

Nanoelectronics

★ Integrated photonics-electronics convergence system technology^(※3,※5)

Photonics electronics technology research association (PETRA)

Participating organization
 NEC Corporation
 Fujitsu Limited
 Oki Electric Industry Co., Ltd.
 Mitsubishi Electric Corporation
 Furukawa Electric Co., Ltd.
 AIST

Optoelectronics industry and technology development association
Joint research
 The University of Tokyo
 Yokohama National University
 Kyoto University
 Tokyo Institute of Technology
 Waseda University

★ VICTORIES open innovation hub

Cyber photonic platform consortium

AIST
Member
 NEC Corporation
 FUJITSU LIMITED
 KDDI Research, Inc.

National Institute of Information and Communications Technology
 HikariPath
 Communication Co., Ltd.
 Mitsubishi Electric Corporation
 Kairos Co., Ltd.

Silicon photonics consortium

AIST
Member
 Oki Electric Industry Co., Ltd.
 Fujikura Ltd.
 Nippon telegraph and telephone corporation
 Sumitomo Electric Industries, Ltd.

Mitsubishi Electric Corporation
 Lambda Precision Corporation
 Trimatiz Limited
 Sumitomo Corporation
 Kyushu Co.,Ltd.
 FUJITSU OPTICAL COMPONENTS LIMITED
 Micronics Japan Co.,Ltd.

Power electronics

★ Tsukuba power electronics constellations (TPEC)

AIST
 FUJI ELECTRIC CO., LTD.
 Sumitomo Electric Industries, Ltd.
 Toyota Motor Corporation
 TOSHIBA CORPORATION
 Hitachi Chemical Co., Ltd.
 Mitsubishi Electric Corporation
 Rigaku Corporation
 Komatsu Ltd.
 ACR Co.,Ltd
 ESPEC CORP.
 Oita Device Technology Co.,Ltd
 CATS Inc.
 TDK Corporation
 TESEC Corporation
 TOKYO SEIMITSU CO., LTD
 Pulsed Power Japan laboratory Ltd.
 Nissin Electric Co.,Ltd.
 NICHICON CORPORATION
 Central Research Institute of Electric Power Industry

NOISE LABORATORY CO., LTD.
 NISSIN PULSE ELECTRONICS CO., LTD.
 PHENITEC SEMICONDUCTOR Corp.
 ROHM SEMICONDUCTOR
 Lasertec Corporation
 University of Tsukuba
 Kyoto University
 Osaka University
 Tokyo Institute of Technology
 KEK
 NIMS
 Iwate University
 Nagaoka University of Technology
 Osaka Institute of Technology
 RIKEN
 Saitama University
 QST

★ SCR power electronics line (SPEL)

AIST
 Sumitomo Electric Industries, Ltd.

★ Minimal fab

Minimal fab promoting organization

Member
 PRE-TECH CO.,LTD.
 Litho Tech Japan Corporation
 PMT CORPORATION
 Fujikoshi Machinery Corp.
 seinan industries Co.,Ltd
 SAKAGUCHI E.H VOC CORP.
 Design Network
 Fuji Imvac Inc,
 KATAGIRI ENGINEERING CO.,LTD.
 SPP Technologies Co., Ltd.
 sanmei
 Yokogawa Solution Service Corporation
 HORIBA, Ltd.
 Logic Research
 SANYO CO.,LTD.
 TOOL Corporation

YONEKURA MFG. Co., LTD.
 Fujikin Incorporated
 KOYO THERMO SYSTEMS CO.,LTD.
 SYSTEC INOUE COPPORATION
 WIDE TECHNO CO.,LTD

Consortium member
 124 companies including the members, 14 universities,
 4 patent offices, 8 public organizations

★ Development on low-latency AI-computing technology using low-power and nonvolatile FPGA core^(※5)

Participating organization
 NEC Corporation
 Soliton Systems K.K.

University of Tsukuba
 The University of Tokyo

★ Applied superconductivity constellations of Tsukuba (ASCOT)

AIST
 JECC TORISHA Co., Ltd.
 Suzuki Shokan Co.,Ltd.
 Sumitomo Heavy Industries, Ltd.
 Sumitomo Electric Industries, Ltd.
 Hitachi, Ltd.
 Fujikura Ltd.
 Furukawa Electric Co., Ltd.
 MAYEKAWA MFG. CO., LTD.
 Mitsubishi Electric Corporation
 TAIYO NIPPON SANSO CORPORATION
 KYUSHU ELECTRIC POWER CO. INC.
 Tokyo Electric Power Company Holdings, Inc.
 The Chugoku Electric Power Co.,Inc.
 CHUBU Electric Power Co.,Inc.
 Central Research Institute of Electric Power Industry
 IMRA Material R&D Co., Ltd.
 University of Tsukuba
 The University of Tokyo
 Kyushu University
 Kyoto University
 Okayama University
 Tohoku University
 Sophia University
 NIMS
 KEK

★ Project for the promotion to the commercialization of high-temperature superconductivity^(※5)

AIST
 Mitsubishi Electric Corporation
 Kyoto University
 Tohoku University
 Sophia University

Fujikura Ltd.
 Furukawa Electric Co., Ltd.

★ Energy-efficient computing with algorithm embedded hardware enabled by via-switch^(※4)

Participating organization
 Osaka University
 NEC Corporation

Kyoto University
 Ritsumeikan University

MEMS

★ Learning based smart sensing system^(※5)

NMEMS technology research organization

Hitachi, Ltd.
 ROHM Semiconductor
 Fuji Electric Co. Ltd.
 Saginomiya Seisakusyo Inc.
 The University of Tokyo
 Shizuoka University

TEPCO
 TAKAOKA TOKO CO., LTD.
 CRIEPI
 Micromachine Center (MMC)

★ MEMS taste sensor for robots^(※5)

TOYAMA Prefectural University
 The University of Electro-Communications

Fuji Electric Co. Ltd.
 Micromachine Center (MMC)

Carbon nanotubes

★ CNT alliance consortium

Team of application for carbon nanotubes composites (TACC)

AIST
 Zeon Corporation

Sunarrow Ltd.
 Sunarrow Ltd.

Human resource development

★ TIA graduate school

University of Tsukuba
 AIST
 NIMS
 KEK
 The University of Tokyo
 Ochanomizu University

Endowed laboratories
 TOYOTA MOTOR CORPORATION
 DENSO CORPORATION
 FUJI ELECTRIC CO., LTD.

★ Nanotech career-up alliance (Nanotech CUPAL)

AIST

Participating organizations
 NIMS
 KEK
 University of Tsukuba
 Kyoto University
 Hokkaido University
 The University of Tokyo
 Tokyo Institute of Technology
 Tokyo University of Science
 Waseda University
 Kyoto Institute of Technology
 Osaka University
 Kobe University
 Ritsumeikan University
 Doshisha University

Collaborating organizations
 MicroNano Open Innovation Center (MNOIC)
 Tsukuba Power-Electronics Constellations (TPEC)
 TOSHIBA CORPORATION
 SHIMADZU CORPORATION
 JEOL Ltd.
 Tokyo Electron Limited
 Rigaku Corporation
 TORAY INDUSTRIES, INC.
 TOYOTA MOTOR CORPORATION
 Emerging Technologies Corporation
 Yazaki Corporation
 ULVAC, Inc.
 DISCO Corporation

Open research facilities

★ AIST

AIST Nanocharacterization Facility (ANCF)^(※2)
 Clean Room for Analog-Digital Superconductivity (CRAVITY)
 Battery Research Platform (BRP)^(※4)
 Nano-Processing Facility (NPF)^(※2)
 Advanced Bio-measurement Facility
 Super cleanroom (SCR)
 MEMS Foundry

★ NIMS

Nanotechnology Platform^(※2)
 (Microstructural Characterization Platform/Nanofabrication Platform/Molecule & Material Synthesis Platform)
 Battery Research Platform
 Material manufacturing and engineering station
 Material analysis station
 Transmission Electron Microscopy Station
 NMR Station
 Cryogenic Station

★ University of Tsukuba

Nanoscience project facilities
 Nanotechnology Platform (Nanofabrication)^(※2)
 Multi-tandem accelerator facilities
 Equipment Sharing System for Power Electronics^(※2)

★ KEK

Photon Factory (PF)^(※2)
 Slow Positron Facility (SPF)
 Cryo-electron microscopy^(※2)

★ The University of Tokyo

Takeda Sentanchi Building Supercleanroom

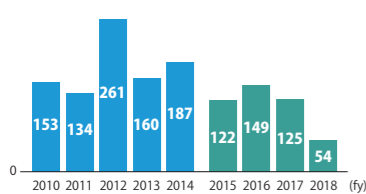
(※1) Cabinet office project
 (※2) Ministry of Education, Culture, Sports, Science and Technology project
 (※3) Ministry of Economy, Trade and Industry project
 (※4) Japan Science and Technology Agency project
 (※5) New Energy and Industrial Technology Development Organization project

★ TIA project

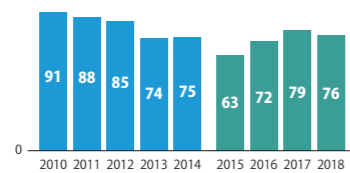
Diverse linkage in TIA



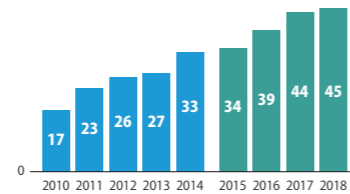
Total operation scale (100 million JPY)



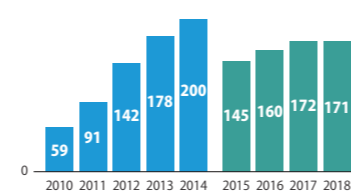
Percentage of public fund excluding facility expenses (% to the total operation scale)



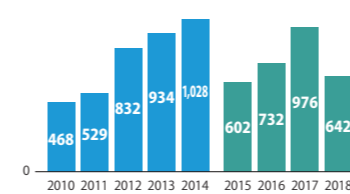
Project (number of projects; cumulative total)



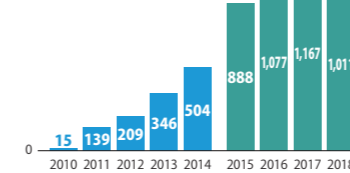
Cooperating companies (number of companies)



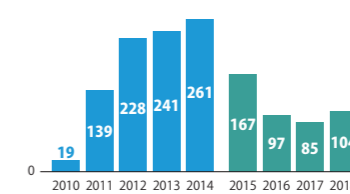
External researchers (number of researchers)



Students in TIA graduate school (number of students)



Patent applications (number of patents applied)



Paper publications (number of papers)

