

ATR

**Advanced Telecommunications
Research Institute International**



Innovative Technology for Human Communication

ATR Principle

Together to the Top for Future Society

Address challenges through pioneering research
and innovation in ICT-related fields



Our Value

- Drive innovation ecosystem as a research institution
- Tackle both social and exploratory challenges*
- Produce visionaries and pioneers

* Exploratory challenges:
Ones where researchers themselves lead and confront



Our Culture

- Elevate external collaboration and personnel exchange
- Pursue value with an international perspective
- Be a leading player in Keihanna Science City



Greeting

The basic research initiated at the time of ATR's founding, including machine translation, optical inter-satellite communications, and AR-based high-realism communications, has met the needs of the COVID-19 period and has been commercialized after more than 30 years. Many of us have sheltered ourselves in a personal space due to the spread of the pandemic, but we now revel in the coming bright season, like wintering insects emerging from hibernation, with the Osaka/Kansai Expo approaching.

Japanese society, which has been optimized by legal compliance and the division of labor established in industrialized society, is now bereft of the human resources needed to invest in new projects, contributing to the stagnation of GDP. Gene Sharpe's "From Dictatorship to Democracy," newly considered in light of Russia's invasion of Ukraine, lists seven factors of submission to dictatorship: habit, indifference, fear, self-interest, cooperativeness, moral duty, and lack of self-confidence for disobedience. If we regard the last three points, respectively, as conjecture about the intentions of superiors, blind obedience to rules, and the lack of confidence to start new business, they become our weakness, or our cage, that prevents new business.

It is only a matter of time before AI replaces the existing "jobs" in which we toil inside the cages we have created ourselves. We need to be courageous enough to reach out from inside the cage and join hands with like-minded people to launch new jobs and businesses. Since ATR focuses on the people who make up society and strives to empower people through ICT technology, we aim to promote research and development that contributes to this end.

I sincerely thank you for your continued support.

Tohru Asami, President
June 2023

Computational Neuroscience

Develop novel Brain Machine Interfaces (BMI) inspired by our knowledge of brain functions, to form the basis for innovative technologies accessible to all.

CNS Computational Neuroscience Laboratories

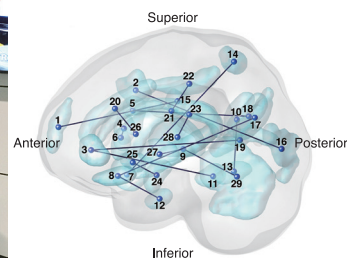
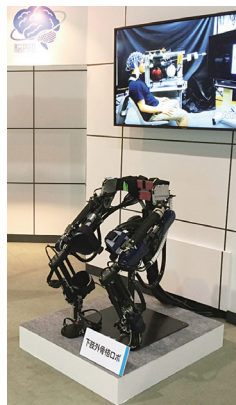
-Toward understanding brain function using a computational approach-

We aim to understand brain functions through computational modelling, and develop Brain Machine Interfaces (BMI) leading to improved AI and clinical applications, such as for the recovery of motor and cognitive functions in humans.

CMC Cognitive Mechanisms Laboratories

-Toward Understanding High-Order Brain Functions-

We investigate the mechanisms for high-order brain functions by utilizing advanced technologies for the measurement of brain activity as well as manipulation of brain activity based on neurofeedback. Our results enhance human communications and the development of natural human-machine interfaces.



NIA Neural Information Analysis Laboratories

-Toward Co-evolution of Brain and Artificial Intelligence

with Machine Learning-based Methodology-

We aim to provide new machine learning-based methods to understand brain functions and to induce co-evolution of brain and artificial intelligence (AI), hence leading to development of novel AI technologies that mimic brain functions.

Deep Interaction Science

We are dedicated to deeply understanding the interactions between humans, robots, and avatars for a harmonious and comfortable society where robots and avatars coexist with humans.



ITB Interaction Technology Bank

-Social Implementation of Deep Interaction Science-

We are conducting joint research with various companies to socially implement research results of Deep Interaction Science to create services and products that enrich people's lives.

ISL Interaction Science Laboratories

-Science and Technology for Cognitive Interaction with Network Robots-

We are exploring a principle of cognitive interaction through R&D of network robots that has social intelligence. We are dealing with social-touch and moral interaction of robots, and active social participation with Cybernetic Avatars.

HIL Hiroshi Ishiguro Laboratories

-Studies on Androids Living together with Humans in the Real World-

We develop autonomous social robots / androids that can communicate with affinity to persons in social context, and study to facilitate human's energetic life by robots and avatars.

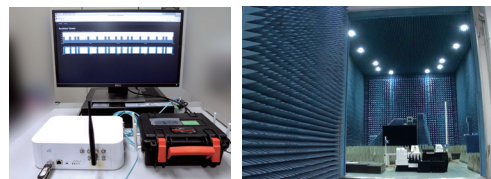
NHL Norihiro Hagita Laboratories

-Exploring Deep Interaction Science Research Areas-

We are exploring new research areas in collaboration with researchers from different fields to indicate the potential of Deep Interaction Science.

Wireless and Communications

Aim to achieve wireless and communications as infrastructure enabling a comfortable and secure life and also to create advanced applications by use of radio waves, from the user's perspective.



ACR Adaptive Communication Research Laboratories

-Safe and reliable telecommunications in any environment-

Telecommunications adapted to all environments including office, factory, and living space of everyday life, and advanced security technologies that protect privacy and form the foundation of trust.

WEL Wave Engineering Laboratories

-Open Up Wealthy Future by Utilizing Radio Waves-

We pursue research and development on innovative technologies and applications that achieve comfortable services by thoroughly utilizing limited radio wave resources for realizing a prosperous and secure future in various fields, ranging from ICT to energy-related usage.

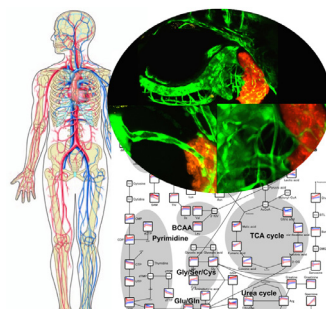
Life Science

Our research team aims at deciphering biological mechanisms of our nature by focusing on cross-talks among multiple organs to maintain homeostasis.

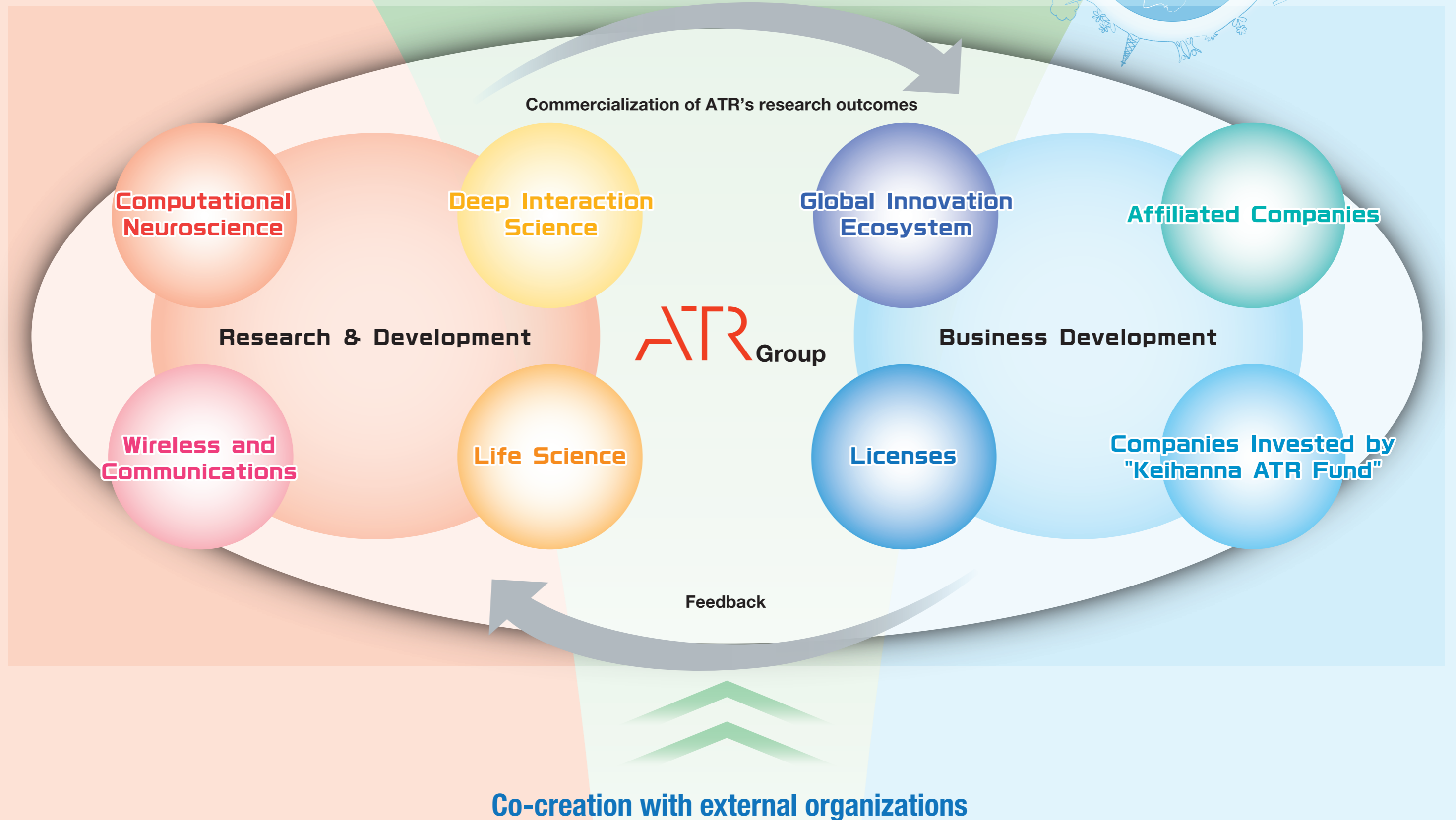
TNSL The Thomas N. Sato BioMEC-X Laboratories

-Realization of "Virtual Live Clinics"-

The ultimate goal of our research is to realize healthy and long-lasting life style. We undertake cross (X)-disciplinary approaches towards this challenge by integrating concepts and methodologies of Biology, Medical science, Mathematics, Engineering and Computational sciences: BioMEC-X



With world-leading, cutting-edge research achievements and their applications to society, the ATR Group pursues innovations based on science & technology and contributes to regional revitalization.



Affiliated Companies

Business affiliates were established to commercialize products and services based on ATR's research outcomes. They have served as the core agents of commercialization in the ATR Group and have achieved successful results since 2004.

ATR-Promotions Inc.

Our missions are to develop and to market products relating to speech and sensor technologies developed by ATR. We also provide services to support advanced neuroimaging research.



ATR Learning Technology Corp.

We develop "ATR CALL", which is the e-learning system for foreign language learning. We also develop the accented speech evaluation technique embedded in it. Products are introduced to schools through Uchida Yoko Co., Ltd.



*ATR CALL is registered trademark of ATR.

ATR-Trek Co., Ltd.

We promote speech recognition and translation technologies by combining speech recognition technologies of ATR and embedded software of FueTrek Co., Ltd.



Global Innovation Ecosystem

We are building a global innovation ecosystem in Keihanna Science City.

Startup Support

In collaboration with world's leading innovation partners, we are providing an acceleration program "KGAP+" to support Japanese and overseas startups in marketing their products or services together with Japanese enterprises. The "Osaka, Kyoto, Hyogo-Kobe Consortium" has been selected by the Japanese government as "Startup Ecosystem Global Hub City" and Keihanna is acting as a hub for developing startups in the Kansai region.

Open Innovation Promotion Support

We are building and operating "KOSAINN", a platform to create issue-driven and business development projects for Japanese local communities and enterprises through open innovation. We organize teams with startups and researchers from Japan and abroad, making the project pioneering and agile. "KOSAINN+" is also being carried out with supports of the governmental agencies in Canada and so on.



KGAP+: Keihanna Global Acceleration Program Plus、KOSAINN: Keihanna Open Global Service Platform for Accelerated Co-Innovation

Companies Invested by "Keihanna ATR Fund"

Keihanna ATR Fund* established in 2015 has invested start-up companies so far. ATR aims to accelerate the business development of its R & D outcome and contribute to the growth of startup companies through joint R & D, technology licensing and support to them. Through eight years of activity, the Keihanna ATR Fund has begun to produce tangible financial results, including the listing of its investee startup on the Tokyo Stock Exchange.

*Kansai Science City ATR-Venture NVCC Investment Limited Partnership

Blue innovation Co., Ltd.

Blue innovation delivers drone-based solution services based on Blue Earth Platform, an application of ATR's Ubiquitous Network Robot Platform (UNR-PF).



YUKAI Engineering Inc.

YUKAI Engineering offers communication robot solutions. It collaborates with ATR to improve the value of the robot by applying ATR's deep interaction technology.



REVISIO Inc.

REVISIO delivers services on media research, measurement/analysis of TVCMs and programs.



ANYCOLOR Inc.

ANYCOLOR runs Vtuber management business. It collaborates with ATR in the development of next generation Vtuber based on multiple modalities. The company was listed on Tokyo Stock Exchange in June, 2022.



XNef Inc.

We develop diagnostic and therapeutic equipment, software, etc. applying the decoded neurofeedback (DecNef).



Aidea Inc.



A.I.Viewlife co. Ltd.



WaveArrays Inc.



Licenses

Our research outcomes over the years have enabled us to license patents and other intellectual properties to collaborators, who in some cases have gone on to develop their own products from these outcomes. In this way, we help partners to achieve value creation.

Karydo TherapeutiX, Inc.

We develop/provide therapeutic/diagnostic/medical R&D solutions based on the Thomas N. Sato BioMEC-X Labs' data science technology.



Telenoid Healthcare Company

We provide new communication services for elderly people, based on the tele-operated robot Telenoid™ developed by Hiroshi Ishiguro Labs.



Stroly Inc.

As a start-up company developed from ATR, Stroly Inc. plans, develops, and operates the online map platform Stroly.



AI, Inc.

AI, Inc. develops/markets the high-quality speech synthesis solution AITalk®, using ATR's corpus-based speech synthesis.



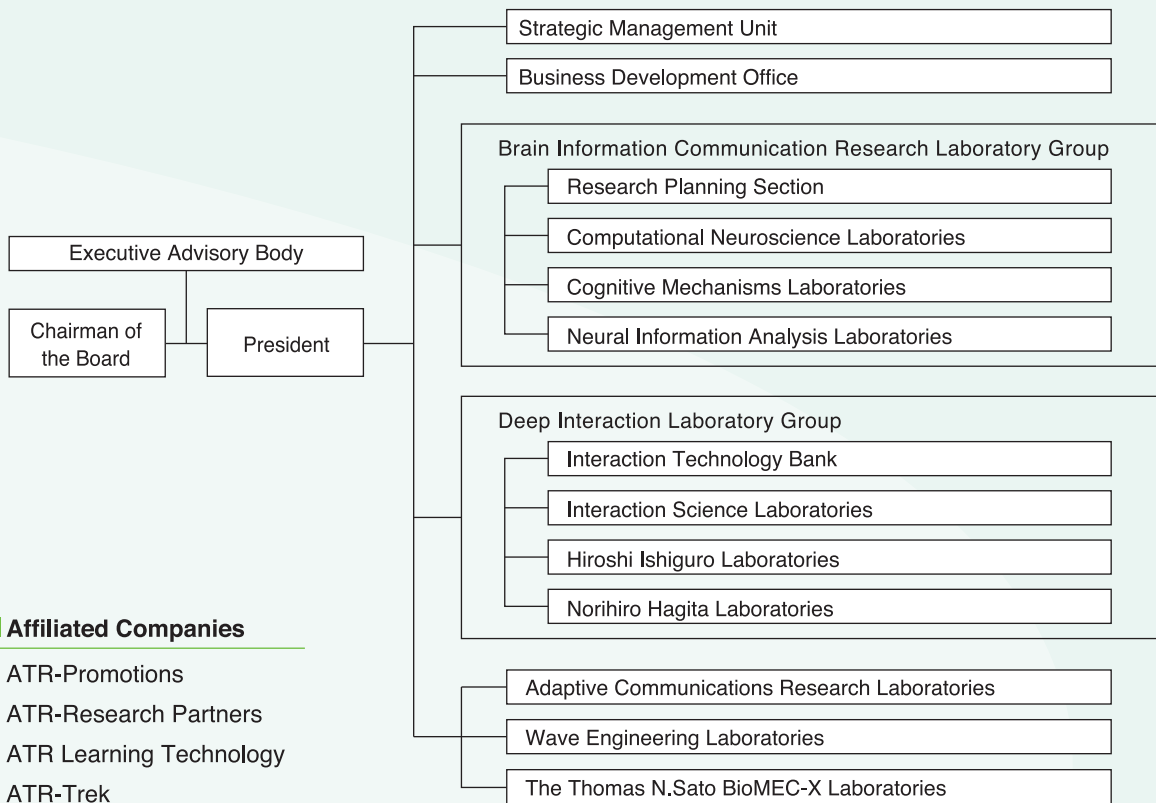
Company Profile

Foundation	March 1986 1989	Foundation of ATR Move to present location
Capital	100 million yen (Capital Surplus: Approx. 21,900 million yen)	
Shareholder Composition	111 companies including NTT and KDDI	
Location	2-2-2 Hikoridai Seika-cho, Soraku-gun, Kyoto 619-0288 Japan (Kansai Science City)	
Employees	244 people (including 161 researchers) Breakdown of researchers: Contract researchers 93%, Loan researchers 4%, Permanent researchers 3%, International researchers 13% (as of April 1, 2023)	

Main Board Members

Chairman of the Board	Hiroshi Matsumoto
President	Tohru Asami
Executive Vice President	Hiroyuki Suzuki
Advisor of the Board	Masayoshi Matsumoto

Organization



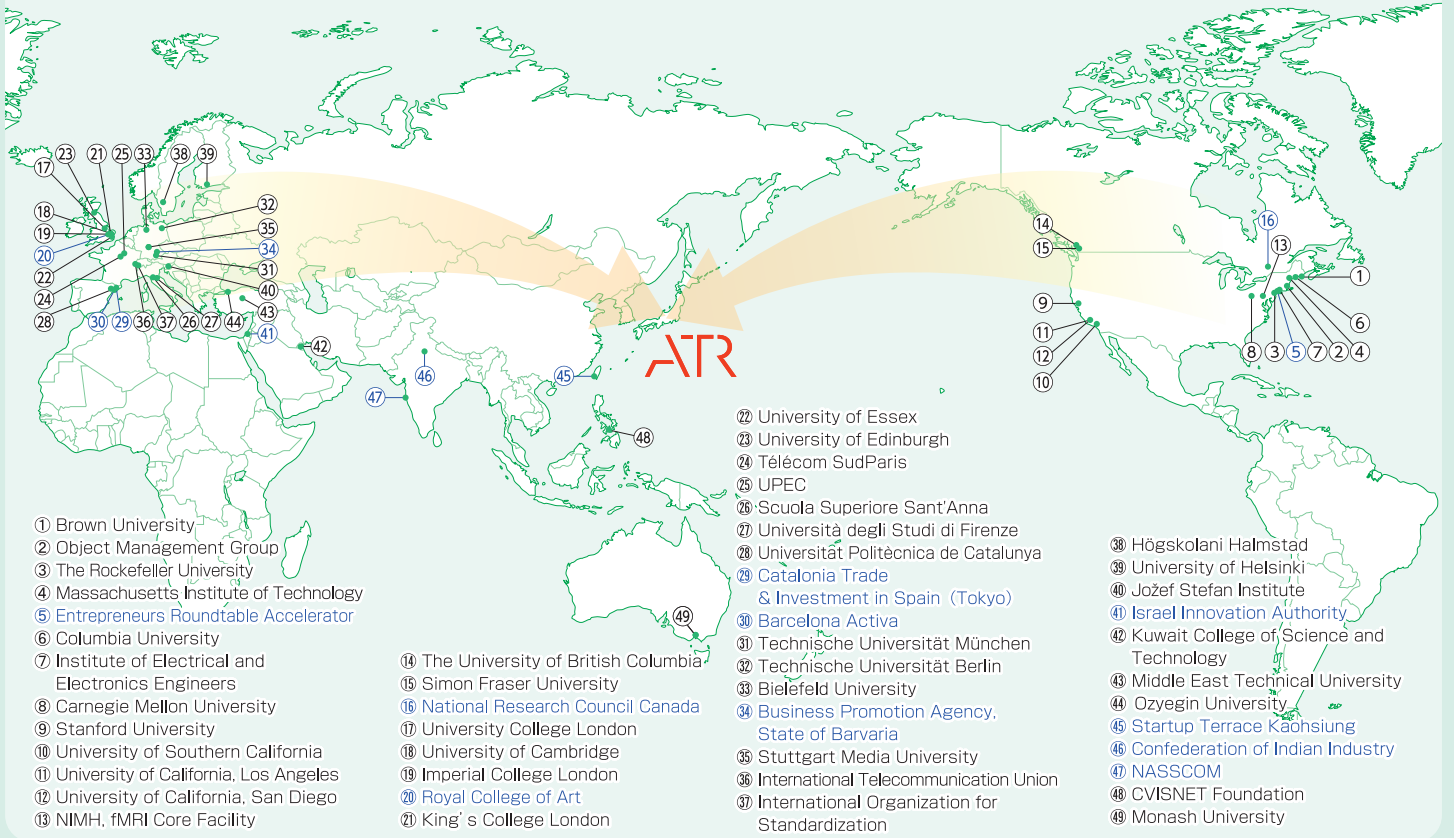
Affiliated Companies

ATR-Promotions
 ATR-Research Partners
 ATR Learning Technology
 ATR-Trek

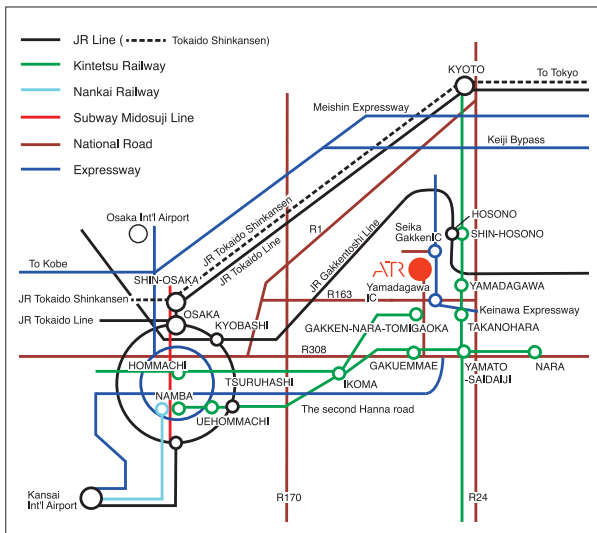
ATR History

March	1986	Foundation of Advanced Telecommunications Research Institute International
April	1986	Foundation of four laboratories regarding Interpreting Telephony, Communication Systems, Auditory and Visual Perception, Optical and Radio Communications
April	1989	Opening of full-scale laboratories (The first institute established in Kansai Science City, "Keihanna")
October	2001	Change of funding scheme (Invested research to funded research scheme)
November	2004	Foundation of "ATR-Promotions," a subsidiary for commercialization
April	2006	Change of funding scheme (Transition to multi-funding system)
May	2007	Foundation of "ATR-Trek", the first joint company
January	2014	Foundation of specialized laboratories (Enhancing open innovation)
June	2014	Establishment of Business Development Office
May	2023	Development of corporate identity

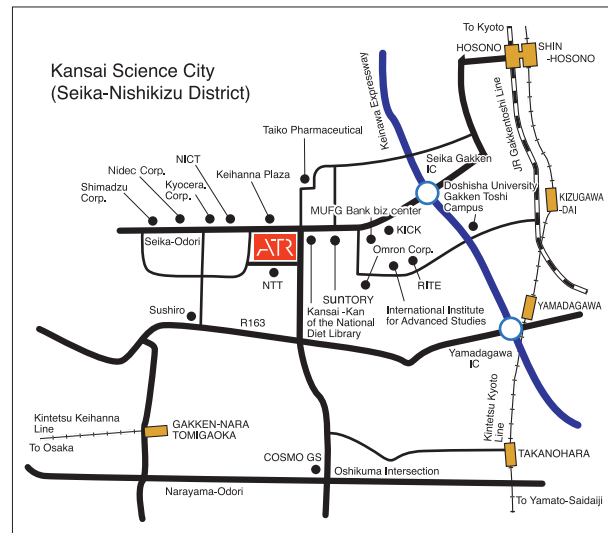
Global Collaboration Network



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At Gakken Nara Tomigaoka Sta., of Kintetsu Line,
Take Nara-kotsu bus #56 or #59 and get off at "ATR" stop
(about a 15-minute ride).



At Shin-Hosono Sta. of Kintetsu Line,
or Hosono Sta. of JR Gakken-Toshi Line,
Take Nara-kotsu bus #36, #46, #47, #56, #58, or #59 and get off at "ATR" stop
(about a 15-minute ride).

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