Program

This program may be changed without prior notice.

Time (JST)	
9:30	Opening of Registration
10:00	Start of Event
10:00-10:10	Opening Remarks by NEDO, Briefing　Shoji Kukita, Board Member of NEDO
10:10–10:17	**Ideas Category** **1.Port Congestion Index: Port Congestion Status Approach in Maritime Supply Chain Management** Team Name: ZIR / Representative: Moinul Zaber Port congestion is a serious problem that will have an impact on businesses and consumers. The business idea is to provide a data information platform with a real time information that can be easily accessed to measure port congestion conditions and congestion risk. The Port Congestion Index is the solution to this problem, where this index will use a variety of data sources, with variables including Port Traffic, Port Infrastructure, and Geographical Conditions. With this index, it is hoped that it can be used as a reference for policy making by many ports, reduce logistics costs, and reduce shipping times by sea.
10:17–10:24	**2.Safety management concerning vessel navigation and oyster production management through automatic detection of oyster rafts using satellite data in Hiroshima** Team Name / Representative: Naoki Taniguchi Hiroshima is the largest oyster producing area in Japan, and you can see many oyster rafts especially in Hiroshima Bay. We propose two ideas on the theme of oysters. (1) As there are many oyster rafts scattered around Hiroshima Bay, there is a risk of accidents between rafts and vessels. We aim to prevent accidents by using satellites to observe the positions of these rafts and share them with vessels. (2) Rafts sink more when they hang down the oysters than when they are alone. By capturing the amount of change in sinking by satellite, it can be used for production management, such as predicting the oyster harvest based on the sinking condition.
10:24–10:31	**3.Containow** Team Name / Representative: Hoshi Tagawa We propose system for empty container, named as “Containow”. The system is to track empty container in vessels and port. We plan to realize the system with analysis of AIS data and image recognition technology. The construction of an empty container tracking system will lead to the system optimization of entire empty container network from comprehensive management. The optimization can reduce container transport cost, which result in reduction of whole supply chain cost.
10:31–10:38	**4.Business Solution to Design Disaster-Resistant Supply Chain by Incorporating Satellite Data and Disaster Simulation** Team Name: Space BD / Representative: Masanari Fujimura This proposal is to precisely predict disaster risks, by combining meteorological, optical, SAR and other satellite data and simulation and AI technologies. This technology can realize a service to sell low-risk sites information to customers who are establishing its new bases or selecting business partners. It can also provide a disaster risk information service for insurance companies selling disaster insurance. In the future, we will utilize the strengths of our business to develop and launch low-orbit weather satellites, thereby revitalizing the entire space industry supply chain in Japan.
10:38–10:45	**5.Construction of wood management system linked with visualization of domestic tree felling information** Team Name / Representative: Manabu Watanabe Using satellite data, we will utilize technology to detect deforestation in a wide area at low cost. We provide cheap sales of deforestation location information and deforestation location tagging services. Furthermore, by collecting logistics information, including timber prices and the amount of timber placed in ports, we will develop a service that sells timber logistics information to trading companies and the futures trading industry.
10:45–10:52	**6.Illegal waste soil detecting service by using satellite data, "Detective Waste Soil** Team Name / Representative: Keisuke Yanagi In July 2021, a large-scale mudslide occurred in Atami, Shizuoka Prefecture. This disaster was caused by the collapse of a fill where construction waste soil had been illegally dumped. In order to properly dispose of construction waste, there is a need to visualize its logistics. To this challenge, we propose three solutions to support the detection of illegal dumping, construction recycling and land management in mountainous areas. The value is provided by using satellite optical sensors and SAR to extract changes in altitude and ground surface.
10:52–10:59	**7.Satellite Recommend Serivice** Team Name / Representative: Yusuke Oki The resolution of satellites data and imaging frequency are insufficient when port congestion prediction and emergency observation during disasters are realized by using satellite data. Therefore, we propose "Satellite Recommend Service". This service allows users to calculate the optimal combination of multiple satellites that satisfy the observation points and imaging frequency and resolution required by the user using satellite design analysis technology. Users can maximize the value of the satellite data. Furthermore, when users procure satellites in the future, it will be possible to accelerate matching of requirements with satellite developers.
	8.Optimization of crop supply chain by utilizing SAR satellite data and AI Team Name: Space Shift, Inc.　Representative: Naruo Kanemoto

10:59–11:06	Agricultural monitoring by SAR satellite data and AI can be utiliezd for predicting a timing of harvest and an amount of crops. We provide these information to stakeholders of crop supply chain (farmers, supermarkets etc.) to optimize crop distributions, which contribute to stabilize crop prices and the supply-demand, save cost and reduce food waste.
11:06–11:20	Break
11:20–11:35	**System Development Category Theme 1 Ports** **9.Service for providing quick estimation of economic ripple effects of container logistics stagnation using alternative data** Team Name / Representative: YOSHIKI OGAWA When vessels are congested, it takes time to analyse the economic losses to local industries and individual companies through the land-based supply chain, and governments and insurance companies take a long time to formulate and evaluate policies and provide compensation. The system therefore provides a service that enables rapid identification of the impact of container congestion on the land-based supply chain, from individual companies to regional industries. In particular, by utilizing vast amounts of satellite imagery, it is now possible to determine the overall container distribution at the port, as well as the loading status of cargo vehicles entering and leaving the port.
11:35–11:50	**10.Platform for Procurement and Production** Team Name: Teams PPP / Representative: Yuki Doi The concept is “Digital Rehearsal Platform for SCM”. In this project, we focused on procurement or SCM department of large manufacturing companies, who are most affected by disruptions in distribution. This application enables early detection of logistics delays, and visualization, estimation and decision making of the impact on procurement and production. As one of the large manufacturing companies, we have developed this application for solving our own issue.
11:50–12:05	**11.PortMoMa: Port Monitoring and Management solution for Supply Chains** Team Name: Synspective: Team PortMoma / Representative: Dr. Prakhar Misra Since the start of COVID-19 pandemic era, supply chains across the world have been disrupted at bottlenecks such as shipping ports. There have been multifold increases in ship dwell times at large ports such as Shanghai and Los Angeles leading to direct and indirect costs of millions of dollars to the supply-chain as well as financial ripple effects. One of the prime reason for such costs is lack of timely understanding of congestion-development trends for the ships, container-terminals and logistic trucks. Our "PortMoMa" overcomes these issues by improving transparency of supply-chain container congestions for the port-authority managers as well as financial-investor stakeholders. PortMoma provides ‘Congestion Index’ tool to visualize, predict and manage congestion and its impacts at ports. It uses advanced machine learning based object detection in remote sensing imagery along with Synspective's own SAR imagery and other geospatial data to quantify the congestion in movement of ships, how full are ports, and availability of port-hinterland transportation capacity into deriving the Congestion Index. The 'PortMoma' will support smart-ports through SaaS by establishing Congestion Index service to promote coordination and transparency among the stakeholders of supply-chain.
12:05–13:05	Break
13:05–13:20	**12.Emergency resource planning system to estimate best logistics route and measure the impact of port performance based on natural disasters detection and road crash prevention using satellite imagery data.** Team Name: Bandung Institute of Technology (ITB) Team in collaboration with PT Kreasi Rekayasa Indonesia (KIREI), Indonesia. / Representative: Dr. Eng. Yosi Agustina HIDAYAT, S.T., M.T. We offers a new integrated approach to both upstream and downstream supply chain. In the upstream, the system will collect the data from the upcoming vessels to port by using AIS data. In addition, satellite image will be utilized to measure performance of the port in case congestion occurred. In the downstream, the proposed system will combine road trip data and theoretical calculation to measure safety road rating and estimate optimal route for transporting retail goods to warehouse. Finally, all these information will be served as dashboard system in order to provide the meaningful result for all port stakeholders.
13:20–13:35	**13.Supply Chain Optimization with Visualization of Harbor congestion with SAR imagery and AI system** Team Name: Space Shift, Inc. / Representative: Naruo Kanemoto Using data taken by SAR satellites, AI automatically estimates congestion levels at container berths and terminals located in major ports in countries such as Tokyo and Singapore. We provide users with a Dashboard that visualizes these results. By combining SAR imagery data with AIS data in a certain time period before and after SAR image was taken, it is possible to evaluate the congestion level of the entire port in more detail, and the product will help shipping companies, insurance companies, and other operators to make critical business decisions.
13:35–13:50	**14.Time-series estimation, forecasting and learning system for port congestion and trade volumes, taking into account the spillover effects of logistics networks** Team Name: Function corp. / Representative: Dr. Yasuda Shohei We have developed a system to dynamically learn and predict port congestion and trade volumes using satellite images and vessel movement trajectories as inputs. Our target customers are operators who use ports and/or want to understand global logistics trends, and we believe that "globally unified network-level information" and "time-series accumulated information and forecast values expressed in wharf units" are particularly important for them and consider to establish a SaaS business that provides this information in an intuitive manner.

13:50–14:05	Break
14:05–14:20	**System Development Category Theme 2 Disasters** **15.FASPAI (Flood Assessment System using Physics-based AI)** Team Name: Resi-Tech Innovators / Representative: Dr. Yuki Kita We developed a cutting-edge technology solution FASPAI (Flood Assessment System using Physics-based AI). Using satellite data as well as flood simulations based on university research and high-precision topographic data, FASPAI can predict inundation areas in a few minutes with high accuracy from precipitation data. This flood estimation is transferred to a supply chain software: Resilire. This is the world's first service that minimizes the impact of flooding and contributes to improved customer's sustainability by using information on inundation areas to support impact assessment and recovery response on a supply chain management SaaS platform.
14:20–14:35	**16.Cloud service and Data Construction for Evaluating the Impact of Disaster Risks on Global Supply Chain** Team Name: IDEAS (International Digital Earth Applied Science Research Center) / Representative: Dr. Hiromichi Fukui The system aims to resolve the fundamental but yet difficult question of supply chain, "what are flowing, where they are flowing, how maintain it", due to its lack of existing dynamic data. We suggest a cloud service which collects information about connection among companies through bottom-up approach, and to integrate them with near real-time geospatial information of disaster to improve and to maintain the SC in the manufacture industry. System is intended to support and accelerate the resilience of the SC from both real world and the virtual world.
14:35–14:50	**17.Development of a system for monitoring economic damages and losses caused by storm and flood** Team Name: NIPPON INSIEK CO., LTD., Kansai University, Create-C Corporation. / Representative: Yuta KOBAYASHI Based on the disaster scenario predicted from satellite data, the system is constructed by real-time analysis from the perspective of the economic loss in the supply chain assumed to occur in the event of a storm and flood to provide the results at each region. Therefore, in addition to presenting the direct risks and impacts of storms and floods to companies and contributing to the strengthening of the entire supply chain, it also paves the way for new utilization of satellite data.
14:50–15:00	Break
15:00–15:15	**18.Visualizing Disaster Situations Using SAR Satellite Data and AI to Support Supply Chain Maintenance** Team Name: Space Shift, Inc. / Representative: Naruo Kanemoto In the event of a large-scale flood, we will provide a service that visualizes the damage in real time by using SAR satellite data to automatically analyze inundated areas with AI and overlaying information on roads, factories, residences, and commercial facilities related to the supply chain on top of this data. By applying this technology, we will propose new business opportunities in the expanding market, such as loss appraisal and payment efficiency in property insurance, and provision of traffic information to telematics services provided by automobile manufacturers and others.
15:15–15:30	**19.Disaster Emergency & Forecasting Toolbox** Team Name / Representative: Enna Hirata We provide the insurance, real estate, logistics, and other industries with data and tools to improve operational efficiency and develop new products. By providing tools to visualize the durability of buildings against various natural disasters, we will promote innovation and grow together with our customers. Through Secure Web Tool Box (SWTB®), we will contribute to local communities, society, and economies by providing tools that can be easily used for business, disaster prevention and evacuation activities.
15:30–15:45	**20.Multiscale Supply Chain Matching during Large-Scale Windstorms and Floods** Team Name / Representative: Eiji Hato Our system collects the number and the velocity of vehicles by using satellite images, and replaces existing technologies with it to conduct road traffic surveys and road maintenance. On the other hand, we propose a new business to utilize the result of traffic simulator analysis using satellite images as input for broader fields such as a revenue management OS for roadside stations, rideshare/public transportation, passenger-cargo mixed loading, and disaster-affected areas supports. Our team has deployed part of our proposed technologies into a town called Tsukechi, Gifu prefecture, Japan, and collected users' voice, which is utilized to implement this system.
15:45–16:00	Break
16:00–16:50	Sepecial Session "Solving Social Issues through Industrial Applications of Satellite Data" Speakers: Astronaut Mamoru Mohri, Professor Ryosuke Shibasaki, University of Tokyo, Naofumi Yanagihara, President & CEO, Ridge-I Corporation, Koji Ina, Director, Space Industry Office, METI Moderator: Hideo Matsue, Partner, Executive Officer, Deloitte Tohmatsu Consulting G.K.
16:50–17:00	Break
17:00-17:40	Announcement of Results, Award Ceremony [Mitsui Sumitomo Insurance Award (1), Tellus Challenge Prize (1), Ideas Category (3rd to 1st prizes, 1/each), System Development Category Theme 1 Ports (3rd to 1st prizes, 1/each), System Development Category Theme 2 Disasters (3rd to 1st prizes, 1/each)]
17:40-17:45	Closing Remarks
17:45	End of Event