1: What’s going on in Japan
2: How can we solve these issues
3: What kind of the future do you want to create

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What’s going on in Japan

Current State and Future Outlook on Aging

The total population of Japan is **126.93 million**
The number of the elderly aged 65 and over is **34.59 million**

The percentage of the elderly people

26.8% 2016

The coming of “Super Aging Society”

The change of social structure in the population:

- **1990**: 1/5.1
- **2010**: 1/2.6
- **2025**: 1/1.8
- **2060**: 1/1.2

Healthy life expectancy at birth has increased, but growth is smaller than average life expectancy at birth.

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy Life Expectancy at Birth</td>
<td>71.19</td>
<td>74.21</td>
</tr>
<tr>
<td>Life Expectancy at Birth</td>
<td>80.21</td>
<td>86.61</td>
</tr>
</tbody>
</table>

HOW about in JAPAN

In Japan, long-term care insurance system started in 2000, in about 15 years · · ·

- **Increase in who need LTC**
  - 2000: 2.18 million
  - 2015: 6.08 million
  - About 2.8 times in 15 years

- **Increase of Dementia**
  - 2000: 4.26 million
  - 2025: 7.30 million
  - About 2.9 times in 15 years

- **Anxiety about social security**
  - 2000: 36 billion
  - 2015: 10.4 billion
  - About 2.9 times in 15 years

About 2.8 times in 15 years

in 2025, 1 of 8 people
If the elderly falls lost in hopeless feeling in the rest of life because of “poor health” and “in need LTC”... Longevity would be cruel for the elderly
What will happen in Japan?
How can we solve these issues we are facing?

Utilization LTC robot • ICT

Nursing Care (is a part of The Strategy)

Promotion of Self-support “by Introducing Scientific Nursing Care”

Here, picking up only “robot” word appears

We will steadily substantiate the effect of the use of robots and sensors at the nursing care scenes.

In our future development of nursing care robots, our goals are to maintain and improve the quality of life of users through self-support and at the same time to reduce the burden of caretakers.

We will re-examine the development fields to be focused on for the robot nursing care equipment, decide the direction of our strategic development by this summer, and reflect it to the development support goal for the next fiscal year.

[Link to document]
Implementing Nursing Equipment in the Real World

To relieve the burden on nursing-care workers, the use of robotic technology in the care field is strongly desired. However, because of marketability, safety, and practicality issues, nursing equipment which utilizes advanced technologies is experiencing slow development and implementation.

To overcome these obstacles, the Ministry of the Economy, Trade and Industry has identified the following key goals:

- Identify key development areas based on actual needs [needs oriented].
- Improve ease of use and lower costs through stage-gate trials [low cost].
- Solicit public and institutional support in order to implement the equipment at actual sites [large quantity].

To achieve these goals, we began the “Robotic Care Equipment Development and Introduction Project” in 2013.

The Ministry of the Economy, Trade and Industry and the Ministry of Health, Labour and Welfare has formulated and released “The 4 Priority Areas where Robotic Technology is to be Introduced in Nursing Care of the Elderly” in November 2012 and it was revised to expand the priority areas from 4 to 5 in February 2014.

“Revision of the Four Priority Areas to Which Robot Technology is to be Introduced in Nursing Care of the Elderly” (METI Home page)

In this it is stated that by supporting the development and introduction of robotic care equipment in the essential areas and creating a new market for robotic care equipment, we may partially lift the burden from care workers and empower those who require care.

Priority Areas the 8 items in 5 priority areas we are now focusing on.

Additional Information 1
Trend and Prediction of the Domestic Market

Based on press release
March 28, 2017 Yano Research Institute Ltd.


<table>
<thead>
<tr>
<th>Year</th>
<th>Market Size (Million USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2014</td>
<td>8.5</td>
</tr>
<tr>
<td>FY2015</td>
<td>87.4</td>
</tr>
<tr>
<td>FY2016</td>
<td>68.5</td>
</tr>
<tr>
<td>FY2017</td>
<td>57.2</td>
</tr>
<tr>
<td>FY2018</td>
<td>47.0</td>
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<tr>
<td>FY2019</td>
<td>39.4</td>
</tr>
<tr>
<td>FY2020</td>
<td>23.9</td>
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</tbody>
</table>

Prediction

Note1: Based on manufacturer shipment price
Note2: Estimated value for fiscal 2016, predicted value after fiscal 2017
Note3: Calculation of the market size was targeted "The following results were obtained by the AMED-based empirical investigation" [With functions similar to products certified as candidate products by AMED] [Aiming at specific effects for the purpose of practical application by AMED] [Those whose effect has been proved by AMED]

Communication Robot

What is Communication Robot?
The communication robot in this news release refers to the following:
"It has a function to recognize human's body touch (contact)" and "It has a function to autonomously react according to the obtained external information and has a function to put it into practical use Something to be done"

Additional Information

2
How can we reduce the burden of nursing care and Rehabilitation

the 8 items in 5 priority areas

- Home
  - Transfer aids
  - Mobility aids
  - Toiletaling aids
  - Bathing aids
  - Monitoring systems

- Care
- Outdoors
- Rehabilitation Robot
How can we prevent dementia or improve brain functions?

The 8 items in 5 priority areas:

- Home
  - Transfer aids
  - Mobility aids
  - Toiletaling aids
  - Bathing aids
  - Monitoring systems

- Care home

- Outdoors

Communication Robot
3 How to get **vital data and activity log** in a timely?

For **Using of it as health maintenance**

For **watching elderly people with dementia**

By using **smart Sensing**

<Communication standard>

- Wifi
- 3G / LTE
- BLE

※MEMS『Micro Electro Mechanical Systems』

smart sensing can change our life
Wearable device
Example / my preference (2017)

**Heart rate measurement wear**

**Hitoe**
- Hitoe® is a functional material for unconsciously collecting biological Traffic Lights that are weak electric Traffic Lights that we unconsciously emit from the body unconsciously.
- Hitoe® directly senses the potential difference caused by the heart beat. It is possible to measure heart rate by this.

**BioStampRC(MC10)**
- The gyro, accelerometer IC and the electrode are arranged compactly in the waterproof type skin-contactable stamp sensor.
- motion information (angular velocity and acceleration) and surface electromyogram simultaneously.

**Skin-attached nano-mesh sensor**
- Long-term skin breathing possible
- Expectation for application to long-term biometrics

According to News Release

Be wearable devices, become casual wear, and connect with our daily life
Harmonize the technology and our daily living, help everyone live in **health** and **independent**
Create and connect the technology to watch over our community, without invasion of privacy.
These technologies enable to support the community life of the elderly people while maintaining health, respect and independence.
Finally, I have a question

What kind of the future do you want to create?
The future
I want to create is ⋮
Finally, I have a proposal

For your Family

For your loved ones

and

For your own future

Let’s create The future
Let’s create the future together
Thank you for your attention

I hope I can see you again