

## SHAPING OUR CORPORATE IDENTITY THROUGH "QUALITY FIRST"

Major Events in DENSO's History ▶

1949

**1949** Nippondenso Co., Ltd., now DENSO Corporation, established following the spin-off of Toyota Motor Co., Ltd.'s electrical component plant



Aerial view of DENSO head office and plant



Nippondenso head office at the time of its founding

1950

**1953** Formed technical alliance with Robert Bosch GmbH of Germany

**1954** Established the Technician Training School (would later evolve into the DENSO Technical College)

**1959** Launched nationwide sales of the DENSO spark plug



DENSO's first spark plug

1960

**1961** Awarded the Deming Prize, the world's most prestigious award for quality control, testifying to efforts to enhance quality

**1962** Established the corporate slogan "Quality First" with the construction of a monument to commemorate receiving the Deming Prize

**1967** Developed the company's first air-conditioning system

**1968** Established the IC Research Laboratories to conduct research on electronic control units (ECUs)



A Deming Prize adjudicator inspects DENSO's quality control



IC Research Laboratories

1970

**1970** Completed construction of a hybrid IC plant, enabling the company to carry out in-house all IC processes from development and design through production

Began manufacturing industrial robots for in-house use, and launched commercial sales later

**1971** Established Nippondenso of Los Angeles, Inc., the company's first overseas operation

**1972** Applied electronic technologies to develop the electronic fuel injection (EFI) system

Established first overseas production center in Thailand. Set up 11 production and marketing centers in 8 countries in the 1970s.

**1977** Developed the oxygen sensor together with Toyota Motor to comply with gas emission regulations

Captured first ever gold medal at the international competition of the Youth Skill Olympics. A total of 14 employees have since won gold

DENSO emphasizes long-term growth over short-term earnings. Fostering relationships of trust with customers assists in achieving long-term growth. And quality is the driving force that promotes customer trust and spurs higher earnings. That's why we emphasize "Quality First" thinking in all aspects of operations.

DENSO is also characterized by a concept we call *mono-zukuri*, the process of making (*zukuri*) things (*mono*). *Mono-zukuri* is team-oriented efforts that involves each step of the manufacturing process. But it is about much more than just making a product. It's about delighting customers by providing new value. Quality performance and cost savings are two aspects of this. For DENSO, however, the critical element of new value is quality. Quality is at the core of *mono-zukuri*. And implementing "Quality First" thinking is what has made DENSO successful since its spin-off from Toyota Motor Co., Ltd., in 1949.

In 1961, just 12 years after our founding, we captured the Deming Prize, one of the world's most prestigious awards for quality control.

**Integrating quality in all *mono-zukuri* processes** At DENSO, quality is positioned as an integral part of all processes from the planning stage onward. Today, as R&D and delivery times are slashed ever further, the importance of this approach is vital. Our quality assurance departments sit in on planning meetings from the very first stages of R&D. They may suggest quality improvements through the creation of a more simplistic design, or the utilization of an easy-to-assemble production process. Their presence is highly significant to quality, and at the heart of everything we make.

## 1980

**1981** Developed integrated ignition assembly (IIA), which marked the launch of electronic components, including the development of the world's first digital instrument cluster

**1984** Established the company's first production center in North America, Nippondenso Manufacturing U.S.A., Inc. (now DENSO Manufacturing Michigan, Inc.) in Michigan, heralding the start of the company's full-fledged expansion of production overseas



*DENSO's first Integrated Ignition Assembly (IIA)*



*Nippondenso Manufacturing U.S.A., Inc.*

**1985** Developed the antilock braking system (ABS)

**1987** Launched sales of car navigation systems, pioneering the introduction of IT to vehicles

**1989** Developed airbag ECUs and sensors

## 1990

**1991** Opened DENSO Research Laboratories to develop leading-edge technologies for automobiles and other areas of business

Began participating in the MITI (now the Ministry of Economy, Trade and Industry) project called R&D of Micromachine Technology

**1995** Developed vehicle stability control (VSC)

Succeeded in mass producing the ECD-U2 unit, the world's first electronically controlled fuel injection common rail system

Developed fleet management systems with GPS and satellite communications, followed later by other intelligent transport systems (ITS) products including electronic toll collection (ETC) systems, intelligent parking systems (IPS) and the Mayday system for emergency notification

**1996** Changed name to DENSO Corporation as part of a move to create a new image as a leading global company

Obtained the company's first ISO 14001 certification at the Ikeda Plant, Japan

**1997** Developed powertrains, climate control systems and other components for hybrid cars

Developed the two-dimensional QR code, capable of storing nearly 100 times more information than the conventional bar code

**1999** Acquired the Rotating Machines Division of Italian component manufacturer Magneti Marelli S.p.A., thereby expanding DENSO's production centers and sales channels in Europe



*Ceremony held on October 1, 1996 to mark the company's change of name to DENSO Corporation*

**Preempting defects** "If it can happen, it will happen." Our approach to making products is not to wait and see if an error occurs and then remedy it, but to preempt the potential for error. For example, you can fix a screw in place, but it still might loosen. We, therefore, try to provide a fail-safe design to prevent the screw from loosening in the first place. The worst-case scenario is finding a defective product. We never view defects as accidental. There is always a reason for an error. At our production centers, we have teams of scientists in place who analyze and identify why a product is defective. Such an approach encapsulates our meticulous dedication to developing the best products through "Quality First" approach.

**Internal structure for quality assurance** Each DENSO business group houses a Quality Assurance Department to handle relevant issues. The quality assurance departments within each business group are supervised by a corporate-wide Quality Control Department, a cross-cutting group responsible for formulating the long-term policy of the entire DENSO Group, creating quality control systems, and resolving issues objectively as they arise. Customer concerns are routed to this department. Dr. Yoshitaka Natsume, General Manager of the Quality Control Department, explains that DENSO's effective internal structure "is essential for clear, accurate, and constant assessment of quality at all times."

**A fluid organization enhances the value of quality** Within our organization, fluidity is critical. Hindering free movement prevents growth potential and poses enormous risks to maintaining quality. We ensure a flow of people throughout the business groups.

2000

**2000** Developed the world's first cooling module, installed in the Prius hybrid car, as part of concerted efforts to modularize components

Formulated DENSO EcoVision 2005 to articulate DENSO's efforts to strike a balance with the environment in R&D activities, and to help sustain the environment for future generations



Testing the Prius hybrid car

2001

**2001** Currently expanding European operations, including the purchase of Magneti Marelli's Thermal Systems Division and the establishment of a car air-conditioner manufacturing company in the Czech Republic



2002



Exposure to a broad spectrum of *mono-zukuri* processes not only stimulates ideas and action among people, but also affords valuable experience of how important quality is in each and every stage of production. These experiences can be passed on throughout a variety of departments, fusing knowledge of quality into one organic whole.

**Communications link associates for commitment to quality** Freedom of expression is equally crucial. According to Dr. Natsume, "Poor communication among associates will affect quality." We make sure that our staff actively inform each other of issues within the company. Perhaps most important, however, is our team of skilled associates or technicians. These professionals are present in all *mono-zukuri* processes, from development and design to manufacturing. Linking all associates together are DENSO's superior technical capabilities and a powerful commitment to quality. Any issues raised in R&D and design stages are conveyed to associates at production centers. And new developments on the production line are fed back to DENSO's research labs. This process of keeping associates updated is essential to maintaining quality.

**Investing in skilled associates** Their vital presence in all aspects of our work makes our skilled associates an invaluable asset to DENSO. We have invested time and resources into building an expansive system for nurturing researchers, scientists, and



technicians. As early as 1954 we set up our first technical training school. This later evolved into the DENSO Technical College, from which 7,350 associates have graduated. Our training institutions are a wellspring for skilled associates who are instilled with our company's emphasis on improving quality even before stepping foot inside DENSO.

Our associates' capabilities are proven around the world—14 DENSO associates have won gold medals at the international competition of the Youth Skill Olympics. One of these, Shunichi Tanoue, has a remarkable story. Placed in the precision equipment assembly category at the 1997 Youth Skill Olympics, he was faced with putting together a sliding clutch. So familiar was he with the clutch that he spotted an error in the diagram handed out by the organizers. He pointed this mistake out to the judges, who revised the diagram. Later, he walked away with gold. It is this level of dedication to honing skills that epitomizes DENSO's associate training system and corporate-wide dedication to quality.

Obviously, maximizing quality is vital to the long-term growth of DENSO. We have the processes, organization, and people in place to do so. Times change. Yet, our constant "Quality First" efforts transcend time and will continue to shape DENSO's corporate identity throughout the 21st century.