

Changing worlds with you.

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How DOCOMO is Advancing 6G

NTT DOCOMO, INC.



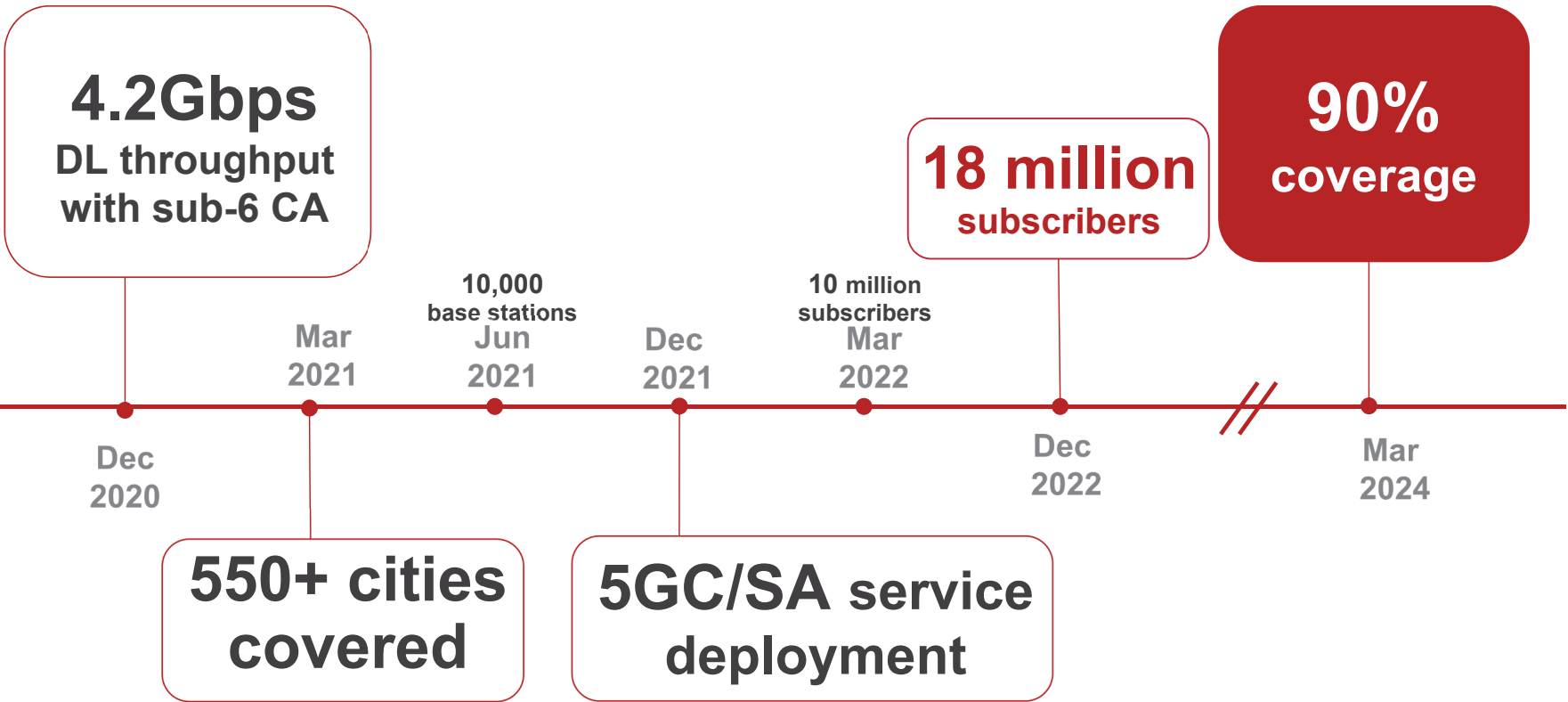
Takehiro Nakamura

Chief Technology Architect
NTT DOCOMO, Inc.

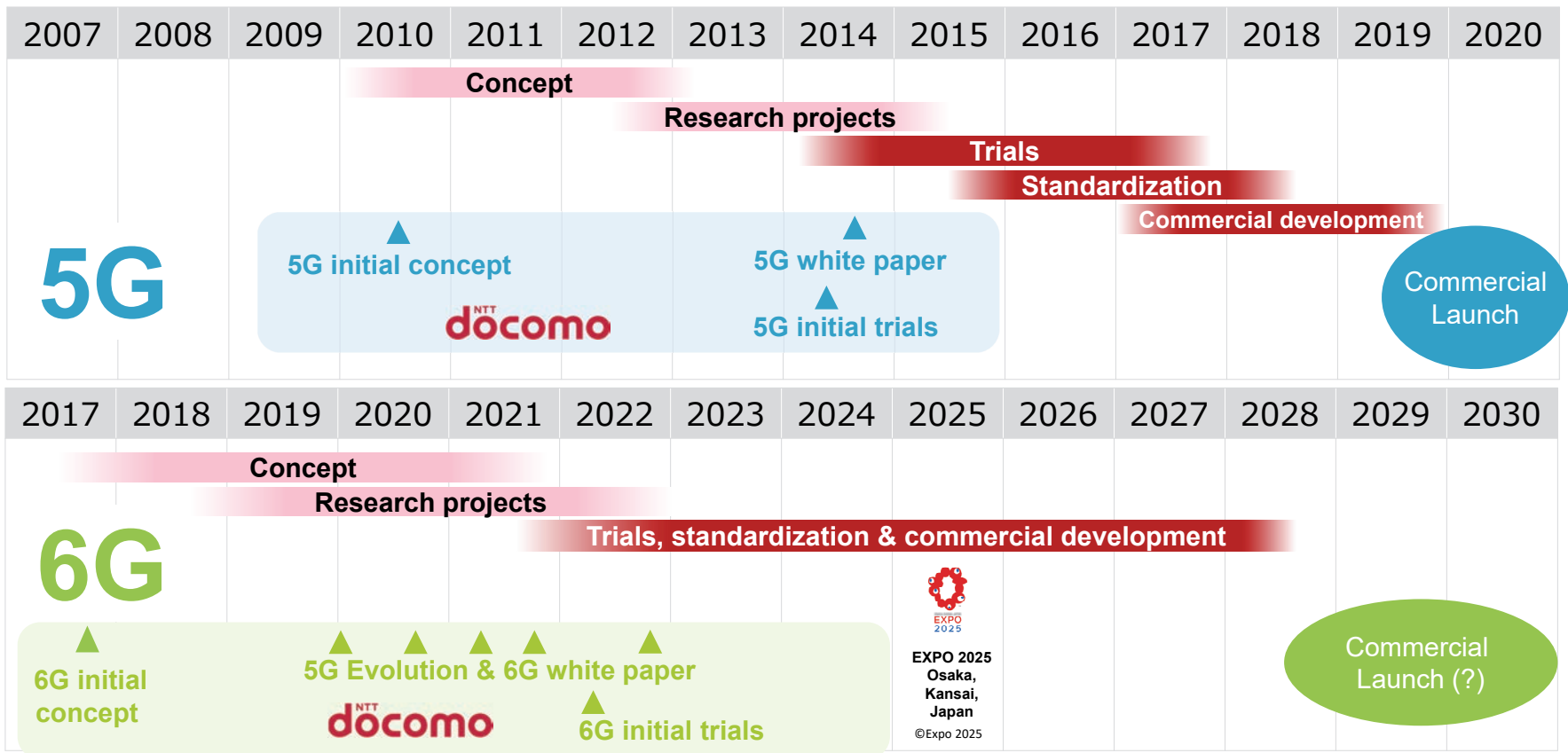
- 1. DOCOMO's 5G and 6G Technologies**
- 2. DOCOMO's 6G Usage Scenarios**

- 1. DOCOMO's 5G and 6G Technologies**
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5G Network Deployments



5G Development and 6G Roadmap



5G Evolution & 6G



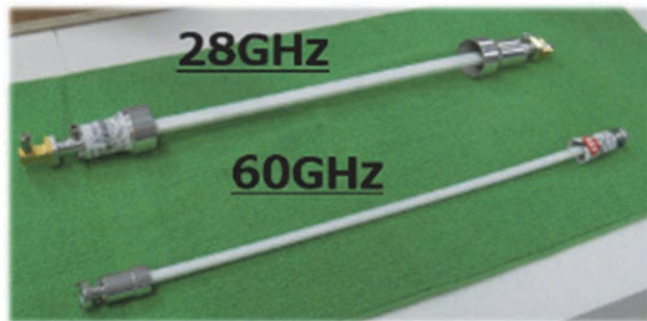
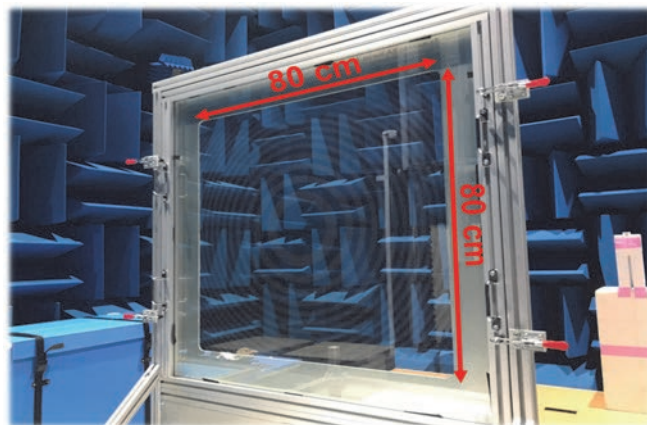


Initiatives to Establish 6G Technologies

Initiatives to Establish 6G Technologies (1/3)

1. Improved coverage with millimeter waves

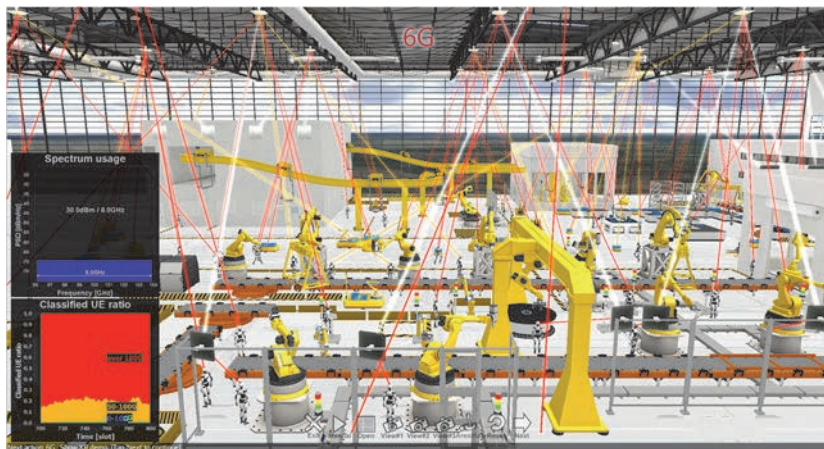
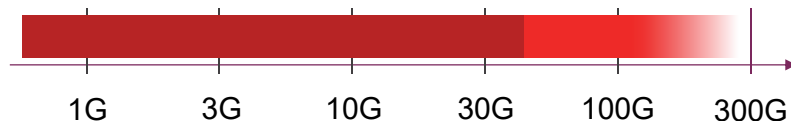
- Metasurface-lens windows
- RIS
- Dielectric wave guides



Initiatives to Establish 6G Technologies (2/3)

2. Sub-terahertz bands

- Radio propagation measurement
- Analog device development
- 6G simulator



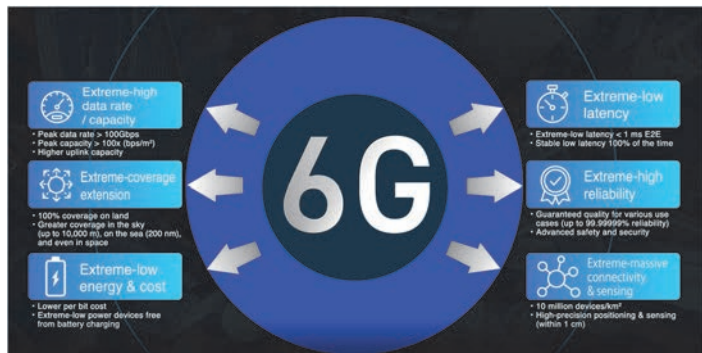
Initiatives to Establish 6G Technologies (3/3)

3. New communication areas

- NTN interworking with TN
- HAPS
- Undersea



Demonstrations of 6G Technologies



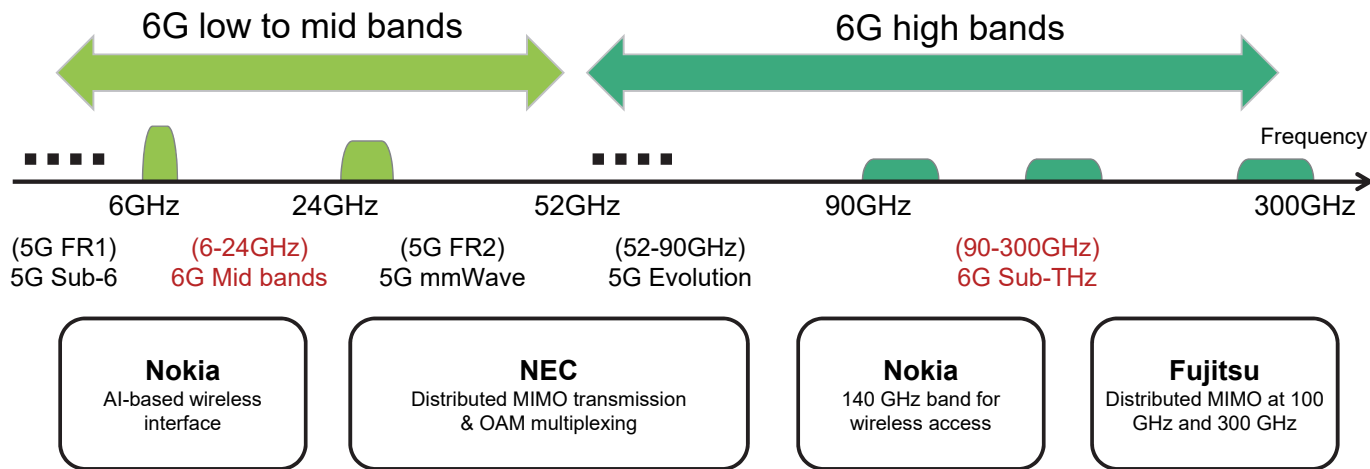
Video of 5G evolution and 6G concepts



6G simulator

6G trials with major vendors

From June 6, 2022



Starting February 27, 2023!

Ericsson
Improve frequency utilization efficiency

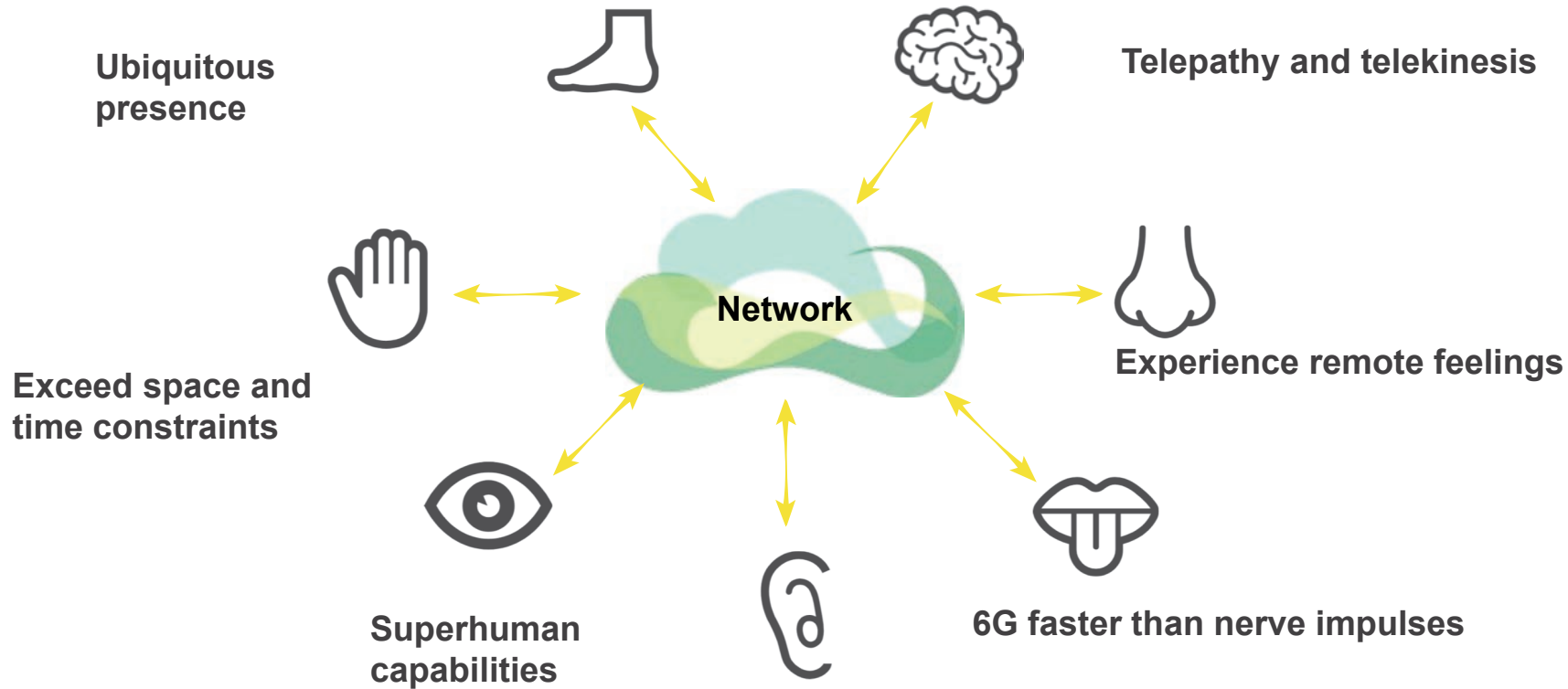
New partners!

Ericsson
100 GHz band wireless transmission

Keysight Technologies
Radio wave propagation measurement for Sub-THz

1. DOCOMO's 5G and 6G Technology
- 2. DOCOMO's 6G Usage Scenarios**

Human Augmentation Via 6G Networks



Human Augmentation Platform

Sensing

Myoelectricity

Arm and leg movements



Replicated movement

Gripping force



Haptics

Vibration data



Platform

Human Augmentation Platform

Register sensor data

Reproduce sensor data

Interconnectivity

Database

Physical data

Mapping information

Sensor data

Operational data

Applications

Robots



Control robot

Myoelectricity



Motion sharing

Replicated movement



Learn to play instruments

Embodied knowledge



Haptic sharing

Demonstrations of Human Augmentation

Motion Sharing (Learning instruments)



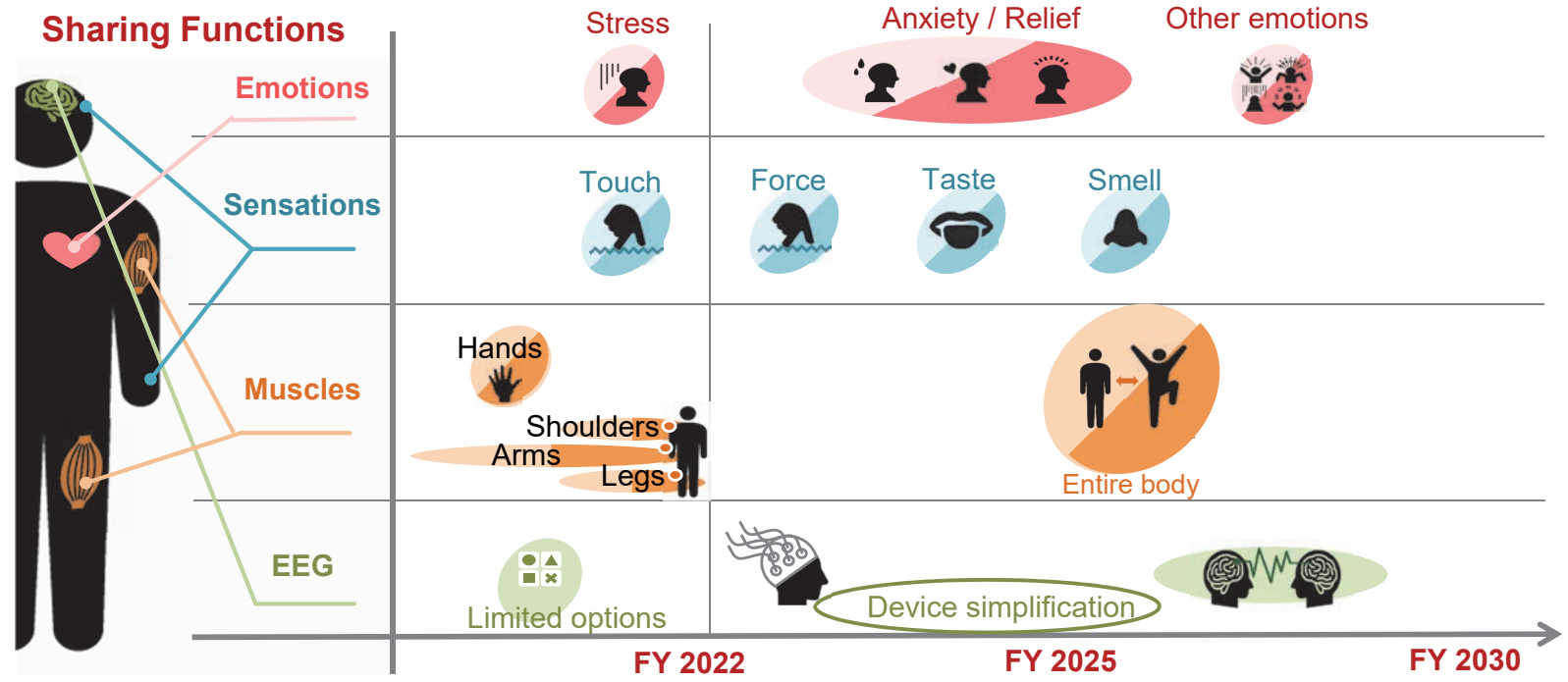
Tea Whisking Robot



FEEL TECH



Human Augmentation Platform Initiatives



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