Through the DENSO style of *monozukuri* (the art of making things), cutting-edge product development and innovative self-development and self-production of essential technologies, DENSO has generated a range of "world-first" products. This uncompromising stance on *monozukuri* has laid the foundations for DENSO's increased competitiveness and enhanced corporate value. Supporting this creation of new value are a large number of engineers and technical personnel. DENSO believes that *monozukuri is hitozukuri*, which is to say, the art of making good things is the same thing as the art of making good people, and this is the source and driving force behind value creation for DENSO. This Special Feature presents efforts in DENSO-style *monozukuri*, which confronts the challenges of creating new value, and the *hitozukuri* that brings *monozukuri* to fruition.

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**Dantotsu (outstanding) Plants**

DENSO is working on a transition to superior *Dantotsu* plants to make its domestic production more competitive. We are targeting increased production efficiency through such measures as cutting processing costs through faster and more continually operating production lines, applying initiatives including the use of 1/N production equipment*. Reduced administrative costs and overheads from the rationalization of logistics and inspections and reduced material costs from reform of procurement and lower purchased parts costs will also contribute to increased efficiency. The Company will advance the extension of these facilities to overseas plants.

*Equipment that significantly reduces floor area, investment costs, and by processing costs by aligning production volume (economic units) with assembly, through more-compact production facilities and upgrading the production line.*
Ideal situations
A plant in Japan that can be internationally competitive in the production field even if the yen appreciates to ¥70 to the US dollar.

Secure production output and keep technological development capabilities

An organization that has evolved through a culture that entails the participation of all of its members in a spirit of friendly competition, continuously taking up each challenge and consistently fine-tuning its skills.

Activities
Development of production technology speedily against overseas competition

Plant in Japan
- 1/N processing technology
- Energy saving technology
- High-speed / Automation
- Synchronization of processing / Assembly line
- Optimization of inspection

Customers, Suppliers
- Optimization in / out distribution
- Expand technology to suppliers

Increase output
Improve productivity
Decreased lead time

Activities of Model Plant

The Whole Company Activity

- All business group
- Main 9 plants

Realizing extreme cost competitiveness in Japan

Overseas Expansion
Expand globally to monozukuri technology Improve and adopt to local situation speedily

"Dantotsu" Plant

<table>
<thead>
<tr>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
<th>FY2016</th>
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<tbody>
<tr>
<td>Activities of Model Plant</td>
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</table>
Development Case Study: Small-Scale Electric Die-Casting System

One metal mold manufacturing method, die casting, is normally undertaken at large facilities, as the process involves the high-temperature melting and high-pressure injection of metal. Due to its innovation in process methods, DENSO has developed a small-scale electric die-casting system that has significantly reduced the size of the area covered by the facilities and the amount of energy used.

<table>
<thead>
<tr>
<th>Until now</th>
<th>Large-scale hydraulic pressure die-casting</th>
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</thead>
<tbody>
<tr>
<td><strong>The thinking behind this approach</strong></td>
<td>Fills unfilled sections (cavities inside the product) under high pressure</td>
</tr>
<tr>
<td></td>
<td>Upsizing generates high pressure by hydraulic pump</td>
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<tr>
<td>Exterior view: height 4.0m</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Now</th>
<th>Small-scale electric die-casting system</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The thinking behind this approach</strong></td>
<td>Development of products in which it will be hard for unfilled sections to form even under low pressure</td>
</tr>
<tr>
<td></td>
<td>Realizing electrification and simplification by low pressure.</td>
</tr>
<tr>
<td>Exterior view: height 1.8m</td>
<td></td>
</tr>
</tbody>
</table>

| Pressure processing | 68MPa | 1/2 | 33MPa |
| Floor area | 14m² × height 4.0m | 1/6 | 5.5m² × height 1.8m |
Efforts in Sharing of Parts / Standardization

Among the world's automakers, moves on the sharing of parts and standardization are gaining pace. There is thus the possibility of a significant reduction in the number of development processes for parts that previously differed between each type of car and each automaker, and improvements in both development efficiency and productivity are expected. In the case of upper body products, an area in which design and function are important, efforts are made to set DENSO products apart by reflecting regional and customer needs. Contrastingly, in the case of under body products, DENSO is targeting the development of next-generation products that incorporate improvements in terms of product capabilities at the same time as standardization by combining a number of competitive core technologies.

DENSO’s Goal: Standardization of the Good Products while Reducing the Type of Product

Development Case Study: New Automotive Climate Control Unit

The first of its kind in the world, this new automotive climate control unit can be shared by automakers, in products ranging from compact to luxury cars, and across sales regions. This was achieved by new DENSO technologies that reduced the unit's size by 20% and by significant standardization (from 18 models to 6) that was enabled by an innovative structure that has achieved commonality in vehicle design. From the production aspect, too, the new product realizes a convention-breaking level of standardization in its method of assembly, so that all 6 models can be assembled on a single production line.
A new structure which enabled standardization of components while realizing required performance.

New Structure

Downsizing by 20% from conventional model enable HVAC to be installed in vehicles ranging from compact to luxury cars.

Downsizing

There are a total of a little less than 140,000 people working in the DENSO Group. The Group's varied and individual associates around the world have integral parts of the corporate DNA passed down to them, such as DENSO's attitude toward monozukuri, and share values to grow and develop further.

The DENSO Spirit

- **Foresight**: Providing surprises and impressions in a way that only DENSO can
- **Credibility**: Providing quality and reliability beyond customer expectations
- **Collaboration**: Achieving the highest results by working as a team

In the DENSO Group, the DENSO Spirit clearly expresses our stance regarding the values of "Foresight, Credibility and Collaboration," which have been implicit since the foundation of DENSO Corporation and a driving force behind our activities. The DENSO Spirit has been translated into 17 languages and shared among associates.

We are working hard to enhance training policies to develop associates who can study on their own and think for themselves, and who continually seek new challenges. Having put in place management systems tied closely to different countries and regions, we are implementing a range of initiatives.
DENSO Technical College

DENSO Technical College is an in-house facility operated by the Company under Ministry of Health, Labour and Welfare certification. The college offers tuition in a wide range of disciplines with a view to nurturing the associates who will underpin DENSO's future *monozukuri*. The college marked its 60th anniversary of its founding in April 2014, and at that time more than 9,000 people had graduated, more than 6,000 of whom are currently playing active roles at the forefront of DENSO *monozukuri*. Given the constantly changing environment surrounding our industry, we will continue to provide skills and education to flexibly respond to those changes.

DENSO Technical Skills Academy

Training independently creative associates capable of flexibly responding to changes in the times and environment and who will form nucleus of future workplaces
WorldSkills Competition

Training of highly skilled technicians who possess strong mental ability and imagination in abundance

Regarding the high levels of skills and know how that shape technology and technical development as inextricably linked factors in monozukuri, DENSO focuses on technicians and the passing on of skills. As part of that focus, the Company encourages participation in the WorldSkills Competition, where the highest level skills are contested.

Over the 50 years, up to and including 2013, in which DENSO has sent participants to competitions, contestants have a track record of 28 gold, 15 silver, and 13 bronze medals.

The Company also trains its gifted technicians from its overseas bases, where the handing down of skills is also encouraged. Thus contestants come not only from Japan but also from Thailand and Indonesia, and Denso (Thailand) Co., Ltd. (DNTH) has won medals at three consecutive WorldSkills Competitions. In the years to come, the Company will work to continue training its highly skilled technicians through these initiatives.