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The National Science Foundation's Tokyo Regional Office periodically reports on developments in Japan that are related to the Foundation's mission. It also provides occasional reports on developments in other East Asian countries.

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CSTP Review of Major Japanese Government-funded S&T Activities In JFY2008

Japan's JFY2008 (April 2008-March 2009) budgets for S&T-related programs/projects requested by ministries/agencies toward the deadline of August 31, 2007 were compiled by CSTP (Council for Science and Technology Policy) as reported in <http://www.nsf-tokyo.org/rm07-08.pdf>. The requested research programs/projects were then reviewed by CSTP and the review results were made public at the end of October. In addition to rating and reviewing the research programs/projects, CSTP broadly reviewed competitive funds programs, nationally important technologies, new large-scale R&D projects, and technologies to be returned to the society. Additionally, in late November, they made public their review results of national university corporations and S&T-related independent administrative organizations.

When the above materials are gathered altogether, unique features of CSTP's review for this particular year are as follows:

1. New Programs/Projects and Continuing Programs/Projects: CSTP reviewed 92 new programs/projects whose budgets are over Yen 100 million (~\$909,000) per program/project and rated them as S (6 excellent), A (33 very good), B (43 good), and C (10 to be reviewed). They also reviewed 174 continuing programs/projects whose budgets are over Yen 1 billion (~\$9 million) per program/project, and commented whether they are (1) to be accelerated (14 programs/projects); (2) to be promoted (155 programs/projects) and (3) to be decelerated (5 programs/projects). The total of these are 266 programs/projects in an amount of Yen 802.5 billion (~\$7.3 billion). The majority of the reviewed projects was under the 3rd S&T Basic Plan "Priority Areas" (Life, Science, Information Technology, Environment, and Nanotechnology/Materials) or "Promotion Areas" (Energy, Monozukuri [Manufacturing] Technologies, Social Infrastructure, and Frontier) or newly added area of "Science and Technology Diplomacy." The review results are shown in the Tables 1 and 2 below.

Examples of the new projects rated as "S" include: Brain science strategic promotion program (MEXT); New agriculture development genome project (MAFF); New-generation network technology (MIC); Next-generation water reactor (METI); Green sustainable chemical process (METI); and S&T cooperation with developing countries (MOFA/MEXT).

Of the continuing programs/projects, those to be accelerated include: Global COE (MEXT); Basic research for clinical application (MHLW); and Comprehensive promotion of global environment research (MOE).

2. Competitive Funds, Facilities, Nationally Important Technologies: In addition, CSTP separately reviewed government's budgets for (1) grants-in-aid for scientific research (biggest competitive research funds for basic science), (2) S&T-related investments in private universities, (3) university facilities, and (4) coordination funds for promoting S&T, and commented. An example of the comments is that (1) "grant-in-aid for scientific research" is an exemplary competitive funds in Japan, and is proactively undertaking system reform that should be promoted to further support young researchers, expand indirect cost system, and to meet other goals mentioned in the 3rd S&T Basic Plan. CSTP further reviewed the development in the five "Nationally Important Technologies": (I) supercomputer, (II) free X-ray laser, (III) marine and earth observation system, (IV) space transport system,

and (V) fast breeder reactor technologies, and commented. An example of the comments is that all the projects under (III) “marine and earth observation system” are important in that they all deal with global environment problems and large-scale natural disaster to ultimately make great contributions to the safe and secure society. The total of all of the items above is Yen 609.4 billion (~\$5.5 billion).

3. New Large-Scale R&D, Technologies to be Returned to the Society: CSTP also reviewed three new large-scale R&D projects (new project whose budget is over Yen 30 billion (~\$273 million)) as below and 34 projects whose technologies need to be “accelerated to be returned to the society,” which include regenerative medicine projects, disaster prevention projects, elderly people care robots, and new energy creation programs. The total of these is Yen 47.4 billion (~\$431 million).

- “Industry-University joint creation of local area innovation” by METI (competitive funds)
- “Basic research for creating innovation” by MAFF (competitive funds)
- “Commercialization technologies to promote new agriculture, forests and fisheries policies” by MAFF (competitive funds)

4. Programs/projects not reviewed by CSTP: New programs/projects whose budgets are below Yen 100 million and continuing programs/projects whose budgets are below Yen 1 billion were not reviewed by CSTP.

5. National University Corporations, Independent Administrative Organizations: CSTP further reviewed national university corporations and S&T-related independent administrative organizations and made the result public at the end of November. The result is in the form of comments in that in the future (1) research activities at middle-tier national university corporations in local areas need to be promoted, or in other words, those universities are encouraged to make more efforts to obtain more research funds, and (2) independent administrative organizations should focus on advancement of international research competitiveness by enriching competitive environment.

Conclusion: The amount for the above 1-3 plus 5 totals Yen 1,540.3 billion (~\$14 billion), 38 percent of the total S&T-related budget request of Yen 4,033.2 billion (~\$36.7 billion). The remaining 62 percent are the funds for national university corporations and independent administrative corporations.

Items	\$ Billion	Percentage
1. R&D programs/projects rated by CSTP		
2. Competitive funds, facilities, Nationally important technologies		
3. New large-scale R&D projects, Projects to be returned to the society		
5. R&D programs/projects not reviewed by CSTP		
Sub-total	14	38%
4. National university corporations, S&T-related independent administrative organizations	22.7	62%
TOTAL	36.7	100%

The above very briefly summarizes a huge volume of document which, when printed, lays 4 inches high. Thus, CSTP has made a large-scale review, ranging from program/project-level review through corporate-level review. It is possible that CSTP did such a thorough review in the middle of the 3rd S&T Basic Plan (2006-2010), in order to be prepared to design a 4th S&T Basic Plan that will start in 2011. CSTP has rank-ordered the new programs/projects and recommended which of the continuing programs/projects are to be accelerated and which should fade away. This has clarified the future direction of the programs/projects. The review of the national university corporations has concluded that middle-tier national university corporations in the local areas need further efforts to survive. The programs/projects and corporations will take CSTP's detailed comments into consideration in their management, and will anxiously wait another review at the same time next year. In JFY2008 CSTP would further be watched by all concerned as to how they will make a transition from the 3rd S&T Basic Plan to a 4th plan.

The exchange rate used in this report is Yen 110/\$ and the abbreviations used throughout this report is listed in the Appendix below.

Table 1: NEW Programs/Projects

	Program/Project	Agency/Res. Inst.	2008 Budget Request (Mil. Yen)	2007 Budget
	NOTES			
Rating	Red letters: Competitive funds			
Competitive Funds that do not belong to specific fields				
A	Interdisciplinary research between human & social sciences	MEXT	991	
C	High-risk challenging research	MEXT	1,000	
Life Science				
S	Brain science: strategic promotion program (learn from brain)	MEXT	Part of 4,000	
S	New agriculture development genome project (Innovative GMO and public understanding of the technologies)	MAFF	1,286	
A	Comprehensive database project	METI	200	
A	Medical care that meets individual genetic information	MEXT	2,794	
A	New agriculture development genome project (identify useful genes and confirm their functions)	MAFF	1,630	
A	Development of highly precise and efficient risk management on bird flu and BSE	MAFF	1,096	
B	Omics basic research	MEXT/RIKEN	818	
B	Protein basic research	MEXT/RIKEN	792	
B	Sub-millimeter super-high resolution PET-MRI development	MEXT	549	
B	New agriculture development genome project (innovative products development using DNA marker and technology development to make good use of genetic functions)	MAFF	2,088	
B	Systematic elucidation of harms and risk mitigation in production/distribution/processing processes	MAFF	1,099	
B	Commercialization of research results	MAFF	300	

C	Brain science: strategic promotion program (protect and nurture brain)	MEXT	Part of 4,000	
C	Simulation of origin of life	MEXT	250	
Information Technology				
S	Base technologies for new-generation network	MIC/NICT	2,218	
A	Green IT project (Save-energy technologies by cyber storage; electric power control of network equipment)	METI/NEDO	Part of 4,800	
A	Highly-efficient reflection system with theater presence	MIC/NICT	480	
A	Dream chip development project (Basic: Three-dimensional semiconductor device)	METI/NEDO	Part of 1,500	
A	Next-generation circuit architecture	METI-NEDO	500	
A	System integration and linkage software to materialize e-science	MEXT	750	
A	Common base to advance efficient investment in IT	METI	1,500	
A	Ubiquitous/platform technologies	MIC	2,190	
B	Green IT project (Display technologies, using organic EL)	METI/NEDO	Part of 4,800	
B	Next-generation device design	METI/NEDO	300	
B	Dream chip development project (Applied: Communication device that copes with multi-cycles; three-dimensional semiconductor device that enables circuit rewriting)	METI/NEDO	Part of 1,500	
B	Cell phone system that meets both terrestrial and satellite broadcasting	MIC/NICT	Part of 17,397	
B	Control & management of next-generation network that meets both small and large-volume data transmission	MIC	400	
B	Radar communication technologies for vessels	MIC	Part of 17,397	
B	Safe and secure disaster-prevention information technologies	MIC	300	
B	WEB analysis technologies that enable collection and analyses of huge volume cyber information	MEXT	300	

C	Establishment of WEB application as social infrastructure	MEXT	200	
Environment				
A	Biological diversity index and evaluation method useful for agriculture	MAFF	326	
A	Promotion of eco-innovation: innovative technology development	METI	1,000	
B	Biological and environmental management of coastal areas with appeal points	MLIT	13	
B	Environmental nano particles' effects on the environment	MOE	10	
B	Basic tool development program for promoting use of marine resources (Marine life resources)	MEXT	100	
Nanotechnology/Materials				
A	Whole solid lithium ion battery with advanced credibility and function	MEXT/NIMS	286	
A	Sustainable hyper composite technologies	METI/NEDO	360	
A	Network-type research center to develop basic technologies in light quantum	MEXT	1,900	
B	Nano molecule materials for sensing gas molecules	MEXT/NIMS	505	
B	Evaluation of deterioration of non-contact materials for structural parts by laser probe	MEXT/NIMS	261	
B	Innovative membrane separation technologies	METI	300	
B	Innovative materials to regenerate organic tissues by controlling fiber orientation	MEXT/NIMS	425	
B	Innovative process nano measurement base technologies	METI/NEDO	800	
C	Increase of volume of plant and weed production using light	MEXT	100	
Energy				
S	Next-generation reactor	METI	1,498	
A	Nuclear energy basic strategic research initiative	MEXT	1,000	
A	Solid Oxide Fuel Cell (SOFC) element technologies	METI/NEDO	1,400	

A	Superconducting power apparatus with Yttrium: wire material development and SMES (Superconducting Magnetic Energy Storage)	METI-NEDO	2,300	
A	Environment friendly steel processing technology	METI/NEDO	600	
B	Decontamination of uranium after breeder reactor reprocessing	METI	1,000	
B	Hydrogen manufacturing-transportation-storage system	METI/NEDO	2,000	
B	Advanced use of future fuel	METI	600	
B	Commercialization of ultra super critical thermal power generation: element technologies	METI	200	
B	Superconducting power apparatus with Yttrium: high temperature superconducting cable and high temperature superconducting transformer	METI/NEDO	3,700	
B	Innovative glass melt processing technology	METI/NEDO	400	
Monozukuri (Manufacturing)				
S	Green sustainable chemical process	METI/NEDO	600	
A	Interdisciplinary next-generation device manufacturing technologies	METI/NEDO	1,600	
B	Simulation software that will be the base for creating innovation	MEXT	1,250	
C	Technologies to utilize knowledge in frontier fields to accelerate innovation creation	MEXT	100	
C	Green sustainable chemical process (advanced commercialization technologies)	METI/NEDO	600	
C	Innovative highly efficient processing technologies	METI/NEDO	500	
Social Infrastructure				
A	Advancement of authentication on minute plant materials	PA	47	
A	Survey and observation of strain focused areas in north of the Main Island where earthquakes frequently occur	MEXT	1,300	
A	Disaster mitigation in case of large-scale earthquake in Tokai area	MEXT	1,200	
A	Super long life house used by multi generations and	MLIT	358	

	management of land and houses			
B	RN matter detection technologies in case of radiological terror	PA	34	
B	Modification of facilities for monitoring large-scale earthquakes in urban areas	MEXT/NIED	216	
B	Wide-area earthquake monitoring facilities	MEXT/NIED	496	
B	Disaster prevention support program	MEXT	300	
B	Development of coal fiber complex materials to save energy	METI	5,500	
Frontier				
A	Frontier space system by miniaturization	METI/NEDO	1,000	
A	Development of basic tool to make use of marine resources: Mineral resource fields and energy resource fields	MEXT	400	
Science and Technology Diplomacy				
S	Science and technology cooperation with developing countries	MOFA/JICA	1,380	
		MEXT/JST	1,250	
A	Environment leader fostering initiative	CAO/MEXT¥MOE	703	
A	MEXT programs for S&T Diplomacy	MEXT	3,843	
B	G8 S&T Ministerial Meeting	CAO/MEXT¥MOE	13	
B	International S&T in infectious diseases field	MHLW	Part of 2,873	
B	Part of new agricultural development genome project	MAFF	Part of 5,004	
B	METI's programs for S&T Diplomacy	METI/NEDO	1,439	
B	MLIT's programs for S&T Diplomacy	MLIT	Part of 2,310	
Personnel Fostering/Public Understanding of Science and Technology				
A	Fellowship to support young researchers of challenging spirit	MEXT	3,000	
A	Class to foster future scientists	MEXT/JST	200	
B	Personnel fostering for industry-university cooperation	METI	3,000	

C	Fostering of technicians who support S&T innovation	MEXT	100	
C	Public understanding activities by merging S&T and culture	MEXT	100	
Local S&T/Industry-university-government cooperation /Intellectual property				
A	Industry-university-government cooperation strategic development program	MEXT	4,839	
B	Detailing company researchers in frontier fields to universities	MEXT	180	
B	Unique seeds development program: University-oriented innovative medicine innovation	MEXT/JST	2,000	
B	Technology transfer support center program (Patent portfolio)(part of the program)	MEXT/JST	200	

Table 2: CONTINUING Programs/Projects

Program/Project	Agency/Res. Inst.	2008 Budget Request (Mil. Yen)	2007 Budget
NOTES			
Red letters: Competitive funds			
	To be accelerated		
	To be promoted		
	To be decelerated		
Competitive Funds that do not belong to specific fields			
WPI (World Premier International) Research Center Program	MEXT	9,167	3,500
Basic Research Programs, including ERATO, CREST, SORST, ICORP, & Sakigake (PRESTO)	MEXT	55,527	48,626
Human & social sciences research	MEXT	140	103
Basic Research (Physics & Astronomy)			
ALMA	MEXT/NINS	4,211	3,979
J-PARC	MEXT/JAEA/KEK	26,189	31,112
RI Beam Factory	MEXT/RIKEN	4,745	2,842

Spring-8	MEXT/RIKEN	9,489	9,052
Basic Research (Universities)			
Global COE Program (Post 21st Century COE Program)	MEXT	46,958	15,758
21st Century COE Program	MEXT	4,634	22,016
Life Science			
Basic research for producing pharmaceuticals	MHLW	6,499	5,304
Translational research	MEXT	2,500	1,500
Basic research for clinical application	MHLW	4,957	4,130
Risk analyses of food and pharmaceuticals	MHLW	1,752	1,491
Comprehensive database project	MEXT	1,600	1,600
Bio-informatics promotion center	MEXT/JST	1,730	1,682
Comprehensive database for MAFF-related genome information	MAFF	721	721
National bio-resource project	MEXT	1,776	1,776
Bio-resource project	MEXT/RIKEN	3,785	2,393
Analyses of genomic functions	MEXT	1,991	2,301
Target protein research program (Post-protein 3000)	MEXT	5,527	5,527
Plant science	MEXT/RIKEN	1,726	1,599
Sugar chain function utilization technology	METI/NEDO	1,190	1,190
Comprehensive brain research	MEXT/RIKEN	10,106	9,191
Comprehensive research on immunology/allergy	MEXT/RIKEN	3,757	3,456
Comprehensive research on Developmental/regenerative science	MEXT/RIKEN	5,187	4,802
Development of medical equipment	MHLW	1,219	823
SNP	MEXT/RIKEN	1,842	1,590
Basic research in health/medical areas	MHLW/NIIBIO	8,179	8,186
Bayh-Dole contract fee for R&D on pharmaceutical products	MHLW/NIBIO	1,200	1,200
Bio basic technology to support acceleration of genome pharmaceuticals	METI/NEDO	4,940	4,360
New functional antibody pharmaceuticals	METI/NEDO	1,300	1,190
New and recurring infectious diseases research centers	MEXT	2,800	2,750
AIDS/hepatitis/new and recurring infectious diseases	MHLW	7,071	5,895
Innovative cancer treatment	MEXT	765	675
Particle beam cancer treatment	MEXT/NIRS	5,979	5,537
Third comprehensive strategy for cancer	MHLW	7,413	6,178
Cancer research support	MHLW	1,850	1,804
Intelligent operation equipment R&D	METI/NEDO	800	700

Countermeasures for cardiovascular and habit-oriented diseases and prevention/treatment of immunity/allergy diseases	MHLW	8,113	6,855
Mental health science	MHLW	2,281	1,954
Molecular imaging (partially competitive funds)	MEXT/NIRS	5,241	3,808
Medical infrastructure in local areas	MHLW	1,052	825
Japanese-type livestock feeding by large amount of simple feed	MAFF	606	506
New production system, using IT	MAFF	602	604
Commercialization and industrialization of Agri-bio products	MAFF	618	618
Designated experiments	MAFF	973	973
Commercialization at industries	MAFF	2,000	1,200
Comprehensive agri-genome research	MAFF	589	3,239
Environment friendly manufacturing technologies, using microorganism functions	METI/NEDO	1,381	1,381
Environment friendly manufacturing technologies, using plant functions	METI/NEDO	1,658	1,658
Information Technology			
Photonics network	MIC/NICT	3,948	3,465
Fostering frontier IT specialists	MEXT	948	798
MIRAI (millennium Research for Advanced Information Technology)	METI/NEDO	5,600	6,200
Integrated circuit application chip project	METI-NEDO	1,680	1,978
Next-generation process friendly design technology	METI/NEDO	941	941
Spintronics non-volatilization function	METI/NEDO	650	650
Next-generation large-scale low-electric energy consumption display	METI/NEDO	1,235	1,235
Device system for advanced function/super low electric power consumption computing	MEXT	900	525
Intelligent technologies for next-generation robots	METI/NEDO	1,900	1,900
Open source software utilization	METI/IPA	650	703
Industry-university software engineering project	METI/IPA	2,800	2,200
Secure platform project	METI	995	995
Shift to wireless system in unused frequency zone	MIC	Part of 17,397	2,845
Element technologies for advanced use of frequency in mobile communication system	MIC	Part of 17,397	4,241

Next-generation network	MIC/NICT	3,101	3,052
Next-generation backbone	MIC	1,800	1,619
Next-generation advanced efficiency network device	METI/NEDO	1,159	1,159
Support for automatic movement	MLIT	692	701
Information navigation project	METI	5,000	4,570
Countermeasures for information leak	MIC	1,700	1,000
Early-stage warning for computer security	METI/IPA	2,180	1,826
Trial for stopping cyber attach, including spam mail and phishing	MIC	900	884
Corporate/individual information security measures	METI/IPA	1,482	1,482
Promotion of R&D on strategic information communication	MIC	3,400	2,950
Promotion of private sector basic technology R&D	MIC/NICT	6,500	6,500
Environment			
Evaluation of global warming effects on agriculture, forestry and fisheries and countermeasures	MAFF	650	276
Comprehensive promotion of global environmental research	MOE	3,810	2,960
21st century climate change prediction program	MEXT	2,813	2,313
Basic process model for global environmental change prediction	MEXT/ JAMSTEC	1,705	1,721
Short-term climate change simulation from the whole earth scale to local	MEXT/ JAMSTEC	1,075	1,075
Global warming countermeasures	MOE	3,709	3,302
Global environment observation by satellite	MOE/NIES	743	715
Water/heat/matter cycle observation at various scales from basin to globe	MEXT/ JAMSTEC	707	677
Chemical substance risk analyses	MHLW	1,618	1,348
Grant for waste disposal study	MOE	1,861	1,261
Field test for use of local biomass energy	METI	1,904	1,904
Promotion of environmental technology development	MOE	1,600	881
Nanotechnology/Materials			
Nanotechnology/materials-oriented interdisciplinary research areas	MEXT	2,440	2,140
Nanoelectronics semiconductor new materials/new structure technology development: New materials and new structure nano electronic devices	METI/NEDO	1,000	500
Nanoelectronics semiconductor new materials/new structure technology development: Nitrogen-related chemical combination	METI/NEDO	660	500

semiconductor board/epitaxial development			
Alternate materials for rare metals	METI/NEDO	1,400	1,100
Innovative advancement of strength and functions of steel materials	METI/NEDO	1,200	825
Cancer diagnosis/treatment technologies by nanobiotechnology: Molecular imaging equipment	METI/NEDO	Part of 1,200	Part of 1,200
Medical equipment development (Nanomedicine)	MHLW	2,119	1,937
Frontier nano station (nanotechnology network, quantum beam facilities)	MEXT	2,443	1,800
Societal acceptance of nanomaterials	MEXT/NIMS	722	722
Frontier optical science research	MEXT/RIKEN	1,075	882
Commercialization of nanotechnology/frontier parts materials (Nanotech challenge)	METI/NEDO	2,170	2,170
Interdisciplinary and inter-industry nanotechnology/frontier materials commercialization	METI/NEDO	2,800	1,800
Energy			
New energy technology R&D (Solar and wind)	METI/NEDO	5,300	3,290
Commercialization of polymer electrolyte fuel cell (PEFC)	METI/NEDO	7,000	5,130
Confinement of CO2 underground	METI	1,318	1,070
ITER	MEXT	12,158	5,382
Nuclear energy system	MEXT	6,307	5,205
High-level radioactive waste disposal R&D	MEXT/JAEA	8,997	8,937
Geological disposal technology	METI	3,876	3,376
Innovative commercialization of nuclear energy	METI	1,600	902
Full reactor MOX fuel nuclear reactor facilities	METI	3,500	3,400
Supplemental funds for promoting uranium condensing technologies, using centrifugal method	METI	1,200	911
New energy technology field tests (Solar and wind)	METI/NEDO	7,209	8,920
Frontier research on fuel cell	METI/NEDO	1,000	996
Frontier science basic research on hydrogen	METI/NEDO	1,800	1,665
Practical application of solid oxide fuel cell	METI/NEDO	900	765
Large-scale experiment of residential fuel cell	METI/NEDO	2,800	3,420
Frontier science basic research on hydrogen reserve materials	METI/NEDO	1,000	757
Practical application of fuel cell system	METI	1,500	1,800

Advanced functional interdisciplinary technology development for refining oil	METI	8,811	7,600
Innovative next-generation oil refining technology development	METI	4,400	2,326
Coal production/use technology promotion: Multi-purpose coal gas production	METI	2,818	1,800
Power generation by gasification of jet stream floor coal	METI	2,067	1,596
GTL technologies of natural gas	METI	6,000	6,867
Methane hydrate development	METI	2,533	4,014
Commercialization of next-generation power reserve system	METI	7,100	4,900
Strategic development of energy saving technologies	METI/NEDO	8,000	8,000
Establishment of infrastructure for hydrogen-economy society	METI/NEDO	2,010	2,550
New commercialization of fuel cell	METI/NEDO	440	309
Monozukuri (Manufacturing)			
Frontier measurement analysis technology/equipment development	MEXT/JST	6,000	4,800
Super hybrid material technology development	METI/NEDO	800	800
Strategic basic technology development	METI/SMRJ	11,571	9,361
Optical catalyst creation project for recycling society	METI/NEDO	1,100	1,100
Highly integrated and complex MEMS technology development	METI/NEDO	1,100	1,100
Super flexible display parts technology development	METI/NEDO	730	620
Social Infrastructure			
Safe and secure society	MEXT	1,001	405
Special project for prevention/mitigation of urban-area large-scale earthquakes (Plate structure, anti-seismic evaluation/security of function)	MEXT	1,639	1,450
Anti-seismic research, using E-defense	MEXT/NIED	2,803	1,962
Advancement of monitoring/modeling of the change in crust for mitigation of earthquake and volcanic lava disaster and advancement of prediction	MLIT	1,151	1,053
Next-generation environment-friendly airplane	METI/NEDO	5,920	3,390
Next-generation environment-friendly airplane: materials manufacturing/processing technology development	METI	840	830
Domestic airplane: highly functional technology/clean engine technology R&D	MEXT/JAXA	2,725	2,704
All weather/high density flight technology	MEXT/JAXA	546	381

Special project for prevention/mitigation of urban-area large-scale earthquakes (Wide-area crisis management/mitigation system)	MEXT	200	0
Frontier			
Flight evidence of LNG propulsion	MEXT/JAXA	14,989	3,244
Next-generation transport: system design	METI/NEDO	1,030	2,593
International Space Station: operation and utilization	MEXT/JAXA	17,504	18,972
SERVIS (space environment reliability verification system)	METI/NEDO	750	600
Next-generation earth observation sensor research: Hyper-spectrum sensor technology	METI/NEDO	2,020	603
Oil resource remote detection technology	METI	1,600	1,550
Advancement of reliability of satellites	MEXT/JAXA	959	652
Maintenance of solid rocket technologies	MEXT/JAXA	2,800	54
Personnel Fostering/Public Understanding of Science and Technology			
Graduate education reform support program	MEXT	8,597	3,501
Fellowship program: Ph.D. and postdoc	MEXT/JSPS	17,644	14,915
Practically minded personnel fostering by industry-university cooperation	MEXT	909	534
OIST (Okinawa Institute of S&T)	CAO/OIST	15,597	8,726
International fellowship program	MEXT/JSPS	1,596	1,487
Foreign researcher invitation program	MEXT/JSPS	6,519	6,821
Assistants for science classes	MEXT/JST	3,000	2,000
Super science high school	MEXT/JST	1,560	1,444
Science partnership project	MEXT/JST	1,198	1,218
Development and use of science education materials	MEXT/JST	635	685
Science education facilities	MEXT	2,000	1,310
Local S&T/Industry-university-government cooperation/Intellectual property			
Intelligent cluster creation	MEXT	11,720	8,940
Urban area Industry-university-government cooperation research	MEXT	5,140	4,510
Local area innovation creation program	MEXT/JST	14,384	9,411
Local area incentive cooperative research program	MEXT/JST	1,321	2,341
Wide area new business support network	METI	1,274	1,699
Local area resource utilization-type R&D	METI	1,956	1,956
Small & medium-size and venture companies support program	METI	1,678	1,900

Frontier research facilities joint use innovation creation program	MEXT	1,656	1,380
Industry-university seeds innovation program	MEXT/JST	3,120	1,800
Unique seeds development program	MEXT/JST	9,918	9,043
Technology transfer support center (part of the program)	MEXT/JST	828	537
Support for industrial technology research	METI/NEDO	6,113	5,892
Technology transfer support center program (overseas patent application)(part of the program)	MEXT/JST	2,404	2,105
World-leading international standardization	METI	1,348	1,181

Appendix

Abbreviation	Full Name
CAO	Cabinet Office
ENRI	Electronic Navigation Research Institute
IPA	Information-technology Promotion Agency
JAEA	Japan Atomic Energy Agency
JAMSTEC	Japan Agency for Marine-Earth Science and Technology
JAXA	Japan Aerospace Exploration Agency
JOGMEC	Japan Oil, Gas, and Metals National Corporation
JSPS	Japan Society for the Promotion of Science
JST	Japan Science and Technology Agency
KEK	High-energy Accelerator Research Organization
MAFF	Ministry of Agriculture, Forestry and Fisheries
METI	Ministry of Economy, Trade, and Industry
MEXT	Ministry of Education, Culture, Sports, Science and Technology
MHLW	Ministry of Health, Labor, and Welfare
MIC	Ministry of Internal Affairs and Communications
MLIT	Ministry of Land, Infrastructure, and Transportation
MOE	Ministry of Environment
NARO	National Agriculture and Food Research Organization
NEDO	New Energy and Industrial Technology Development Organization
NIBIO	National Institute of Biomedical Innovation
NICT	National Institute of Information and Communication Technology
NIED	National Research Institute for Earth Science and Disaster Prevention
NIES	National Institute for Environmental Studies

NIMS	National Institute of Materials Sciences
NIRS	National Institute of Radiological Sciences
OIST	Okinawa Institute of Science and Technology
PA	Police Agency
RIKEN	Institute of Physical and Chemical Research
SMRJ	Organization for Small and Medium Enterprises and Regional Innovation of Japan