

# RISK MANAGEMENT AT NISSAN

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Below we present some of Nissan's efforts to address its corporate risks.

Risks Related to Financial Market ▼

Risks Related to Business Strategies and Maintenance of Competitiveness ▼

Business Continuity ▼

## 1 Risks Related to Financial Market

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### 1) Automotive

#### 1. Liquidity

An automotive business must have adequate liquidity to provide for the working capital needs of normal day-to-day operations, ongoing research and development, capital investment needs for future expansion and repayment of maturing debt. Liquidity can be secured through cash and cash equivalents, internal cash flow generation and external funding.

As of the end of fiscal 2018 (March 31, 2019), Nissan's automotive business had ¥1,309.6 billion of cash and cash equivalents (compared with ¥1,140.6 billion as of March 31, 2018). In addition to cash, Nissan had approximately ¥527 billion of committed lines available for drawing as of March 31, 2019. As for external funding, we raise financing through several sources including bond and commercial paper issuance in capital markets, long- and short-term loans and committed credit lines from banks. Nissan has a liquidity risk management policy that is intended to ensure adequate liquidity for the business while at the same time ensuring mitigation of liquidity risks such as unmanageable bunched maturities of debt. The policy defines minimum liquidity requirements taking several factors into consideration, including debt maturity, upcoming mandatory payments—such as dividends, investments and taxes—and peak operating cash needs. We also benchmark liquidity targets against other major Japanese corporations and global auto companies to ensure that our assumptions are reasonable.

## 2. Financial Market

Nissan is exposed to various financial-market-related risks, such as foreign exchange, interest rates and commodity prices. Although it is not possible to eliminate all risk with the use of derivative products, we do hedge select currencies and commodity price risks on an opportunistic basis to reduce financial market risks.

### ●Foreign exchange

Nissan's products are produced in 18 markets and sold in more than 170 markets. We procure raw materials, parts/components and services from many countries, and face various foreign currency exposures that result from the currency of purchasing cost being different from the currency of sale to customers. In order to minimize foreign exchange risk on a more permanent basis, we are working to reduce foreign currency exposure by such measures as shifting production to the countries where vehicles are sold and procuring raw materials and parts in foreign currencies. In the short term, we may keep risks in foreign exchange volatility within a certain range by using derivative products in accordance with internal policies and procedures for risk management and operational rules regarding derivative transactions.

### ●Interest rates

Nissan's interest rate risk management policy is based on two principles: long-term investments and the permanent portion of working capital are financed at fixed interest rates, while the non-permanent portion of working capital and liquidity reserves are built at floating rates. We may hedge risks of interest rate fluctuation by using derivative products in accordance with internal policies and procedures for risk management and operational rules regarding derivative transactions.

### ●Commodity prices

Nissan purchases raw materials both directly and, in the form of parts provided by suppliers, indirectly. In both cases, we are exposed to the price fluctuation risks of raw materials. For precious metals, which are used in catalysts, to minimize commodity price risk we are making continuous efforts to reduce usage through technological innovation. In the short term, we manage commodity price volatility exposure through the use of fixed-rate purchase contracts in which commodity prices are fixed for a period of time. We may also hedge risks in commodity price volatility within a certain range by the use of derivative products in accordance with internal policies and procedures for risk management and operational rules regarding derivative transactions.

### ●Marketable securities

Nissan may hold marketable securities for various reasons, including strategic holding, relationship management and cash management. Decision-making authority for such transactions is defined in our

internal policies and procedures for risk management. We also take measures regarding these risks, including mandatory periodical reporting with fair value of such financial transactions.

### 3. Counterparties

Nissan does business with a variety of local counterparties, including sales companies and financial institutions in many regions around the world. This exposes us to the risk that such counterparties could default on their obligations.

We have established transaction terms and conditions for operating receivables in Japan and overseas based on credit assessment criteria. These criteria enable us to take measures to protect such receivables and may include bank letters of credit and/or advance payment requirements.

As for financial transactions including bank deposits, investments and derivatives, we manage our counterparty risk by using an evaluation system based on external credit ratings and other analysis. We enter into such transactions only with financial institutions that have a sound credit profile within their respective countries.

### 4. Pensions

Nissan has defined benefit pension plans mainly in Japan, the United States and the United Kingdom. The funding policy for pension plans is to make periodic contributions as required by applicable regulations. Benefit obligations and pension costs are calculated using many different drivers, such as the discount rate and rate of salary/wage increase.

Plan assets are exposed to financial market risks, as they are invested in various types of financial assets including bonds and stocks. When the fair value of these assets declines, the amount of the unfunded portion of pension plans increases, which could materially increase required cash pension contributions and pension expenses.

As a countermeasure to manage such risks, the investment policy of these pension plans is based upon the liability profile of the plans, long-term investment views and benchmark information regarding the asset allocation of other global corporations' pension plans.

Nissan holds Global Pension Committee meetings on a periodic basis to review investment performance, manager performance and asset allocations and to discuss other issues related to pension assets and liabilities.

# 2) Sales Finance

## 1. Liquidity

Nissan operates majority-owned captive sales finance companies in Japan, the United States, Canada, Mexico, China, Australia, New Zealand, Thailand, Indonesia and India. Nissan is also a minority shareholder in a sales finance company (bank) in Russia. In these countries, banks and other financial institutions also provide financing solutions to our customers and dealers.

In Europe and other regions, RCI Banque and several other banks/financial institutions provide financing to Nissan’s customers and dealers.

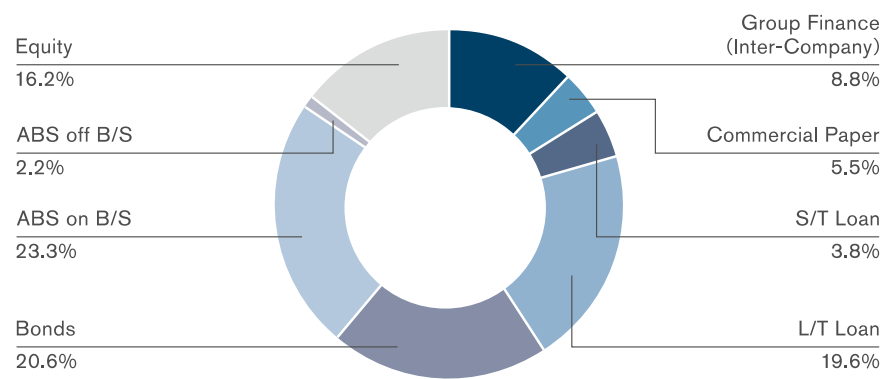
We monitor the liquidity of sales finance companies on an ongoing basis to ensure we have adequate liquidity to meet maturing debt and continue operations. According to our policy, we target to match maturity of liabilities with maturity of assets wherever possible. In some of the countries where we operate, long-term capital markets are not developed and thus it is not always possible to be perfectly match-funded. However, match-funding policy allows us to meet maturing debt obligations even in an environment in which we cannot raise additional debt due to the state of capital markets.

In addition to match-funding, we manage liquidity risk in sales financing through several measures including keeping adequate liquidity in the form of cash and unutilized committed lines, unencumbered assets (mainly vehicle loans and leases), liquidity support from auto operations to the extent we have excess cash in auto operations, diversified funding sources and geographical diversification of capital market access.

As of March 31, 2019, our sales finance companies’ liquidity (cash and unutilized committed lines) was approximately ¥922.5 billion. Additionally, we have a healthy mix of secured (25.5%) and unsecured and other (74.5%) funding sources, which support a stronger balance sheet and incremental liquidity through utilization of unencumbered assets.

The pie chart below describes our diversified funding sources in the sales finance business. During fiscal 2018, we were able to raise new funding through bank loans, asset-backed securities, asset-backed commercial paper, commercial paper and bonds reflecting our diversified access to financing instruments.

Sales Finance Business Funding Sources (As of March 2019)



## 2. Interest Rate Risk Management

The sales finance business is exposed to interest rate risks. Interest rate risk is defined as the potential variance in the earnings of an entity or the fair value of the portfolio that would result from a fluctuation in the general level of market interest rates where funds with differing fixed-rate periods or differing terms are financed and invested.

Nissan measures these risks by using sensitivity analysis with various interest rate scenarios and determines its risk tolerance level. We control the interest rate maturities of both assets and liabilities to maintain the risks within an acceptable tolerance level.

The sensitivity analysis mentioned above uses assumptions that are considered reasonable, but the actual fluctuation of market interest rates and its impact may deviate from these significantly.

Nissan enters into interest rate derivative financial instruments to maintain the potential variability of interest rates at the desired level of risk exposure. The main objective of these transactions is to mitigate risk and not to pursue speculative profit maximization.

## 3. Credit Risk

Credit risk is the potential for loss due to the failure of counterparties in the consumer lending and dealer finance business to meet their credit obligations as agreed. Nonperformance may be driven by changing economic conditions, deterioration in financial stature of a dealer or individual, or other unexpected events.

Nissan manages credit risk through a framework that sets out policies, procedures, measurements and regular reviews across the full life cycle of a financial product from underwriting to collections and write-off.

In consumer lending, applicants undergo a comprehensive screening process to establish their credit worthiness. To measure credit worthiness, we use credit scoring systems that assign a credit score to an applicant on the basis of data provided by the credit bureaus and/or data provided by the applicant on the credit application. The underwriting decision is then made based on an automated or expert judgement process that includes assessment of the credit score, applicant's capacity to pay, available capital, debt repayment history, vehicle collateral and financing conditions. If necessary, and depending on regional business practices, further telephone or field visit verifications may be undertaken.

For dealer finance, each application for a new credit limit, change to credit limits or annual re-approval of credit limits goes through an extensive committee-based evaluation and decision process. The evaluation focuses on the dealer's financial standing, internal rating, capacity to service debt, operational performance, appropriateness of the request, and the availability and amount of guarantees and collateral. The internal rating system used during the evaluation is based on a dealer scoring model taking into account key financial performance metrics and, at times, results of operational performance.

All scoring models for consumer lending and dealer finance are regularly reviewed and revised to keep them up-to-date and applicable for current credit applications. These models have a direct impact on pricing where risk-based pricing is practiced and/or applicable and also regulate stock audit frequency for dealer floorplan financing.

As a matter of accounting policy, Nissan maintains adequate credit loss provisions to cover any future probable credit losses. However, we also take all necessary measures to collect on outstanding bad debt promptly. Depending on the region, collections may utilize behavioral scoring, auto-dialer systems, call queue optimization or external third-party collection agencies to maximize recovery of outstanding debt.

## 4. Residual Value Risk

Residual value risk is the risk that the future market value of a vehicle will be lower than the guaranteed end-of-term residual value for such financial products as operating leases and some balloon-type loans. We are exposed to residual value risk if a customer exercises the option to return their vehicle to Nissan and the vehicle is subsequently sold in the market for less than the residual value.

To mitigate this risk, we take a number of steps, both operational and strategic. On an operational level, residual values are set objectively based on third-party independent evaluation (e.g. Automotive Leasing Guide in North America) and/or statistical analysis of historical used-car market data (e.g. in Japan). On a strategic level, to build brand value and hence increase the future market value of Nissan vehicles, we take steps to control the level of sales incentives on new vehicles, maintain appropriate fleet sales levels and promote certified pre-owned vehicles.

We evaluate the recoverability of carrying value of our vehicles versus estimated future market values on an ongoing basis. Per accounting policy, if an impairment is identified, we recognize an appropriate provision for potential residual value losses.

# 2 Risks Related to Business Strategies and Maintenance of Competitiveness

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## 1) Product Strategy

To secure profitability and sustainable growth based on our future product lineup plan, as part of our product strategy developing process we monitor the impact of various risk scenarios—such as global market changes and deterioration of demand—on our future profitability as projected by the plan.

### Risk Scenario Examples:

1. Drastic decline of total global demand
2. Demand shift between vehicle segments drastically faster than our midterm planning assumptions
3. Demand shift from mature markets to emerging markets drastically faster than our midterm planning assumptions

We periodically monitor the impact of these scenarios to secure future profitability and sustainable growth, as well as updating our future lineup plan based on the results.

To improve the robustness of our product lineup against these risks, our main approach is to take the following countermeasures when planning our product strategy:

- Expand availability of individual products across markets to mitigate the risk of single-market demand fluctuations.
- Increase volume and efficiency per product through consolidation and rationalization of our portfolio to lower the break-even point and thereby reduce the profit risk if global total industry volume (TIV) declines.
- Prepare a more balanced product portfolio, meeting needs in a broader range of markets and segments and reducing reliance on specific large markets.

## 2) Quality of Products and Services

The Nissan M.O.V.E. to 2022 midterm plan establishes product quality and customer-centric focus as the foundation of our business. It also sets numerical targets and promotes them across the whole company.

With respect to new model projects, in order to achieve quality targets, milestone meetings are held for processes from design, production preparation and production. At these meetings, key check points are confirmed, such as achievement of quality targets, prevention of recurring problems, and adoption of measures for potential risks related to new technology, mechanisms and design changes.

Commercial production starts after confirmation at the Start of Production (SOP) Judgment Meeting, which confirms all issues are solved and quality targets can be achieved. The final decision that the model can be sold is made at the Delivery Judgment Meeting after confirmation of the quality of commercial production and preparedness for service/maintenance.

We implement thorough quality checks before new models launch. We also advance quality improvement activities after launch, by constantly gathering quality information from markets and promptly deploying countermeasures if problems arise. If safety or compliance issues do occur, necessary actions such as recalls are implemented in close cooperation with the marketing side based on management decisions reached by independent processes. Incidents are thoroughly investigated and analyzed, and the lessons are applied to existing or upcoming models to prevent recurrence. In addition to activities such as quality assurance for new model projects and quality improvement activities on a daily basis, we operate a "Quality Risk Management" framework. The framework represents a higher-level system to ensure successful quality management for both ongoing and future projects. Appraisal involves an objective evaluation of whether risk exists and the level of such risk for the company, after which responsible persons are assigned to follow-up activities based on risk levels. These processes are implemented by the Quality Risk Management Committee, chaired by an executive with this responsibility, twice a year.

## 3) Environment and Climate Change

The automotive industry is affected globally and throughout its value chain by various regulations and social requirements related to the environment and safety, such as exhaust emissions, CO<sub>2</sub>/fuel efficiency, fossil fuel restrictions, noise, chemical substances, recycling, and effects on water resources, ecosystems and other natural capital. These regulations are growing more stringent by the year. To meet these requirements, we formulate environmental strategies based on materiality assessments of management risk factors, analyzing potential risks and opportunities and identifying issues that are crucial for both us and our stakeholders.

Regarding the greenhouse gases that affect climate change, the Paris Agreement adopted at the 21st



Conference of the Parties (COP21) in 2015 calls for global peaking of greenhouse gas emissions as soon as possible, with subsequent reductions resulting in net zero greenhouse gas emissions from human activity in the second half of the 21st century. The amount of CO<sub>2</sub> emitted by our vehicles in use is extremely high compared to our emissions from corporate activity, accounting for more than 80% of total CO<sub>2</sub> emissions across our entire value chain, so there is a chance that regulatory risk from climate change (effects on the operation of our businesses due to stronger restrictions on greenhouse gas emissions) could arise. Accordingly, based on our own calculations incorporating the findings of the IPCC's Third Assessment Report and the goal of keeping global temperatures from rising more than 2 degrees Celsius, we established a long-term vision for 2050 of reducing product CO<sub>2</sub> emissions from new vehicles by 90% compared to 2000 levels. To address transition risks due to climate change (risks arising from the transition to a low-carbon society, such as stricter regulations and contraction in oil-related markets), we successfully released the world's first mass-produced electric vehicle (EV), the Nissan LEAF, in 2010. The Renault-Nissan-Mitsubishi alliance also has a goal of maintaining EV leadership toward 2022, and is considering partnering with national and local governments to promote zero-emission mobility and help build supporting infrastructure.

We will help reduce CO<sub>2</sub> emissions by continuously developing technologies to improve fuel economy in internal combustion engines and bringing them widely into the market. In particular, in response to strict regulations on fuel economy and CO<sub>2</sub> emissions in Europe and the United States, we are expanding our lineup of highly fuel-efficient, low CO<sub>2</sub>-emitting vehicles equipped with such technologies as our flagship e-POWER electrification technology and revolutionary variable compression ratio turbo engine, fuel-efficient direct injection engine and continuously variable transmission (CVT). In addition, in order to respond to risks and opportunities rooted in uncertain future phenomena like climate change, we are developing resilient strategies that account not just for the 2-degree scenario, but also other scenarios like 1.5 degrees and 4 degrees.

Stricter controls on environment-impacting substances are being implemented around the world. In accordance with a globally uniform policy on reducing the use of environment-impacting substances, we are strengthening our management of environment-impacting substances, adhering to a well-planned schedule for their reduction and advancing the use of alternative substances. In 2005, we drew up policies regarding the use of substances scientifically recognized as being hazardous or carrying high hazard risks, as well as those identified by NGOs as dangerous. In 2007, these policies became unified global standards for Nissan, and in 2016 they were issued as common technology standards for the Alliance, restricting environment-impacting substances to a stricter degree than the domestic laws of the countries and regions where it operates. Based on this approach, we have developed internal engineering standards restricting the use of designated substances. The standards identify chemicals whose use is either prohibited or controlled, and are applied in selecting the materials, parts and articles for our vehicles from the initial development stage.

Demand for mineral resources and fossil fuels has steadily increased in response to the economic growth of emerging countries. In addition to promoting reduced use of virgin natural resources through

resource-saving and recycling measures, it is becoming important to procure natural resources that have a lower impact on the Earth's ecosystems, not only because these resources are limited (including the mineral resources for motor and battery applications, the use of which is expected to increase with electrification) but also considering the wide-ranging effects that resource extraction has on ecosystems. Our aim is that by 2022 some 30% of the resources used in the manufacture of our vehicles will not rely on newly mined resources. To achieve this, we consider vehicle lifecycles and promote weight reduction, less use of scarce resources, waste reduction and increased use of recycled materials. We also promote rebuilding, remanufacturing and reuse to maximize opportunities for recapturing the residual value of cars and parts.

Air pollution, along with climate change and traffic congestion, is one of the issues facing urban areas, and one which it is necessary for Nissan as an automaker to address and contribute to solving.

The spread of EVs such as the Nissan LEAF that emit absolutely no exhaust gas during operation is an effective way to improve atmospheric pollution levels in urban areas. As a leader in this field, we promote zero-emission mobility and investigate the setting up of infrastructure through partnerships with national and local governments, as well as various industry groups such as electric power companies.

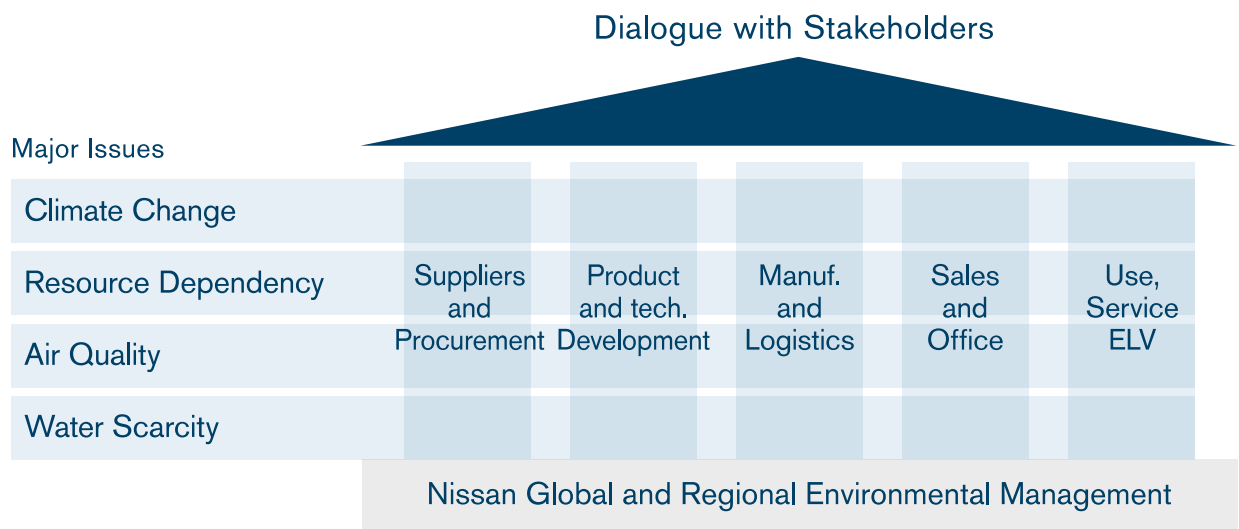
Emissions from manufacturing plants typically include nitrogen oxide (NOx), sulfur oxide (SOx) and volatile organic compounds (VOCs). We are carefully establishing global management standards and systems for these and other substances released into the atmosphere, while working to reduce the amount of these materials used and emitted. Our goal is to address these issues beyond the extent required by local regulations.

The issue of water resources is ever more serious with the retreat of glaciers and rainfall fluctuation due to climate change in addition to increasing water use due to the growing world population and economic development. We also use water resources in our production process, and we recognize the importance of this issue and continuously work to preserve water resources at plants around the world through measures such as reducing consumption, recycling water discharged in the production process and thorough water quality control of waste water.

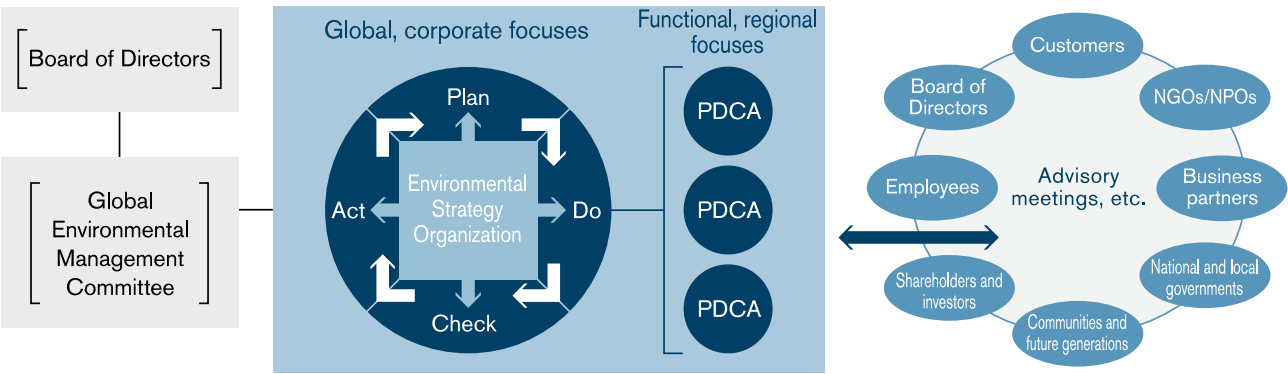
The purchasing divisions of Nissan and Renault carry out supply-chain management in a manner consistent with *The Renault-Nissan Purchasing Way*, a booklet outlining policies for dealing with suppliers, and the Renault-Nissan CSR Guidelines for Suppliers. With respect to environmental issues, we have set standards for the efforts of our automobile parts and material suppliers in the form of the Nissan Green Purchasing Guidelines. In 2018, we added language encouraging suppliers to undertake individual environmental initiatives, and in 2019 we strengthened regulations on the management of environment-impacting substances. Additionally, since fiscal 2012, through seminars and other means, we have asked suppliers to regularly report environmental data, including their CO<sub>2</sub> emission levels and energy use, to provide reports on management of environment-impacting substances, recycling of resources and water-conservation efforts, and to reduce their environmental impact. We then work with suppliers to reduce environmental impact throughout the value chain.

We are working to adhere to guidelines and achieve targets as part of our corporate social responsibility as well as to comply with laws and regulations. In order to address diversifying environmental issues and promote comprehensive environmental management on a global basis, our Global Environmental Management Committee (G-EMC), which is co-chaired by a board member and convenes twice a year, and our Environmental Management Committees (EMCs) in six regions worldwide confirm the progress of activities and decide companywide policy and the content of reports to the Board of Directors.

Nissan’s Framework for Global Environmental Management



Nissan’s Global and Regional Environmental Management Organization



## 4) Compliance and Reputation

We have produced a Nissan Global Code of Conduct for all employees of the Nissan Group worldwide. To ensure thorough understanding of the code, training and education programs such as e-learning are provided and our compliance with laws and ethical standards is monitored by regional and local compliance committees that report to the Global Compliance Committee. We have also implemented a globally integrated whistleblowing system allowing employees to report suspected compliance issues to management.

We have created sets of internal regulations globally covering insider trading prevention, personal information management, information security and the prevention of bribery and corruption. We strive to prevent noncompliance and reputation risk to the company by implementing various education and training programs.

## 3 Business Continuity

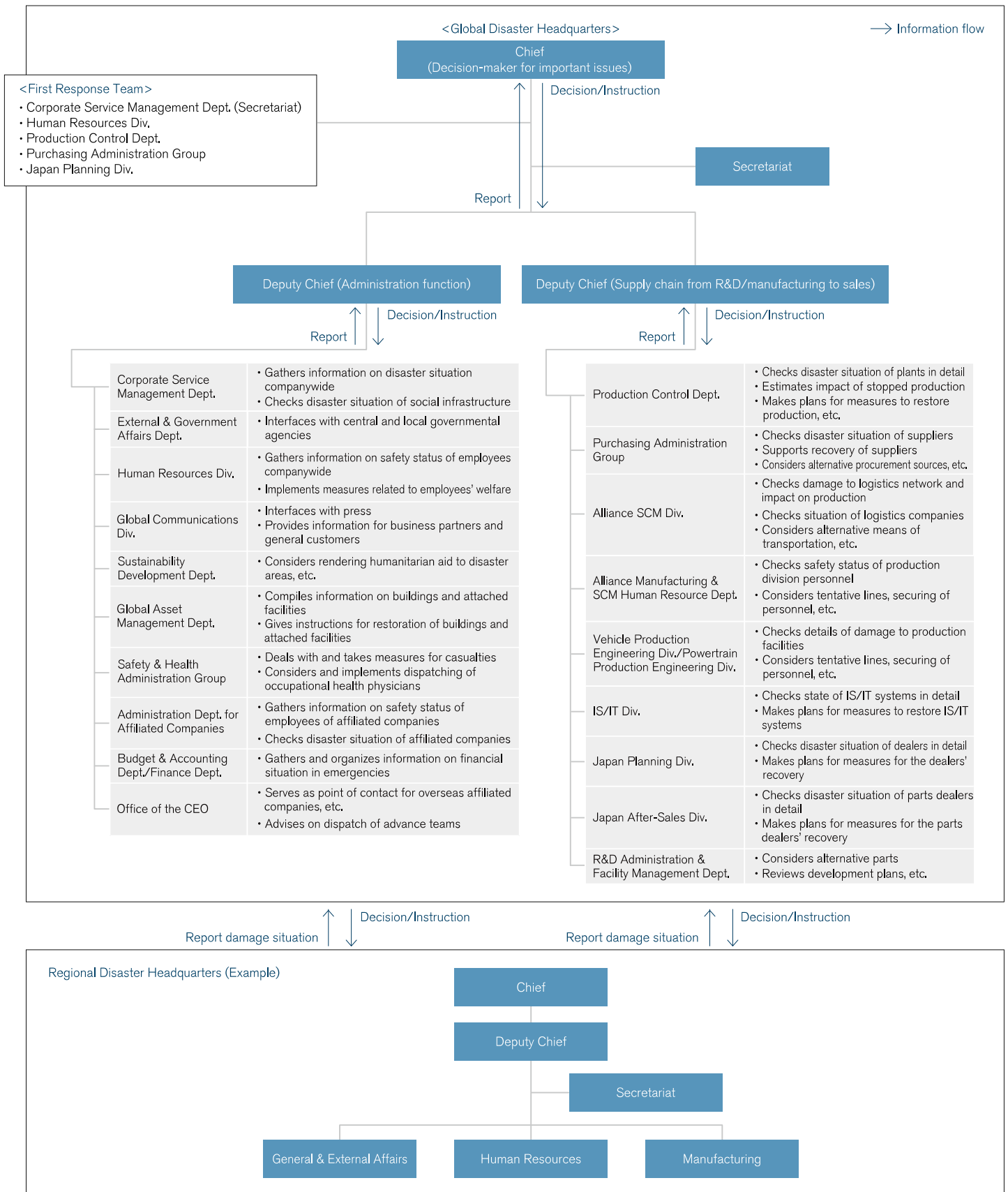
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### 1) Natural Disaster Measures

In case of an earthquake measuring 5-upper or higher on the Japanese seismic intensity scale, or other natural disasters causing heavy damage affecting Nissan's business activities, a First Response Team (organized by the main units of the Global Disaster Headquarters) will gather information and decide actions to be taken based on the results. If necessary, the Regional Disaster Headquarters will be set up to gather information about employee safety and damage to facilities and to work for business continuity.

At the same time, we are working with suppliers to develop Business Continuity Plans (BCPs). This includes assessment of work priorities by each and every function and development of countermeasures to continue priority work. The BCPs will be reviewed annually in a PDCA (plan, do, check, act) cycle.

# Disaster Recovery Organization (Earthquake)



## Policy and Principles in Case of Earthquake:

1. Human life as the first priority (use of employee safety confirmation system)
2. Prevention of secondary disaster (in-house firefighting organization, stockpiling, provision of disaster information)
3. Speedy disaster recovery and business continuity (measures for hardware, improvement of contingency plan, development of BCP)
4. Contribution to local society (cooperation/mutual aid with neighboring communities, companies, local and central governments, provision of supplies, etc.)

The Global Disaster Headquarters and Regional Disaster Headquarters conduct simulation training assuming a large earthquake to ensure preparedness. These drills test the effectiveness of this organization and contingency plan and identify the issues to be improved. The contingency plan is reviewed based on this feedback.

In the aftermath of the March 11, 2011, disaster, our periodic simulation training helped to ensure the smooth launch of our Global Disaster Headquarters and Regional Disaster Headquarters on the initiative of our First Response Team. This also helped to complete confirmation of employee safety and checks on the extent of the damage.

Additionally, based on our policy of contributing to local society, we reacted rapidly to provide rest space for people who could not return home on March 11 and to support damaged areas.

At the stage of business recovery, our Disaster Headquarters and project teams of each function continuously shared up-to-date information and addressed issues for production and business recovery with companywide cooperation. Effective communications supported quick recovery of our total supply chain, including parts supply, production, logistics, sales and services.

Since the Great East Japan Earthquake, we have performed the following training exercises.

FY	Training exercise	Event
2011	Review of response to Great East Japan Earthquake Simulation training (incorporating review findings)	
2012	Simulation training (scenario: three simultaneous earthquakes)	
2013	Simulation training (scenario: earthquake directly beneath Tokyo metropolitan area)	December: Japanese government publishes estimates of damage from earthquake directly beneath Tokyo metropolitan area
2014	Simulation training (scenario: earthquake directly beneath Tokyo metropolitan area)	
2015	Simulation training (scenario: earthquake directly beneath Tokyo metropolitan area)	
2016	Initial response training (scenario: night, non-workday) Simulation training (scenario: three simultaneous earthquakes)	April: Earthquakes in Kumamoto Prefecture

A series of natural disasters occurred across Japan in fiscal 2018, including torrential rains in western Japan, an earthquake in northern Osaka Prefecture and the Hokkaido Eastern Iburi Earthquake. Regarding the risk not only from earthquakes but also of water damage, we worked with Mitsubishi Motors to provide supplies to affected areas and help suppliers recover. Based on issues identified during fiscal 2016's simulation training and the series of recent disasters, we also conducted simulation training using a scenario where the goal was to finalize recovery plans (including restarting manufacturing) within around one week.

Going forward, we will continue to hold simulation training on set themes, including responses to issues identified in training and to changes in the expected scale of earthquakes as published by government bodies, as we continue to refine our disaster plans using a PDCA cycle.

Regarding our response to the risk of disasters globally, our organization is capable of working together at the Alliance level, and when disasters do occur around the world, we use social media to share information rapidly and provide the necessary support.



## 2) Pandemic

In response to the outbreak of H1N1 type influenza in April 2009, we established a global policy for infection prevention. Each region has organized a response team and promoted concrete countermeasures based on the policy. Infection status can be monitored globally thanks to firmly developed reporting lines between our global response team and each regional team.

We have promoted countermeasures based on three basic principles stated in our global policy, which are:

1. Priority on employees' health and lives
2. Prevention of the spread of infection
3. Continuity of business operation

As specific actions, we established the "guidelines for employee action," which stipulated actions to be taken by employees, sections and companies, and kept employees informed.

We also developed a BCP for each business section, with several triggers to invoke the BCP depending on the infection ratio, to maintain business continuity even under a high infection situation.

We will run PDCA cycles to remain prepared for contingencies like avian flu through measures such as updating response team members and the BCP, carrying out educational activities for infection prevention and stockpiling sanitary and medical goods.

## 3) Countermeasures for Production Continuity Risk

Our production division has dealt with various risks related to the three elements of production. For natural disasters, we have identified the measures needed to restart production within our established goal of two weeks following a large-scale disaster. Over the years, we have carried out continuous prevention countermeasures for physical infrastructure (quake-proofing and reinforcement of buildings and other facilities), maintained an operations recovery manual to shorten recovery time and regularly executed BCP simulation drills. We are also strengthening the resilience of our global production network through measures such as establishing a BCP for parts exports to enable continued operations at overseas plants.

To prepare for the risks associated with our worldwide expansion of production, we have designated critical facilities around our global network that would play major roles in ensuring business continuity. We are working to bolster preventive maintenance by ensuring thorough knowledge of globally standardized facility maintenance guides. At the same time, to minimize the impact on production, we are preparing backup plans for implementation in the event of a significant disruption.

It is also vitally important to manage risks associated with parts procured from Leading Competitive Countries (LCCs) in order to expand markets. We have been conducting risk assessments before

making sourcing decisions and providing support for improvement activities after sourcing. As part of preparations for production, we carry out assessments of quality and quantity management processes. During the production phase, quality checks are implemented at key points in the production and logistics process to prevent imperfect parts being manufactured or used. We also work to reinforce measures identifying the root causes of issues in order to secure global market expansion and growth. To efficiently and effectively promote these activities, we are globally standardizing tools and practices for improving processes and assessments. Through organizations to manage supplier risk in major regions, including North America, Europe, China, Japan, Thailand, India and Brazil, we are reinforcing efforts to prevent risks associated with parts supply.

It has also become vital to address the increasing number of cyberattacks, and to minimize the effect on Nissan when they occur. As well as monitoring and managing all IT equipment and PCs at manufacturing plants, we take preventative action to avoid risk by installing anti-virus software and performing equipment lifecycle assessments. Additionally, in order to minimize damage in the very unlikely event that a cyberattack occurs, we periodically conduct simulation training for first response teams and business continuity planning.

3 elements of production Risk factor	HR/Workforce	Purchased parts Raw materials	Facilities
Natural disasters (earthquakes)	<ul style="list-style-type: none"> <li>Reinforcement of office buildings (completed)</li> <li>Review of earthquake response manual (once/year or more)</li> <li>Disaster-prevention drills (once/year or more)</li> </ul>	<ul style="list-style-type: none"> <li>Assessment of earthquake preparedness of major suppliers located in high quake-risk areas (FY08)</li> <li>Planning to adopt damage reporting system on web base (FY10)</li> <li>Confirmation of BCPs to be implemented in case of disaster by suppliers in high quake-risk areas (FY11)</li> <li>BCP for parts exports to continue production at overseas plants (FY12)</li> </ul>	<ul style="list-style-type: none"> <li>Reinforcement of buildings and machinery (continued)</li> <li>Review of facility recovery manual (FY11)</li> <li>Regular audits of each business facility</li> </ul>
Fire	<ul style="list-style-type: none"> <li>Risk assessment based on Fire Prevention Evaluation System (F-PES) (once/year)</li> </ul>	<ul style="list-style-type: none"> <li>Same as "HR/Workforce"</li> </ul>	<ul style="list-style-type: none"> <li>Same as "HR/Workforce"</li> <li>Revision of equipment standard based on assessment results</li> </ul>
Workplace injury	<ul style="list-style-type: none"> <li>Risk assessment based on Safety Evaluation System (SES) (once/year)</li> <li>Assessment of health and safety management system (once/year)</li> </ul>	<ul style="list-style-type: none"> <li>Same as "HR/Workforce"</li> </ul>	<ul style="list-style-type: none"> <li>Same as "HR/Workforce"</li> </ul>
Pandemic	<ul style="list-style-type: none"> <li>Review of response manual for new strains of flu (FY18)</li> </ul>	<ul style="list-style-type: none"> <li>Requested suppliers to develop response manual coordinated with Nissan</li> </ul>	—
Demand fluctuation	<ul style="list-style-type: none"> <li>Backup from other Nissan plants (as needed)</li> <li>Backup from other companies (as needed)</li> <li>Employment of short-term employees (as needed)</li> </ul>	<ul style="list-style-type: none"> <li>Regular checks of demand projection and supply capacity; implementation of measures</li> </ul>	<ul style="list-style-type: none"> <li>Installation of flexible manufacturing system (completed)</li> <li>Regular check of demand projection and production capacity; implementation of measures</li> <li>Development of complementary production system for main powertrains</li> </ul>
Machinery breakdown	—	—	<ul style="list-style-type: none"> <li>Sharing of past incident experiences and incorporating these in preventive maintenance</li> <li>Incorporating past experiences in equipment standards</li> <li>Bolstering of management at critical facilities</li> <li>Enhancement of preventive maintenance by ensuring thorough knowledge of facility maintenance guides (checking periods, parts and methods)</li> </ul>
Electric power shortage	—	—	<ul style="list-style-type: none"> <li>Thoroughgoing energy-conservation efforts</li> <li>Flexibility in plant operations and working hours in response to requests from the government or power companies</li> </ul>
Expansion of LCC-manufactured parts	—	<ul style="list-style-type: none"> <li>Assessment of <i>monozukuri</i> ability before supplier sourcing and support for improvement activities after sourcing; assessment of quality and quantity management processes at production preparation phase</li> <li>Quality check at mass-production phase (action "Gate1-3") and preliminary discussion of backup suppliers to reduce supply risk</li> <li>Reinforcement of supplier risk-management teams in key areas (FY13)</li> </ul>	—
Cyberattacks (FY18)	<ul style="list-style-type: none"> <li>Disaster simulation and response team drills</li> </ul>	—	<ul style="list-style-type: none"> <li>Management (tools and process) of updates to anti-virus software</li> <li>Reassessment of device lifecycle and introduction of measures to deal with obsolete operating systems</li> <li>Monitoring of installed terminals and allocation of responsibility for management</li> </ul>
Decrease in skilled workers/experts	<ul style="list-style-type: none"> <li>Planning and implementation of training program at each plant to develop skilled workers (FY10)</li> <li>Global development of human resources through the Global Pilot Plant program (FY11)</li> <li>Nurturing of experts to teach technical skills (planning and implementation from FY12)</li> </ul>	—	—

## 4) Supply-Chain Continuity

To minimize risk in the supply chain, we maintain policies addressing both major disasters and daily risks, and follow up on their execution.

### ●Promotion of BCPs

#### **1. Identification of risks and development of recovery plans**

We identify natural disaster and single-source risks and work with suppliers to develop and maintain up-to-date production recovery plans for suppliers in risk areas and high-risk components.

#### **2. Visualization of the supply chain**

We maintain an up-to-date supply-chain database of suppliers and the components, materials and custom integrated circuits they provide that allows us to quickly determine the damage to our supply chain in case of major disaster. This lets us provide rapid support to those heavily affected and ensure early resumption of vehicle production.

#### **3. Improvement of BCPs**

We have a policy of visiting suppliers and introducing benchmark case studies to them. We also conduct BCP Checklist surveys to assess supplier BCP systems and activities, and communicate and implement follow up activities on the results. For these surveys, we have added floods, labor strikes, cyberattacks and terrorism to the existing risk categories of earthquakes and tsunamis, and expanded the scope of suppliers surveyed on a global basis.

#### **4. Assessment of suppliers' financial risk**

We conduct periodic financial assessment of suppliers globally in cooperation with Renault and Mitsubishi Motors, and communicate closely to ensure maintenance of sound business.

## 5) Risk Financing and Loss Prevention

### 1. Global Insurance Management Policy

Nissan manages hazard risk on a global basis with risk-management techniques that combine self-retained risk with external risk transfer via insurance. In order to minimize the cost of risk, we adhere to the following global insurance management policy. This policy has provided appropriate coverage for damage resulting from the unpredictable disasters that the world has seen in recent years.

- Predictable risks with low impact and high frequency:  
Retain risks up to an acceptable level on a consolidated basis by the company.
- Unpredictable risks with low frequency and high impact or shock value:  
Risks whose financial impact may exceed the acceptable level of self-retention are transferred outside the company via insurance.

### 2. Global Insurance Programs

In order to minimize the cost of hazard risks and manage risks occurring globally and interdependently in a concentrated manner, global insurance programs have been established for main lines of insurance. The Finance Department in Nissan's Global Headquarters determines insurance conditions and structures and negotiates directly with insurance companies for these global programs. These insurance companies are important strategic partners, and are thus selected with consideration given to risk spread and financial solvency.

The following risks are covered through global programs.

- Property damage and business interruption by accidents:  
The program covers risks not only for property damage but also for business interruption and contingent business interruption due to accidents, taking into consideration the global expansion of the supply chain for products and parts. Nissan identifies important suppliers globally and arranges insurance for risks caused by interruption of the supply chain. Coverage limits are determined based on the probable maximum loss amount measured by third-party experts and the risk appetite of insurers.  
We have achieved further improvement and optimization of insurance conditions by negotiating with insurance companies together with our Alliance partner Renault from fiscal 2011. The program was extended to new Alliance partner Mitsubishi Motors from fiscal 2017.
- Transportation and storage of vehicles and products for sale:  
This program covers risks relating to transportation and the supply chain for parts and products globally. Covering geographically spread risks under a global program lets us manage loss data on a global basis and ensure stability of insurance costs.  
In fiscal 2011, this program was combined with Renault's program for negotiating with insurance

companies to achieve best possible results utilizing synergies of scale. The program was extended to new Alliance partner Mitsubishi Motors from fiscal 2017.

- Liability (including product liability and liability for unanticipated accidents during operations or caused by owned or managed facilities [general liability]):

To manage this risk, we have implemented insurance programs suitable for each region's legal systems and practices. The programs are led by the Global Headquarters in order to implement a globally uniform strategy with consistent worldwide insurance coverage and achieve lower insurance costs.

### **3. Utilization of Group Insurance Company**

For the purpose of more efficient self-retention on a consolidated basis for insurance programs, we utilize an insurance company within the Nissan Group.

Utilization of a Group insurance company enables the following:

- Company can reduce insurance costs by obtaining the minimum necessary insurance.
- Each Group company can obtain the necessary coverage.
- Company can gather and analyze loss data below self-retained limit.

### **4. Loss-Prevention Activities**

Nissan conducts loss-prevention activities to improve loss results and reduce the cost of premiums on an ongoing basis. Since the introduction of global insurance programs, loss-prevention activities have been promoted more actively and globally to maintain low premium rates.

Examples of our loss-prevention activities include conducting risk-engineering surveys and obtaining recommendations for safety from third-party experts, creating manuals for actions in the event of typhoons and constructing hail nets to prevent hail damage.