



**“Cs for Tomorrow 2018”**  
Medium-term Management Initiative  
(FY 2016–2018)  
Progress and Outlook

May 30, 2017

**Hideki Kobori, President**  
Asahi Kasei Corporation

Asahi**KASEI**

# Outline

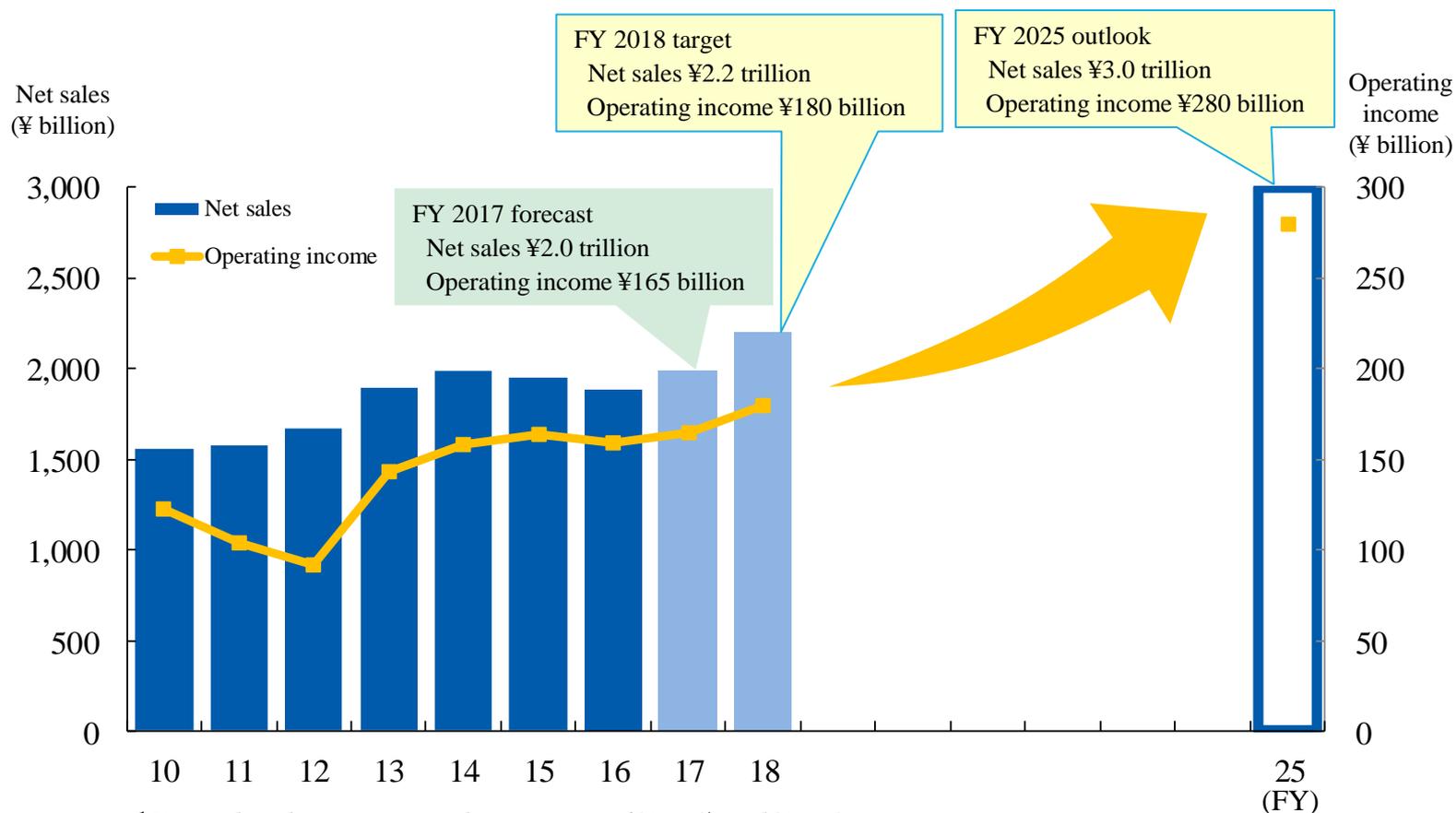
---

1. Performance Results and Investments
2. Medium-term Vision for Asahi Kasei
3. Actions Advanced under “Cs for Tomorrow 2018”
4. Building the Base for Sustainable Growth
5. Summary

# Performance Results and Investments

# (1) Financial targets<sup>1</sup>

Building a portfolio of high value-added businesses with high profitability



<sup>1</sup> Formulated assuming exchange rates of ¥110/\$ and ¥120/€

**FY 2016-2018: Three years to build the base to achieve FY 2025 outlook**

## (2) Consolidated performance

(¥ billion, except where noted)	FY 2015	FY 2016	FY 2017 forecast	FY 2018 target	FY 2025 outlook
Net sales	1,940.9	1,883.0	1,990.0	2,200.0	3,000.0
Operating income	165.2	159.2	165.0	180.0	280.0
Operating margin	8.5%	8.5%	8.3%	8.2%	9.3%
Net income	91.8	115.0	115.0	110.0	
Net income per share (¥)	65.7	82.3	82.3	78.0	
Payout ratio <sup>1</sup>	30.4%	29.1%	29.1%	35.0%	
Net income per shareholders' equity (ROE)	8.6%	10.5%		9.0%	10.0%
Net income per shareholders' equity and interest-bearing debt (ROIC)	7.1%	7.6%		7.0%	8.0%
D/E ratio	0.43	0.35		0.50	0.50
Exchange rate (¥/\$)	120	108	110	110	110

<sup>1</sup> FY 2018 figure for payout ratio is total return ratio including share buybacks.

### (3) Performance by sector

(¥ billion)		FY 2016	FY 2017 forecast	FY 2018 target	FY18–25 increase, growth rate	FY 2025 outlook	
Material	Net sales	977.9	1,033.0	1,250.0		1,650.0	
	Operating income	88.5	90.0	100.0		140.0	
	Operating margin	9.0%	8.7%	8.0%		+0.5 pt	8.5%
Homes	Net sales	619.0	647.0	700.0		1,000.0	
	Operating income	64.1	64.5	70.0		+30.0	100.0
	Operating margin	10.4%	10.0%	10.0%			10.0%
Health Care	Net sales	270.1	291.0	370.0	+7.2%/year	600.0	
	Operating income	31.9	35.5	50.0		80.0	
	Operating margin	11.8%	12.2%	13.5%		13.3%	
Others	Operating income	(25.3)	(25.0)	(40.0)		(40.0)	
<b>Total</b>	<b>Operating income</b>	<b>159.2</b>	<b>165.0</b>	<b>180.0</b>		<b>280.0</b>	

<sup>1</sup> Beginning with FY 2017, the Energy Division, which was formerly included in Others, is reclassified into the Material sector. For comparison purposes, FY 2016 figures are recalculated in accordance with the new classification.

## (4) Financial and capital strategy

---

### **Operating cash flow (3-year total): ¥600–700 billion**

- Enhancing competitiveness of established businesses
- Creating new added value in each sector

### **Total investment (3-year total): ≈¥700 billion**

- Proactively advance M&A and other new investment in addition to investment to maintain and expand established businesses

### **Target for total return ratio**

- Stable and continuous dividend increases
- 35% in FY 2018 (including share buybacks performed flexibly)

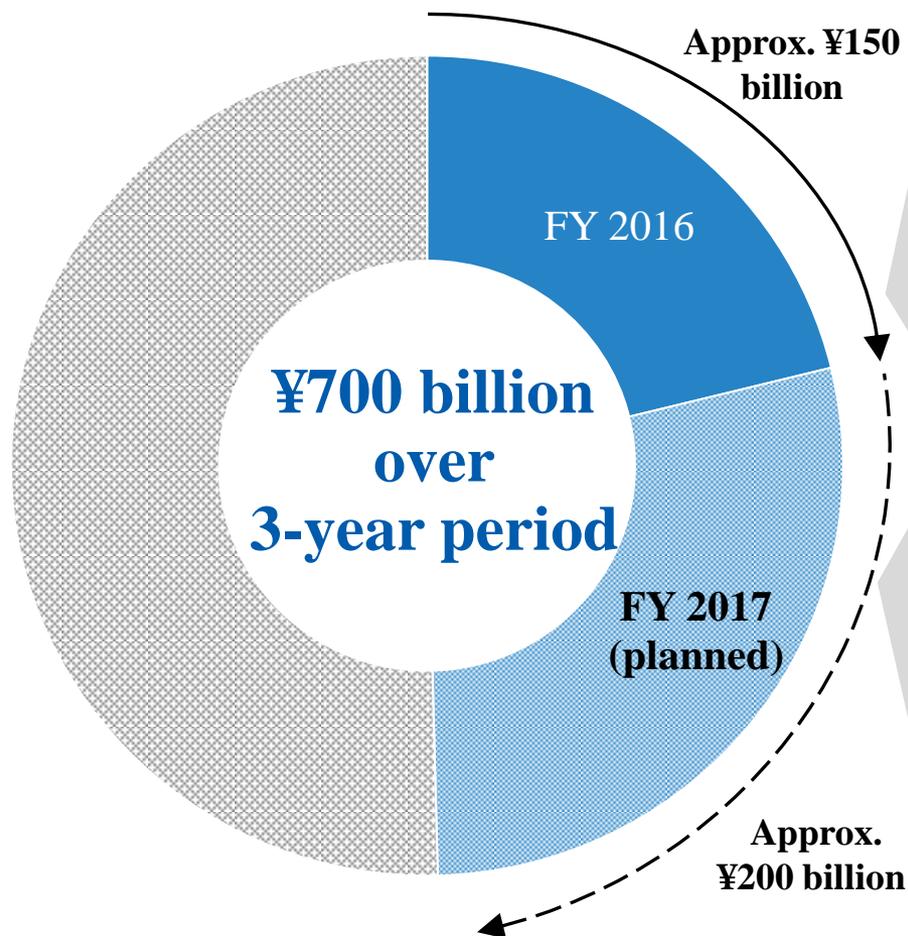
### **Funding policy**

- In principal by borrowings while maintaining D/E ratio around 0.5

## (5) Progress on investment

### Long-term investment expenditures

(on decision-adopted basis)



#### FY 2016 (decisions adopted)

##### **Material**

- Capacity expansions for battery separator
- Construction of new R&D facility (Fibers)
- Establishment of Xyron joint venture

##### **Homes**

- Capital and business alliance with Mori-Gumi Co., Ltd.
- Capital alliance with Chuo Build Industry Co., Ltd.
- Establishment of Kanto-area site for steel-frame members

##### **Health Care**

- Augmenting product pipeline (pharmaceuticals)

#### FY 2017 (main investment decisions planned in each sector)

##### **Material**

- Environment/energy, hygienic materials, automotive fields

##### **Homes**

- Global development

##### **Health Care**

- Acceleration of globalization, capacity expansions, etc.

# Medium-term Vision for Asahi Kasei

# (1) Medium-term Vision for Asahi Kasei

**Portfolio of high-profitability,  
high value-added businesses**

**Group Vision  
“Harmony with the  
natural environment”**

**Environmental**

**AsahiKASEI**

**Group Vision  
“Living in health  
and comfort”**

**Social**

**Group Mission**  
Contributing to life and living  
for people around the world

**Reliability and Trust**

**Governance**

- Enhance our corporate governance framework
- Maintain healthy relationships with stakeholders



**Providing solutions to two important challenges faced by society with diversified businesses**

**Society of clean  
environmental  
energy**

**Society of  
healthy/comfortable  
longevity with peace  
of mind**

## (2) “Cs for Tomorrow 2018” (CT2018)

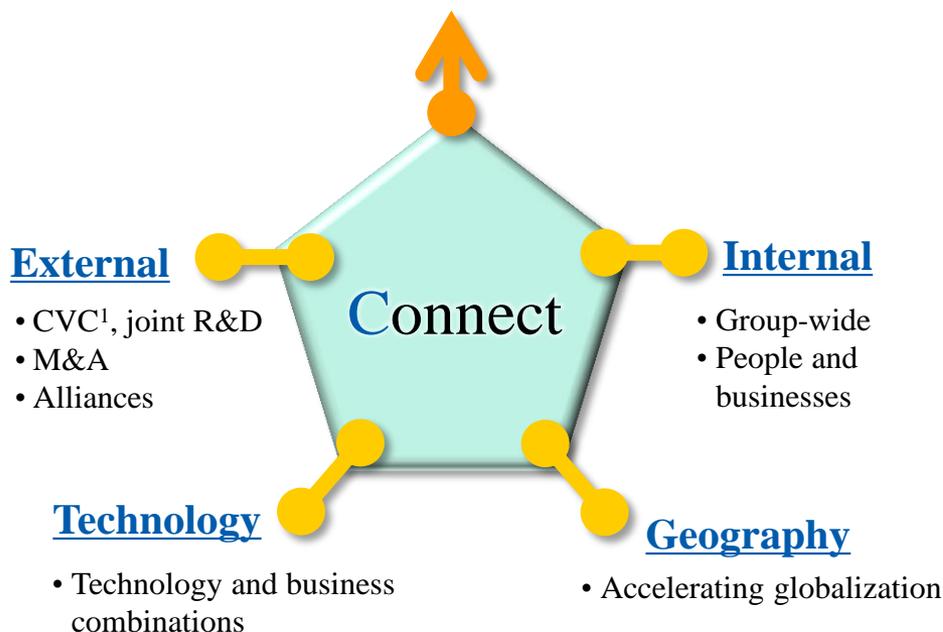
Building the base for the next phase with various Cs

- **Group Slogan**

Creating for Tomorrow

- **Create new markets through connections**

New stage of growth



- **Practice three Cs**

### Compliance

Thorough compliance based on the “three actuals”<sup>2</sup>

### Communication

Open communication that fosters mutual understanding and trust

### Challenge

Relishing new challenges to advance and evolve

<sup>1</sup> Corporate venture capital

<sup>2</sup> Actual place, actual thing, and actual fact

### (3) Basic concept of “Cs for Tomorrow 2018”

Providing solutions to two important challenges faced by society with diversified businesses

Society of clean  
environmental energy

Society of healthy/comfortable  
longevity with peace of mind

Advancing toward 2025

Creating a portfolio of high-profitability, high value-added businesses

Focus of “Cs for Tomorrow 2018”

Building the base for the next phase with connections among diverse businesses and diverse human resources

#### Basic strategy

Pursuit of growth  
and profitability

Creation of  
new businesses

Acceleration of  
globalization

## (4) Recognition of changing management environment

### Changing management environment

- ✓ Heightened environmental awareness
  - Paris Accord taking effect
  - Accelerated development of electric vehicles and fuel cell vehicles
- ✓ Changing global market frameworks
- ✓ Increased geopolitical risks
- ✓ Rapid advance of IT (IoT, AI, etc.)
- ✓ Greater emphasis on governance
- ✓ Need to utilize diverse human resources

### No change in basic concept of “Cs for Tomorrow 2018”

Providing solutions to society’s challenges

- Society of clean environmental energy
- Society of healthy/comfortable longevity with peace of mind

✓ **No change in importance of the two challenges faced by society**

✓ **Greater urgency to make connections among diverse businesses and diverse human resources to create solutions**

→ **Accelerate execution of plan**

# Actions Advanced under “Cs for Tomorrow 2018”

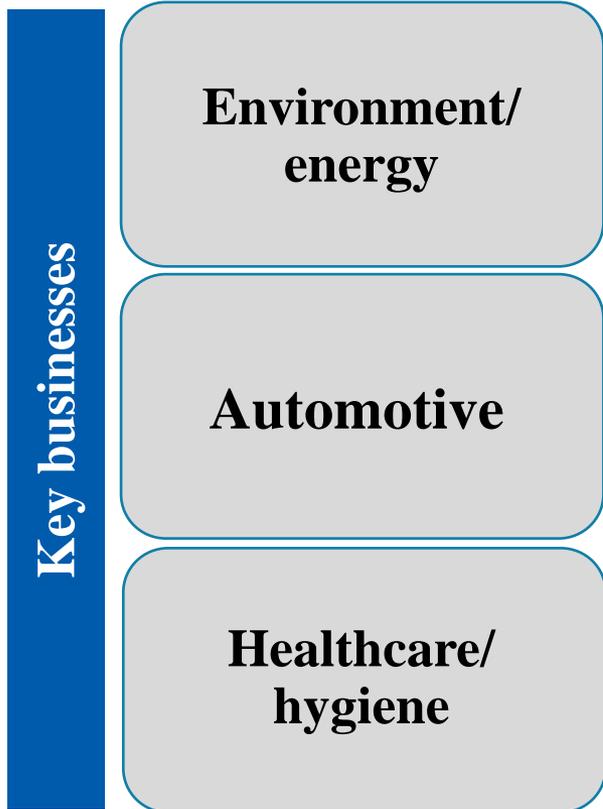
1. Specific plans in each sector
  - Material
  - Homes
  - Health Care
2. Creation of new businesses
3. Acceleration of globalization

# Material (1)

CT2018  
policy

Enhance connections among businesses, achieve high profitability through optimized business portfolio

## Actions in FY 2016



Key businesses

**Environment/  
energy**

**Automotive**

**Healthcare/  
hygiene**

- **Lithium-ion battery (LIB) separator**—expanded supply capacity
- **DRC process for DPC<sup>1</sup>**—advanced verification

<sup>1</sup> Process for polycarbonate intermediate without using phosgene (poisonous gas) and not requiring ethylene oxide as feedstock.

- **Resin compounds**—reinforced business configuration (United States, Vietnam, etc.)
- **Synthetic rubber (S-SBR)** for fuel-efficient tires—addition of 2nd line at Singapore plant/expanded sales
- **Filament for airbags**—expanded capacity/expanded sales
- ★ Established dedicated organization to reinforce external appeal of Asahi Kasei Group’s combined strength

- **Bemliese** for facial masks—expanded capacity/expanded sales
- **Spunbond** for diapers—expanded capacity in Thailand/expanded sales
- ★ **UVC LED** for disinfection
- ★ Established dedicated organization for new business development

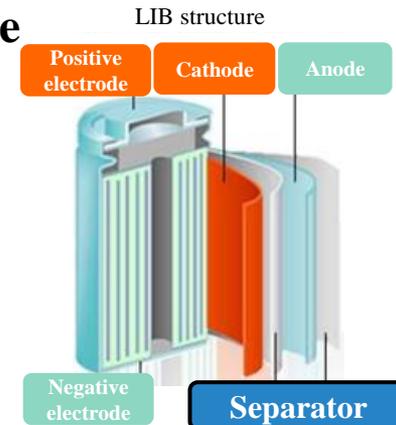
**Sector-wide measures**

- ★ Started operation of Asahi Kasei Europe; accelerated expansion of business in Europe
- ★ Integrated management across the sector

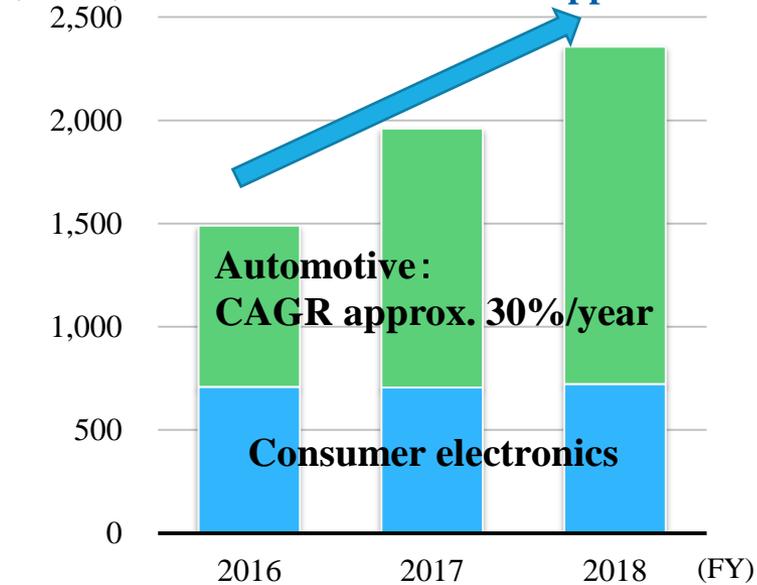
# Material (2)

**Environment/energy: Capacity expansions for LIB separator to prepare for upcoming EV market growth from 2019**

Location	Capacity	Start-up
Hyuga, Miyazaki, Japan	Approx. 60 million m <sup>2</sup> /year	Spring of FY 2016
Moriyama, Shiga, Japan	Approx. 60 million m <sup>2</sup> /year	First half of FY 2018
Moriyama, Shiga, Japan	Approx. 200 million m <sup>2</sup> /year	First half of FY 2019

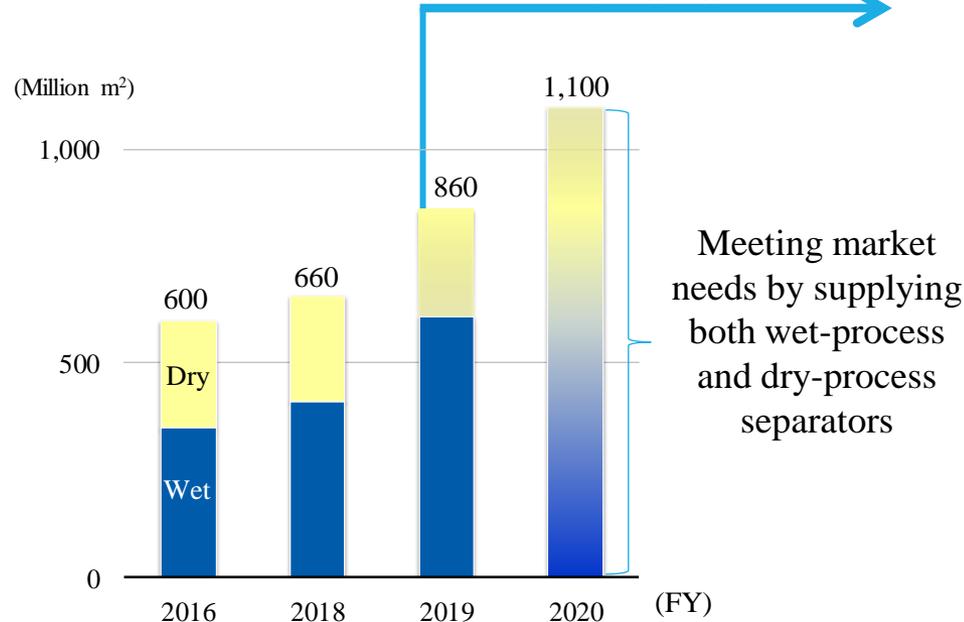


**Demand increase: CAGR approx. 20%**



**Demand forecast for LIB separator (Asahi Kasei estimate)**

**Significant expansion of EV market**



**Asahi Kasei production capacity for LIB separator**

# Material (3)

## Automotive—advancing sector-wide marketing activity

### Building strategic relationships with OEMs and Tier 1 suppliers

- Proposing solutions to OEMs (vehicle manufacturers) and Tier 1 suppliers with our diverse range of products

### Creating new businesses and new value

- Developing/proposing new composite materials
- Developing automotive applications for cellulose nanofiber (CNF)

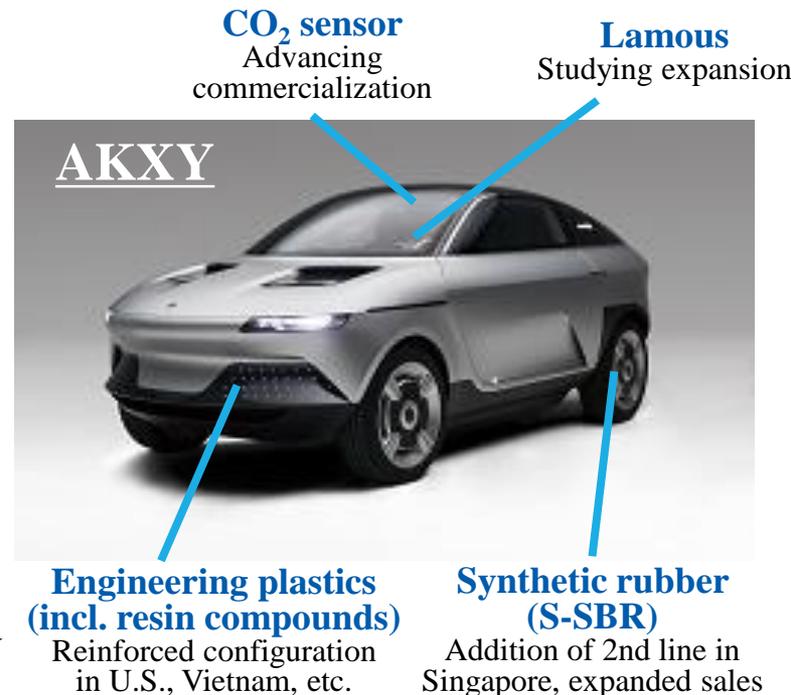
### Asahi Kasei concept car (May 2017)

- Showcasing concrete examples of our products and systems installed  
→ Effective appeal of our automotive businesses, facilitating market connections

### Name of the concept car – AKXY

Asahi Kasei x (multiplied by) You (the customer) = AKXY

The name indicates our hope to further build and strengthen our relationship with customers in order to create new value for the future together



#### Asahi Kasei products/technologies installed in the concept car (27 in all)

- S-SBR
- Tenac polyacetal
- SunForce mPPE foam beads
- Lamous artificial suede
- Duranate, PCD, and aluminum paste
- CO<sub>2</sub> sensor
- Pulse sensor, etc.

## Material (4)

### Healthcare/hygiene—providing solutions to challenges of society through diverse materials and combinations

Healthcare

- Ceolus microcrystalline cellulose—business alliance in pharmaceutical additives with SPI Pharma, Inc.
- Developing new markets for materials for pharmaceuticals and medical devices
- Establishment of Healthcare Material Business Development as dedicated organization for new business creation

Hygiene

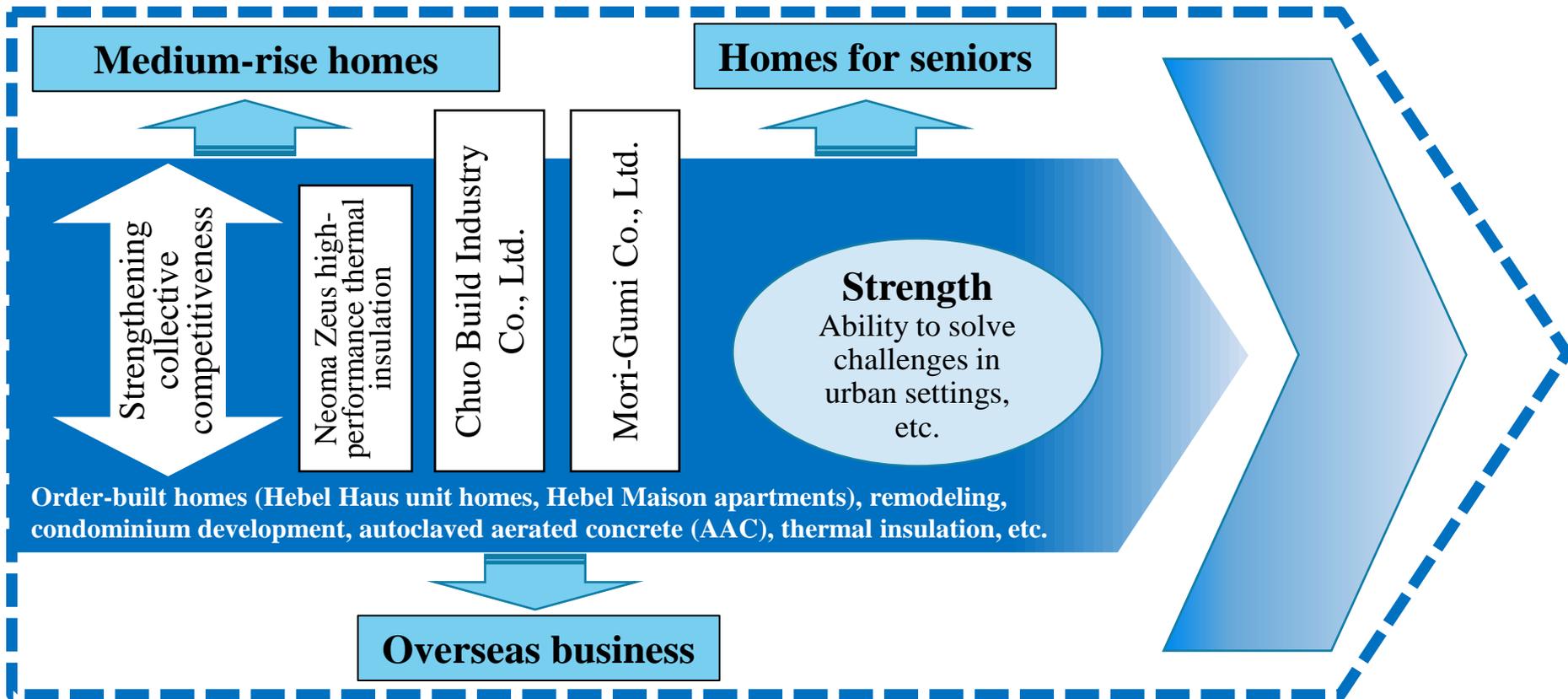
- Spunbond—start-up of 2nd line at plant in Thailand
- Bemliese—start-up of expanded capacity in Miyazaki, Japan (Feb. 2017)
- Saran Wrap, Ziploc, etc.—proposing and providing products useful in daily life
- UVC LED—launch of Klaran for disinfection applications

# Homes (1)

CT2018  
policy

Ascertain society's needs

- Further strengthen established businesses with comprehensive products, construction, and services
- Expand value chain through business development



## Homes (2)

### Stable growth and further strengthening of core businesses such as order-built homes and autoclaved aerated concrete (AAC)

#### **Business and capital alliance with Mori-Gumi Co., Ltd.**

- Sharing know-how in construction of medium-rise homes, condominiums, etc.
- Sharing know-how in large-scale repair and renovation of existing condominiums, etc.

#### **Business and capital alliance with Chuo Build Industry Co., Ltd.**

- Enhancing production of steel-frame members for homes in the Kanto area

#### **Neoma Zeus high-performance thermal insulation**

- Meeting society's needs for higher insulation performance (net zero-energy homes, etc.)
- Highest level of performance among insulation materials<sup>1</sup>

<sup>1</sup> Thermal conductivity of  $\lambda = 0.018 \text{ W} / (\text{m}\cdot\text{K})$  is the highest among architectural thermal insulation materials measured by JIS A 9521:2014

# Homes (3)

## New business creation

### Medium-rise homes

#### Hebel Building System

- Higher quality, higher precision construction of medium-rise (4–8 story) homes by systematic manufacturing
- Model home opened in April 2017 in Tokyo, Japan



### Overseas business

#### Condominium business in Taiwan

- First project in Zhonghe, New Taipei, Taiwan



### Homes for seniors

#### Hebel Village apartments for seniors

- Apartments for active seniors

# Health Care (1)

CT2018  
policy

Strengthen domestic profitability, strengthen global business platform  
→ grow to be 3rd major pillar of the Asahi Kasei Group after Material and Homes

## Mission

## Status of execution

## Vision



## Sector-wide measures

Enhancing functions for business expansion

## Health Care (2)

### Pharmaceuticals—strengthening profitability of domestic business

#### Expanding product lineup in orthopedics

- November 2016 launch of Reclast for osteoporosis

#### Augmenting product pipeline in critical/intensive care

- Acquired exclusive rights to develop and commercialize the antifungal isavuconazole in Japan, through license agreement with Basilea Pharmaceutica International Ltd. of Switzerland



### Pharmaceuticals—establishing presence as global specialized pharma company

#### Global development of Recomodulin

- Advancing global clinical trial for Recomodulin recombinant thrombomodulin

### Medical Devices—gaining reliable growth Expanding capacity for Planova BioEX virus removal filters

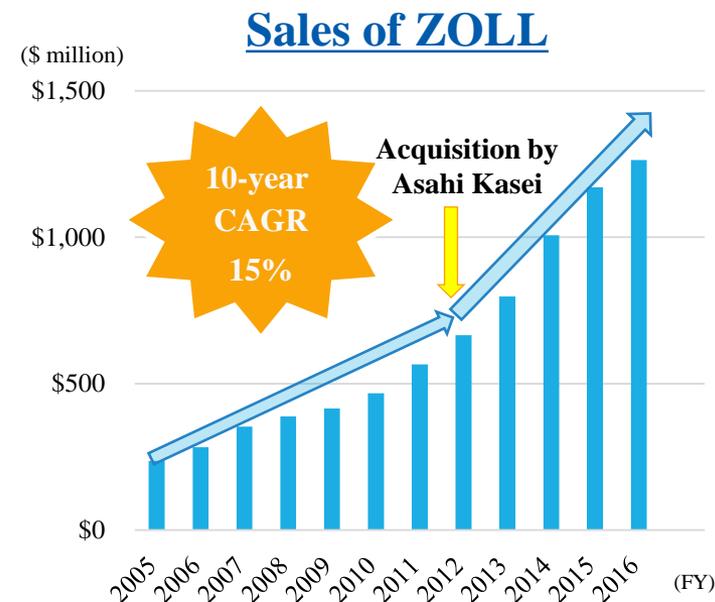
- Expanding capacity to meet growing demand in field of biopharmaceuticals, etc.



## Health Care (3)

### Critical Care—proactive expansion

- Expand intravascular temperature management (IVTM) system into area of acute myocardial infarction
- Increase market penetration of LifeVest wearable defibrillator
- Launch new AED 3 and achieve leadership in AED market

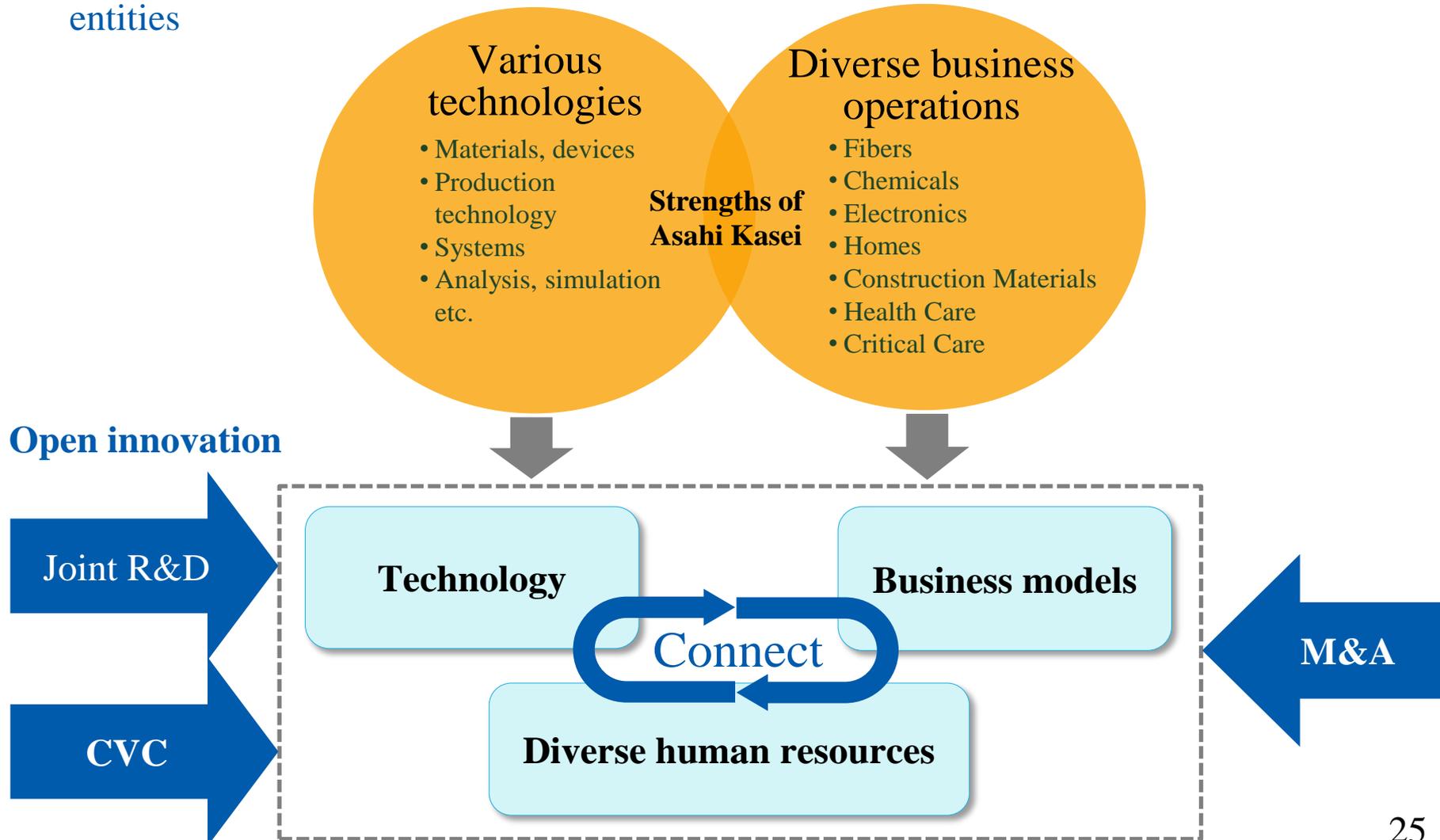


### Sector-wide—efforts by Health Care sector overall

- Beginning investment for business expansion in North America (including use of CVC)
- Health Care Council consisting of Asahi Kasei Pharma, Asahi Kasei Medical, ZOLL Medical, and Asahi Kasei Corp. promotes expansion strategy of the Health Care sector

# Concept of new business creation under Cs for Tomorrow 2018

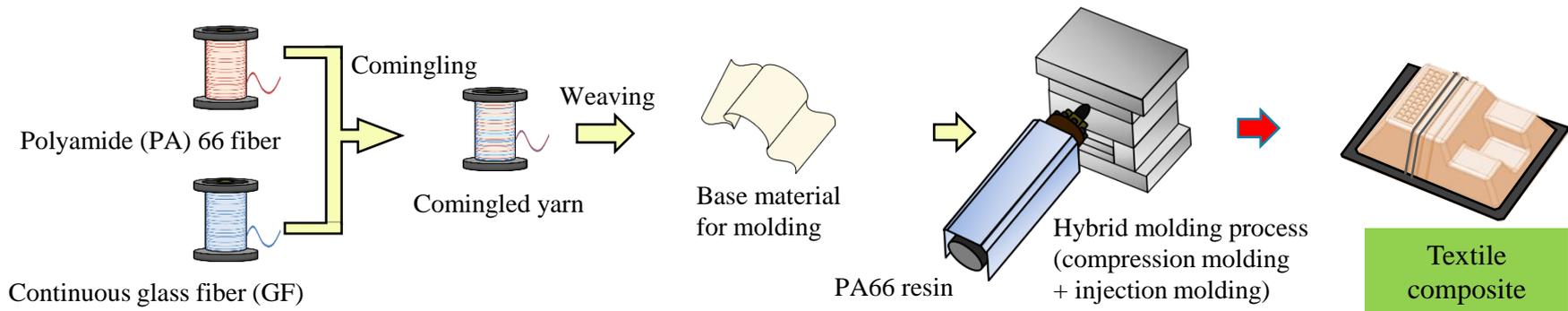
- Leveraging Asahi Kasei's diversity to create value through combinations among various technologies and businesses
- Advancing and accelerating innovation through enhanced coordination with outside entities



# Example of new business creation: High-performance composite materials

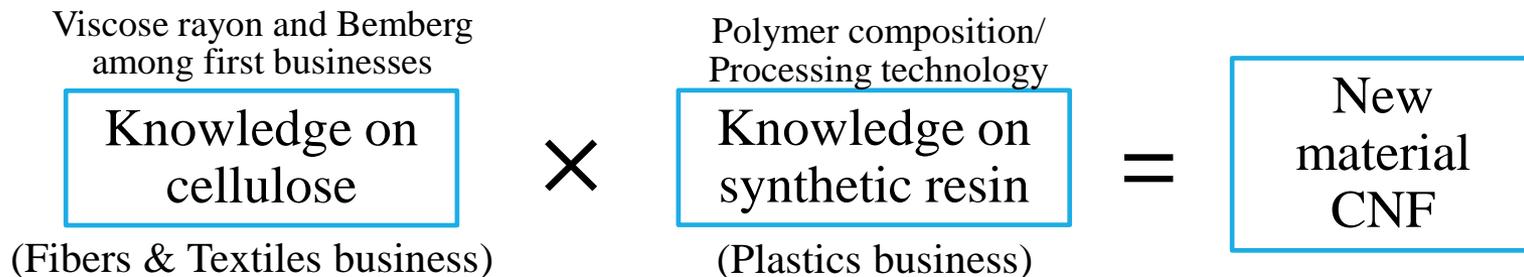
## Connecting fiber, resin, and processing technology

### 1) Material to replace metal for weight reduction in automotive structural parts



- ✓ High degree of design freedom: Able to create parts that have complex shapes
- ✓ Outstanding strength-to-weight ratio: Improved strength and rigidity compared with conventional GF reinforced PA66 resin

### 2) Development of cellulose nanofiber (CNF) composite



## Example of new business creation: UVC LED

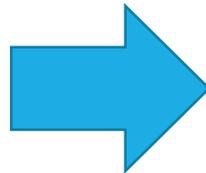
### Connecting internal technology with outside resources<sup>1</sup>

#### Business expansion based on core technology in compound semiconductors

The world's only 2-inch  
single-crystal AlN substrate  
(produced in-house)



**High-quality  
single-crystal AlN**



Klaran UVC LED for  
disinfection



Launched in May 2016

- Developing new markets
- Adoption in final products

**Providing new value  
to the world**

- High sterilization efficiency
- Small size, low power consumption
- Long service life
- Safety (mercury-free)<sup>2</sup>

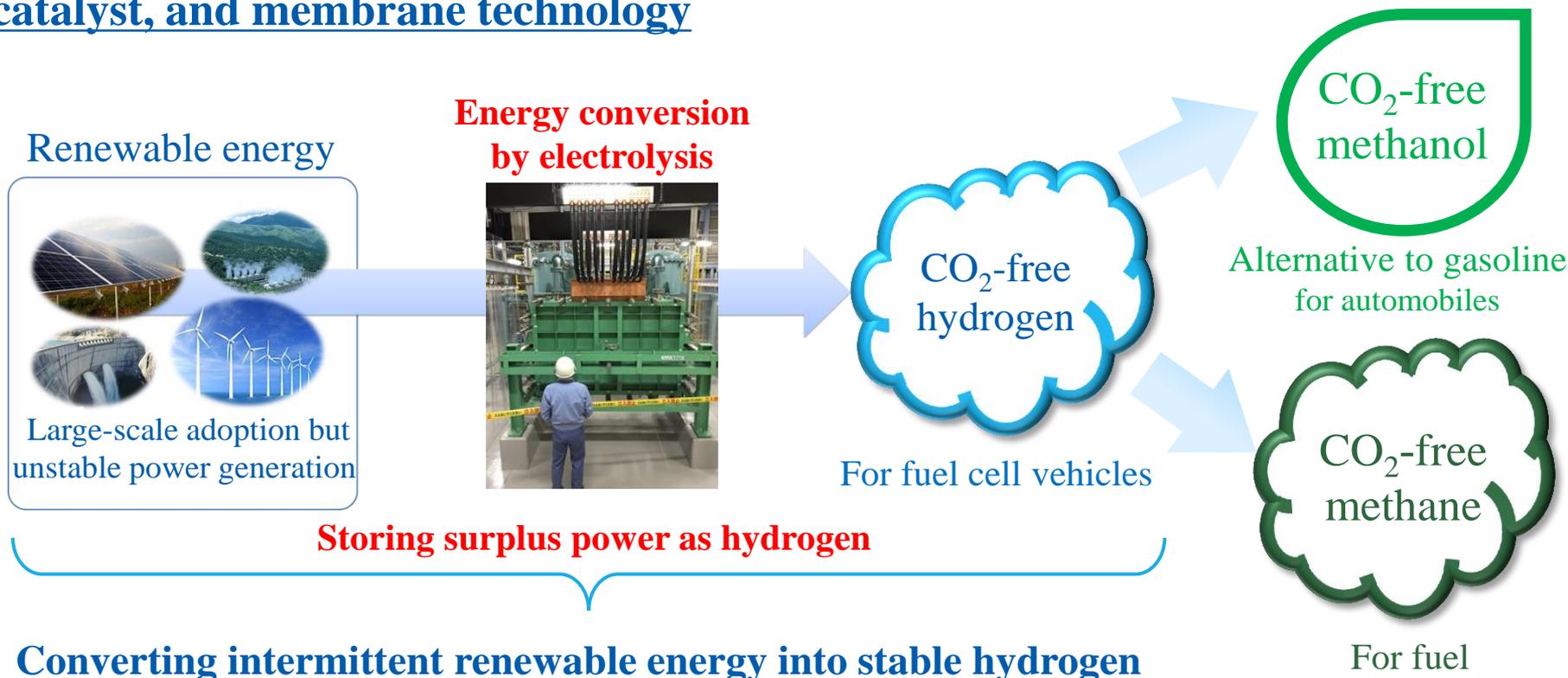
<sup>1</sup> Investment in Crystal IS, Inc. through CVC (currently 100% subsidiary)

<sup>2</sup> With increasing global awareness of environmental risks associated with the use of mercury, as exemplified by the Minamata Convention on Mercury which comes into force in August 2017, there has been a heightening need for a UV light source to replace mercury lamps that are currently used to disinfect drinking water, etc.

Example of new business creation:  
Alkaline water electrolysis system

**Connecting in-house technologies with emerging market needs**

**Addressing challenges in a growth market by combining electrolysis, catalyst, and membrane technology**



**Converting intermittent renewable energy into stable hydrogen**

- ✓ World's highest energy efficiency with commercial-scale plant
- ✓ Toward commercialization with demonstration plant in Europe

# Acceleration of globalization (1)

CT2018  
policy

## Pursuing overseas business development by focusing on strategies suited to each region



**Sale of condominiums (Taiwan)**



**S-SBR plant (Singapore)**

**CVC sites**

- Menlo Park, CA
- Chelmsford, MA



**2nd plant for plastic compounds (Athens)**

### Asia—transitioning from manufacturing base to growth market

- Establishment of Xyron joint venture (China)
- Start of photopolymers plant (China)
- Capacity expansion for S-SBR (Singapore)
- Capacity expansion for spunbond nonwovens for diaper applications (Thailand)
- Establishment of Asahi Kasei Plastics Vietnam Co., Ltd. (Vietnam)
- Sale of condominiums (Taiwan)

→ **Proactive expansion of business in close proximity to growth markets**

### North America—continuing growth, origin of innovation

- Reinforcing CVC activity
- Advancing clinical testing of Recombodulin
- Business expansion for LifeVest
- Reinforcing separator business
- Operation of 2nd plant for plastic compound

→ **Expansion of automotive and healthcare-related businesses, advancing efforts to acquire leading-edge technologies through CVC**

# Acceleration of globalization (2)

CT2018  
policy

## Pursuing overseas business development by focusing on strategies suited to each region

Dusseldorf,  
Germany



Asahi Kasei Europe

### Europe: Origin of environmental standards and regulation

- ✓ **Launch of Engineering Plastics Technical Center**
    - Promptly propose technical solutions to customers
  - ✓ **Alkaline water electrolysis development project**
    - Demonstration trial is underway to accelerate commercialization
  - ✓ **Start of Asahi Kasei Europe GmbH (April 2016)**
    - Utilizing the collective strength of the Asahi Kasei Group to make comprehensive proposals to customers
- **Expansion through reinforced marketing centered on automotive-related business**

# Building the Base for Sustainable Growth

# (1) Obtaining thorough compliance

**Top down**  
(management  
perspective)

**Enacting compliance policy; thorough identification of risks from birds-eye view (continuous)**

- Preparing and applying Asahi Kasei Group Code of Conduct
- Heightening awareness for risk management and compliance through organizational lines
- Enhancing organization (establishment of Risk Management & Compliance Committee)

## **Thorough compliance**

**The “three actuals” of actual place, actual thing, and actual fact**

- Reinspection for latent risks in each business
- Assigning priority to risks
- Studying and implementing countermeasures in accordance with priority

**Bottom up**  
(on-site perspective)

**Inspection for risks; implementation of measures (continuous)**

## (2) Laying the foundation to heighten business activities

### 1) Heightening business activities

#### Manufacturing and production innovation

**Select model plant, enhance productivity of Asahi Kasei Group as a whole system, etc.**

- Optimize operation
- Risk management (preventive monitoring, etc.)

#### Delivering high added-value (Creating new value)

**Create new business models**

- LifeVest:  
Support patients using ICT (information and communication technology)
- Plant life service:  
Online remote automatic vibration diagnostics system, etc.

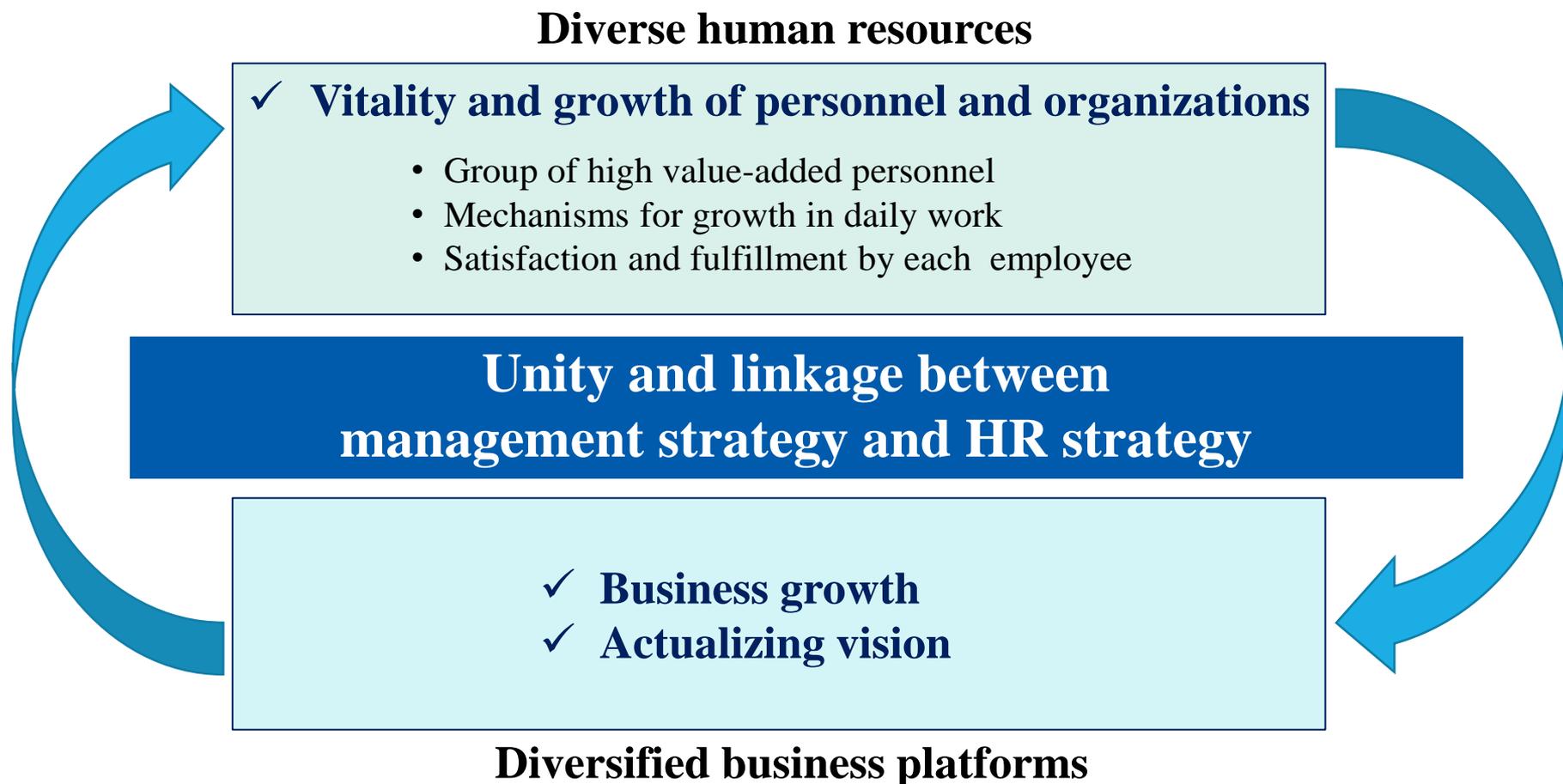
## Utilizing IoT, AI, and Big Data

### 2) Strengthening IT infrastructure

- Support business expansion (tools, databases, etc.)
- Strengthen security

### (3) Linkage between management strategy and HR strategy

- Human resources as the key to leveraging diversified business platforms and diverse human resources to create unique value  
(fostering and strengthening management personnel, global human resources, and specialists)



# Summary

# Summary

## Asahi Kasei's medium-term Vision



### Cs for Tomorrow 2018

Create, Connect, Compliance, Communication, Challenge

Basic strategy

#### 1. Pursuit of growth and profitability

Material	Homes	Health Care
Enhance connections, optimize business portfolio	Leverage comprehensive strength, expand value chain	Enhance domestic profitability, strengthen global business platform

#### 2. Creation of new business—connections among diversity

#### 3. Acceleration of globalization—in accordance with characteristics of each region

Base of operations

Thorough compliance

Heightened business activity (IT)

Optimized HR strategy

# Creating for Tomorrow

The commitment of the Asahi Kasei Group:

To do all that we can in every era to help the people of the world make the most of life and attain fulfillment in living.

Since our founding, we have always been deeply committed to contributing to the development of society, boldly anticipating the emergence of new needs.

This is what we mean by “Creating for Tomorrow.”