We will aggressively invest in the Cement-related business and High-Performance Product business as part of our growth strategy based on the basic policy of the medium-term management plan.

**Cement-related business**

The overseas cement strategy occupies part of our overall growth strategy. It will involve significantly scaling up export facilities at our major silo located at the Kochi Plant in order to steadily increase exports in a consistent manner. We will aim to open up markets by positioning overseas markets as a single Cement-related market.

We will also make aggressive investments and expand logistics streamlining to further solidify the business base of the Cement-related business, which will be a source of profits and cash flow in the future as well.

**Expansion of logistics rationalization**
Reduce logistics costs drastically by reviewing current logistics system

**Aggressive Investments**

**Cost reduction investments**
- Install high-efficiency AQC at all plants (Gifu, Ako)
- Improve recycling-related facilities (each plant)
- Coal transportation using our own ship scheduled to start service in March 2018

**Infrastructure development investments**
- Manufacturing: Increase slag mill for manufacturing solidification materials (Kochi)
- Sales related: Increase raw concrete in Tokyo area (Tokyo, Yokohama)
- Logistics related: Greater product range at service stations (Onahama SS, other)
- Systematic replacement of tankers

**Maintenance upgrade**
- Conduct major repairs in planned manner

### Cost reduction investments

**Install high-efficiency AQC at all plants**
We have already introduced high-efficiency air-quenching coolers (AQC) at five of our eight kilns, including Hachinohe Cement, that help to conserve energy by significantly boosting heat recovery efficiency. Under the new medium-term management plan, we will install AQCs at the two kilns of the Gifu Plant and the one kiln of the Ako Plant in an effort to achieve more energy-efficient operations.

**Improve recycling-related facilities**
We will invest in the expansion of desalination equipment used in our recycling-related facilities. We will expand the volume of high-chlorine industrial waste we receive by improving recycling-related facilities so that we can increase the recycling volume.

**Coal transportation using our own ship**
The Group owns a bulk coal carrier vessel, and SOC Logistics Co., Ltd., an affiliated company that provides marine transportation, engages in the transport of coal in certain instances. We will work to lower transportation costs by shifting coal transport from outside marine transportation companies to companies within the Group.
Topic 2  Infrastructure development investments

Increase slag mill for manufacturing solidification materials
We will introduce a vertical roller slag mill at our mainstay Kochi Plant in order to revamp the manufacturing process for soil improvement materials (solidification materials) and increase production volume. We will fully work toward capturing demand for soil improvement materials in Japan’s three major urban areas, including Kanto, where strong demand is expected in the run up to the 2020 Tokyo Olympic and Paralympic Games, given the rising need for soil liquefaction prevention and soil improvement work in recent years.

High-Performance Product business
Our marketing strategy for existing products is to dominate the market through a focus on fast-growing segments with enhanced R&D activities as well as aggressive investments towards the scaling up of production.

<table>
<thead>
<tr>
<th>Products</th>
<th>Address with increased production</th>
<th>Market forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optoelectronics Business</td>
<td>Optical communications components for new transmission methods</td>
<td>● Enhance production capacity of high value-added products in phases to suit demand</td>
</tr>
<tr>
<td>Electronic Materials Business</td>
<td>Electronic materials for semiconductor manufacturing equipment</td>
<td>● Production capacity being increased to suit the increasing demand for semiconductor manufacturing equipment (operational from Nov. 2017) 30% increase in capacity</td>
</tr>
<tr>
<td>Battery Materials Business</td>
<td>Rechargeable battery cathode materials</td>
<td>● Capacity increased at SOC Vietnam (operating from April 2017) 1,000t⇒2,000t/year Further increase in production possible to suit demand</td>
</tr>
</tbody>
</table>

New business and new product development
Towards continuous growth on an overall basis, we will endeavor to strengthen our R&D activities with both internal and external resources, accelerating the development of new businesses and new products in the domains relating to our existing businesses.

<table>
<thead>
<tr>
<th>Comparison of R&amp;D expenses (Billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal 2014-16 medium-term plan</td>
</tr>
<tr>
<td>Cement-related</td>
</tr>
<tr>
<td>High-Performance Product</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

- Optoelectronics Business: Use of LN modulators to expand into markets located at a medium-range
- Advanced Materials Business: Development of a full lineup of cosmetics materials and establish titanium dioxide business
- Battery Materials Business: Highly developing the specifications of LFP cathode materials and advancing them to high-voltage models