



Company presentation for major business plan
of the Fiscal Year ending March 31, 2015

Our approach to IoT & GNSS solution

CORE CORPORATION

September 9, 2014

This English text is a translation of the Japanese original. The Japanese Original is authoritative.

Business environment

Major financial figures

Major financial figures (FY2010-FY2014)		Results				Plan
		FY2010	FY2011	FY2012	FY2013	FY2014
Sales amount	(1M¥)	20,580	20,629	20,007	19,358	22,000
Operating profit	(1M¥)	908	737	731	333	1,000
Current profit	(1M¥)	1,058	862	754	341	1,000
Net profit	(1M¥)	561	410	514	221	620
Total assets	(1M¥)	14,529	14,458	15,052	14,753	14,980
Net assets	(1M¥)	7,452	7,575	7,916	7,372	7,830
Sales growth		1.3%	0.2%	3.0%	3.2%	13.6%
operating profit on sales		4.4%	3.6%	3.7%	1.7%	5.0%
Return on assets		6.2%	5.1%	4.9%	2.3%	7.3%
Return on equity		7.5%	5.4%	6.5%	3.0%	8.3%
Earning per stock (¥)		39.51	28.85	36.24	16.00	45.39

Common issues which lies in IT service industry



IT service industry is in a transition from labor-intensive business to **knowledge-intensive business**

Aging of the IT engineer

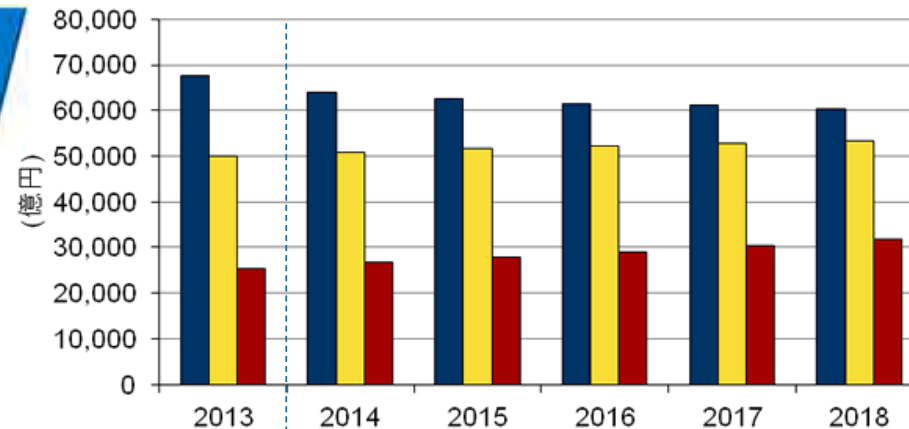
Every IT engineer has to optimize **OSS** and **standardization** for efficient software development.

From ownership (organic system) to use (**cloud service**)

Domestic IT vendors are confronted with **global competition**.

IT service industry at the turning point

Domestic IT market forecast 2013-2018

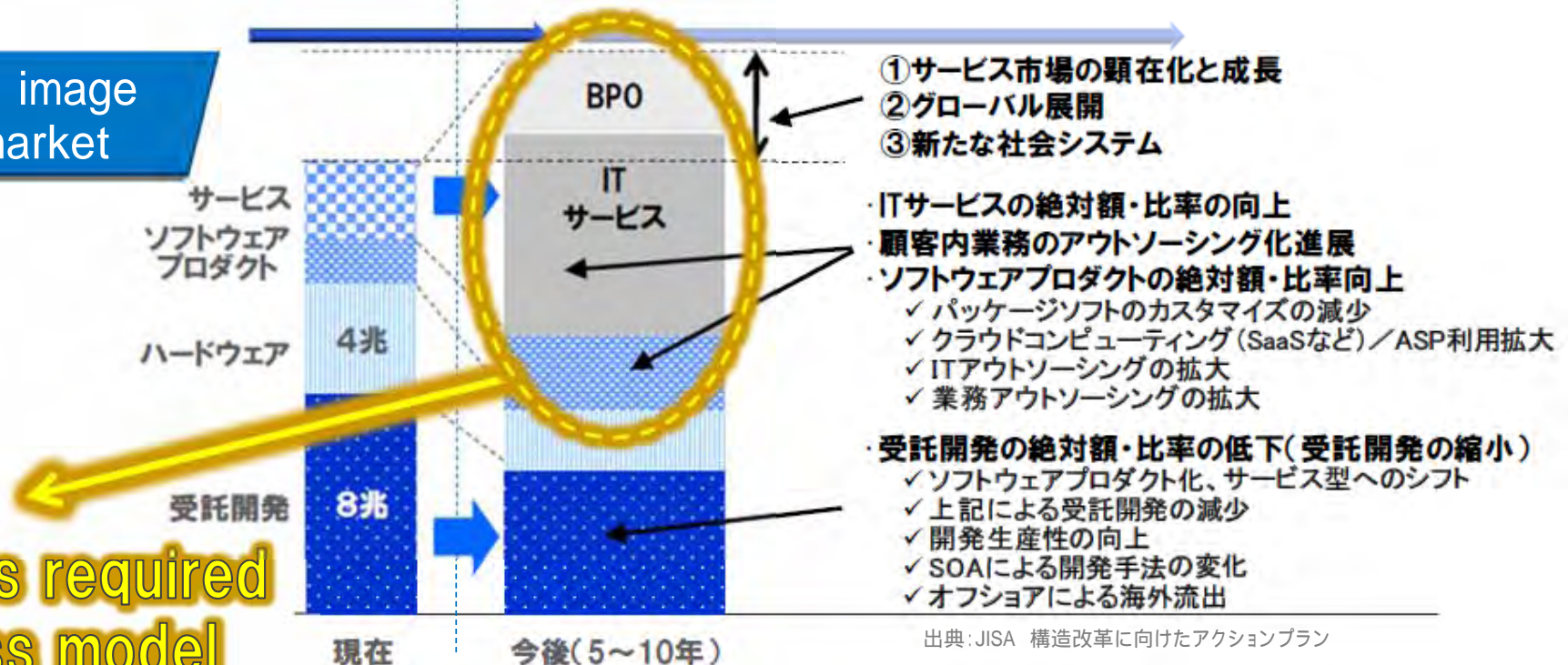


■ Hardware
■ IT service
■ Software

Note: 2013年は実績値、2014年以降は予測
出典: IDC Japan, 5/2014

Existing market is shrinking, structural reform is needed

Structural reform image of IT service market



出典: JISA 構造改革に向けたアクションプラン

Each vendor is required
new business model

Our basic strategy

Linkage strategy (3rd)

FY2015

From product - out to market - out

Sales amount **22** billion (¥)

Operating profit **1** billion (¥)

SI business strategy

Proposal - based business

Target

Medical service,
In - vehicle (ECU, infotainment)

Main product

Proposal - based SI > Software
engineering service

Solution business strategy

Problem solution type business

Target

Government and municipal offices,
Agriculture, Social infrastructure

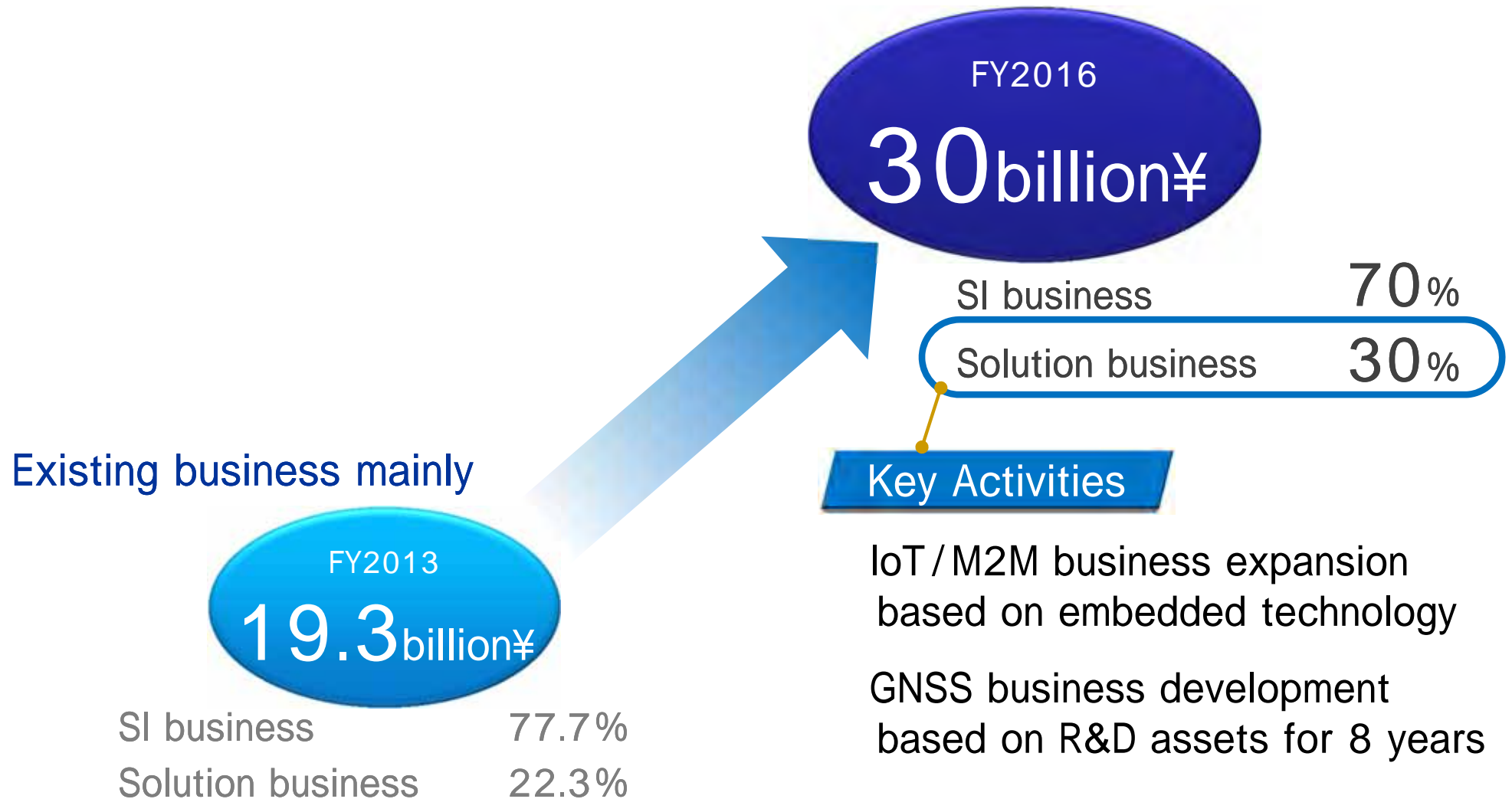
Main product

Cloud service, IoT / M2M, GNSS

The aim of our new business domain

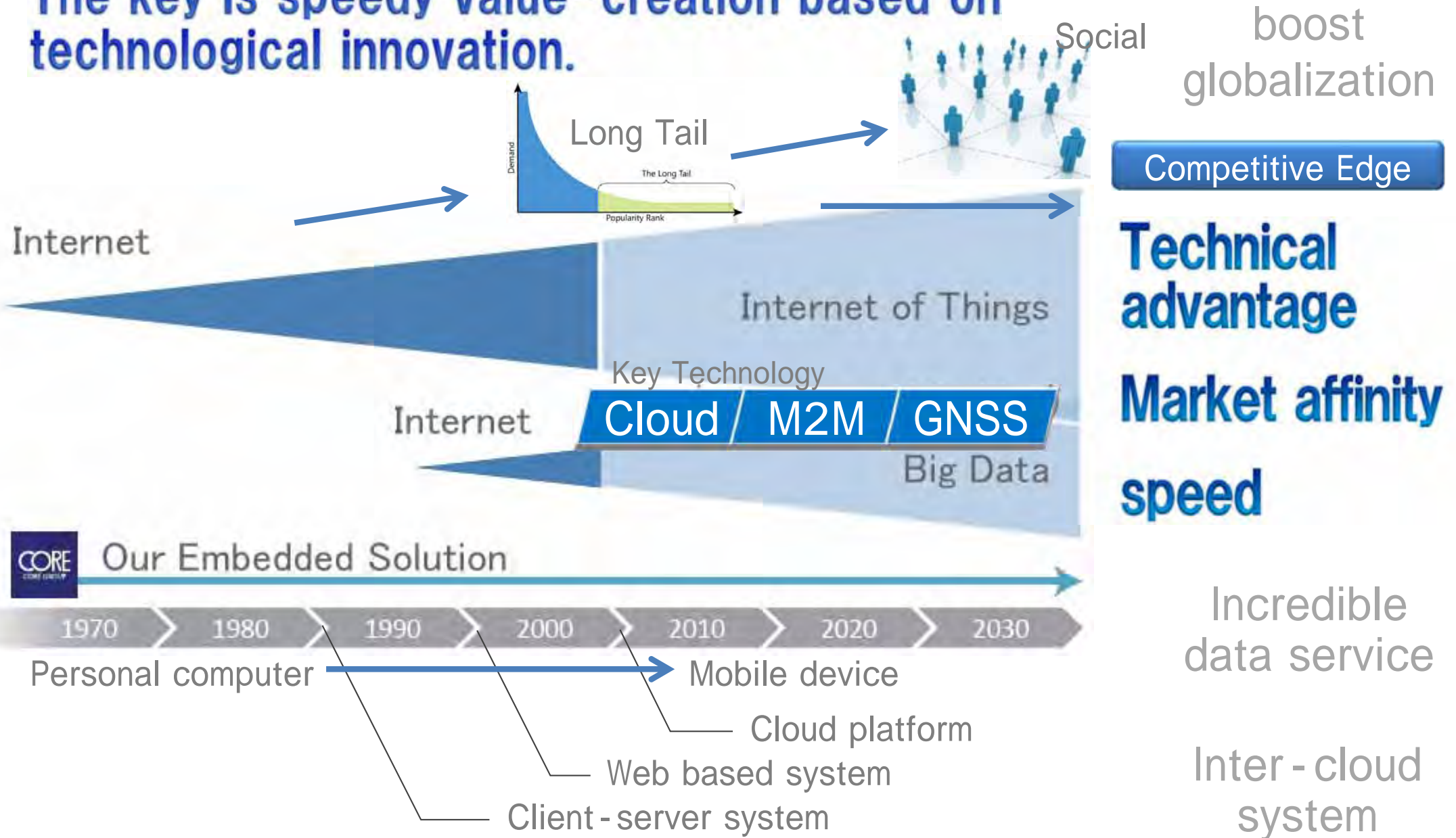
Scale (sales)

Proposal-based & problem solution type business mainly



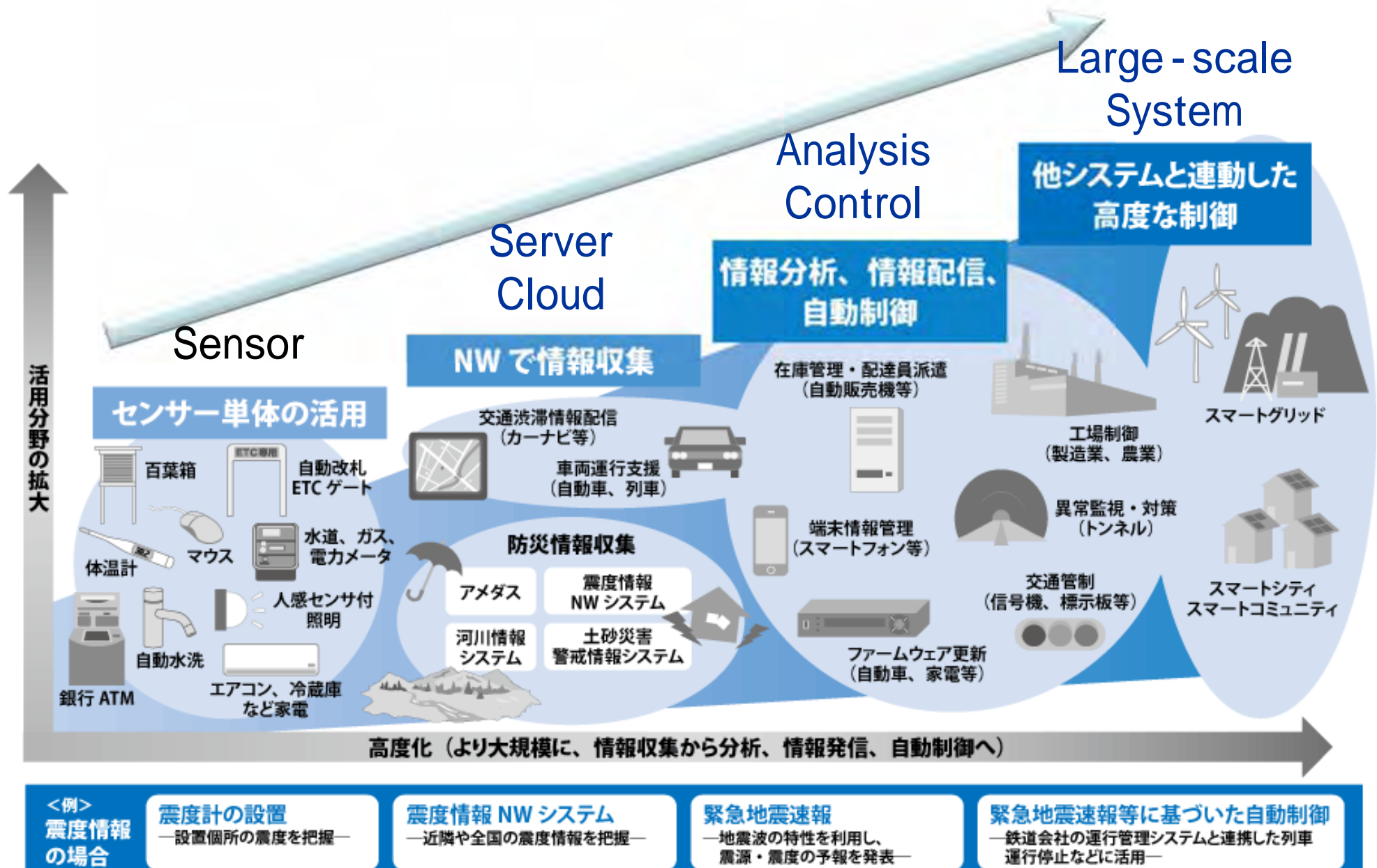
Market Potential

The key is speedy value-creation based on technological innovation.



2 - pronged Strategy

About the Internet of Things / Machine to Machine



Ministry of Internal Affairs and Communications, Japan, "Council on urban development and global expansion using ICT", 2012.

Major business lines are changing into new lines just now

Transition table of sales & R&D cost for original product

(1 million yen)

	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Sales amount (former product solution business)	2,479	2,775	3,873	4,351	4,291	4,359	4,443	4,433	3,516	3,598
IT Asset management & PLM solution	1,162	1,164	964	974	1,028	834	930	922	926	521
Development support tool	850	916	1,091	991	780	754	1,192	850	666	646
Telop system	-	-	897	1,307	1,511	1,847	1,629	1,916	1,249	1,746
Others	467	694	921	1,078	971	922	690	743	674	683
R&D expenses	42	71	319	242	515	469	387	458	441	256
GPS・GNSS	-	37	110	63	98	46	33	44	42	35
IoT/M2M Device (ASURA Series, etc)	-	-	6	11	22	7	4	10	4	10
IoT/M2M Platform (ReviveTally, etc)	-	-	-	-	-	-	23	40	24	10
Cloud Platform	-	-	-	-	-	-	19	39	24	14
Others	42	34	203	168	395	416	308	325	347	187

M2M Cloud Platform “ReviveTally”

ReviveTally provides a set of development environment for M2M.



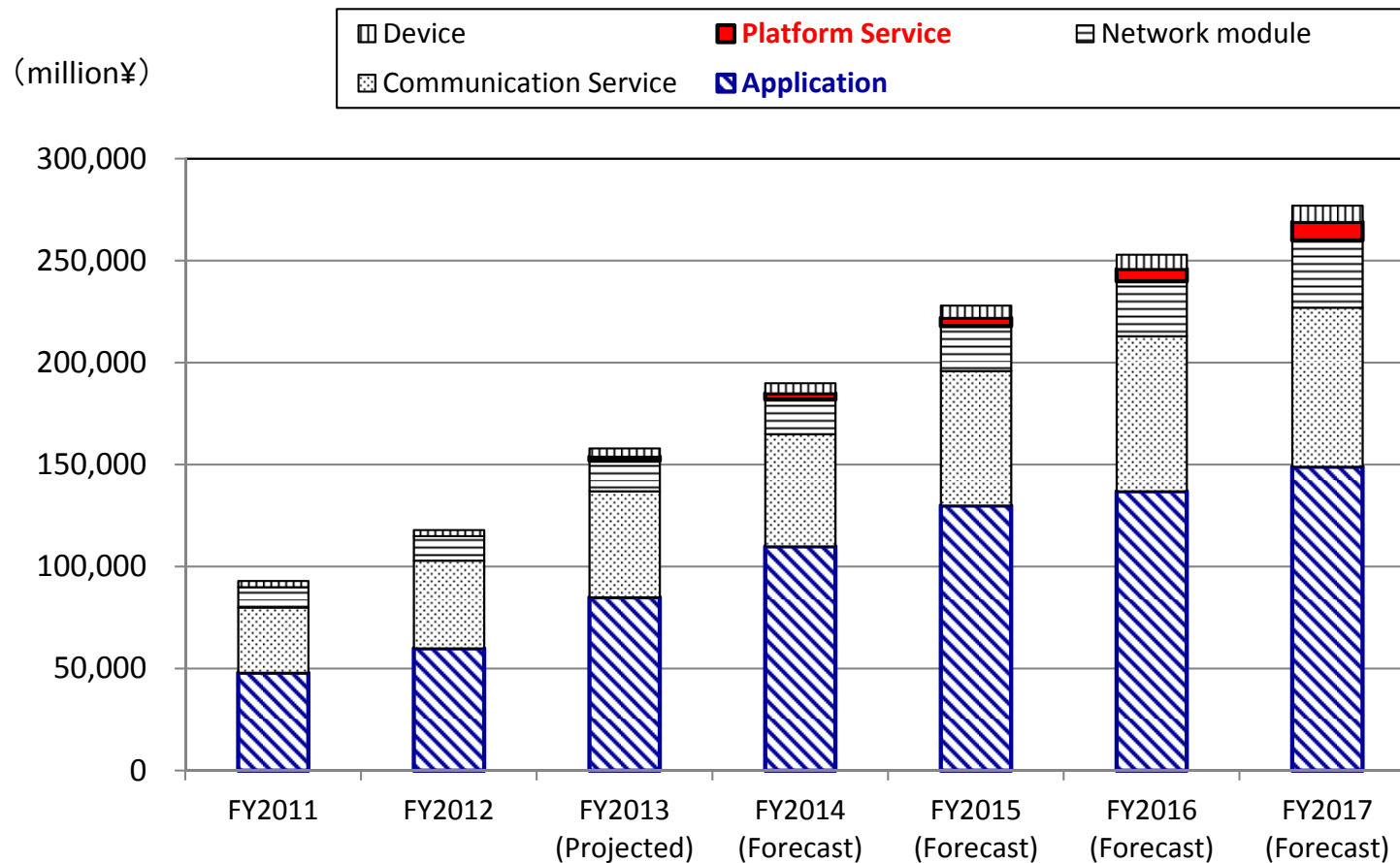
《Open Source Software》

fluentd , Mongo DB , R ,
Python + Django etc.

Cloud s scalability makes it ease to handle time - series data of IoT.

IoT Business Strategy

Sales of **applications** is estimated to account for more than half in IoT market.

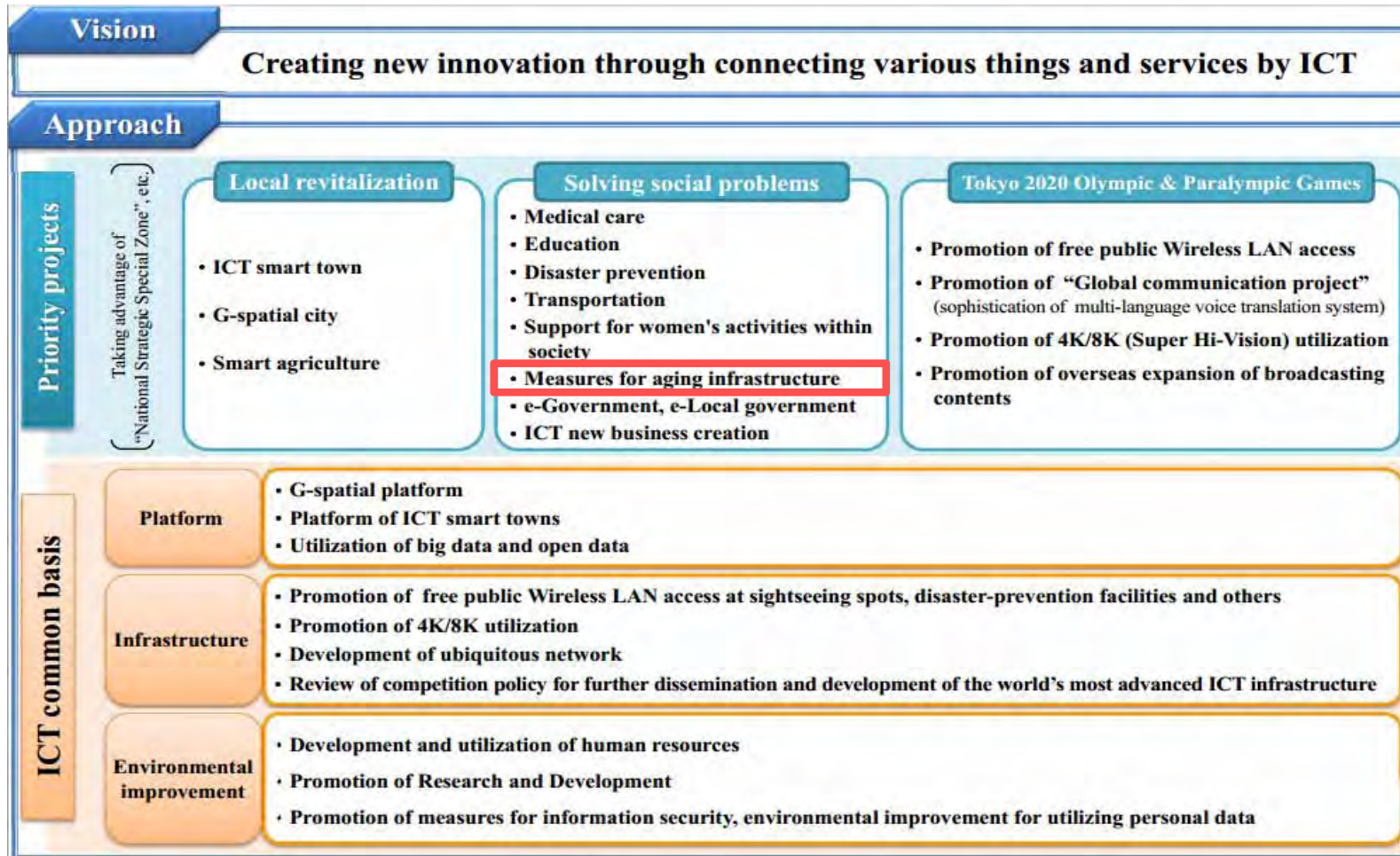


Fuji Keizai Management Co., Ltd.,
“M2M-related market in Japan”,
Market Data 102, June2014.

Low-cost M2M platform makes customers to try M2M easily and leads their **M2M applications** to our M2M platform.

Japan ICT Growth Strategy

One of the most promising IoT markets is **structural monitoring**.

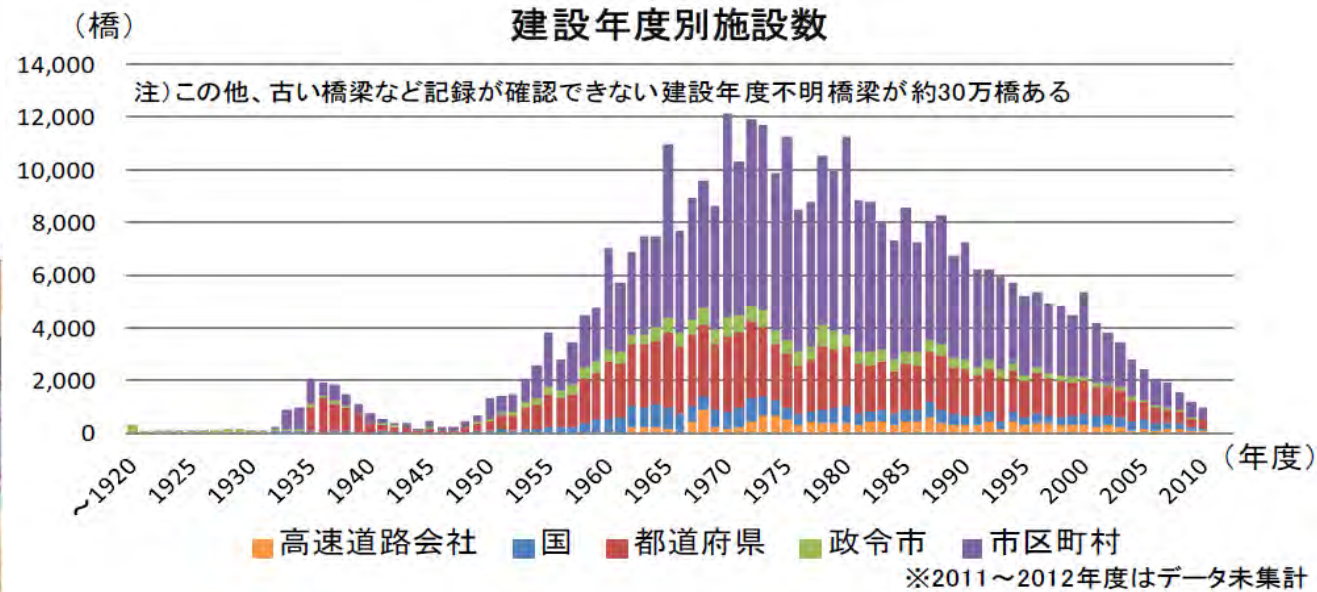


Ministry of Internal Affairs and Communications, Japan, "Smart Japan ICT Strategy", June 2014.

Japanese government declares 20% of infrastructures sensor - equipped until 2020 in "Declaration to be the World's Most Advanced IT Nation".

Earthquake & Structural Monitoring

Earthquake and structural monitoring gets much attention.
(due to [The Great East Japan Earthquake](#) and [Sasago tunnel accident](#))

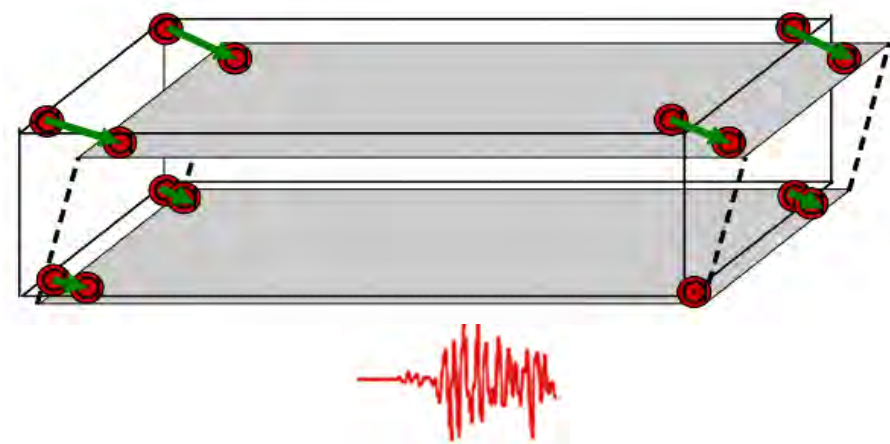


- A lot of infrastructures mark **50 years** because they are built during the period of rapid economic growth around 1970.
- Bridge and Tunnel Monitoring Market is estimated to grow **88.4 billion yen** in 2022.

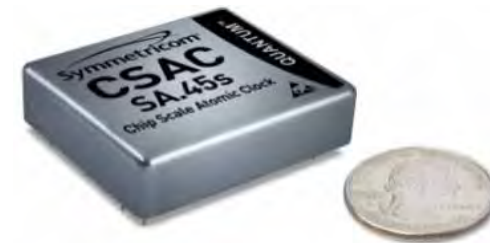
High - Precision Time Synchronization

Fine - grained analysis requires high - precision timestamp. ($\approx 10\text{ms}$)

- > Chip - Scale Atomic Clock - equipped sensor board



Chip - Scale Atomic Clock (CSAC)



2001 DARPA project started

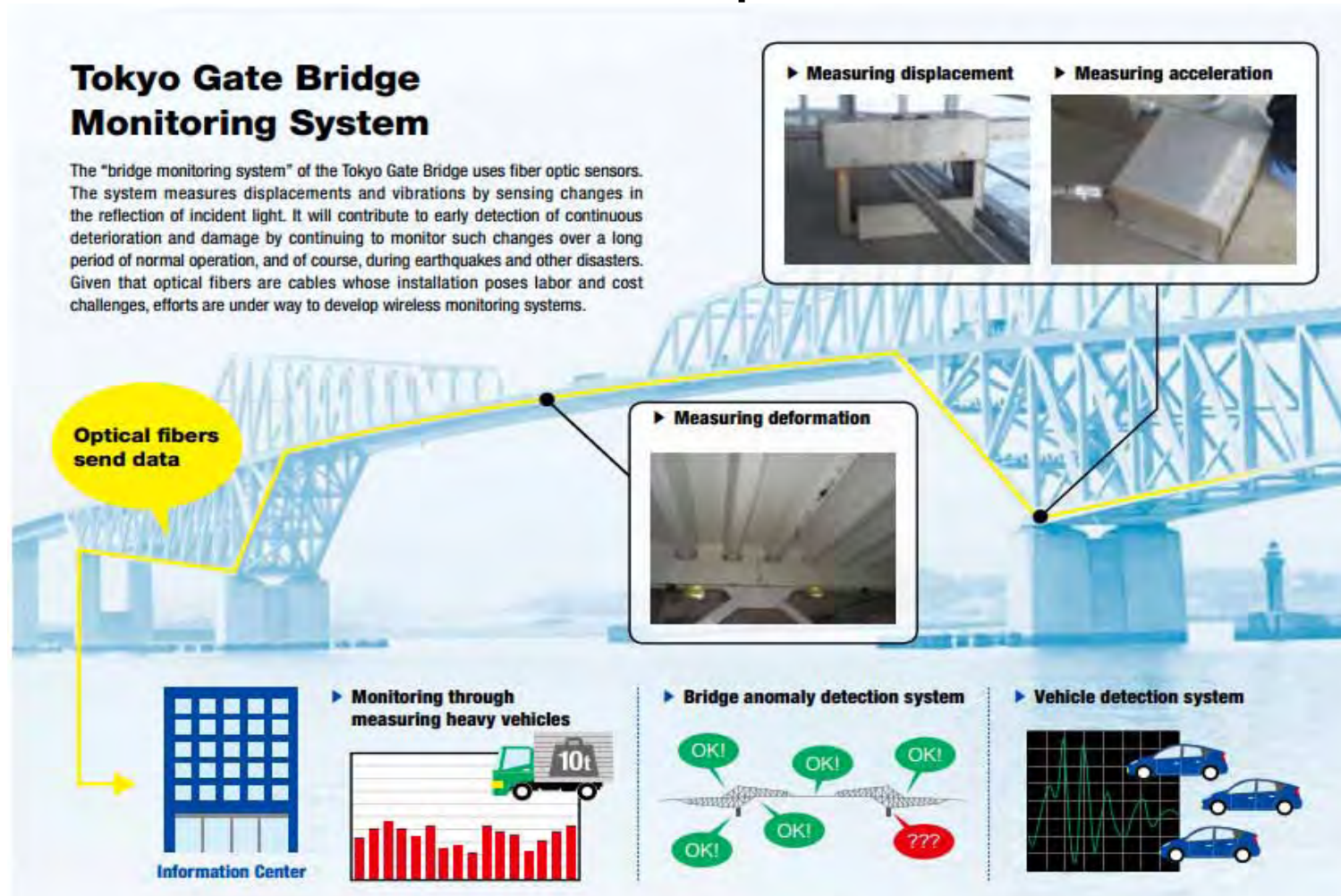
2004 Nature article

2011 Symmetricom's product

Our embedded technology realizes effective hardware - architecture for CSAC's high - resolution timestamp.

Structural Monitoring with M2M cloud

Gather sensor data from CSAC board and analyze structure vibration on M2M platform.

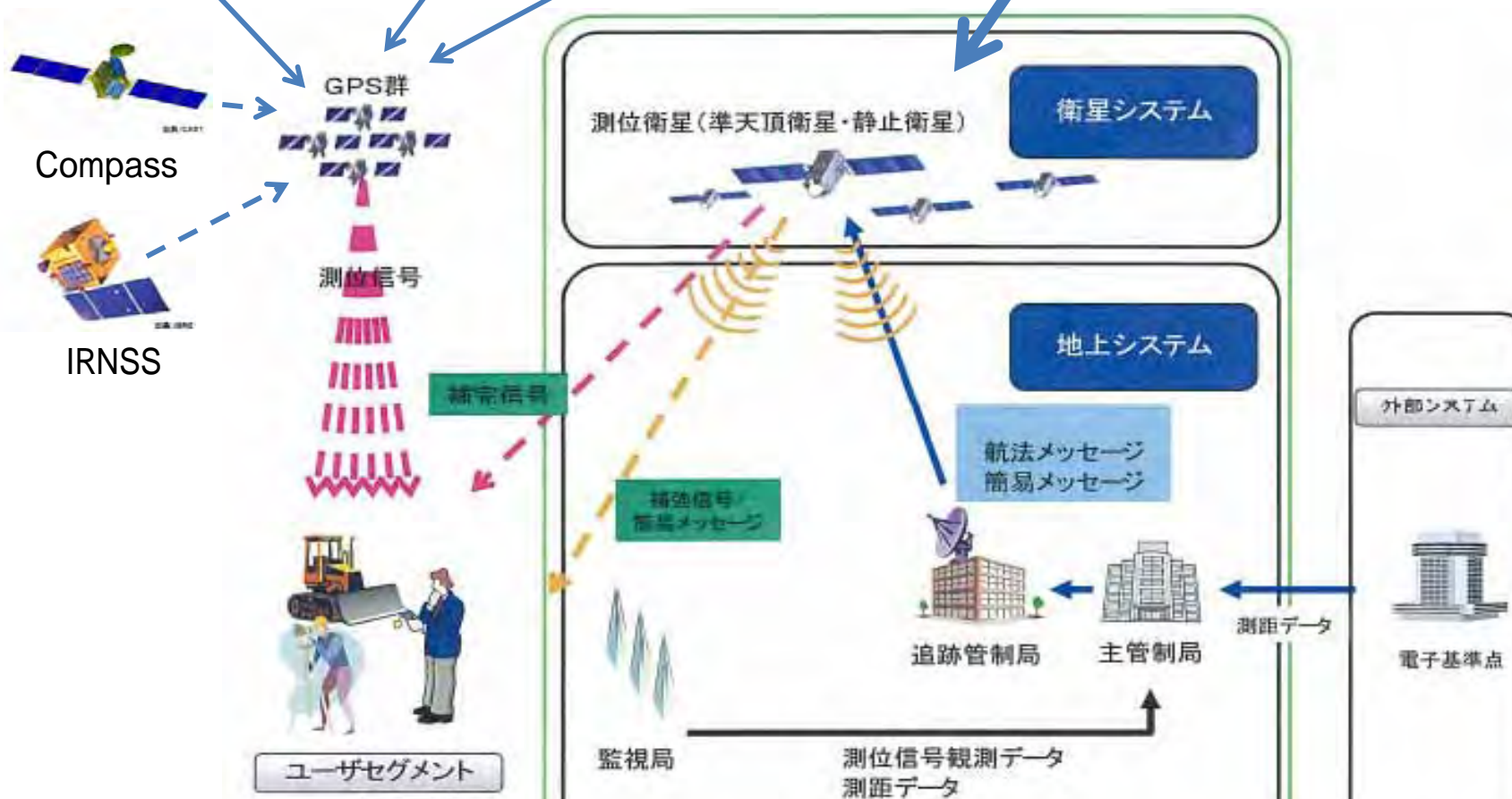


Ministry of Economy, Trade and Industry, Japan, "Sensors - Answering the Call !", METI Journal, July 2013.

Shift from GPS to GNSS



日本はGPSの
世界最大規模の
民生利用国



GNSS(Global Navigation Satellite System)

GNSS Service centering on QZSS



QZSS characteristics

サービス		みちびき	2号機～4号機	主な機能概要
測位補完サービス		○	○	GPSと互換性のある測位補完信号を提供
測位補強サービス	サブメータ級	○	○	衛星測位の補強信号として、L帯でサブメータ級測位補強信号を提供する機能。
	センチメータ級	○	○	衛星測位の補強信号として、L帯でセンチメータ級測位補強信号を提供する機能。
簡易メッセージサービス		○	○	災害発生時の緊急時に、国と協議の上定めた外部機関からの情報に基づき、津波情報、避難情報等の簡易メッセージを個人携帯端末等の汎用ユーザ端末に配信する機能。
メッセージ通信サービス		N/A	○	大規模災害時に、被災者が近親者との間で安否確認を行うと共に、被災情報を災害対策のために関係の行政機関等に提供する機能。

出典：「準天頂衛星システムの衛星開発事業」の計画概要(2013年5月15日)より

CD311
QZNAV

正確な位置/時刻情報の補足/保証

LEX
(開発中)

正確な機器の自動制御が可能

Development History

Our technological results accelerate the development and deployment for industrial applications, autonomous driving, and more.

User	Field	Product	Status
Private	Satellite	低軌道衛星用GPS受信機ファーム開発。	Complete
Private	Automobile	2周波ソフトウェア受信機(E1+E5a)開発。	Complete
Private	Automobile	2周波ソフトウェア受信機(L1+L5)開発。	Under Development
Private	Automobile	準天頂衛星利用実証用LEX受信機(MADOCA方式)開発。	Under Development
Private	Automobile	cm測位演算処理エンジンRTKLIBの組込みソフト開発。	Under Development
Private	Robot	cm測位演算処理エンジンRTKLIB+慣性航法によるロボット走行制御。	Under Development
Public / Private	Satellite	準天頂衛星利用実証用2周波受信機開発。 準天頂衛星利用実証用LEX受信機(CMAS方式)開発。	Under Development
Public	Agriculture	cm精密測位による精密農業の実現。 準天頂衛星利用実証用LEX受信機(MADOCA方式)+ 2周波受信機開発。	Under Development

Precision Agriculture

JAXA

準天頂衛星を用いた精密測位技術

- 複数GNSSによる周囲環境によらない**安定的な**精密測位
- 1台の受信機だけで精密測位が可能(**基準局が不要**)
- ユーザ側は**通信回線が不要**で国内外どこでも利用できる

CORE

低コストな受信機プロトタイプの開発

- 準天頂衛星からの精密測位用信号も受信可能な現在の受信機は、すべての測位信号に対応したフルスペック機種で非常に高価。
- 取り扱う測位信号および補正情報を農業機械の自動制御に必要なものに絞ることによって、受信機能・演算機能を簡素化し、コストダウンを図る。

安定した精密な位置情報を農業機械の自動制御に応用

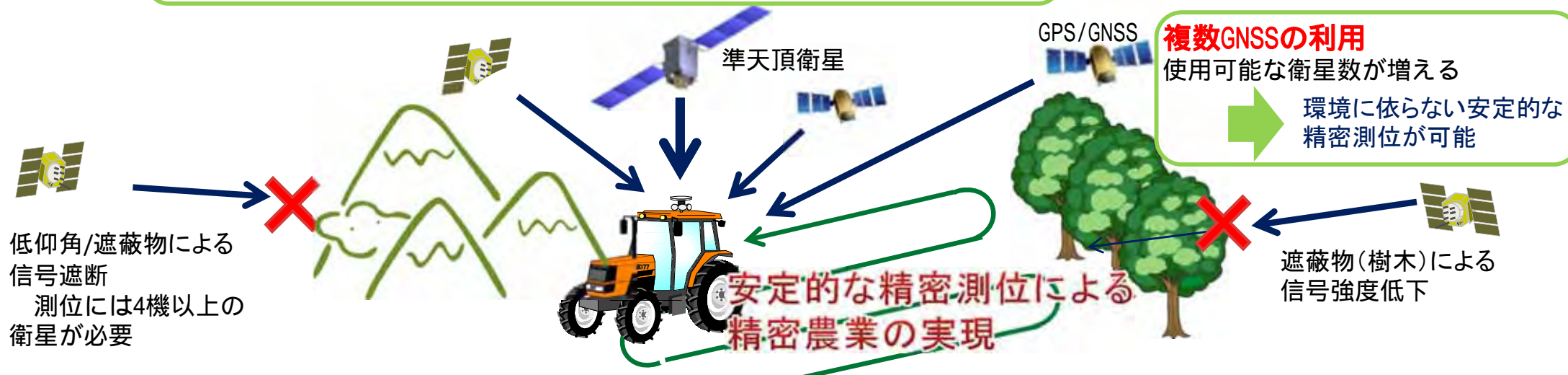
概念図

準天頂衛星の利用

精密な測位に必要な補正情報を天頂付近から直接配信

従来方式 と比べ、基準局の設置や携帯通信網が不要

従来方式: 基準局での受信データを用いたRTK-GPSや、携帯通信網経由の有料補正情報配信サービスを利用した仮想基準局(VRS)方式による相対測位

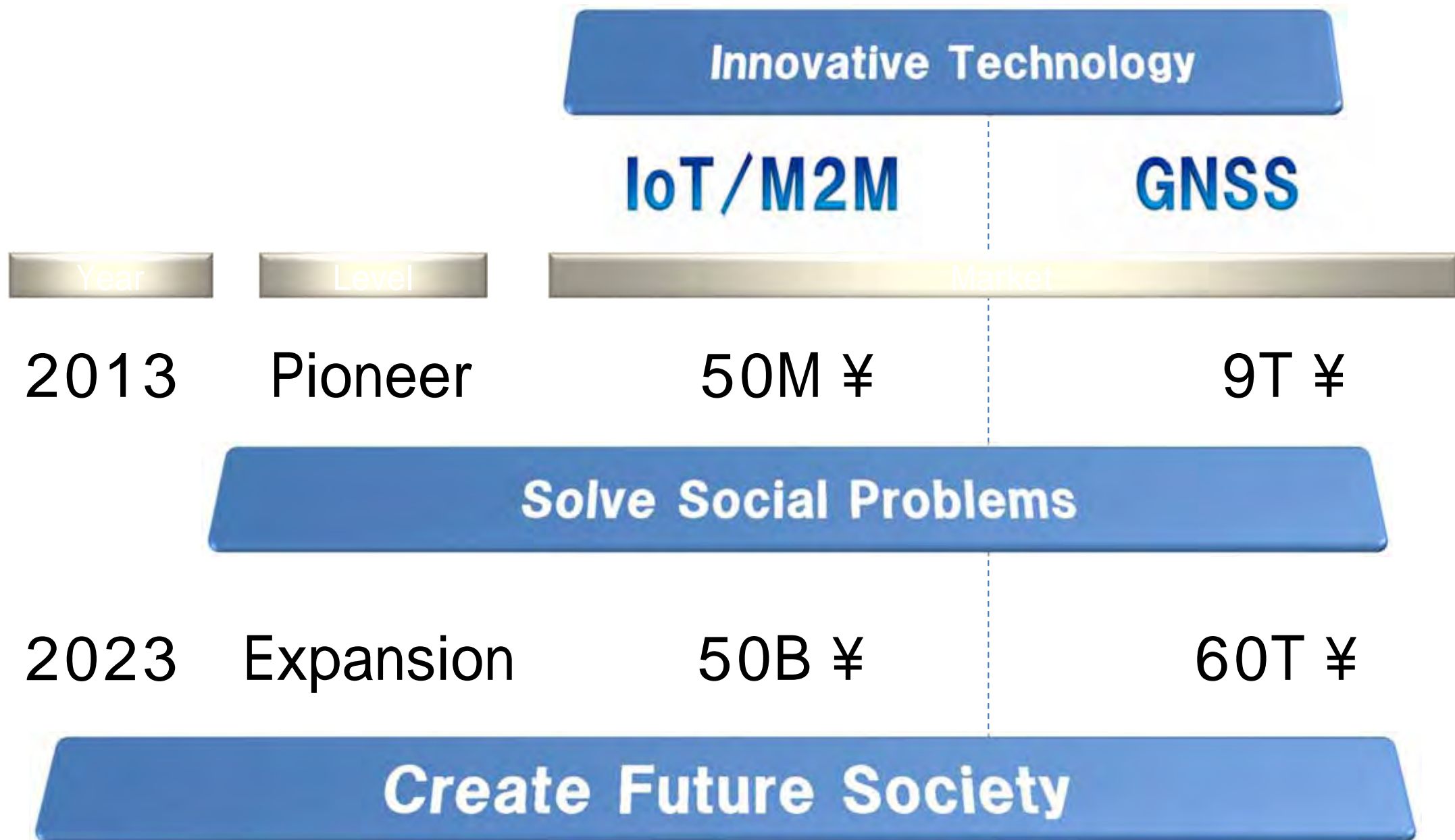


Smart City

Structure monitoring and GNSS are considered key technologies for Smart City.



Our Goal



Summary



Our IoT / M2M and GNSS solutions are based on advanced and leading edge of core technology.

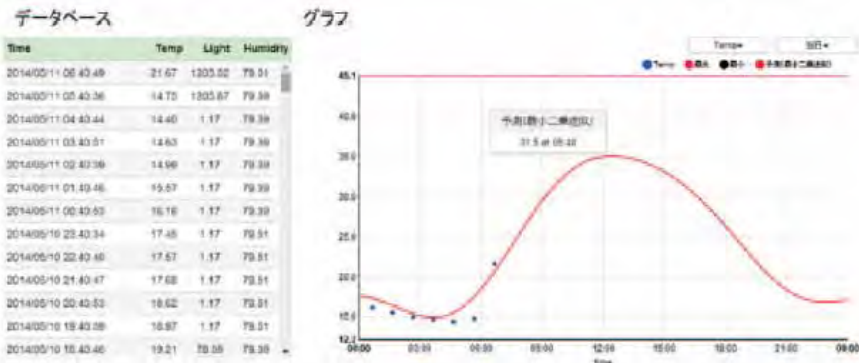
Our flexible application platform and expertise will lead customer's business to success.

Our business aims to a new ICT services that focus on the creation of the next society and industry.

Appendix

IOT × GNSS


IoT/M2M Solution & Service

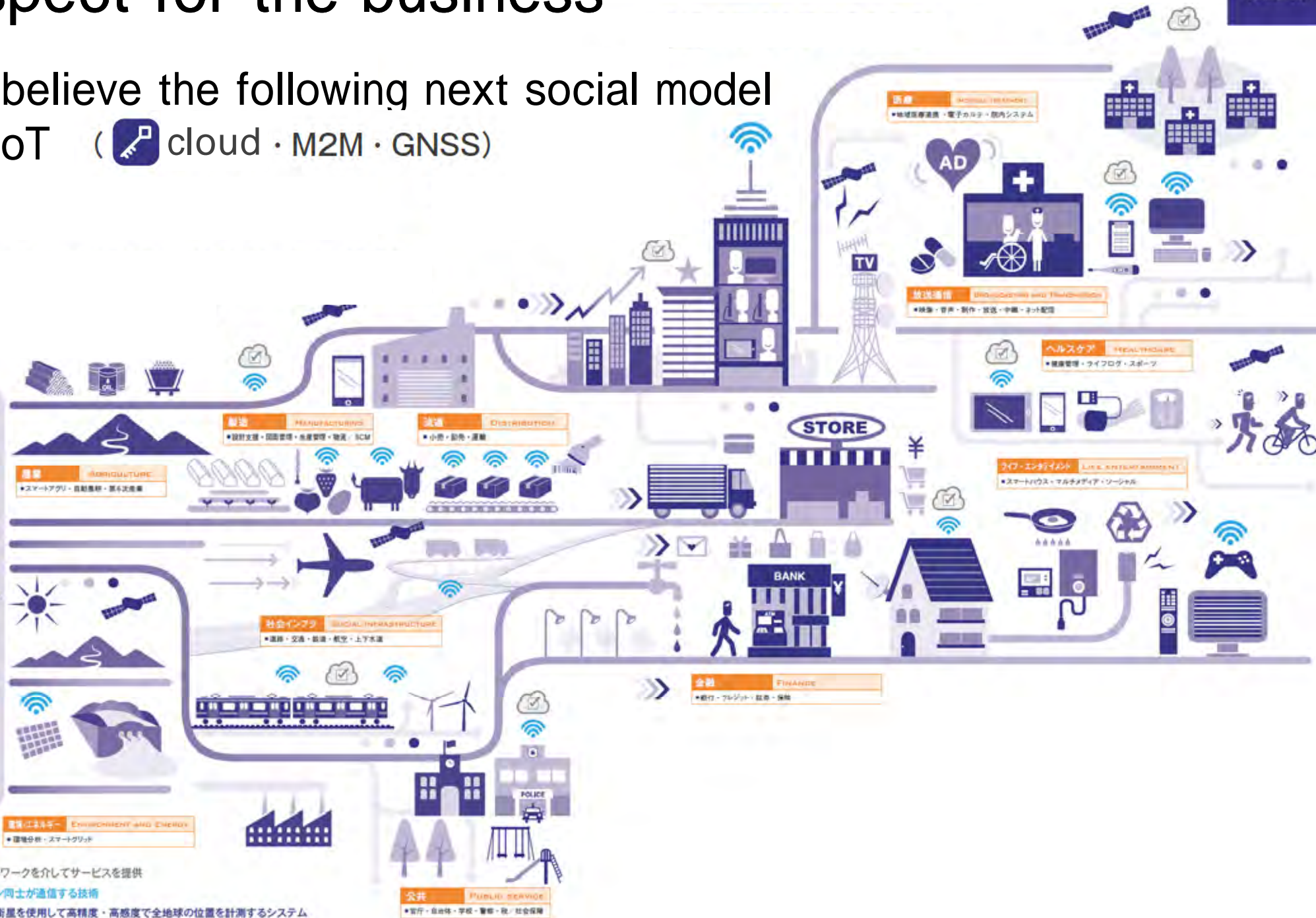


GNSS Solution



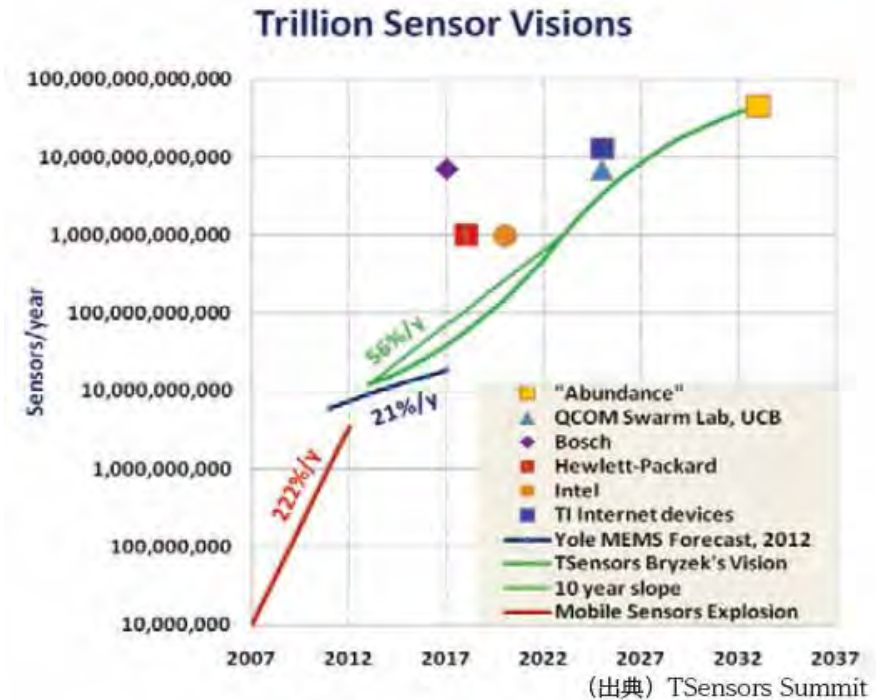
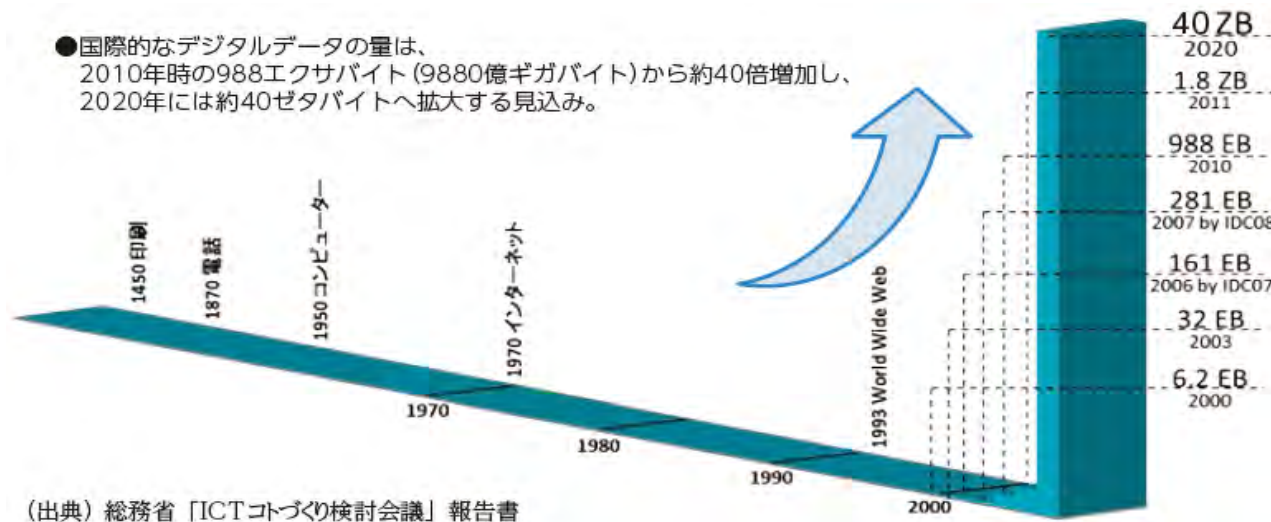
Prospect for the business

We believe the following next social model
by IoT ( cloud · M2M · GNSS)



Big Data

Digital data grows exponentially and is going to reach **40 ZB** in 2020.

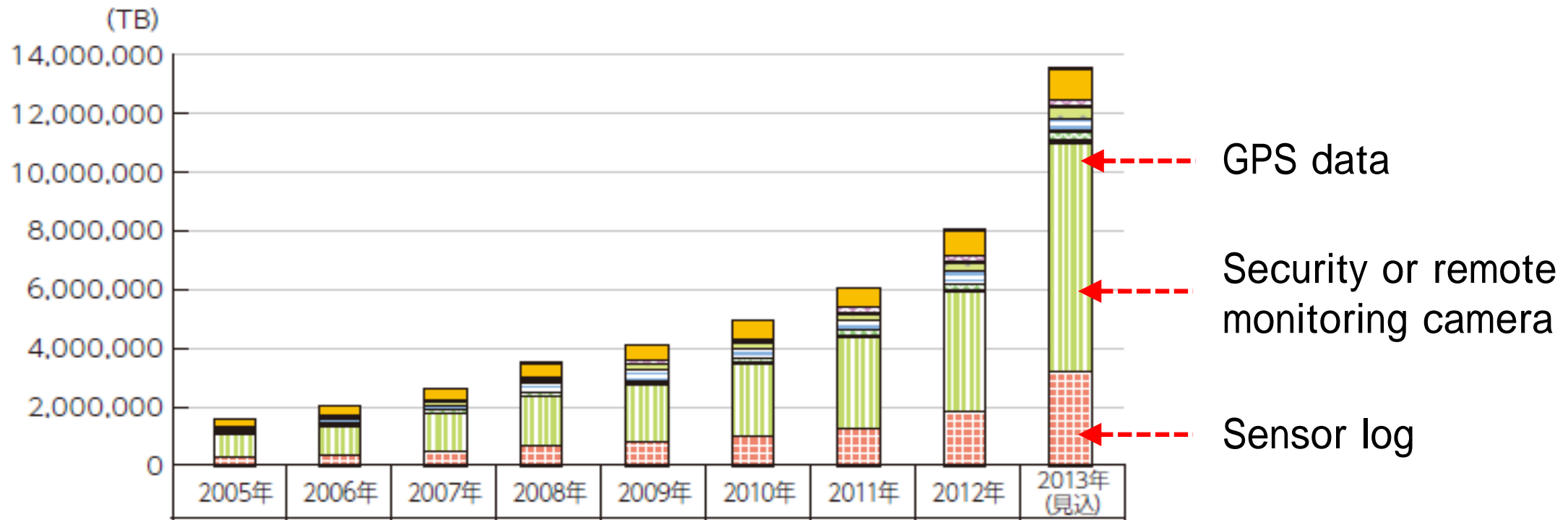


Ministry of Internal Affairs and Communications, Japan, "Information and Communications White Paper 2014 in Japan", July 2014.

Sensor shipment growth caused by downsizing, low - power technology, low - cost further accelerates big data.

IoT's Contribution

Especially sensor, camera and GPS data, is growing in Japan.



Ministry of Internal Affairs and Communications, Japan, "Information and Communications White Paper 2014 in Japan", July 2014.

Open Source Software Adoption

CAGR of open source software market is estimated 10.2% in Japan.



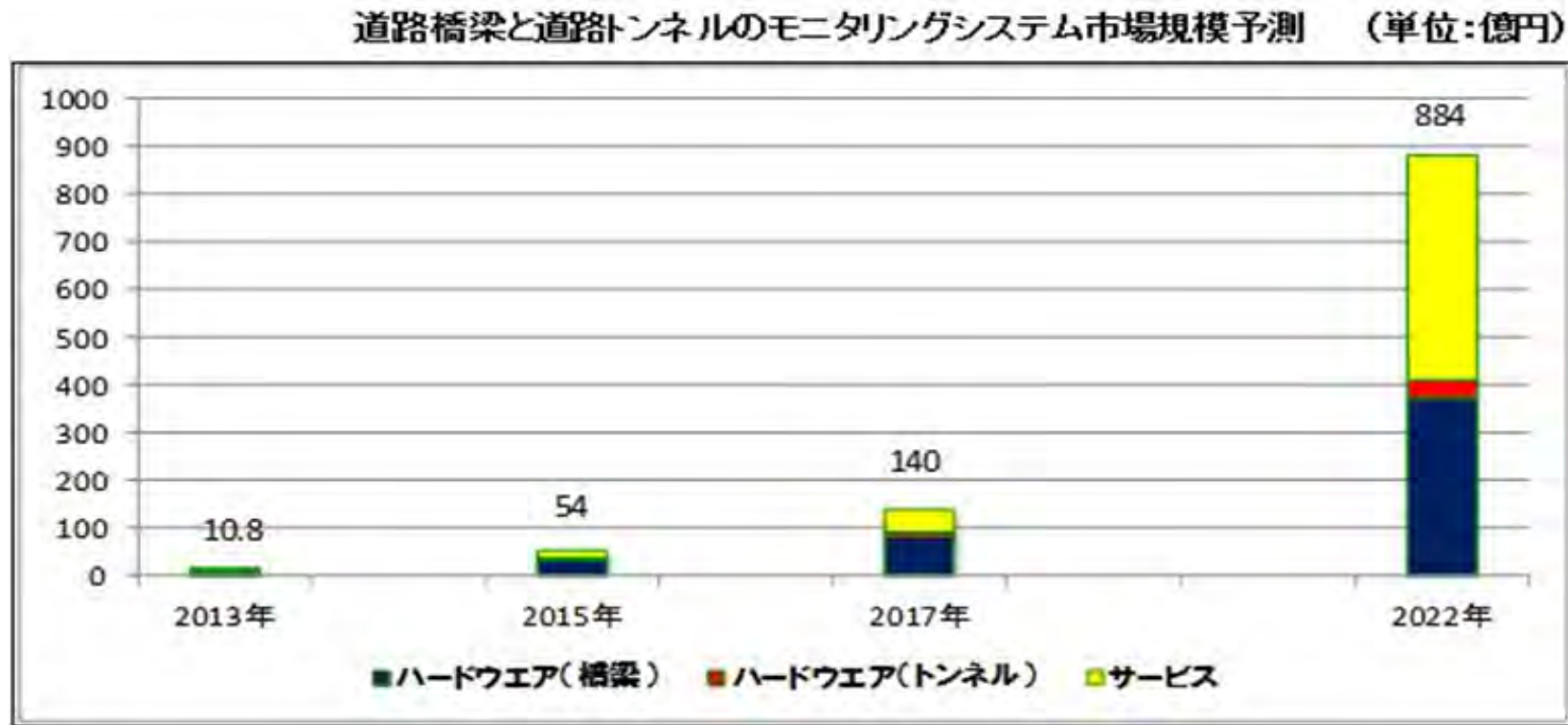
- Smaller Investment
- State - of - the - art Technology
- Platform Compatibility

IDC Japan, "Japan Open Source Software Ecosystem Market Forecast 2013", May 2013.

M2M platform provides more useful services with a smaller investment by making the best possible use of OSS.

Market Forecast

Bridge and Tunnel Monitoring Market is estimated to grow **88.4 billion yen** in 2022.

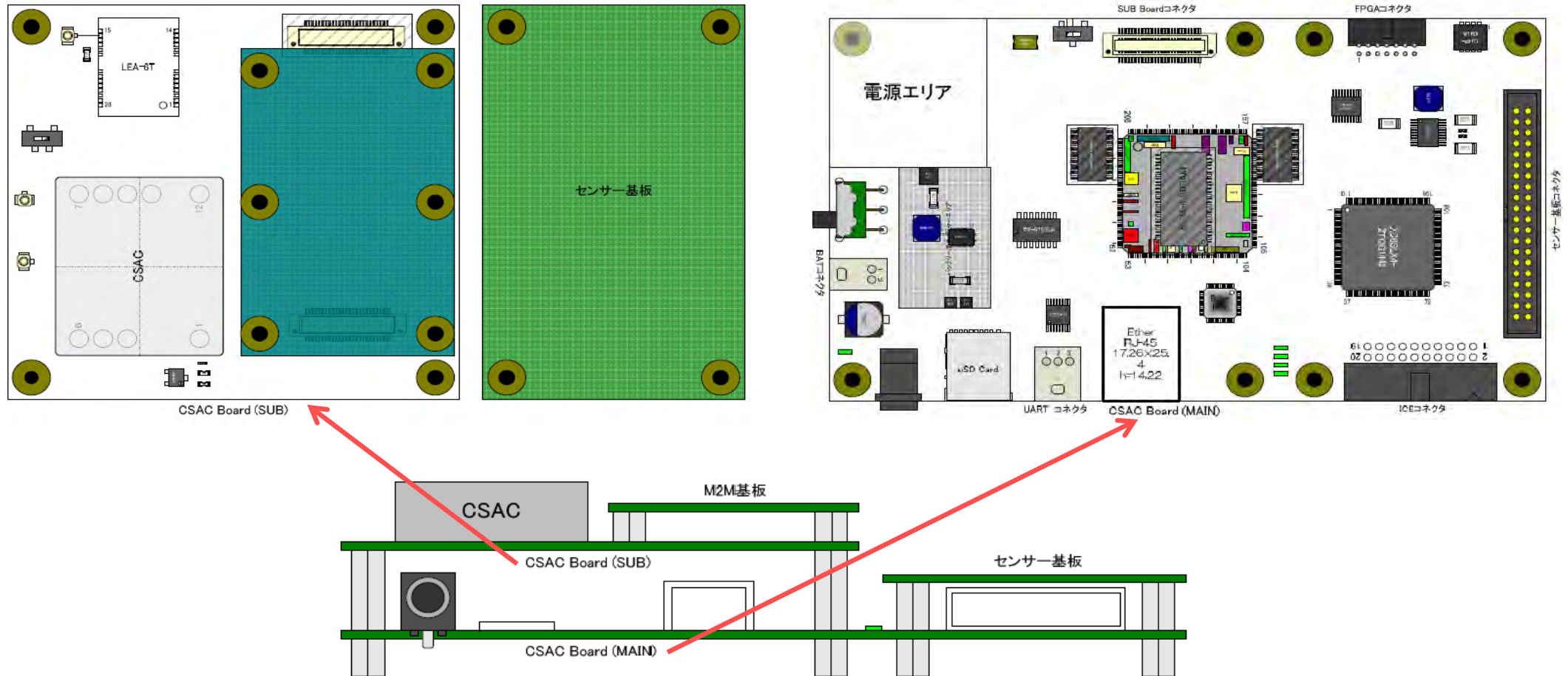


Seed Planning, Inc., "Market Forecast of Bridge and Tunnel Monitoring System", November 2013.

Service such as analysis, server, consulting, maintenance accounts for 50% of the markets.

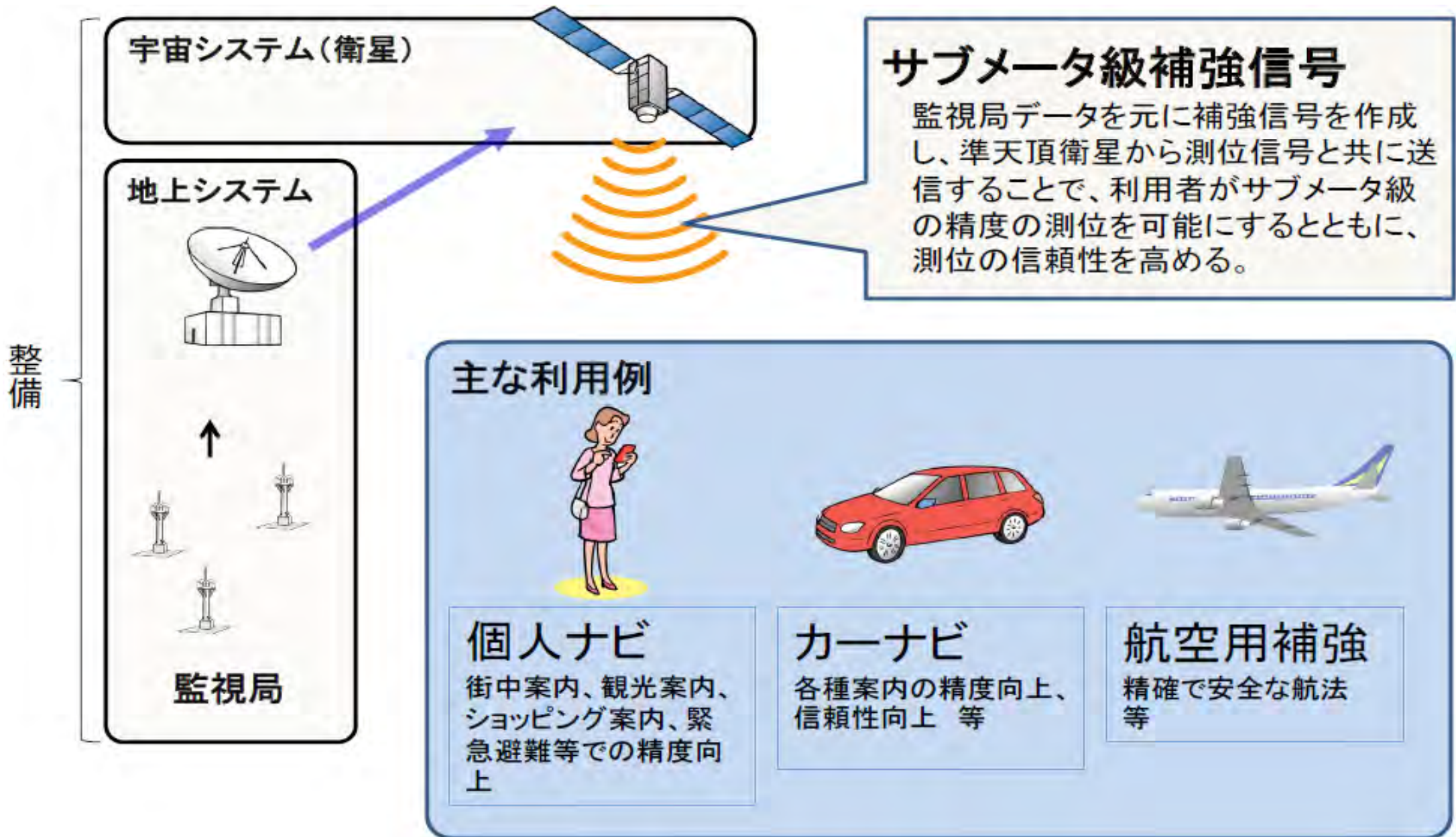
CSAC board

We are in the process of designing CSAC board architecture.

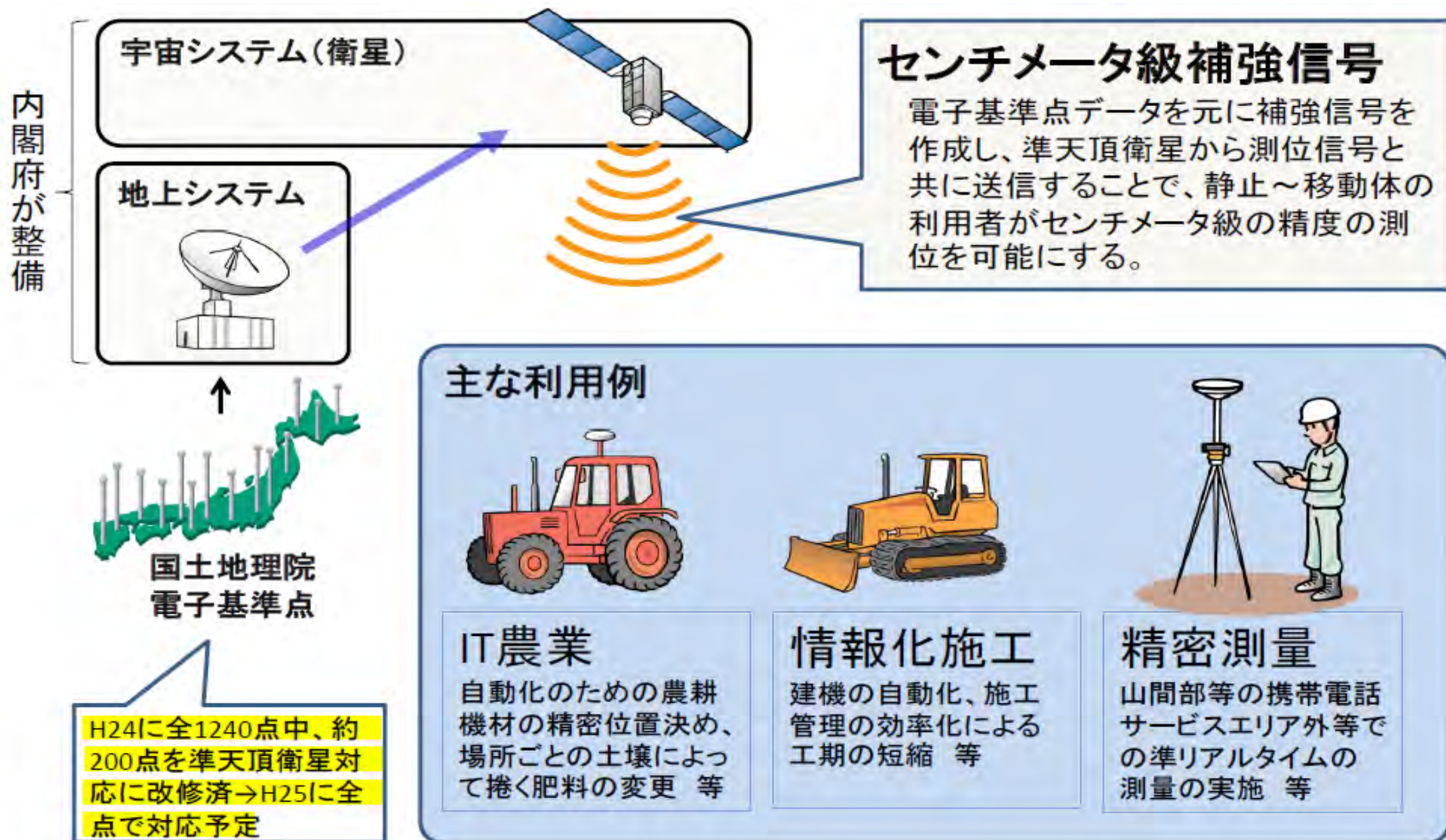


CSAC board is due to be released at Embedded Technology 2014.

Sub-meter class receiver



Centimeter class receiver



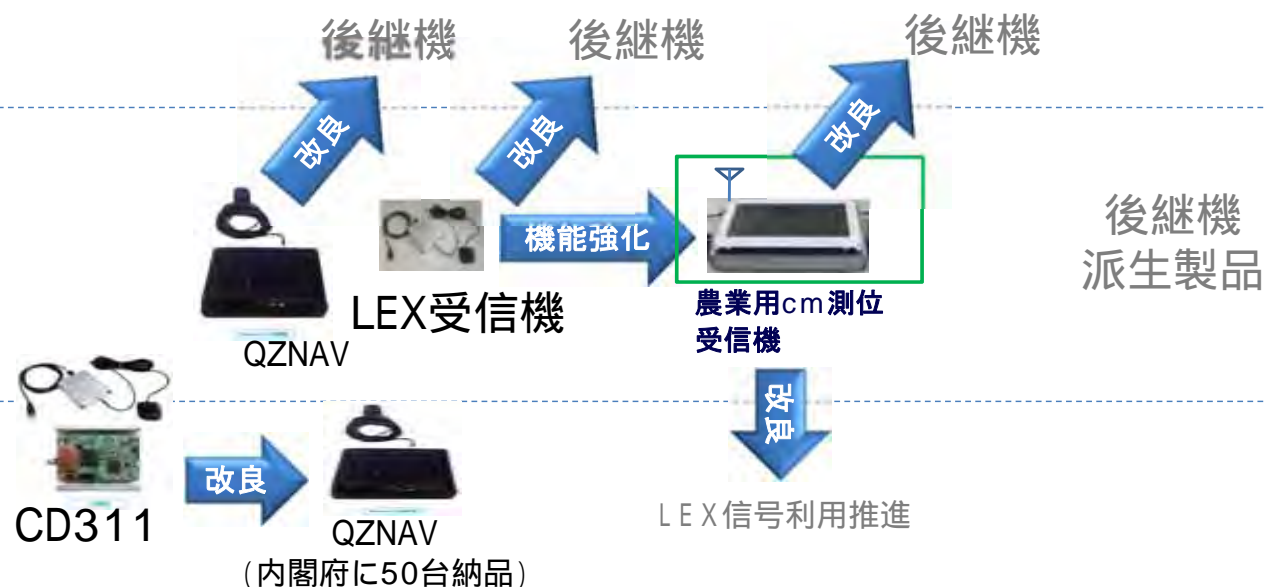
Satellite deployment schedule

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
GPS (U.S.)	3 1 機	3 2 機体制								
Glona s s (Russia)	2 2 機	2 4 機体制								
Galileo (EU)			4 機			1 8 機		2 7 機体制		
Compass (China)	6 機		1 2 機			3 0 機		3 2 機体制		
IRNSS (India)	1 機	7 機体制								
QZSS (Japan)	1 機 (みちびき)							4 機体制		7 機

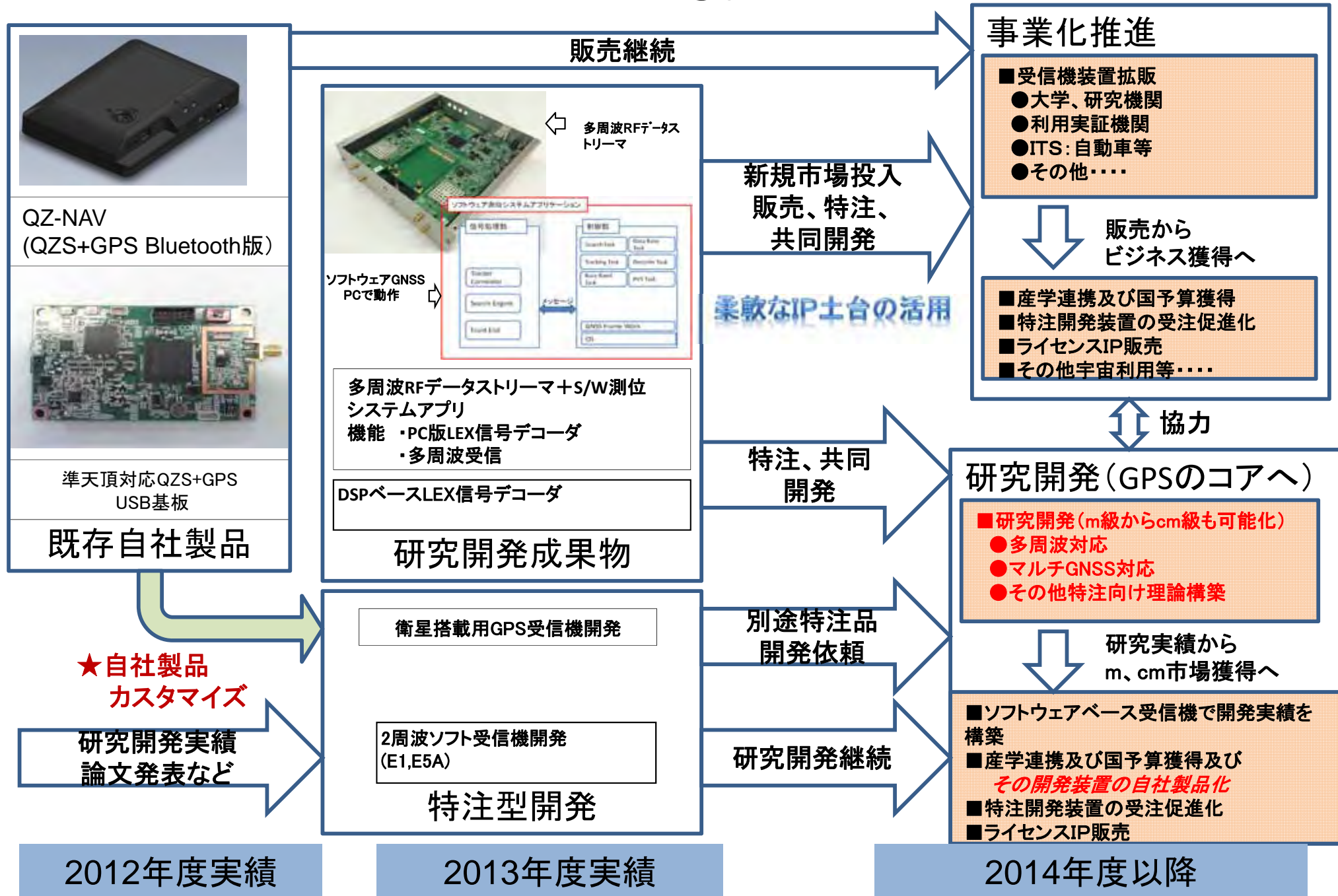
一般企業

GNSS利用推進企業
企業の研究機関

省庁・普及団体
大学機関

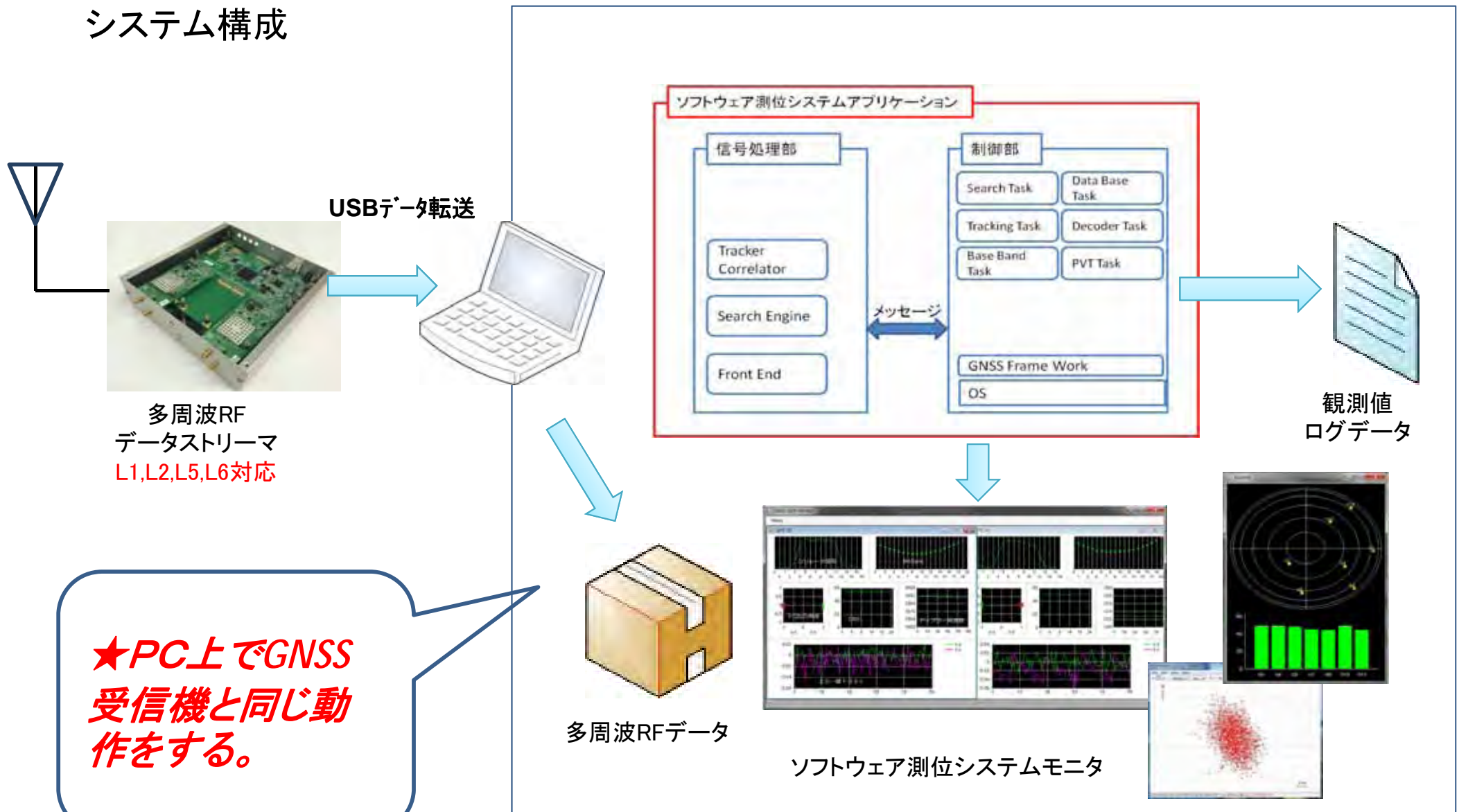


GNSS product strategy



Software GNSS system

システム構成



Supporting status

	L1					L2		L5			
中心周波数	1575.42			1561.098	1602+	1227.60	1246+	1176.45		1207.14	
衛星	GPS QZS	GPS QZS	Galileo	BeiDou	GLONASS	GPS QZS	GLONASS	GPS QZS	Galileo	Galileo	BeiDou
信号	L1CA	L1C	E1	B1	G1	L2C	G2	L5	E5a	E5b	B2
変調方式	BPSK	BOC	BOC	QPSK	BPSK	BPSK	BPSK	BPSK	BPSK (AltBOC)	BPSK (AltBOC)	QPSK
衛星数 (2013)	28	1	4	14	24	12	24	4	4	4	14
	32			14	24	12	24	8		18	
衛星数 (2020)	31	31	30	35	24	31	24	31	30	30	35
	61			35	24	31	24	61		65	
R&D(2014)	◎	△	◎			○		○	◎		

◎:開発完了 ○:開発中 △:予定

L6:QZS LEX信号は開発完了。

About us



Company name	CORE CORPORATION (The 1st Section of TSE Market Securities code 2359)
Establishment	December in 1969
Capital	440.2 million yen (as of April, 2014)
Number of employees	1,437 (Consolidated)、 1,111 (Non-Consolidated) (as of April, 2014)
Group companies	17 (10 subsidiaries 6 affiliated companies)

Origin of our company name

The company was originally named "Core" because it would become the core of the information service industry, aim at the top of it and achieve it.

We have Top class actual achievements in the development of embedded solution.

Business domain

SI (System Integration) business

Consistency services from plan that analyzed duties of visitor, and accepted RFP to use

Integration software system development such as household appliance, OA apparatus, in-vehicle apparatus, facilities apparatus, production device

Finance, the circulation, production, system integration service of wide type of industry and duties including the community

Solution business

We solve problem that visitor has in unique product line corresponding to wide field

Security, relief, security, efficiency, cloud big data utilization

Cloud service, M2M (Machine to Machine), GNSS, others

Distinctive group companies

Subsidiaries

Lambda Systems Inc.

Giga Co.,Ltd.

Core-net international Co.,Ltd.

Medical and Welfare
Technology Institute Co.,Ltd.

Beijing Core Software CO.,LTD.
Shanghai CORE CO.,LTD.

Core Farm Co.,Ltd.

Main business

Telop system

IT Security

Data center

Teleradiology service

China market branch

Tourist farm &
agricultural IT support service



Lakeside
Red farm





**Cautionary Statement
Regarding Forward-looking Statements**

- Forecast figures in this document are based on current economic and market conditions. As changes in the economy and information services market are possible, CORE CORPORATION cannot guarantee their accuracy.
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