Osaka Metropolitan University (OMU) (University Functions to be Enhanced: 2. Generate innovation that can help solve global issues and advance societal reform, 3. Take a lead in resolving regional issues through collaboration with regional communities.)

Collaborator : Nagaoka University of Technology

Participators : Tohoku University, Nara Women's University, Tokushima University, Osaka Metropolitan University College of Technology, University of New Mexico, Brown University, Royal University of Phnom Penh, National University of Tainan, Panyapiwat Institute of Management

Summary

Center for a well-being city creation with multi-scale think tank functions by promoting the Innovation Academy project

University Vision

Towards urban think tank for the future Asia, University will lead the resilient and smart urbanization of Osaka, a compact city with the population size and economic zone comparable to those of a nation and will disseminate a model of well-being society with gaining the trust from the local community.

➢ Accelerate co-creation research through the Innovation Academy (*ia*) project

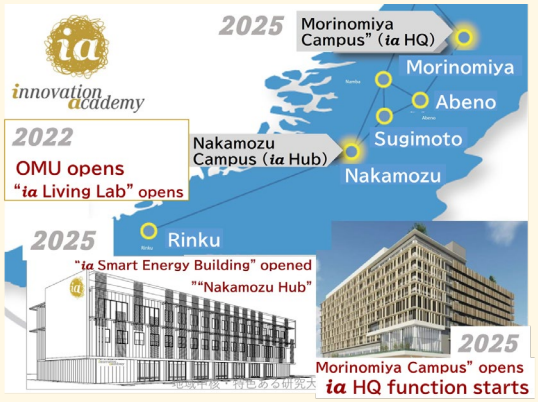
***ia* project: Living lab for co-creation among industry, academia, government, and private sector / Innovation ecosystem with intercampus network**

○ Promotion of Co-Creation Research among Industry, Academia, Government and Private Sector

- ✓ Strategic allocation of funds to *ia* project (Corporate version of hometown tax, Co-creation research quota for indirect cost)
- ✓ Strategic staff allocation to *ia* project (Utilization of President's discretionary personnel points, Restructuring of high-incentive tenure-track faculty system, Social collaboration-oriented faculty)
- ✓ Securing research time (Development of research infrastructure sharing center, Enhancement of education and research support personnel, Promotion of business DX)

○ Reinforcement of Strategic Technology Transfer System

- ✓ Formulate technology transfer policy in collaboration with overseas institutions, accompany technology transfer based on IP strategy, and establish start-up support system
- ✓ Inter-Universities collaboration of URA function/research seeds
- ✓ Solving social issues in collaboration with local governments and consultants, and applying these know-how into administrative policies
- ✓ Establishment of an agility-operated external organization for technology transfer (OMRI) on a pay-for-performance basis



Concentration of University Resources to *ia* Co-Creation Research Units

○ Proper Support for Each Co-Creation Research Unit

- ✓Industrialization of domestic technology that can compete with the world (all solid-state batteries)
- ✓Strengthening industry-academia collaboration in basic research necessary for industrial application of technology (equipment manufacturers and enterprise consortiums based on the NanoTerasu)
- ✓Establishment of demonstration test fields and utilization of data in GX
- ✓Creation of social infrastructure for sustainable and renewable circulation of food, agriculture, and energy, and overseas development of the system
- ✓Social impact-oriented evaluation of project/faculty
- ✓Demonstration experiments in Asia and feedback on the results to Osaka

○ Promotion of Global Research in Collaboration with Overseas Centers

- ✓Global development of the social implementation of solutions to issues in Osaka
- ✓Accelerating the commercialization
  - in collaboration with Boston start-ups in the healthcare field
  - in collaboration with University of New Mexico in the material science and energy fields
- ✓Fundraising through marketing in collaboration with overseas offices
- ✓Global expansion of convergence knowledge healthcare research in collaboration with Osaka International Research Center for Infectious Diseases and Research Center for Medical Sciences in Health and Longevity

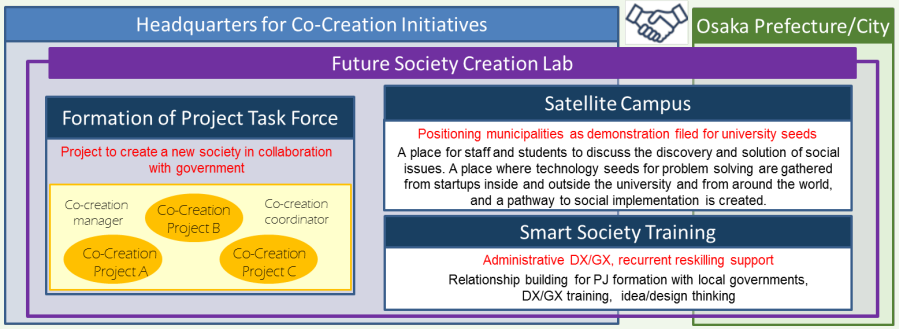
"OMU think tank" will be trusted by society as the brain of administration

○ Three Tiers for a Sustainable Urban Policy/Technology Think Tank

- ✓Summit meeting by the governor, mayor, chancellor, and president
- ✓Planning discussions by executive staff and the university's executive members
- ✓Communication by younger generations

○ Future Society Creation Lab

- ✓Identification of current and future issues in the region and efforts to resolve them (PJ task force, satellite campus, smart society training)
- ✓Seamless social implementation of technological seeds through co-creation research
- ✓Proactive application and development of university research seeds to resolve regional issues
- ✓Collaboration with domestic and international start-ups

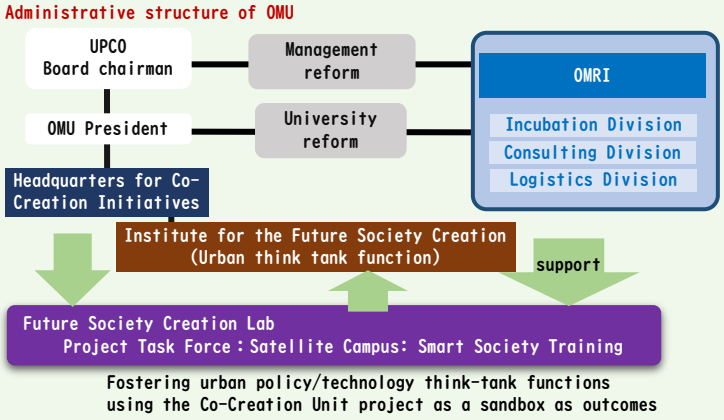


○ Asia Roundtable

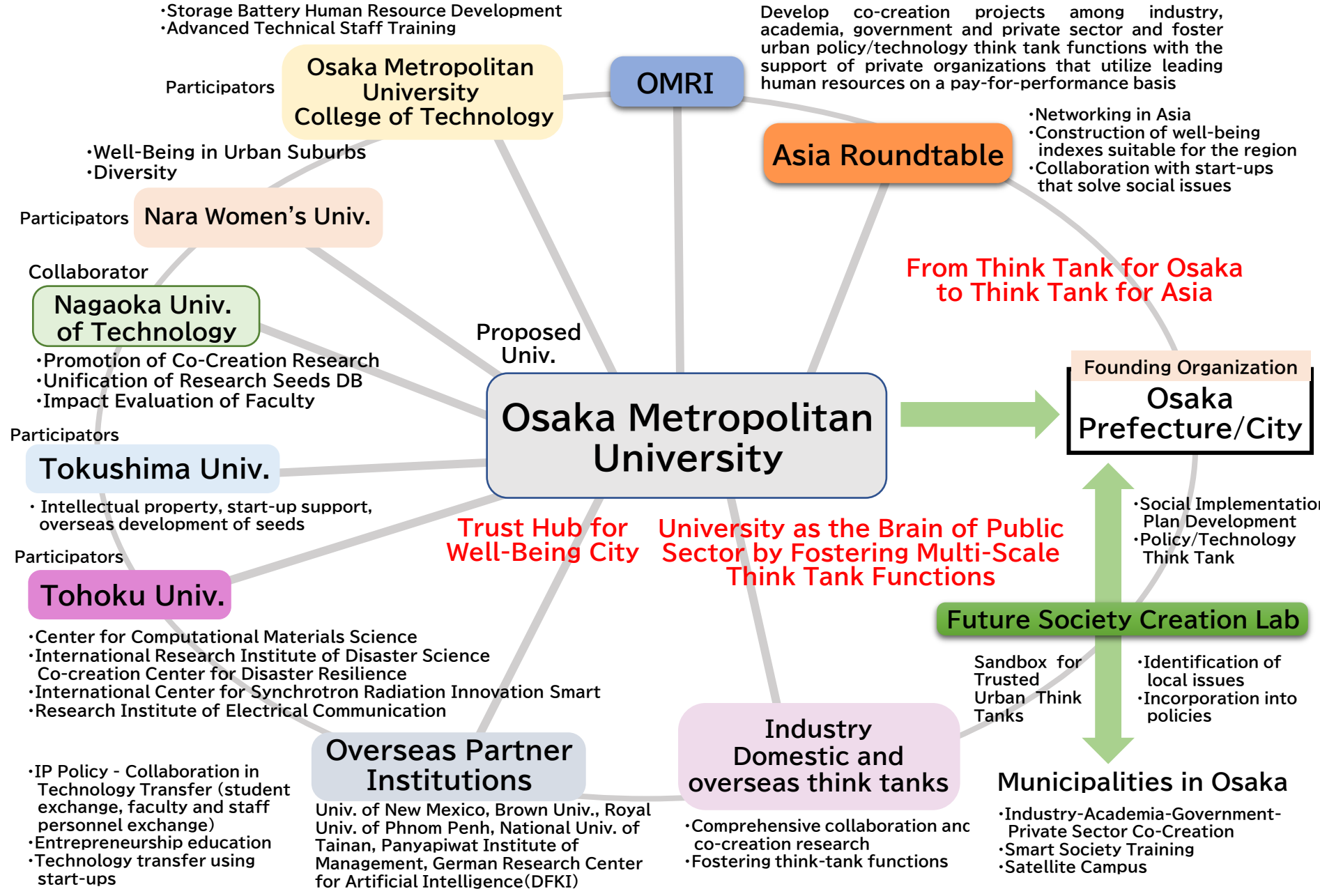
- ✓Adaptation of solutions to issues in Osaka to Asia and the world
- ✓Deepening of cooperation with international organizations
- ✓Promotion of Social Impact Co-Creation Project utilizing the Liveable Well-Being City (LWC) index and the Well-Being Index by the United Nations

○ Fostering Think Tank Functions with Osaka Metropolitan Research Institute

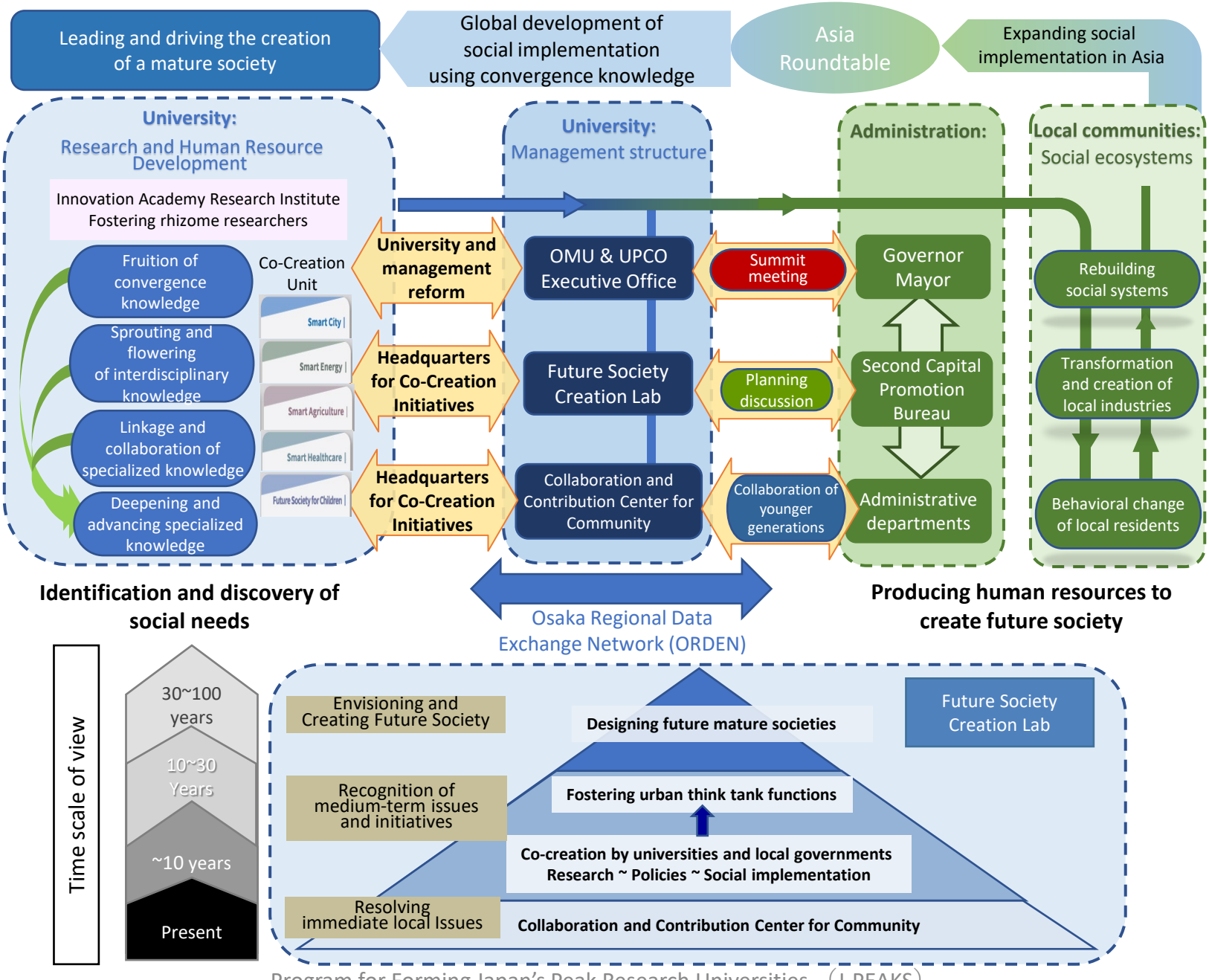
- ✓Development of agile industry-academia-government co-creation projects
- ✓Management and organizational reforming of OMU
- ✓High value-added technology based on intellectual property strategy
- ✓Policy-making and -planning by the Future Society Creation Lab
- ✓Formation of a research institute that fosters urban think tank functions
- ✓Establishment of social impact-oriented project/faculty evaluation criteria
- ✓Fostering reliable urban policy/technology think tank functions
- ✓Sustainable small organization management using student interns



Framework

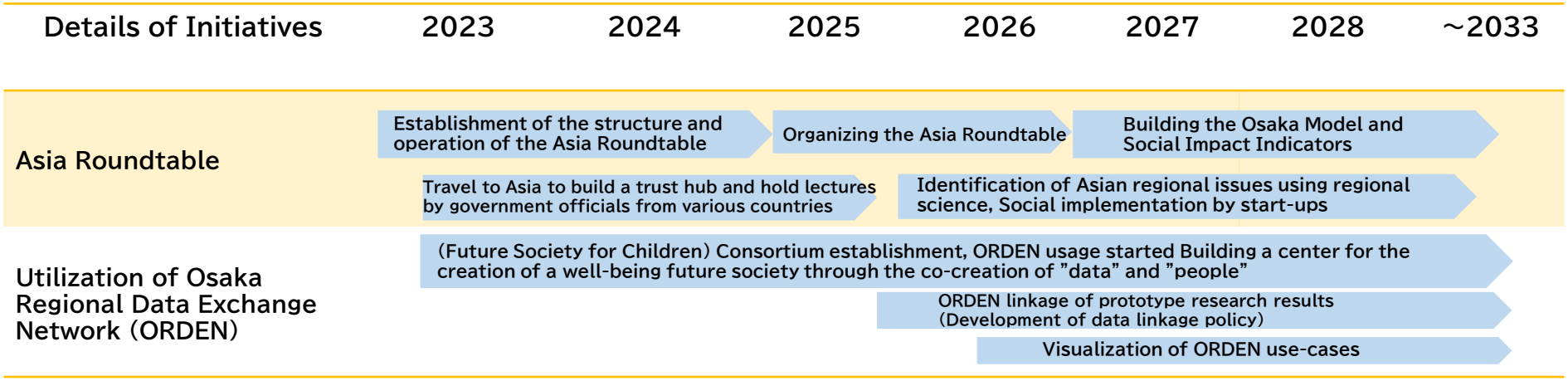

・Storage Battery Human Resource Development
・Advanced Technical Staff Training
Participators
Osaka Metropolitan University College of Technology
OMRI
Develop co-creation projects among industry, academia, government and private sector and foster urban policy/technology think tank functions with the support of private organizations that utilize leading human resources on a pay-for-performance basis
・Networking in Asia
・Construction of well-being indexes suitable for the region
・Collaboration with start-ups that solve social issues
Asia Roundtable
・Well-Being in Urban Suburbs
・Diversity
Participators
Nara Women's Univ.
Collaborator
Nagaoka Univ. of Technology
・Promotion of Co-Creation Research
・Unification of Research Seeds DB
・Impact Evaluation of Faculty
Participators
Tokushima Univ.
・Intellectual property, start-up support, overseas development of seeds
Participators
Tohoku Univ.
・Center for Computational Materials Science
・International Research Institute of Disaster Science Co-creation Center for Disaster Resilience
・International Center for Synchrotron Radiation Innovation Smart
・Research Institute of Electrical Communication
Proposed Univ.
Osaka Metropolitan University
From Think Tank for Osaka to Think Tank for Asia
Trust Hub for Well-Being City
University as the Brain of Public Sector by Fostering Multi-Scale Think Tank Functions
Founding Organization
Osaka Prefecture/City
・Social Implementation Plan Development
・Policy/Technology Think Tank
Future Society Creation Lab
Sandbox for Trusted Urban Think Tanks
・Identification of local issues
・Incorporation into policies
Municipalities in Osaka
・Industry-Academia-Government-Private Sector Co-Creation
・Smart Society Training
・Satellite Campus
Industry Domestic and overseas think tanks
・Comprehensive collaboration anc co-creation research
・Fostering think-tank functions
Overseas Partner Institutions
Univ. of New Mexico, Brown Univ., Royal Univ. of Phnom Penh, National Univ. of Tainan, Panyapiwat Institute of Management, German Research Center for Artificial Intelligence(DFKI)
・IP Policy - Collaboration in Technology Transfer (student exchange, faculty and staff personnel exchange)
・Entrepreneurship education
・Technology transfer using start-ups

Framework


Leading and driving the creation of a mature society
Global development of social implementation using convergence knowledge
Asia Roundtable
Expanding social implementation in Asia
University:
Research and Human Resource Development
Innovation Academy Research Institute
Fostering rhizome researchers
Fruition of convergence knowledge
Sprouting and flowering of interdisciplinary knowledge
Linkage and collaboration of specialized knowledge
Deepening and advancing specialized knowledge
Co-Creation Unit
Smart City
Smart Energy
Smart Agriculture
Smart Healthcare
Future Society for Children
University and management reform
Headquarters for Co-Creation Initiatives
Headquarters for Co-Creation Initiatives
University:
Management structure
OMU & UPCO Executive Office
Future Society Creation Lab
Collaboration and Contribution Center for Community
Summit meeting
Planning discussion
Collaboration of younger generations
Administration:
Governor Mayor
Second Capital Promotion Bureau
Administrative departments
Local communities:
Social ecosystems
Rebuilding social systems
Transformation and creation of local industries
Behavioral change of local residents
Identification and discovery of social needs
Osaka Regional Data Exchange Network (ORDEN)
Producing human resources to create future society
Time scale of view
30~100 years
10~30 Years
~10 years
Present
Envisioning and Creating Future Society
Designing future mature societies
Future Society Creation Lab
Recognition of medium-term issues and initiatives
Fostering urban think tank functions
Co-creation by universities and local governments
Research ~ Policies ~ Social implementation
Resolving immediate local Issues
Collaboration and Contribution Center for Community

Timeline

Details of Initiatives	2023	2024	2025	2026	2027	2028	~2033
Priority supports for *ia* bases	(Smart Energy) Energy/material science research through industry-academia-government co-creation, energy management co-creation human resource enhancement, human resource development, smart building and robotics demonstration experiments						
	(Smart Society) Collaboration with Osaka Smart City Partners Forum				Development of use-cases for ORDEN		
	(Smart Agriculture) Construction of Regenerative Urban Farming Center and industry-academia-government experiment - PoC - commercialization of the system (in collaboration with Nagaoka University of Technology)						
	(Smart Healthcare) Global center for phage and AI research in collaboration with Osaka International Research Center for Infectious Diseases, and with Research Center for Medical Science for Health and Longevity						
Convergence knowledge networking	Building a Convergence Knowledge Community		Morinomiya HQ installed		Operating innovation ecosystem with intercampus network		
		Enhancement of multi-scale think tank functions utilizing convergence knowledge			Convergence knowledge-oriented networking of each campus wing		
Securing faculty research time and developing and securing young researchers and management personnel	Expansion of equipment and support personnel at the research infrastructure sharing center		Extended remote use		Employment of technical college students as interns and construction of career paths		
		Restructuring of high-incentive tenure-track faculty system (incl. support for female researchers)					
		Strengthen IR systems and professional human resources	Building social impact-oriented faculty evaluation system		DB collaboration with partner institutions		
		Strengthen Admission Center and promote business DX					
		High incentives for young faculty	Expand opportunities for young faculty to participate in university administration				
Reinforcement of strategic technology transfer system (Establishment of external organization OMRI)	Develop technology transfer policy in conjunction with UNM		Actual operation of technology transfer project in cooperation with UNM and hands-on human resource development				
	Hands-on support in collaboration with Osaka Bureau of Industry				Support for Zebras start-up in collaboration with Osaka Prefecture, Osaka City, and Future Society Creation Lab		
		Establishment of OMRI			Enhancement of OMRI's functions and outsourcing of campus operations		
Building diverse co-creation partners	Interaction with international organizations and centers in cooperation with collaborating and participating institutions				IP and Technology Transfer Business Collaboration		
	URA human resource exchange and technology seeds DB collaboration with partner institutions				Mobilization of URA, faculty, and staff, sharing of good practices in university DX and CRM		
	Discuss IP and technology transfer strategies with partner institutions (comprehensive agreements)				Co-organization of international event		
		Discussion of faculty evaluation and center evaluation in collaboration with partner institutions			Sharing of social impact case studies and mutual evaluation discussions		
Strengthening the system for identifying issues and co-creation in cooperation with local governments (Future Society Creation Lab)	Establishment of the structure and management system of the Future Society Creation Lab and conversion to PF				Sandboxing of co-creation unit research by the Future Society Creation Lab		
			Start of Industry-Academia-Government-Private Sector Co-Creation Smart Society Training		Sandboxing of Smart Society Training by the Future Society Creation Lab		
					OMRI's transformation into an urban policy/technology think tank PF through the Future Society Creation Lab PF		



The ideal state in 10 years (shared and created by industry, academia, government, and the private sector)

- ✓ Commercialization of technology is accelerated with *ia* co-creation units as the core, and basic research is also progresses.
- ✓ Student interns hired through *ia* projects are advancing their careers as human resources to support the next generation.
- ✓ A center for high-level researchers to conduct demonstration experiments and new challenges for creation of future society.
- ✓ Universities are "proactively" involved in the administrative process and can present solutions based on convergence knowledge.
- ✓ Diverse stakeholders stay at the campus on a daily basis, and human resources from all over the world gather there.
- ✓ The municipality itself becomes a university campus, a place to discover issues and learn.
- ✓ Start-ups are established in the vicinity of the university, and PhDs come and go from the lab on a daily basis.
- ✓ A trust hub is formed as a technology and urban think tank for Asian countries.
- ✓ Social impact-oriented evaluation is established, and agile project management is possible in collaboration with OMRI.

【The Position of University in the Future Society Creation】

- ✓ University is opened to local governments as a "reliable center of knowledge".
- ✓ University can design cities from a bird's eye view and a big picture perspective, and to provide long-term forecasts and visions for cities and society.
- ✓ University is neutral and independent, without being dependent on any specific stakeholder.
- ✓ University can show how society should be from the perspective of social systems, ethics, philosophy, and jurisprudence, without being biased toward technology or profit.

【Initiatives in J-PEAKS】

- ✓ Strengthening the system that seamlessly links the industrialization of technology and the basic research.
- ✓ Future Society Creation Lab, a place of continuous learning for local governments and sustained co-creation to solve social issues.
- ✓ Development of co-creation research center through sustainable human resource development and relationship building with government officials.
- ✓ A center for sharing problem-solving practices widely and attracting excellent human resources who will lead urban design in Japan and abroad.
- ✓ Establish a CPS infrastructure to be practiced on the digital campus and deployed by local governments through the Urban OS.