

ECONOMIC IMPACT OF OIST ON OKINAWA AND JAPAN

Executive Summary

Mitsubishi UFJ Research and Consulting Co., Ltd.
August 2026

Table of Contents

1. Executive Summary.....	1
2. Data Collection	2
(1) Data Provided by OIST	2
(2) Official Statistics and Other Data	2
3. Analytical Methodology and Assumptions	3
(1) Analytical Methodology	3
(2) Assumptions	3
4. Estimation Results.....	5
(1) Economic Impact of OIST Operations (FY2025).....	5
(2) Economic Impact of Facility Development (Cumulative FY2005–FY2025, at Constant 2020 Prices)	5
(3) Combined Annual Economic Impact of OIST Operations and Facility Development..	5
(4) Impact on the Regional Economy	6
(5) Potential Effects of Innovation Ecosystem Activities	6
5. Discussion	7
(1) Economic Impact of OIST Operations and Facility Development	7
(2) Impact of Faculty Expansion	7
(3) Contribution to the Innovation Ecosystem	7
6. Conclusion	8
References.....	9

1. Executive Summary

The Okinawa Institute of Science and Technology Graduate University (OIST) was established in 2011 as a world-class center for education and research. By bringing together researchers and students from around the world, OIST has generated outstanding research outcomes and contributed to the development of highly skilled talent.

This study used input-output analysis to quantitatively assess the economic and social impacts generated by OIST's activities in Japan as a whole, Okinawa Prefecture, and Onna Village.

Key Findings

Unit: JPY million, jobs

Item	Japan	Okinawa	Onna
Induced Production Value (Operations, Annual)	39,527	22,382	5,984
Induced Production Value (Facility Development, Cumulative, at Constant 2020 Prices)	202,809	130,787	44,851
Induced Gross Value Added (Operations, Annual)	22,137	13,060	4,107
Employment Effects (Operations, Annual)	4,811	2,687	1,015
Tax Revenue Effects (Operations + Facility Development, Annual)	1,381 (national tax)	342 (prefectural tax)	53 (village tax)
Impact on Gross Regional Product (GRP)	—	0.3%	6.9%

In addition, OIST contributes to the regional economy in diverse ways through innovation ecosystem activities and the real-world application of research outputs. Examples include the startup EF Polymer, the development of High-Performance Rice “Churaotome,” aquaculture research on Okinawa mozuku and sea grapes, and the Coral eDNA Project.

2. Data Collection

The following data were collected and used to estimate the economic impact of OIST.

(1) Data Provided by OIST

Data Category	Content / Source
Financial Data	FY2025 Financial Statements of the Okinawa Institute of Science and Technology School Corporation
Personnel Data	Number of officers, faculty, staff, and students; breakdown by residence and household type
Conference and Event Data	FY2025 Business Report of the Okinawa Institute of Science and Technology School Corporation Number of participants in academic conferences, seminars, etc., in FY2025, broken down by origin (residence) and attribute
Facility Development Data	Facility development expenditures from FY2005 onward (actual figures for each fiscal year)
Residential Facility Data	Usage of residential facilities by faculty and students; residential facility development costs

(2) Official Statistics and Other Data

Data Category	Content / Source
Input-Output Table (National)	Ministry of Internal Affairs and Communications, <i>Input-Output Tables</i> (2011, 2015, 2020)
Input-Output Table (Okinawa)	Okinawa Prefecture, <i>Okinawa Input-Output Table</i> (2011, 2015, 2020)
Input-Output Table (Onna)	Ministry of the Environment, <i>Onna Input-Output Table</i> (provided by Value Management Institute, Inc.) (2010, 2015, 2020)
Economic Activity Deflators	Cabinet Office Economic and Social Research Institute, <i>National Accounts (Base Year 2020; 2008 SNA)</i>
Gross Regional Product	Okinawa Prefecture, <i>FY2023 Prefectural Economic Accounts</i> Okinawa Prefecture, <i>FY2023 Okinawa Municipal Economic Accounts</i>
Household Consumption Data	Statistics Bureau of Japan, <i>2024 National Survey of Family Income, Consumption and Wealth</i> Statistics Bureau of Japan, <i>Family Income and Expenditure Survey</i>
Student Expenditure Data	Japan Student Services Organization, <i>FY2024 Student Life Survey (Graduate Students - Trial)</i>
Tourism Expenditure Data	Okinawa Prefecture, FY2025 Tourism Revenue Japan Tourism Agency, <i>Travel and Tourism Consumption Trend Survey 2025 (Final Report)</i>
Agriculture and Fisheries Statistics	Ministry of Agriculture, Forestry and Fisheries, <i>2024 Statistics on Farm Management by Agricultural Type</i> Okinawa Prefecture, <i>Agriculture, Forestry and Fisheries in Okinawa (March 2026)</i>

3. Analytical Methodology and Assumptions

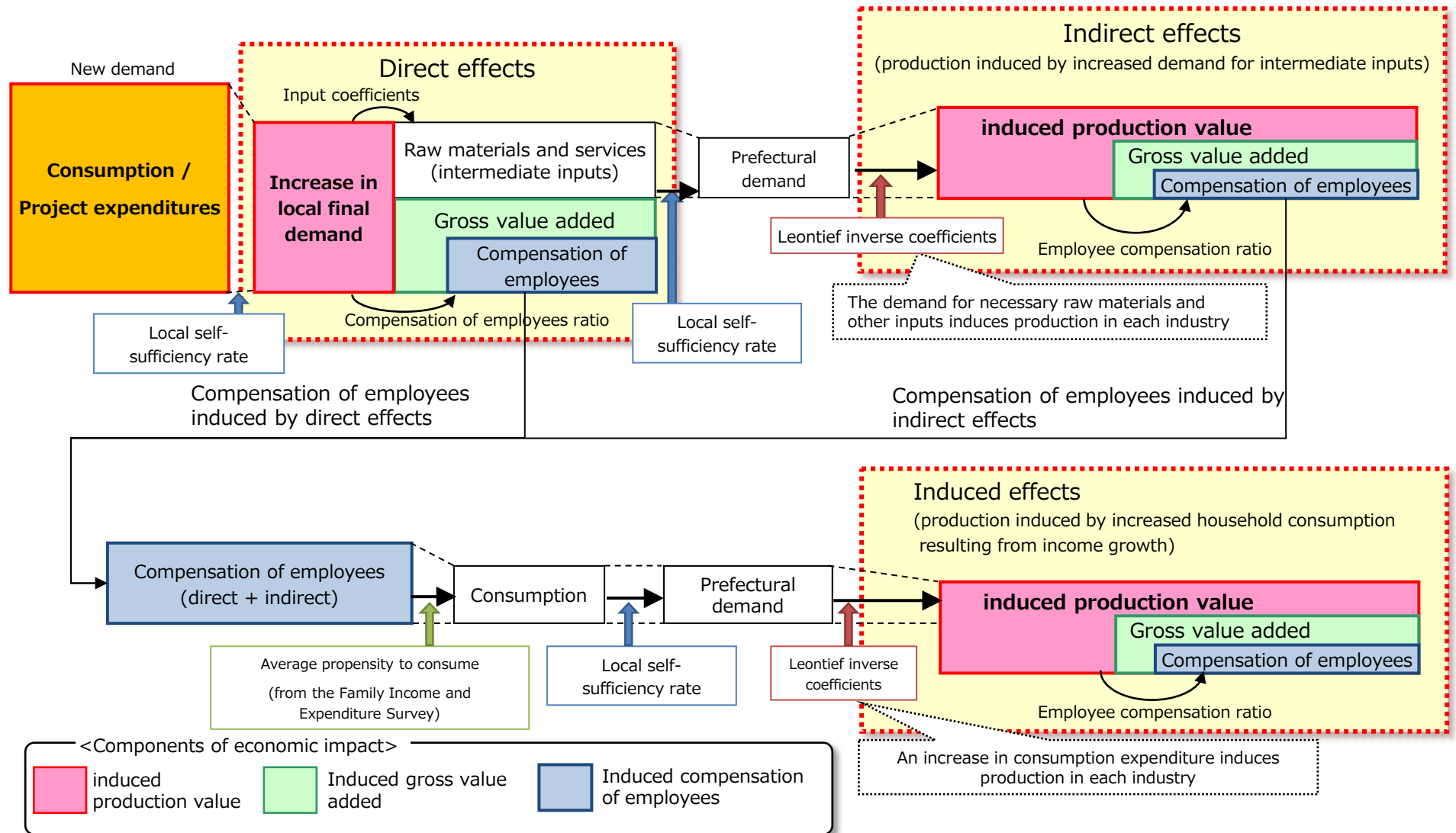
(1) Analytical Methodology

This study estimated the economic impact generated by OIST using input-output analysis, generally following the methodology presented in *Economic Impact Analysis of Regional Universities* (March 2007). The final demand generated by OIST's education and research activities, together with spending by executives, faculty, staff, and students, conferences, seminars, and other activities, and facility development expenditures, was used as the starting point. The estimated economic impact consists of direct effects, indirect effects generated through interindustry transactions, and induced effects generated through increased household consumption.

(2) Assumptions

Parameter	Setting
Target Period (Operations)	FY2025 (Reiwa 7) used as the base year for analysis
Target Period (Facility Development)	Cumulative real values from FY2005 (commencement of development) to FY2025 (base year: 2020 prices)
Faculty Numbers (Current Status)	94 faculty members (Principal Investigators) in FY2025 used as the baseline
Input-Output Table Selection	OIST operations: 2020 edition Facility development: input-output tables applied in stages to reflect the industrial structure in each period (2011, 2015, and 2020 editions)
Treatment of Inter-Regional Imports	Leontief inverse coefficients accounting for inter-regional imports were used (only economic impacts within the regional economy are counted)
Marginal Propensity to Consume	The average propensity to consume of 'worker households among households of two or more persons' in Okinawa (2025) was applied

Flow of Economic Impact



4. Estimation Results

(1) Economic Impact of OIST Operations (FY2025)

The economic impact of OIST operations in FY2025, comprising education and research activities; spending by executives, faculty, staff, and students; and conferences, seminars, and other activities, is shown below.

Unit: JPY million, jobs

Item	Japan	Okinawa	Onna
Induced Production Value	39,527	22,382	5,984
Induced Gross Value Added	22,137	13,060	4,107
Employment Effects	4,811	2,687	1,015

Note: Breakdown — Education and research activities (Japan: JPY 23,685 million); spending by executives, faculty, staff, and students (Japan: JPY 13,941 million); and conferences, seminars, and other activities (Japan: JPY 1,902 million).

(2) Economic Impact of Facility Development (Cumulative FY2005–FY2025, at Constant 2020 Prices)

The cumulative economic impact of facility development from FY2005, when construction began, through FY2025, based on expenditures of JPY 81,804 million at constant 2020 prices, is shown below.

Unit: JPY million, jobs

Item	Japan	Okinawa	Onna
Induced Production Value	202,809	130,787	44,851
Induced Gross Value Added	97,957	60,590	24,133
Employment Effects	17,214	12,631	1,838

(3) Combined Annual Economic Impact of OIST Operations and Facility Development

1) Economic Impact

The combined annual economic impact, calculated as the sum of the impact of OIST operations in FY2025 and the average annual impact of facility development over FY2021–FY2025, is shown below.

Unit: JPY million, jobs

Item	Japan	Okinawa	Onna
Induced Production Value	45,790	26,611	6,914
Induced Gross Value Added	25,320	14,889	4,632
Employment Effects	5,473	3,052	1,062

2) Tax Revenue Effects

The annual tax revenue effects generated by OIST operations and facility development are shown below.

Unit: JPY million

Category	National Tax	Okinawa Prefectural Tax	Onna Tax
Tax Revenue Effects (Annual)	1,381	342	53

(4) Impact on the Regional Economy

For the baseline as of 1 April 2026 and future scenarios involving an increase in the number of OIST faculty members (Principal Investigators), GRP-equivalent value added, and its impact on Okinawa Prefecture and Onna Village were estimated.

Unit: JPY million

Region	Faculty Members					Gross Regional Product (FY2023)
	94*	120	150	200	300	
Okinawa	14,464	18,808	25,817	37,439	60,456	4,642,960
	0.3%	0.4%	0.6%	0.8%	1.3%	
Onna	4,194	5,472	7,515	10,918	17,720	60,701
	6.9%	9.0%	12.4%	18.0%	29.2%	

Note: 94 faculty members as of 1 April 2026.

The expansion of faculty numbers is expected to have a particularly pronounced impact on the economy of Onna Village. With 300 faculty members, GRP-equivalent value added is estimated to correspond to approximately 30% of the village's GRP.

(5) Potential Effects of Innovation Ecosystem Activities

Illustrative estimates were prepared, based on publicly available information, to indicate the potential scale of benefits arising from the real-world application of OIST's research outputs and efforts to address regional challenges. The main results are shown below.

Case	Key Effects and Significance
EF Polymer	A startup developing super-absorbent polymers derived from agricultural waste. For open-field vegetables, an illustrative estimate indicates an increase in gross agricultural revenue and a reduction in fertilizer expenses, resulting in an illustrative net benefit to farmers of approximately JPY 83,000 per 10 ares.
High-Performance Rice "Churaotome"	A high-performance rice variety jointly developed by OIST and Onna Village. If adopted as a recommended variety throughout Okinawa Prefecture (Scenario 3), it is estimated to generate induced production value of JPY 485 million and employment effects of 177 jobs nationwide.
Mozuku and Sea Grape Aquaculture Research	A 1% increase in output values through advanced aquaculture technology would correspond to an increase effect of approximately JPY 35 million. The potential to avoid production volume declines in low-yield years amounts to approximately JPY 410 million.
Coral eDNA Project	A technology for understanding coral communities through DNA analysis of seawater. It has the potential to replace the approximately JPY 4 million annual monitoring costs incurred by the Ministry of the Environment, while contributing to the efficiency of ecosystem conservation through broad-area and high-frequency monitoring.

Note: The estimates above are illustrative and are based on publicly available information and a set of assumptions.

Actual effects may vary depending on the conditions of implementation, the extent of adoption, and cultivation or aquaculture conditions.

5. Discussion

(1) Economic Impact of OIST Operations and Facility Development

OIST operations alone generate induced production value of approximately JPY 39.6 billion in Japan and JPY 22.4 billion in Okinawa Prefecture annually. This is comparable to the economic impact of national universities. In Onna Village, which has a relatively small population, the impact is particularly substantial, with GRP-equivalent value added corresponding to 6.9% of the village's GRP. Facility development has also generated cumulative induced production value of JPY 202.8 billion in Japan and JPY 130.8 billion in Okinawa Prefecture over approximately 20 years, thereby providing substantial support to the regional economy, particularly the construction sector.

(2) Impact of Faculty Expansion

As the number of faculty members increases from 94 as of 1 April 2026, the economic impact on Okinawa Prefecture and Onna Village is projected to increase substantially. In particular, with 300 faculty members, GRP-equivalent value added is estimated to correspond to approximately 29.2% of Onna Village's GRP, further increasing OIST's importance as a key institution underpinning the economies of Onna Village and Okinawa Prefecture. As startup support, industry-academia-government collaboration, and initiatives to address regional challenges accumulate, qualitative impacts that are difficult to quantify are also expected to expand.

(3) Contribution to the Innovation Ecosystem

In addition to its quantitative economic impact, OIST plays an important role in fostering an innovation ecosystem through the real-world application of research outputs, startup support, industry-academia-government collaboration, and efforts to address regional challenges. The illustrative estimates presented in the preceding section indicate that these activities can generate tangible economic and social value in fields such as agriculture, fisheries, and environmental conservation.

6. Conclusion

(1) Confirmation of Quantitative Effects through Input-Output Analysis

OIST operations in FY2025 generate induced production value of approximately JPY 39.6 billion in Japan and approximately JPY 22.4 billion in Okinawa Prefecture, confirming OIST's continuous and multifaceted contribution to the regional economy. Cumulative facility development over FY2005–FY2025 generated induced production value of approximately JPY 202.8 billion in Japan.

(2) Economic Impact on Okinawa Prefecture and Onna Village

GRP-equivalent value added corresponds to 0.3% of Okinawa Prefecture's GRP and 6.9% of Onna Village's GRP, making OIST an important economic actor in the region. This impact is expected to increase further as the number of faculty members grows.

(3) Future Growth Potential

Scenario analysis indicates that, with 300 faculty members, GRP-equivalent value added would correspond to 1.3% of Okinawa Prefecture's GRP and 29.2% of Onna Village's GRP. Further real-world application of research outputs and stronger industry–academia–government collaboration are expected to increase the value OIST brings to the economies of Okinawa and Japan.

(4) Role as a Core Institution in the Innovation Ecosystem

Cases such as EF Polymer, High-Performance Rice "Churaotome," and the Coral eDNA Project demonstrate that OIST is not only an academic research institution but also a core institution in an Okinawa-based innovation ecosystem, generating social value through both the creation of new industries and solutions to regional challenges.

References

- [1] Okinawa Institute of Science and Technology School Corporation, *Financial Statements for the Year Ended March 2026*
- [2] Okinawa Institute of Science and Technology School Corporation, *FY2025 Business Report*
- [3] Ministry of Internal Affairs and Communications, *Input-Output Tables for Japan* (2011, 2015, 2020)
- [4] Okinawa Prefecture, *Okinawa Input-Output Table* (2011, 2015, 2020)
- [5] Ministry of the Environment, *Onna Input-Output Table* (provided by Value Management Institute, Inc.) (2010, 2015, 2020)
- [6] Cabinet Office Economic and Social Research Institute, *National Accounts (Base Year 2020; 2008 SNA)*
- [7] Okinawa Prefecture, *FY2023 Prefectural Economic Accounts*
- [8] Okinawa Prefecture, *FY2023 Okinawa Prefecture Municipal Economic Accounts*
- [9] Statistics Bureau of Japan, *2024 National Survey of Family Income, Consumption and Wealth*
- [10] Statistics Bureau of Japan, *Family Income and Expenditure Survey*
- [11] Japan Student Services Organization, *FY2024 Student Life Survey (Graduate Students - Trial)*
- [12] Okinawa Prefecture, *FY2025 Tourism Revenue*
- [13] Japan Tourism Agency, *Travel and Tourism Consumption Trend Survey 2025 (Final Report)*
- [14] Ministry of Agriculture, Forestry and Fisheries, *2024 Statistics on Farm Management by Agricultural Type*
- [15] Okinawa Prefecture, *Agriculture, Forestry and Fisheries in Okinawa (March 2026)*
- [16] Ministry of Education, Culture, Sports, Science and Technology (MEXT), *Economic Impact Analysis of Regional Universities* (March 2007, Japan Economic Research Institute)