

Murata's wireless sensor solution update

Global MBB Forum

25/Nov/2016

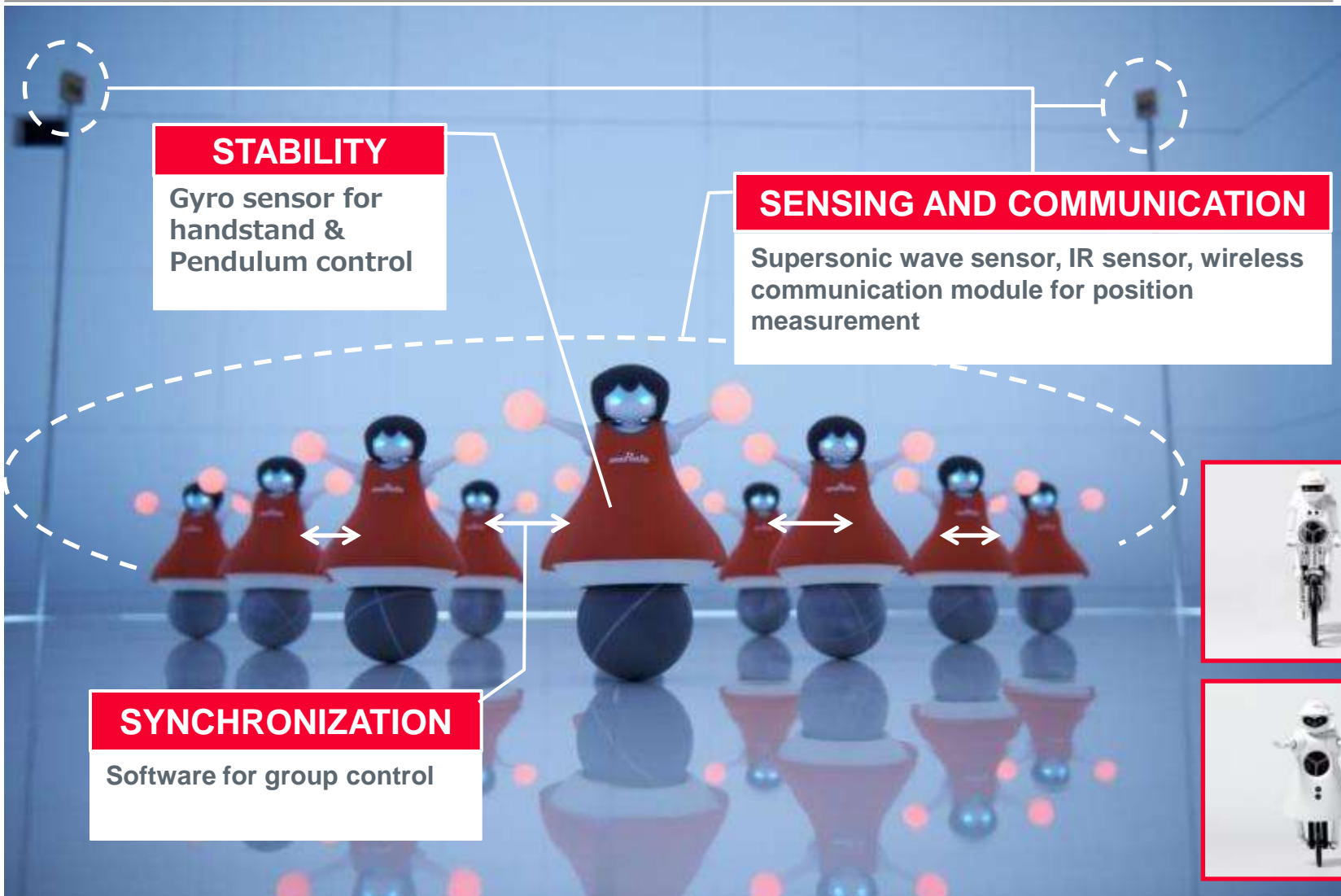
Communication business unit



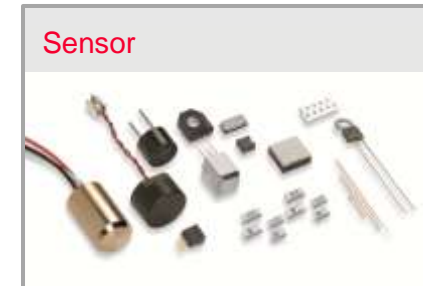


- Hello !!! We are Murata Mfg.
- Image for IoT world,
and Murata's solution products
- Expectation for NB-IoT
- NB-IoT solution idea (under development)

Murata Cheerleaders



Main products





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- **Connecting solution**
 - Wireless module and software
 - electrical components for IoT devices



- **Sensing solution**
Sensor devices and algorithm

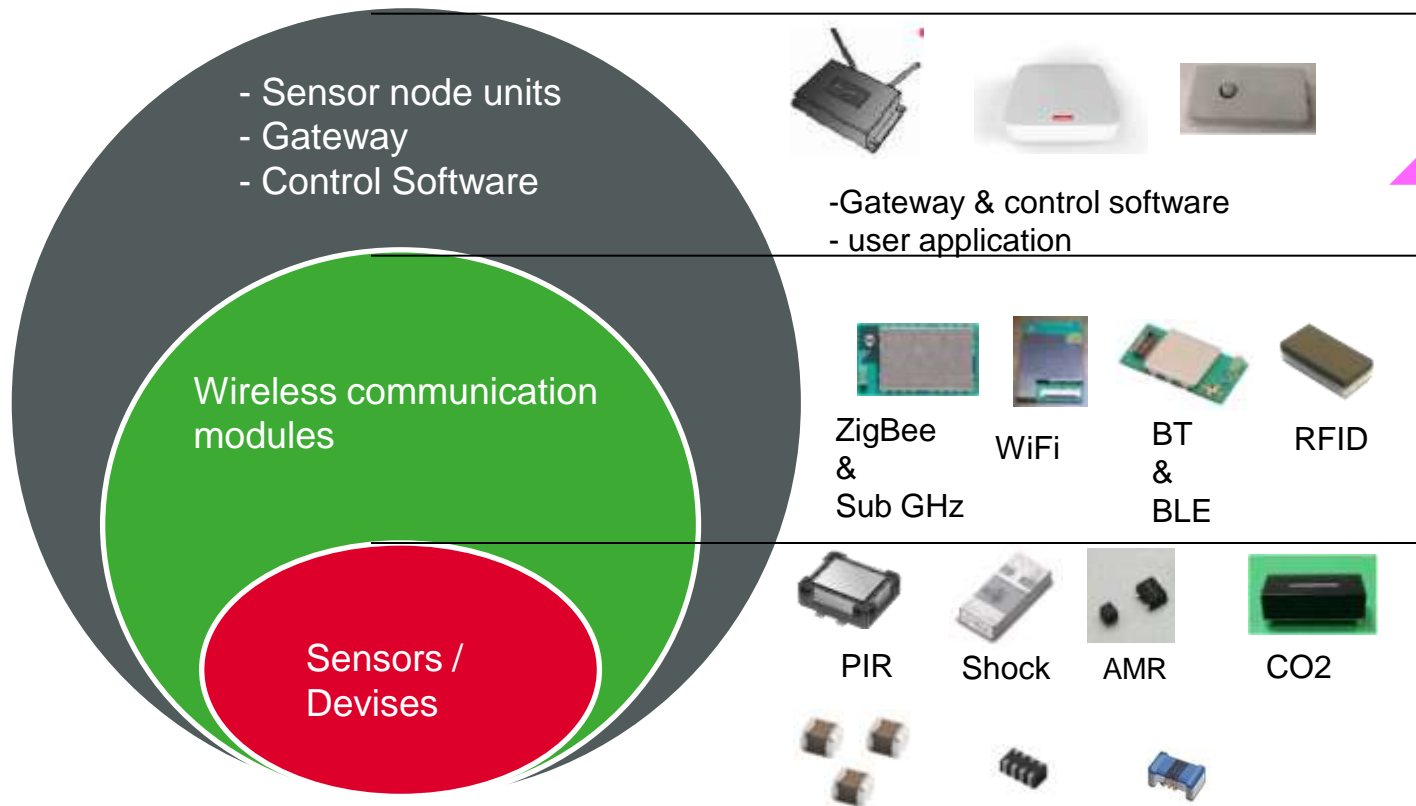


Wireless communication modules

	BLE-Mesh	2.4G-ZigBee	ISA100.11a Wireless	Sub GHz-Mesh	LoRa	SigFox	NB-IoT
							
Frequency	2.4GHz	2.4GHz	2.4GHz	900MHz	900MHz or region variant	900MHz	Cellular Low band
Modulation	FHSS AFH	QPSK	O-QPSK	FSK	GFSK	BPSK	QPSK, BPSK
Speed	1Mbps	250kbps	250kbps	10-400kbps	100bps	300 - 50kbps (UL)	150kbps
Distance	~50m	10~20m	10~100m	~50m	2-5km(urban), 11km(sub)	13km	15km
Network topology	P2P, Star	P2P, Star, Tree, Mesh	P2P, Star	P2P, Star, Tree, Mesh	P2P, Star	P2P, Star	P2P, Star
IC supplier (ie.)	C, T, B, Q, N, S	T, E, F, N, S	A, S, T, R	L, A, T, R	S, L	S, A	H, Q
Feature	Low power consumption	Mesh network	Industrial	Low power mesh network	Under development		



Proposal for customer needs and speed.



Smart lighting system (wireless control)






Murata supports lighting company with

- Gateway controller
- Wireless modules and power supply for LED
- Embedded control software





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Item	Features
<p>MP</p> <p>CO₂ sensor for agriculture</p> 	<ul style="list-style-type: none">> No case> 67.0 x 92.0 x 20.0 mm> DC/AC24V, DC12V input> Analog 1-5V output
<p>CO₂ sensor with cable for agriculture</p> 	<ul style="list-style-type: none">> Cable and case combined> 80.0 x 125.0 x 32.0 mm (without cable GND)> DC/AC24V, DC12V input> Analog 1-5V output
<p>Under development</p> <p>Air duct CO₂ sensor for BEMS</p>  <p>Probe for air duct</p>	<ul style="list-style-type: none">> Probe and case combined> DC/AC24V, DC12V input> Analog 1-5V output> MP 2016Q4 – (plan)

Thank you !!!

www.murata.com

