Okinawa Open Laboratory Overview

October 2025

Okinawa Open Laboratory

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1. Organization Overview

1.1 Organization Profile

(1) Organization Name

・Okinawa Open Laboratory (abbreviated as OOL)

(2) Establishment Date

・May 8th, 2013

(3) Head Office Location

・5F, NTT Com. Naha Jitchaku Building, 4-19-3 Jitchaku, Urasoe City, Okinawa, Japan 901-2122
Phone: +81-(0)98-989-1940, Fax: +81-(0)98-989-1943

(4) Representative Director

・Yukio Ito

(5) Establishment Purpose

・Establish a research institute for advanced ICT in Okinawa to contribute to forming an international R&D base in Okinawa, located in the center of east Asia and promote the following:

- The practical application and the dissemination of advanced ICT, for example, the next generation ICT infrastructure technologies such as SDN (Software-Defined Networking), cloud technology/cloud computing and their converged technologies
- The expansion and the promotion of application of data utilization
- The resolution of industrial and social issues and the creation of new value by applying advanced ICT and data utilization
- The promotion of Okinawa's local industry and society and the promotion of collaboration with Asian countries and regions taking advantage of the location

OOL is an international research institute in Urasoe City, Okinawa, **the Center of the Asian Dynamism**

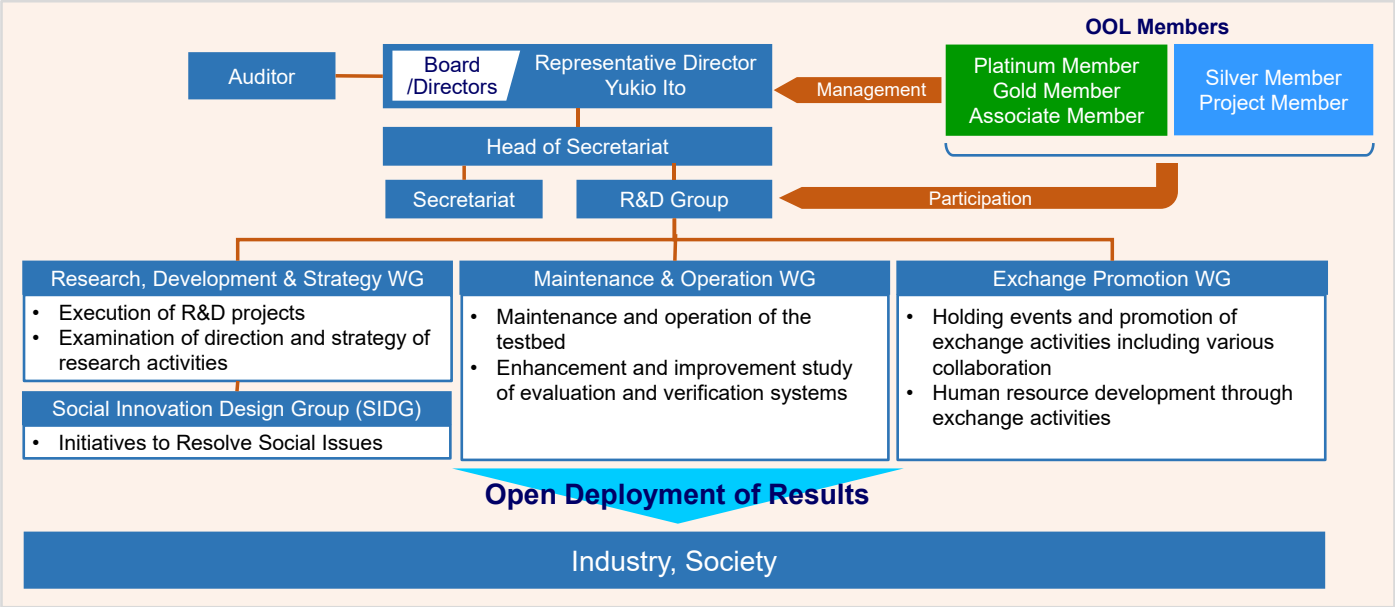
(6) Main Business Activities

① Research and Development (R&D)

② Exchange Activities (EA)

③ Human Resources Development (HRD)

1.2 Organization Chart and Operation



- OOL Members
  - ・OOL adopts a membership system. OOL Members are a critical part of OOL. Every activity in OOL is driven by Members. As for membership, please refer to section 1.3.
- Board
  - ・Consist of Directors and make strategic decisions on the management and operation.
- Auditor
  - ・Audit the operation.
- Head of Secretariat
  - ・Make the practical decisions on the daily operation.
- Secretariat
  - ・Conduct the practical operation such as general affairs, finance, contract management, facility and equipment management, internal meetings management, membership management, and external activities.
- R&D Group
  - ・Organize and operate R&D activities and related activities leveraging technical expertise.
  - ・Each WG (Working Group) and SIDG conduct actual activities to deploy the results to industry and society.

1.3 Membership

(1) Membership Categories

OOL Membership consists of 5 categories as follows.

The following table shows the difference between each category very briefly.

Membership Category	Rights of Management and Operation of OOL	Rights of Participation in OOL Activities
Platinum	• Elect a director • Attend the board as a director with voting rights	• Participate in all R&D projects • Participate in all events and activities including members only events
Gold	• Attend the board as an observer without voting rights	
Associate	• Elect a director when approved • Attend the board as a director with voting rights when elected	
Silver	• N/A	
Project	• N/A	• Participate in a specific R&D project • Participate in all events and activities including members only events

(Note) Platinum, Gold, Silver: Paid Membership
Associate: Free Membership
Project: Membership Fee depends on the project.

(2) Membership Status

- Various companies, organizations and individuals from Japan and overseas that agree with the purpose and activities of OOL have participated as members including vendors, operators, research institutions, educational institutions, technology communities, etc.
- The total number of OOL members is 85 as of October 2025
  including Platinum (2), Gold (0), Silver (24), Associate (32) and Project (27).

1.4 Directors

・Representative Director	Yukio Ito	Okinawa Open Laboratory
・Director	Tatsuya Yamashita	NTT DOCOMO BUSINESS, Inc.
・Director	Shoichiro Henmi	NTT DOCOMO BUSINESS, Inc.
・Director	Kentaro Hironaka	NEC Corporation
・Director	Taku Yamazaki	NEC Corporation
・Director	Noritaka Abe	Okinawa Open Laboratory
・Director	Noriyoshi Yamazaki	Okinawa Open Laboratory

(Note) The above name list is as of October 2025.

1.5 Message from Representative Director

Yukio Ito
Representative Director
Okinawa Open Laboratory

Okinawa Open Laboratory celebrated its 10th anniversary in May 2023.
Under the concept of "forming an international R&D base in Okinawa", with the aim of practical application and dissemination of the next-generation ICT infrastructure technology, "Convergence of SDN and Cloud Computing" was the research theme of our activities in May 2013. Since then, amid the remarkable evolution and changes of technologies such as IoT, AI, 5G, drones, and big data utilization, we have been able to continue our activities for 10 years, as a globally unique research institute that brings together companies and organizations that usually do not have many opportunities to collaborate, and openly promotes research activities beyond the boundaries of industries and organizations. We believe that this is the result of the continuous support and cooperation of all members and related parties who support the activities of Okinawa Open Laboratory. Once again, I would like to express my deepest gratitude to all of you.

Since its establishment, our laboratory has pursued the ideal state of technology, industry, and society as a place for open technology and engineers to interact and fuse from the perspective of use cases and has been engaged in various activities. Amid the need to realize a sustainable society and to work on well-being, expectations and demands for ICT and digital technology in industry and society are increasing more and more. In our laboratory, we will continue to focus on providing use cases and places for interaction, challenge various activities, and promote technical and social contributions.

We look forward to your continued support and guidance.

2. Business Overview

2.1 Major Business Activities

Conduct the following 3 business as major business activities.

① Research and Development (R&D)

- Conduct R&D on advanced ICT and data utilization focusing on their use cases.
- Conduct demonstration experiment addressing real-world issues and promote to implement research results.

② Exchange Activities (EA)

- Exchange openly with OOL members, various communities, organizations and people for promoting collaboration and co-creation in the business activities.
- Provide places and opportunities to promote such exchange activities.

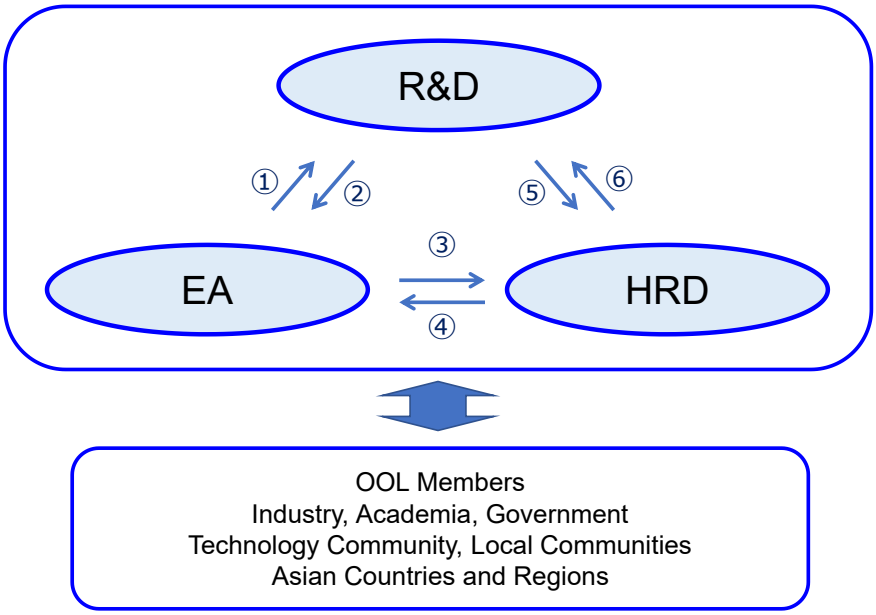
③ Human Resources Development (HRD)

- Develop human resources, especially engineers, who can understand, use and promote advanced ICT and data utilization practically.
- In addition to the ordinal HRD programs, develop human resources through joining in R&D and EA.

Conduct R&D as OOL's main business, and conduct EA and HRD in order to promote R&D smoothly and sustainably.

2.2 Relationship between Business

Expectations for relationship between business are as follows.



① Grasp technological trends, industrial and social trends, needs, issues, etc. and reflect them in the selection of research themes and consideration of use cases.

② Disseminate research results and promote their application.

③ Provide places and opportunities for HRD.

④ Revitalize EA through the participation of newly developed human resources.

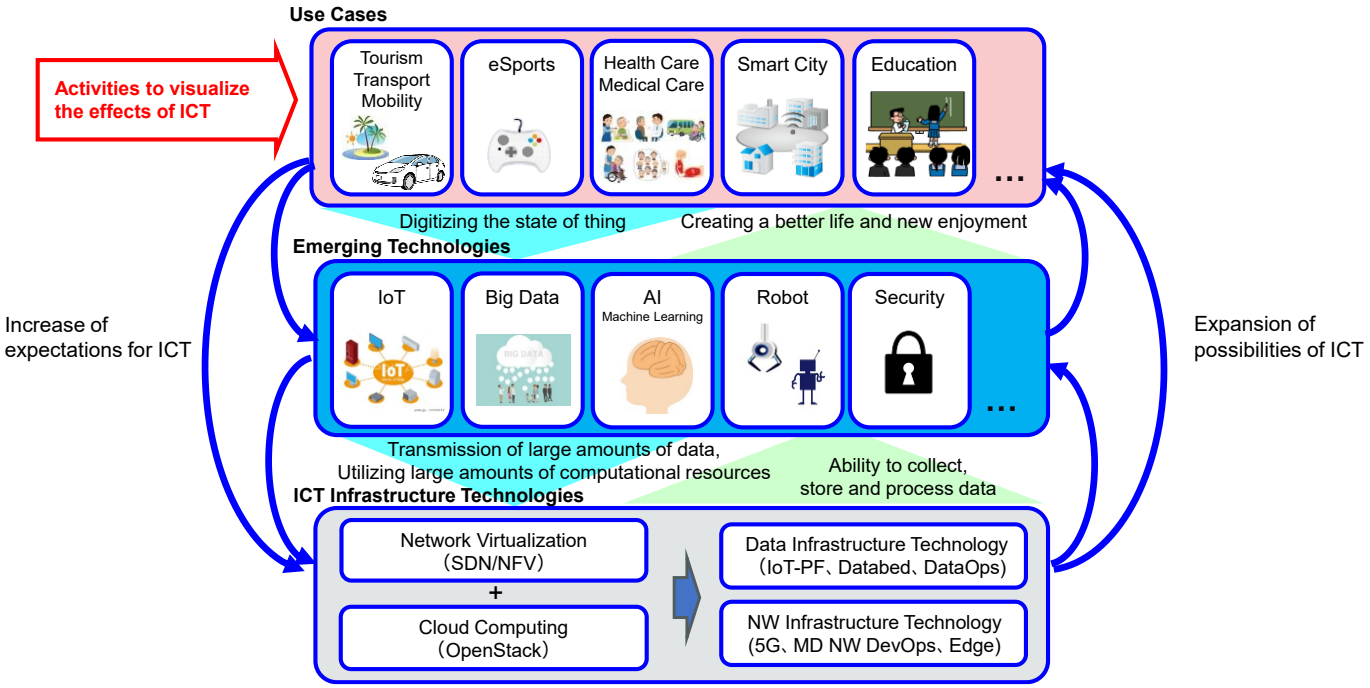
⑤ Provide places and opportunities for HRD.

⑥ Revitalize R&D through the participation of newly developed human resources.

3. Research and Development (R&D)

3.1 Target Areas of R&D

The following 3-layer diagram shows the target areas of R&D.



- ICT Infrastructure Technologies Layer
  - Main target area for technology research and development.
  - Started from network virtualization and cloud technologies, and then expanded to data infrastructure technologies considering data utilization and various network infrastructure technologies.
- Emerging Technologies Layer
  - Various new technologies came up in emerging technologies layer, and it is getting more and more important to effectively utilize those technologies combining with ICT infrastructure technologies in order to resolve real-world issues effectively.
- Use Cases Layer
  - Regarding use cases, it is getting sought after to take up real-world issues in industry and society.

3.2 Major Policies and Operation of R&D

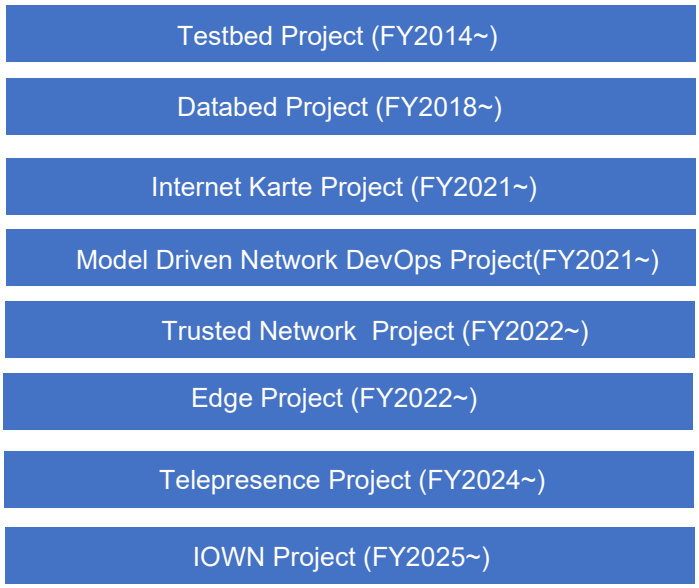
(1) Select R&D themes in accordance with OOL's establishment purpose while observing social, industrial and technological trends and issues.

(2) When verifying and developing technologies, always be aware of use cases that reflect real-world issues and demands as much as possible.

(3) R&D targets and materials are preferentially selected for open technologies, OSS (Open Source Software) and open data for promoting open collaboration and co-creation beyond organizations.

(4) If the expected use case cannot be realized with existing OSS products, develop a missing part as an OSS.

(5) R&D activities are managed and promoted in units called projects.
OOL is currently working on the following 8 R&D projects (ongoing projects).



These projects will be briefly explained in the following sections.

(6) Provide testbed and databed in order to facilitate and extend collaboration and co-creation with members and partners in R&D activities and related activities.

3.3 Advanced Technology Research

3.3.1 Major Activities and Achievements on Technology Evaluation and Verification

(1) ICT Infrastructure Technologies

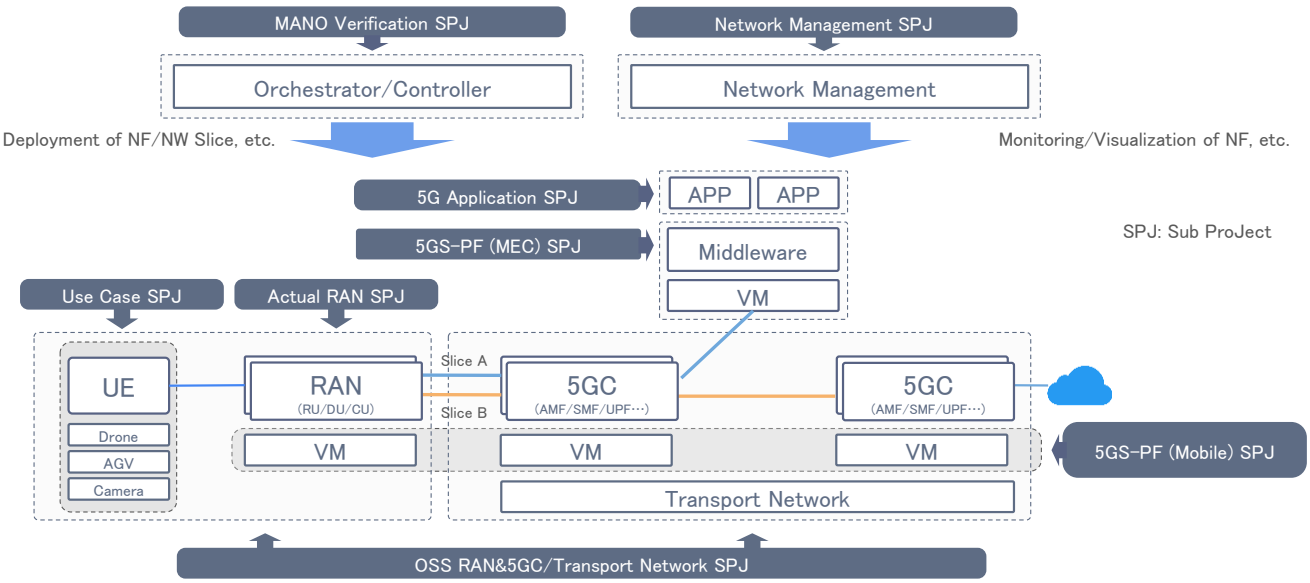
▪ Past Activities

・Evaluation and verification of various technologies

- Evaluated and verified various technologies such as SDN, cloud, and containers, OPNFV, ONOS/CORD, Calico from the perspective of virtualization technologies.
- Developed OF-Patch (OpenFlow Patch Panel) as a unique OSS that realized software-defined (SD) data center operation, from the perspective of promoting the spread of SDN.
- For OPNFV, built the first OPNFV community lab in Japan covering the Japan~Asia region and contributed to the spread of OPNFV throughout the Asian region.

・5G Project

- For 5G, verify the functions and performance of mobile-related OSS such as RAN and 5GC, as well as related technologies such as MEC and orchestrator controllers, for the purpose of evaluating local 5G environments using OSS.
- For RAN, build a verification environment using actual radio devices inside the laboratory and verify it.



▪ Ongoing Projects

・IOWN Project

- Performance and quality measurement of IOWN APN lines.
- Evaluation of multi data center applications connecting via IOWN APN lines.
- Verification of AI Model Training Migration Processing for Autonomous Driving and Advanced Driver Assistance Systems.

(2) Emerging Technologies

▪ Past Activities

・IoT Platform Project

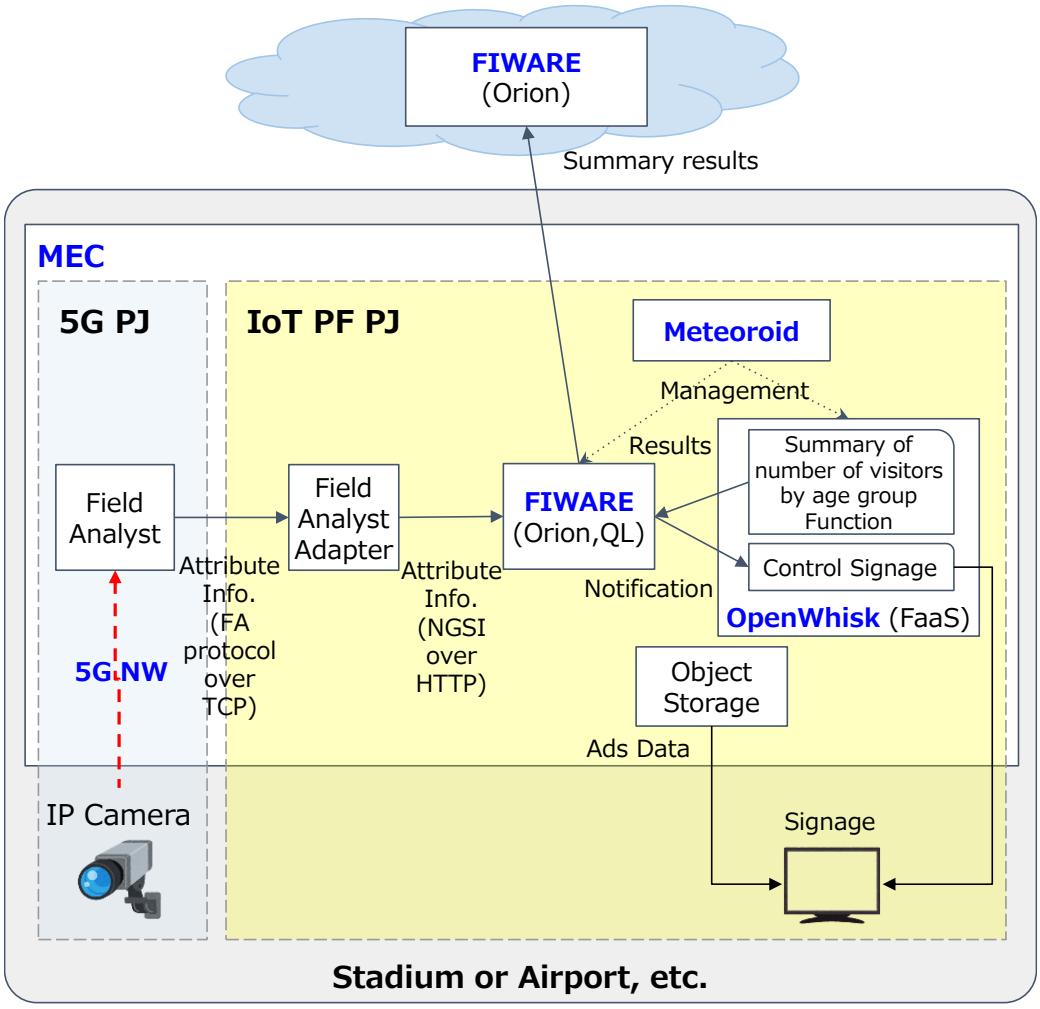
- Evaluated and verified mainly FIWARE as an IoT platform for the OSS version.
- Developed an OSS called Meteoroid, which integrates FIWARE and Function as a Service, and verified its use cases in order to realize a more user-friendly IoT platform.
- Conducted verification of multiple FIWARE connection as well.
- Conducted verification of X-Road which is attracting attention as a platform for smart cities in addition to conducting verification of FIWARE and related OSS.
- Worked on verification of data visualization analysis tools and video analysis of taxi-drive-recorders in collaboration with data utilization research.

(3) Combination of Multiple Technologies

▪ Past Activities

・IoT Platform + 5G

- Constructed an evaluation system assuming a stadium, and verified its operation combining 5G, IoT platform (FIWARE+Meteoroid), image analysis function and signage function as follows.



3.3.2 Major Activities and Achievements on R&D Targeting Actual Issues

Work to resolve various industrial, social, and regional issues from a technical perspective.

(1) Past Activities

- NetTester Project
  - ・Tackled development of utilities and tools for network system construction, testing, etc.
  - ・Developed NetTester as an automated network testing tool using SDN technology which enabled failure tests with multiple devices connected, etc.

(2) Ongoing Projects

- Internet Karte Project
  - ・Improve e-Sports communication environment.
  - ・Work to resolve the problem of network delay in the communication environment of competitive games by analyzing various network data from the perspective of network infrastructure technology, based on issues raised by Okinawan e-Sports Union that was established with the aim of spreading and promoting healthy e-Sports in Okinawa.
- Model Driven Network DevOps Project
  - ・Model networks and aim for automation of more advanced network operation based on the relationships between nodes.
  - ・Enable automation of what people have been testing and reviewing based on configuration drawings and multiple documents according to the setup.
  - ・Make it possible with software to comprehensively check the range and combinations that cannot be followed manually.
  - ・Address system-specific and service-specific designs and requirements.
- Edge Project
  - ・Study disaster-resilient ICT infrastructure environment
  - ・Due to Okinawa's geographical situation, there is a risk of ICT infrastructure isolation (Kyushu-Okinawa, main island-remote island) in the event of a disaster.
  - ・Consider the countermeasures from a technical point of view, such as whether Edge computing can be applied.
- Trusted Network Project
  - ・Work to realize a "Trusted Network" that is an open mechanism to constantly check whether the product is in a trustworthy state on the supply chain and even after implementation of the critical systems such as social infrastructure and corporate IT infrastructure in order to keep them safer and more secure.
  - ・Will also work on standardizing related technologies.

- Telepresence Project

  Evaluate the effectiveness of utilizing telepresence robots in addressing labor shortages and workload challenges in industrial settings in Okinawa Prefecture, and to explore their potential contribution to improving regional labor productivity.

3.4 Data Utilization Research

Utilize data to resolve Okinawa's industrial and regional issues

3.4.1 Major activities of data utilization research

The following are the major initiatives for data utilization research to date.

- Resolve social issues by using open data.
  - ・Take up a issue of public transportation and tourism as an urgent issue in Okinawa.
- Expand the use of business data to increase business added value.
  - ・Utilize taxi-in-vehicle data to create new business value.
- Promote the use of tools to improve data processing efficiency.
  - ・Utilize cloud services to streamline data processing.

3.4.2 Databed Project

Utilize open data to resolve issues of public transportation and tourism in Okinawa.

- Background
  - ・Improving tourism access and alleviating traffic congestion is an urgent issue for Okinawa, a tourism-oriented prefecture and a car society.
- Purpose
  - ・Enhance the convenience of public transportation and make effective use of it by converting tourism and public transportation information (static and dynamic information such as route information and operation information) into open data and promoting its utilization.
- Outline of Activities
  - ・Develop and provide OTTOP (Okinawa Transit and Tourism Open data Platform) as a common platform to register and utilize open data.
    - Expand and promote the use of open data by adopting GTFS, a standard data format.
    - Enable tourism and transportation operators to register and maintain data by themselves.
    - Enable apps and service providers to provide various services by utilizing registered data.
  - ・Encourage tourism and transportation operators to utilize OTTOP to accumulate open data.
  - ・Encourage service providers to leverage open data on OTTOP.
  - ・Raise awareness of open data and OTTOP among related parties through exchange activities such as workshops, etc.
- Results
  - ・Enabled GoogleMap to search for end-to-end routes, and greatly improved the convenience of using public transportation.
  - ・Not only travelers, but also residents could experience the results.
  - ・Expanded the use of OTTOP in various fields.
    - With the increased awareness of OTTOP, OTTOP is widely spreading, such as adoption by other service providers, use in education and training at high schools, functional schools, bus companies, etc., disaster prevention, crisis management, reorganization of existing bus routes, etc.

3.4.3 DataOps Project

Seek the best practice of data management with agile approach.

- Cloud services are increasingly providing low-code data processing such as data pipelines and workflow management and highly reusable services.
- In this project, verify whether it is possible to save labor, improve reusability, and improve the ability to respond to changes in data management by using the data processing framework of a cloud service instead of implementing data processing from scratch.

3.5 Evaluation and Verification Environment Support

Develop, provide, operate, maintain and enhance testbed and databed as a common place and environment to promote various joint activities.

3.5.1 Testbed

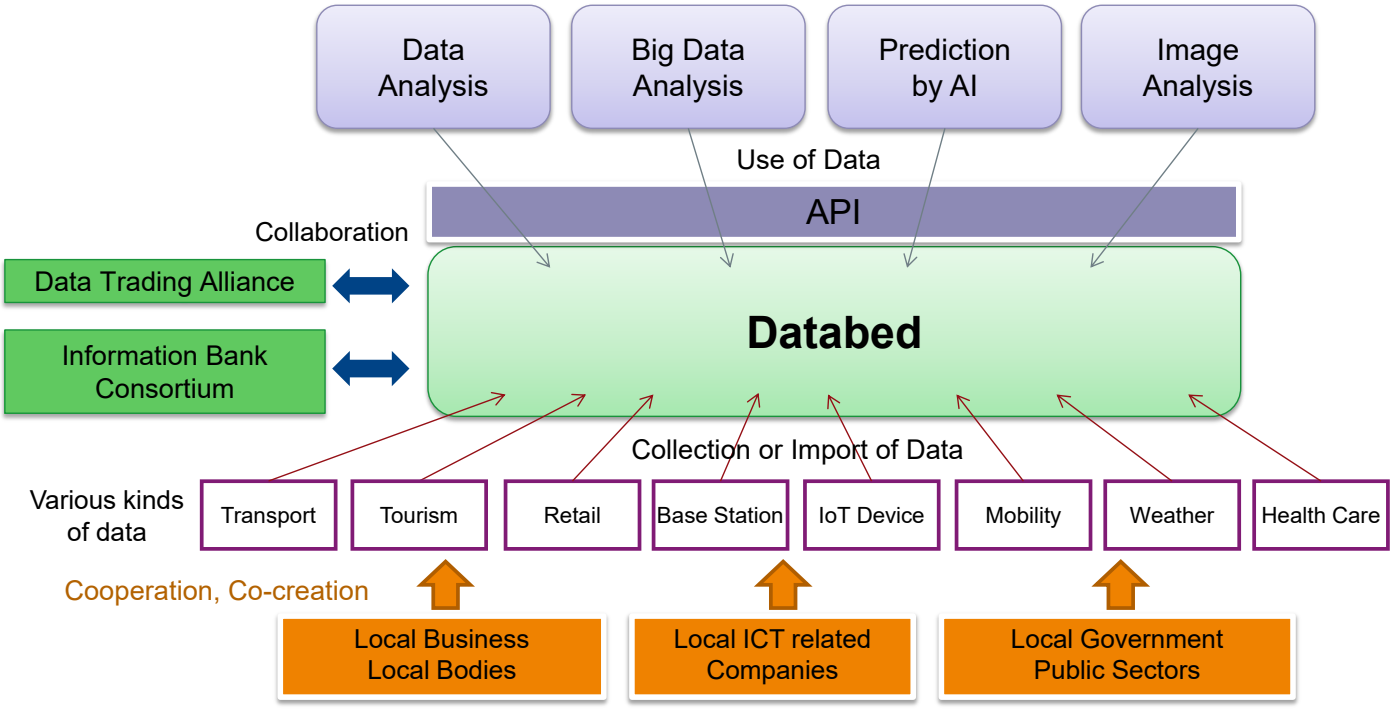
Testbed is a common platform for R&D activities collaborating with members and partners, and it is also used for exchange activities and HRD activities, such as for information sharing, demonstration and hands-on.

- Incorporate the latest research results including related OSS.
- Support interconnection with external test environments such as test environments of member companies in order to ensure scalability and flexibility.

3.5.2 Databed

Databed is established as a common platform to promote data utilization widely collaborating with various organizations.

- The conceptual chart of databed is as follows.



4. Exchange Activities

4.1 Exchange with Technology Communities

Collaborate with international OSS development communities and standardization promotion organizations such as LFN (Linux Foundation Networking), ONF (Open Networking Foundation), OpenStack, OPNFV, FIWARE and MEF (Metro Ethernet Forum) to promote technical verification using various OSS.

- Present verification results at international events held by related organizations.
  - ・Presented the verification results of 5G network slicing in collaboration with members and research partners at an international event hosted by MEF and received the 2019 MEF 3.0 Proof of Concept Awards and the 2021 Innovation Award.
- Announce new release of OSS developed by OOL at international events held by related organizations.
  - ・Announced Meteoroid, an OSS originally developed by OOL as a linkage function with FIWARE, an IoT platform, at the FIWARE Global Summit in Berlin held in October 2019.
- Exchange with key organizations in various ways, such as acquiring certifications of various organizations, mutually joining members, exchanging information, promoting activity collaboration, etc.
  - ・For example, OOL joined members of LFN and MEF and vice versa.

4.2 Exchange with Asia

Have a wide range of international exchanges with Asian countries taking advantage of Okinawa's location as follows.

(1) Membership

- Universities and research institutes in Taiwan, South Korea, and Malaysia participate in OOL as Associate Members to promote exchange and collaboration.

(2) Personnel Exchange

- 2 engineers from Taiwan III (Institute for Information Industry) stationed in OOL to conduct research activities and played bridge roles between III and OOL (One in 2014 and the other in 2015).
- Students from Taiwan NCTU (National Chiao Tung University) conducted internship training at OOL (1 student in 2019).
- Officials from Taiwan, Malaysia, and Korea respectively visited OOL and exchanged opinions on collaboration (2014~).
- Exchanged with JICA overseas trainees from Asia and Africa (2014 and 2015).

(3) Collaborative Research

- Conducted joint technology verification of inter-cloud across Japan, China, and South Korea under the framework of NEAOSS (Northeast Asia OSS Promotion Forum).
- Conducted interoperability verification between Taiwan III and OPNFV in a multi-site environment.
- Established Joint Research Center (JRC) with NCTU, Taiwan (July 2018).
  - ・Conducted open source 5G core verification, IoT platform interconnection verification, Okinawa's IoT sensor data collection and analysis in Taiwan.
  - ・Exchanged research information and wrote a research paper jointly on SDN/NFV and network slicing.

(4) Joint Events

- Exchanged information and discussed the possibility of new collaborations and joint research with local engineers and students through the following events:
  - ・Taiwan
    - International exchange meeting in Taiwan in collaboration with III and NCTU/NYCU (Taiwan-Japan SDN International Exchange Meeting, SDN Plugfest in Taiwan, OOL-NCTU Exchange Seminar, etc.)
  - ・Malaysia
    - International exchange meeting held in Malaysia in collaboration with UniKL (Universiti Kuala Lumpur) (IoT-CIT, IOT-SDN/NFV, etc.)
  - ・International exchange meeting within OOD
    - III, NCTU/NYCU, UniKL and Meio University participated in discussions on the possibility of joint research and student exchanges.

(Note) NCTU（National Chiao Tung University) and National Yang-ming University merged and became NYCU (National Yang Ming Chiao Tung University) in February 2021.

4.3 Exchange with Local Communities

Support IT education for junior high school students.

- Purpose
  - Contribute to local communities and students.
  - Let students become more familiar with IT and understand the social significance of IT.
- Activities in FY2022
  - Supported for Science Club of Nago Municipal Omiya Junior High School (Extracurricular Activities).
  - ・Held the following courses once a month:
    - How the internet works
    - Programming fundamentals
    - Interaction through e-Sports, etc.
    - The relationship between IT and society through disaster prevention information, etc.

4.4 Civic Tech Activities

(1) SDSG (Service Design Study Group) (FY2014~FY2017)

- Activities that formed the basis of current Civic Tech activities.
- Exchanged with experts in various industries and technical fields in order to consider the application areas (use cases) of advanced ICT.
- Held workshops on the following topics as a place for exchange.
  - ・FY2014~FY2015
    - Internet Multimedia, Tourism, Public Policy, Health Care & Medical Care, Media, Online Games, Education and Human Resource Development, Urban Development, Contents, Social Systems
  - ・FY2016
    - Blockchain Technology, Machine Learning, Civic Tech
- Shifted main activities to regional collaboration after meeting Civic Tech.
  - ・FY2017
    - Developed regional cooperation activities.
    - Exhibited results to UDC (Urban Data Challenge) which was nationwide contest of regional activities.
    - Decided to establish SIDG as shown below as a successor of SDSG to focus on Civic Tech activities and regional activities.

(2) SIDG (Social Innovation Design Group) (FY2018~)

- Disseminate and establish Civic Tech in Okinawa.
  - ・Civic Hack Night OKINAWA
    - Share examples of Civic Tech activities and SDGs activities.
    - Learn the tools that can be used for Civic Tech.
    - Hold workshops on regional issues.
  - ・Examine and propose Civic Tech framework.
    - Open Data Management with FIWARE and RPA Tools
    - Promote open data utilization by utilizing no-code tools.

(3) OODC (Okinawa Open Data Challenge) (2021~)

- Hold workshops with citizen participation to promote the use of open data and OTTOP.
- Raise awareness of data utilization and expand the base of human resources to promote data utilization.

(4) Civic Tech Summit

- Share the status of activities of communities promoting Civic Tech activities in Okinawa, exchanging various information and opinions.

4.5 Exchange Events

(1) OOL Events

- Okinawa Open Days（OOD）
  - An original exchange event from Okinawa and held in Okinawa, organized, planned, and operated by OOL.
  - Held annually since the first year of OOL in 2013.
  - Diverse participants include development and business divisions, users and providers, suppliers and operators, top engineers and students, and domestic and overseas, especially Asia.
  - Provide not only conferences and exhibitions, but also a place for participants to exchange with each other.
- Activity Report Meeting
  - Events to regularly report the status and results of OOL activities to members and related parties.
- Forum and Open Forum
  - Forum
    - Provide OOL members with a place for volunteer engineers to gather and discuss technical themes in a free atmosphere.
    - Provide useful information for engineers including exchanging information on the latest technology trends and hands-on of noteworthy technologies using testbeds.
    - Enable to officially launch a project if there is a demand raised from the forum to research on the specific theme and/or try on actual devices in earnest.
  - Open Forum
    - Provide an open technical exchange place where non-member general engineers can participate in addition to a forum for member volunteers.
    - Promote and raise awareness of OOL activities widely to industry, academia, and government agencies through technical exchange involving non-members.
- OOL Summit
  - Provide a place to exchange with the management of member companies.
  - Exchange information and opinions on high-level themes unique to management and the direction of OOL

(2) External Events

- Participate in ICT-related and OSS-related events:
  - Interop, JANOG (Japan Network Operators' Group), OSC (Open Source Conference), etc.
- Participate in events in Okinawa Prefecture:
  - ResorTech Okinawa, IT Shinryo Festival, etc.

5. Human Resource Development

Develop and secure human resources who can understand, use, and support advanced ICT to promote the dissemination of such technologies.

- Provide the following HRD programs for OOL research activity areas based on this understanding.
- HRD programs consist of 2 levels as follows.

① Basic Program

・Education and training programs for the acquisition of basic knowledge.

② Advanced Program

・Practical training program for advanced engineers who can apply advanced ICT.

5.1 BASIC Program

Provide technical education and training program for the penetration and dissemination of new technologies.

- Developed a unique technical education and training program centered on SDN and cloud (FY2013~FY2018)
  - ・Basic education and training such as technical seminars and hands-on to learn an overview of the technology and how to use it in order to raise up the level of technology and secure engineers.
  - ・Developed mainly for students in Okinawa, and more than 3,000 people participated in total.
- Currently, the basics of ICT infrastructure technology are comprehensively learned through e-learning using AITAC*1 contents.

*1 Organization that carries out development and operation of a program to train engineers who can grasp the essence of technology and connect it to growth strategies (https://aitac.jp/)

5.2 Advanced Program

Practically train high-level engineers who can well utilize advanced ICT.

(1) Specialist (SP) Training Program (FY2015~FY2020)

- Provide training program aimed at developing practical engineers who are ready to work in industry mainly targeting students and young engineers.
  - ・Engineers who are active on the front lines of the ICT industry become instructors (mentors, advisors) for a few months.
  - ・Within the training period, teams are formed and each team plans, creates a program, and presents the results in the program contest in the end.
  - ・The winning team makes a presentation of the result in English for students at NCTU (now NYCU) in Taiwan and at UniKL in Malaysia.
- Already produced many graduates and many of them are active on the front lines of companies and communities.

(2) Collaborative Research based Program

- Mentors supervise students' graduation thesis research (students) on themes related to research activities.

(3) Practical Experience based Training Program

- The following experience can be provided.
  - ・Experience OOL R&D work as an intern (for students)
  - ・Participate in OOL R&D as OJT (On the Job Training) and acquire skills through practical work (for young engineers)
  - ・Participate in the construction, operation, and monitoring of OOD venue network and gain experience in real network (for students and young engineers)
  - ・Specific contents are to be individually adjusted.

(4) Technical Experience-based Exchange Event

- OOL Tech Connect
  - ・New program developed in FY2023 mainly for working people.
  - ・Students in Okinawa are also invited.
  - ・Hold local events in which working people can participate and obtain "workation (work+vacation) effects"
  - ・Plan hands-on events with new technologies such as the latest AI, etc. that can improve the skills of participants and interact with each other.

6. Organization History

The following shows the timeline for major activities and events from 2013 to 2023

(1) Based at Okinawa IT Shinryo Park

- May 2013 Established OOL at Okinawa IT Shinryo Park in Suzaki, Uruma City with the aim of forming an international R&D base in Okinawa and started R&D activities on advanced ICT.
- Oct. 2013 Started basic program for HRD to foster engineers who can understand and use SDN/Cloud technologies.
  → More than 3,000 students and young engineers joined the program by FY2018.
- Dec. 2013 Held the first OOD (OOD2013) as an international conference originating in Okinawa.
  → OOD was held 10 times in a row for 10 consecutive years from OOD2013 to OOD2022 with 8,975 participants in total.
- Mar. 2014 Built OOL's own test system with dozens of servers and NW devices and started providing services as a testbed.
- Apr. 2014 Started joint research activities with Taiwan III as a first overseas collaboration and 2 engineers were stationed in OOL: one in 2014 and the other in 2015.
- May 2014 Started SDSG as cross-industry and cross-technology exchange and Civic Tech activities.
- May 2015 Started Specialist Development program for advanced HRD program.
  → Trained 128 engineers in total by FY2020.
- Jun. 2015 Developed OF-Patch using SDN technology and won the Special Prize in the Science Division at Interop Tokyo 2015.

(2) Based at Okinawa Information and Communication Center

- July 2015 Moved to Okinawa Information and Communication Center at Kanekadan, Uruma City.
- Aug. 2015 Held Taiwan-Japan International SDN Conference as the first overseas event jointly with III and NCTU, and joined OpenStack Day Taiwan, SDN Plugfest in Taiwan.
- May 2016 Established the first OPNFV community lab in Japan covering the Japan~Asia region.
- Oct. 2016: Held OOL Summit as a place to exchange with the management of member companies.
- Mar. 2017 Developed NetTester using SDN technology, contributing to the efficiency of network construction, modification, and expansion work.
- Mar.2017 Held Malaysia International Exchange Meeting jointly with UniKL.
  → Held events 4 times and had 539 people participated in total by 2020.
- 2017 Started study of data utilization research and started databed project from the following year.
- Aug. 2018 Started 5G project and started construction and verification of local 5G environment using OSS.
  → Have been working on evaluation and verification using actual radio waves since FY2020.

(3) Based at NTT Com. Naha Jitchaku Building

- Sep. 2018 Moved to NTT Com. Naha Jitchaku Building (Urasoe City).
- Aug. 2019 Opened OTTOP and started distributing open data on public transportation and tourism.
- Nov. 2019 Demonstrated 5G NW slicing at MEF event and received MEF 3.0 Proof of Concept Award.
  → Received the Innovation Award at another MEF event for different demonstration in March 2021.
- Mar. 2020 Developed Meteoroid as FaaS platform for IoT systems to contribute to facilitating to the event processing from IoT devices.
- Nov. 2021 Certified as an "Okinawa SDGs Partner" for being evaluated for OOL's activities on open data utilization and Civic Tech promotion.
- 2021 - 2022 Continuously launched R&D projects responding to technological evolution and social needs: MDDO, eSports, DataOps, Edge, Trusted NW"
- May 2023 Received the Accomplishment Award from the ITU Association of Japan evaluating OOL's contribution to international cooperation in the field of ICT from Okinawa.