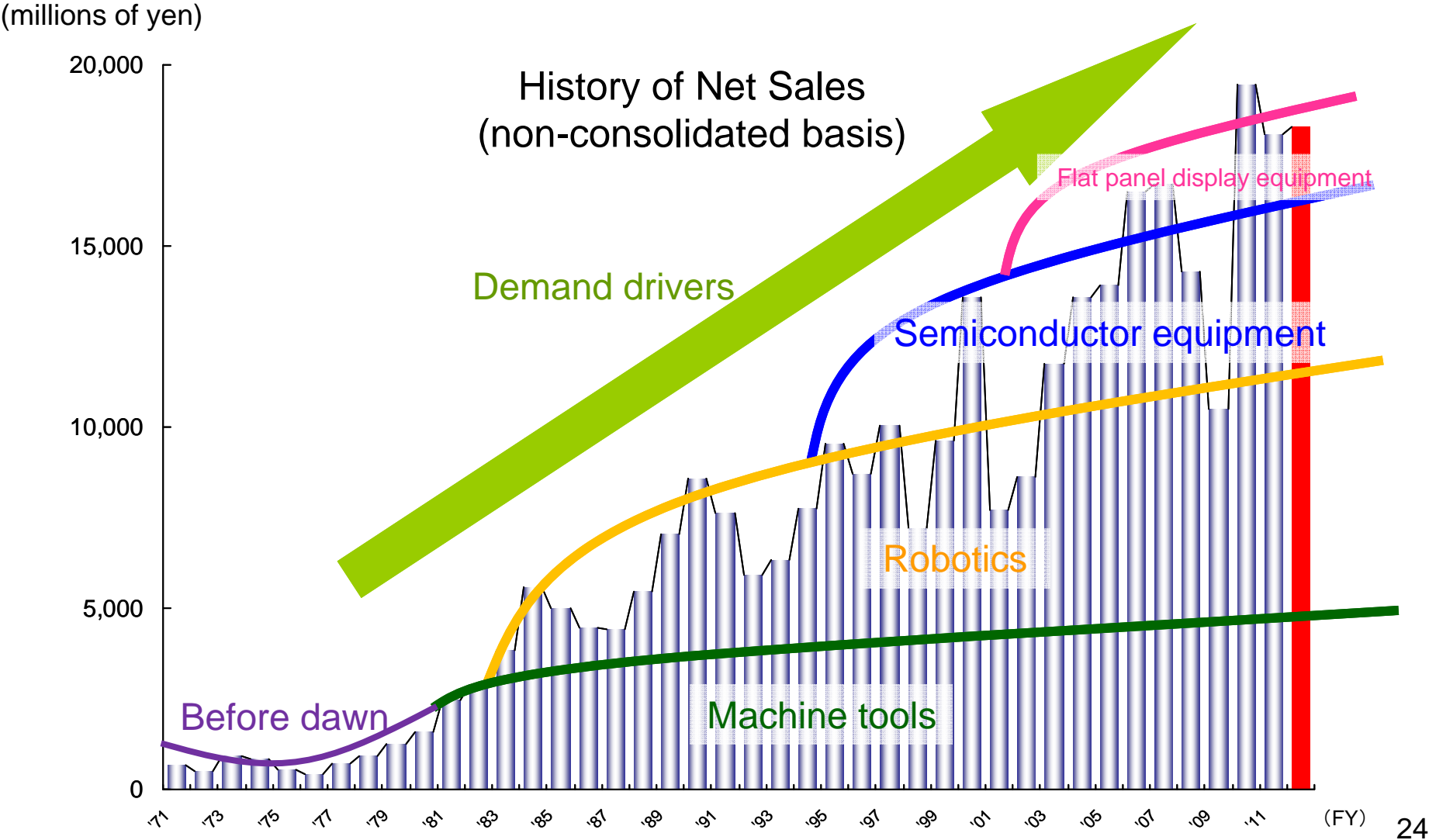




# *Future Outlook*

# Dip in short-term demand cycle

Emerging nation demand losing steam; Europe's problems persist



# Medium-term outlook for external environment

1. Stiffer competition and ups and downs for electronics firms

2. Weakening of domestic manufacturing industry bases

3. Japan's traits as a nation and manufacturing craft



## Our management foundation

- Global markets are our target
  - Accumulation of hard-to-imitate technologies and skills
  - Financial strength to withstand short-term demand fluctuations
- For these reasons, the external environment does not present major obstacles to medium-term growth of our business.

## Drivers of mid-term management plan achievement

### Keys to medium-term growth

1. Management giving top priority to quality and safety
2. Strengthening of core technologies
3. Wider choice of product variations
4. Stepped up sales expansion in Asia

# Stepped up sales expansion in Asia

## China

Sales expansion mainly through sales subsidiaries (also use of sales agents)

- New product sales expansion
- Technology services
- Marketing

Focus markets:

- Industrial robots
- Machine tools
- Semiconductor manufacturing equipment

## Singapore

Use of machine parts trading firm for sales expansion

- New product sales expansion

Focus markets:

- Machine tools
- FPD manufacturing equipment

## South Korea

Sales expansion using tech-savvy sales agents

- New product sales expansion
- Customized product orders

Focus markets:

- Machine tools
- Semiconductor manufacturing equipment
- FPD manufacturing equipment

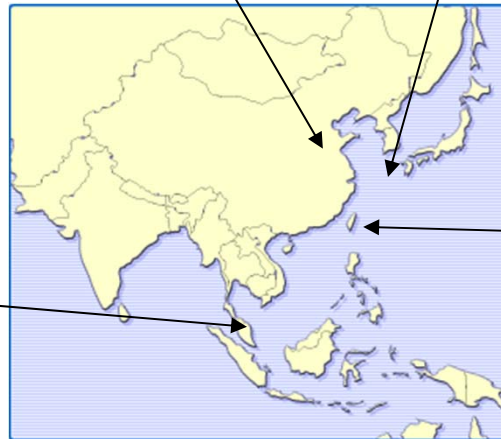
## Taiwan

Use of machine parts trading firm for sales expansion

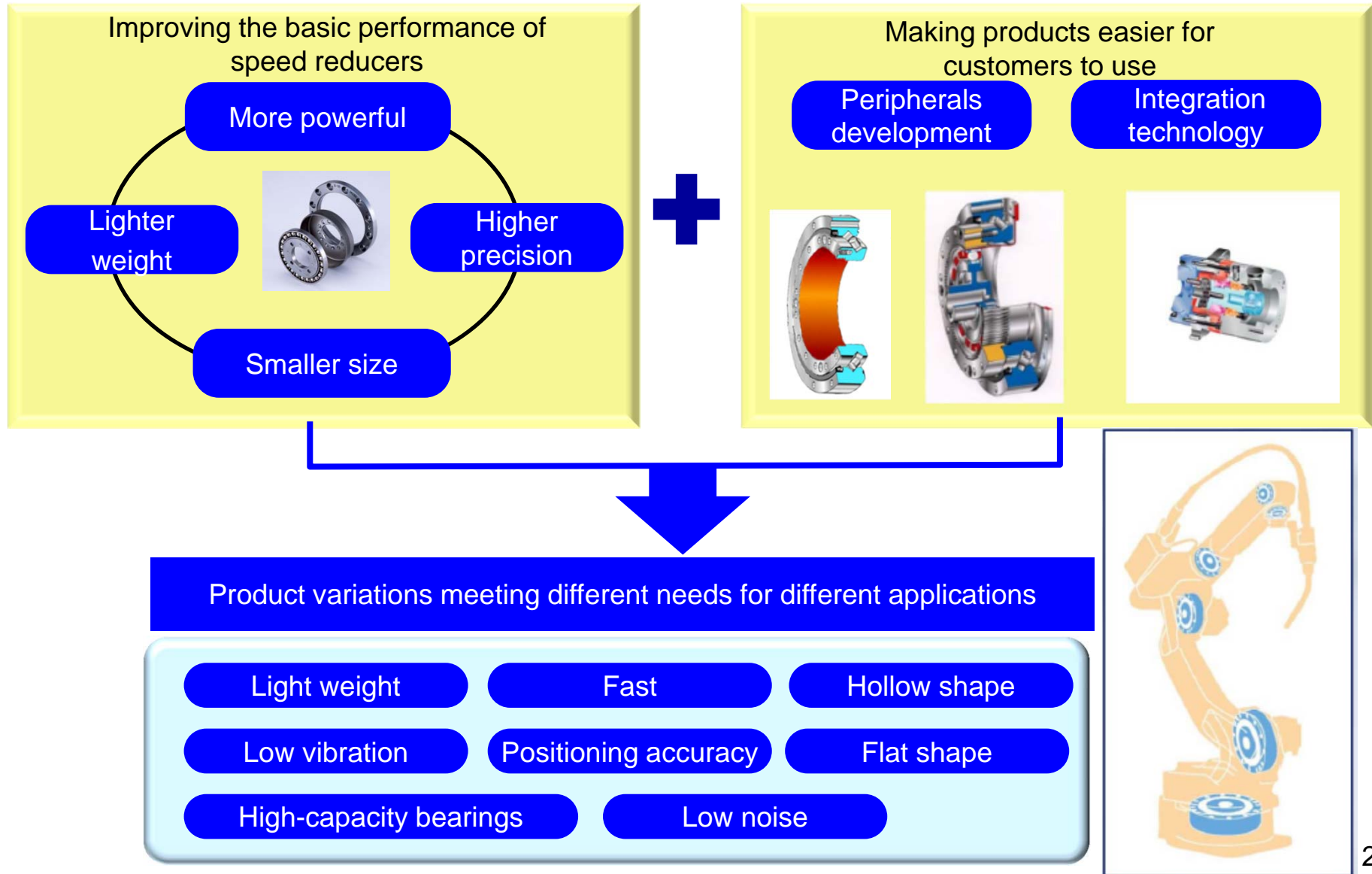
- New product sales expansion

Focus markets:

- Machine tools
- FPD manufacturing equipment



# Wider choice of product variations



# New product: Lightweight HarmonicDrive®

## Lightweight HarmonicDrive®

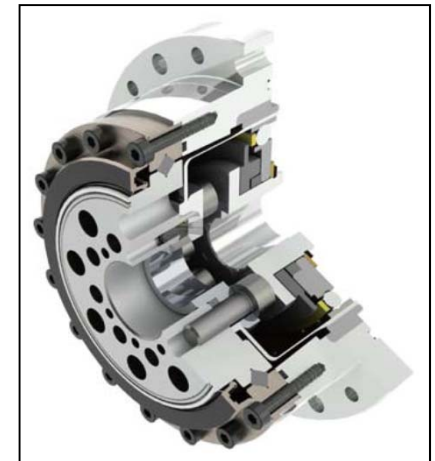
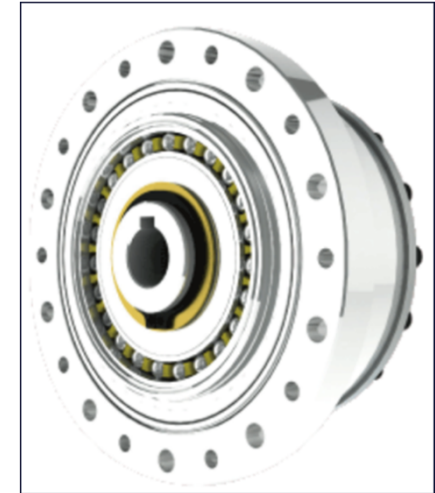
Achieves 20–30% lighter reducer weight at same torque capacity  
(compared to our previous products)

### ■ Advantages

- Improved load capacity due to lighter-weight (more compact) robots
- Shorter robot cycle time due to lightweight
- Lower energy use due to lightweight

### ■ Target markets

- Industrial robots
- Service robots
- Semiconductor manufacturing equipment
- New applications, new markets



# New product: High-torque planetary gear reducer

## HPGP Series HarmonicPlanetary®

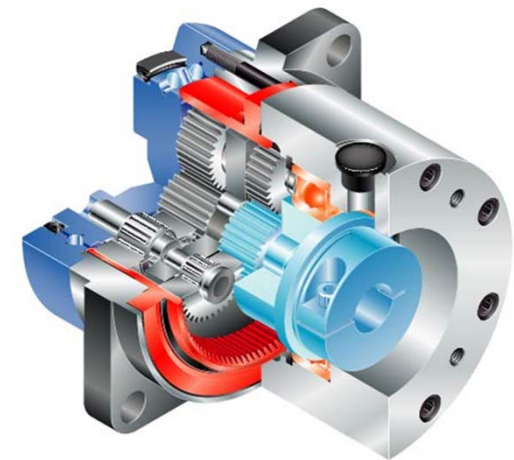
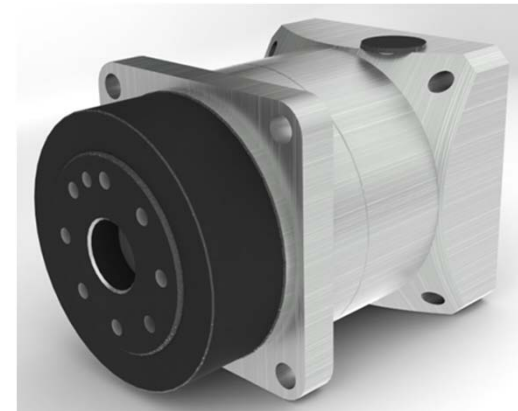
Achieves around 33% greater torque at same weight and dimensions (compared to our previous products)

### ■ Advantages

- More compact equipment possible
- Shorter cycle time
- Longer lifetime
- Lower energy use due to lightweight

### ■ Target markets

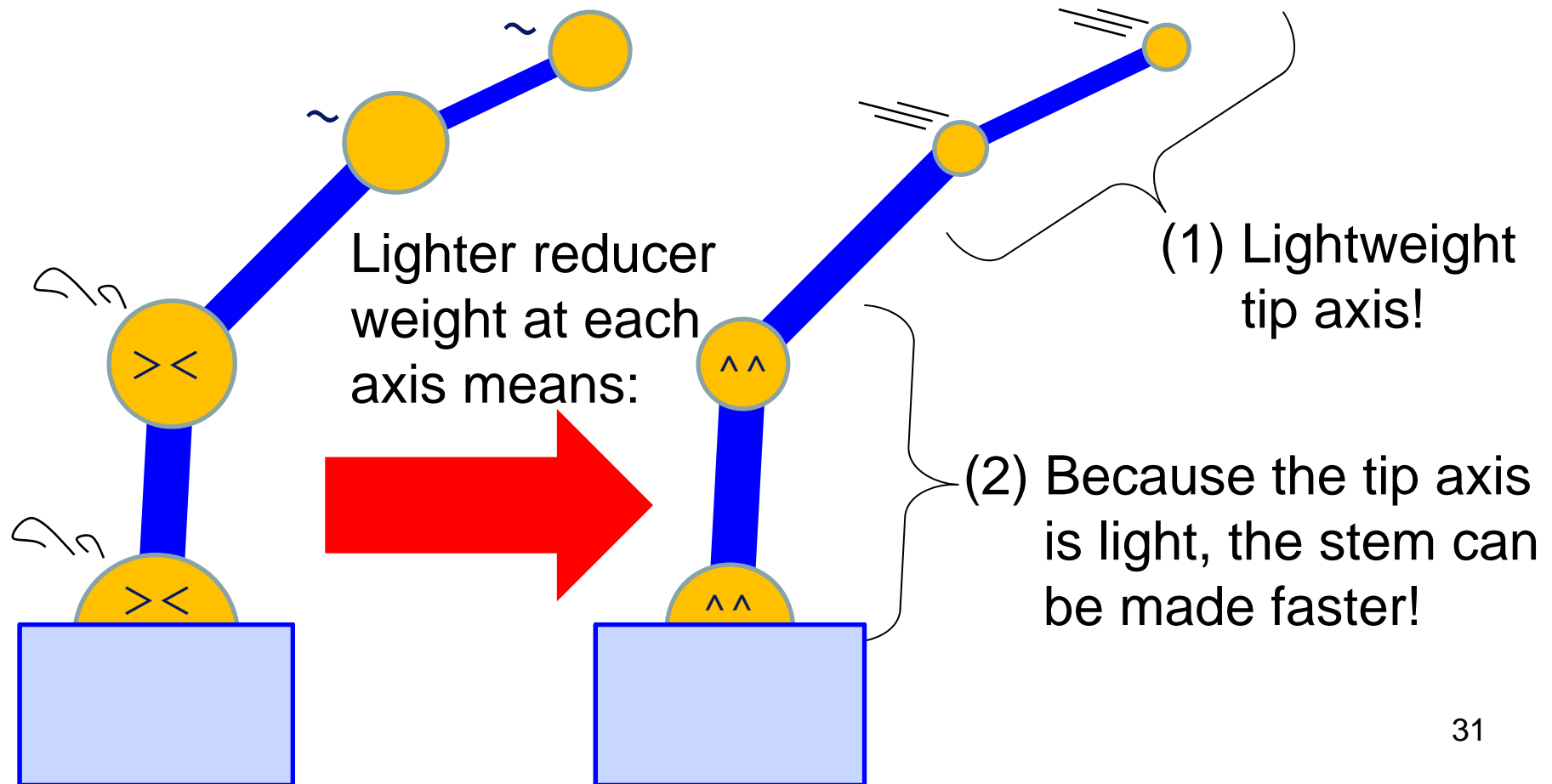
- Industrial robots (hand axis, running axis)
- Semiconductor manufacturing equipment
- Machine tools





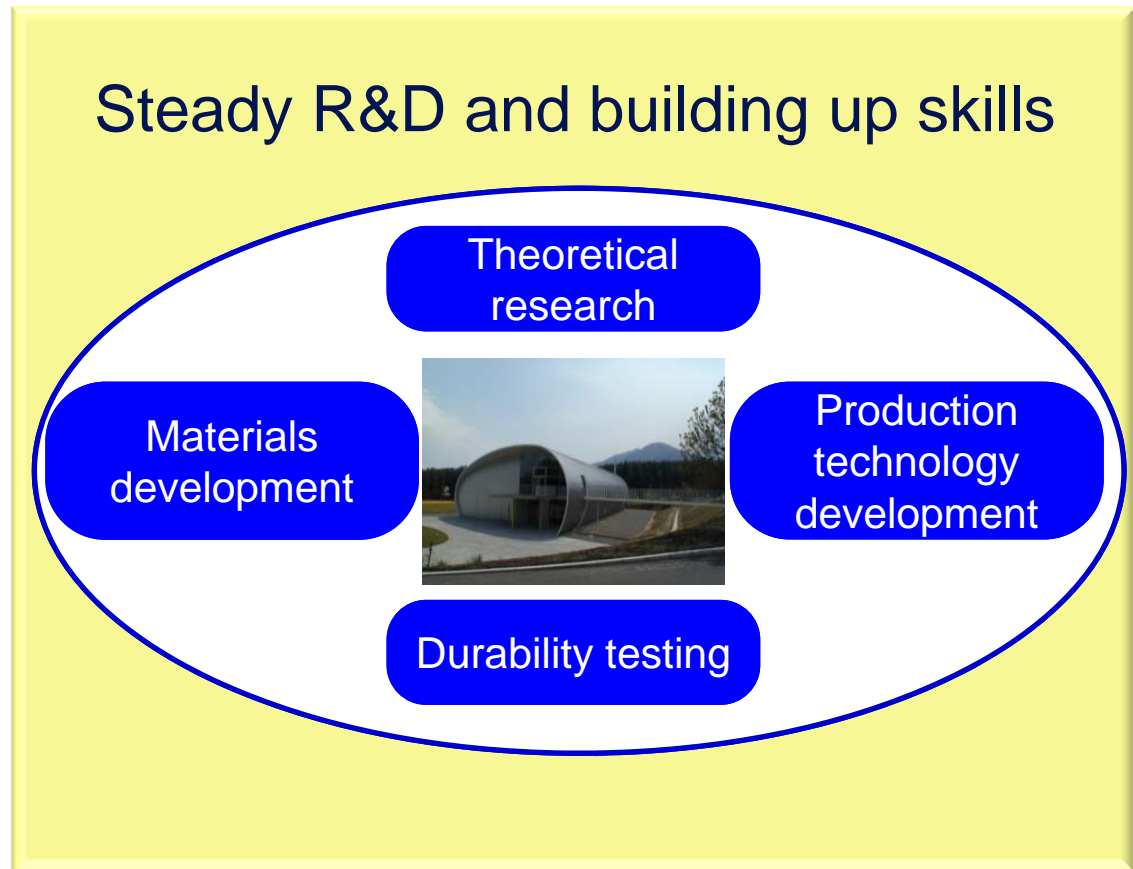
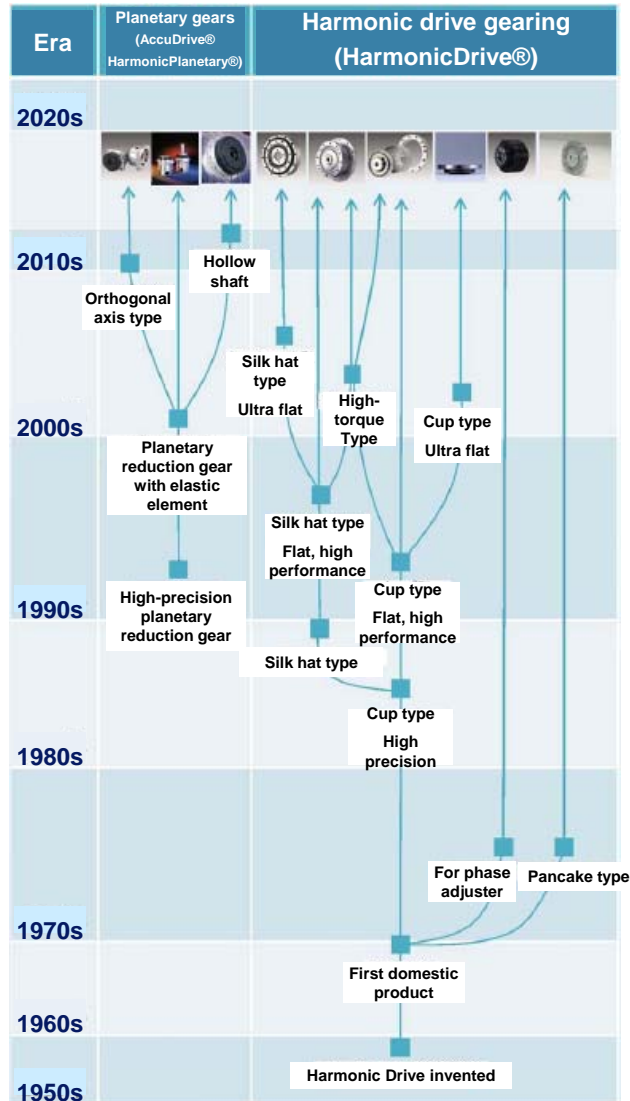
# The benefits of lightweight reducers

Enable **motor downsizing** at the reducer stem, along with **greater robot speed and load capacity** !



# A never-ending upward spiral of technology and skills

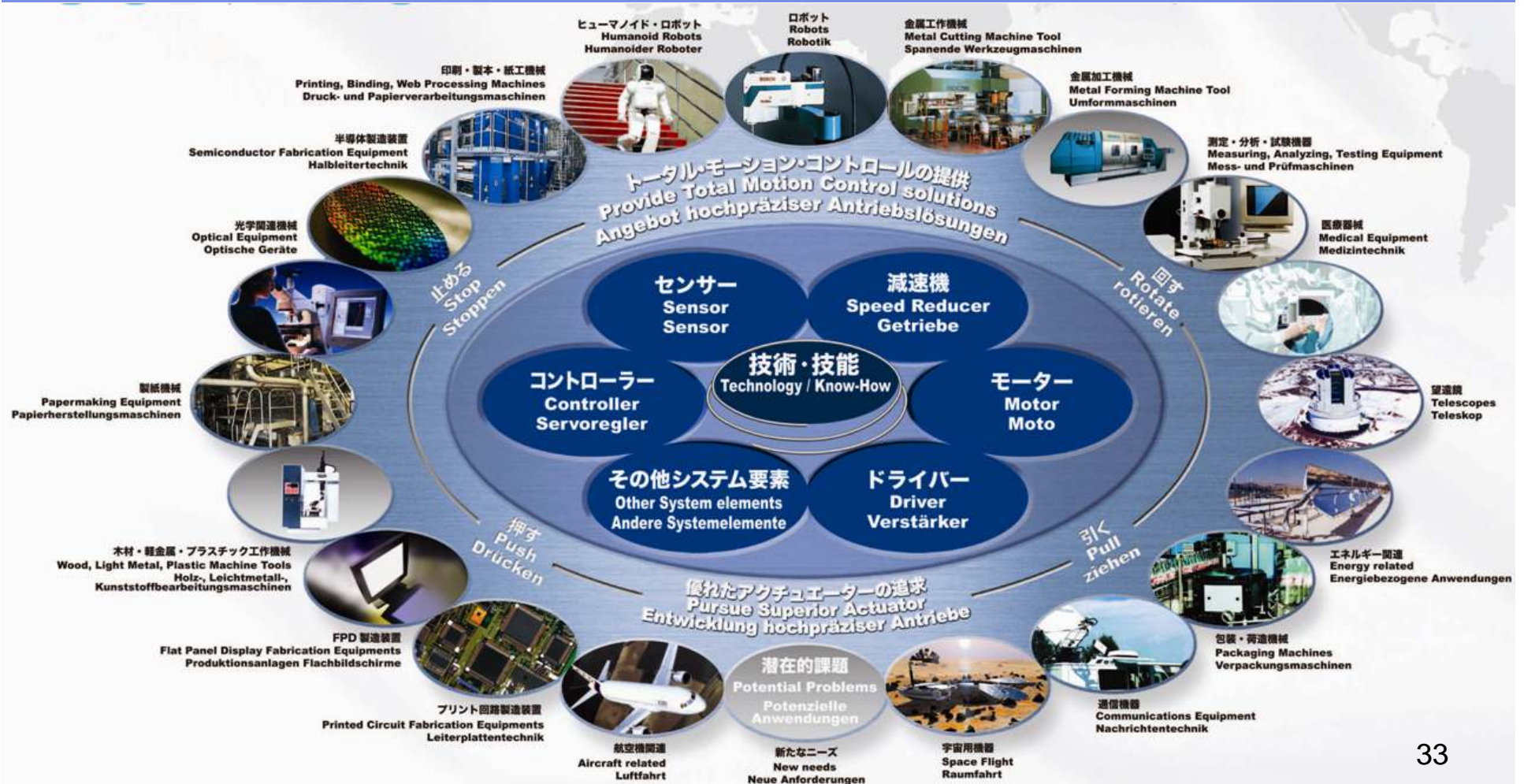
## ■ HDS and speed reducers over the years



# Total Motion Control

Business domain

▶ Providing the value of Total Motion Control in precision control fields



The performance targets and other numerical data presented herein are forecasts based on information available to the HDS Group at the time this material was prepared, and are subject to the influence of uncertainties including those in the economic and competitive environment. Actual performance may therefore differ materially from the forecasts given in this material.

# ***Harmonic Drive Systems Inc.***

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