D deliverables



UE and base station can be reorganized by SDR Platform at the same time.

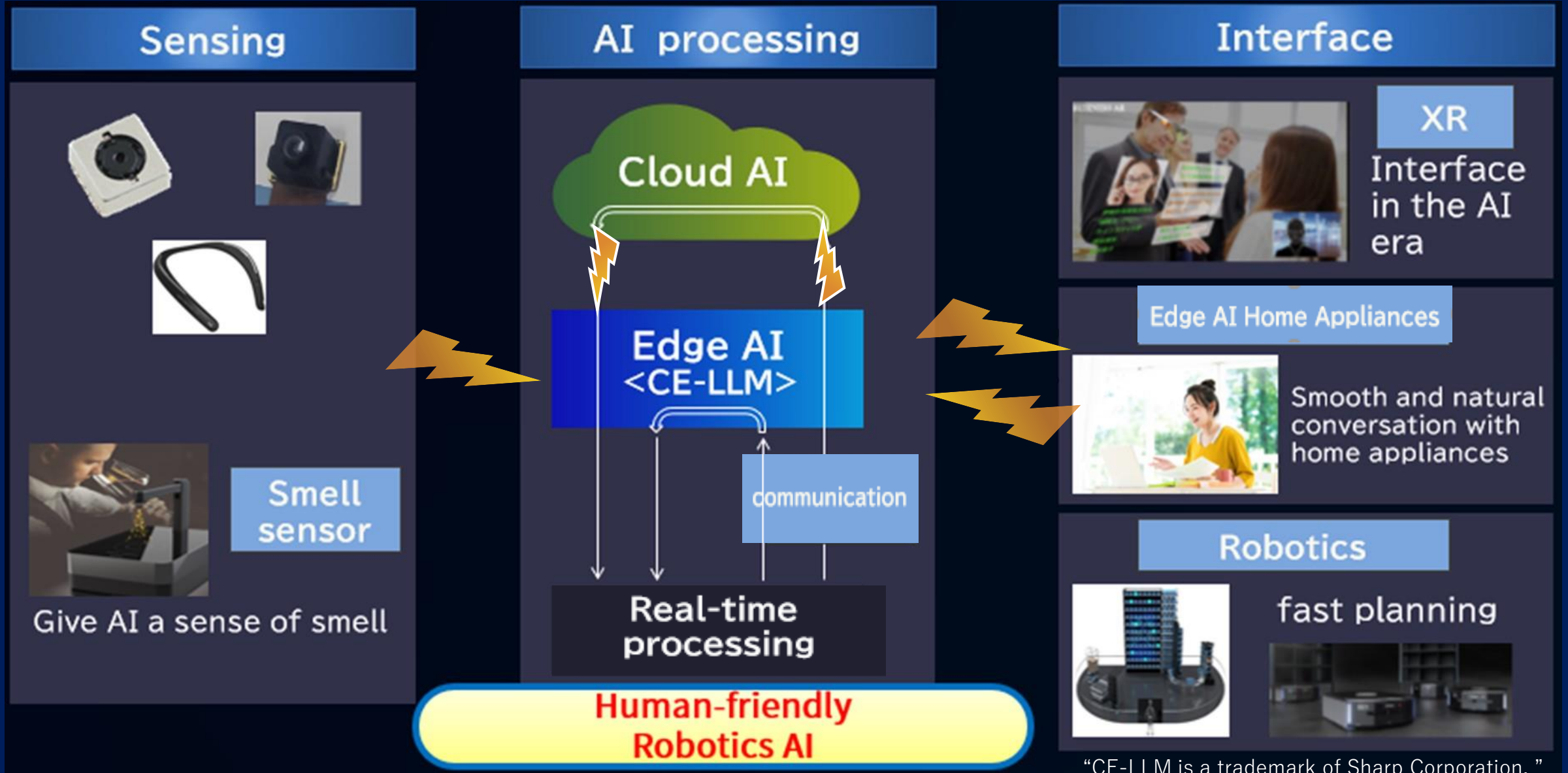
Expansion of usage scenario



Various requirements of connectivity

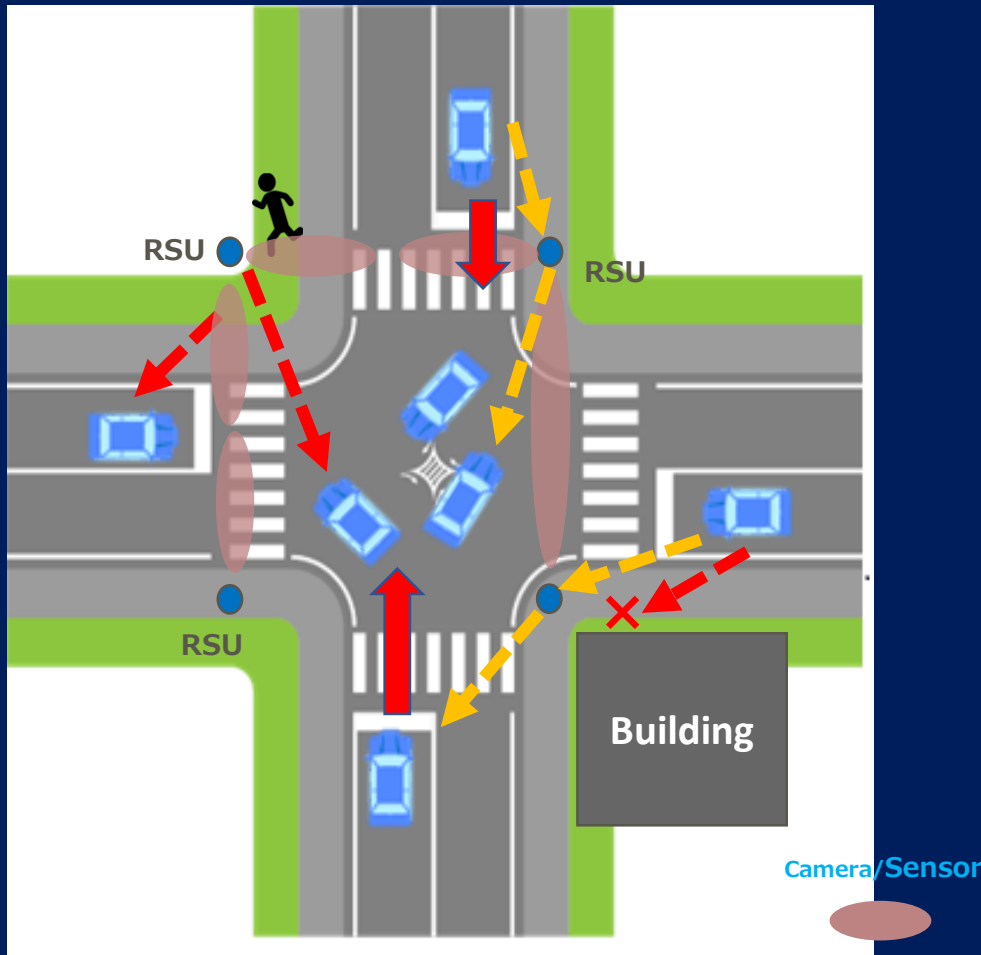
- Non-Smartphone
- Increasing number of terminals
- Real Time

[2] Research and development of Robotics AI in Beyond 5G era



"CE-LLM is a trademark of Sharp Corporation."

V2X communication technologies for collective perception



- Recognized information by road-side unit (RSU) and vehicles are shared with other vehicles
- RSU supports recognition of area not recognized by In-vehicle camera and sensors

Sharp is working on research of real-time and High reliable wireless communication technologies for collective perception

Contribute safety and autonomous driving

[4] Sharp's Standardization Activities and Standard Essential Patent related to 4G/5G

- Sharp established a laboratory in 2003 for the purpose of obtaining Intellectual properties of wireless communication standards
- Participated in the standardization of LTE started by 3GPP in 2004. Since then, Sharp has continued to participate until the standardization of 5G.
- Sharp will expand our activities toward B5G standards



“3 GPP” is a registered trademark of TELECOMMUNICATIONS STANDARDS DEVELOPMENT SOCIETY.”

To further accelerate efforts toward Beyond 5G

