



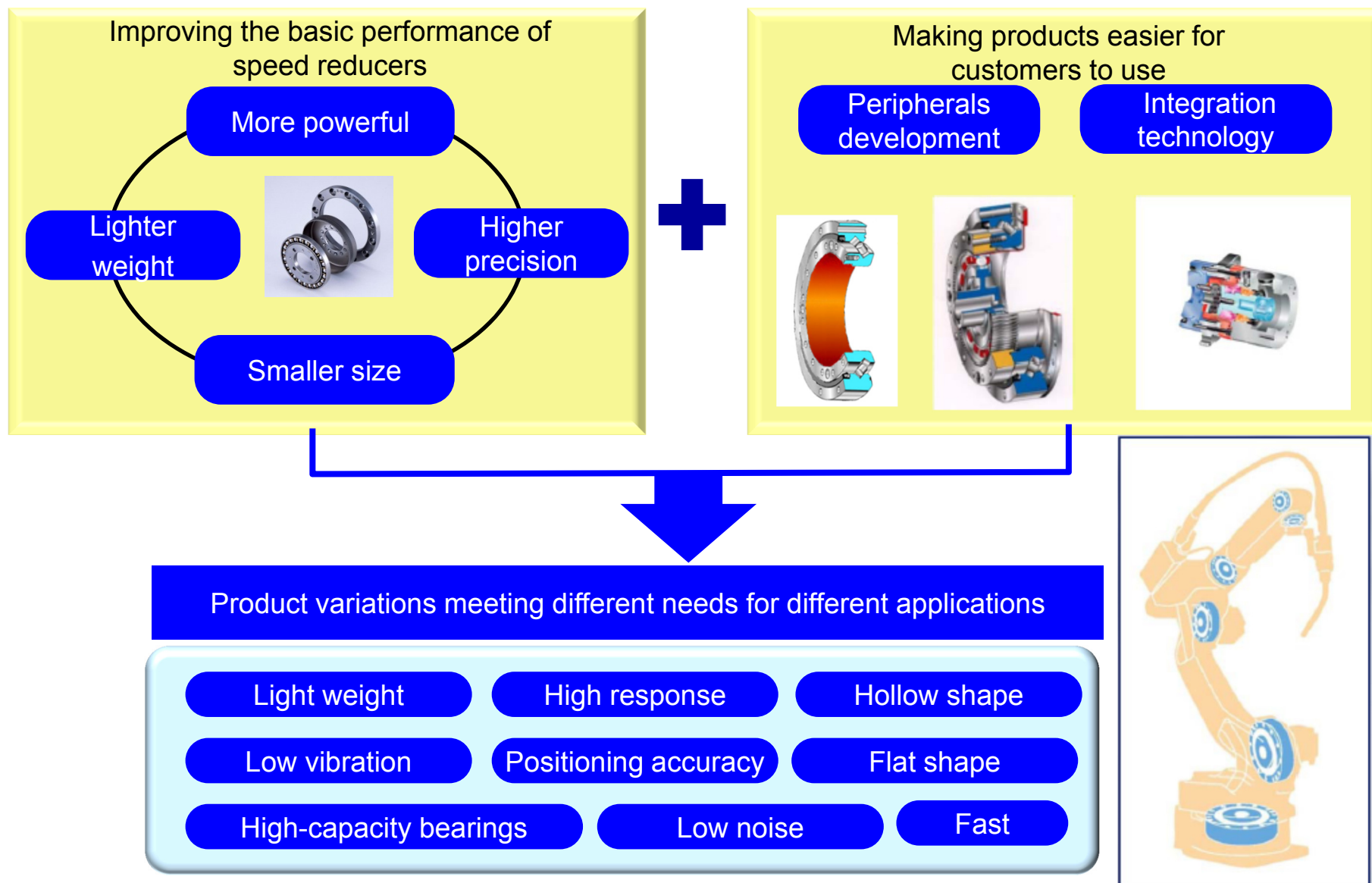
# Future Outlook

# Trends in Main Application Areas

Area	Industry Trends	Technology Trends
Semiconductor manufacturing equipment	<ul style="list-style-type: none"> <li>• Growing oligopoly of device makers</li> <li>• Restructuring of manufacturing equipment vendors</li> </ul>	<ul style="list-style-type: none"> <li>• Miniaturization</li> <li>• Flash memory 3D stacking</li> <li>• Larger wafer sizes</li> </ul>
Industrial robots	<ul style="list-style-type: none"> <li>• Growing robot demand in emerging countries</li> <li>• Expanding robot production in China</li> <li>• Expectations for robots that collaborate with people</li> <li>• Expectations for application to food and pharmaceutical use</li> <li>• Progress in developing robots that think and adapt to changing situation</li> </ul>	<ul style="list-style-type: none"> <li>• Expansion of small robot market</li> <li>• Multiaxial, dual-arm robots</li> <li>• Faster, greater precision</li> <li>• Parallel-link robots</li> <li>• Advances in sensor technology</li> <li>• Advances in hand technology</li> </ul>

**Diversifying and expanding needs for motion control**

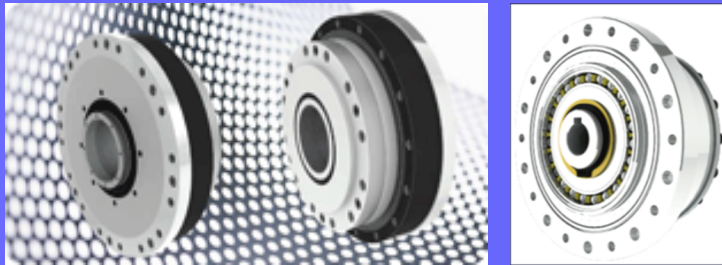
# Core technology and wider choice of product variations



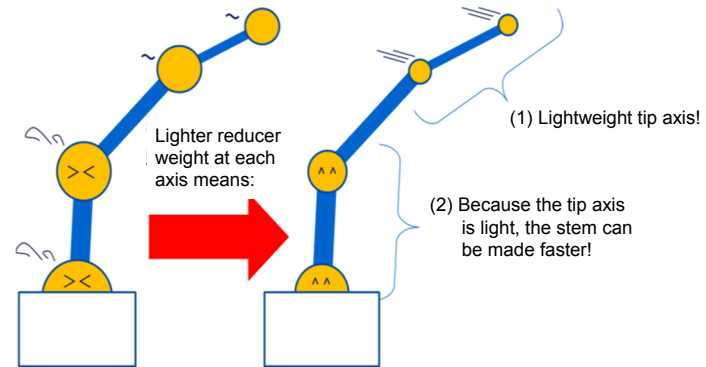
# Cultivating Markets by Launching New Products: HarmonicDrive®

HarmonicDrive®

Place lightweight unitary type products on the market



## 1. Helping make robots faster



## 2. Helping boost robot load capacity

## 3. Contributing to lighter robots that are easier to install and relocate

- Adoption in newly developed vertical robots (meet needs for compact size and high speed)
- Adoption in hand axes of large robots (meet need for improved load capacity)

# Cultivating Markets by Launching New Products: Mechatronics Products

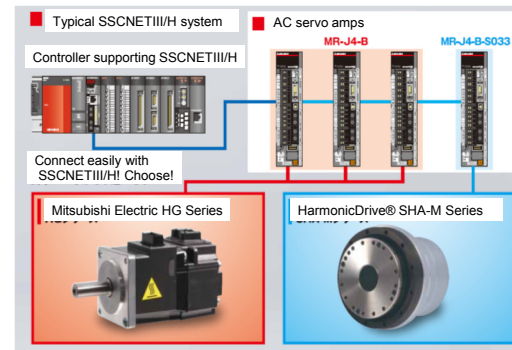
## Mechatronics Products

- Collaboration with servo motor manufacturers
- Addition of AC servo actuator models and expanded options



Link with control systems of other vendors

Connect using Mitsubishi Electric SSCNETIII/H communication



HDS actuator can be driven by Mitsubishi Electric AC servo amp.

(before)

Mitsubishi amp  
+  
Mitsubishi motor  
+  
HDS reducer

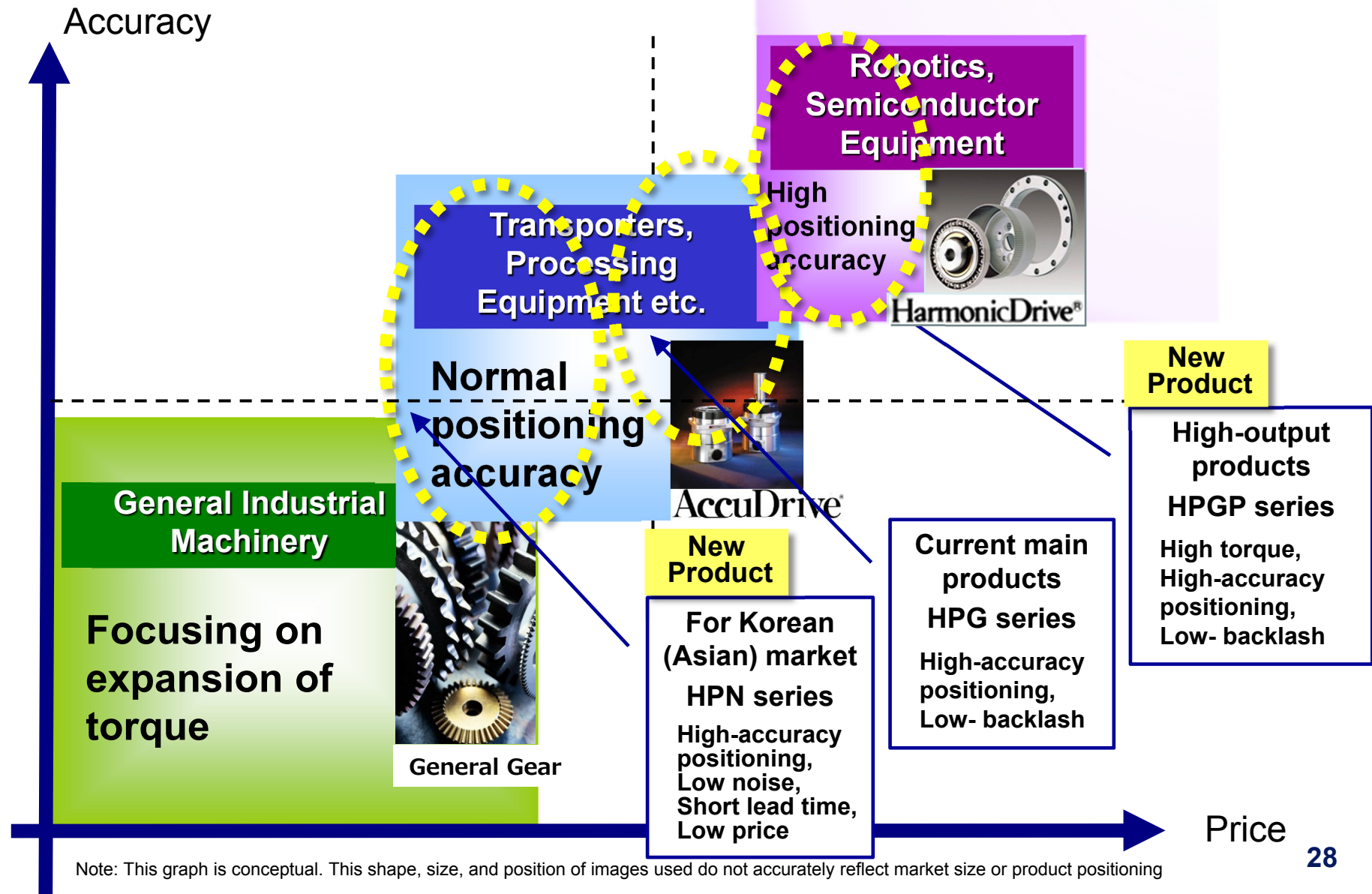


(now)

Mitsubishi amp  
+  
HDS actuator

HDS mechatronics products are adopted in equipment built around Mitsubishi Electric control system

# Enhance product lineup Planetary Gear

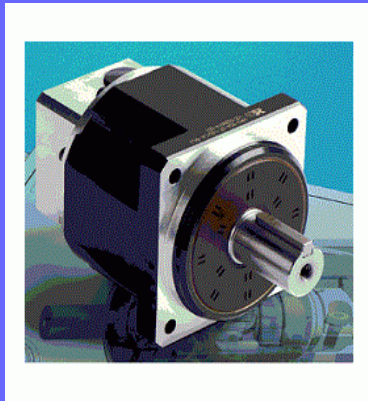




# Cultivating Markets by Launching New Products: Precision Planetary Gear Reducers

## Precision Planetary Gear Reducers

Launching for Asian markets



1. Start of production in South Korean subsidiary  
SAMICK ADM Co., Ltd. (S. Korea)



Production starting in this term, using production technology transferred from Japan

2. Buildup of sales capability in South Korea and China markets
  - Expand sales agent network
  - Enhance product lineup

Working with Korean partner to develop new markets and establish production base