High-precision measurement technology for advanced manufacturing.

Meeting a wide range of measurement and inspection needs in the aircraft, automotive, and electronic components industries.

High-precision measurement and inspection phase of production is essential for advanced manufacturing operations. Nikon provides measurement and inspection systems to meet the diverse needs of the demanding industry applications. Our extensive lineup includes X-ray and CT inspection with the world’s only high-power, 450kV micro-focus X-ray source, which can be used for large castings for vehicles, as well as systems for non-contact large-volume inspection and CNC video measuring.

We support cutting-edge manufacturing processes by providing the measurement and inspection systems essential to enabling the advanced manufacturing process required to produce aircraft, automotive, and electronic components. We are also committed to improving machining processes and machining accuracy, with Nikon’s non-contact laser scanner LC150x being installed into machine tools of DMG MORI CO., LTD., which concluded comprehensive business alliance with Nikon in March 2020.

The Precision Components & Modules Business includes optical components such as projection lenses and lidar sensors related, which are a core technology in autonomous driving. The Encoder Business handles products like sensors in the joints for industrial robots to measure rotational displacement. In April 2020, these businesses were combined to newly establish the Digital Solutions Business Unit. This unit is responsible for accelerating the launch of our Material Processing Business and Vision Systems/Robotics related businesses, which are positioned as growth areas, in cooperation with the Next Generation Project Division which holds development function. Following on from our Lasermeister series of optical processing machines for high-precision metal processing with ease, a new model of high precision flat surface processing machine is under developing. This utilizes an ultra-short pulse laser to achieve submicron flatness and precision microfabrication. There are also Customized Products Business, Glass Business, and Ophthalmic Lenses Business to meet wide variety of needs ranging from everyday life to outer space.

From optical components to material processing to the development of custom-made products. Contributing to the evolution of industry and technology.

A high-power X-ray source enables inspection of aircraft turbine blades and large castings for vehicles.

X-ray and CT Inspection “XT H 450”

Enables 3D measurement of aircraft and automotive parts, as well as wind turbine blades with non-contact and efficiency.

Non-Contact Large-Volume Inspection System “Laser Radar”

Attains non-contact, high-speed measurement at the highest precision of the NEXIV series, with accurate stage movements and high-performance optical systems.

CNC Video Measuring System “NEXIV VMZ-H3030”

INDUSTRIAL METROLOGY BUSINESS

· DIGITAL SOLUTIONS BUSINESS
· CUSTOMIZED PRODUCTS BUSINESS
· GLASS BUSINESS
· OPHTHALMIC LENSES BUSINESS

OTHERS

Enriching society and people’s lives through a variety of enterprises.

Facilitates high-precision metal processing, expanding the potential for development and processing of metal products. In addition, its function to repair cracked or damaged parts can reduce costs and waste.

Optical Processing Machine “Lasermeister 101A”

A joint unit for a collaborative robot that integrates a motor, speed reducer, driver, brake, and encoders.

Intelligent Actuator Unit “C3 eMotion”

Uses spectroscopic technology and AI to detect organic substances. (Foreign material inspection system for jam and fruit spreads developed jointly with AOHATA Corporation to enable automatic inspection of foreign material and impurities in the jam and fruit spread manufacturing process)

Foreign Material Inspection System for the Food Industry