Okayama University (Function to be enhanced: <u>1. Boost academic excellence in specific areas of the university's strength</u>, <u>2. Generate innovation that can</u> <u>help solve global issues and advance societal reform</u>.)

Participators : University of Tsukuba, The University of Tokyo, Tokyo Institute of Technology, University of Yamanashi, Osaka University, Yamaguchi University, RIKEN, National Institutes of Natural Sciences, and National Institute of Technology (KOSEN), Tsuyama College

# Summary

A Research University Cocreating the Future of the Region and the Earth Together with Society and Contributing to Global Innovation: A Decade of Action for a Sustainable Society

### Initiative 1: To create new technologies that can resolve global issues by dramatically enhancing our excellence

To elucidate "the mechanism of natural photosynthesis" and "the structure, genomic information, and various functions of plants".

To also accelerate the social implementation of artificial photosynthesis and the development of systems to produce clean energies and new materials that are stable and can maintain high strength even under extreme conditions.

# Initiative 2: To realize a well-being society by creating innovations

To realize a well-being society where everyone can live an enriched life by taking advantage of digital technology and the National Strategic Special Zones, against the backdrop of Japan's declining and aging population.

#### Initiative 3: To establish a research environment that serves as a foundation for the creation of innovations by bringing together knowledge and skills

To strengthen our research base as a research university by enhancing and sharing necessary research equipment and developing highly skilled technical human resources.

To promote a positive cycle of people and technology by creating an environment where people can gather in Okayama to refine their knowledge and skills and by strengthening cooperation with other institutions. Initiative 4: To produce researchers who become leaders in their fields and knowledge workers who utilize knowledge to transform society

To enhance our organizational performance by optimizing human resources at our university. To enhance the performance of individual faculty members by creating an environment where they can demonstrate their value in their respective areas of expertise through the diversification of their career paths.



Initiative 1: To create new technologies that can resolve global issues by dramatically enhancing our excellence

**Establishment of Research Core for Plant Science and Photo** 

**Energy Development** based on the highest priority research fields of the University (Plant Science and Innovative Materials) as one of research initiative of **the Advanced Research Initiative (Special Research Zone).** 

Lifestyle Natural photosynthesis **Artificial photosynthesis** Creation of new value reform and new industries Implementation in Kibi-Chuo-cho, designated as a Digital **Garden Health Special Zone** Services to support isolated **Drastic change** and lonely seniors Wildlife measures Energy in the global shortage environment Shopping Global Issues assistance service/Monitoring Natural service Climate change disasters To resolve these global issues by elucidating the structure of natural photosynthesis and developing innovative materials toward the Telemedicine **BIG DATA** practical application of artificial photosynthesis in the aim of creating · Remote blood collection (a system in which blood collection is conducted at a location clean energies. selected by a patient) Preventive medicine **Plant Science Material Science** • Task shifting to paramedics Promoting not only research and development

innovations

and lifestyles

**Relaxation of** 

Regulations

Ideal future to be realized 50 to 100 years from now: Promoting the acquisition of new knowledge and the development of new technologies toward the realization of planetary health, with an eye toward the implementation of extraterrestrial activities in the future. Promoting not only research and development but also human resource development.

Initiative 2: To realize a well-being society by creating

Maximizing the power of people through the power of digital

technology to lead the transformation of healthcare systems

Innovative new medical

technologies

Expanding good practices horizontally from Okayama to municipalities nationwide and eventually to the world.

Initiative 3: To establish a research environment that serves as a foundation for the creation of innovations by bringing together knowledge and skills Initiative 4: To produce researchers who become leaders in their fields and knowledge workers who utilize knowledge to transform society

### 1. Promotion of the enhancement and sharing of advanced analytical and measuring equipment

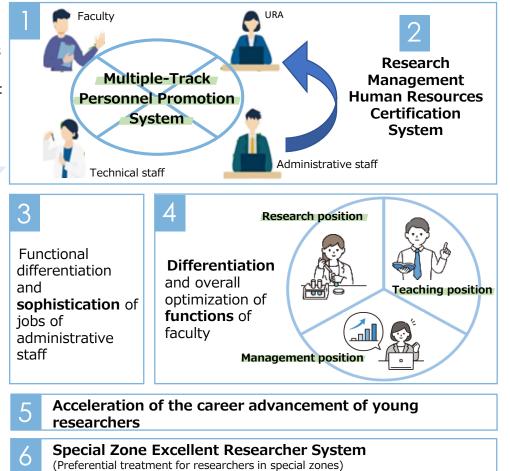
- Establishment of a collaborative network between Chugoku and Shikoku areas for cryo-electron microscopy
- · Installation of a Remote Access Station to access RIKEN SPring-8
- Establishment of a base for pre-experimentation of large-scale experiments through the installation of **state-of-the-art equipment**
- Promotion of shared use of basic and advanced equipment (Promotion of utilization by industries)
- Providing one-stop access to research equipment via the core facility portal system

# Synergy

# 2. Sophistication of technical staff

- Promotion of the development of certified **technical conductors (TCs)** through the completion of a program at TC College.
- **Promotion of brain circulation** among related organizations, companies, and other bodies
- Active utilization of human resources with doctoral degrees
- Promotion of the acquisition of doctoral degrees through the graduate school financial aid system
- Promotion of the acquisition of the Project Management Professional (PMP) Certification

Enhancement of organizational performance by optimizing human resources and diversifying career paths.



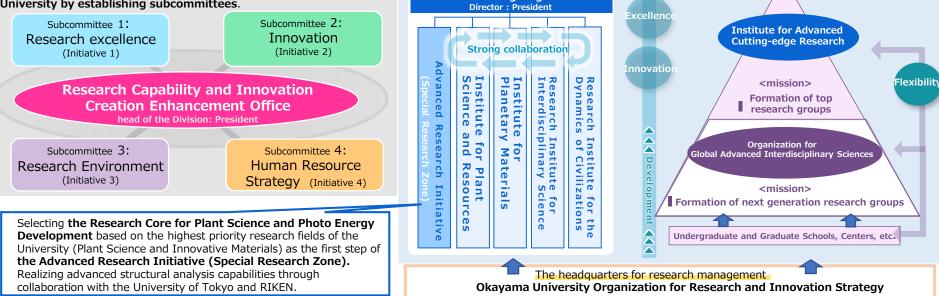
Senior and Middle Top Researchers System (Preferential treatment for top researchers)

Creation of a strong foundation to support innovation: Establishment of a research base and development of highly specialized human resources Program for Forming Japan's Peak Research Universities (J-PEAKS)

### Framework

### **Overall project implementation structure:**

To establish the Research Capability and Innovation Creation Enhancement Office to promote prompt decision-making and strong collaboration among faculty and other staff. **To realize an agile project implementation system and achieve the vision of Okayama University by establishing subcommittees**.



evaluation

Institute for

Advanced Cutting-edge Research

# Initiative 2: Establishment of a collaborative system to promote cooperation among think tanks inside and outside the University in areas ranging from local issue resolution to innovation creation

### ✓ Establishment of a collaborative system among universities related to the National Strategic Special Zones

To promote the relaxation of regulations on medical matters regarding related special zones and realize the development of new medical technology and lifestyle reform, etc.

### ✓ Establishment of a cross-university collaborative system

### Okayama Global Academic Capital Headquarters

It aims to promote social transformation together with the community by coordinating internal and external collaboration as a contact point for community needs.

#### Okayama DX Core

It develops new business models through the cooperation of diverse human resources including companies, academia, and students, with DX as the keyword.

· Osaka Prefectural Government

Initiative 1: Establishment of a flexible system for strengthening and developing researchers that contains performance-based

- Osaka City (Osaka University)
- Kibi-Chuo-Cho (Okayama University) (National Institute of Technology

(KOSEN), Tsuyama College )

• City of Tsukuba (University of Tsukuba)

Chino City (University of Yamanashi)

The National Strategic Special Zones and related universities



### Framework

# Initiative 3: To establish a mechanism to enhance and strengthen research infrastructure (facilities and people)

- $\checkmark$  Establishment of an organization that will play a key role in establishing the research infrastructure
  - The Department of Comprehensive Technical Solutions, to which all technical staff belongs

SPring.

RIKEN

- Establishment of the Office for Core-Facility in the Okayama University Organization for Research and Innovation Strategy.
- Strengthening of the collaboration with institutions with advanced technology
  - Enhancement of techniques to utilize cryo-electron microscopy The University of Tokyo
  - Acceleration of the utilization of SPring-8 RIKEN (National Research and Development Agency)

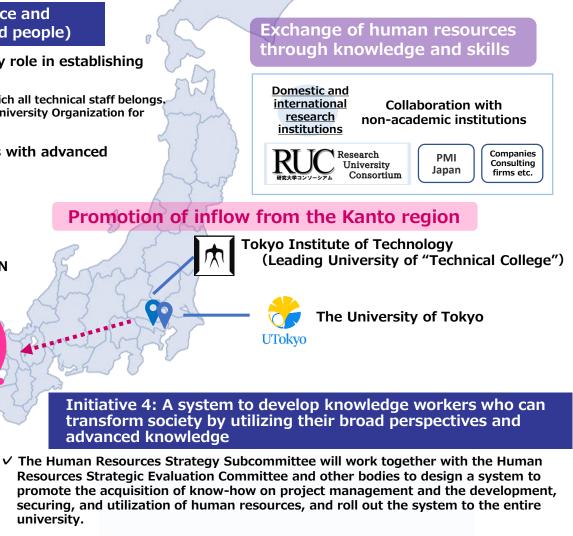
National Institute of Technology (KOSEN), Tsuyama College

Yamaguchi University

OKAYAM/ UNIVERSITY

# **OKAYAMA University**

Collaboration by taking advantage of geographical advantages



V Promotion of sophistication of technical staff and development of junior human resources.

- Tokyo Institute of Technology Yamaguchi University
- National Institute of Technology (KOSEN), Tsuyama College
- National institute of natural Sciences (NINS)
- V Promotion of the utilization and exchange of research management human resources such as university research administrators (URAs)
  - Research University Consortium (RUC)

university.

Timeline											
X	FY2023 FY2024	<b>}</b> }	FY2025	<b>}</b> }	FY20	26	<b>&gt;</b>	FY2027	<b>&gt;&gt;&gt;</b>	FY2028	<b>&gt;&gt;&gt;</b>
Initiative 1	Acceleration of research Launch of the advanced R Development" Establishment of the Instit Invitation and securing of Securing and developing r Development of next-gene Strengthening of resear Promotion of internatio	esearch Initiativ tute for Advance top and young next-generation pration principal rch and deve	ed Cutting-edge Research researchers researchers investigators (PIs) elopment through th	and the Specia e industry-a	al Research Zor	aboration	alyzed by PSII os tolerant to ments	O Developm of clean e aunch of the co-co	ent of innovative nergies reation innovatior	•	
Initiative 2	Acceleration of the establishment of the National Strategic Special Zones Related University Alliance and collaboration among the universities										
	Realization of the relaxation of regulations         Task shifting to paramedics         Demonstration experiment for echographic examinations performed by paramedics in the Digital Garden Health Special Zone         Development of equipment         Cross-municipal collaboration on health and medical information         Consideration as to how administrative data should be concerning the linkage of data         Establishment of a high security data linkage platform used to integrate medical data in municipalities and clinical data in hospitals										
	Creation of safe, secure, and comfortable life environment utilizing DX technologies										
Initiative 3	Establishment of a reset Strengthening the system Establishment of a base for Establishment of a networ Promotion of active utilizat	for cooperating r remote acces k to utilize cryo	with institutions that im s to facilities such as SPri -electron microscopy	plement the con ng-8 to accelera grees cutting-edge eco nnological excha	re facility progra ate the utilizatio 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	m n of such facilities Expansion of the us Realization of a stat made self-sustaining	e of shared eq e where the m g by increased	uipment inside and aintenance and re	newal of research	environment and facil	lities are
	Development and strengthening of research management human resources										
Initiative 4	<ul> <li>Multiple-Track Personnel F</li> <li>Research Management Hu</li> <li>Functional differentiation a</li> <li>Differentiation and overall</li> <li>Acceleration of the career</li> <li>Special Zone Excellent Res</li> <li>Senior and Middle Top Res</li> </ul>	man Resources and sophistication optimization of advancement of searcher System	Certification System on of jobs of administrativ functions of faculty f young researchers	ve staff							

- Special Zone Excellent Researcher System
   Senior and Middle Top Researchers System

Program for Forming Japan's Peak Research Universities (J-PEAKS)