Pioneering “Leading-edge IoT”, with eSOL’s Unique OS Platform

eSOL Co., Ltd. 2020 First Quarter Results

May2020 by eSOL Co., Ltd.

(listed on the First Section of the Tokyo Stock Exchange: 4420)

1. Overview of the Company

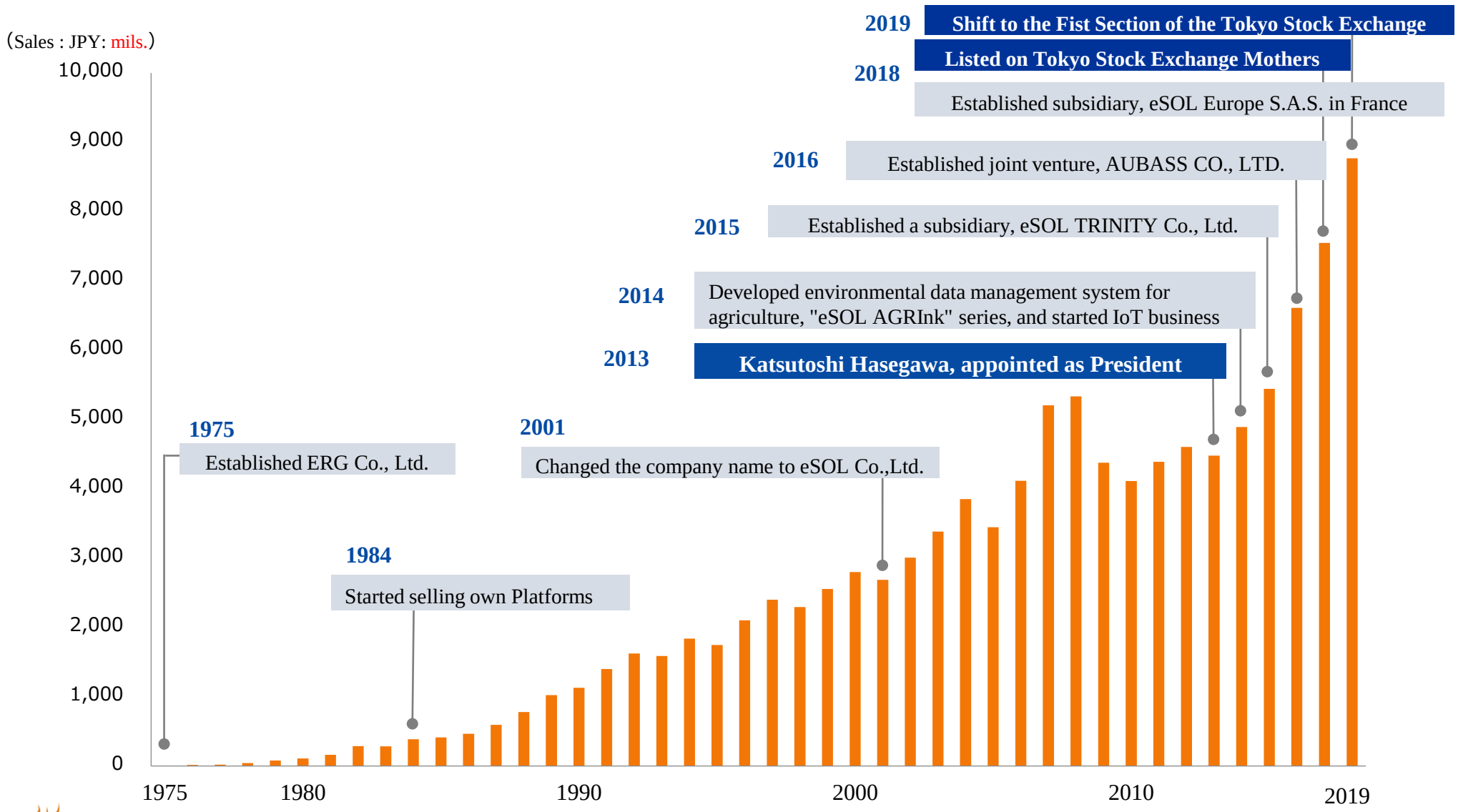
eSOL SPIRIT – Management Philosophy –

Overview

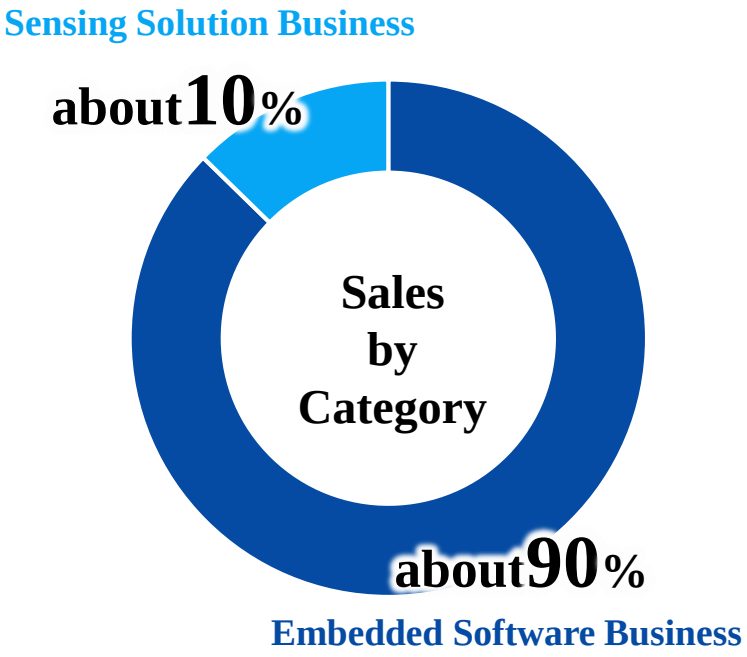
Name	eSOL Co., Ltd.
Foundation	May 1975
Representative	President: Katsutoshi Hasegawa
Business	● R&D, manufacturing and sale of software and hardware applicable to computers and computer peripherals. ● Undertaking development of software and hardware applicable to computers and computer peripherals and dispatching engineers. ● Consultancy regarding the foregoing.
Paid-in capital	1,041 million yen
Employees	449 employees as of December 31, 2019 with consolidated base
Group Companies	eSOL TRINITY Co., Ltd（Consolidated subsidiary） est. Mar. 2015 AUBASS CO., LTD. （Equity method affiliate） est. Apr. 2016 eSOL Europe S.A.S.（Consolidated subsidiary） est. Mar. 2018

History

eSOL has been achieving sustainable growth in fluctuating software industry.



Business Overview



Embedded Software Business

- Development and sale of RTOS (real-time operating system)
- Engineering service for embedded software as a commissioned business
- Consultancy related to the development of embedded software
- Sale of tools for the development of embedded software
- Education to engineers developing embedded software

Sensing Solution Business

【Logistics related business】

- Automotive printer for issuing dedicated slips
- Ordinary temperature handy terminal
- Development and sale of strong environmental resistance handy terminal and sales-support software

【Sensor network business】

- Proposal of sensor network system

What is Embedded Software?

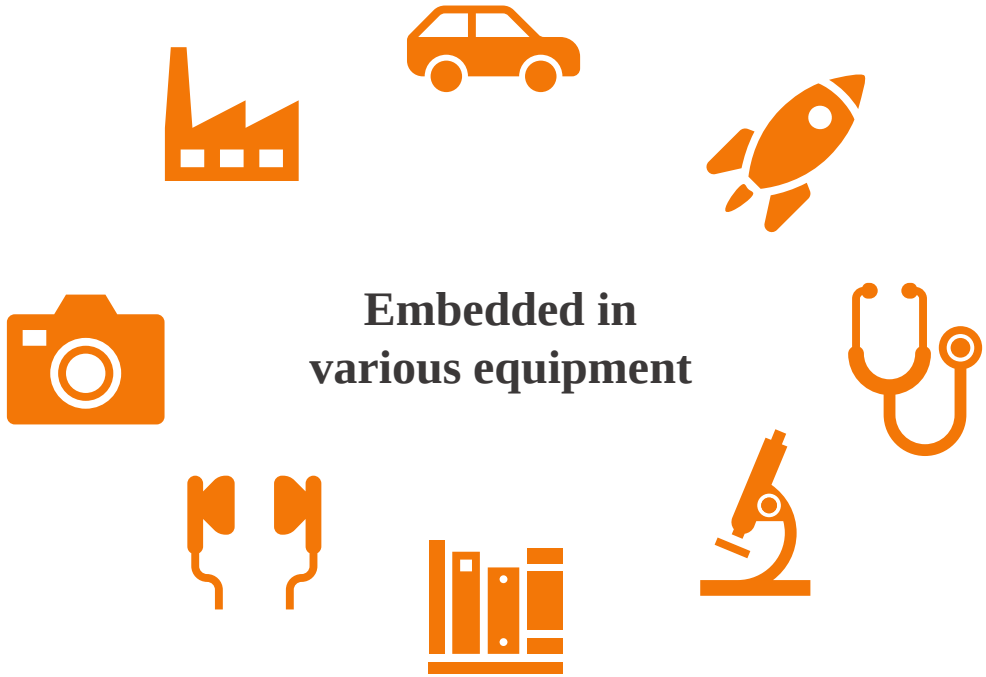
Embedded Software is a piece of software that is **embedded in various equipment around us, say, vehicles,** and controls the electronic equipment. It excludes, however, so called “Computer” such as PC, server, or super computer. Nowadays, many pieces of equipment are increasingly computerized, and therefore, the embedded software market is expanding.

so called “Computer”

Used for emails, word processors, data storing, and data processing

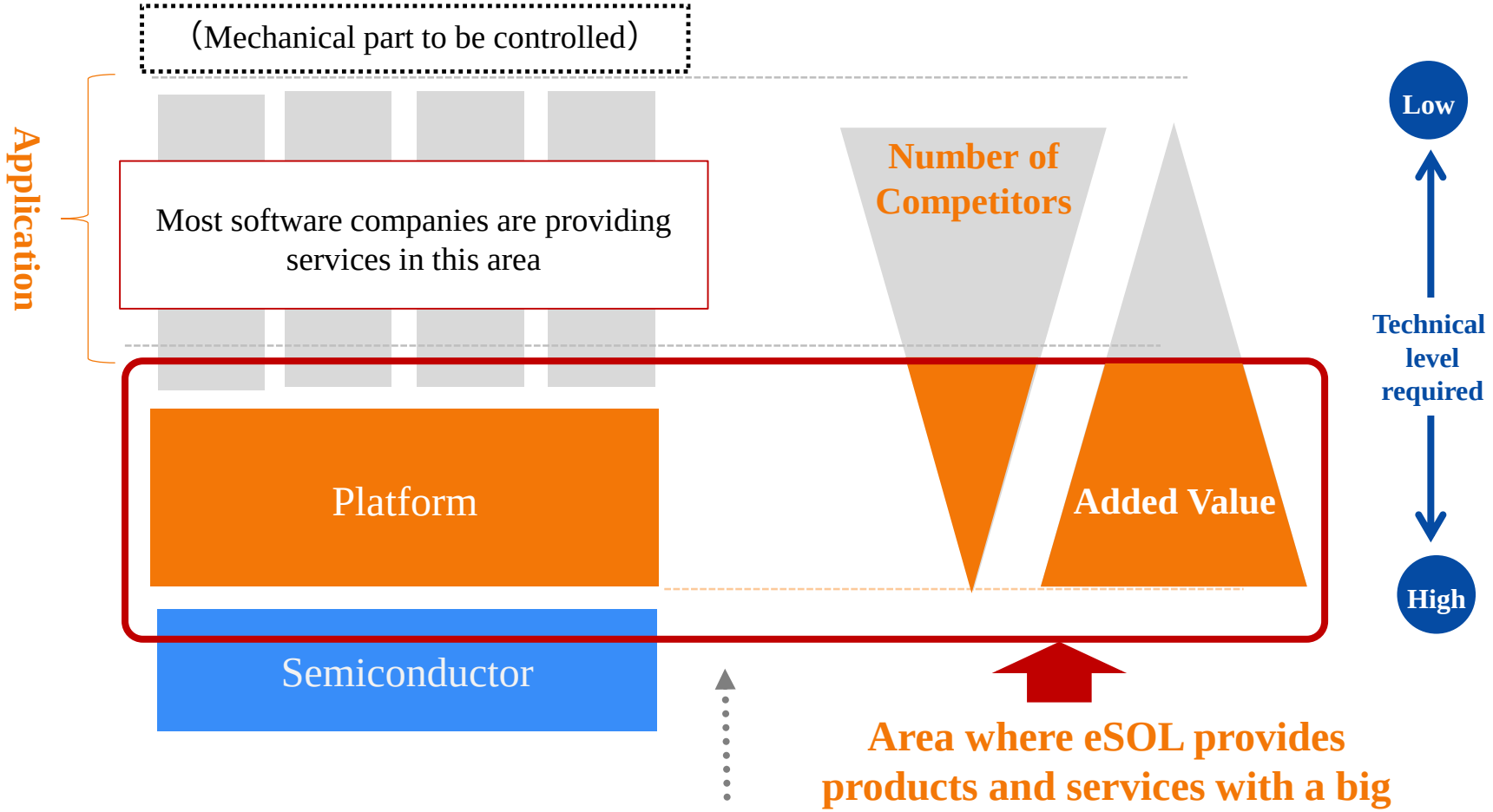
Embedded Software

Used for controlling electronic devices with embedded, that are almost everywhere around us.



Industry Structure of Embedded Software

Very few companies can develop leading platform in the world.



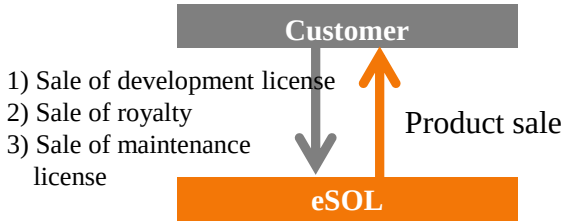
- **Highly value-added business with strong barrier to enter.**
- **Very few companies have unique OS.**

Revenue Structure of eSOL's Embedded Software Business

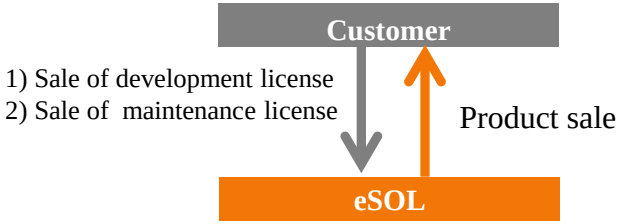
Established well-balanced revenue structure with highly profitable "Embedded Software Products" and fairly stable "Engineering Service"

● Embedded Software Products

Development / sale of RTOS (real-time operating system)

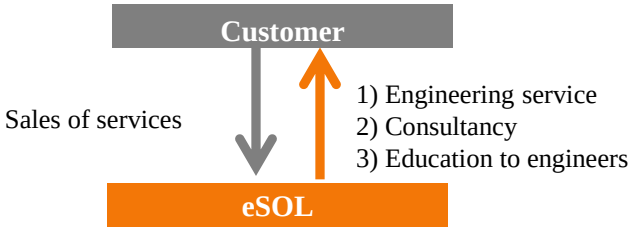


Development/sale of Development Support Tools

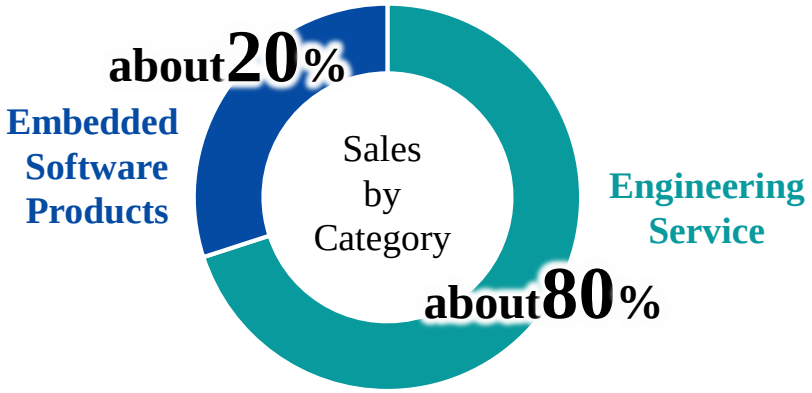


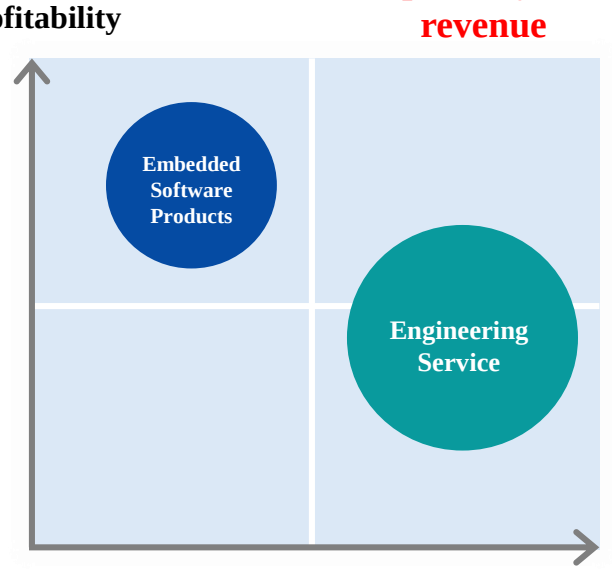
Excellent earnings without depending on the number of engineers

● Engineering Services



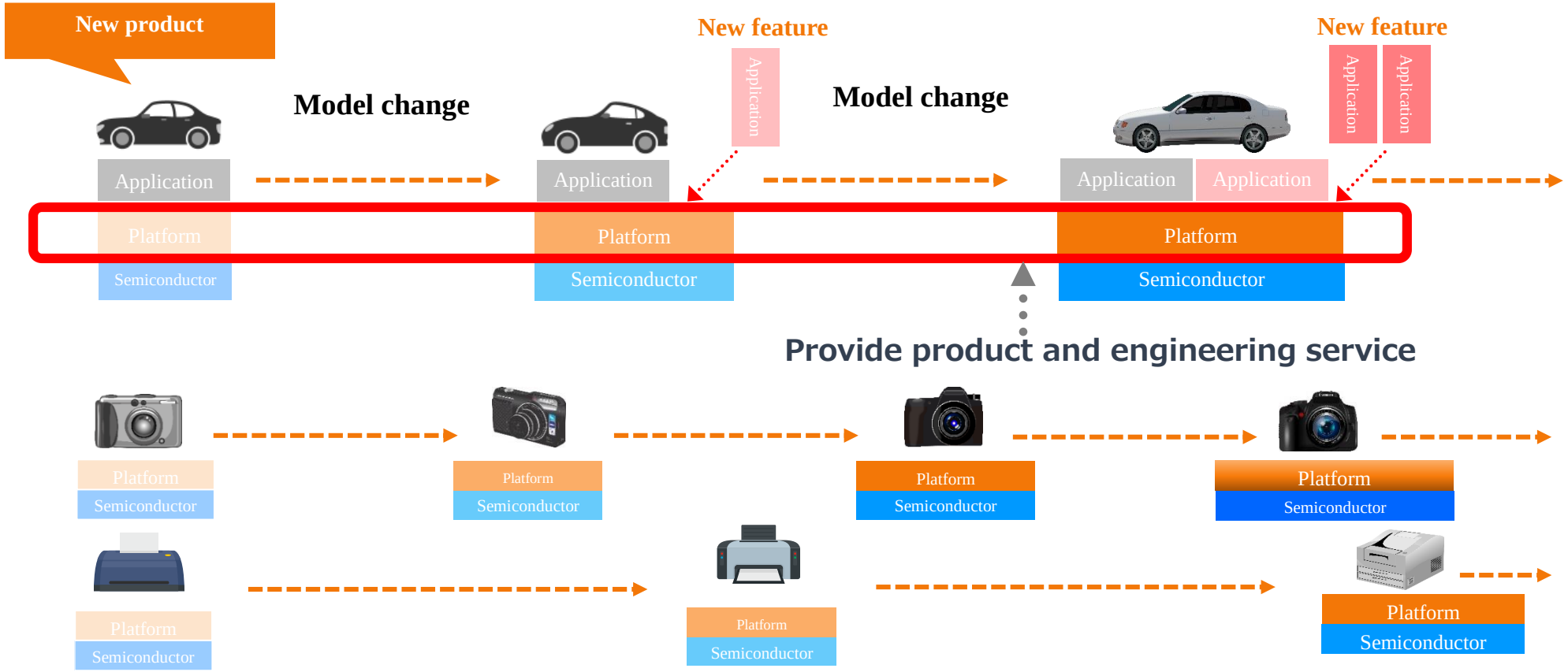
eSOL's primary source of revenue





Stability of eSOL's Embedded Software Business

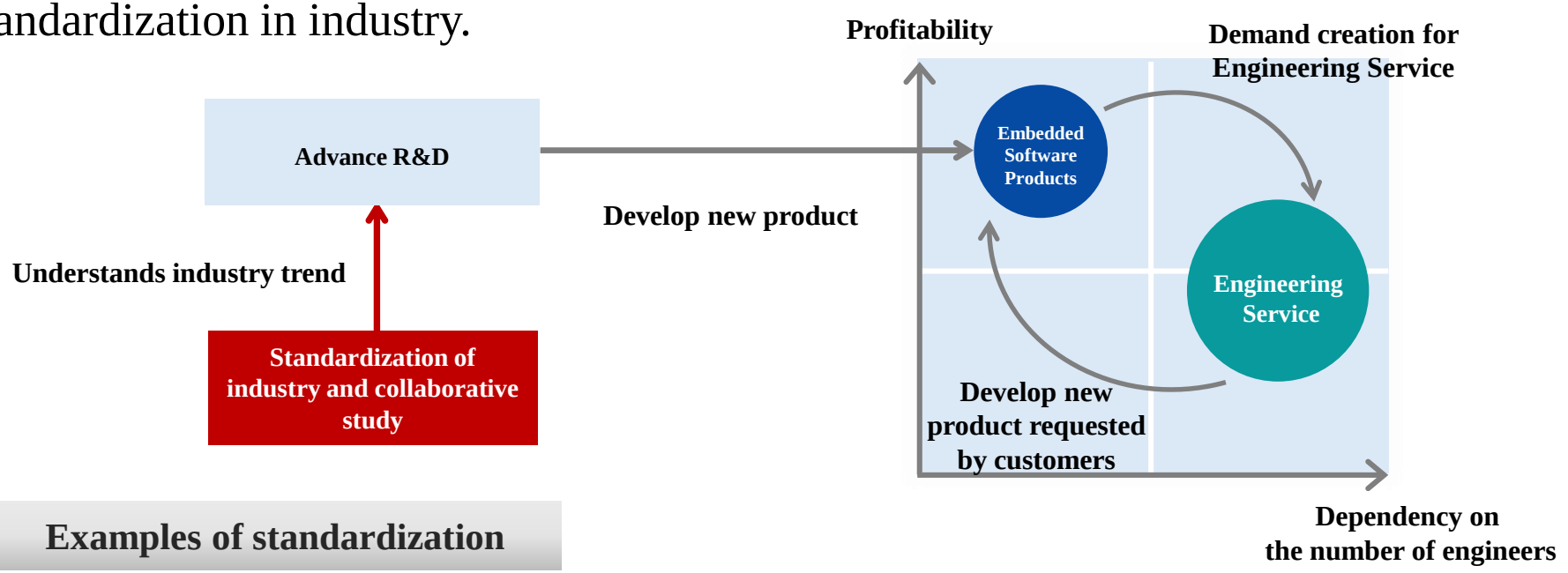
Embedded Software Business is stock business.
Continued repurchase demand for Platform.



Periodical repurchase demand from various customers across industries

Feature of Embedded Software Business

eSOL has expanded its business through successful synergy between Embedded Software Products and Engineering Service and developed leading-edge products along the way of standardization in industry.



Examples of standardization

AUTOSAR is the global development partnership established in 2003, that aims to standardize basic specifications of software used in automotive industry, consists of more than 200 membership companies/organizations such as automobile manufacturer and automotive components manufacturers.

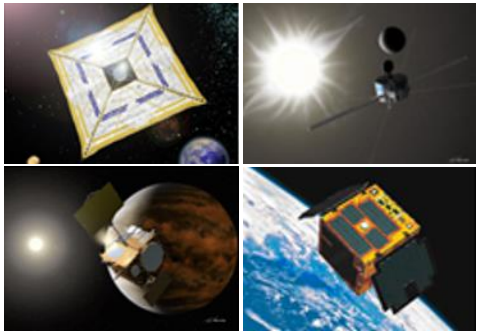
IEEE is the global institute of electrical and electronic engineering established in 1963 having its Head Quarter in the United States, where eSOL participates in SHIM working group belonging to the sectional committee of computer.

Where eSOL's Embedded Software is Introduced

Embedded Software has been introduced across industries. Moreover, its market and importance are growing year by year along with IoT becoming familiar.

Automotive devices

Aerospace

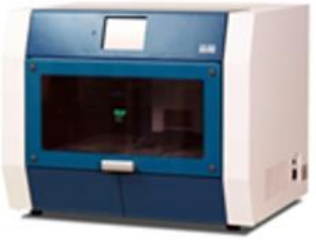


Consumer devices

Industrial equipment

Audio equipment

Physics and chemistry devices



Diverse needs lie in such as research and academic use

Sensing Solution Business Products

Our programming expertise are show in product planning, manufacturing guidance and hardware sale.

Logistics related business

Automotive printer for issuing designated slips

POS handy terminal system

Dedicated terminal holder for forklift

Strong environmental resistance technology with years of expertise

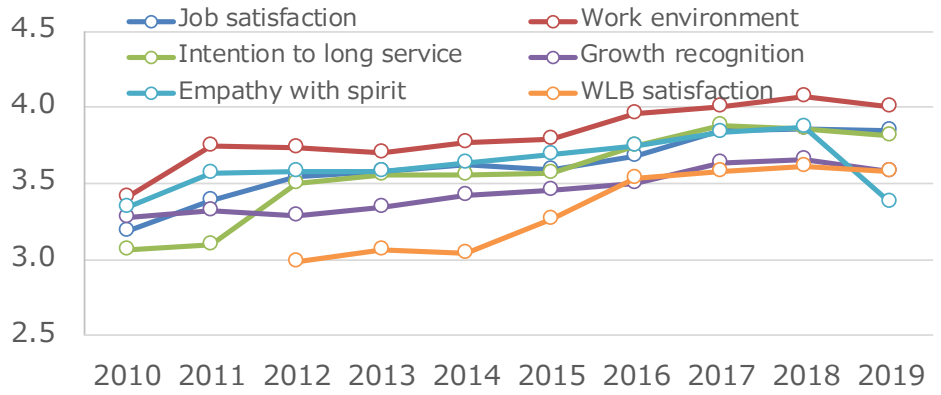
Sensor network business

Farm management system, disaster prevention system etc.

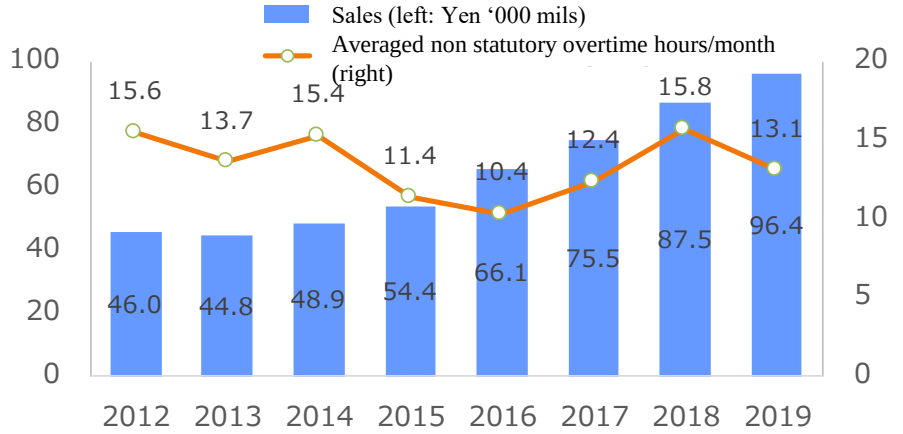
Fair Degree of Employees' Satisfaction

eSOL has been implementing "Reform of Working Practice" since 2012, much earlier than the industry; engineers' motivation has improved.

Awareness survey of engineers (5 out of 5)



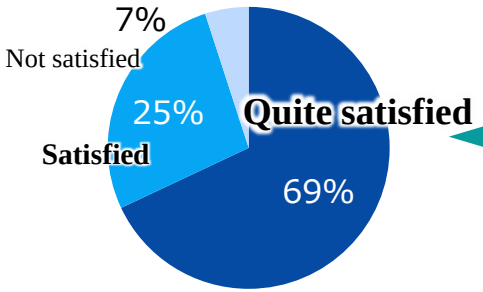
Sales vs "Reform of Working Practice"



In the past 8 years, non statutory overtime hours have remained at the almost same level, while sales has grown twofold.

Are you satisfied with working in eSOL ?

(July 2019 inquiry)



Engineers' comments

- **I joined eSOL wishing to develop unique OS.**
- **I feel myself motivated as my skill improves day by day.**

Average length of service

10.7 years

(+1.6 years from 2012)

Annual paid leave consumed

81.4%

(+11.1pt from 2012)

Topics

eSOL has been enhancing the quality of Work Life Balance as one of the company's strategy, and more specific, supporting male employees so that they can take child-care leave easily.
Recently, Work Life Balance Co. and **Forbes**JAPAN jointly issued the special article — "All male employees should take child-care leave". The article featured Mr. Hasegawa, President, as one of the "Managers encouraging employees to take child-care leave". We are very happy if you would refer to below

https://forbesjapan.com/articles/detail/31248

2. How Our Business Going On

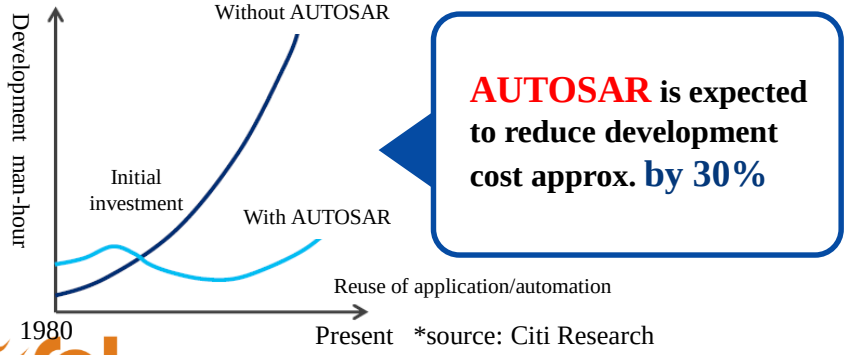
Prospective Strategy: Promising Driver lies in Automotive Industry

eSOL has been serving for AUTOSAR, the global development partnership organized in automotive industry, as “Premium Partner” since 2016.

What’s AUTOSAR ? https://www.autosar.org/

- **Global development partnership of the automotive industry** organized in July 2003.
- Consists of more than 200 membership companies/organizations such as automotive manufacturers and automotive components manufacturers.
- Aiming to realize effective development of software and ensure security measures through standardizing basic specifications of onboard software.
- AUTOSAR’s specifications have already introduced into mass-produced vehicles in Europe, also being introduced across other regions including Japan .

Image of development cost reduction by AUTOSAR



AUTOSAR is expected to reduce development cost approx. by 30%

Outline of AUTOSAR hierarchy

Core Partners/ Strategic Partners	・Top level Partners ・From Japan Core Partners 1 company Strategic Partners 1 company
Premium Partners	・Only Core and Premium Partners can design AUTOSAR’s specification. ・As Premium Partner, eSOL designs specification.
Associate Partners	・Most Japanese companies refer to AUTOSAR’s specification as Associate Partners.

Press Release

eSOL Co., Ltd.

Press
Release

June 11, 2019

eSOL Co., Ltd.

Denso Vehicle Surround View Adopts eSOL eT-Kernel Functional-Safety RTOS

Supporting Development of Mechanisms for Guaranteeing Safety

Tokyo, Japan. June 11, 2019 -eSOL, a leading developer of real -time embedded software solutions, today announced that eSOL's eT-Kernel™Multi-Core Edition (MCE) base platform has been selected for use in a vehicle surround view system developed by DENSO Corporation . eT-Kernel MCE is a software platform that incorporates eT -Kernel MCE, a real-time operating system (RTOS) for multi -core processors that supports Functional Safety (FuSa). eSOL will also supply services to support the development of safety mechanisms based on its extensive knowledge and experience with Functional Safety compliance. This will help achieve the required level of safety and reliability to satisfy Functional Safety standards in the development of vehicle periphery monitoring system s, in addition to it demanding real-time performance and quality requirements.

◇

The vehicle periphery monitoring system developed by DENSO combines high-resolution cameras and image processing to stitch together images from the cameras mounted around the periphery of a vehicle, thereby providing clear video pictures and advanced detection functions.

eT-Kernel has acquired product certification under the ISO 26262 (road vehicles) and IEC 61508 (industrial equipment) Functional Safety standards at the highest safety levels (ASIL D and SIL 4 respectively). Similarly, eSOL's development process for RTOS products has also been certified compliant with the IEC 62304 safety standard for medical equipment. The eBinder® development environment, meanwhile, supports high reliability and enables development to be undertaken in a way that satisfies the requirements of ISO 26262 and IEC 61508. For eT-Kernel and eBinder users , eSOL also supplies the eT-Kernel Safety Package , which packages together safety manuals, reports, and other documentation containing the evidence and related information associated with implementing Functional Safety on user systems that incorporate eSOL products. eSOL provides comprehensive support for achieving Functional Safety in ways that suit user needs, thereby allowing users to focus on the development of their own products and on achieving compliance with Functional Safety standards.

◇

"I am honored that DENSO Corporation has chosen to use the eT-Kernel MCE base platform in its vehicle surround view systems. At eSOL, we provide a high level of support for ensuring quali ty and safety in automotive system development , drawing on our extensive involvement in the development of embedded systems with demanding real -time performance and reliability requirements , and also on the experience and know -how we have built up from acq uiring Functional Safety certification for our own products," said Nobuyuki Ueyama, Executive Vice President of eSOL.

■For Reference

eT-Kernel MCE

eT-Kernel Multi -Core Edition (MCE) is an RTOS for embedded systems using a multi -core processor. Featuring eSO L's proprietary Blended Scheduling, the eT-Kernel MCE enables the coexistence of both symmetrical (SMP) and asymmetrical (AMP) multi-core processing in a single system. Four scheduling modes are available based on Single Processor Mode

eSOL eSOL Co., Ltd.

Press Release

February 6, 2020
eSOL Co., Ltd.

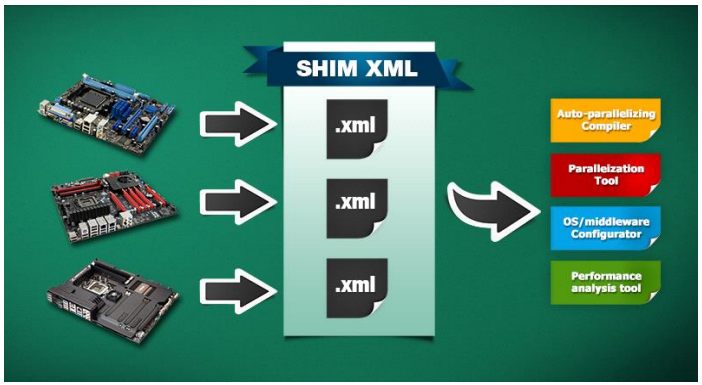
eSOL-Promoted SHIM Interface Becomes IEEE Std 2804 International Standard

～ IEEE SHIM Working Group Chaired by eSOL CTO Masaki Gondo ～

Tokyo, Japan. February 6, 2020 - eSOL, a leading developer of real-time embedded software solutions, today announced that SHIM has been formalized as IEEE Std 2804-2019, the first such standard to be formulated by the IEEE Computer Society/Design Automation/Software-Hardware Interface for Multi-many-core Working Group (IEEE C/DA/SHIM WG), which was established in February of last year within the Institute of Electrical and Electronics Engineers (IEEE) . The Multi-many-core Working Group's role was to work on the standardization of hardware architecture descriptions from the standpoint of software design. Masaki Gondo, eSOL's CTO and Technology Headquarters GM, played a central role in formulating the standard, serving as working group chair and making continuous contributions that resulted i n the standard being issued less than one year after the working group got underway, an extraordinarily short time for an IEEE standard.

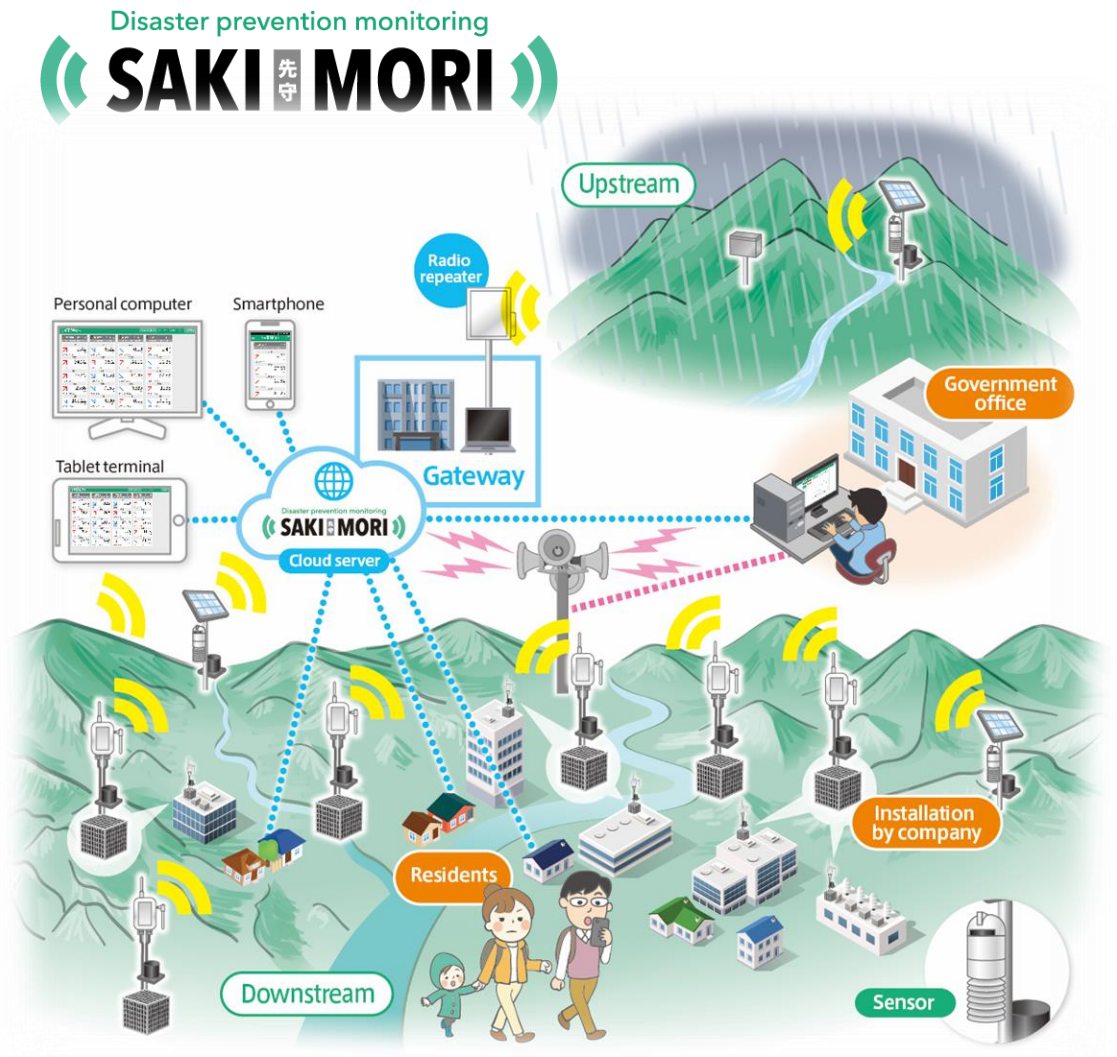
◇

The IEEE C/DA/SHIM WG was established in February 2019 as a working group for the standardization of hardware architecture descriptions from the standpoint of software design within the Design Automation Standards Committee of the IEEE Computer Society, one of the 39 separate societies within the IEEE. This working group is in charge of defining descriptive standards of architecture from the standpoint of software design for Software -Hardware Interface for Multi-many core (SHIM) , as well as providing XML schemas to abstract the key hardware properties that are critical to enabling multi-many-core tools. The XML interface will assist in reducing costs for supporting new multi -many-core hardware. This is expected to spur development of new and innovative multi-many-core tools for building an ecosystem of multi-many-core technology.



Existing tools that already use IEEE Std 2804 include the eMBP model -based parallelizer being developed by eSOL in partnership with Nagoya University and SLX from Silexica GmbH for which eSOL Trinity acts as an agent. Compliance with IEEE Std 2804 enables these tools to provide prompt support for new multi-many-core chips from different vendors.

Sensing Solution Business: Disaster Preventive System



SUSTAINABLE DEVELOPMENT GOALS
世界を変えるための17の目標

Risk management supporting business continuity
BCP

Contribution to local society as key corporation
CSR

Our Efforts

Disaster preventive system can:

achieve business continuity through protecting safety/life of employees and safety of machine and equipment in advance; and

protect safety of local people.

Sensing Solution Business: Electricity Storage Equipment in Disaster

Solar Cubicle

Cubic type solar electricity storage equipment

Locations to be used

- Municipal disaster evacuation sites
- Emergency power supply at construction sites
- Schools, hospitals and factories
- Mountain trails, agricultural land and farms
- Rivers, debris dams, etc.

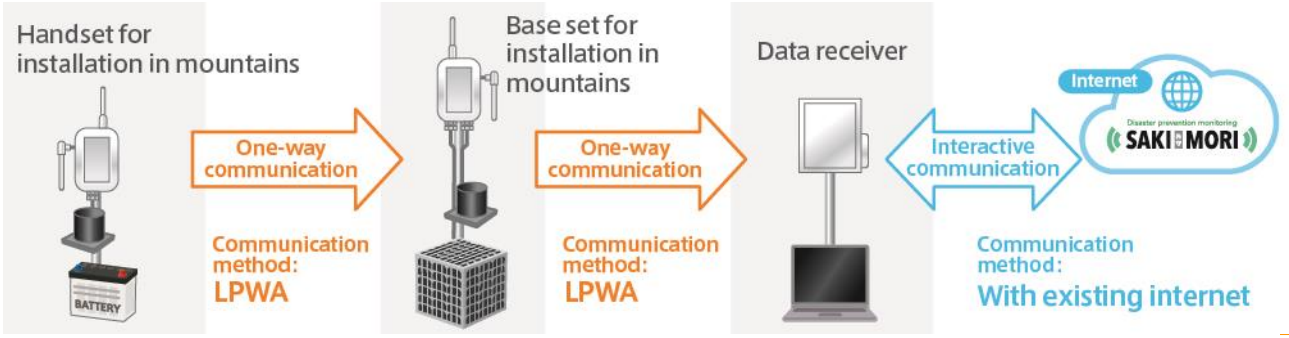
Product features

- Power can be supplied to machine and tools where electricity is not supplied. The accurate status of the equipment can be checked at once.
- Solar power generation eliminates the need for gasoline and other fuels.
- Structure is designed to store supplies in an emergency.
- Prepares AC outlets as an emergency power box
- SOS transmission in an emergency (optional, to be featured)

Installation

- Easy to install. Can start using just after the installation.
- Easy to move. Can be installed only for a limited period of time.
- Special work is not required

An example of using AGRInk Sensor with Solar Cubicle



Monitoring with special application in smart phones

3. eSOL reports FY2020 1Q Results

FY 2020 Q1 Results - Summary

Summary of results

(Unit: JPY mills)

	FY 2019 Q1	FY 2020 Q1	YoY	Progress	FY 2020 Forecast
Sales	2,411	**2,433**	+0.9%	23.1%	10,539
Operating income	291	**215**	▲26%	36.1%	598
Income from continuing operation befiore tax	297	**223**	▲24.8%	27.7%	805
Net income	209	**203**	▲2.7%	34.4%	591

■ Sales grew year over year due to the growing revenue in Sensing Solution Business primarily from the increase in the sales of in-house handy terminals, partially offset by the decrease in revenue in Embedded Software Business primarily because of the sluggish sales to automotive industry.

■ Operating income decreased primarily due to the increase in the development cost for in-house OS.

FY 2020 Q1 Results - Summary

Results by segment - summary

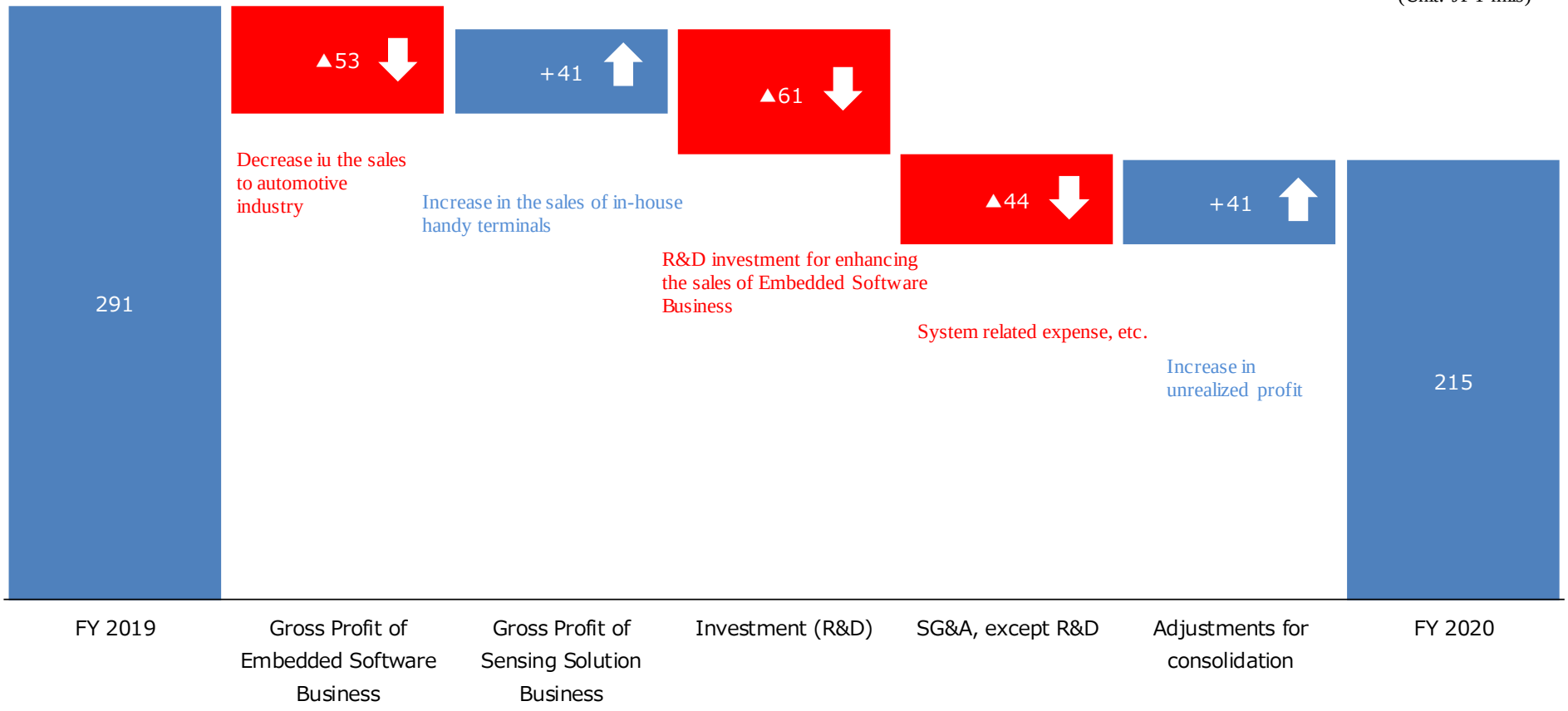
(Unit: JPY mills)

By Segement			FY 2019 Q1	FY 2020 Q1	Variance fron 2019
Sales			2,411	**2,433**	+0.9%
	Embedded Software Business		2,281	**2,186**	▲4.2%
		Embedded Software Products	445	**440**	▲1.3%
		Engineering Service	1,835	**1,746**	▲4.9%
	Sensing Solution Buiness		133	**210**	+57.1%
	Adjustments for consolidation		▲3	**36**	—
Gross margine on sales			783	**813**	+3.7%
	Embedded Software Products		737	**684**	▲7.3%
	Sensing Solution Buiness		48	**90**	+86.1%
	Adjustments for consolidation		▲2	**38**	—
Operating income			291	**215**	▲26.0%
	Embedded Software Products		309	**147**	▲52.4%
	Sensing Solution Buiness		▲14	**30**	—
	Adjustments for consolidation		▲2	**38**	—

FY 2020 Q1 Results - Summary

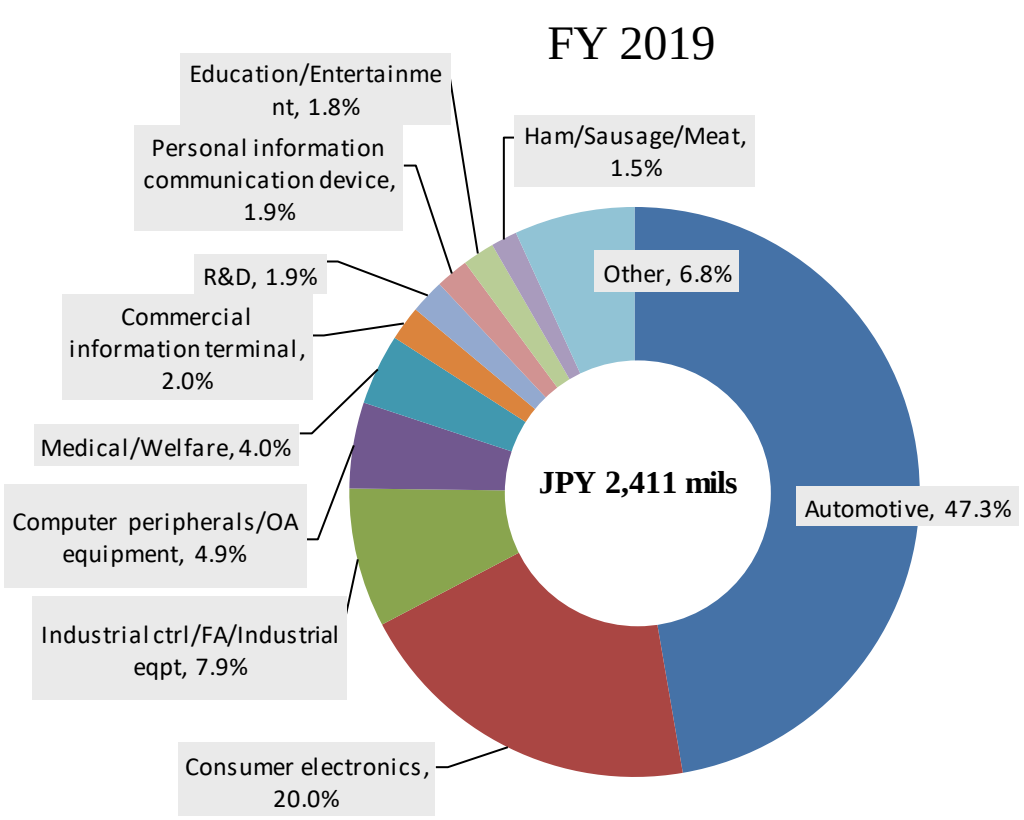
Walk of Operating Income (Year over Year)

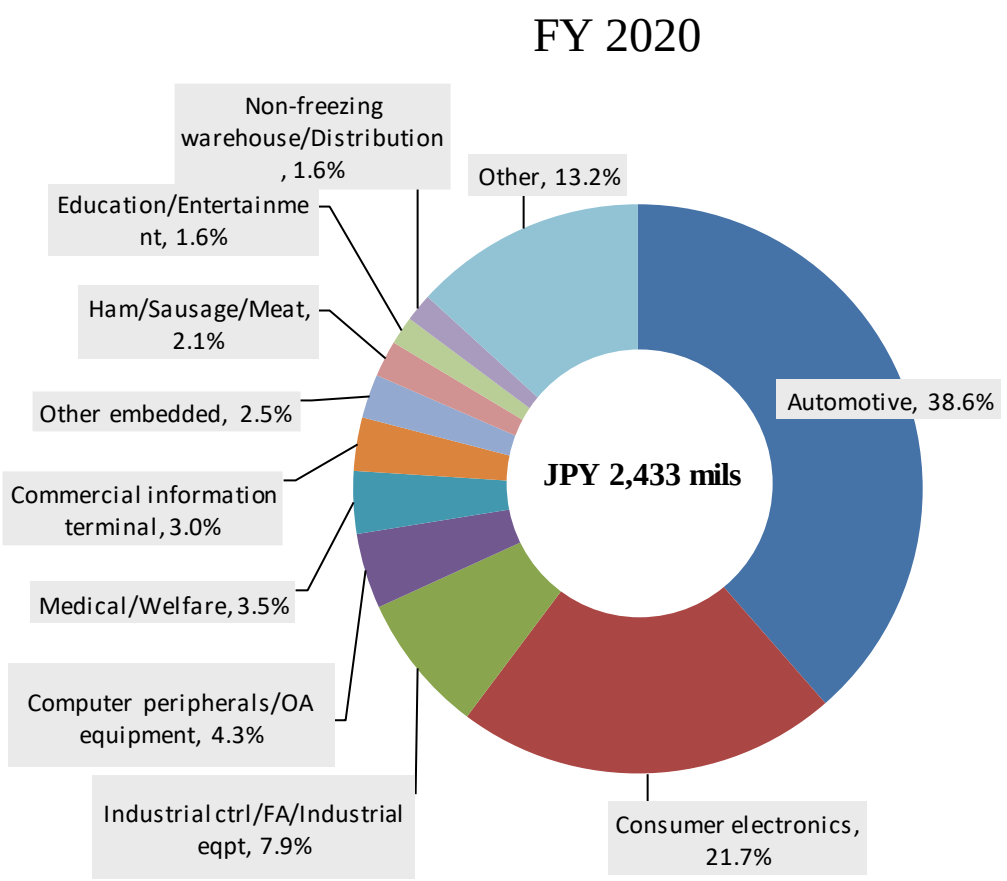
(Unit: JPY mils)



FY 2020 Q1 Results - Summary

Sales by segments of customers





FY 2020 Q1 Results - Summary

R&D investment — accelerated targeting the global market.

■ Basic policy for R&D investment

Allocate approx. 10% of sales revenue to be continuously invested in R&D and revision up.

■ Policy for the current FY

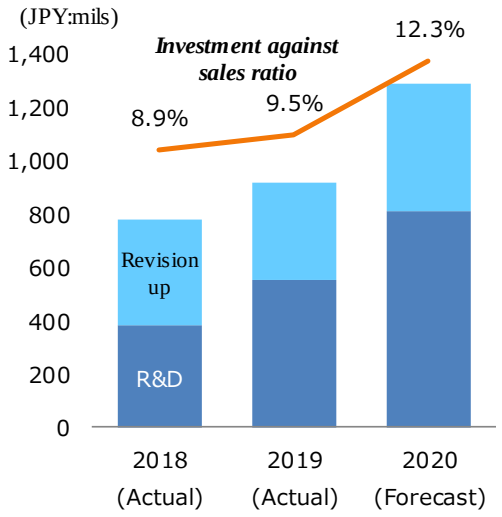
The whole group, including overseas affiliates, accelerates investment in the development of unique OS targeting automotive industry where computerization has been increasingly adopted.

■ Forecast for the current FY

(Unit: JPY mills)

		FY 2019 Q1	FY 2020 Q1	YoY	FY 2020 Forecast
Sales		2,411	**2,433**	**+0.9%**	10,539
Investment in development		202	**250**	**+24.0%**	1,292
	R&D	122	**183**	**+49.7%**	811
	Revision up	79	**66**	**▲15.9%**	480
Investment against sales ratio		8.4%	**10.3%**	—	12.3%

Revison up: investment to maintain the function of product



FY 2020 Forecast 【Return to Shareholders】

eSOL would like to return profits to out shareholders in accordance with the following policies.

■ Dividend Policy

Stable financial position

Stable dividend payout ratio in line with business performance

Investment for the enhancement of corporate value thorough internal reserve (R&D investment , human resource development, etc.)

■ Amount of Dividend

	2019	2020
Dividend per share	*5.50yen	5.50yen
(Iterim dividend)	(0.00yen)	(1.50yen)
Dividend payout ratio	17.0%	18.9%

*memorial dividend of 1.50yen/share is included

Notes on this material

Any statements contained in this document that are not historical facts are forward-looking statements based on publicly available information at the time of issuing this document, and therefore, will not guarantee such as the result of operation in the future.

All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations.

Uncertainties above include but not limited to factors for economical condition in Japan or overseas and trend in the related industries.

eSOL undertakes no obligation to publicly update or revise any forward-looking statements.

Information other than eSOL group contained in this documents is publicly known, and also, eSOL undertakes no obligation to guarantee its accuracy or adequacy.

Contact for information
eSOL Co.,Ltd.
President's office
e-mail : esol-ir@esol.co.jp
WEB ：https://www.esol.com/