The Mitsubishi Chemical Holdings Group
Medium-term Management Plan

APTSIS 15
Step 2 (FY2013-FY2015)

Presentation to Investors

March 5, 2013
Yoshimitsu Kobayashi
President & Chief Executive Officer
The forward-looking statements are based largely on information available as of the date hereof, and are subject to risks and uncertainties which may be beyond company control. Actual results could differ largely, due to numerous factors, including but not limited to the following: Group companies execute businesses in many different fields, such as information and electronics, performance products, polymers and processed products, pharmaceuticals, carbon and inorganic products, petrochemicals, and these business results are subjected to influences of world demands, exchange rates, price and procurement volume of crude oil and naphtha, trend of market price, speed in technology innovation, National Health Insurance price revision, product liabilities, lawsuits, laws and regulations.
List of Abbreviations

MCHC: Mitsubishi Chemical Holdings Corporation
MCC: Mitsubishi Chemical Corporation
MTPC: Mitsubishi Tanabe Pharma Corporation
MPI: Mitsubishi Plastics, Inc.
MRC: Mitsubishi Rayon Co., Ltd.
NSCI: The Nippon Synthetic Chemical Industry Co., Ltd.
MCRC: Mitsubishi Chemical Group Technology and Science Research Center, Inc.
MCM: Mitsubishi Chemical Medience Corporation
MEC: Mitsubishi Chemical Engineering Corporation
MKF: Mitsubishi Kagaku Foods Corporation
NKC: Nippon Kasei Chemical Company Limited
CRK: Chuo Rika Kogyo Corporation
APIC: API Corporation
MCCI: PT. Mitsubishi Chemical Indonesia
MCPI: MCC PTA India Corp. Private Limited

1,4-BD: 1,4-butandiol
AN: Acrylonitrile
BTX: Benzene, toluene, xylene
CFRP: Carbon fiber reinforced plastics
CFRTP: Carbon fiber reinforced thermoplastics
EVOH: Ethylene vinyl alcohol
FPD: Flat panel display
GaN: Gallium nitride
HDPE: High density polyethylene
LCD: Liquid crystal display
LLDPE: Linear low-density polyethylene
MBR: Membrane bioreactor
MEG: Mono ethylene glycol
MMA: Methyl methacrylate
MOS: Management of SUSTAINABILITY
NVF: N-vinyle formamide
OLED: Organic light emitting diode
OPV: Organic photovoltaic
PC: Polycarbonate
PE: Polyethylene
PHL: Phenol
PMMA: Polymethylmethacrylate
PP: Polypropylene
PTA: Purified terephthalic acid

FY2012: April 1, 2012 – March 31, 2013
FY2013: April 1, 2013 – March 31, 2014
FY2014: April 1, 2014 – March 31, 2015
FY2015: April 1, 2015 – March 31, 2016

Note:
Product names, brand names, and service names used in this presentation material are denoted in italics and are trademarks or registered trademarks of the MCHC Group in Japan and/or overseas. Other product names, brand names, and service names may also be protected.
Agenda

1. APTSIS 15 Step 1 Results and Objectives of Step 2
2. Examination of the Business Growth Model and Strategy
3. Common Strategies of the MCHC Group
   3-1 Resource Allocation
   3-2 Leaping Ahead
   3-3 Structural Reforms
   3-4 Synergy: Synergy Units
   3-5 Synergy: Common Corporate Functions
4. Basic Business Strategies
   4-1 Performance Products
   4-2 Health Care
   4-3 Industrial Materials
5. Topics
   5-1 Shale Gas Related Strategy
   5-2 Healthcare Solutions
6. Regional Strategies
7. KAITEKI Management
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Major deterioration in profitability because of the effects of changes in the industrial structure, the appreciation of the yen, shrinkage in spreads on petrochemicals, and other factors.

**APTSIS 15 Step 1: Operating Results**

- **Building Foundation for Growth**
  - Established MCHC
  - Active capital and R&D investment
  - Merger of pharmaceutical business
  - TOB of MPI
  - Integrated performance materials business

- **Recovery from economic contraction**
  - Aimed for structural reforms in petrochemicals business
  - Prioritized investments and use of R&D
  - Integrated MRC

- **Strengthen capabilities for growth and taking leaps ahead**
  - Orchestrating the Group strengths: Realize synergy
  - Strengthening footholds: Improve financial position
  - Toward growth: Reform existing business models

**KAKUSHIN Plan – Phase 2**

**APTSIS 10**

**APTSIS 15 Step 1**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Net Sales (Billion yen)</th>
<th>Operating Income</th>
<th>Net Income (loss)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2005</td>
<td>133.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY2006</td>
<td>128.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY2007</td>
<td>125.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY2008</td>
<td></td>
<td>8.2</td>
<td></td>
</tr>
<tr>
<td>FY2009</td>
<td></td>
<td>66.3</td>
<td></td>
</tr>
<tr>
<td>FY2010</td>
<td></td>
<td>226.5</td>
<td></td>
</tr>
<tr>
<td>FY2011</td>
<td></td>
<td>130.6</td>
<td></td>
</tr>
<tr>
<td>FY2012</td>
<td></td>
<td>100.0</td>
<td>(100)</td>
</tr>
</tbody>
</table>

(Forecasts)
### APTSIS 15 Step 1: Operating Income by Segment

The outlook for the current fiscal year is that all segments, with the exception of Health Care, will be substantially below the original targets for FY2012 that were released at the time of the announcement of APTSIS 15.

<table>
<thead>
<tr>
<th>Segments</th>
<th>Original targets for FY2012 *</th>
<th>Forecast for FY2012</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronics Applications</td>
<td>12</td>
<td>(4)</td>
<td>(16)</td>
</tr>
<tr>
<td>Designed Materials</td>
<td>54</td>
<td>24</td>
<td>(30)</td>
</tr>
<tr>
<td>Health Care</td>
<td>79</td>
<td>77</td>
<td>(2)</td>
</tr>
<tr>
<td>Chemicals</td>
<td>35</td>
<td>2</td>
<td>(33)</td>
</tr>
<tr>
<td>Polymers</td>
<td>48</td>
<td>1</td>
<td>(47)</td>
</tr>
<tr>
<td>Others</td>
<td>7</td>
<td>7.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Corporate</td>
<td>(5)</td>
<td>(7.5)</td>
<td>(2.5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>230</strong></td>
<td><strong>100</strong></td>
<td><strong>(130)</strong></td>
</tr>
</tbody>
</table>

Forecast for composition of operating income in FY2012:
- Performance Products: 20%
- Health Care: 77%
- Industrial Materials: 3%

*Figures released at the time of APTSIS 15 announcement*
Summary of Current Conditions

A major gap has emerged between the outlook for FY2012 and **APTSIS 15**.

<table>
<thead>
<tr>
<th>External environment</th>
<th>Internal situation (Company’s efforts)</th>
<th>Results</th>
<th>Final comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forecast → Actual</td>
<td>Attainment of plan objectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Materials</strong> (PTA, Polyolefins, PHL/PC chain, etc.)</td>
<td>![Cloudy Weather] → ![Cloudy Weather]</td>
<td>![Circle]</td>
<td>Profitability deteriorated accompanying worsening of the environment. Cannot make for this through own initiatives alone.</td>
</tr>
<tr>
<td>Market stagnant due to economic downturn</td>
<td>Cost-cutting proceeding as scheduled</td>
<td>![Sad Face]</td>
<td></td>
</tr>
<tr>
<td>Newly emerging countries, including PRC, have overinvested, upsetting the balance between supply and demand</td>
<td>![Sad Face]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Green energy</strong> (Lithium-ion battery materials, LED-related, Carbon fiber and composite materials, etc.)</td>
<td>![Cloudy Weather] → ![Cloudy Weather]</td>
<td>![Cross]</td>
<td>The timing of the market take-off was misread, and as a result of overinvestment in the industry as a whole, profitability declined.</td>
</tr>
<tr>
<td>Delay in market takeoff</td>
<td>Have not attained technological superiority</td>
<td>![Sad Face]</td>
<td></td>
</tr>
<tr>
<td>Overinvestment has upset the balance between supply and demand</td>
<td>Downstream development not achieved in certain areas</td>
<td>![Sad Face]</td>
<td></td>
</tr>
<tr>
<td><strong>FPD-related</strong> (OPL film, PET film, PMMA light guide panel, etc.)</td>
<td>![Cloudy Weather] → ![Cloudy Weather]</td>
<td>![Triangle]</td>
<td>As growth in the market slows, sales of OPL film are holding firm because of our Company’s efforts. On the other hand, conditions in sheets for light guide panels are tough.</td>
</tr>
<tr>
<td>European economies stagnated, PRC’s growth slowed</td>
<td>In respond to be the slowing of market growth, we have slowed down our investment plans and made cost-cuts as scheduled</td>
<td>![Sad Face]</td>
<td></td>
</tr>
</tbody>
</table>
## Strategies

**Grow, Innovate, and Leap Ahead by orchestrating the Group strengths**

<table>
<thead>
<tr>
<th>Strengthening Fundamentals</th>
<th>Generate synergies, improve financial position, and reform business structure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Strategy</strong></td>
<td>• Accelerate transformation to deliver high-performance products and high-value-added businesses</td>
</tr>
<tr>
<td></td>
<td>• Expand green businesses</td>
</tr>
<tr>
<td></td>
<td>• Develop new medicines to fulfill unmet medical needs</td>
</tr>
<tr>
<td></td>
<td>• Operate globally</td>
</tr>
<tr>
<td></td>
<td><strong>Deliver KAITEKI solutions by pursuing Sustainability, Health, and Comfort</strong></td>
</tr>
<tr>
<td><strong>Innovation Strategy</strong></td>
<td>Build new businesses for the future</td>
</tr>
<tr>
<td><strong>Leaping Ahead (M&amp;A)</strong></td>
<td>Invest strategically in alliances and acquisitions</td>
</tr>
</tbody>
</table>
The basic strategy will not change, but the objectives and methods for management will be reconsidered.

We have emphasized improvement through our Company’s efforts and have reset objectives for FY2015 that we can attain.

(Viewpoint)
- Reset objectives that can be attained by FY2015, taking account of the economic downturn and delays in new businesses

(Methods for Management)
- In addition to business portfolio management by segment used thus far, we conducted analyses based on sensitivity to economic fluctuations and made a reconsideration for greater reliability during periods of economic stagnation.
**APTSIS 15 Step 2: Assumptions of the Plan**

The only changes from the assumptions of Step 1 are the foreign currency rates and the naphtha price.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global economy</td>
<td>Emerging countries driving growth; advanced nations only expanding slowly</td>
</tr>
<tr>
<td>Naphtha price</td>
<td>¥65,000/kl (during Step 2)</td>
</tr>
<tr>
<td>FOREX</td>
<td>¥90/US$ (during Step 2)</td>
</tr>
<tr>
<td>Intensifying competition in environment &amp; energy businesses</td>
<td>Prioritize in the areas in which we can display our leadership</td>
</tr>
<tr>
<td>Medical environment</td>
<td>Biennial drug price revisions and expansion of generics to reduce medical expenditure</td>
</tr>
<tr>
<td>Petrochemicals Supply/demand balance</td>
<td>Excess supply, as facilities expanded abroad particularly in the Middle East and PRC, entering in Japanese market</td>
</tr>
</tbody>
</table>
### Operating Income by Segment in FY2015

As a result of the resetting of objectives and strategies, the operating income target for FY2015 is ¥280 billion.

<table>
<thead>
<tr>
<th>Domains</th>
<th>Segments</th>
<th>Original targets</th>
<th>Revised targets</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Products</td>
<td>Electronics Applications</td>
<td>30</td>
<td>5</td>
<td>(25)</td>
</tr>
<tr>
<td></td>
<td>Designed Materials</td>
<td>100</td>
<td>80</td>
<td>(20)</td>
</tr>
<tr>
<td>Health Care</td>
<td>Health Care</td>
<td>120</td>
<td>110</td>
<td>(10)</td>
</tr>
<tr>
<td>Industrial Materials</td>
<td>Chemicals</td>
<td>35</td>
<td>25</td>
<td>(10)</td>
</tr>
<tr>
<td></td>
<td>Polymers</td>
<td>70</td>
<td>35</td>
<td>(35)</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td>10</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Corporate</td>
<td></td>
<td>(5)</td>
<td>(5)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td>360</td>
<td>260</td>
<td>(100)</td>
</tr>
<tr>
<td>Contingency</td>
<td></td>
<td>(30)</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td><strong>Subtotal including Contingency</strong></td>
<td></td>
<td>330</td>
<td>260</td>
<td>(70)</td>
</tr>
<tr>
<td>Operating Income by Leaping Ahead (M&amp;A)</td>
<td></td>
<td>70</td>
<td>20</td>
<td>(50)</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td>400</td>
<td>280</td>
<td>(120)</td>
</tr>
</tbody>
</table>

(Billion yen)
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Reconsideration of Business Management Method

As business forecasting has become more difficult, we have decided to introduce a new axis (representing volatility) with the aim of managing our businesses more reliably.

- **Problems with current business portfolio management**
  - is useful in making judgments about the stage of business development, but it does not reflect the volatility of businesses and, therefore, is inadequate when the business environment undergoes major change.

- **How we will reconsider it**
  - In addition to the two-axis portfolio management method used thus far, which took account of growth potential and profitability, a third axis measuring earnings volatility has been added.
Defining the Type of Growth Model

While referring to the volatility in operating income over the past 10 years, we compared this data with the forecast for performance through FY2015, and then classified our businesses into the following three types. This classification is what we refer to as our growth model.

- Businesses where continued profit can be expected *(Stable businesses)*
  - Businesses where the average operating income ratio exceeds average volatility of operating income in the past
- Businesses with large fluctuations in profitability *(Volatile businesses)*
  - Businesses where the average operating income ratio is lower than average volatility of operating income in the past
- Businesses that accelerate growth *(Growth driver businesses)*
  - Businesses, among volatile businesses, where we will increase sales growth
Performance Results and Plans by Type of Growth Model

For each growth model, we will enhance stability, restrain volatility, and accelerate promotion of growth drivers as we implement our strategies in line with these policies to attain the objectives for FY2015.

Note: Sum total of major strategic business units (SBUs)
Relationships between Current Business Portfolio Management and the Types of Growth Models

Current business portfolio management shows the stage of business development and the growth models reflect the nature of the businesses. We use both in tandem in managing our businesses.
New Business Portfolio (Growth Model)

In all businesses, we reconsidered current business portfolio management and classified them by type of growth model.

**Stable businesses**
- Polyester film*1
- OPL film and others*1
- Engineering plastic products*2
- Pharmaceuticals
- MMA/PMMA

*1 Flat panel display (FPD) related materials were reclassified by type of material
*2 Name newly given to high-performance molding products

**Volatile businesses**
- Performance molding products
- PTA
- PHL/PC chain*3
- Polyolefines*4
- Basic petrochemicals*5

*3 Name newly given to PHL/BPA/PC
*4 PP/PP compound and PE were reclassified
*5 Name newly given to naphtha crackers

**Growth driver businesses**
- Carbon fiber and composite materials
- White LED lighting and materials
- Lithium-ion battery materials
- Water treatment systems and services
- Organic photovoltaic modules and materials
- Organic photo-semiconductors
- Advanced performance products (AQSOA and others)
- Agribusiness solutions
- Healthcare solutions
- Sustainable resources

*6 Name newly given to Performance composite materials
These are business domains where growth is expected and, in addition, profitability can be increased through thorough efforts to improve efficiency. We will also increase the depth of earnings.

**Stable businesses:**

Set operating income target for FY2015 of ¥225 billion

- Businesses where we can expect continued profitability
- **Basic policies: Work aggressively to maintain and expand income**
  - Increase sales through maintaining and expanding the competitive superiority we have now
  - Achieve growth in sales through improvement of product mix, expansion of production capacity, and development of overseas business, etc.

**Performance Products:**
- Polyester film
- Specialty chemicals
- OPL film, etc.

**Health Care:**
- Pharmaceuticals, etc.

**Industrial Materials:**
- MMA/PMMA
- Coke
- High performance graphite, etc.

(Billion yen)

Adopt goal assuming the upper level of the volatility factors
Volatile Businesses:
Key Points of Strategy and Implementation

We will not rely on market recovery, and we will make thoroughgoing efforts to cut costs, strengthen our financial position, move back into the black, and secure profitability.

Volatile businesses:
Set operating income target for FY2015 of ¥20 billion
- Businesses where major fluctuations because of external factors are expected to be unavoidable
- **Basic policies: Restrain range of fluctuations and stabilize**
  - Strengthen basic capabilities by thorough cost cutting
    (Decommission No. 1 naphtha cracker and expand and fully operate No. 2 naphtha cracker at the Kashima Plant of MCC, etc.)
  - Increase ability to absorb fluctuations in spreads through expanded introduction of price formulas
  - Take various initiative, including business portfolio reforms

Performance Products:
Performance molding products, etc.

**Industrial Materials:**
Basic petrochemicals
PHL/PC chain
Polyolefines
PTA, etc.

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(Billion yen)

<table>
<thead>
<tr>
<th>FY2012 Forecast</th>
<th>Cost-cutting/ investment effects</th>
<th>Investment cost</th>
<th>sales/purchase prices</th>
<th>Volumes</th>
<th>Volatility factors</th>
<th>FY2015 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>(20)</td>
<td></td>
<td>(4)</td>
<td>(6)</td>
<td>20</td>
<td>31</td>
<td>20</td>
</tr>
<tr>
<td>(30)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adopt goal using the lower level of the volatility factors
Growth Driver Businesses:
Key Points of Strategy and Implementation

After carefully confirming the necessary input of resources, work to expand sales through new product launches and entering new product fields and aim for operating income of ¥10 billion in FY2015.

**Growth driver businesses:**
Set operating income target for FY2015 of ¥10 billion
- Businesses where we will promote high growth in line with market expansion
- **Basic policies:** Make these businesses autonomous, going concerns as quickly as possible
  - Make selective inputs of resources
  - Generate results from R&D faster, accelerate development and launching of new products
  - Develop and expand sales in new fields

**Performance Products:**
- Carbon fiber and composite materials
- White LED lighting and materials
- Lithium-ion battery materials
- Water treatment systems and services
- Organic photovoltaic modules and materials, etc.

**Health Care:**
- Healthcare solutions

**Industrial Materials:**
- Sustainable resources

---

(Billion yen)

<table>
<thead>
<tr>
<th>FY2012 Forecast</th>
<th>Cost-cutting/ investment effects</th>
<th>Investment cost</th>
<th>Sales/purchase prices</th>
<th>Volumes</th>
<th>Volatility factors</th>
<th>FY2015 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>(25)</td>
<td>10</td>
<td>(10)</td>
<td>(20)</td>
<td>40</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>(10)</td>
<td>11</td>
<td>(3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adopt goal using the upper level of the volatility factors as a base
Some margin of overshooting or undershooting of FY2015 objectives is assumed because of the impact of economic fluctuations, but we will aim for improving performance through various measures.
### Goals for FY2015

Aim for sustained increase in corporate value and reset objectives that can be attained with the following indicators as a guide.

<table>
<thead>
<tr>
<th>Economic Indexes</th>
<th>APTSIS 15 Original targets for FY2015</th>
<th>APTSIS 15 Step 2 Revised targets for FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating income</td>
<td>¥400 billion</td>
<td>¥280 billion</td>
</tr>
<tr>
<td>Growth &amp; innovation strategies</td>
<td>¥330 billion</td>
<td>¥260 billion</td>
</tr>
<tr>
<td>Leaping ahead (M&amp;A)</td>
<td>¥70 billion</td>
<td>¥20 billion</td>
</tr>
<tr>
<td>ROA (income before income taxes)</td>
<td>≥8%</td>
<td>≥7%</td>
</tr>
<tr>
<td>Net D/E ratio</td>
<td>1.0</td>
<td>0.8*</td>
</tr>
<tr>
<td>Net D/E ratio (including minority interests in consolidated subsidiaries)</td>
<td>0.5*</td>
<td>0.5*</td>
</tr>
<tr>
<td>Overseas sales ratio</td>
<td>≥45%</td>
<td>≥45%</td>
</tr>
</tbody>
</table>

| CAPEX, Investment and loan | ¥1,000 billion* | ¥840 billion* |

*Excluding “Leaping ahead (M&A)”
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Implement resource allocation based on the strict principle of selectivity and focus

<table>
<thead>
<tr>
<th></th>
<th>Original five-year plan</th>
<th>Revised five-year plan</th>
<th>Expected results of Step 1</th>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investments*</td>
<td>1,000 (940)</td>
<td>840 (790)</td>
<td>300</td>
<td>540 (500)</td>
</tr>
<tr>
<td>(Cash flow basis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D expenditures</td>
<td>750</td>
<td>700</td>
<td>270</td>
<td>430</td>
</tr>
</tbody>
</table>

*On a decision-made basis, and exclude “leaping ahead (M&A)”
“Leaping Ahead” Strategy

Aim to expand prioritized businesses, Invest resources strategically in alliance and M&A

<Resource investment approach>
- Strengthen and expand stable and growth driver businesses
- Accelerate global development
- Businesses for focus: performance products and health care

◆ Principal alliances and M&A deals during Step 1

| Performance Products | OPL film and others: Acquired majority share interest in NSCI  
Carbon fiber and composite materials: Acquired TK Industries GmbH, Challenge Co., Ltd. and concluded a merger agreement with Aldila, Inc. |
|-----------------------|--------------------------------------------------------------------------------------------------|
| Health Care           | Pharmaceutical formulation materials: Acquired Qualicaps Co., Ltd.  
Pharmaceuticals: Concluded sales tie-up with Daiichi Sankyo Co., Ltd. in the domestic diabetes treatment field (*Tenelia*) |
| Industrial Materials  | MMA/PMMA: Concluded joint venture agreement with SABIC  
High performance graphite: Established joint venture with Posco Chemtech Co., Ltd. |
### Business Structural Reforms

- **Aim to strengthen position for dealing with changes in the business environment (such as declines in demand and excess supply) through further structural reforms**

- **Continue to implement realignment in the domestic petrochemicals business, where we have already taken aggressive measures**

#### Principal business structural reforms during Step 1

<table>
<thead>
<tr>
<th>Performance Products</th>
<th>Health Care</th>
<th>Industrial Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment and materials: Sold pipe material business to Sekisui Chemical Co., Ltd. Performance molding products: Exited this business in Europe</td>
<td>• Integrated the plasma derivative operations into the Japan Blood Products Organization • Transferred the fine chemical business to APIC and Taisho Technos Co., Ltd. • Dissolved capital ties with Choseido Pharmaceutical Co., Ltd.</td>
<td>Basic petrochemicals: • Decided to decommission No. 1 naphtha cracker and expand and fully operate No. 2 naphtha cracker at the Kashima Plant of MCC • Naphtha cracker downsized at the Mizushima Plant of MCC, and formed alliance with Asahi Kasei Corporation in aromatics related business C4 chemicals: Shut down No. 2 line of 1,4-BD PP: Shut down one line each at the Kashima Plant of MCC and the Goi Plant of JPP Decided to shut down a line at the Kawasaki Plant of JPP PE: Decided to shut down of a line at the Kawasaki Plant of JPP</td>
</tr>
</tbody>
</table>
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1. APTSIS 15 Step 1 Results and Objectives of Step 2
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4. Basic Business Strategies
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   4-3 Industrial Materials
5. Topics
   5-1 Shale Gas Related Strategy 5-2 Healthcare Solutions
6. Regional Strategies
7. KAITEKI Management
Group Synergy: Progress

- Appointed Mission Coordinators (April 1, 2012)
- Reaching a position where we can see concrete results

Mission Coordinators

- MCHC
- MCC
- MTPC
- MPI
- MRC

Formulate group-wide strategic plans for business areas where rapid synergies can be achieved. Guide and advise on those business operations.

- Healthcare solutions
- Water treatment systems and services
- Specialty chemicals
- Polymer processing and information and electronics
- Carbon fiber and composite materials
Synergy Units: Healthcare Solutions

Offer a diversity of solutions from sick care to healthcare, not limited to pharmaceuticals, by drawing on Group synergies

Offer healthcare solutions that leverage the MCHC Group synergies

Business roadmap in healthcare solutions

MIMAMORI-Gait
Biomarker
Artificial carbon dioxide unit bath for medical use
MRC
MCHC Healthcare Solutions Office
MCC (MCRC) (MCM)
Plant factory system
New synergy project
New synergy project
New business unit
New vaccines (Plant factory system)
MTPC
Reinvestment
Growth factors in FY2015 and beyond
Reinvest profits from Qualicaps
Expand business systems of healthcare information services
Begin commercial production of new vaccines
Commence regenerative medicine materials business
Actions to take by FY2015
Acquisition of Qualicaps
Establish business systems of healthcare information services
Establish new commercial production systems for vaccines
Develop medical devices based on artificial carbon dioxide unit bath
Start new projects, including those related to regenerative medicine
Synergy Units:
Polymer Processing/Information and Electronics

Realize synergies among material development technologies and
copolymer processing technologies to accelerate development of new functions

Offer solutions based on development of high performance products

LED lighting materials
Printed electronics, OPVs, OLED materials and others

- Phosphor composite
- High heat-resistance transparent films
- Super high gas barrier films

MCC & MRC  
(Material development technologies)

MPI  
(Plastic processing technologies)

- Transfer Yuka Denshi Co., Ltd.*, a MCC Group company, to MPI and strengthen molded products business
- Launch mold forms for test pieces generally used for a mortar compressive strength test that use PBS** as a raw material.
- Developing applications for films and sheets formed from bio-engineering plastic, DURABIO
- Developing remote phosphor LED lighting materials using phosphor composite

*MCC Chemical Co., Ltd.
**PBS: Polybutylene succinate

*As of April 1, 2013

**PBS: Polybutylene succinate
Synergy Units:
Water Treatment System and Services

Accelerate development of businesses related to offering solution packages and create new water treatment businesses

Integrate MCHC Group water treatment technologies to provide full packaged “water solutions”

- Nippon Rensui Co. (Water treatment equipment and construction)
- Dia-Nitrix Co., Ltd. (Flocculants)
- MEC (Maintenance and engineering and construction)
- MRC (Membranes and membrane bioreactor (MBR) technologies)
- MCC (Ion-exchange resin)
- The Kansai Coke and Chemicals Co., Ltd., MCM, and others
- Miura Co., Ltd.

[January 2013]
- Form project team that will take the lead in creating new water treatment businesses (water recycling, O&M, water sales, etc.)
- With the fields of chemicals, food products, and drugs as targets, first create businesses in Japan

[March 2013]
- Miura Co., Ltd., a leading domestic manufacturer of small once-through boilers, will participate in the project team
- Aim for early commercial start-up by combining MCHC Group’s strengths in membranes/MBR, flocculants, etc. with Miura’s strengths (maintenance systems, water analysis technology, etc.)

[FY2015]
- We will establish businesses in Japan, then expand the scope of business to include countries overseas (PRC, ASEAN countries, etc.)
Synergy Units: Carbon Fiber and Composite Materials

Establishing value chains with competitive superiority in targeted industries

Carbon fibers contribute to making KAITEKI a reality in the environmental and new energy fields

Cross-company team goes into action
Carbon fiber composite materials project established in the MCHC Group (September 2012)

Combining our material technologies (PAN-/pitch-based, etc.) and commencing development of applications in target industries that build on existing marketing channels

### Materials
- Polylefines
- Engineering plastics
- Elastomers

### Environmental and new energy fields
- Precursors
- PAN-based carbon fibers
- CFRP
- CFRTP

### Technology development attuned to materials
- Pitch-based carbon fibers
- Glass fiber/PP composite materials
- CFRP
- CFRTP

#### Materials Intermediates Molded items Products

**Golf**
- Existing MRC business
  - Aldila, Inc.*

**Automobiles**
- Pressure vessels
- Wind power generation
  - (Windmill)

**Pressure vessels**

**Wind power generation**

**Automotive applications**

**Company A**
**Company B**
**TK Industries**
**and Challenge***

*Concluded a merger agreement in December 2012
**Acquisition completed in October 2012
***Acquisition completed in November 2012

Mitsubishi Chemical Holdings

**Cross-company team goes into action**

**Carbonyl cycle**

**Good Chemistry for Tomorrow**
Creating better resolutions among people, society, and our planet
Synergy Units: Specialty Chemicals

Beginning to strengthen the business portfolio by distinguishing three major fields: coating & additives, electronic materials, and living and health.

Expand scale and build a broad lineup of product groups, move from “dispersal” to “orchestrating the Group strengths”

- Actively continuing to consider business synergies in the coating & additive field to cross over business boundaries
- Acquired majority share interest in NSCI and strengthening ties with MCC (December 2012)
- Beginning to realize synergies in life through integrating MRC Polysaccharide Co., Ltd. into the Food Ingredients Dept. of MCC (April 2013)
- Starting to strengthen the business portfolio through leaping ahead (M&A).

Target Domains

- Electronic materials
  - (Inorganic and organic)
  - Circuit materials, semiconductor materials, sealants, resists, EL chemicals
  - MCC
  - MPI

- Living and health (Life)
  - MCC
  - MKF
  - MRC
  - Ion-exchange resins, food ingredients, analytical instruments

- Coating & Additives
  - NSCI
  - NKC
  - CRK
  - MCC
  - APIC
  - Specialty polymers, chemicals, epoxy resins, functional coating materials, adhesive materials and various types of emulsions, germicides and antioxidant materials
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Group Synergy: Progress

Establishing Shared Services Company (SSC) to attain the goal of “Synergy to Grow”

- Moving ahead with the integration of common corporate functions in core operating companies
  - To enhance sophistication of functions
  - And increase efficiency

**<Schedule for Integration>**

- *Financing and administrative functions*  
  (Completed June 1, 2012)

- *Legal functions*  
  (Scheduled for April 1, 2013)

- *Accounting functions*  
  (Scheduled for June 1, 2013)

- *Human resource management functions*  
  (Scheduled for April 1, 2014)

**Shared services company (SSC):**

Mitsubishi Chemical Holdings Corporate Staff, Inc.

To be established April 1, 2013

Transfer departments with the same service functions from core operating companies to SSC
Realizing Synergies: Objectives and Accomplishments (Step 1/Step 2)

Objectives of Step 1 have largely been attained, Step 2 takes account of the contributions of synergy units, and the initial plan has been revised upward by ¥6 billion.

<table>
<thead>
<tr>
<th>Principal synergies for consideration</th>
<th>Step 1 targets</th>
<th>Step 1 expected results</th>
<th>Step 2 targets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost and R&amp;D</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchasing</td>
<td>✔ Equipment (materials) procurement functions: Centralize purchasing function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logistics</td>
<td>✔ Integrate logistic networks and consolidate locations within the Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT</td>
<td>✔ Integrate infrastructural systems to enhance efficiency and rationalize by standardizing applications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D</td>
<td>✔ Exercise more synergies among technologies and more effective use of technology platforms ✔ Optimize human resources allocation and infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Businesses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthcare solutions</td>
<td>✔ Offer a diversity of solutions from sick-care to healthcare, not limited to pharmaceuticals, by drawing on Group synergies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polymer processing/Information and electronics</td>
<td>✔ Offer solutions based on development of high-performance products such as LED lighting materials, printed electronics, OPV, OLED materials, and others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water treatment systems/services</td>
<td>✔ Accelerate development of businesses related to offering solution packages and create new water treatment businesses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty chemicals</td>
<td>✔ Beginning to strengthen the business portfolio by distinguishing three major fields: coating &amp; additives, electronic materials, and living and health.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon fiber and composite materials</td>
<td>✔ Strengthen intermediate materials and molding products and establishing value chains with competitive superiority in targeted fields (industries, automobiles, and golf)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>✔ Effective use of sales channel and business units within the Group e.g. electrolyte production on the premises of at Lucite in the UK &amp; the US</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 6+5+11 = 22

Total: 6.7+3.7+10.4 = 20.8

Total: 22+16+38 = 76
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   4-3 Industrial Materials

Performance Products
Health Care
Industrial Materials

- FY2010
  - Sales ratio (%): 55% (28%), 17%
  - OP margin (%): 47% (16%), 37%
- FY2011
  - Sales ratio (%): 57% (26%), 17%
  - OP margin (%): 30% (14%), 56%
- FY2012 forecast
  - Sales ratio (%): 54% (28%), 18%
  - OP margin (%): 3% (20%), 77%
- FY2015 targets
  - Sales ratio (%): 50% (32%), 18%
  - OP margin (%): 26% (33%), 41%

Exclude “Leaping Ahead” (M&A)
Performance Products: Strategies

Accelerate launch of green businesses, pursue further value-addition, and reach out to global markets

- **Stable businesses**
  - Expand high-performance and high-value-added businesses
    - Specialty chemicals • OPL film and others • Engineering plastics
  - Accelerate global expansion
    - Polyester film

- **Volatile businesses**
  - Strengthen competitiveness through cost cutting
    - Creation of necessary functions

- **Growth driver businesses**
  - Nurture and develop next-generation growth businesses with an eye to the future
    - Organic photovoltaic modules and materials
    - Organic photo semiconductors
    - Advanced performance products (AQSOA)
    - Carbon fiber and composite materials
  - Expand green businesses
    - White LED lighting and materials • Lithium-ion battery materials
Stable Businesses: Polyester Film

- Begin to manufacture in PRC, and expand sales in its market, where the outlook is for growth (PRC plant to go into operation during the second quarter of FY2013)
- Also, focus on sale of non-FPD items and improve the product mix

<View of the business environment>
- Slow to little expansion in sales volume because of the slower growth in the flat panel TV market
- PRC is the main area for market expansion in the FPD field
- Downward pressure on prices is strong in the FPD field. Prices will continue to decline and profit ratios will worsen.

<Basic strategies>
- Establish the No. 1 position in PRC in the FPD-use polyester film market
- Reconsider the timing for the commencement of the operation for the No. 2 production facility in PRC, taking into account market trends
- Make further cuts in fixed costs in Japan
- Focus sales activities on film applications in non-FPD items, such as touch panels and solar batteries

Sales goal (Billion yen)
Growth Driver Businesses: Carbon Fiber and Composite Materials

- Pursue coordinated business expansion in precursors, carbon fibers, intermediate materials, and molded products
- Establish a competitively superior value chain in target industries

**View of the business environment**
- Deterioration in profitability due to major decrease in prices accompanying the worsening of the supply/demand balance
- World demand forecast for the carbon fiber market:
  Will rise from 40,000 tons in 2012 to 65,000 tons in 2015.
- Profitability will be determined by cost competitiveness and value added in intermediate materials and molded parts businesses

**Basic strategies**
- Strengthen intermediate materials business through M&A and business alliances and establish a sustainable earnings structure through by creating a competitively superior value chain
- Focus business development on growth fields (uses in industries, automobiles)
- Achieve drastic cost reduction through cost structure reforms

**Sales goal (Billion yen)**
- FY2012: 35
- FY2015: 65
Performance Products: Operating Income and Resource Allocation Plan

Allocate resources appropriately to continue expansion of stable businesses and get operations started in growth driver businesses

APTSIS 15 Step 1 FY2011-2012 Average/year

- Investments: 120 (Billion yen)
- R&D: 70 (Billion yen)

APTSIS 15 Step 2 FY2013-2015 Average/year

- Investments: 220 (Billion yen)
- R&D: 110 (Billion yen)

Operating income (loss)

Resource allocation plans

Good Chemistry for Tomorrow
Creating better relationships among people, society, and our planet

Mitsubishi Chemical Holdings
## Performance Products: Stable Business Strategy

Expand high-performance and high-value-added businesses

### Designed Materials

#### Specialty chemicals

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012 → FY2015</th>
<th>Net sales (Billion yen)</th>
<th>Forecast (Billion yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>75 → 110</td>
<td></td>
</tr>
</tbody>
</table>

- With a high-margin product portfolio as a base, including hard coats for LCDs and adhesives for smartphones and tablet computers, etc., expand business in Asian growth markets
- Strengthen solvent coating materials by expanding business locations in Asia
- Develop construction materials, food packaging, and O/W emulsion businesses in Asia

#### Engineering plastics

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012 → FY2015</th>
<th>Net sales (Billion yen)</th>
<th>Forecast (Billion yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>60 → 80</td>
<td></td>
</tr>
</tbody>
</table>

- In super engineering plastic products, continue to focus on developing high heat-resistant products and maintain a leading position
- Structure a tripolar production system in Europe, North America, and Asia, adding in the Hiratsuka Plant in Japan, and, after business development in Europe and North America, also accelerate business development in PRC and elsewhere in Asia

#### OPL film and others

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012 → FY2015</th>
<th>Net sales (Billion yen)</th>
<th>Forecast (Billion yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>95 → 130</td>
<td></td>
</tr>
</tbody>
</table>

- OPL business: Although growth in the LCD panel market will weaken, demand will expand. Work to win new users/customers and increase market share. Implement capital investments to increase capacity.
- **Soarnol** business: Expand aggressively to meet rising demand in the food packaging field in Europe, North America, and the emerging countries. Implement capital investments aimed at stabilizing supply.
**Polyester film**

- At present, growth in sales volume shows little expansion because of the slowdown in growth of FPD TVs.
- To respond to expanding demand in PRC, establish new manufacturing facility there and bring it fully on-stream in the second quarter of FY2013.
- Capture 40% share in the Chinese market for FPDs, which is a growth area, and secure the No. 1 position in the polyester film for FPDs market.
- Reduce FPD ratio in domestic market and improve the product mix.

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012 ➔ FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net sales</strong></td>
<td>85 ➔ 100</td>
</tr>
</tbody>
</table>
Nurturing and development of next-generation growth businesses with an eye to the future

Electronics Applications

Organic photovoltaic modules and materials

(Billion yen)
Forecast FY2015
Net sales 15

- In the Japanese market, where the systems and operating environment for solar batteries are being put into place, market thin PV modules to the construction industry (BIPV) and the automobile industry (AIPV)
- Develop the world's most-efficient OPV using our core technologies (organic synthesis, dyes, etc.) and increase competitiveness through reducing costs with the R2R production method
- Work to differentiate products by making use of materials of the MCHC Group (high-gas barrier film, etc.) and develop high-value-added PV products

Organic photo-semiconductors

(Billion yen)
Forecast FY2015
Net sales 3

- As existing lighting fixtures are replaced by next-generation lighting along with rising demand for energy saving, market organic and thin surface emitting lighting panels to commercial facilities and public buildings, etc.
- Develop and establish wet process that make use of our core technologies, and, as we work to increase cost-competitiveness, develop OLEDs that are as efficient as LEDs, working together with Pioneer Corporation

BIPV: Building Integrated Photovoltaic
AIPV: Automotive Integrated Photovoltaic
R2R: Roll to Roll
Performance Products: Growth Driver Business Strategy

Nurturing and development of next-generation growth businesses with an eye to the future

Designed Materials

Carbon fiber and composite materials

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012 → FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>35 → 65</td>
</tr>
</tbody>
</table>

- Strengthen the intermediate materials business through M&A and business alliances, and, by structuring value chain with competitive superiority, establish a sustainable profit base
- Promote business development emphasizing growth fields (industrial uses, automobiles)
- Achieve drastic cost reductions through reforms in the cost structure

Advanced performance products (AQSOA)

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>7</td>
</tr>
</tbody>
</table>

- Position SCR catalyst uses as a core business and invest resources (Demand is expected to expand along with tightening of NOx restriction in 2014.)
- In adsorption products (heat pumps, desiccants), sales in the European market are stagnant because of delays in takeoff. Going forward, we will give maximum priority to increasing efficiency and allocating resources with selectivity and concentration.

SCR: Selective Catalytic Reduction
Performance Products: Growth Driver Business Strategy

Expansion of green business

Electronics Applications

White LED lighting and materials

Forecast FY2012 → FY2015
Net sales 10 → 50

- As LED lighting gets off to a quick start, market key materials (phosphors and GaN substrates) globally
- Expand the lineup of phosphors (main product: red phosphor), locate development, production, and sales functions overseas and increase market share substantially
- Establish the technology at an early date for the Super Critical Acidic Ammonia Technology method for GaN substrates, which are expected to offer high quality and low cost, and enter the market for high-powered LED uses
- Use materials (phosphors and GaN substrates) originally produced in-house to develop high color rendering and high efficiency LED lighting as well as expand the market globally focusing on the hospitality market

Designed Materials

Lithium-ion battery materials

Forecast FY2012 → FY2015
Net sales 15 → 50

- The takeoff of the automobile market is slower than initially expected. In addition to expanding sales in this market, strengthen sales expansion efforts in the consumer market
- Make use of multiple production sites efficiently and consider alliances, etc., to strengthen competitiveness
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Health Care: Strategies

Realize sustainable growth in pharmaceutical businesses and deliver healthcare solutions.

- **Stable businesses**
  - Substantially increase product value through nurturing the development of priority products and new pharmaceuticals (LCM*, etc.). And expand the list of new products that respond to unmet medical needs and have received global approvals
    - Pharmaceuticals
  - Stabilize earnings from stable businesses
    - Diagnostics & support for new pharmaceutical development
    - Pharmaceutical formulation materials (Qualicaps)

- **Growth driver businesses**
  - Create new businesses through offering solutions to unmet medical needs in a broad range of healthcare fields
    - Healthcare solutions

*Life cycle management
Stable Businesses: Pharmaceuticals

**Gilenya/Imusera**: Became a blockbuster product in the 2 years since its launch

**Remicade/Simponi**: Will reach sales of ¥100 billion* in 2013

*Domestic net sales: based on NHI drug prices

---

**Gilenya/Imusera Global sales (Novartis)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Outside USA</th>
<th>USA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1.1</td>
<td></td>
<td>1.1</td>
</tr>
<tr>
<td>2011</td>
<td>11.1</td>
<td>38.3</td>
<td>49.4</td>
</tr>
<tr>
<td>2012</td>
<td>46.8</td>
<td>72.7</td>
<td>119.5</td>
</tr>
</tbody>
</table>

**Remicade/Simponi**

- **Remicade**: Launched in 2002 for the treatment of Crohn’s disease, expanded use to treatment of rheumatoid arthritis in the joints (2003), and thereafter sales have grown steadily through implementation of a LCM strategy, including additional indications, etc.
- **Simponi**: Launched in 2011 as an agent for injection under the skin
- Will aim for substantially further growth based on significant accumulated information and the advantage of having these two agents

---

**Gilenya/Imusera**

- World’s first oral treatment originated in Japan for multiple sclerosis (MS) with a novel mode of action
- This drug has superior suppressant effects for recurrence, disease activity, and physical disability progression.
- Estimated patient population: Worldwide: 2.5 million (Including a large percentage of Caucasian women, especially in Northern Europe and North America); In Japan: 15,000.
Looking to 2015, anticipating sustainable growth through product prioritization and new products

Looking to attain targets for FY2015

Royalty (Gilenya, TA-7284)

- Priority products: Remicade and others
- New products: Simponi, Imusera, Telavic, Lexapro
- Anti diabetes: MP-513 (DPP-4 inhibitor; Tenelia), TA-7284 (SGLT2 inhibitor)

Net sales (Billion yen)

Earnings (Billion yen)

Medium-Term Management Plan 11-15 New Value Creation
Stable Business: Pharmaceuticals

TA-7284 (Canagliflozin: Therapeutic Agent for Type 2 Diabetes)
- First SGLT2 inhibitory drug in Japan
  (New mechanism for excreting glucose directly in the urine)
- New Drug Applications were submitted in the U.S. and Europe
  (Janssen Pharmaceuticals, Inc.)
- FDA Advisory Committee recommended approval of TA-7284
- P3 in Japan by MTPC (Scheduled to file in 2013)
- Aiming to develop into a blockbuster product globally

Characteristics
- Substantial accumulation of clinical data in Japan and overseas
  (more than 12,000 examples)
- Shows effectiveness, unrelated to the status of insulin
- Low risk of hypoglycemia
- Reduce patients’ weight
**Stable Business: Pharmaceuticals**

Pipeline status: we plan to market these “inspiring new products” globally for the treatment of unmet medical needs.

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Filed</th>
</tr>
</thead>
</table>
| MT-3995  
Hypertrophy  
MT-1303  
Multiple sclerosis  
Cholebine  
Hyperphosphatemia | MP-435  
RA  
MT-4666  
Alzheimer’s disease  
Cholebine  
Type 2 diabetes mellitus  
TA-7906  
Atopic dermatitis | TA-7284  
Type 2 diabetes mellitus  
Radicut  
ALS  
Telavic  
Chronic hepatitis C, genotype 2  
Tenelia/MP-513  
Type 2 diabetes mellitus, additional combination | MP-214  
Schizophrenia  
Talion  
Pediatric allergic rhinitis  
Remicade  
Refactory Kawasaki disease  
Bechet’s disease with special lesions  
Pediatric CD  
Pediatric UC  
Psoriasis: increased dose |
| MT-1303 (Europe)  
Multiple sclerosis  
MP-513 (US)  
Type 2 diabetes mellitus  
MT-7716 (US)  
Alcohol-use disorder  
MP-124 (US, Canada)  
Acute ischemic stroke  
MT-3995 (Europe)  
Hypertension →P2 start in Diabetes nephropathy  
MP-157 (Europe)  
Hypertension  
GB-1057 (US)  
Stabilizing agent | MT-9938 (US)  
Refractory pruritus  
MP-513 (Europe)  
Type 2 diabetes mellitus  
TA-7284 (US, Europe)  
Obesity | MP-146 (US, Europe)  
Chronic kidney disease  
MP-513 (Korea)  
Type 2 diabetes mellitus | MP-424 (Taiwan)  
Chronic hepatitis C  
TA-7284 (US, Europe)  
Type 2 diabetes mellitus  
TA-1790 (Europe)  
ED |
| MT-1069 (Europe)  
Atopic dermatitis  
MP-328 (Europe)  
Obesity  
MT-3995 (Europe)  
Hypertension  
GB-1057 (US) | | |

**Disease area**
- Autoimmune disease
- Diabetes and kidney disease
- CNS disease
- Other

**License-out**

**As of February 1, 2013**
Health Care: Operating Income and Resource Allocation Plan

Achieve operating income of over ¥110 billion by strengthening profit structure in the Health Care domain

Operating income

Resource allocation plans

**APTSIS 15 Step 1**

**FY2011-2012**

- Investments: 40 20
- R&D: 150 75

**APTSIS 15 Step 2**

**FY2013-2015**

- Investments: 80 27
- R&D: 240 80

(Billion yen)
• Pharmaceuticals: Substantially increase product value through nurturing the development of priority products and new pharmaceuticals (LCM*, etc.). And expand the list of new products that respond to unmet needs and have received global approvals.

• Diagnostics and pharmaceutical ingredients/formulations: In diagnostics, focus on clinical testing and clinical trials and switch to structural reform strategy in non-clinical areas. In pharmaceutical ingredients/formulations, work in concert in the Group, strengthen and expand the profit base.

Pharmaceuticals

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>425</td>
<td>500</td>
</tr>
</tbody>
</table>

• Develop Gilenya/Imusera into blockbuster drugs globally
• Launch a drug for diabetes treatment (TA7284) with a novel mode of action on schedule
• Expand sales of Remicade/Simponi
• Sustain growth, aiming for sales of ¥500 billion in FY2015

Diagnostics and pharmaceutical ingredients/formulations

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>80</td>
<td>90</td>
</tr>
</tbody>
</table>

• Clinical testing: Develop new customers and step up cost-cutting to increase profit
• Diagnostics: Expand sales of PATHFAST to world markets and promote cost-cutting
• Clinical trials: Ready international joint clinical trial system and expand orders through securing implementation labs overseas
• Non-clinical business: Make drastic reforms in business structure

Pharmaceutical formulation materials

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>18</td>
<td>25</td>
</tr>
</tbody>
</table>

• Promote work in concert with other businesses of the MCHC Group: Combine the technology within the MCHC Group with the top-level manufacturing technology of Qualicaps to offer high-value-added solutions

*Life cycle management
Agenda

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   - 3-5 Synergy: Common Corporate Functions
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   - 5-1 Shale Gas Related Strategy
   - 5-2 Healthcare Solutions
6. Regional Strategies
7. KAITEKI Management
Industrial Materials: Strategies

Increase profitability by accelerating globalization, Shifting to high-performance products, and optimizing product chain

- **Stable businesses**
  - Expand global operation and shift to high-performance products
    - MMA/PMMA · Coke
  - Expand high-performance, high-value-added businesses
    - Performance polymers

- **Volatile businesses**
  - Stabilize earnings and reinforce business structure
    - Thoroughgoing cost cutting and reduction in market dependence
      - PTA
    - Optimize production capacity, develop knowledge businesses and innovate processes
      - Basic petrochemicals · PHL/PC chain · Polyolefins · AN and its derivatives

- **Growth driver businesses**
  - Deliver new materials that contribute to the environment and the “sustainable carbon society”
    - Sustainable resources

FY2015

<table>
<thead>
<tr>
<th>OP margin (%)</th>
<th>Sales ratio (%)</th>
</tr>
</thead>
</table>

*Excluding basic petrochemicals
Stable Businesses: MMA/PMMA

To fully consolidate our position as the global No. 1 company, we must accelerate expansion in production capacity to meet the rise in demand and optimize locations.

<View of the business environment>
• Amid the stagnation in the world economy, the loosening of the supply/demand balance for MMA monomers, and the drop in demand for sheets for light guide plates and mobile phones, profits have declined.
• The MMA monomer supply/demand balance will recover as demand recovers in the latter half of FY2013. On the other hand, supply will be restrained because of the low utilization rates of ethylene crackers and AN. Therefore, the market is expected to move from a well-balanced to a tight-balanced state.

<Basic strategies>
• In MMA monomer, further strengthen competitiveness as the No.1 global company
  • Develop emerging country and regional markets (India, Russia, Eastern Europe, and Brazil) as well as the Middle East and Africa
  • Bring the U.S. Beaumont’s plant up to full capacity operation
  • Make steady progress on the α project in the Middle East
• In specialty resins and plastics (plastics sheeting, plastics molding materials), expand sales of general use and automobile/construction material uses

Sales goal (Billion yen)

- FY2012: 250
- FY2015: 300
**Volatile Businesses: PTA**

- **Basic strategies**
  - Establish technological superiority and promote licensing
  - Cost reduction: MCCI: Shift to electricity purchases, MCPI: Shift to coal thermal power generation, etc.
  - Reducing strong reliance on the Chinese market and putting more emphasis on other regions
    - Formula for linking to raw material prices
    - Floor/ceiling on market conditions
    - (1)+(2)
  - Consider introduction of safeguards/anti-dumping provisions

- **View of the business environment**
  - Profitability has deteriorated seriously because of PTA oversupply in PRC, and manufacturers in Korea, Taiwan, and PRC are cutting production.
  - Spreads will range from US$100 to $115 per ton (PX ACP 100%)
Industrial Materials:
Operating Income and Resource Allocation Plan

- Capital investment and R&D expenditures have been reduced substantially in Step 1.
- The same holds true for Step 2, on a continuing basis.

### Resource allocation plans

**APTSIS 15 Step 1**

- **FY2011-2012 Average/year**
  - Investments: 110 (Forecast: 55)
  - R&D: 40 (Average/year: 20)

**APTSIS 15 Step 2**

- **FY2013-2015 Average/year**
  - Investments: 170 (Average/year: 57)
  - R&D: 50 (Average/year: 17)

### Operating income

(Billion yen)
Industrial Materials: Stable Business Strategy

Accelerate globalization and shift to high performance

**Chemicals**

**Coke**

(Billion yen)

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>180</td>
<td>175</td>
</tr>
</tbody>
</table>

- Create a strong earnings structure and maintain core business operations for comprehensive coal chemistry
- Provide stable supply to domestic and overseas manufacturers
- Secure production, implement environmental policies
- Continue research for overseas production bases

**Polymers**

**Performance polymers**

(Billion yen)

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>40</td>
<td>50</td>
</tr>
</tbody>
</table>

- Expand the growing automobile and packaging materials businesses
  - Industrialized country markets:
    - Acquired the U.S. Bellevue Plant (December 2012),
    - Decided to acquire an European plastics compound company (scheduled for mid-2013)
  - Emerging country markets:
    - Establish manufacturing base in Brazil (scheduled to begin operation in spring 2014)
  - Group companies work in concert and develop new markets through new technologies, including compatibility agents, bio-compounds, etc.
## Industrial Materials: Stable Business Strategy

**Accelerate globalization and shift to high performance**

### Polymers

<table>
<thead>
<tr>
<th>MMA/PMMA</th>
<th>Forecast FY2012 → FY2015</th>
<th>Net sales (Billion yen)</th>
<th>250 → 300</th>
</tr>
</thead>
</table>

- In the MMA monomer, further strengthen competitiveness as the No.1 global company
- Develop emerging country markets (India, Russia, Eastern Europe, and Brazil) as well as the Middle East and Africa
- Bring the U.S. Beaumont’s plant up to full capacity operation
- Make steady progress on the α project in the Middle East
- In specialty resins and plastics (plastics sheeting, plastics molding materials), expand sales of general use and automobile/construction material uses
# Industrial Materials: Volatile Businesses Strategy

## Implement profit stabilization and strengthen the financial position

### Chemicals

#### PTA

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012 → FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>250 → 300</td>
</tr>
</tbody>
</table>

- Establish technological superiority and promote licensing
- Cost reduction
  - MCCI: shift to electricity purchases
  - MCPI: shift to coal thermal power generation, etc.
- Reducing strong reliance on the Chinese market and putting more emphasis on other regions
  1. Formula for linking to raw material prices
  2. Floor/ceiling on market conditions
- Consider introduction of safeguards/anti-dumping provisions

#### Basic Petrochemicals

- Structural reforms toward production systems suited to demand
  - Decommission No. 1 naphtha cracker and expand and fully operate No. 2 naphtha cracker at the Kashima Plant of MCC
- Along with continued implementation of previous cost reduction measures, also implement responsive changes to value allocation of distillates to improve cost-competitiveness

#### AN and its derivatives

<table>
<thead>
<tr>
<th>Forecast</th>
<th>FY2012 → FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>30 → 30</td>
</tr>
</tbody>
</table>

- Expand NVF-type polymer business and stabilize bio-catalyst business
- Assume that profitability in the AN business cannot be forecast from the viewpoint of volatility
## Industrial Materials: Volatile Businesses Strategy

### Implement profit stabilization and strengthen the financial position

#### Polyolefins

<table>
<thead>
<tr>
<th></th>
<th>FY2012</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>PP</td>
<td>170</td>
<td>200</td>
</tr>
<tr>
<td>PE</td>
<td>140</td>
<td>160</td>
</tr>
</tbody>
</table>

**Forecast**  

- **PP**: Plant capacity should be made appropriate to sales volumes. As announced previously, one line will be shut down in FY2014 and fixed costs will be reduced. To make production of high-performance, high-value-added products possible, implement reforms in existing equipment.

- **PE**: Establish a stable profitable position by optimizing the supply systems. (As announced previously, one production line will be shut down in FY2014 and fixed costs will be reduced.)

#### PHL/PC chain

<table>
<thead>
<tr>
<th></th>
<th>FY2012</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>80</td>
<td>80</td>
</tr>
</tbody>
</table>

**Forecast**  

- Firm growth is forecast for future demand, so pillars of future initiatives should be increasing competitiveness of domestic production bases by continuing thoroughgoing rationalization, improvement in earnings through rationalizing sales activities, and establishment of and scaling up non-phosgene technology.
Industrial Materials: Growth Driver Business Strategy

Deliver new materials that contribute to the environment and the “sustainable carbon society”

<table>
<thead>
<tr>
<th>Sustainable resources</th>
<th>DURABIO (Isosorbide polymer)</th>
<th>PBS (Polybutylene succinate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forecast FY2015</td>
<td>• Brought pilot plant (5kt) into operation in 2012 and implement construction improvements to increase capacity to 16kt in 2014. For raw materials, we will implement a strategy for joint work and cooperation with other companies, including possible investments, and secure raw materials.</td>
<td>• To respond to the takeoff of demand, PTT MCC Biochem Company Limited in Thailand will construct a 20kt polymer plant. In addition, PTT MCC Biochem will secure competitive supplies of the raw material succinic acid through its tie-up with Mitsui &amp; Co. Ltd., and BioAmber Inc. (Operation to commence in 2015)</td>
</tr>
<tr>
<td>Net sales 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Billion yen)
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As a consequence of the practical application of low-cost extraction methods for shale gas, natural gas can be supplied inexpensively in large quantities. This has increased the competitiveness of the U.S. chemical industry substantially.

Production Volume of U.S. Shale Gas Increased about 20-fold from 2000 to 2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Natural gas, Euro</th>
<th>Natural gas, U.S.</th>
<th>LNG, Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>3.9</td>
<td>4.3</td>
<td>4.7</td>
</tr>
<tr>
<td>2010</td>
<td>8.3</td>
<td>4.4</td>
<td>10.8</td>
</tr>
<tr>
<td>2011</td>
<td>10.5</td>
<td>4.0</td>
<td>14.7</td>
</tr>
<tr>
<td>2012</td>
<td>11.5</td>
<td>2.8</td>
<td>16.7</td>
</tr>
</tbody>
</table>

U.S. Ethane Price in the Latter Half of 2012 Was at the Lowest Level in Seven Years

U.S. chemical industry enjoys a superior position in terms of energy and raw material costs
Increases in U.S. production capacity have been concentrated in ethane-based ethylene and ethylene derivatives.

On the other hand, since shale gas contains almost no C_4 ingredients, C_4 (butadiene) and C_6 – C_8 (BTX) will be in short supply around the world.

<table>
<thead>
<tr>
<th>Company</th>
<th>Production Capacity</th>
<th>Commencement of Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exxon Mobil</td>
<td>1,500 kt/y</td>
<td>2016</td>
</tr>
<tr>
<td>Dow Chemical</td>
<td>1,500 kt/y</td>
<td>2017</td>
</tr>
<tr>
<td>Chevron Phillips</td>
<td>1,500 kt/y</td>
<td>2017</td>
</tr>
<tr>
<td>Shell</td>
<td>1,300 kt/y</td>
<td>2017</td>
</tr>
<tr>
<td>Formosa Plastics</td>
<td>800 kt/y</td>
<td>2017</td>
</tr>
<tr>
<td>Sasol</td>
<td>1,400 kt/y</td>
<td>2017+</td>
</tr>
<tr>
<td>Oxychem</td>
<td>550 kt/y</td>
<td>2017+</td>
</tr>
<tr>
<td>Braskem</td>
<td>1,000 kt/y</td>
<td>2017+</td>
</tr>
<tr>
<td>Indorama</td>
<td>1,300 kt/y</td>
<td>2018+</td>
</tr>
<tr>
<td>Restarts/capacity expansions</td>
<td>1,859 kt/y</td>
<td>2012—2016</td>
</tr>
</tbody>
</table>

PE plants under construction
- Exxon Mobil: 1,300 kt/y
- PE plants being planned
  - Chevron Phillips: 1,000 kt/y
  - Shell: 1,000 kt/y
  - Formosa Plastics: 300 kt/y

If all planned facilities go into operation, U.S. ethylene capacity will increase 1.5 times from current levels.

C_2 (ethane) derived from shale gas, which is the raw material for ethylene is supplied in large quantities.

Typical dry gas and wet natural gas composition (Unit: mol %)

<table>
<thead>
<tr>
<th></th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry gas</td>
<td>1—10</td>
<td>≤5</td>
<td>≤2</td>
<td>≤1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Natural wet gas</td>
<td>5—15</td>
<td>2—14</td>
<td>1—10</td>
<td>≤5</td>
<td>≤3</td>
</tr>
</tbody>
</table>

Source: Rojey, Jaffret (1997)
MCHC Strategy for Responding to the U.S Shale Revolution

Strategy 1:
Develop products that can be differentiated technologically, even among those in the ethylene derivatives business, in North America

- EVOH resin, which has ultra-high gas barrier properties

  Announced in December 2012

  NSCI (Noltex, LLC): Houston, Texas
  15,000 t/y increase in capacity to total capacity of 38,000 t/y
  Commencement of plant operations planned for FY2014

Building MMA/PMMA plants, that apply the Lucite International’s alpha technology, under consideration

- Manufacturing using inexpensive energy and raw materials as a result of the shale revolution
- Supply products to North America, where growth will make a comeback
Strategy 2: Promote commercialization of innovative technologies for C₄ production

Strategy 3: Secure stable supplies of aroma raw materials through realignments in Japan

Unused gas → BTcB → Butene to crude butadiene

Crackers
Increase ethane feed ratio

C₂ → C₃ → C₄ → BTX

Surplus
Shortfall

Secure stable source of aromatic materials through tie-ups between MCC Kashima Plant and Kashima Aromatics Co., Ltd. and between MCC Mizushima Plant and the Mizushima industrial zone.
MCHC Strategy for Responding to the U.S Shale Revolution

Strategy 4: Taking account of the possibility of sharp increases in U.S. gas prices, continue to use existing petroleum resources in the Middle East

• SHARQ: Ethylene glycol and polyethylene

SPDC Ltd.*/SABIC: Joint venture established
MEG: 2,050 kt/y
LLDPE/HDPE: 1,550 kt/y
Began first stage operation in 1987, implemented capacity expansion through fourth stage

MRC/SABIC: Joint venture established
MMA: 250 kt/y/PMMA: 40 kt/y
Objective: Commencement of plant operations during FY2015

- Manufacture using raw materials from Saudi Arabian complex
- Supply products to emerging regions (Eastern Europe, Middle East, Africa) where rapid growth will continue

*MCC ownership: 9.2%
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7. KAITEKI Management
Healthcare Solutions Strategy

In a broad range of domains, from sick care to healthcare, we are strengthening the earnings base of existing businesses and working to create new businesses by offering solutions for unmet medical needs.

MCHC Group

Existing businesses

New businesses

Strengthening the earnings base
⇔ Strengthening pharmaceutical related businesses

Creating peripheral businesses by drawing on the MCHC Group materials business and technology

Healthcare

Sick care

Healthcare

Taking up the challenge of creating new businesses under the key words of
* Unmet medical needs
* Strengths of the MCHC Group
* Orchestrating the Group strengths
Business Measure: Entering the Business of New Vaccine Production Systems

Drawing together MCHC Group comprehensive capabilities and technologies for enclosed plant factory system to enter the business of new vaccine production systems

MCHC Group technologies for enclosed plant factory system

- PV cells/Secondary batteries
- LEDs
- Water treatment systems
- Thermal insulation materials
- Hydroponics systems

Technologies

- For control of temperature, humidity, light, and CO₂
- For equipment to isolate enclosures from the external environment by preventing entry of foreign matter and dispersal from the enclosure
- For water purification, management of nourishing solutions, and germicides
- For efficient equipment layouts that include multiple cultivation shelves and conserve space
- Separation and refinement technologies used by high-performance polymers

Manufacturing

- Shortening cultivation time
- Increasing productivity (promoting growth)
- Stable productivity

Medicago Inc.

VLP vaccines

For systems for stabler and more-efficient vaccine production

VLP: Virus-like particle

Introduction of viral gene to tobacco leaves

Drawing together MCHC Group comprehensive capabilities and technologies for enclosed plant factory system to enter the business of new vaccine production systems

Creating a better relationship among people, society, and our planet

73
Business Measure: Acquisition of Qualicaps

Acquisition of Qualicaps will strengthen the MCHC Group earnings base in the Health Care domain other than pharmaceuticals.

*Deal closed as of March 1, 2013.

**Merits of the deal**

- Stable earnings power, strong competitiveness, and affinity with MCHC Group existing businesses
- Hard capsules for medical use: No. 2 in the world
- Cellulose capsules for medical use: No. 1 in the world
- Laser printers for pharmaceutical imprinting: No. 1 in the world
- Global network

---

**Composition of Sales by Product in FY2011**

- Gelatin capsules: 47%
- Cellulose capsules: 29%
- Equipment and devices: 24%

**Composition of Sales by Customer in FY2011 (Capsules)**

- Original drugs: 59%
- Generic drugs: 33%
- Health foods and others: 8%

**Composition of Sales by Geographic Area in FY2011**

- United States: 24%
- Europe: 40%
- Japan: 36%
Realizing synergies among Qualicaps and MCHC Group companies will lead to further growth and it will become the Group’s new business unit.
Form a new business unit, with healthcare solutions business as the core, and contribute to the KAITEKI management.

General outline of organizational systems

Healthcare Solutions Office

Healthcare business operating company

Qualicaps

Others

New business unit

MCHC

MCC

MTPC

MPI

MRC

APIC

MCM
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7. **KAITEKI Management**
Development of Overseas Operations (Regional Strategy)

- Strengthen governance and expand/enhance shared services by region
- The objective for the overseas sales percentage has not been changed, but the objective for the percentage of operating income from overseas has been revised downward taking account of stagnation in the world economy

- USA: MCHA (Mitsubishi Chemical Holdings America, Inc.) established (October 2010)
- PRC: MCHB (Mitsubishi Chemical Holdings (Beijing) Co., Ltd.) established (January 2011)
- EUR: MCHE (Mitsubishi Chemical Holdings Europe GmbH) established (September 2012)

Composition of Net Sales by Region

<table>
<thead>
<tr>
<th>Year</th>
<th>Japan</th>
<th>Overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2010</td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td>FY2012</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>FY2015</td>
<td>55%</td>
<td>45%</td>
</tr>
</tbody>
</table>

**APTSIS 15 Step 2**

- **Net sales:** ¥3.2 trillion
- **Operating income:** ¥226.5 billion
  - (Overseas: ¥82.4 billion)
  - **OP margin**: 36%

**APTSIS 15 Original**

- **Net sales:** ¥5.0 trillion
- **Operating income:** ¥400.0 billion
  - (Overseas: ¥200.0 billion)
  - **OP margin**: 50%

*The overseas operating (OP) margin includes licensing fees.*
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   - 5-2 Healthcare Solutions
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MOS Indexes have been prepared to quantify the contribution to creating a sustainable society.

**MOS Indexes**

- Management of Technology (MOT)
- Management of Economics (MOE)
- Management of SUSTAINABILITY

**KAITEKI Value**

<table>
<thead>
<tr>
<th>Sustainability (Green)</th>
<th>“Must Attain” Goals</th>
<th>Zero major accidents and zero major compliance violations</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1</td>
<td>Contribution to reduce environmental impact through products and services</td>
<td>100 pts</td>
</tr>
<tr>
<td>S-2</td>
<td>Practice energy saving &amp; reduction of depletion resources</td>
<td></td>
</tr>
<tr>
<td>S-3</td>
<td>Contribution to reduce environmental impact through supply chain management</td>
<td></td>
</tr>
</tbody>
</table>

**Health**

<table>
<thead>
<tr>
<th>Health</th>
<th>“Must Attain” Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-1</td>
<td>Contribution to medical treatment</td>
</tr>
<tr>
<td>H-2</td>
<td>Contribution to improvements of QOL</td>
</tr>
<tr>
<td>H-3</td>
<td>Contribution to early detection and prevention of diseases</td>
</tr>
</tbody>
</table>

**Comfort**

<table>
<thead>
<tr>
<th>Comfort</th>
<th>“Must Attain” Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-1</td>
<td>Deliver products (development and manufacturing) for comfortable lifestyle</td>
</tr>
<tr>
<td>C-2</td>
<td>Improve stakeholder satisfaction</td>
</tr>
<tr>
<td>C-3</td>
<td>Recognition of corporate trust</td>
</tr>
</tbody>
</table>
Progress toward MOS Indexes (Expected Results for the MCHC Group)

The outlook is for the Group as a whole to show results above the previous year.

Management of SUSTAINABILITY

KAITEKI Value

Management of Technology

Management of Economics

Progress toward MOS Indexes

Management of Economics (MOE)
Management of Technology (MOT)
Management of SUSTAINABILITY (MOS)
KAITEKI Value

MOS Indexes

(Years)
FY2010  FY2011  FY2012 expected results  FY2013  FY2014  FY2015 targets

(points)

Sustainability (Green)
Health
Comfort

FY2010: 140
FY2011: 177
FY2012 expected results: 190
FY2013
FY2014
FY2015 targets: 300

The outlook is for the Group as a whole to show results above the previous year.
Expanding Scope of MOS Indexes and Reconsideration of Targets

We have expanded the scope of MOS Indexes and reviewed objectives for FY2015.

**New MOS Indexes**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Original Goals</th>
<th>Revised Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-2-4</td>
<td>Contribute to water problems through our products</td>
<td>Provide 900 million tons of usable water</td>
<td></td>
</tr>
<tr>
<td>C-2-3</td>
<td>Improve customer satisfaction level</td>
<td>Conduct questionnaire survey and obtain feedback</td>
<td></td>
</tr>
</tbody>
</table>

**Items expected to be well above goals**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Original Goals</th>
<th>Revised Goals</th>
</tr>
</thead>
</table>
| H-1  | Contribute to medical treatment  
(Index for contribution to medical treatment) | 30%  
50% |
| H-2  | Contribute to improvements of QOL  
(Index for contribution to QOL improvements) | 64%  
70% |

**Items expected to be well below goals**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Original Goals</th>
<th>Revised Goals</th>
</tr>
</thead>
</table>
| C-1-1 | Increase sales of comfort-oriented products | ¥600 billion  
¥400 billion |
| C-1-2 | Increase new products ratio | 35%  
30% |
Joint implementation of business strategy, R&D strategy, and intellectual property strategy
Toward Achieving *APTSIS* 15 Objectives

The MCHC Group is aiming to further increase its *KAITEKI* value.
Enhancing Shareholder Value

Basic Policy

Enhance shareholder value by improving corporate value

Shareholder Returns

- Maintain sufficient internal reserves to fund business development while paying consolidated results-based dividends

- While targeting a medium-term payout ratio of at least 30%, we will also prioritize stable dividends (maintaining and increasing cash dividends per share)
The KAITEKI Institute, Inc.: Focuses and Progress

**Health**

- Sensibility science
  - Molecular music
  - Acoustic damping materials

**Future societies**

- Impact of the low birth rate and longevity on Japanese society
- Measures to fulfill life of aged people
- Monitoring of body conditions for aged people
- Analysis of internal sounds of the human body

**Breakthrough technologies in healthcare**

- Molecular music
- Acoustic damping materials

**Water and food**

- Water-saving agriculture system in Victoria State in Australia
- Water-saving horticulture
- Water resources in the future
- New method to produce clean water

**Solutions to water and food problems**

- Water-saving agriculture system in Victoria State in Australia
- Water-saving horticulture
- Water resources in the future
- New method to produce clean water

**Development of materials and devices for higher energy efficiency**

- Thermoelectric devices

**Development of renewable energy and resources**

- Conversion of CO₂ to chemicals
- Water splitting with sunlight – Hydrogen production
- Chemicals production by utilizing algae
- Theoretical analysis of photosynthesis

**The Environment, Resources, and Energy**

- Trends of energy and resources
- Trends of climate changes
- Energy structure in Japan
- Trends of shale gas and oil

**Areas**

- Researching
- Investigating