Utilizing IoT for Quick Recovery After Disasters

Toward Commercialization of a Natural Disaster Assessment Data Gathering and Analysis System

Because homes are a core element of daily life, most customers consider safe and reliable housing important. Sumitomo Forestry Group is constantly striving to enhance the safety and durability of its buildings and to provide products and services that contribute to safety and reliability for customers and society. Natural disasters, such as earthquakes and intense rainfalls, have become more frequent in recent years, and quick response for recovery has become all the more vital. Sumitomo Forestry is working to develop new services that utilize IoT to provide quick support to those who have encountered natural disasters.

Addressing the Issue of the Time It Takes to Assess Disaster

Japan has many earthquakes and in recent years, climate change has made natural disasters more serious with concentrated downpours, typhoons and others causing extensive and frequent damage. In monetary terms, Japan accounts for 17% of the worldwide total of damages due to natural disasters. In the 20 years until 2015, the total cost of damages was a staggering 47 trillion yen*. Of course, the bigger the disaster, the longer the recovery efforts, and it now takes more time to assess the situation as well. For the Kumamoto earthquake that occurred in April 2016, it took about one and a half months for the government to conduct emergency safety checks of buildings aimed to prevent secondary disasters. Disaster victims expressed their anxieties, saying, “It takes too much time to get the information we need,” highlighting one of the biggest hurdles in speedy recovery efforts.

Quickly Gathering Data About Damaged Homes Using Sensing Technologies

Sumitomo Forestry is responding to such issues by developing services that promote quick recovery after disasters. Since 2017, we have been conducting trials of IoT services that utilize our analysis technologies. Specifically, we are conducting trial experiments using sensors to measure, gather and analyze data of buildings to determine their condition. We place several sensors throughout a house to acquire data, such as the magnitude of an earthquake’s tremors, flooding or other conditions, and gather this data through a network to analyze. At our Tsukuba Research Institute, we combine this data with the vast amount of data about earthquake resistance of wooden houses for high-precision analysis to create a technology that is uniquely ours. To ensure our customers’ peace of mind and safety in the event of a disaster, we are working hard toward actual implementation. These trials, which were started in the Kanto region, are now being conducted nationwide at 12 more new locations in its second year as of October 2018. We are working to build the necessary infrastructure to enable the secure gathering of data to evaluate disasters.

Overview of How Data Is Gathered

A sensor installed inside a wall of a house
Supporting the Speedy Recovery of Customers and Regions Affected by Disasters

With the actual implementation of these services in the future, Sumitomo Forestry will be able to provide new value in wider range of areas.

If sensors installed in homes can be used remotely to determine the level of damage, we will be able to more quickly grasp, report and respond to the situation and arrange for repairs or other work to provide our customers the support they need. As engineers would no longer have to check each and every house, it would resolve the problem of taking too much time and can even be used for areas made inaccessible after a major disaster.

In addition, by utilizing this gathered data in different ways, we can develop new services that would give more people a sense of security. For example, we could collaborate with casualty insurance companies to provide quick damage assessments necessary for insurance benefits, which would help people rebuild their lives more quickly. In addition, we could provide data to customers and local governments for emergency risk assessments that would help prevent secondary disasters. Furthermore, our data analysis results could promote development of technologies that enhance earthquake resistance and durability.

Providing Peace of Mind and Safety to More Customers with Our Services

While we are currently continuing to gather data, to assess building damage in a wider variety of areas, we are working to gather even more data to enhance reliability. At the same time, we are putting in place better infrastructures that will allow the installment of significantly more sensors and we are simplifying installation procedures, reducing device costs and making final improvement touches in preparation for commercialization.

While there are still many unresolved issues, we are working to overcome them one by one, and eventually, we hope to apply them to non-housing structures, overseas housing, smart city plans and other possibilities. With the popularization of new added-value houses, we want to provide more customers peace of mind and safety.

Message from the Person in Charge of Service Development

Utilizing IoT for housing is still in its early stages in Japan. In North America, sensing technology is already being employed in many different aspects. As a member of the IoT Solutions Division, I am always thinking about what value we as a housing manufacturer can provide by using IoT. With an awareness that the number of customers concerned about safety is increasing because of the frequency of natural disasters in Japan, we decided to conduct trial experiments.

First, we are developing high-functionality sensors that can monitor our customers’ homes. And to provide recovery support and give customers peace of mind in the event of a disaster, we are working to provide quick home damage assessments. Improving reliability and added value is our ongoing challenge.

Hidefumi Suzuki
Group Manager
Housing and Building Technology Group, IT Solutions Department

PICK UP

Collaborating to Build Affordable Housing Model Homes in Myanmar

Overseas, Sumitomo Forestry is working to sell and promote high energy saving houses and homes that help resolve other social issues.

In Myanmar, we worked with the Japan-Myanmar Association for Industry of Housing and Urban Development (JMHU; currently, the Japan International Association for the Industry of Building and Housing (JIBH)) and the Myanmar Construction Entrepreneurs Association (MCEA) to provide technical assistance and donations necessary to construct model homes of affordable houses (homes that are affordable for even low-income earners).

The model homes were built in the Mingaladon Township in the Yangon suburbs. Forty-two Japanese companies that are JMHU members donated money, housing materials, technological support or other forms of assistance. As a chairman member of JMHU, we did the basic design of the model structure, supervised construction and provided other support in an effort to help raise living standards and realize a more prosperous society in Myanmar.

Affordable Houses built in Myanmar
HIGHLIGHT 2  Contributing to the Protection of Biodiversity

From Gray to Green
Building Regional Infrastructures That Utilize the Natural Environment

So-called green infrastructures, in other words, infrastructures and land use plans that utilize natural functions, are increasingly becoming an area of focus. Infrastructures form the foundation of industrial and societal activity and include roads, trains, irrigation and other aspects of daily life. Sumitomo Forestry Group strives to contribute to a sustainable society and economic development not through the development of conventional “gray infrastructures,” such as concrete and steel, but through “green infrastructures,” namely forests and urban green spaces.

A Green Infrastructure Project at a Large-Scale Operation

While green infrastructures are well known overseas, especially in North America and Europe, there have been no large-scale examples in Japan until now. In fiscal 2018, Sumitomo Forestry Group worked with MS&AD InterRisk Research & Consulting, Inc., of Eco Asset Consortium*1 to implement a biodiversity project at Aioi District of IHI Corporation. This has become a leading-edge example of a green infrastructure at a large-scale operation.

While 71% of the Aioi site is surrounded by lush nature, the site was vulnerable to natural disasters. Sumitomo Forestry, with its experience in forest management and greener operations, was asked to come up with countermeasures. In 2013, we began surveys to identify all the issues and discovered that the risk of natural disasters was due to animal damage and imbalances in vegetation. Instead of employing the conventional method of surrounding the site with concrete to prevent landslide damage, we proposed building a green infrastructure that would secure biodiversity within the compound and use greenery and other natural assets to avert damage from disasters. Specifically, we suggested a method of building a retaining wall using logs from windfall trees. In addition, we suggested planting trees in between these logs so that by the time the logs decayed, the planted saplings will have rooted to form strong soil. Because of damage from animals, there was an overabundance of ilex pedunculosa, which deer dislike, causing an imbalance in vegetation. Ilex pedunculosa is a tree species that burns easily. By thinning these trees and using them as materials for fascine*2, we reduced the risk of fire hazards. In addition, to protect slopes, we used local vegetation found within a 20km radius and helped bring back original vegetation.

In addition, we facilitated study sessions among affiliated companies and nearby local companies, utilized local construction materials, and promoted building ties.

As a result of our efforts, the Aioi District of IHI has won high regard for its biodiversity and in March 2019, acquired certification from the Association for Business Innovation in Harmony with Nature and Community (ABINC)*3.

*1 Eco Asset Consortium: A consultancy team comprised of the four companies: Sumitomo Forestry, Sumitomo Forestry Landscaping, MS&AD InterRisk Research & Consulting and Regional Environmental Planning.
*2 Branches that are gathered and made into a bundles. Used for earth retaining walls, among other applications.
*3 A system that certifies initiatives taken by companies to create, maintain and utilize green spaces that take biodiversity into consideration.

Using logs from windfall trees to retain soil and then planting trees in between the logs to further solidify the soil.
**To Expand Green Infrastructures in Japan**

This green infrastructure project was implemented by bringing together Sumitomo Forestry Group’s expertise and know how in timber use and greening technologies. As specified also in the Japanese government’s National Spatial Planning Act, the use of green infrastructures is expanding but related laws have not kept up. One of the roles of our Company is to communicate closely with administrative authorities and determine which technologies we can utilize within the scope of the law to resolve issues one at a time. With this, we are steadily building more and more green infrastructures that are contributing to the protection of biodiversity.

**Message from the Person in Charge of IHI**

Since 2011, Aioi District of IHI Corporation has been conducting surveys into the operation’s environmental CSR potential with the aim to become a manufacturing site that provides new value to society based on coexistence with the region.

Hence, we launched a biodiversity project that would comprehensively resolve CSR-related issues, such as SDGs, and site management.

In this green infrastructure project, Sumitomo Forestry Group provided us with its knowledge as specialists in forestry and greenery gave its perspective on the types of building a green infrastructure that would avert damage from disasters. Specifically, we proposed a method of surrounding the site with concrete to prevent landslide damage, we proposed a method of using logs from windfall trees. In addition, we facilitated study sessions among affiliated companies and nearby local spaces that take biodiversity into consideration.

**20th Anniversary of the Mt. Fuji Manabi no Mori Natural Forest Restoration Project**

Mt. Fuji Manabi no Mori natural forest restoration project celebrates its 20th anniversary. This project started in 1998 to bring back the lush greenery of the national forest near the second station of Mt. Fuji, which was heavily wind damaged by a typhoon.

Up until now, a cumulative total of 28,000 volunteers have helped to plant approximately 30,000 region-specific saplings and conduct other forestry efforts. To monitor the recovery of the natural forest, in addition to vegetation surveys, the Company has been conducting wildlife surveys with the cooperation of the Minami Fuji Branch of the Wild Bird Society of Japan since 2000 and has registered 75 indigenous species of birds to this date. The environment where the ground was bare after the removal of fallen trees gradually transformed from grasslands to forests. With this, the population of pheasants and shrikes is declining, and in their place, the population of such birds of the forest as narcissus flycatchers and varied tit is increasing with opportunities to view them becoming more frequent, indicating that the forest is steadily recovering.

**Trends in Wild Bird Population**

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<th>Varied tits</th>
<th>Narcissus flycatcher</th>
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* *1 Eco Asset Consortium: A consultancy team comprised of the four companies: Sumitomo Forestry, Sumitomo Forestry Landscaping, Sumitomo Forestry Construction, and Sumitomo Forestry Group. This has become a leading-edge system that certifies initiatives taken by other applications.

*2 Branches that are gathered and made into a model operation that is able to withstand natural disasters.

*3 A system that certifies initiatives taken by Nature and Community (ABINC).
Taking the First Step Towards 2041

A New Research Building at the Tsukuba Research Institute

Sumitomo Forestry Group is actively developing technologies and products that enhance the value of trees and contribute to the sustainability of the society. In time for our 350th anniversary in 2041, we have embarked on our W350 Plan, a research and technological development plan centered on the construction of a 350-meter-high wooden high-rise building and the advancement of the use of wood in all aspects of urban planning to greenify our environment. Construction of a new research building at our Tsukuba Research Institute, which will form the basis of our efforts to realize our so-called Timberized Eco City that will transform our cities into forests, will be completed in October 2019.

Birth of a New Base to Conduct Technical Verification Tests for Our W350 Plan

Because of the deterioration with age of the Tsukuba Research Institute building and the increase in the number of personnel, construction of a new building was begun in March 2018. The wooden structure has three floors and a total floor area of 2,532.67m². This new research building has offices to hold 140 people and at the same time, numerous research areas to conduct various technical verification tests needed to realize the W350 Plan. Construction utilized a variety of the latest technologies, both in terms of the actual physical building and the software to support it and was selected as a “pilot program for sustainable buildings (wood type) in fiscal 2017” promoted by the Ministry of Land, Infrastructure, Transport and Tourism of the Japanese government.

The Technologies and Equipment That Contribute to an Earthquake Resistant and Low Carbon Building

One of the concepts behind the construction of the new research building is the pursuit of sustainability. A representative example of such is a structural technology called post-tension construction, which compensates for the lack of rigidity of wooden structures while maintaining its resistance and resiliency against earthquakes. Post tensioning is a technology that involves passing steel rods or wire ropes through the components to give it greater tensile force and increase the degree of fixation with other components. In conventional reinforced concrete or steel construction buildings, if a large earthquake causes the components to yield*, the building has to be rebuilt even if it does not collapse. However, in wooden post-tension construction buildings, damage is focused on energy-absorbing components, which can be replaced. With this technology, even if there is damage that goes beyond the limit, only a minimum of repairs or parts replacement is necessary to recover earthquake resistance, making it a sustainable wooden building.

In pursuit of making it a Zero Energy Building (ZEB), solar panels are being installed on the roof, thermal insulation properties are being enhanced, wooden palette boilers that have low greenhouse gas emissions are being installed and other measures are being taken to create an energy-creating and energy-saving structure. In addition, sensors are being placed throughout the building based on wind environment simulations so that windows automatically open or close to allow natural breeze to flow in and out of the offices. This is a Sumitomo Forestry developed design method called Ryouonbou. It helps to significantly reduce energy consumption for cooling or heating of the building while maintaining a comfortable environment for the people inside.

* When a component is deformed beyond its elastic limit and does not go back to its original state

Post Tension Construction

During an earthquake

Tilted with an earthquake

Back to its original position

New research building at the Tsukuba Research Institute
Software Technologies That Utilize the Strengths of Wood and Verification for the Future

Using the Whole Building Evacuation Safety Verification Method, we confirmed that everyone in the new research building can safely escape in the event of a fire, and in a first for a wooden building structure, we obtained Certification from the Minister of Land, Infrastructure and Transport. With advanced simulation technologies, we verified safety in the event of a fire, cleared all restrictions related to interior materials, proactively showed pillars, beams and other structural components and created an interior environment where people can sense the beauty and calming warmth of wood.

In the atrium space, we planted trees in an inner courtyard to re-create a small forest within the building. In the future, we will verify various methods to maintain the greenery within the building and at the same time, gather data about the psychological and physiological impact an office environment filled with wood and greenery has on the people who work there.

By making this new research building the site of our own research, we plan to gather data and verify hypotheses that will contribute to the realization of a totally new type of office building that utilizes the benefits of wood and greenery.

Sustainable Wooden High-Rise Office Buildings

The new research building is filled with many types of experimental features that are necessary in Sumitomo Forestry Group’s efforts to propose mid- and high-rise wooden buildings on a wide scale. The higher a building is, the more difficult it is to create countermeasures for earthquakes, fires and other disasters. This building, which is a three-floor wooden structure, will be the basis for our research and development efforts in the W350 Plan, and with the accumulation of technology and know-how, we will continue our work to develop wooden offices that are safe even in the event of a fire, good for both people and the environment and sustainable.

Message from the Person in Charge of Development

We received the first proposal from the architect four years ago in August 2015. While even the first proposal utilized post-tension technologies, we had to have many discussions with the architect because the plan was different from what we were thinking. We were able to reach consensus on the current block structure around November 2016. The technical concept of how post-tensioning could bring together disjointed wood blocks into one in a way that enables it to withstand the swaying of earthquakes was easy to understand and I really liked it as an architectural term, as well. While the technology behind large-scale wooden structures is in its infancy and there are many issues that still need to be resolved, by combining post-tensioning with other construction methods and technologies, I think there is a lot of room for development. As we work toward fulfilling the goals set out in our W350 Plan, we will work to contribute to steadily achieving important technological development milestones along the way, such as W30 and W70.

Taisuke Nagashima,
Team Manager
Construction and Housing Group
Tsukuba Research Institute

With W30 As the First Step, the Roadmap to Realizing the W350 Plan

To fulfill an incredibly ambitious goal of building a 350-meter high-rise wooden building requires technological innovations that go beyond conventional wisdom and resolve a number of issues identified through backcasting. The proposed building will have 70 floors and will be a 9.1 ratio hybrid wood and steel construction. Basic R&D for this totally new type of technology is now taking place at the Tsukuba Research Institute.

On the other hand, it is also important that we utilize the technologies we have developed thus far and evolve them with forecasting. By 2021, we aim to achieve W30 and pursue the limits of post-tension construction with a 20–30-meter tall, 6–7 floor wooden structure. We are already in the site selection stage. Through the construction of W30, we will strive to advance our technologies, reduce costs and increase the possibility of achieving our W350 Plan.

W350 Plan Roadmap

![W350 Plan Roadmap](Image)
Reinforcing Sustainable Timber Procurement

Formulation of a Timber Procurement Action Plan

Forest land area is continuing to decrease around the world and as indicated in the SDG goal, is a global-scale problem. According to the Fifth Assessment Report issued by the IPCC (Intergovernmental Panel on Climate Change), about 25% of the factors behind climate change are attributable to deforestation. After the Paris Agreement, this concern has grown even stronger. As more people are seeking sustainability in timber procurement, Sumitomo Forestry, with its business operations centered on wood, is contributing to the further promotion of responsible timber procurement by formulating a three-year action plan to realize a sustainable and prosperous society.

Reinforcing Sustainable Timber Procurement Due Diligence at Sumitomo Forestry

Our Company utilizes wood as a renewable natural resource in its business operations and has set out in its Corporate Philosophy to contribute to the realization of a sustainable and prosperous society. We formulated the Timber Procurement Standards in 2005 and the Timber Procurement Philosophy and Policy in 2007 to confirm legality in our timber procurement efforts. Since 2012, we have further promoted responsible timber procurement activities through such efforts as surveys regarding timber procurement sustainability.

By our target fiscal year of 2021, in addition to confirming 100% legality, we have set out a goal to handle 100% sustainable timber and with clear-cut timeframes, are working toward better visualization of our initiatives.

Our Thinking Regarding Sustainable Wood and Wood Products

We define sustainable wood or wood products if they fulfill one or more of the following criteria. Even when legality can be confirmed, for items that do not fulfill our definition of sustainable wood or wood products, we will shift to alternative wood and other such products by fiscal 2021.

1. Certified timber and pre-certified timber: FSC, PEFC, and SGC (Regardless of CoC connection, we place emphasis on certification at time of production and promote a shift to certified timber)
2. Timber from plantation forests
3. Natural timber where forestry management and distribution can be assessed as sustainable. (this does not include timber from conversion forests = timber harvested from natural forests that were converted to farm land such as oil palm plantations)
4. Recycled timber

Checking tags at the interim log yard
In the sustainability surveys of our suppliers, we have made evaluation standards stricter by adding categories about human rights and labor practices. For suppliers with low scores, we request improvement measures and strive to raise the overall level of the entire supply chain. In addition, in the formulation and implementation of our Action Plan, we are working to have dialogue with outside experts and stakeholders, among other efforts, to ensure objectivity.

Working with Suppliers to Provide Wood with Value

To realize sustainable timber procurement, we must implement initiatives for the entire supply chain, including product development, and this requires the cooperation of all parties, in particular our suppliers. For this reason, when we were re-evaluating our due diligence process, we placed importance on dialogue with our suppliers. Through confirmation that timber does not come from forests that were converted to farmland or other uses, we are actively promoting measures for sustainable forest management, which we hope will lead to long-term stable timber procurement.

Message from an Outside Expert

One of the core elements of this new three-year Action Plan is the definition of sustainable timber. I think that recognizing natural forest timber that is not explicitly certified timber, so long as forest management has been determined to be sustainable, is a very challenging definition. For that reason, expressing a commitment to exclude timber from forests that have been converted to farmland or other uses, and furthermore, adding human rights and labor practices as evaluation criteria are all in keeping with global trends.

On the other hand, many issues regarding timber procurement and management in Japan still remain, such as the fact that almost all plantation forests are considered sustainable and the wide definition of recycled timber. Sumitomo Forestry is a leading company and I hope they will tackle these and other related issues head on.

Kikorin plywood Wins an EcoPro Award

Kikorin plywood, an original type of environmentally friendly plywood, is a JAS-compliant product made of at least 50% certified timber and sustainable plantation timber. Since introducing Kikorin plywood in 2009, Sumitomo Forestry has been returning a portion of the sales to the plantation forest operations in Indonesia, which has grown to a total plantation area of 105ha (approximately 22 times the size of Tokyo Dome stadium). In addition, as a result of the ongoing cycle of planting and harvesting trees, we have been able to contribute to the local region. For example, we have been able to create local employment with our plantation forest operations and contribute to industrial development with income from timber sales and by creating a processed wood business that utilizes plantation timber. Furthermore, we have reduced the burden on natural wood by utilizing plantation timber as a raw material instead.

These initiatives have won high regard and we were awarded honorable mention for the First EcoPro Awards* in September 2018 in Tokyo. We will continue to distribute seedlings to local residents and hold study sessions on afforestation methods and promote a sustainable cycle of plantation forest operations.

*Organized by the Japan Environmental Management Association for Industry. In addition to providing consumers information about eco products, it supports providers, such as companies, support for their various initiatives in an effort to further develop and promote the use of eco products in Japan. Established in 2004 and in fiscal 2018, its Eco Products Awards was renamed the EcoPro Awards.
HIGHLIGHT 5
Responding to Climate Change

Developing Plantation Forest Operations That Provide Both a Stable Supply of Timber and Protect the Environment

Responsible Peatland Management by Wana Subur Lestari (WSL) and Mayangkara Tanaman Industri (MTI) of Indonesia

To mitigate deforestation, it is important to regenerate forest resources through appropriate management. Sumitomo Forestry is practicing sustainable forest management based on the concept of perseveration forestry, where we plant, nurture, harvest and utilize trees and then replant. We own and maintain plantation forest operations that cover approximately 48,000ha of company-owned forests in Japan and about 230,000ha of plantation forest land overseas.

Utilizing our know-how gained from our wealth of experience in forest management both in Japan and abroad, we are working to expand sustainable plantation forest operations that are in harmony with the local society and environment.

Production Forests in Indonesia

Sumitomo Forestry and an Indonesian forest management and plywood manufacturing company called Alas Kusuma Group jointly established WSL and MTI (hereinafter WSL/MTI) and with the license from Indonesia’s Ministry of Environment and Forestry, has been operating a large-scale plantation forest in West Kalimantan since 2010. In addition to planting, growing and harvesting trees in a planned manner to produce sustainable timber, the operations are working in full consideration of biodiversity protection. Furthermore, the operation is contributing to development of the regional society through the creation of local job opportunities and other efforts.

Sustainable Peatland Management

Peatlands are formed when dry vegetation accumulates in water in an undecomposed state. According to the International Union for the Conservation of Nature (IUCN), the world’s four million square kilometers of peatland account for 3% of the earth’s total land area and are said to hold 630 gigatons of carbon. If the carbon gas trapped in the soil is released due to overdevelopment or peat fires, it would impact significantly impact on climate change. In the past, peatlands were dried using drainage canals and made into plantation forests. However, drying the soil breaks down organic substances in the peat soil, which results in the emission of greenhouse gases. In addition, dry peat burns easily, creating the risk of large-scale peat fires. To prevent fires, appropriate water level management is important to ensuring that the soil is maintained at a desirable level of dampness.

WSL/MTI conducted detailed surveys for five years with the start of plantation forest operations in the peatland areas and came up with a comprehensive plan. After gathering in-depth data as well as totally new data about the geography, depth and other features of the peatlands, WSL and MTI formulated an evidence-based water level management plan. In addition, they implemented proper management systems, such as appropriate ways to measure water levels and fire prevention training, and with the cooperation of a research institute, they accumulated know-how about peat management to improve operations. As a result, while peatland settlement rate is said to be usually 5~10cm/year, the operations have been able to maintain an average peatland settlement rate of 2.8cm/year, almost the same as natural forests. These efforts have helped to suppress the emission of greenhouse gases from the soil, and with the absorption of CO2 from the plantation forests, are helping to mitigate climate change. In addition, at the plantation forest plan proposal phase, in line with thinking regarding high conservation value forests (HCVF), we are conducting detailed studies and establishing protection areas for forests, buffer zones and production forests (plantation forest land).

With local governments and other companies, we have created a forest protection network and are working together to create green corridors with rare animal and plant species in a manner that ensures that their habitats are not isolated. These efforts have been highly regarded by animal specialists and NGOs.
Regional Grassroots Activities

There are about 300 local employees working at WSL/MTI, which is contributing to employment of local residents and revitalization of local industry. In addition, we are embarking on many different locally rooted activities to strengthen ties with the community, such as building water purification facilities and clinics, providing support to maintain full-time medical staff, teaching about the environment at local primary schools and other efforts. In 2018, we created a grievance mechanism whereby local residents can express in writing and through our regular visits their opinions, which we respond to within seven business days. This system helps us to appropriately handle any problems that local residents present.

Speaking at COP for Two Consecutive Years – an Increase in Overseas Interest

Our comprehensive approach to peat management has been regarded highly and at the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24) held in 2018, we gave a speech at the Indonesia Pavilion. This speech was given in response to a request from Indonesia’s Ministry of Environment and Forestry and was the second time we participated in COP after 2017. Under the title, “Sustainable landscaping for timber manufacturing and peat biodiversity protection,” we talked about sustainable peat management. Half of the participants were from developing countries and the event showed us first-hand the interest and global need for peat management technologies. We see potential in applying and expanding sustainable peat management to regions beyond Indonesia. Blessed with the possibility of expanding opportunities, we will increase our focus and efforts in the future.

Message from the On-site Manager

I consider my job in water level management to be about working with water and peat. Because I get covered in peat and my work clothes are always stained in the color of mud, I have a job that not many people like. In times of emergency, I sometimes have to go to measure water levels in the middle of the night or at dawn. I am always thinking about stabilizing water levels so that the plantation forest grows properly. We developed a simple yet effective method to manage water levels in 2010, which has gained a lot of attention from governments and international organizations as a superior technology. Though it is a job that most people dislike, I am truly honored that its value is being recognized and it is gaining more attention. Now my stained work clothes are a symbol of my pride. In the future, I hope more people will become involved in working with water and peat and generate new ideas and technologies. It is truly wonderful that our technologies are being adopted around the world.

Bernardus Agusmuliyadi,
Water Management Section,
Mayangkara Tanaman Industri

Plantation Forest Site Visits by Government and International Organization Representatives

For the primary purpose to observe and learn about sustainable peat management in Indonesia, a group visited WSL/MTI in October 2018 as part of the third conference of the United Nations Environment Programme (UNEP)/**-led Global Peatlands Initiative (GPI)**. The visitors included representatives of the Democratic Republic of the Congo’s Ministry of Environment and Sustainable Development, the Republic of the Congo’s Ministry of Tourism and Environment, the Forest Development Research Center of Indonesia’s Ministry of Environment and Forestry, the United Nations Environment Programme (UNEP), the Food and Agriculture Organization (FAO), forestry agencies and others for a total of 50 participants. The tour included explanations about water level management systems and real-time environment observation systems using IoT technologies. In addition, we explained how we are working to protect animal and plant life by creating protected forests and green corridors. Through this opportunity, we were able to gain global recognition for our combined pursuit of economic activity and conservation activity. This visit helped us gain international interest and focus and gave us a stronger foothold in Sumitomo Forestry’s aim to spread forest management to other regions.

PICK UP

*1 Established in 1972, the United Nations Environment Programme provides leadership and encourages partnership in protecting the environment to enable nations and peoples to improve their quality of life without compromising that of future generations. It is one of the leading UN bodies in the environmental field.

*2 An initiative to reduce greenhouse gas emissions with peatland protection that was launched at the Global Landscape Forum in November 2016 ahead of COP22 (Marrakech). Main members include Indonesia, Peru, Republic of Congo and Democratic Republic of the Congo.
Promoting Workstyle Reform

Going Beyond a Reduction in Work Hours
Exploring Various Measures That Lead to Providing Value

In Japan, a number of laws related to workstyle reform have been enacted and society as a whole is rapidly moving toward realizing better ways to work.

At Sumitomo Forestry Group, we are exploring a wide variety of initiatives that reflect employee input and are striving to achieve greater job satisfaction and productivity by utilizing the latest technologies and other methods.

With workstyle reform, we believe we can provide better quality products, services and new values.

Aims Behind Workstyle Reform

Sumitomo Forestry Group has set as one of its material issues, “A Vibrant Work Environment Where a Diverse Workforce can Unharness Their Skills and Individuality” is promoting workstyle reform. In fiscal 2018, in addition to reducing work hours and encouraging employees to take vacation time, we have tried to increase the ratio of added-value time (time to do creative activities that lead to better services) by enhancing work efficiency. It is our hope that these efforts will lead to greater customer satisfaction as well as greater employee sense of fulfillment during after-work time, holidays and vacation.

Fiscal 2018 Workplace Reform Project

In fiscal 2018, in Japan, we incorporated performance indices as part of our bonus evaluation criteria, promoted the use of teleworking and expanded opportunities for paternity leave, among other measures. These efforts have led to real results with a decline in overtime, an increase in male employees participating in parenting and other positive changes. As a company that is closely linked with people’s lifestyles, employees began to get a direct sense of how new perspective of their lives lead to better work.

To further promote workstyle reform, the Housing and Construction Division set up pilot branch offices to implement various initiatives on a trial basis. Two offices of different sizes and regions, namely the West Tokyo Branch Office and the Hiroshima Branch Office, were selected to be the pilot branch offices. Here they were required to maintain records on

work tasks (to better visualize what tasks are performed and how time is used), introduce job sharing in sales and design for greater work efficiencies and shorter hours and apply flex time systems for groups in charge of marketing, design and manufacturing, all of which helped to identify issues that needed to be resolved and measure efficiency and other indicators.

Surveys conducted after the trials indicated that employees gained a better awareness of how they used time and allotted their work, which led to changes in each employee’s perception and actions.

With these results in mind, we will undertake workplace reform that takes into consideration each division’s particular characteristics and needs and promote appropriate measures that reflect the actual situation at each office to the greatest degree possible.
Creating Added-value Time with Business Automation Tools

Reasons behind its implementation and impact

With the aim to enhance the efficiency of routine tasks, in 2014, Sumitomo Forestry Information Systems introduced RPA (robotic process automation), a software robotic technology that automates PC and other operations. This company manages the IT-related back office operations of the Sumitomo Forestry Group. During advertising campaigns or events, they increase personnel on a temporary basis. In the first half year after implementation of RPA, they automated 26 internal company business tasks and succeeded in reducing the number of human-performed tasks by about 180 hours per month.

One of the biggest achievements is that with the reduction in human-performed tasks, added-value time for more creative work has increased. Employees have been able to embark on new projects that they did not have the time to do, and to become more efficient with their existing tasks, which has had an even greater positive effect. Furthermore, this has led to a wider diversity of workstyles and improvement of working conditions and employee motivation through shorter work hours and more work from home.

Trials at Sumitomo Forestry and future plans

In fiscal 2019, Sumitomo Forestry has begun RPA trials at a number of model branch offices. To clear various issues regarding governance and security, Sumitomo Forestry Information Systems is working closely with the IT Division and based on interviews with employees, considering which tasks to apply these trials to. We have completed a number of different programs that emphasize ease of use, such as enabling access to groupware and sending project completion reports over email.

In the future, we will implement RPA in more branches and at the same time, review plans to release it to the entire Group. By identifying business tasks where RPA has a significant impact and considering ways to make it easier to use, we hope to free employees from routine tasks to maximize their potential. At the same time, we know it is important to review and improve other business operations as we consider RPA implementation. With the hopes that RPA will create time that can be used more effectively, we will continue to develop new measures for workstyle reform.