

# Glossary

Term	Meaning
Actuator	Actuators refer to mechanical components that, for example, play a role in the actuation of brakes and gear shifting of automobiles.
Aftermarket	Aftermarket refers to maintenance and repair demand. In NSK, aftermarket mainly means the demand and business for repair and replacement.
Alternator	An alternator is an electric generator to use and change engine rotation to electricity. The term <i>alternator</i> derives from alternating current.
Ball Screw	A ball screw is a machinery part consisting of a screw shaft, nut and ball, etc. Ball screws convert rotation into linear motion and enable accurate positioning. In ball screws, a rolling element (ball) like the ones used in bearings is incorporated in the section where the groove of the screw and screw head contact each other and, similar to a bearing, the ball screw moves smoothly and features minute levels of friction resistance.
BCP	BCP stands for <b>B</b> usiness <b>C</b> ontinuity <b>P</b> lan. In a BCP, companies determine activities in normal times and the methods and means for continuing business in times of emergency to minimize damage to business assets and to allow continuation or early recovery of the core business in the event of emergency situations such as natural disasters, large fires and terrorist attacks.
BOD	BOD stands for <b>B</b> iochemical <b>O</b> xxygen <b>D</b> emand and serves as an index to indicate the degree of water pollution caused by organic compounds. Specifically, BOD refers to the amount of oxygen required for microbes to oxidize and decompose the organic compounds. The value shown in the Material Balance (P. 50) indicates the BOD load as determined by multiplying the amount of water discharged into rivers from NSK's business sites by the BOD measurement value.
Brake Boosters	One of the components of an automobile's brake is referred to as a brake booster. A system that helps reduce the amount of force needed from the driver to operate the brake. One type that makes use of the engine intake's negative pressure for its operation was mainstream, but the shift toward electrification is ongoing.
Brake Rotor	Brake rotors are the disc-shaped components that make up part of the disc braking systems found in automobiles and motorcycles. By pressing the other part of the brake (brake pad) against the rotor as it turns along with the wheel, the resulting friction decelerates or stops the wheel.
Clutch Assembly	Unit component used for automobile automatic transmissions (ATs) that consists of friction plates, separator plates, clutch housing, etc. Clutch assembly serves the function of transmitting or shutting off motive power.
CMS	CMS stands for <b>C</b> ondition <b>M</b> onitoring <b>S</b> ystem. One example of a CMS is a system for understanding/analyzing the operational status of bearings (e.g., vibration, noise, rotational torque) based on various data by bearings with sensors installed.
Column-Type EPS (Column Assist EPS)	Column-type EPS is a type of Electric Power Steering which has a power assist element of a motor located on the steering column. The steering column is a component that conveys the turning of the steering wheel of vehicles to the steering gear, and the steering column adjusts the steering wheel position and mitigates the impact during a collision. NSK has been strong at steering column production and boasts a top-class world market share of column-type EPS.
Conflict Minerals	Minerals that lead to sources of funds for armed groups and antigovernment forces that violate human rights, the procurement of which gives rise to concerns about complicity in conflicts. Under the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act, companies listed on the U.S. market are obliged to investigate usage and disclose information every year with regard to the four minerals (tin, tantalum, tungsten and gold) mined in the Democratic Republic of Congo and adjoining countries.
CSR Procurement	CSR procurement refers to the procurement of raw materials and parts in consideration of compliance with laws and regulations, environmental protection, human rights, occupational safety and health.
CVT	CVT stands for <b>C</b> ontinuously <b>V</b> ariable <b>T</b> ransmission, also known as gearless transmission. This term refers to transmissions that continuously shift the gear ratio using a mechanism other than gears.
ECU	ECU stands for <b>E</b> lectronic <b>C</b> ontrol <b>U</b> nit. By using electronic circuits, ECU is a device that controls the operation of a motor, etc. Among NSK's products, ECU used for electric power steering is particularly important.
Electric Power Steering	Please refer to "EPS."
Electric Tilt and Telescopic Mechanisms	Electric tilt and telescopic mechanisms enable the steering wheel to be adjusted to an angle and position that is comfortable for the driver to operate. The tilt mechanism adjusts the steering wheel angle (height), and the telescopic mechanism adjusts the forward and backward position of the steering wheel. Electric tilt and telescopic mechanisms enable the angle and position to be adjusted electrically.
EPS	EPS stands for <b>E</b> lectric <b>P</b> ower <b>S</b> teering. An EPS is a mechanism that supports the turning of automobile steering wheels (in other words, enabling the turning of steering wheels even with light force) by using an electric motor instead of hydraulic power. EPS can be divided into three types (column type, pinion type and rack type) depending on the location of the motor to which the power assist is provided.
Four Core Technologies	Four core technologies refer to NSK's core technologies. For details, please refer to P. 40.
Friction	Friction refers to friction resistance. Friction becomes an important factor when applying different types of movement in machinery and devices. In terms of bearings, friction affects the smoothness of movement when the inner ring and outer ring turn, so reducing and controlling friction is essential.
GAM	GAM stands for <b>G</b> lobal <b>A</b> ccount <b>M</b> anager in NSK. GAMs coordinate the global platform projects of automobiles across regions.
Green Procurement	Green procurement refers to the procurement of raw materials in consideration of the environment. The NSK Group has stipulated the NSK Group Green Procurement Standards ( <a href="http://www.nsk.com/sustainability/csrReport/supplemental/greenps.html">http://www.nsk.com/sustainability/csrReport/supplemental/greenps.html</a> ).
Hub Unit Bearings	A hub for automobiles is the component where the wheels are screwed on. Hub unit bearings are used for the rotation part of the hub and are unit-type bearings integrated with coupling parts. Depending on the level of integration, there are various types of hub unit bearings.

Term	Meaning
IoT	IoT stands for the <b>I</b> nternet of <b>T</b> hings. IoT is a concept to generate new value by collecting data via the Internet from sensors embedded on various things such as automobiles, home appliances, industrial machines and public infrastructure, and analyzing such data. IoT leads to such technological innovation as efficiency increases in machine control in plants, advertising according to individual tastes, detailed adjustment of power supply and monitoring senior citizens through home appliances.
KAM	KAM stands for <b>K</b> ey <b>A</b> ccount <b>M</b> anager in NSK. KAMs coordinate with Global Account Managers for key customers in each region and build close relationships with customers as the contact person in individual regions. By taking advantage of such close relationships with customers, KAMs have a role in regional sales activity and response in technological matters.
Linear Guide	A linear guide is a machinery part that is used for the section to support the linear motion of machines. Linear guides are one of the linear motion products and are used for machine tools, transfer machines and platform screen doors at stations, etc.
Lower-Assist EPS	Lower-assist EPS refers to rack-type EPS and pinion-type EPS (single pinion, dual pinion) that provide power assist near the tires among the types of electric power steering. Column-type EPS provides assist near the steering wheel.
Mother Plant	We position plants with outstanding capacity such as excellent technical ability and significant production capacity as Mother plants. In NSK, Mother plants have the role of transferring technology, etc., to the plants located overseas.
MRO	MRO stands for <b>M</b> aintenance, <b>R</b> epair or <b>R</b> eplacement, <b>O</b> peration. In NSK Report 2017, we make references to the demand for maintenance and repair services of industrial machines and equipment in the Industrial Machinery Business.
Multistep AT	Among the different types of automobile and motorcycle AT (automatic transmission) equipped with the capability to automatically shift between gear ratios depending on vehicle speed and the rotational velocity of the engine, NSK refers to such AT with seven or more gear stages as multistep AT.
Needle Bearing	Bearing with needle-type rolling elements. Low cross-sectional height and high load capacity helps realize space-saving.
NIT	NIT stands for <b>N</b> SK <b>I</b> nstitute of <b>T</b> echnology, which is an internal educational institute for our engineers to master more advanced technology.
OHSAS18001	OHSAS stands for <b>O</b> ccupational <b>H</b> ealth and <b>S</b> afety <b>A</b> ssessment <b>S</b> eries. This standard was issued by the British Standards Institution (BSI) as OHSAS 18001 in 1999 with support from 13 institutions such as standardization-related groups and certification institutions around the world. OHSAS 18001 is a mechanism for managing occupational safety and health management risks that relate to workers such as health hazards and occupational accidents and for improving performance.
Operational Excellence	In this report, operational excellence refers to "efforts to enhance front-line capability to increase the competitiveness of the NSK Group's business."
Per Production Unit	Per production unit refers to the standard amount of raw materials, workforce, power, etc., that are necessary to produce a certain amount of industrial products. "CO <sub>2</sub> emission per production unit" means CO <sub>2</sub> (carbon dioxide) emissions discharged in the process of production of a certain amount of a product.
Planetary Gear	Planetary gear refers to a epicyclic gearing mechanism consisting of three elements—sun gear, planetary gear and ring gear.
Powertrain	Powertrain describes the main components that generate power and deliver to the drive wheel in automobiles.
PRTR Act	The PRTR Act stands for the Pollutant Release and Transfer Register Act and refers to the Act on Confirmation, etc., of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof. This is a Japanese law intended to encourage the improvement of chemical substance management by requiring that the amount of chemical substances released to the environment is reported to the authorities.
PSI Management	The PSI of PSI Management stands for <b>P</b> roduction, <b>S</b> ales and <b>I</b> nventory. PSI Management refers to the appropriate management and operation of production, sales and inventory.
QCDDSM	QCDDSM stands for <b>Q</b> uality, <b>C</b> ost, <b>D</b> elivery, <b>D</b> evelopment, <b>S</b> ervice and <b>M</b> anagement. The QCDDSM elements are generally focused on by the manufacturing industry including NSK.
Rack-Type EPS (Rack Assist EPS)	Rack-type EPS is electric power steering that assists tire direction movement with a rack shaft in the steering gear section. (Please also refer to "Lower-Assist EPS.")
Sales Channel	Sales channels mean sales routes. Distributors play a role in the product supply to end users as sales channels.
Shift to By-Wire Technology	Shift to By-Wire Technology refers to the replacement of standard automobile handling systems, which are operated using mechanical or physical mechanisms, with transmission systems that rely on electrical signals. In automobiles, some of the potential targets for conversion to by-wire operations in the future include the accelerator, brakes, the gear shift and steering.
Smart Factory	Smart Factory in this report refers to a new concept factory set up in the Fifth Mid-Term Management Plan. The status of equipment and processing in each process during manufacturing is understood with data in real time, which is utilized for quality control, equipment maintenance and product traceability. The understanding and management of big data are realized by advancements in Information Technology (IT). The evolution of the informatization of things such as IoT is the technology behind the Smart Factory.
UK Modern Slavery Act 2015	The Modern Slavery Act 2015 c.30 was established in 2015 in the United Kingdom to respond to crimes such as human trade, forced labor and sexual exploitation.
VOC	VOCs stands for Volatile Organic Compounds. VOCs are considered to be one cause of photochemical smog.
XY Table	The XY table refers to the positioning devices that move in the X-axis (left and right) and the Y-axis (forward and backward). By stacking mechanisms (tables) that can move in each direction, these devices can be positioned to the desired location. These devices are used for precision positioning of industrial robots and semiconductor production equipment.