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Company Name: Taiyo Nippon Sanso Corporation
Name of Representative: Yujiro Ichihara, President & CEO
(TSE Code: 4091, First Section of the TSE)
Contact: Hisataka Ose
General Manager, Public Relations/IR
Department
(Telephone: 03-5788-8015)

Announcement of New “Ortus Stage 2” Medium-Term Management Plan

Taiyo Nippon Sanso Corporation (President Yujiro Ichihara) hereby announces that it has finalized its new “Ortus Stage 2” four-year medium-term management plan starting in fiscal year ending 2018.

1. Positioning of the New Medium-Term Management Plan

The company set the “Ortus Stage 1” three-year medium-term management plan, started in FYE 2015 focused on strengthening resources to increase global competitiveness and establish a strong position within the market. The new “Ortus Stage 2” four-year medium-term management plan, starting in FYE 2018 is the second stage after “Ortus Stage 1” and will focus on the promotion of profitable growth.

* Ortus: A Latin word meaning “beginning and birth”

2. Overview of the New Medium-Term Management Plan

(1) Financial Targets

	FYE2017 (Forecast)	FYE2021 (Projection)
Revenue	¥580 billion	¥800 billion
Core Operating Income	¥54 billion	¥76 billion
Core Operating Income Ratio	9.3%	9.5%
Overseas Revenue Ratio	40.5%	45.0%
ROCE	8.6%	9.0%

(2) Basic Policies

- ◆ Domestic Gas Business Expansion
 - Expansion in gas-related businesses such as gas equipment, in addition to the gas business
 - Sustain growth of businesses in Japan (M&As inside Japan and changes to sales channels)

- ◆ Safety, Quality and Compliance
 - Strengthen safety, quality, and compliance efforts
 - Strengthen collaboration with regional holding companies in overseas markets undergoing business expansion

- ◆ Accelerating R&D Strategy
 - Accelerate R&D with open innovation
 - Concentrate on prioritized development fields based on portfolio strategies
 - Make a larger contribution toward TNSC profitability

- ◆ Globalization
 - Increase overseas M&A and capital investments
 - Establishing new business

- ◆ Strengthening Corporate Functions
 - Implement human resource, information, and finance strategies
 - Strengthen corporate functions to provide stronger support to TNSC and group companies

(3) Policy by Segment

- ◆ Gas Business in Japan

Consolidating our No. 1 position in Japan by expanding gas and gas-related businesses and maximizing group synergy.

- ◆ Gas Business in U.S.

Expansion of business areas, building depth of business in new business areas, and expansion of product groups through active capital investment and M&A.

- ◆ Gas Business in Asia and Oceania

Business expansion by improving market share in new regions and business undertakings in unoccupied regions. Reinforcement of governance through regional holding companies.

- ◆ Thermos and Other Businesses

Expansion of businesses in global regions by fully utilizing our brand power.

(4) Investment Plan under the New Medium-Term Management Plan

We plan to carry out investments totaling ¥340 billion over a period of four years while maintaining financial discipline. We will allocate 70% of all investments to strategic investments, which include M&A and large-scale capital expenditures in Japan and abroad.

(5) Safety, Quality and Compliance

- ◆ Steady implementation of technical risk management
 - Continue to improve technological capabilities and maintenance of vitality in Japan (TNSC, domestic affiliates)
 - Improve safety and technological capabilities overseas

- ◆ Strengthening compliance
 - Strengthen the governance of the entire TNSC Group
 - Enact compliance measures commensurate with business risk
 - Promote the effective operation of the internal control systems

(6) Organization and Human Resource Policies

- ◆ Reviewing the organizational structure
 - Organizational changes for promoting key strategies (as of April 1, 2017)

- ◆ Human resource policies
 - Human resource development corresponding to globalization
 - Allocation of staff to priority measures
 - Reforming work style and promoting diversity

(7) Key Strategies

- ◆ Structural Reform (Total TNSC: Maximizing Group Power by Augmenting Collaboration)
 - Strengthen collaboration in the sales and marketing functions
 - Integration of engineering functions
 - Integration of production & logistics
 - Promotion of shared services

- ◆ Innovation
 - Innovation: R&D (new product development, open innovation, etc.)
 - Innovation: Engineering (strengthen competitiveness of ASU, etc.)
 - Innovation: Sales approaches (upgrading service capability, etc.)
 - Innovation: Production & logistics (improve efficiency and cost reduction on a company-wide basis, etc.)

- ◆ Globalization
 - Enhancement of governance (strengthen the functions of global operations and regional holding companies)
 - Growth strategy (expanding business areas, Total Electronics)
 - * Total Electronics: a global strategic customer management function will be created in China (Shanghai)

- ◆ M&A
 - Expand business territory and reinforce operational density
 - Acquiring new products, technologies, and supply chains
 - Expansion of medical business

3. Policy on Returns to Shareholders

The company considers returns to shareholders one of its highest priorities, and seeks to perform a dividend payout policy in a manner that fairly reflects its business performance while maintaining stable dividend payouts. Going forward, we will strive to further improve our business performance based on the strategic policy set forth in the new medium-term management plan, and we aim to raise consolidated dividend payout ratios during the period of the plan (FYE2018 – FYE2021).



Emerging onto a Still Wider Stage

Medium-term Management Plan Ortus Stage 2



* Ortus: A Latin word meaning "beginning and birth"

Agenda

- **Ortus Stage 1: Achievements and Challenges**
- **Changes in Environment Surrounding Industrial Gas Industry**
- **Ortus Stage 2**
 - **Basic Policies**
 - **Financial Targets**
 - **Safety & Quality**
 - **Compliance**
 - **Organization & Human Resource Policy**
 - **Key Strategies**

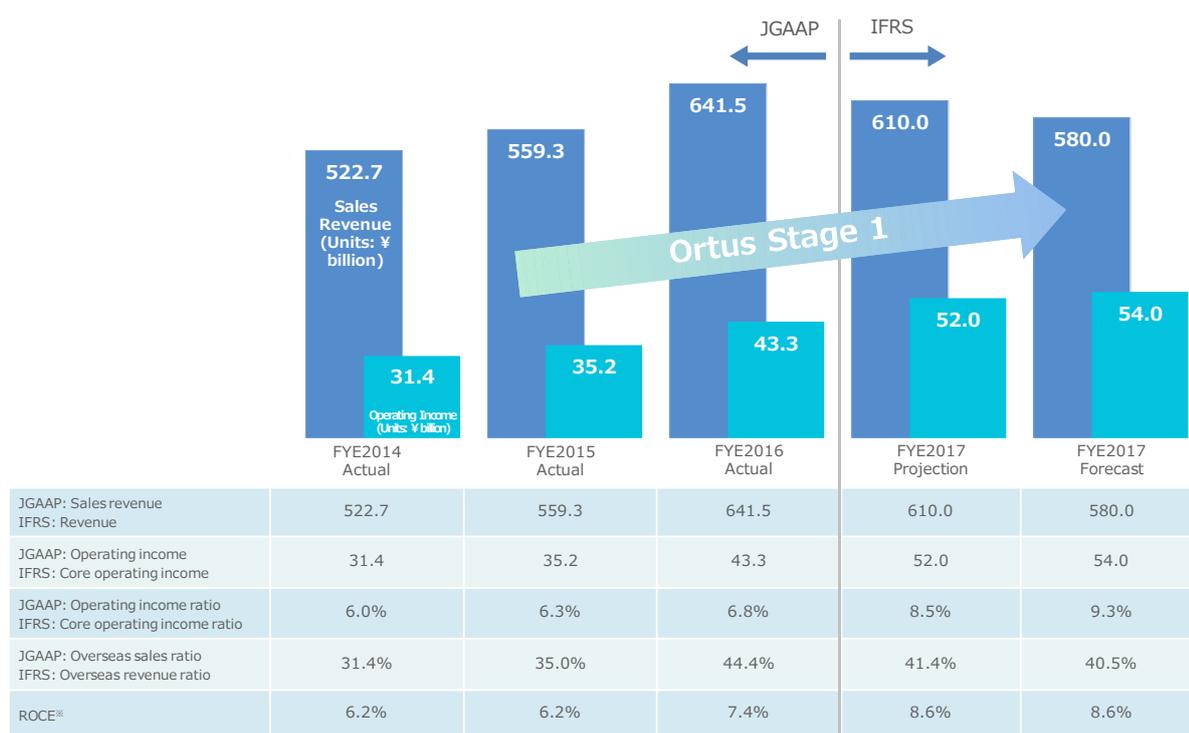
Ortus Stage 1

Achievements and Challenges

Ortus Stage 2

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Business Results



* ROCE (Return on capital employed) = Core operating income / (Outstanding Interest-bearing Debt + Equity attributable to owners of parent)

* Core operating income: Numerical value calculated by subtracting losses (nonrecurring items*) produced by nonrecurring factors from operating income.

* Nonrecurring items are costs of structural reform (cost for withdrawal or downsizing business operations and special retirement allowances), losses caused by disasters or serious accidents, and other expenses (such as disposal of idling assets).

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Issues

Key Strategies	Review of Ortus Stage 1	Result* (¥ billion)	Issues of Ortus Stage 2
Structural Reform	<ul style="list-style-type: none"> Implement early retirement program ◎ Shift human resources to growth market ◎ Restructuring of domestic group companies △ Optimize engineering function △ Strengthen supply chain network ○ Promote in-house shared service function △ 	5.9	<ul style="list-style-type: none"> Optimize engineering function Strengthen supply chain network Promote in-house shared service function Restructuring of group companies
Innovation	<ul style="list-style-type: none"> Development of new products via business development (H₂ stations & water-¹⁸O etc.) ◎ Open innovation ○ Strengthening collaboration with Mitsubishi Chemical Holdings Group ○ Global expansion of developed product ○ 	1.7	<ul style="list-style-type: none"> Development of new products via business development Open innovation Strengthening collaboration with Mitsubishi Chemical Holdings Group Global expansion of developed product Expansion of group products
Globalization	<ul style="list-style-type: none"> Expand overseas operations via strategic investments ◎ Localization of overseas operations (establishment of regional holding companies) ○ Implement IFRS ◎ Cultivation of global human resources (trainee program) ○ 	1.7	<ul style="list-style-type: none"> Improve global management infrastructure Strengthen management system of overseas risks such as safety, quality and compliance Expand overseas operations via strategic investment Improvement of Asian performance Geographic expansion for new area
M&A	<ul style="list-style-type: none"> Implementation of overseas M&A (Air Liquide Hawaii, Air Liquide USA, RGP and Supagas Australia etc.) ◎ 	3.9	<ul style="list-style-type: none"> Globalization M&A Medical M&A Innovation M&A

* Changes in operating income from FYE2014.

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Changes in Environment Surrounding Industrial Gas Industry

Ortus Stage 2

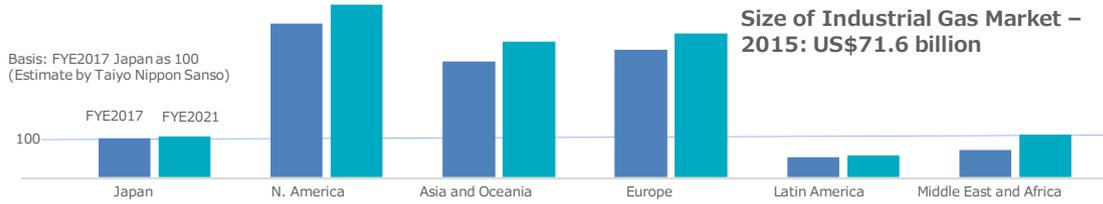


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Changes in Environment Surrounding Industrial Gas Industry (Growth of Overseas Markets and Oligopolization)

Rapid strategy execution is indispensable in responding to overseas market growth and oligopolization

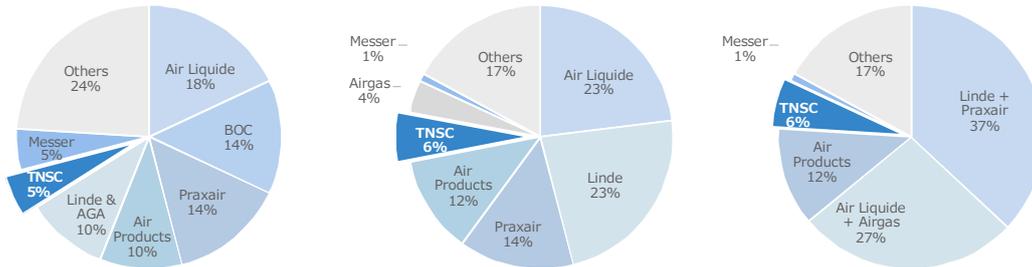
Industrial Gases (Market Size by Region)



1990 share

2014 share

Share if integration is achieved



Source: Gas Diorama

* The share of Taiyo Nippon Sanso in 1990 is the simple sum of shares of Nippon Sanso, Taiyo Sanso and Toyo Sanso.

* Reflects the influence of the integration of Linde and Praxair and the integration of Air Liquide and Airgas.

The figure if integration is achieved represents a simple sum of 2014 actuals. Share fluctuation by sale of assets is not taken into account.

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Ortus Stage 2

Basic Policies

Ortus Stage 2



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Basic Policies



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Policy by Segment

Gas Business in Japan	Consolidating our No. 1 position in Japan by expanding gas and gas-related businesses and maximizing group synergy.
Gas Business in U.S.	Expansion of business areas, building depth of business in new business areas, and expansion of product groups through active capital investment and M&A.
Gas Business in Asia and Oceania	Business expansion by improving market share in new regions and business undertakings in unoccupied regions. Reinforcement of governance through regional holding companies.
Thermos and Other Businesses	Expansion of businesses in global regions by fully utilizing our brand power.

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Ortus Stage 2

Financial Targets



Ortus Stage 2

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Financial Targets

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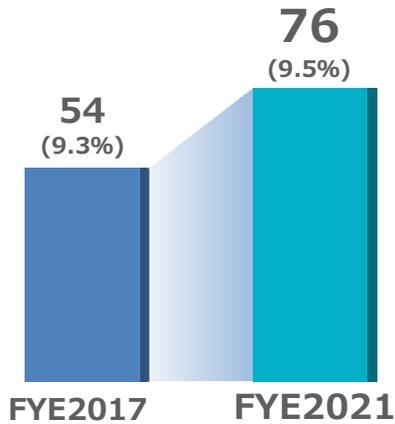
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Activities to Accomplish Financial Targets

FYE2021 Core Operating Income ¥76 billion Improve ROCE to 9.0%

Core Operating Income

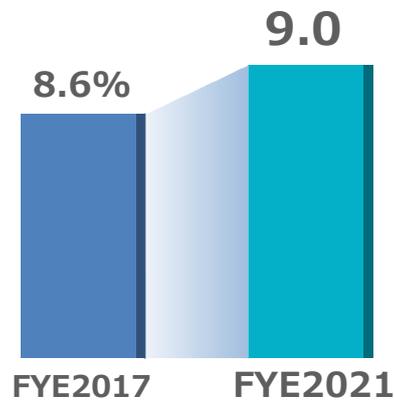
(Core Operating income ratio) (in ¥billion)



Measures for Expanding Core Operating Income

- Business expansion inside and outside of Japan
- Improvement in profitability by implementing structural reform

ROCE (%)



Measures for Improving ROCE

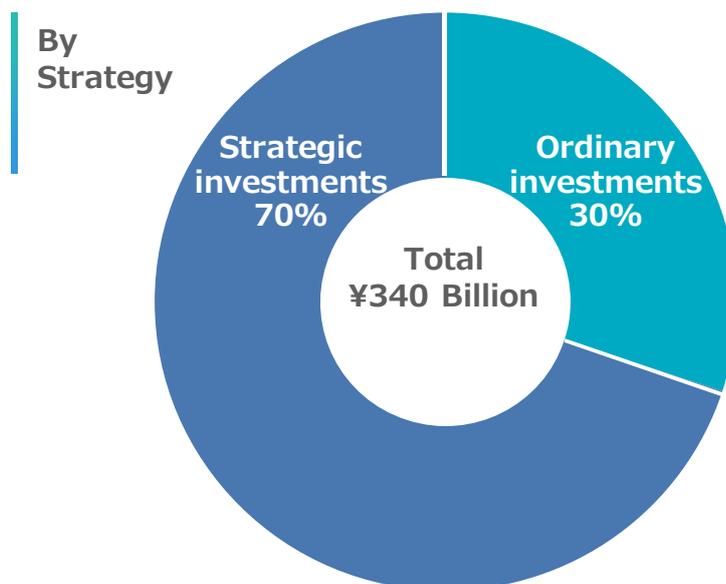
- Strengthening earning power
- Improving asset efficiency

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Investment Plan

Investment of ¥340 billion over a period of four years

(Total projected value of operating cash flow over four years: ¥325 billion)



Allocating 70% of all investments to strategic investments while maintaining financial discipline (net D/E ratio [net debt equity ratio] and other indicators)

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Ortus Stage 2

Safety & Quality



Ortus Stage 2

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Safety & Quality

(Steady Implementation of Technical Risk Management)

Continue to improve technological capabilities and maintenance of vitality in Japan (TNSC, domestic affiliates)

- Reinforce safety capabilities (fostering a culture of safety)
 - Enhance technical capabilities by human resource development and technology transfers (continuously fostering 'The Gas Professionals')
 - Strengthen quality control
 - Utilize group technology databases (technical data, intellectual property information, and work accident information, etc.)
- ▶ “Establish facilities to teach potential hazards and the mastery of technology”
(Establish TNSC Technical Academy)

Improve safety and technological capabilities overseas (Asia and Oceania)

- Expand technology and safety systems of regional holding companies
- Improve voluntary safety systems
- Enhance quality control (foster TNSC Group standard quality)
- Compiling and maintaining global standards (safety and quality), technical information, and education and training manuals)

Targeting “zero” work accidents and quality problems at each workplace

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Ortus Stage 2 Compliance



Ortus Stage 2

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Strengthening Compliance

Basic Policy

To strengthen the governance of the entire TNSC Group, enact compliance measures commensurate with each business risk, and promote the effective operation of the internal control system.

Action Plan

Establish compliance on a daily basis

- Continuously implement the compliance education system
- Ensure the effectiveness of the compliance promotion structure
- Regional monitoring by regional CCOs

Rigorous education about important themes

- Foster the TNSC Group Code of Conduct in group companies
- Education about important themes by regional CCOs based on the socio-economic environment, laws and regulations, of each region
- Regional CCOs thoroughly disseminate Global Code of Conduct within the region.

Expand the compliance promotion system to group companies

- Develop a compliance system at all core group companies
- Conduct risk surveys and education programs at all group companies

Appointing group CCO and regional CCOs

- Appoint a group CCO as the officer responsible for promoting and implementing legal compliance within the entire group.
- Appoint regional CCOs and promote the establishment of a compliance structure within the region.
- Establish global committees of group CCO and regional CCOs

Establish compliance promotion systems at overseas bases

- Conduct risk surveys and education programs as regards country-specific risks
- Strengthen collaboration with regional holding companies
- Strengthen the human resources in the compliance divisions to reduce legal risk, enhance internal audits, and strengthen internal control
- Individual regions will set up whistle-blower systems

* CCOs is the abbreviation of Chief Compliance Officers.

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Ortus Stage 2

Organization & Human Resource Policy

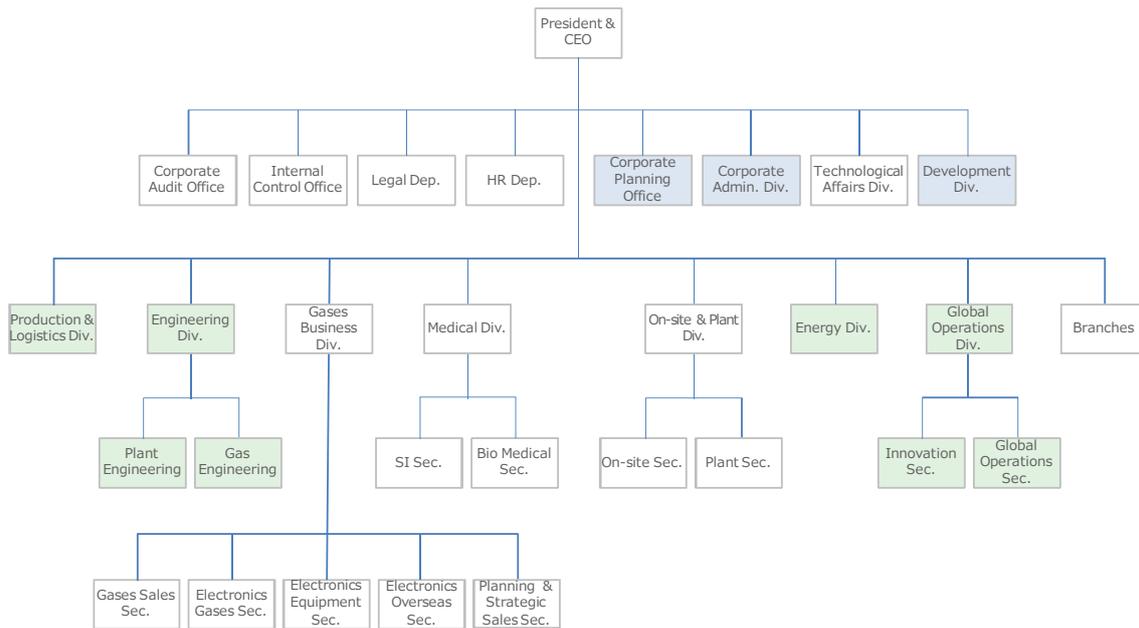


Ortus Stage 2

Reviewing the Organization [April 1, 2017]

Organization		Review Item
Corporate Divisions	Corporate Planning Office	To strengthen corporate strategy functions, the Corporate Planning Office will be newly organized by separating the Corporate Secretary and Corporate Planning Depts. from the Corporate Planning & Global Operations Div., and by merging the IT Dept., which is separated from the Corporate Administration Div.
	Corporate Administration Division	To strengthen corporate administration functions, the IT Dept. will be separated from the Corporate Administration Div., which will be merged with the PR and IR Depts. and Corporate Treasury Dept. separated from the Corporate Planning & Global Operations Div. The Corporate Treasury Dept. and Accounting Dept. will be merged into the Treasury & Accounting Dept.
	Development Division	To strengthen development functions, after separating the gas engineering function from the Development & Engineering Div., the division will be renamed the Development Div.
Business Divisions	Production and Logistics Division	To optimize industrial gas operations, the Production & Logistics Div. will be established to integrate the functions of the Gas Production Technology Dept. (On-site & Plant Div.), Product Planning & Operations Dept. (Gases Business Div.), and Logistics Center (Gases Business Div.).
	Engineering Division	To reinforce the functions of engineering organizations, the Engineering Div. will be established via integration of the plant engineering function (On-site & Plant Div.) and gas engineering function (Development & Engineering Div.).
	Energy Division	With our expansion of other energy products besides LP gases in response to energy liberalization, the LP Gases Div. will be renamed the Energy Div.
	Global Operations Division	To strengthen the function of global operations, the Global Operations Div. will be newly organized by merging the International Department, after separating it from the Corporate Planning & Global Operations Div., with the Global Innovation Div.

Organization



Human Resource Policy

Implementing Measures to Support Ortus Stage 2

- **Human resource development corresponding to globalization**
 - Formulating a succession plan for the global management of human resources
 - Hiring and fostering global human resources
 - Upgrading education and training programs
- **Allocation of staff to priority measures**
 - Development divisions, medical divisions, corporate divisions, etc.
- **Reforming work style and promoting diversity**
 - Effectively matching human resources and diversity
 - Programs for promoting employee wellness
 - Consider introducing flexible work (flextime, telework, etc.)

Ortus Stage 2

Key Strategies

- (1) Structural reform
- (2) Innovation
- (3) Globalization
- (4) M&A

Ortus Stage 2



Key Strategy 1

Structural Reform

Ortus Stage 2



Action Plan for Structural Reforms



Maximizing Group Power by Augmenting Collaboration

1 Strengthen collaboration in the sales and marketing functions

2 Integration of engineering functions

3 Integration of production & logistics

4 Promotion of shared services

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Action Plan for Structural Reforms

1 Strengthen collaboration in the sales and marketing functions

Strengthen collaboration in the sales and marketing functions

- Maximizing the group power of Taiyo Nippon Sanso by stepping up collaboration in customer relations (CRM) among the group companies (TNSC, Nissan Tanaka, Nippon Ekitan, and Taiyo Nippon Sanso G&W).
→ Customer service beefed up by the group as one entity.
- Develop a total solutions business for the market and customers based on a more close-knit, cooperative group.

2 Integration of engineering functions

Reinforce functions of engineering organizations

- Unify the management of a wide variety of engineers and secure mobility and flexibility in response to changes in business conditions.
- Strengthen customer relations by unifying the group's elemental technologies and developing engineers with multi-skilled capabilities

* CRM: Customer Relationship Management

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Action Plan for Structural Reforms

3 Integration of production & logistics

Optimization of industrial gas operations

- Optimizing industrial gas operation by integrating and operating the gas production technology department and logistics department.
- Management integration of bulk gas production facilities & Sanso centers to achieve higher efficiency and optimization.

4 Promotion of shared services

Widen the target of shared services

- Promote shared services for all domestic subsidiaries to strengthen internal controls, ensure the quality of operations, and the efficiency and optimization of business.

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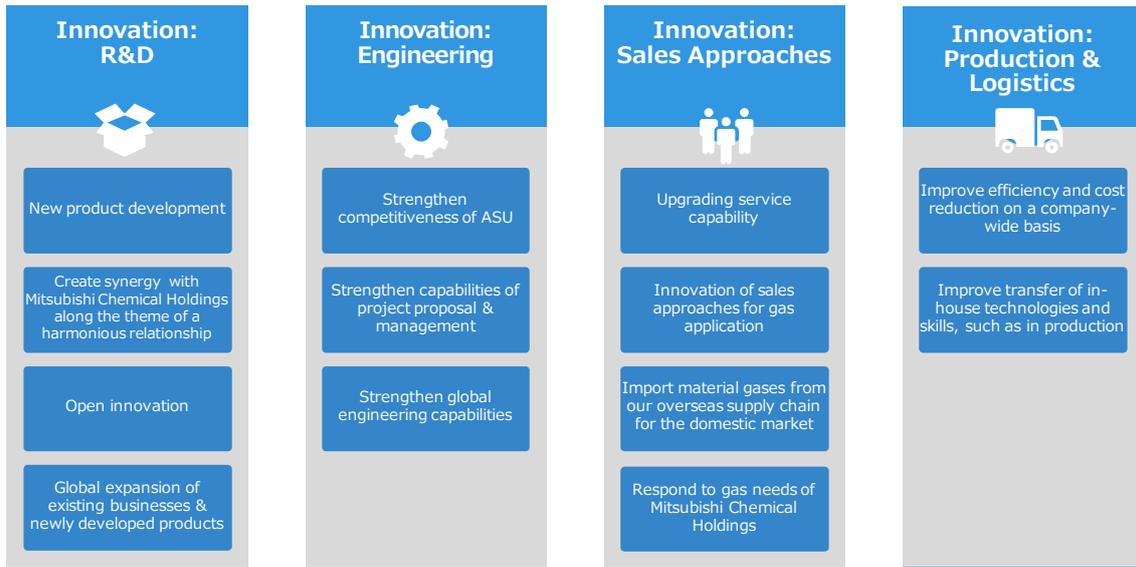
Key Strategy 2

Innovation

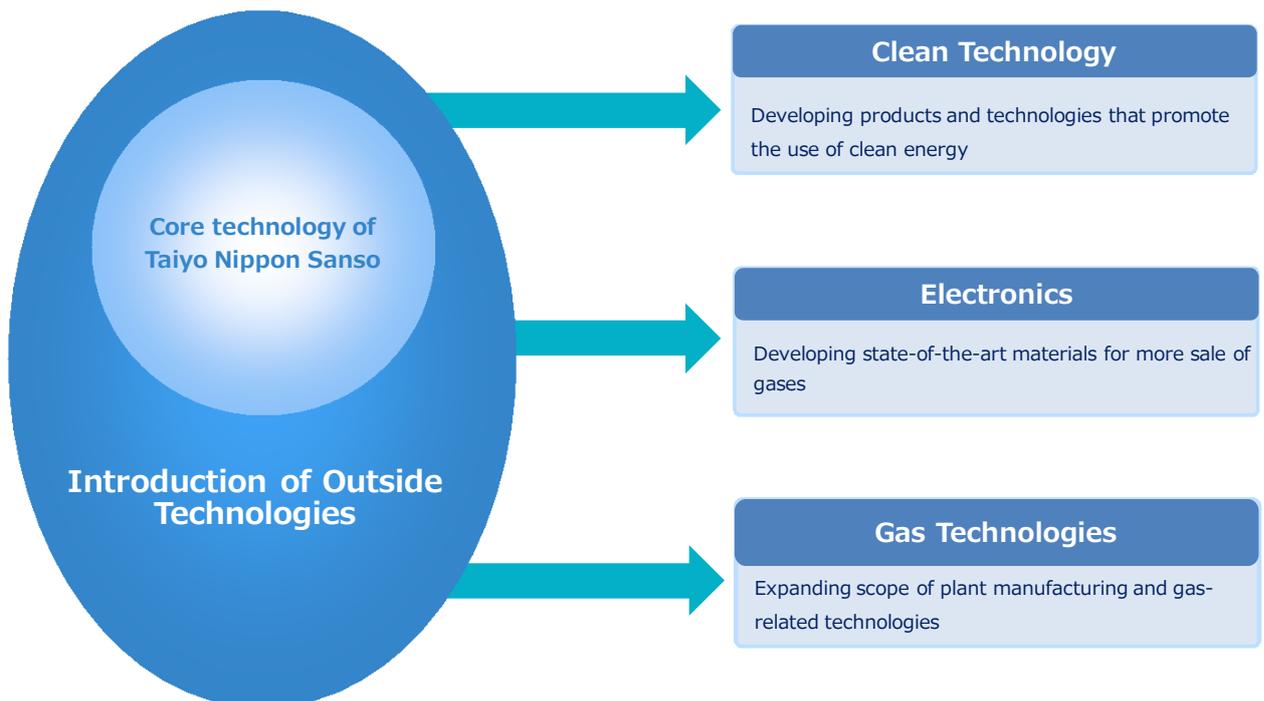


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Action Plan for Innovation Strategies

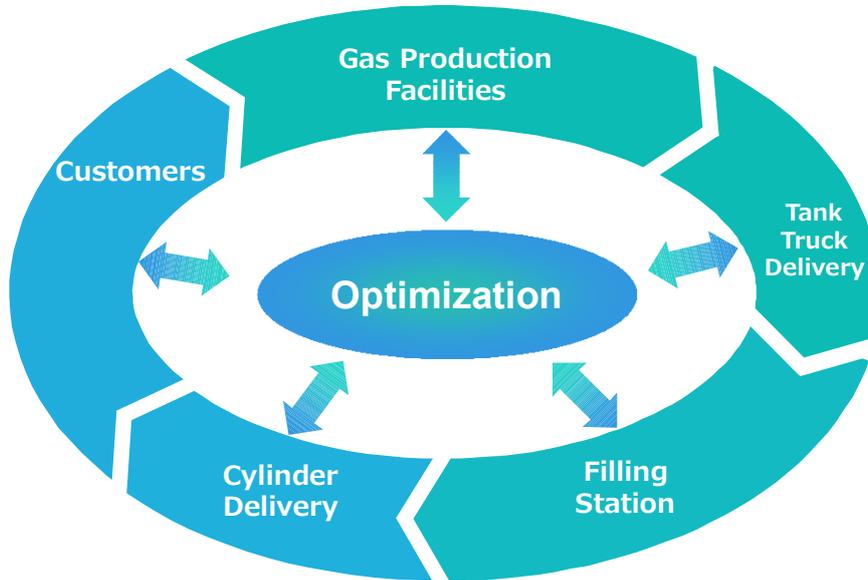


Open-innovation



Improve efficiency and cost reduction on a company-wide basis

Reduce energy consumption through continuous effort as an energy-consuming industry



Optimize and maximize group operations

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Key Strategy 3 Globalization



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Basic Strategy

Basic Policy

- TNSC strives to enhance the functions of its global operations (Global Operations Div. and regional holding companies), and the cooperation among global operations and corporate functions, while strengthening cross-organizational management functions.
- By developing the Ortus Stage 1 strategy, TNSC intends to accelerate the implementation of geographical expansion and the improvement of profitability with aggressive investment activities.

Basic Strategy

Enhancement of Governance

Strengthen the function of the Global Operations

Adding a planning management function and a marketing function to the Global Operations Div. for reinforcement of the division.

Strengthen the function of regional holding companies

Further reinforcing the administrative and support functions of regional holding companies, which are part of the corporate functions in their regions, and to enhance the financial structures of these regional holding companies. Assign a group CCO as the officer responsible for promoting and implementing legal compliance within the entire group. Assign regional CCOs in regional holding companies and promote the establishment of a compliance structure within each region.

Growth Strategy

Expanding business areas

Expanding production and sales shares to gain a scale advantage by acquiring new sales channels and manufacturer positions.

- M&A and large capital investments
- Creating group business synergy

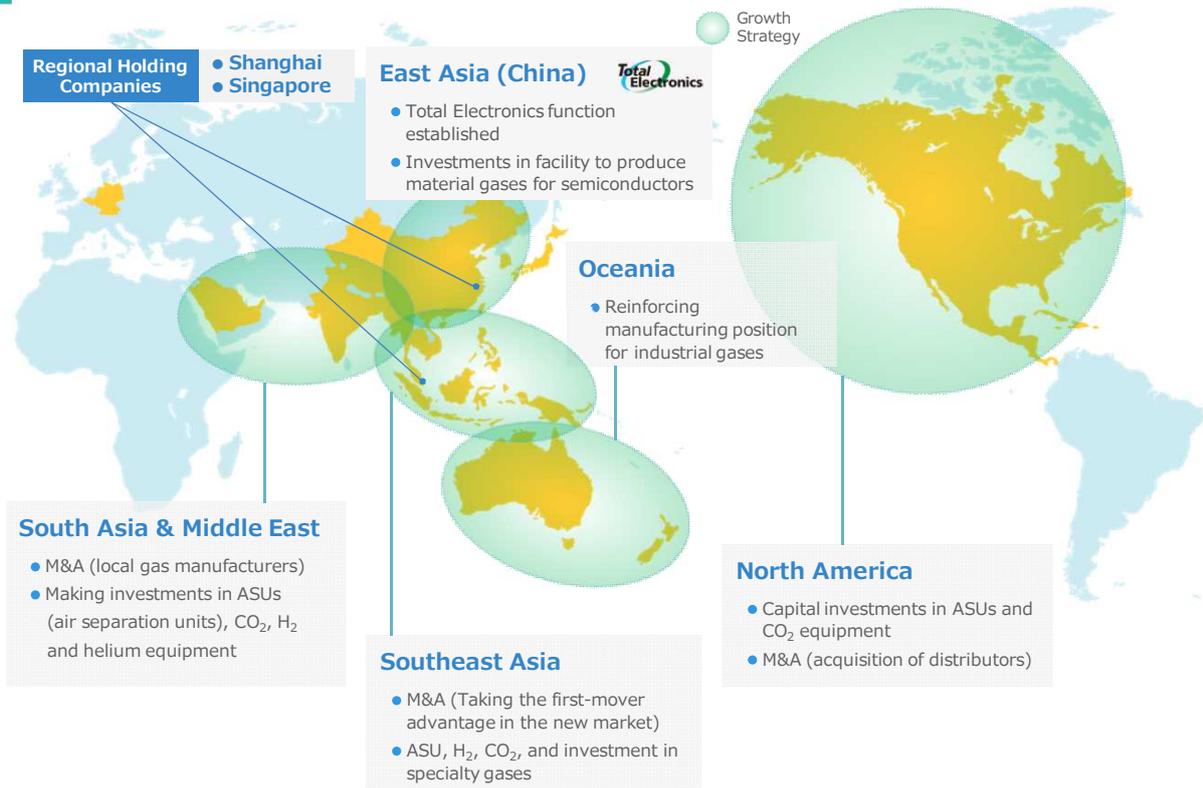
Total Electronics



Under the concept "Total Electronics," a global strategic customer management function will be created in China (Shanghai), where capital investments will be concentrated, to meet customer globalization trends in a flexible manner.

* CCOs is the abbreviation of Chief Compliance Officers.

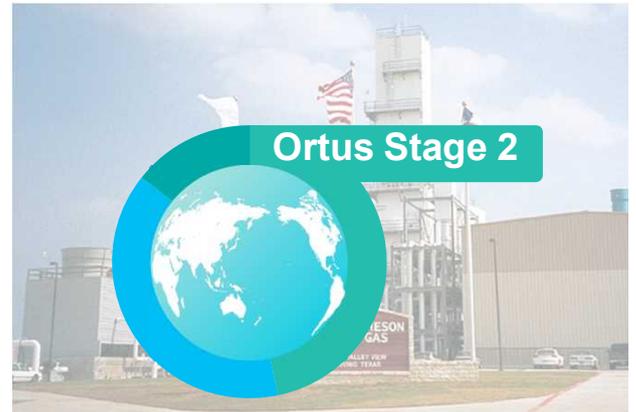
Enhancing Governance and Growth Strategy



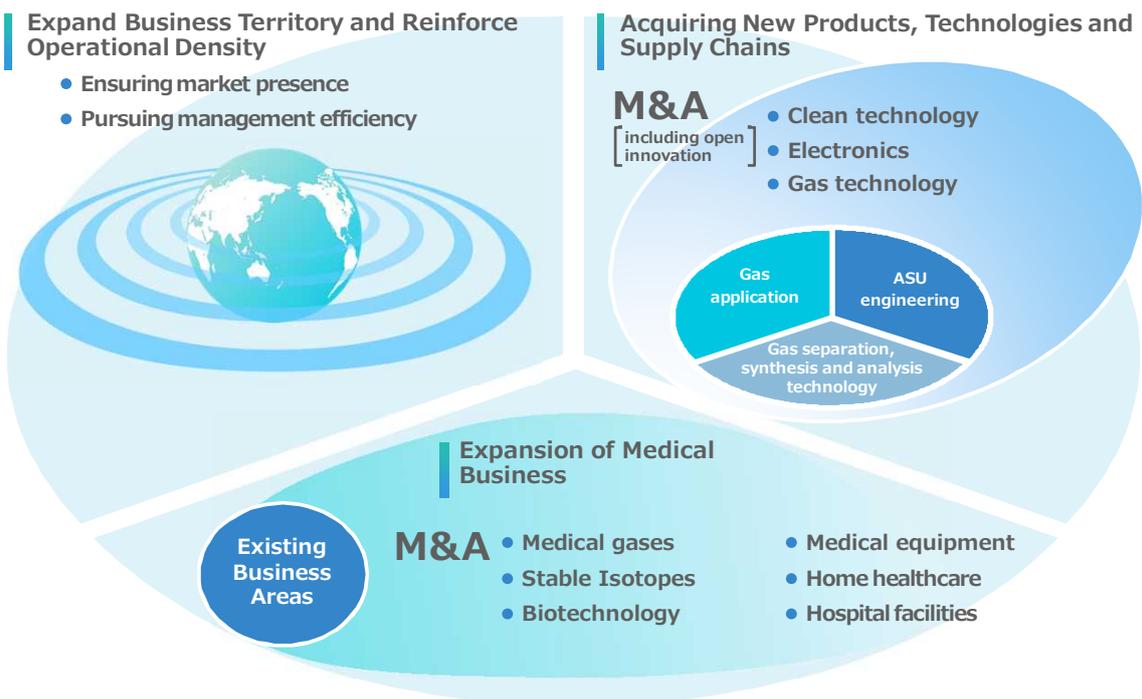
* ASU: Air Separation Unit

Key Strategy 4

M&A



M&A Support Strategies



* ASU: Air Separation Unit

Reminders

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- The briefing session and this material describe future plans and strategies, as well as forecasts and outlooks of business performance. These plans and strategies, as well as forecasts and outlooks, are made by Taiyo Nippon Sanso based on its judgments and estimations made in accordance with the information available at present. Actual performance will be subject to changes caused by a variety of risks and uncertainties (such as economic trends, market demand, exchange rates, taxation systems and various other systems and institutions, but not limited to them).
- We wish to remind you, therefore, that the actual business performance may differ from the forecasts and outlooks made at this time. Please refrain from making investment judgments based solely on this information.