

Table of the Knowledge Clusters

Local Government	Area of Specialization	Joint Research Subject	Core Organization	Core University, etc.
Sapporo <Concept Name> Sapporo IT Carrozza Cluster				
Hokkaido Gov't	IT (Software and systemware information technology)	<ol style="list-style-type: none"> 1 Establishment of the environment and method for the development of next-generation embedding systems 2 Next-generation digital styling design methods R&D project 3 Usability solution R&D project 4 Applied researching R&D project 	Northern Advancement Center for Science and Technology(NOASTEC)	Hokkaido Univ., Graduate School of Information Science and Technology
Sendai <Concept Name> Sendai Cyber Forest Cluster				
Miyagi Pref. Gov't, Sendai City Gov't	Intelligent Electronics	<ol style="list-style-type: none"> 1 Development of 1.5μm wavelength optic frequency high-precision control technology 2 Development of ultra high-speed high-capacity wireless networks 3 Development of intelligent network security management 4 Development of intelligent antenna substrate technology 5 Development of mobile behavior monitoring equipment 6 Development of sound space information presentation systems based on selective bi-aural audition 7 Development of micro system packaging 8 Development of integrated systems on high characteristic-impedance circuit board for ultra-lowpower consumption electronic equipment 9 Development of microsize oxide semiconductor manufacturing equipment using low temperature growth method 10 Development of GPS antenna compatible with 3 frequencies 11 Development of a rapid quantitative analysis system for drug sensitivity testing 	Intelligent Cosmos Research Institute	Tohoku Univ.
Toyama/Takaoka <Concept Name> Toyama Medical-Bio Cluster				
Toyama Pref. Gov't	Bioelectronics (Life sciences, Nanotech/Materials, IT)	<ol style="list-style-type: none"> 1 Development of highly integrated multi-functional chip devices 2 Development of immuno-micro array chips 3 Development of diagnosis/treatment systems based on human immune functions 4 Development of natural medicines-based tailor-made treatments 5 Development of an enzyme chip for diagnosis of inborn errors of metabolism 6 Research on DNA/cell chips systems for practical uses 	Toyama New Industry Organization	Toyama Medical and Pharmaceutical Univ. Toyama Univ. Japan Advanced Inst. of Science and Technology (JAIST) Toyama Pref. Univ. Toyama Industrial Technology Center
Kanazawa <Concept Name> High-Tech Sensing Technology for more Fulfilling Living				
Ishikawa Pref. Gov't	High-tech measurement and support technology for human intelligent activity	<ol style="list-style-type: none"> 1 Developmental research on early stage dementia diagnosis support systems and dementia prevention protocols 2 Development of new MEG systems for brain diagnosis, and research on new applications using ultra-sensitive magnetic field sensing technology 3 Research and development of highly functional biosensors for brain examination and other new applications 4 Research and development of information integration technologies for brain examination in a networked environment 5 Research and development of health care protocols based on advanced biomedical measurement techniques 6 Aware technology research & development for building the Aware Home 	Ishikawa Sunrise Industries Creation Organization	Japan Advanced Inst. of Science and Technology (JAIST) Kanazawa Univ. Kanazawa Inst. of Technology
Nagano/Ueda <Concept Name> Aiming to Create a Smart Device Cluster				
Nagano Pref. Gov't	Smart devices using nanocarbon composites and organic nano materials	<ol style="list-style-type: none"> 1 R&D on smart functional devices using nano carbon composites 2 R&D on organic nano-material devices using functional nano high-polymer materials 	Technological Foundation of Nagano Prefecture	Shinshu Univ.
Gifu/Ogaki <Concept Name> Robotics Advanced Medical Cluster				
Gifu Pref. Gov't	Medical care and health using IT/robot technology	<ol style="list-style-type: none"> 1 Development of minimally invasive and microsurgery support systems 2 Development of medical diagnosis support systems 3 Development of virtual medicine and education/training systems 	Gifu Research and Development Foundation	Gifu Univ. Waseda Univ.
Hamamatsu <Concept Name> Hamamatsu Optronics Cluster				
Shizuoka Pref. Gov't, Hamamatsu City Gov't	Super-visual imaging technology to support next-generation industry and medicine	<ol style="list-style-type: none"> 1 Development of highly-functional integrated imaging devices 2 Development of optical imaging systems for medical applications 3 Development of solid state imaging devices for X-rays and gamma-rays 	Organization for Hamamatsu Technopolis	Shizuoka Univ. Hamamatsu Univ. School of Medicine
Nagoya <Concept Name> Environment Friendly Manufacturing using Nano Technology				
Aichi Pref. Gov't, Nagoya City Gov't	Nanotech/Materials	<ol style="list-style-type: none"> 1 Development of environment-friendly autonomous nano production devices 1 Development of environment-friendly highly-functional organic/inorganic hybrid nano-materials 2 Development of environment-friendly highly-functional nano sensor/materials 3 Development of SAM nano-patterning systems (SAM = Self-Assembled Monolayer) 4 Development of nano-assembly systems 	Aichi Science and Technology Foundation	Nagoya Univ. Nagoya Inst. of Technology
Kyoto <Concept Name> Kyoto Nanotech Cluster				
Kyoto Pref. Gov't, Kyoto City Gov't	Creation of nanotech business	<ol style="list-style-type: none"> 1 Development of basic nano technology and advanced nano-sensing 2 Development of next-generation optoelectronic devices using nanotech 3 Development of nano/bio combination devices 4 Strategic promotion and direction of projects and joint research for creating a knowledge-based cluster 	Advanced Software Technology & Mechatronics Research Institute of Kyoto	Kyoto Univ. Kyoto Inst. of Technology Ritsumeikan Univ. Kyoto Municipal Industrial Research Inst.

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Kansai Science City <Concept Name> Research Project for Creating Human L ³ Industries				
Kyoto Pref. Gov't, Osaka Pref. Gov't, Nara Pref. Gov't	Creating technologies to support full living through the sophisticated use of IT and genomics	1. Development of various technologies for sophisticated use of the genome (Life Sciences) 2. Development of neo-appliance related technologies (Living technology) 3. Application and deployment of next-generation experiential learning support technology and related software	Keihanna Interaction Plaza Inc.	Nara Inst. of Science and Technology Doshisha Univ. Osaka Electro-Communication Univ. The Research Inst. of Innovative Technology for the Earth (RITE)
Kansai Wide Area Cluster Saito (Northern Part of Osaka Pref.) <Concept Name> Saito Biomedical Cluster				
Osaka Pref. Gov't	Biomedical field	Common axis: Strategic research to create a platform for development of new technology to create molecular medicines 1. New technology for development of molecular medicines in future medication - technologies for controlling cell function targeting the three major diseases 2. New strategies for antimicrobial drugs in cooperation with innate immunity - development of new technologies contributing to discover innovative drugs for infectious diseases by using interaction between drugs and body function. 3. Creation of new technologies for controlling biomolecules using photon processes	Senri Life Science Foundation	Osaka Univ.
Kansai Wide Area Cluster Kobe <Concept Name> Translational Research for Creating an Advanced Medicine Cluster for Fields Like Regenerative Medicine				
Kobe City Gov't	Translational research focused on advanced medical fields like regenerative medicine	1. Systematic development of technologies using stem cells in pre-clinical research for treating intractable nerve diseases 2. Development of new applied technologies by combining stem cell biology with other advanced engineering 3. Comprehensive research to develop new methods of treating lifestyle diseases in the post-genome era	Foundation for Biomedical Research and Innovation	Inst. of Biomedical Research and Innovation Center for Developmental Biology (RIKEN Kobe Institute) Kyoto Univ., Osaka Univ. Kobe Univ.
Hiroshima <Concept Name> Hiroshima Central Biocluster				
Hiroshima Pref. Gov't	Gene technologies and cell utilization technologies for supporting medicine and drug development	1. Development of a system for producing recombinant human collagen 2. Creation of bio-industries using human hepatocytes propagated in mouse body 3. Development of technology for expanding new applications of chicken eggs using transgenic technology 4. Development of skin care technologies for allergy and hair loss	Hiroshima Industrial Promotion Organization	Hiroshima Pref. Inst. of Industrial Science and Technology
Ube <Concept Name> Yamaguchi Ube Medical Innovation Cluster				
Yamaguchi Pref. Gov't	Development of next-generation medical equipment based on optic technologies like LEDs	1. Development of medical light source systems based on high-brightness LED (Light Emitting Diode) technology 2. Development of minimally invasive treatment equipment based on high-brightness white LED technology 3. Development of highly functional diagnostic devices based on optic technologies like LEDs and fluorescent quantum dots.	Yamaguchi Industrial Promotion Foundation	Yamaguchi Univ.
Tokushima <Concept Name> Proposal for the Formation of a Health and Medicine Cluster Focused on Health Technology ~ Establishment of Tokushima as the Proteomics Factory				
Tokushima Pref. Gov't	Development of technologies for searching the disease-linked proteome and genome, and promotion of activities in related industries	1. Development of densely integrated diamond-coated protein and transcription chips for future application research 2. Development and commercialization of disease proteomics analysis technology using signal transfer chips 3. Development of lab-on-a-chip methods and techniques for automatic genome diagnosis using nano-measurement methods 4. Development of a system to identify disease susceptibility genes for "common diseases" through association studies on Japanese subjects with even spacing common SNP markers	Tokushima Industrial Promotion Organization	The Univ. of Tokushima (Inst. for Enzyme Research, Inst. for Genome Research, Faculty of Engineering)
Takamatsu <Concept Name> A Sugar Biocluster Focused on Rare Sugars (Bioactive Monosaccharides)				
Kagawa Pref. Gov't	R&D on basic technology for creating a sugar bioindustry using rare sugars (bioactive monosaccharides) as new materials for the life sciences	1. Establishment of a foundation of basic technology for developing applications of rare sugars 2. Establishment of rare sugar mass production technology 3. Development of pharmaceuticals, foods, agricultural chemicals and other products using rare sugars	Kagawa Industry Support Foundation	Kagawa Univ.
Kyushu Wide Area Cluster Fukuoka <Concept Name> Fukuoka System LSI Design and Development Cluster				
Fukuoka Pref. Gov't	System LSI Design and Development Technology	1. Design methods for low energy and mobile system LSIs 2. Next generation SoC architectures 3. Design methodologies for SIP (System in a Package) Modules 4. EDA technology for the next generation 5. Design methodologies for embedded software 6. Application SoC	Fukuoka Industry, Science & Technology Foundation (Fukuoka IST)	Kyushu Univ. System LSI Research Center (Kyushu Univ.), Fukuoka Univ.
Kyushu Wide Area Cluster Kitakyushu Science and Research Park <Concept Name> Kitakyushu Human Technology Cluster				
Kitakyushu City Gov't	SoC technology, nanosize sensor technology, and emerging technologies	1. LSI with new structures 2. IP and design technology for SoC 3. SoC for ubiquitous sensor networks 4. Environmental micro-sensing technology 5. Environment image sensing 6. Biochemical micro-sensing technology	Kitakyushu Foundation for the Advancement of Industry, Science and Technology (FAIS: Pronounced "face")	Kyushu Inst. of Technology The Univ. of Kitakyushu Waseda Univ.