[**Special Feature**]
The Latest Trends in the Fourth Industrial Revolution and the Challenges for Japanese Manufacturing in Navigating IoT

What "Aging Business" Must Be in the "Era of the 100-Year Life"

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Outline

1 The older generation in Japan is expected to have higher income as companies are encouraging them to remain employed longer, due to Japan's current labor shortage. In the era of the 100-year life, expectations are growing for the "Aging Business" which targets healthy and active older persons.

2 When it comes to corporate efforts in "Aging Business", in Japan the focus has been centered on developing and providing products and services to "support" older persons and those around them, for instance in the context of the long-term careinsurance system and other social security systems. By comparison, in the West, efforts are focused on products and services designed to "improve the Quality of Life (QoL)" for older persons. Startups specializing in the Aging industry and their investors are actively taking steps to develop new markets using gerontechnology, or a mix of gerontology and the latest technologies such as ICT. Moreover, the use of co-creation spaces known as "Living Labs" is facilitating the creation of products and services with high practical applicability.

3 In order to vitalize "Aging Business" in Japan, it will not be enough to rely on the efforts of individual companies as before; it will likely be necessary to build "Aging Business platforms" for handling all aspects of the business, from assessing and developing technologies to testing and distributing them in the market and providing after-sales services.

I. What Does the Aging Business Mean in the Era of the 100-Year Life?

1 Aging Business: Improving the Quality of Life (QoL) for Healthy and Active Older Persons

Ever since the book "The 100-Year Life" was published by Lynda Gratton and Andrew Scott in 2016, the "Era of the 100-Year Life" has become something of a buzzword in Japan. The authors' proposal that our traditional, widely-accepted notion of life planning (i.e. working until the statutory age limit, followed by retired life) needed to be reevaluated for a 100-year span struck a chord for many Japanese people now living in an aging society. The Japanese government even established a Council for Designing 100-Year Life Society, and it has proposed a basic plan for building human resources to prepare for the coming era of the 100-year lifespan.

Japanese industry has already been focused on developing and providing products and services for "supporting" the aged and those around them, by working in collaboration with various social security systems including long-term care insurance. Going forward in the era of the 100-year life, it will conceivably be more important than ever 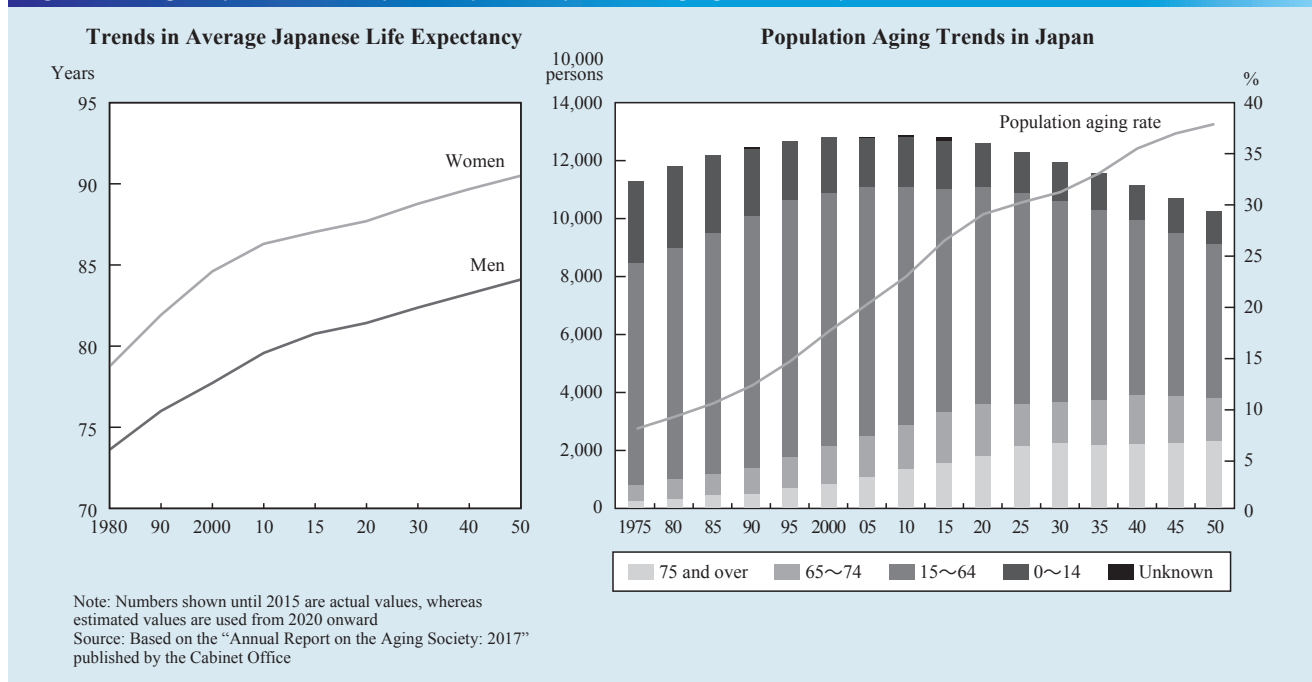to provide products and services from the perspective of improving the Quality of Life (QoL) for healthy and active older persons. In this paper, we discuss the potential marketability of Aging Business focused on an active aged population, as well as the ideal forms of product and service development as required in a longevity society.

### 2 Older Persons Constitute a Promising Market Globally

Fig. 1 shows changes and projections for the average Japanese life expectancy and the population aging rate in Japan. Longer average life expectancy means that if companies can engage older persons as a customer segment, it will subsequently be possible to conduct business with them over the long term. Furthermore, although the total population is set to decline going forward, the aged population is continuing to grow for a while[1], and the rate of aging is on the rise. In other words, the number of potential customers for businesses targeting older persons is set to increase, meaning that they can be regarded as a market segment that offers growth potential even as the overall Japanese population continues to shrink.

The aging-society phenomenon and the view that older persons constitute a desirable market are by no means limited to Japan. Aged population trends, which form the basis for marketability considerations, reveal that the U.S. and Europe (see

Fig. 1: Average Japanese Life Expectancy and Population Aging Rate in Japan

Note: Numbers shown until 2015 are actual values, whereas estimated values are used from 2020 onward
Source: Based on the "Annual Report on the Aging Society: 2017" published by the Cabinet Office

Fig. 2: Population Predictions for 65-and-Over Demographic Around the World

Population Predictions for 65-and-Older Over Demographic

million people

Population Predictions for 65-and-Older Over Demographic

million people
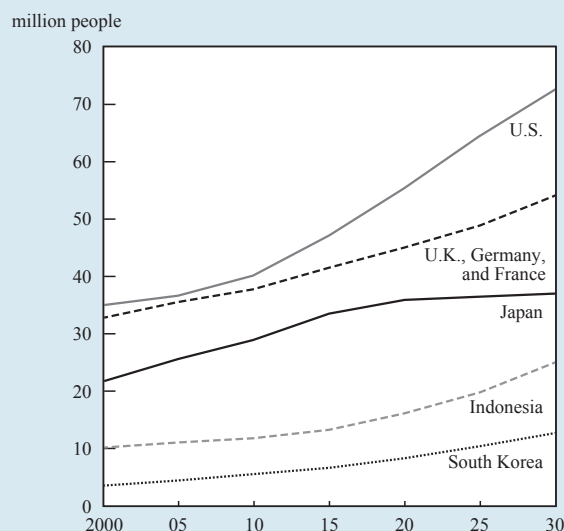
Note: Numbers shown until 2015 are actual values
Source: Based on the "World Population Prospects: 2017 Revision" published by the UN

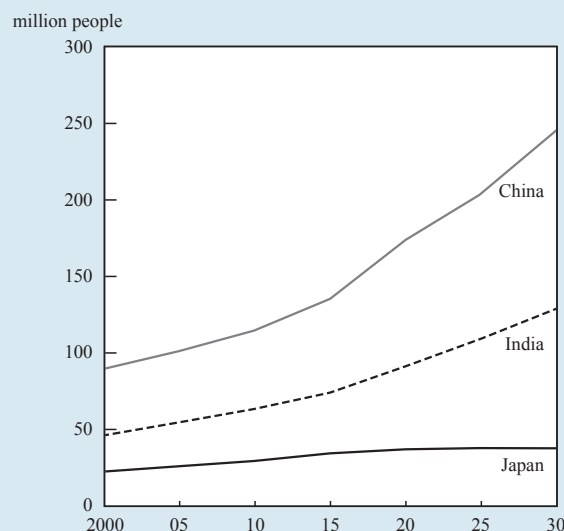Fig. 2: total for the U.K., Germany, and France) already have larger populations of older persons than Japan does, and that these populations are expected to grow dramatically going forward. The aged population in China is already larger than Japan's total population. The growing proportion of older persons in populations is a fully global phenomenon, and the countries are facing an urgent need to respond to it.
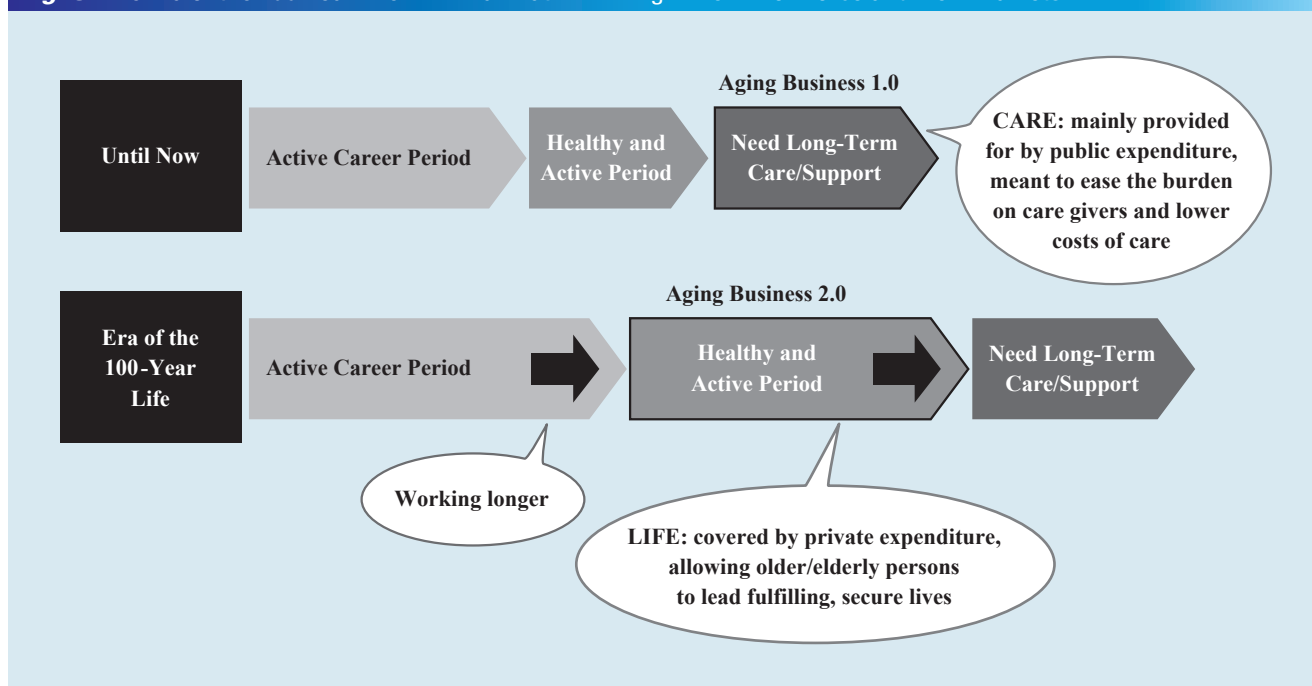
As an advanced nation with an aging population, Japan would be the global benchmark for dealing with this challenge. The countries of the world look to Japan with the expectation that it holds clues for solving or responding to this problem. Going forward, if an approach for creating the Aging Business is developed in Japan, it could well become the global standard and be promulgated throughout the world. Ventures into Aging Business could arguably offer a chance for Japanese companies to expand their businesses globally.

3 A New Development for Business Aimed at Older Persons: The "Business of Aging 2.0"

The impact that the era of the 100-year life will have on the Japanese companies is twofold: a newfound recognition of older persons as a market, and an awareness of the aged population as a valuable strategic workforce which can compensate for Japan's declining labor pool. These two aspects are closely related to each other, and this is a key point for the further development of the Aging Business. Traditionally, the discussion over employment for persons over 60 years old has centered on two points: from the business side, it's been about "welfare-type employment" as mandated under the Law for the Stabilization of Employment of the Aged, whereas from the perspective of older persons, it's been a matter of "purpose-based work" for maintaining one's physical and mental well-being. There has thus been little occasion to consider employing persons over the statutory age limit as a strategically valuable part of the labor force. However, it is predicted that more and more companies will be inclined to regard older workers as a valuable segment for handling core business activities as Japan faces an era of labor shortages brought on by the declining working age population. Many companies are already compelled to have older persons continue to maximize the use of their skills they have cultivated, particularly for day-to-day operations, and such persons are gaining recognition as key human resources for training the next generation of workers and for easing the strains of manpower shortages.

Further, the Japanese government has shown a growing inclination to have more people stay active even longer as vital members of society, as

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Fig. 3: The Era of the 100-Year Life—An Era That Will Bring A New Workforce and New Markets

Aging Business 1.0

Until Now → Active Career Period → Healthy and Active Period → Need Long-Term Care/Support → CARE: mainly provided for by public expenditure, meant to ease the burden on care givers and lower costs of care

Aging Business 2.0

Era of the 100-Year Life → Active Career Period → Healthy and Active Period → Need Long-Term Care/Support

Working longer

LIFE: covered by private expenditure, allowing older/elderly persons to lead fulfilling, secure lives

seen for example in the "Basic Design for the Human Resources Development Revolution (draft)" proposed on June 13, 2018 by the Council for Designing 100-Year Life Society, which recommended lengthening older employees' extended employment to age 65 and beyond, and pushing the retirement age for civil servants to age 65.

It is believed that by working longer as vital company members, older persons will be able to enjoy better economic treatment than what would have been provided by income earned during the era of the traditional "welfare-type employment" or "purpose-based work". As a result, it is expected that the household incomes of senior citizens will increase, and that their expenditures will also rise. According to estimates by the Ministry of Economy, Trade and Industry, if the employment of older persons grows to be on par with that of the younger workforce, the level of consumption by senior citizen households will rise by 1.8 trillion yen[2] by 2025. This means that spending by households that have already experienced nearly every type of life event involving major expenses (such as homebuying or children's education) can be expected to increase, and the hope is that this development will provide a new market entry point.

As shown in Fig. 3, while the income that active older persons capable of living independently can expect to earn by continuing to work includes

monies to use in caring for their elderly parents, or in preparing for their own lives in old age, the bulk of this income will conceivably be used to ensure that their own lives are fulfilling. Older persons could well start to demand products and services that they never sought during their active career years, perhaps to reward themselves for having worked so long, or to help them maintain a stable lifestyle.

Traditionally speaking, the market for older persons as seen from the corporate perspective has largely been focused on products and services covered by long-term care insurance, a consequence of the creation and expansion of the long-term care insurance system. The promise and potential of this market are beyond any doubt, given the expected growth of the aged population. As the shortage of caretakers becomes more critical, it will be necessary to develop various technologies and expand different services to alleviate the burdens of nursing work, or to streamline the management of nursing facilities. The importance of doing so will be ever-present.

If we regard the "care-based" business for assisting those who support the lives of older persons as the "Aging Business 1.0", then what will appear next could rightly be termed the "Aging Business 2.0", characterized by healthy and active older persons engaging in positive consumption, and by products

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and services that are geared toward a "lifestyle-based" market and that older persons can themselves choose to purchase to more actively enrich their own lives. We are arguably now poised to enter an era in which the 1.0 and 2.0 versions will be taking place side-by-side.

4 What Products and Services Will Active Older Persons Demand?

With that said, what kinds of products and services will be required by active older persons? At first, as shown in Fig. 4, the fundamental products and services that will be needed are ordinary kinds that are used by all demographics regardless of age. They are not specific to older persons, but with food products, for example, the quantities and content will likely be adjusted to make them easier for older persons to purchase.

The products and services which older persons can be expected to use next are those which can add inspiration or color to their lives during their healthy years. For instance, this could mean taking long trips, joining a health club, taking up a musical instrument, or engaging in some other activity that one wanted to try in his or her active career years but never could due to work commitments, childrearing, or other various constraints. Although tours on luxury sleeper trains are expensive, they are said to be popular, with reservations filling up

within a mere few days' time. In the travel industry geared toward older persons, the trend would seem to be that the more expensive packages sell off first. Plus, things like aging care cosmetics and adult music classes are also very popular. These products and services are successful commercialization cases of companies adjusting their business activities to cater to older demographics, and there would seem to be ample room left for similar products to be developed.

And as people advance in years, their own health conditions and family circumstances also change, and gradually their concerns shift towards how they can maintain an independent lifestyle. When people reach an age where they have to avoid becoming frail, they begin needing products for supporting an independent lifestyle at home. Technologies that compensate for minor declines in bodily functions, services that perform certain housework on the person's behalf, and products that monitor the home to help older persons lead safe and secure lives would fill such needs.

As shown in detail in Fig. 5, leading an independent lifestyle means the ability for older persons to do things such as answering the phone, shopping, handling housework like cooking, cleaning, and doing laundry, and using public transportation by their own efforts. There are already many businesses participating in support services for helping older

Fig. 4: Products and Services Needed by Older Persons and How They Change Depending on Mental and Physical Health
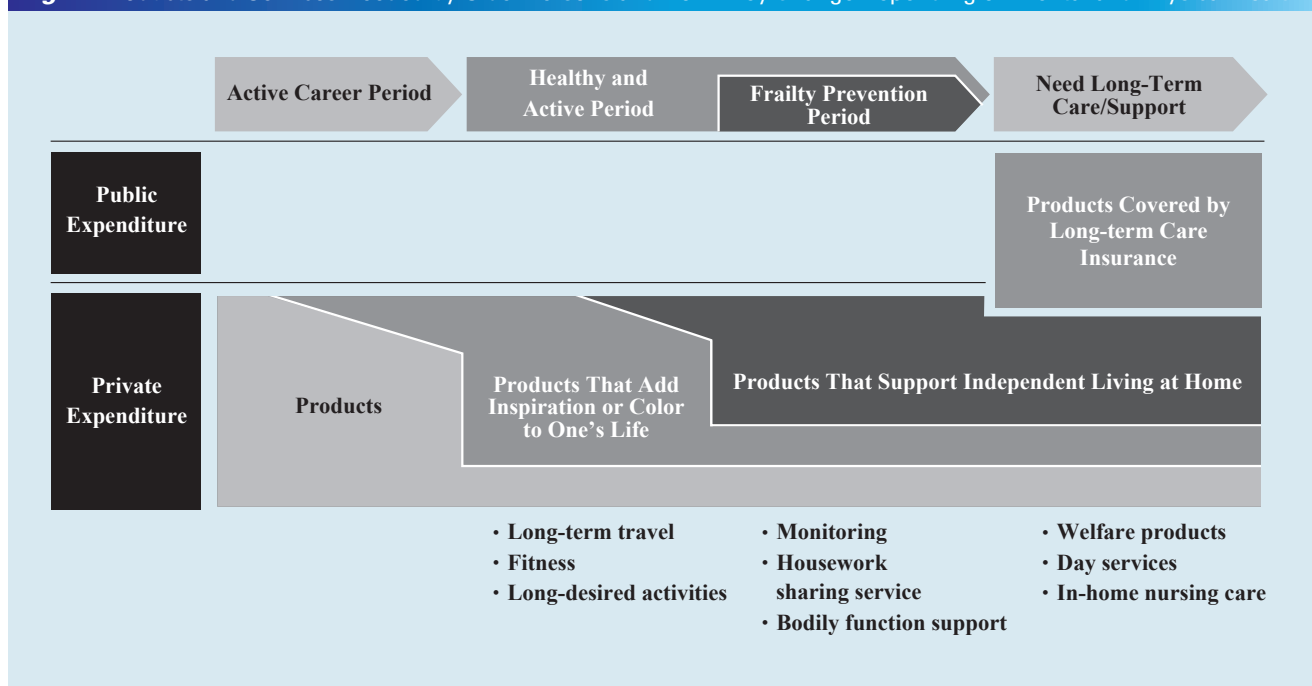
Fig. 5: The Abilities Needed for Older Persons to Lead Independent Lives, and Their Correlated Business Opportunities

The Abilities Needed for Older Persons to Lead Independent Lives at Home (Methodical Activities of Everyday Living)

- Answering the phone
- Shopping
- Cooking, cleaning, doing laundry
- Using public transportation
- Managing medications
- Managing property

Variations Among Older Persons (Business Entry Points)

- Individual tastes and preferences
- Physical characteristics ← Device manufacturers
- Family characteristics ← Security companies, couriers
- Economic characteristics ← Financial institutions
- Economic characteristics ← Developers, railways

Business expansion perspective: More people living longer in their own homes

Developing Practical Applications for Compatible Technologies and Services (AI, IoT, Robots, Automatic Driving, Sharing Economy Services)

persons stay active. The fact that these services supporting independent lifestyles will grow further means that products and services can be provided to a greater number of older persons, for longer periods of time, and at more affordable prices. More senior citizens will be able to live on their own, and this change will lead to reductions in nursing care costs. In that sense, this development will also benefit society in general.

Various companies have attempted to refine these kinds of independent living support services in the past. Recent years have seen a rapid growth in the practical development of new technologies with applicability in these fields. Things like communication systems utilizing AI, the further refinement and networking of various sensing technologies adopted for IoT, and the creation of new systems exemplified by autonomous driving which combine the foregoing have begun little by little to enter our daily lives.

Furthermore, these technologies are extremely well suited to the types of things that older persons need to support their independent lifestyles, as described above. By incorporating into these ever-developing technologies even more elements that account for the unique characteristics of older persons, companies will be able to refine their existing services as well as develop practical applications for new services. Significant business opportunities are
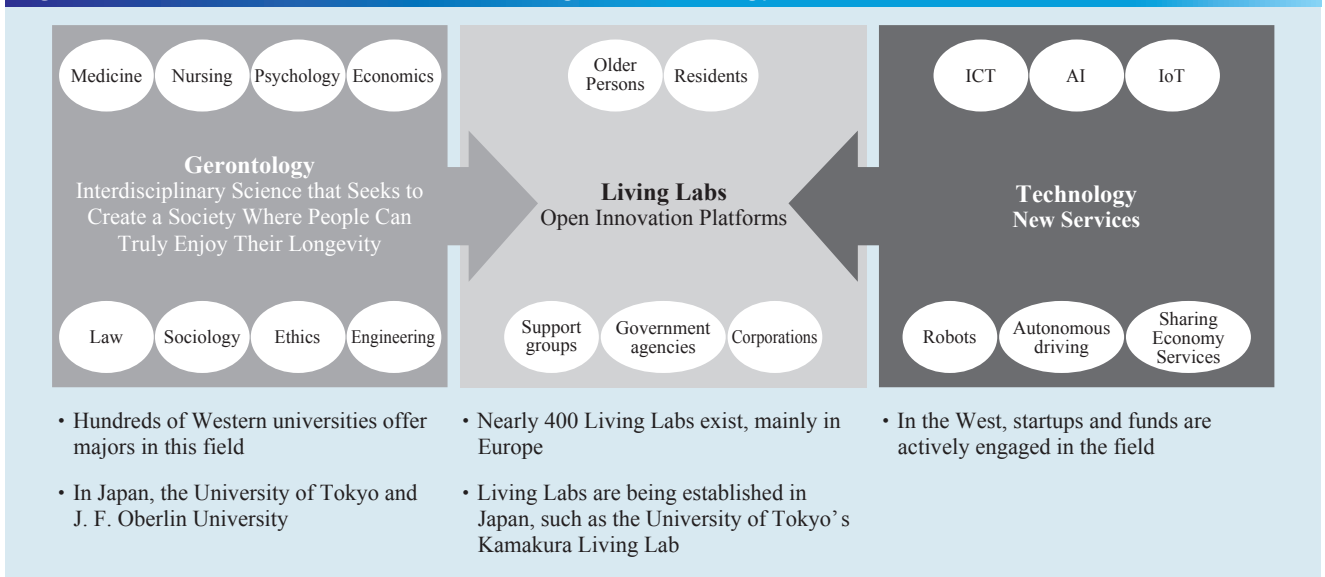
surely to be found in this area going forward.

II. To Develop Usable Products and Services: Gerontechnology and Living Labs

Multiple concepts and attempts have been made thus far to leverage new technologies to benefit the lives of older persons. Yet most of these go no further than the idea phase, and end before any practical applications can see the light of day.

Older persons tend not to have much interest in trying out new technologies, and will not use them unless they understand their convenience or how they might benefit them personally. For instance, even when older persons have remarked in group interviews that a technology was interesting or that they wanted to try using it, the brief hands-on demonstrations were not enough to tell whether they would continue to use the technology on a daily basis. There have been many cases where companies have installed a monitoring device in an older person's home for user testing purposes, only for a technician to come check its use status several days later and find the device unplugged and in a state of total disuse. Why did things turn out that way, and what needs to be done to ensure that the same situation doesn't arise? We discovered clues for solving this problem by looking at examples in the West.

Fig. 6: The Environment in the West for Promoting Gerontechnology

Medicine | Nursing | Psychology | Economics

Gerontology
Interdisciplinary Science that Seeks to Create a Society Where People Can Truly Enjoy Their Longevity

Law | Sociology | Ethics | Engineering

Older Persons | Residents

Living Labs
Open Innovation Platforms

Support groups | Government agencies | Corporations

ICT | AI | IoT

Technology
New Services

Robots | Autonomous driving | Sharing Economy Services

- Hundreds of Western universities offer majors in this field

- In Japan, the University of Tokyo and J. F. Oberlin University

- Nearly 400 Living Labs exist, mainly in Europe

- Living Labs are being established in Japan, such as the University of Tokyo's Kamakura Living Lab

- In the West, startups and funds are actively engaged in the field

1 The Need for Gerontechnology

Recently, we've begun to hear quite often from experts in the West about "Gerontechnology", a neologism formed by combining the words gerontology and technology.

In Japan, studies relating to older persons mainly rely on approaches derived from the field of geriatrics or nursing. However, gerontology incorporates a variety of other academic fields in addition to the foregoing, such as law, economics, psychology, and engineering, and stands as an interdisciplinary field that takes a multifaceted approach to the lives of older persons. Professor Hiroko Akiyama of the University of Tokyo has defined gerontology as "an interdisciplinary science that seeks to create a society where people can truly enjoy their longevity".

It's very common for universities in the West to offer courses on gerontology, and thus these institutions have accumulated much scientific knowledge concerning the aged and elderly, while also producing a great many persons with expertise in the field. These kinds of experts would be useful in the development of new products and services for supporting the independent lives of older persons.

With the approach of an aged society, Japan too would seemingly need to have skilled persons in various fields who possess such a body of knowledge, yet the only place in Japan offering master's courses and doctorate courses in gerontology is J. F. Oberlin University. That said, a trend has begun towards more robust training in this field, as seen for instance in 2014 when the University of Tokyo introduced its "Graduate Program in Gerontology: Global Leadership Initiative for Age-Friendly Society (GLAFS)".

Meanwhile, efforts in the West are not limited to academia—IT startups seeking to apply new technologies such as AI and IoT to benefit the lives of older persons have also started taking action. This is because the market for older persons is expected to grow all over the world and to hold significant business opportunities going forward.

These researchers with expertise in gerontology and IT startups are working to develop new businesses and to transform ideas into practical applications as well as expand their commercial viability at venues known as "Living Labs".

Living Labs are co-creation spaces where leaders in the field come together to find tangible, practicable solutions to the various challenges facing local communities. In addition to experts and engineers, Living Lab participants include members of administrative agencies and other related organizations, as well as those in the business world. Yet at the center of it all are local community residents, namely older persons concerned. These initiatives first began in Europe, and now there are some 400 Living Labs around the world, the majority of which are located in European countries (Fig. 6).

Living Lab initiatives are now slowly taking off in Japan as well, spurred on by the trend in Europe.

Fig. 7: The Living Lab gets older persons to actually try out technologies

Source: Materials provided by Living Lab ActivAgeing

Roughly 30 Living Labs are now up and running, including the Kamakura Living Lab which the University of Tokyo's Institute of Gerontology (IOG) played a major role in founding.

Living Labs play a vital function in exploring how IT and other technologies can be applied to benefit the lives of older persons, and from the perspective of the business world, they are seen as contributing to shorter development cycles and lower costs.

2 Living Lab Activities in Europe

In Europe, which preceded Japan in the development of Living Labs, what activities are Living Labs undertaking to improve the lives of older and elderly persons? Let's take a look at a few examples.

(1) France: Living Lab ActivAgeing (LL2A)

Located in the University of Technology of Troyes[3], Living Lab ActivAgeing (LL2A) develops technologies specifically for healthy, independent older persons or those with minor frailties.

LL2A focuses on user-friendliness and solving problems that users face, giving consideration from the initial design stage not only to the needs of older persons themselves as the primary users, but also to the needs of their families, medical workers, and nurses who constitute secondary users. That is, the lab gets a wide range of users involved from the brainstorming phase, gathers input about users' needs and challenges in everyday life, and develops prototypes of products and services to address them, which it then tests out in real life in the homes of older persons or in facilities where medical providers and nurses work. During this process, the Living Lab also looks for ways to make its technologies a real part of the daily lives and routines of older persons, rather than merely a fleeting interest.

LL2A regards testing a technology's usability and user receptivity as distinct from demonstrating its technical performance. For example, when it developed a body weight scale that measures one's sense of balance to prevent falls, it first ran a technical performance test to check the scale's safety and numerical accuracy, and then had users try out the scale in their own homes or in a lab provided with a chair and a television set to reproduce a real-life environment. The testers observed or made video recordings of the situation from another room, while asking the users detailed questions about the scale's comfortability, their thoughts on its operability, and whether they wanted to use it in their daily lives (Fig. 7).

LL2A has developed a modeling method that parameterizes the actions and behaviors of older persons when a new technology is brought before them, and this method enables the lab to judge whether that technology approximates the ideal product for such persons.

LL2A collaborates with experts in selecting test subjects for these tests. For instance, when it wants to test a prototype for a product or service that it has specifically developed for older persons with minor frailties, it has a geriatric physician identify the suitable test subjects with those specific attributes. Depending on the nature of the testing, it may also consult with engineers, biomedical specialists, and/or psychologists in choosing test subjects. It invests so much effort into selecting subjects in order to collect accurate user feedback in the context of everyday life, and to thereby develop products and services that are well-suited to users.

(2) Switzerland: Living Lab 65+

Europe was quick in getting onboard the gerontechnology trend, and since the early 2000s, an initiative involving Living Labs has been established as part of EU policy. While the topics dealt with in Living Labs are many and varied, including health, smart cities, and education-related themes, the past few years have seen the growing emergence of Living Labs similar to France's LL2A

that specialize in the development of products and services for older persons. Switzerland's Living Lab 65+ is one of them, representing one of the projects of the Aging Centre at the University of Applied Sciences, and it engages in testing performed mainly by sociology professors.

Living Lab 65+ certifies that it only works with older persons at least 65 years of age and in good health. More specifically, Living Lab 65+ staff members visit the homes of older persons, where over the course of three to six months they test out products and services developed by different companies. Living Lab 65+ believes that the key to getting older persons to use new technologies is to insinuate them into people's daily lives and routines. To give an example, once an older person has decided on the brand of tea he or she drinks after meals every day, that person will tend to keep drinking that same brand unless something unusual happens to change things. Unlike young people who often make judgments based on a product's novelty or technical level, older persons tend not to adopt new things without thoroughly understanding the technical merits or differences compared to other products.

Living Lab 65+ collects substantial feedback over a lengthy period from older persons regarding technologies, based on daily records kept by the subjects, in-home interviews conducted before, during, and after use, and also daily Q&A (including informal talks) via phone calls by the subjects to staff members. As this method is premised on in-house testing conducted with older persons, the difficulties of forming relationships of trust between the staff and the subjects are a concern, , as well as travel expenses to and from their homes and other various costs.

However, unlike group interviews where testers have subjects use a product briefly and then record their feedback, this process involves having older persons continually use technologies, and therefore it can reveal the extent to which a technology can be incorporated into people's routines, and for this reason it has apparently gained a strong reputation in the business world. In the long run, the lab aims to carry out tests that also involve secondary users—namely family members, medical professionals, and nurses—and ultimately even the investors who support the commercialization of these technologies.

(3) ENoLL

In Europe, the cross-functional organization known as ENoLL (European Network of Living Labs) has been active for the past 10 years or so as a venue for sharing innovation methods and knowhow developed at various Living Labs. According to an ENoLL report, 30% of the technologies tested in Living Labs get commercialized, while for another 44%, the testing results are being put to use in the development of new products. In addition, the testing done in Living Labs can push companies to change directions—e.g. in cases where they've had to give up on the marketization of a tested product, but through the testing process managed to create a roadmap for a new product idea—or can even influence their decision making, encouraging them to discontinue product development. In this way, Living Labs also play a role as platforms for testing new business models, or perhaps act as safety nets in proof-of-concept activities or prototype building.

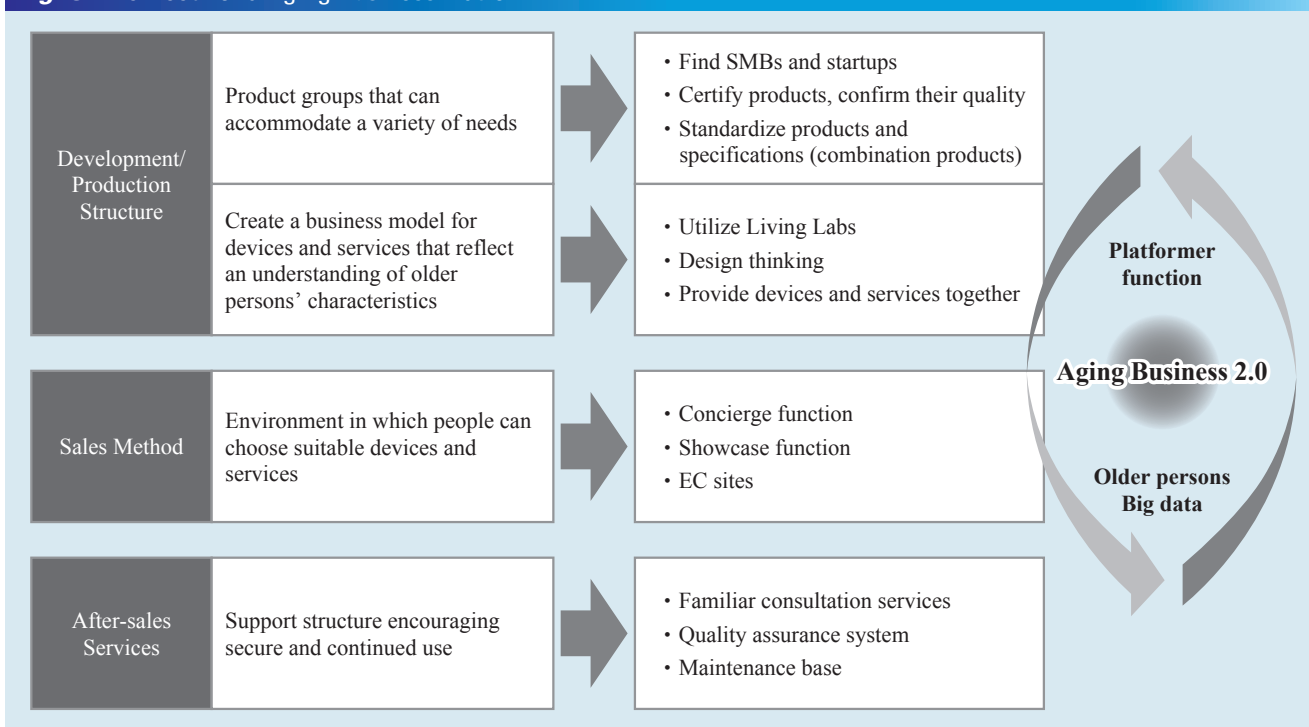# III. Efforts Needed for Commercializing Aging Business

As we have seen thus far, in the West, government supports and venture capital are helping startups give shape to a great many ideas, bring those ideas to Living Labs and other open innovation spaces to assess their practical viability, and create an effective and efficient system for the development of gerontechnology.

However, even with such a development environment in place, we have yet to see any growth companies that could be considered real winners in this field. A French official has even commented that "While the number of startups has grown, we're hoping to see growth companies emerge in the future." What might the missing piece of the puzzle be? In this section, we consider the types of efforts needed to transform the Aging Business into a true commercial enterprise.

1 The Difficulties of a Business Geared Toward Healthy and Active Older Persons

The dilemma with products that support the independent lives of older persons is that the more they're made to meet specific needs, the harder they are to commercialize. In other words, people's needs vary, and the more you try to conform to them the

Fig. 8: The Need for a Aging Business Platform

Development/ Production Structure	Product groups that can accommodate a variety of needs	• Find SMBs and startups • Certify products, confirm their quality • Standardize products and specifications (combination products)
	Create a business model for devices and services that reflect an understanding of older persons' characteristics	• Utilize Living Labs • Design thinking • Provide devices and services together
Sales Method	Environment in which people can choose suitable devices and services	• Concierge function • Showcase function • EC sites
After-sales Services	Support structure encouraging secure and continued use	• Familiar consultation services • Quality assurance system • Maintenance base

Platformer function

Aging Business 2.0

Older persons Big data

smaller your market becomes. Plus, oftentimes these needs are also spread out regionally, meaning that finding people with certain needs requires a considerable amount of effort.

Huge costs and amounts of time are also needed to properly educate older persons with these needs about a product's features. While some believe that it would suffice to sell such products on EC sites, it must be said that at the moment, older persons have a very difficult time finding products to suit their needs using internet searches. This is because older persons tend only to purchase a product after actually coming into contact with it, trying it out, and convincing themselves of its utility.

Thus, the challenge in developing a business oriented toward healthy, active older persons is that, in terms of both their needs and regional spread, you have to establish a business using real-life channels in an extremely varied market.

2 Aging Business Platforms

Solving this problem will conceivably require a feature that might be termed an Aging Business Platform (Fig. 8).

As already discussed, development requires an environment in which startups can leverage their capabilities and test out practical implementations of their ideas in Living Labs or other such venues,

to create products and services that older persons will be inclined to incorporate into their daily lives. Meanwhile, getting older persons who need these products and services to actually buy them involves clearing some high hurdles on the logistical side of things. From the perspective of older persons as the consumers, it's difficult to know what kinds of products are available in the first place. And only those older persons with relatively high IT literacy can even search for this information on the internet. Moreover, even assuming that an older person has learned about a certain product or service, he or she may not be able to judge whether it's suitable. For instance, it's quite hard to determine whether something meets one's needs solely based on numerical values or catalog information posted on an EC site. There are some products that allow you to try them out for a trial period, but the act of returning an unsuitable item is rather psychologically burdensome, and older persons aren't able to make those returns so freely. That is to say, older persons have trouble actually discerning what products best match their needs, meaning that they likely need an expert's advice. A sort of "concierge" function would be necessary to identify a given older person's characteristics and then recommend a highly trustworthy product. Although a care manager would fulfill that role once someone's condition

Fig. 9: Image of a Aging Business Platform
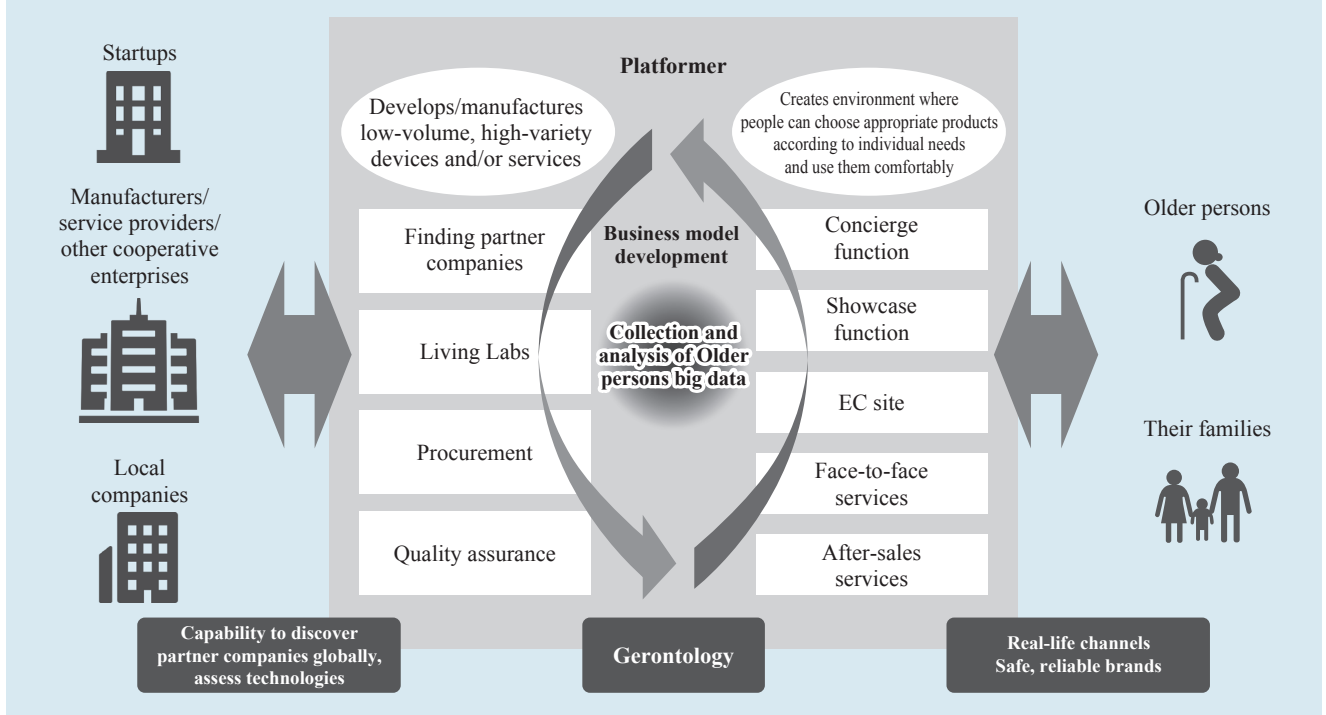
made nursing care necessary, no such caremanager would be present while the person is still active, and thus he or she would be unable to choose suitable products.

A further necessity would surely be a sort of "showcase" function, allowing older persons to freely inspect and try out any products that have been developed for themselves.

Plus, given that users tend to keep on using a product once they've tried it out, it would also be important to provide after-sales services over the long-term, thereby forging lasting relationships with users.

Thus, as older persons use a company's products and services over the long term, the company will need to obtain a detailed grasp of their usage patterns through data collection and analysis, as well as discover what improvements can still be made and what needs are not being met. This process will surely need to be leveraged for subsequent product development as well.

In other words, for Aging Business 2.0 to grow, there will need to be platforms for delivering developed products and services to older persons in a suitable manner, and also for acquiring new ideas to be put back into the overall business cycle (Fig.9). These Aging Business platforms need to be stores with real-life, brick-and-mortar channels in which

older persons and their families feel comfortable placing their trust, and to be points of contact having a certain understanding of people's personal and familial circumstances, a one-stop venue where any and all consultations can be made. They would preferably be located in places that older persons can easily get to on their own, offering environments that people can just stop by anytime.

It's also important for the brands to be trustworthy. Older persons who are accustomed to using products and services made by large companies will likely be reluctant to purchase products or services from lesser-known startups. This is even more true of products that are important in supporting one's lifestyle. They would need to have enough brand power to dispel any such concerns or unease.

As for the companies that provide these products and services, these platforms will provide customer contact points for bringing their products to older persons as their end users, as well as provide opportunities to penetrate the market. With a platform that spans a web of stores nationwide, even if the expected sales volume for each store is limited, as long as sufficient sales volumes for the whole country can be expected, there is a chance that the business can find its footing and succeed.

The functions needed from a platformer would be to select the appropriate products that meet the

individual needs of older persons, and to provide an environment in which such products can be used confidently, and branding is vital for establishing your brand as safe and reliable. Meanwhile, when it comes to the companies providing the products and services, platformers would themselves need to discover companies on a global scale for procuring low-volume, high-variety devices and services, and then test their practical utility in a Living Lab or other such venues. Possessing an abundance of data regarding both the demand side and the supply side would conceivably add to the competitive strength of a platformer.

These platformers would most often be operators such as major distribution companies, infrastructure companies, electronics retailers, and telecommunications carriers, but in addition to these, there is also the potential for a consortium-type entity involving various lifestyle support service providers and manufacturers etc. It would likely be necessary to find ways of creating a business cycle for evaluating commercial viability while also utilizing big data of older persons.

IV. The Need for Living Positively in Old Age

When we took part in an Aging Business exhibition in France, we found there were pictures on display like the one seen in Fig. 10.

What appeared before us there was images not of frail, older persons, but of older men and women enjoying their lives with vigor. The message these images conveyed was that business opportunities lie precisely with older persons who live their lives to the fullest.

Fig. 10: At the Silver Economy Expo in France

That said, given how rapidly Japanese society is aging, figuring out how to handle the increasing numbers of older persons who need care presents a major challenge. This line of thought leads one to the view that "older persons = problem", but the market for Aging Business 2.0 shouldn't be understood as a problem. As the picture in Fig. 10 from the exhibition in France illustrates, the most important thing is a commitment to assisting older persons who live their lives with a sense of optimism. The future ought to look bright for older persons, too, and they need products and services to help ensure that in five years' time, they will be a more attractive, more stylish version of themselves.

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[1] According to the National Institute of Population and Social Security Research, Japan's aged population is projected to peak in 2042 at 39,350,000 persons, after which it will begin to decline.

[2] Ministry of Economy, Trade and Industry, "2015 Policy Evaluation Study (Study on Medium-Term Reforms and Risks for the Japanese Economy)".

[3] One of the largest engineering schools in France, located in the southeastern section of Paris and established in 1994. In 2011, it was ranked sixth out of 65 French engineering schools by the magazine "L'Etudiant".

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