

March 31th, 2022

Sompo Holdings, Inc.

Sompo Care Inc.

National Institute of Advanced Industrial Science and Technology

Sompo Holdings and AIST Establish RDP Cooperative Research Lab

—A new step towards resolving social issues spurred by trends such as the low birthrate and population aging—

Sompo Holdings, Inc. (Group CEO and President: Kengo Sakurada; hereinafter, “Sompo Holdings”) and the National Institute of Advanced Industrial Science and Technology (President: Kazuhiko Ishimura; hereinafter, “AIST”) reached an agreement to establish the RDP Cooperative Research Lab*¹ on April 1, 2022 within AIST’s information technology and human factors domain. In doing this, both parties will build a robust framework for joint research towards resolving social issues, including addressing the low birthrate and population aging and the new normal*², working based on a roadmap for creating solutions.

1. Background and objective

The world faces complex and compounded social issues, including frequent and increasingly severe natural disasters, declining and aging populations with low birthrates, and impacts from the COVID-19 pandemic. On June 9, 2021, Sompo Holdings and AIST forged an agreement on comprehensive mutual cooperation aimed at solving such social issues. Both parties agreed to leverage their strengths to tackle social issues, starting with those in the nursing care industry.

To concretely advance this framework, Sompo Holdings and AIST have agreed to establish the RDP Cooperative Research Lab and created a roadmap for collaborative research, in addition to utilizing Sompo Holdings’ subsidiary and nursing care provider Sompo Care Inc. (President and Representative Executive Officer COO: Ken Endo; hereinafter, “Sompo Care”) as a subject for research.

Sompo Holdings and AIST will incorporate the results of research based on business developments at Sompo Care in a Real Data Platform (RDP) in the nursing care field and provide it to other nursing care providers, adjacent industries, and so forth. They will also work together to create roadmaps and drive forward R&D tackling social issues, such as for extending healthy life expectancy, while aiming to help raise the sustainability of the entire industry surrounding the super-aged society and support even more seniors.

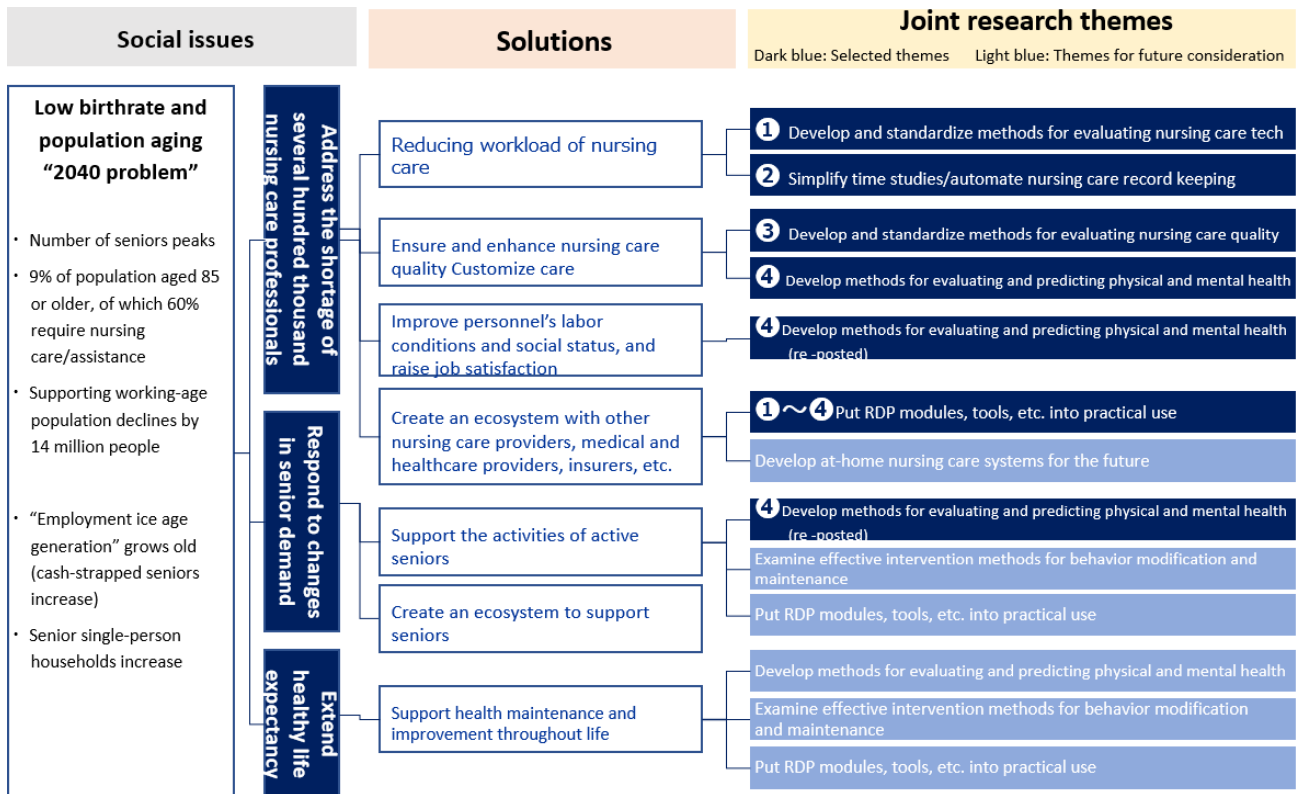
2. Joint research themes

(1) Joint research themes to work on first

According to the number of long-term care workers necessary to implement the 8th Long-term Care Insurance Project*³ announced by the Ministry of Health, Labour and Welfare, an estimated

about 690,000 or more nursing care professionals will be needed in FY2040 than in FY2019. At the same time, the job-to-applicant ratio for nursing care-related positions continues to trend several times above the average for all industries, and the shortage of nursing care professionals is a major social issue. Sampo Holdings, which has a nursing care provider subsidiary, and AIST, which conducts an array of research related to nursing care, will therefore work on the joint research themes below, leveraging their strengths with the aim of creating an ecosystem pertaining to nursing care business and models for providing high-quality nursing care with enhanced efficiency and satisfaction for both seniors and nursing care professionals.

Joint research themes backcasted from social issues (plan to add more in the future)



① Develop and standardize methods for evaluating nursing care tech*4

While referencing methods used overseas to assess medical and welfare technology and the like, we will clarify evaluation criteria, decision-making procedures, and so forth for when nursing care providers introduce nursing care tech at facilities. Specifically, we will conduct field studies for introducing nursing care tech at nursing care providers, design frameworks for evaluating nursing care tech, and conduct pilot studies to verify effectiveness, among other things. In mid-FY2023, we look to establish frameworks for evaluating nursing care tech related to areas such as mobility, continence, and monitoring. In FY2024, we aim to establish frameworks for evaluating other nursing care tech areas and assessment tools utilizing ICT.

② Simplify time studies*5/automate nursing care record keeping

By combining behavior estimation technology based on data from sensors and so forth with indoor positioning technology that automatically records the position and location of nursing care professionals, we will develop labor-saving time study methods using devices such as smartphones and smart watches and a system for automatically recording nursing care. Specifically, we aim to

develop indoor positioning models in FY2022, integrate behavior estimation technology in FY2023, and build a time study system that can also automatically aggregate and visualize data in FY2024. In addition, we aim to develop a system for automatically recording nursing care activities by incorporating other data, such as information from sensors on nursing care facility premises and physical information regarding nursing care patients.

③ Develop and standardize methods for evaluating nursing care quality

We will develop metrics for measuring the risk, extent, and frequency of events such as falls, fevers, mis-swallowing, dehydration, pressure ulcers (bedsores), decreased mobility, and declines in cognitive abilities that hinder seniors' independence and reduce their quality of life (QOL), along with metrics for measuring both seniors and nursing care professionals' levels of wellbeing and satisfaction as subjective indicators of their psychological state, and use those metrics in evaluating the quality of nursing care. We will start working to develop methods for assessing the risk of falls, levels of wellbeing and satisfaction, etc. in FY2022, targeting establishment of those methods in FY2024. We will also successively embark on development of evaluation methods for events other than falls.

④ Develop methods for evaluating and predicting physical and mental health

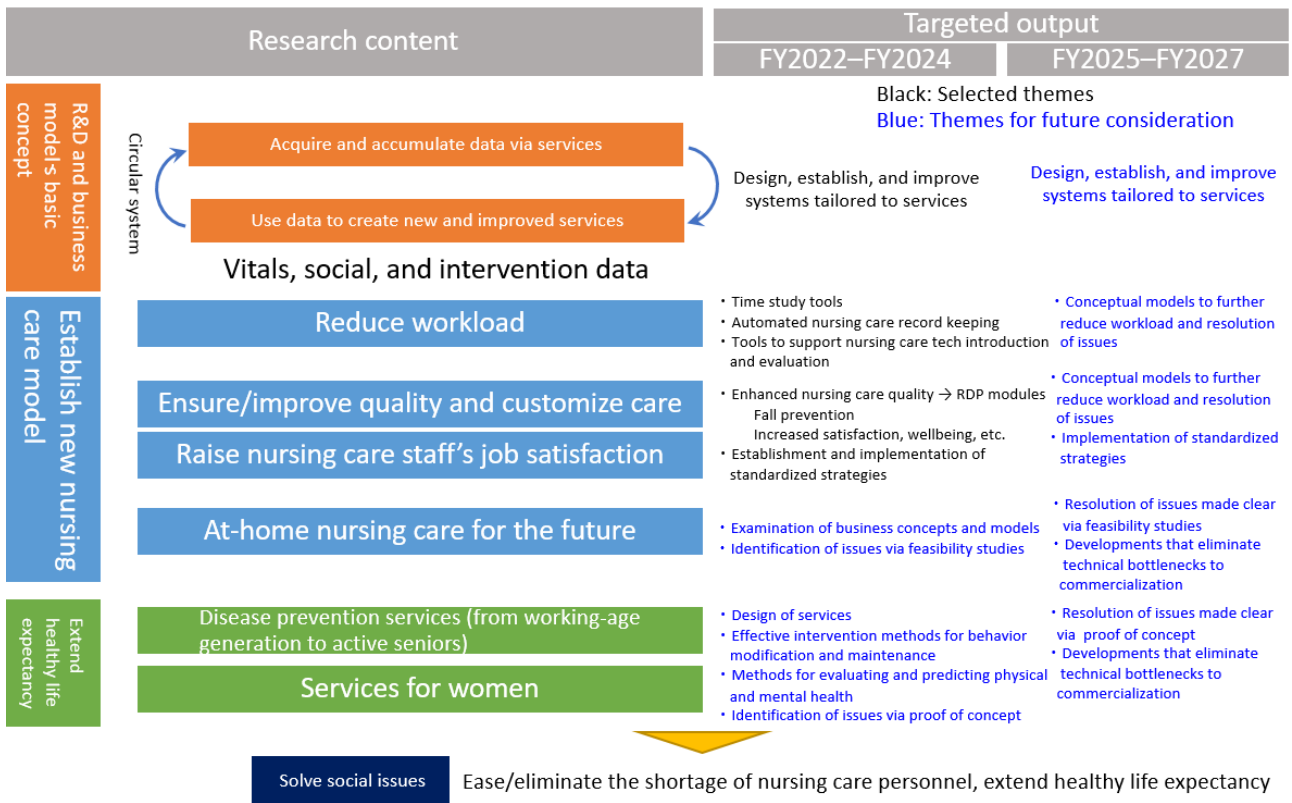
We will work to develop methods for quantifying the effects of dietary and nutritional care, medication and treatment, events and activities, social participation, other nursing care services, environment, and so forth on the occurrence of the events mentioned above such as falls, fevers, mis-swallowing, dehydration, and pressure ulcers (bedsores), as well as changes in status such as mobility, cognitive abilities, wellbeing, and satisfaction. We will also work to develop methods of intervention that serve to lower the risk of those events occurring and improve the status of physical and mental health. In FY2022, we will start working to develop evaluation and prediction methods to aid in reducing the risk of falls and raising levels of wellbeing and satisfaction. In FY2024, we aim to establish those methods, along with providing evaluation and prediction solutions to other nursing care providers. We will also successively embark on development of evaluation and prediction methods for events other than falls and conditions aside from levels of wellbeing and satisfaction.

(2) Themes for future consideration

In the nursing care field, we plan to devise services to support at-home nursing care in the future and concepts to further enhance the quality of nursing care facilities and reform working styles, and to work on solving issues therein.

With regard to extending healthy life expectancy, we will acquire and accumulate data through the provision of services, including those tailored to women and those designed to prevent disease. We will use that data to improve services as well as design, build, and improve systems for creating new services. We will advance R&D after creating a roadmap, focusing especially on effective intervention methods for changing the behavior of service users, continuing services, and so forth.

Targeted output from joint research



3. About RDP Cooperative Research Lab

Name	SOMPO-AIST RDP Cooperative Research Lab
Location	AIST Kashiwa (Kashiwa City, Chiba Prefecture)
Research organization	<p>Cooperative Research Lab Manager: Hideyasu Matsuda (from Sampo Holdings)</p> <p>30 members (planned)</p> <p>Members will have expertise in areas such as ergonomics, service engineering, welfare engineering, experimental psychology, cognitive brain science, physiology, robotics, artificial intelligence and machine learning, acoustic signal processing, and facial expression measurement. In addition, 17 individuals from the Sampo Group plan to participate in the joint research.</p>
Other	Sampo Holdings plans to contribute ¥1 billion each year to AIST during the collaborative research period of six years starting from April 1, 2022. However, Sampo Holdings and AIST will discuss the content of research and funds for FY2025 onward, including revisions in FY2024.

Explanation of terms

* 1 RDP Cooperative Research Lab

The official name is SOMPO-AIST RDP Cooperative Research Lab.

RDP stands for Real Data Platform. It denotes a business model that Sampo Holdings is advancing. With RDP, Sampo Holdings aims to deliver new solutions for social issues by integrating and analyzing the vast amount of real data acquired in connection with the activities of individuals and companies in real society, including from the insurance and nursing care front lines, manufacturing, motor vehicle operation, logistics, and disasters.

* 2 New normal

This refers to the establishment of a new status quo brought about by conventional ways of life, business styles, and more undergoing dramatic changes, driven mainly by the global spread of COVID-19, and not returning to their previous state even after the pandemic subsides.

* 3 Number of nursing care professionals needed

The number of long-term care workers necessary to implement the 8th Long-term Care Insurance Project by the Ministry of Health, Labour and Welfare (2021)

Source (Japanese only): https://www.mhlw.go.jp/stf/houdou/0000207323_00005.html

* 4 Nursing care tech

Technology and products to support nursing care, which are used for purposes such as increasing the efficiency of nursing care work, enhancing quality of life and supporting the independence of those receiving care.

* 5 Time study

A study to determine how much time it takes nursing care staff to perform each of their duties, including caring for patients and other work.