Efforts in the Focus Fields (Electrification)

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Electrification Systems Business Group
1. Goal and growth target
Goal of the electrification business
– Forecast of the global electrification market –
Sales of passenger vehicles (million vehicles)

The number of electric vehicles is expected to grow.
Goal of the electrification business
– Core products that underpin overall management –

Kinetic management

AD/ADAS
Laser
Instrument cluster

Energy management

Thermal management

Mobility IoT Core

Safety and comfort
Wiper system
Window motor
Riding comfort
Suspension motor

Stop
Control brake

Turn
EPS-ECU
EPS-MCU

Drive
MG
Inverter
Battery ECU

Motor diameter
Concentrated winding
SC winding

Contribute to innovation of the automotive society through overall management
Electrification systems business  Revenue target for FY2026

Grow the business to more than two trillion yen by FY2026 by contributing to the spread of electrification.

(Assumed foreign exchange rate) 2019 (results) 2022 (target) 2026 (target)

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<th>USD</th>
<th>EUR</th>
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<td>100</td>
<td>120</td>
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<td>2026</td>
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<td>120</td>
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(billion yen) ; 2,000
2. Efforts to achieve the target
Capability to achieve electrification – Individual capability × Core technology –

**Core products**

- MG (Motor generator)
- Inverter
- Battery ECU

**Core technologies**

- Press SC winding technology
- Double-sided cooling
- Technology to monitor many cells accurately

**Global share 2018**

- MG: 15.8%
- Inverter: 32.4%
- Battery ECU: 35.5%

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**Competitive core technologies**

Created by DENSO based on the data of the number of units prepared by MarkLines Co., Ltd.
Capability to achieve electrification
– Goal of business and products to spread electrification –

Extensive product lineup covering 90% of the market
Efforts in electrification – Taking on challenges to create new value –

Build a broad-based alliance

(P)HEV  FCEV  BEV
Efforts in electrification
– Enhance profitability to underpin the next growth phase –

Global supply system in six regions

Anjo Electrification Development Center (EIC) to be established in May 2020

Electronic components production business of the Hirose Plant to be transferred in April 2020

The DENSO Group will invest 180 billion yen in total.
3. Long-term efforts
Electrification business – Efforts to enhance competitiveness

**Inverter**
- **High efficiency**
- **Light weight**
- **High performance**

**Advanced materials**
- Low-loss power semiconductor material
- High-performance rare-earth-free magnet
- Ultra-lightweight conductor material

**Innovative technology development**
- Corundum-structured gallium oxide
- FeNi superlattice
- Carbon nanotube
Electrification business – Long-term efforts –

Understand various mobility needs

Fields to be strengthened

Meet various mobility needs

New fields, quick technology development
Ultra-lightweight, lightweight, high efficiency, high quality

Complete regeneration and simplification

Expansion of vehicle value
Make the sky clear using DENSO’s electrification technology
Individual capability × Core technology

ELEXCORE

Completely eliminate waste in electricity consumption to achieve comfort, improve the response, and extend the range