

Accelerating development of strategic global models

Isuzu's technology and R&D activities

Isuzu's product development and R&D programs consistently focus on bringing models to the global market. We are committed to leading the market in creativity by introducing strategic global models that offer world-class performance and quality in every aspect of their design, especially through their exceptional safety, economy, and environmental performance.

SEE technology for the next generation

Earning the trust of customers worldwide is at the heart of Isuzu's development philosophy. The base for all our product development initiatives is "SEE technology", which stands for Safety, Economy, and Environmental performance. Our goal is to build advanced technologies with world-class performance in each of these three core areas.

Our unwavering objective is to supply the global market with products that combine safety and economy with a reduced environmental impact.



SEE-GLOBAL: Integrated development of light- and medium-duty vehicles

When we set out to develop our new ELF and FORWARD models, we wanted to create a truck in keeping with our project concept of "SEE-GLOBAL" that would resonate with customers worldwide, through an approach that integrates light- and medium-duty trucks in the same group. For this project we adopted a development technique that defines a base level consisting of the minimum specifications required to fulfill worldwide needs, then augmented this base with options that fulfill national requirements such as legal regulations and varying operating environment requirements.

Introduction of digital development

The development of these strategic global models marked Isuzu's first full-fledged digital development process which was dramatically streamlined and shortened by the use of 3D CAD simulations and computer-driven analysis.

D-CORE next-generation diesel engine

D-CORE is a series of next-generation, high-efficiency diesel engine series featuring Isuzu's proprietary philosophy, technology, and performance. The platform is designed to offer improved fuel economy and cargo efficiency by



delivering maximum torque per unit of displacement in a more compact, lightweight body. By combing the three technologies of combustion optimization, exhaust gas after-treatment, and electronic control, D-CORE diesel engines deliver both excellent environmental and economic performance.

Tie-up with Toyota in small diesel engines

In August 2007, Isuzu and Toyota Motor Corporation agreed to work together to develop, manufacture, and supply small diesel engines.

This collaborative development effort seeks to harness both partners' technical capabilities and expertise to develop and manufacture the world's highest-performing diesel engine, a 1.6-liter class aluminum cylinder block unit that will power Toyota models sold in the European market. Production is planned to start in 2012.

Joint development projects with Hino Motors Ltd.

In August 2007, Isuzu and Hino Motors Ltd. agreed to jointly develop engine emissions after-treatment systems and cabins for heavy-duty trucks. By taking advantage of their respective advanced technologies to efficiently utilize development resources, both companies are aiming to reduce the cost burden associated with complying with

increasingly stringent national environmental regulatory regimes, ultimately enabling them to provide better products to customers.

In addition to collaborating in the manufacture of buses through J-Bus Co., Ltd., a company in which each partner owns a 50 percent stake, Isuzu and Hino are working together on the supply of truck components.

Developing alternative fuel vehicles

Isuzu is actively developing environmentally friendly alternative fuel vehicles based on the technology used in its DE vehicles. Compressed natural gas (CNG) vehicles which use natural gas as a fuel are extremely clean, with almost no particulate matter (PM) and low CO₂. Thanks to the development of engines with multi-point injection (MPI), a state-of-the-art fuel injection system, we are now able to deliver both exceptional fuel efficiency and clean exhaust gas performance.

We have also developed a diesel hybrid vehicle featuring a proprietary hybrid system based on our D-CORE series of DEs. By using a PTO-type parallel drive system and lithium-ion batteries with an exceptionally long service life, we were able to create an alternative fuel vehicle that combines the reliability and economy required of CVs with environmental performance.