

NATIONAL SCIENCE FOUNDATION

TOKYO REGIONAL OFFICE

February 28, 2007

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.

Tokyo Office Report Memoranda are intended to provide information for the use of NSF program officers and policy makers; they are not statements of NSF policy.

Report Memorandum #07-03

The following report was prepared by Ms. Kazuko Shinohara of the National Science Foundation's Tokyo Regional Office. She can be reached at kshinoha@nsf.gov

Major Projects in the Japanese Government JFY2007 S&T-related Budget

Programs and projects individually reviewed by the Council for Science and Technology Policy (CSTP) account for Yen 1.5 trillion (\$12 billion @Yen 118/\$) of the total Japanese Government S&T-related budget request of Yen 3.5 trillion (\$29.8 billion) forwarded for Diet approval for Japanese fiscal year 2007 (April 1, 2007-March 31, 2008).

As noted in NSF Tokyo Report #07-01 (<http://www.nsftokyo.org/rm07-01.pdf>), the Japanese Government's total S&T-related budget for JFY2007 is expected to be Yen 3,511.3 billion (\$29.8 billion), a decrease of 1.8 percent from JFY2006. Ministries and agencies submitted their budget requests to CSTP in August 2006. CSTP reviewed

individual major projects and made summary assessments and ratings public in October. Based on the CSTP ratings, the Ministry of Finance (MOF) conducted negotiations with ministries/agencies, and forwarded the JFY2007 S&T-related budget request to the Diet in late December. Diet approval is expected before the end of March 2007, with only minor modifications, if any.

As one of four policy councils within the Prime Minister's Cabinet Office, the CSTP oversees development of the Japanese Government's Science and Technology Basic Plan (see NSF Tokyo Report #06-02 for an overview of the 2006-2010 Basic Plan: <http://www.nsftokyo.org/rm06-01.pdf>). For JFY2007, CSTP reviewed 386 individual projects/programs, and the funding requests for those projects represent 43 percent of the total S&T-related budget request forwarded to the Diet.

CSTP reviewed nearly twice as many projects this year (386) as last year (196). The majority of reviewed projects were designated in the ministry/agency funding requests as being under one of the 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). For these areas, CSTP reviewed all continuing projects that had budget requests of more than Yen 500 million (\$4 million), as well as all proposed new projects, irrespective of budget size. Unlike JFY2006, this year CSTP also reviewed projects that would be administered by independent administrative organizations (just like Japan Society for the Promotion of Science and Japan Science and Technology Agency).

CSTP gave most of the reviewed projects a rating of S (Excellent), A (Very Good), B (Good), or C (To Be Reviewed).

Projects are grouped in Table 1 into categories/topics designated by CSTP, and listed with S-rated projects first, followed by projects rated A, B, and C. Red lettered-projects are those run by competitive funds. S/N is a serial number.

Under the category of "University-related programs," MEXT's Center of Excellence (COE) programs are noteworthy. (Refer to NSF/T Report at: <http://www.nsftokyo.org/rm04-06.html>) The 21st Century COE program established a total of 274 COEs in 2002-2004, with funding of about Yen 130 million (\$1.1 million)/year per project for five years. The goal of the program is to cultivate a competitive

academic environment among Japanese universities by giving targeted support to the creation of world-standard research and education bases. Since no new 21st Century COEs are being funded, the program budget will decrease from Yen 37,800 million (\$320.3 million) in JFY2006 to Yen 22,016 million (\$186.6 million) in JFY 2007, and this will be used to support the annual funding increment of on-going grants. The new Global COE program will start with a JFY2007 budget of Yen 15,758 million (\$133.5 million). The program will continue the basic concept of the 21st Century COE program with more focus on personnel fostering in an international context. The budget size will be somewhere between Yen 50-500 million (\$0.4-4.2 million) per year per project for five years.

Programs within each of the Science and Technology Basic Plan's four Priority Areas are noteworthy for their new or significantly increased funding. Under Life Science, "Translational Research" will serve as a bridge between basic research and clinical research, with a goal of making good use of basic research results forward clinical applications. MEXT and METI/NEDO will receive new budgets for Translational Research of Yen 1,500 million (\$12.7 million) and Yen 1,900 (\$16.1 million), respectively.

In the Priority Area of Information Technology, MEXT's budget for the "Frontier/Advanced all-purpose supercomputer program" will be more than doubled from the previous year's Yen 3,547 million (\$30.1 million) to Yen 7,736 million (\$65.6 million). The goal of this program is to develop a "world-level next-generation supercomputer." Also noteworthy under this Priority Area are the new METI projects on "Information Navigation Project" of Yen 4,570 million (\$38.7 million) and "Intelligent Technologies for Next-generation Robots" of Yen 1,900 million (\$16.1 million). The former is to develop element technologies for (1) searching for particular information from huge amounts of information, (2) next-generation intelligent information access, and (3) testing next-generation search engine based on (1) and (2). The latter is to develop technologies for a robot to "know," "think," and "teach" so that robots can communicate with humans. The Japanese Government sees the development of multi-task robots essential, given Japan's increasing number of elderly people and declining number of children.

In the Priority Area of Environment, JAXA's project on GOSAT (Greenhouse Gases Observation Satellite) will receive a budget increase from Yen 4,930 million (\$42 million)

in JFY 2006 to Yen 6,250 million (\$53 million) for JFY2007. Also noteworthy are new METI/NEDO programs on high efficiency/low cost energy technologies (including bio fuel) that are slated for JFY2007 funding of Yen 4,584 million (\$38.8 million).

In Nanotechnology/materials, funding for MEXT's X-ray free electron laser (XFEL) R&D will increase from Yen 1,276 million (\$11 million) in JFY2006 to Yen 4,412 million (\$37.4 million) in JFY 2007. In addition, MEXT funding for XFEL facilities will increase from Yen 1,030 million (\$9 million) to Yen 3,061 million (\$26 million). These budget increases follow the success in June 2006 of generating and accelerating electrons by the prototype accelerator for the future at Japan's Spring-8 research facilities.

Table 1: Programs/Projects Reviewed by CSTP

S/N	Rating	Program/Project	Agency/ Res.Inst.	2007 Budget (Million Yen)	2007 Budget request (Million Yen)	2006 Budget (Million Yen)
Physics/Astronomy						
2	A	J-PARC	MEXT/JAEA/KEK	26,808	28,756	30,003
4	A	Spring-8	MEXT/RIKEN	9,051	9,164	7,053
1	A	ALMA	MEXT/NIMS	3,979	3,979	2,924
3	B	RI Beam Factory	MEXT/RIKEN	2,842	5,464	3,947
Competitive funds that do not belong to specific fields						
6	A	Basic Research Programs, including ERATO, CREST, SORST, ICORP, & Sakigake (PRESTO)	MEXT/JST	47,386	52,151	46,941
7	C	Research to stimulate innovation	MEXT/JST	Part of 47,386	3,500	0
5	C	Interdisciplinary research program	MEXT	0	1,000	0
University-related programs						
9	S	Global COE Program (Post 21st Century COE Program)	MEXT	15,758	23,087	0
10	A	Investigation for additional funds for indirect costs at private universities	MEXT	0	120	0

8	B	21st Century COE Program	MEXT	22,016	26,336	37,800
Life Science						
79	S	Agriculture/genome research	MAFF	3,239	4,304	2,304
17	S	Bio-resource project	MEXT/RIKEN	2,393	2,927	2,393
59	S	Third comprehensive strategy for cancer (clinical research)	MHLW	2,231	2,739	1,923
37	S	Translational research	METI/NEDO	1,900	2,000	0
16	S	National bio-resource project	MEXT	1,776	2,132	0
11	S	Comprehensive database project	MEXT	1,600	1,976	290
35	S	Translational research	MEXT	1,500	3,006	0
36	S	Establishment of Infrastructure for clinical research	MHLW	1,232	1,400	1,081
72	S	Countermeasures for cardiovascular and habit-oriented diseases (strategic research)	MHLW	1,169	1,169	811
82	S	New production system, using IT	MAFF	604	800	0
25	S	RNA new function	MEXT/RIKEN	340	682	340
45	A	Bio basic technology to support acceleration of genome pharmaceuticals (Bio system control)	METI/NEDO	Part of 4,360	2,700	2,400
46	A	Bio basic technology to support acceleration of genome pharmaceuticals (Protein structure analyses)	METI	Part of 4,360	1,000	0
75	A	Molecular imaging (new research)	MEXT	Part of 1,355	850	0
48	A	New functional antibody pharmaceuticals (antibody pharmaceutical technology)	METI/NEDO	Part of 1,190	1,100	900
51	A	Basic research in health/medical areas (Competitive research)	MHLW/NIBIO	7,498	7,498	7,498
58	A	AIDS/hepatitis/new and recurring infectious diseases (partially competitive funds)	MHLW	5,895	7,147	5,432
63	A	Heavy particle beam cancer treatment	MEXT/NIRS	5,537	6,288	5,510
89	A	Advancement of MAFF-related research, using frontier technologies	MAFF	5,220	11,455	4,872
34	A	Developmental/regenerative science	MEXT/RIKEN	4,802	5,947	4,907

61	A	Third comprehensive strategy for cancer	MHLW	3,946	4,327	3,605
66	A	Comprehensive research on immunology/allergy	MEXT/RIKEN	3,456	4,532	3,563
32	A	Comprehensive brain research (specified as strategically prioritized S&T)	MEXT/RIKEN	3,237	4,637	2,946
57	A	New and recurring infectious diseases research centers	MEXT	2,750	3,000	2,600
73	A	Research on diseases difficult to be cured	MHLW	2,470	2,572	2,398
19	A	Analyses of genomic functions	MEXT	2,301	3,348	2,310
87	A	Interdisciplinary research to produce bio-related industries (continuing projects)	MAFF/NARO	2,155	3,200	1,973
20	A	Comprehensive research on genome science (specified as strategically prioritized S&T)	MEXT/RIKEN	2,112	3,132	2,282
62	A	Cancer research support	MHLW	1,804	1,804	1,804
71	A	Countermeasures for cardiovascular and habit-oriented diseases (non-strategic research)	MHLW	1,652	1,913	1,500
26	A	Plant science	MEXT/RIKEN	1,599	2,356	1,652
24	A	SNP	MEXT/RIKEN	1,590	1,948	1,630
92	A	Food/pharmaceuticals risk analyses (food safety and security)	MHLW	1,491	1,737	1,448
39	A	Basic research for clinical application (clinical trials for new pharmaceuticals)	MHLW	1,263	1,351	1,180
67	A	Prevention/treatment of immunity/allergy diseases	MHLW	1,257	1,400	1,220
53	A	Bayh-Dole contract fee for R&D on pharmaceutical products	MHLW/NIBIO	1,200	1,400	1,400
28	A	Sugar chain function utilization technology	METI/NEDO	1,190	1,309	1,190
54	A	Materialization of regenerative medical care	MEXT	970	1,122	1,077
93	A	R&D on BSE and human and animal infectious diseases	MAFF	857	857	857
56	A	Risk analyses of food and pharmaceuticals	MHLW	807	807	788

13	A	Comprehensive database for MAFF-related genome information	MAFF	721	750	275
65	A	Intelligent operation equipment R&D	METI	700	800	0
68	A	Comprehensive research on child-family issues	MHLW	678	855	658
84	A	Recombinant DNA safety measures	MAFF	596	596	596
40	A	Basic research for clinical application (clinical trials)	MHLW	570	1,081	159
80	A	Japanese-type livestock feeding by large amount of simple feed	MAFF	506	545	545
81	A	Stable supply of low-cost and high-quality agricultural products for processing and business use	MAFF	485	508	508
18	A	Pharmaceutical basic research (partially competitive funds)	MHLW	300	400	0
27	A	System sugar chain biology	MEXT/RIKEN	149	377	0
64	A	Personnel fostering for particle beam cancer treatment	MEXT	40	43	0
47	B	Bio basic technology to support acceleration of genome pharmaceuticals (genomic function analyses using model cells)	METI/NEDO	Part of 4,360	1,140	1,100
76	B	Molecular imaging (continuation of ongoing research)	MEXT	Part of 1,355	1,207	1,001
49	B	New functional antibody pharmaceuticals (Antibody production)	METI/NEDO	Part of 1,190	220	300
33	B	Comprehensive brain research (not pecified as strategically prioritized S&T)	MEXT/RIKEN	5,954	5,974	6,445
86	B	Basic research to produce new technologies/new industries	MAFF/NARO	4,677	11,908	4,788
21	B	Comprehensive research on genome science (not specified as strategically prioritized S&T)	MEXT/RIKEN	3,218	3,283	3,387
42	B	Medical care based on genetic information	MEXT	2,568	3,348	3,130
44	B	Comprehensive research on	MHLW	2,071	2,861	2,437

		government-led pharmaceutical policy				
43	B	Human genome tailor made research	MHLW	1,997	1,997	2,701
30	B	Mental health science	MHLW	1,954	2,301	2,223
74	B	Molecular imaging	MEXT/NIRS	1,700	2,000	1,819
12	B	Bio-informatics promotion center	MEXT/JST	1,682	1,809	1,809
95	B	Advanced Monozukuri technologies, using plant functions	METI/NEDO	1,658	1,786	1,928
96	B	Environment friendly manufacturing technologies, using microorganism functions	METI/NEDO	1,381	1,535	2,035
69	B	Comprehensive research on longevity science	MHLW	1,360	1,717	1,582
38	B	Basic research for clinical application	MHLW	1,064	1,275	854
31	B	Brain science and society	MEXT/JST	997	1,058	1,536
85	B	Specified experiment projects	MAFF	973	1,003	1,003
50	B	Medical equipment development (partially competitive funds)	MHLW	823	1,015	946
55	B	Regenerative medical care	MHLW	797	1,088	927
94	B	Evaluation and management for supplying safe, reliable, and functional food and agricultural products	MAFF	714	844	844
52	B	Basic research in health/medical areas (Specified research)	MHLW/NIBIO	687	687	694
60	B	Translational research	MEXT	675	1,183	900
90	B	New technologies for activating food industries by industry/university/government cooperation	MAFF	661	2,109	988
83	B	Agri-bio commercialization	MAFF	618	962	962
14	B	Toxicogenomics (partially competitive funds)	MHLW	544	544	805
23	B	Cell/bio function simulation project	MEXT	542	722	704
70	B	Research on disorder of sense organs	MHLW	533	636	509
88	B	Interdisciplinary research to produce bio-related industries (venture business promotion and expansion projects)	MAFF/NARO	130	2,040	364

78	B	Health crisis management/ countermeasures for terror	MHLW	51	101	60
91	C	Commercialization at industries	MAFF	1,200	1,400	800
77	C	Medical care safety/medical technology evaluation	MHLW	915	1,517	1,308
15	C	Disease-related protein analyses	MHLW	393	674	562
22	C	Next-generation genome research: bio-engineering areas	MEXT	0	1,000	0
29	C	In vivo information transmission	MHLW	0	250	0
41	C	Basic research for new pharmaceuticals	MEXT	0	1,600	0
Information Technology						
97	S	Frontier/Advanced all-purpose super computer	MEXT	7,736	8,700	3,547
104	S	MIRAI (Millennium Research for Advanced Information Technology)	METI/NEDO	6,200	6,400	6,000
142	S	Information navigation project	METI	4,570	5,000	0
115	S	Intelligent technologies for next-generation robots	METI	1,900	2,100	0
130	S	Dynamic network	MIC/NICT	1,353	1,353	0
140	S	Countermeasures for information leak	MIC	1,000	1,600	0
102	S	Fostering frontier IT specialists	MEXT	798	1,050	630
124	A	Element technologies for advanced use of frequency in mobile communication system	MIC	4,241	Part of 16,293	3,426
129	A	Next-generation network	MIC/NICT	3,547	3,580	3,247
128	A	Photonic network	MIC/NICT	3,465	3,490	2,830
147	A	Promotion of R&D on strategic information communication	MIC	2,950	3,500	3,209
125	A	Shift to wireless system in unused frequency zone	MIC	2,845	Part of 16,293	2,150
107	A	Integrated circuit application chip project	METI/NEDO	1,978	2,150	1,995
132	A	Ubiquitous network	MIC	1,831	2,400	2,098
137	A	Early-stage warning for computer security	METI/IPA	1,826	2,407	1,759
122	A	Next-generation backbone	MIC	1,619	2,000	1,799
111	A	Next-generation large-scale low-electric energy consumption display	METI/NEDO	1,235	1,300	0

131	A	Next-generation advanced efficiency network device	METI/NEDO	1,159	1,220	0
99	A	Innovative simulation software	MEXT	1,000	1,160	1,160
114	A	Element technologies for strategic and advanced robots	METI/NEDO	1,000	1,210	1,100
117	A	Industry-university software engineering center	METI/IPA	1,000	1,000	610
119	A	Secure platform project	METI	995	1,500	0
106	A	Next-generation process friendly design technology	METI/NEDO	941	990	990
139	A	Trial for stopping cyber attach, including spam mail and phishing	MIC	884	1,000	982
98	A	Element technologies for future supercomputing (Next generation IT infrastructure)	MEXT	682	1,177	1,308
113	A	Device system for advanced function/super low electric power consumption computing	MEXT	525	600	0
144	A	Information credibility on electric and communication service	MIC/NICT	297	300	0
143	A	Highly advanced function database based on innovative implementation theory	MEXT	145	150	0
121	A	Technologies to view the status for software establishment	MEXT	100	150	0
145	A	Highly advanced multimodal communication system: R&D on image	MIC	0	204	0
146	A	Highly advanced multimodal communication system: R&D on sound	MIC	0	66	0
148	B	Promotion of private sector basic technology R&D	MIC/NICT	6,500	9,000	7,200
105	B	Extreme ultraviolet lithography system development	METI/NEDO	1,530	1,700	1,900
138	B	Corporate/individual information security measures	METI/IPA	1,482	1,554	1,781
116	B	Industry-university software engineering project	METI	1,200	1,975	975
118	B	Open source software utilization	METI/IPA	703	879	879

136	B	Support for automatic movement	MLIT	701	729	718
112	B	Spintronics non-volatilization function	METI/NEDO	650	840	840
133	B	Advanced use of electronic tag	MIC	448	700	598
120	B	E-life sensor/human interface device utilization	METI	321	508	508
134	B	Advanced use of E-life	MIC	259	750	125
127	B	Satellite communication that enables efficient use of frequency	MIC	135	Part of 16,293	0
100	B	Frontier computing S&T for Monozukuri	MEXT	0	300	0
110	B	Complex function module by high-density three-dimensional assembly	MEXT	0	200	0
101	C	Frontier computing S&T to explore non-traditional areas	NEXT	0	300	0
103	C	Centers for fostering frontier computing S&T	MEXT	0	150	0
108	C	Super-high performance dependable computing platform	METI	0	200	0
109	C	Super-high performance dependable storage basic technology development	METI	0	150	0
123	C	3-D spatio-temporal information management	MIC	0	500	0
126	C	Statistical real-time survey/communication of electric wave-used traffic	MIC	0	Part of 16,293	0
135	C	"Basic technologies for deepening dialogue" that create intelligence	MEXT	0	150	0
141	C	Control technologies for information disclosure based on accurate time	MIC	0	620	0
Environment						
170	S	Global warming countermeasures (Bio fuel)	MOE	Part of 3,302	Part of 4,113	2,716
150	S	Greenhouse gases observation satellite (GOSAT)	MEXT/JAXA	6,250	6,267	4,930
169	S	E3 area distribution standard model	METI/NEDO	760	800	0
149	S	Data management/analyses system	MEXT	620	1,000	354
154	S	21st century climate change prediction	MEXT	100	584	0

		program, "applications to natural disaster"				
177	A	Comprehensive promotion of global environmental research (basic, asbestos, strategic research development)	MOE	Part of 881	Part of 1,650	Part of 881
173	A	High efficiency/low cost for new energy technologies (bio fuel)	METI/NEDO	Part of 4,584	Part of 4,158	0
160	A	Comprehensive promotion of global environmental research	MOE	Part of 2,960	Part of 4,656	Part of 3,256
168	A	Use of biomass to vitalize local areas	MAFF	Part of 1,500	Part of 1,500	0
165	A	Risk trade off to best manage chemical substances (exposure through indoor /life space/environment)	METI/NEDO	Part of 120	Part of 200	0
155	A	21st century climate change prediction program, other than "applications to natural disaster"	MEXT	2,213	3,029	0
151	A	Global environment observation mission, GCOM-W	MEXT/JAXA	1,705	3,366	266
158	A	Antarctic observation project	MEXT	1,591	1,596	1,589
167	A	Grant for waste disposal study	MOE	1,261	1,600	1,300
157	A	Short-term climate change simulation from the whole earth scale to local scale	MEXT/JAMSTEC	1,075	1,175	1,075
161	A	Whole globe precipitation: observation/Dual-frequency precipitation radar	MEXT/JAXA	748	756	770
159	A	Global environment observation by satellite	MOE/NIES	715	793	636
163	A	Prediction/control of mass production of marine creatures caused by environmental change	MAFF	207	300	0
178	B	Comprehensive promotion of global environmental research (excluding basic, asbestos, strategic research development)	MOE	Part of 881	Part of 1,650	Part of 881
175	B	Global warming countermeasures (NON Bio fuel)	MOE	Part of 3,302	Part of 4,113	Part of 2,716

176	B	Comprehensive promotion of global environmental research (excluding warming, social and policy research)	MOE	Part of 2,960	Part of 4,656	Some out of 3,256
172	B	Field test for use of local biomass energy	METI/NEDO	Part of 10,824	2,240	3,800
171	B	Use of biomass to vitalize local areas (manufacturing of biomass materials)	MAFF	Part of 1,500	Part of 1,500	0
156	B	Basic process model for global environmental change prediction	MEXT/JAMSTEC	1,721	1,721	2,021
164	B	Risk analyses of food and pharmaceuticals (chemical substance risk analyses)	MHLW	1,348	1,903	1,586
162	B	Water/heat/matter cycle observation at various scales from basin to globe	MEXT/JAMSTEC	677	727	677
152	B	Global environment observation mission, GCOM-C (except Sensor)	MEXT/JAXA	412	2,330	412
179	B	Environment technology development by local area industry-university-government cooperation	MOE	48	80	0
174	C	High efficiency/low cost for new energy technologies (Non bio fuel)	METI/NEDO	Part of 4,584	Part of 4,158	0
166	C	Risk trade off to best manage chemical substances (NOT exposure through indoor /life space/environment)	METI/NEDO	Part of 120	Part of 200	0
153	C	Global environment observation mission, GCOM-C (Sensor)	MEXT/JAXA	0	1,991	0
180	C	Environmental technology innovation creation project	MOE	0	110	0
Nanotechnology/Materials						
200	S	X-ray free electron laser (R&D)	MEXT	4,412	4,566	1,276
197	S	Frontier nano station	MEXT	1,800	3,000	0
207	S	Interdisciplinary and inter-industry nanotechnology challenge	METI/NEDO	1,800	2,000	0
202	S	Societal acceptance of nanomaterials	MEXT/NIMS	722	802	0
208	S	Correlated electron research program	MEXT/RIKEN	153	356	0

193	A	Nanoscale processing of food materials and evaluation technologies: nano-particle processing technologies for agriculture/forestry/fisheries products and nanoscale evaluation technologies of those products	MAFF	Part of 204	Part of 300	0
205	A	Commercialization of nanotechnology/frontier parts materials (nanotech challenge): New projects and part of continuing projects	METI/NEDO	Part of 2,170	1,834	1,834
201	A	X-ray free electron laser (Excluding R&D, e.g., facilities)	MEXT	3,061	3,198	1,030
186	A	Nanotechnology/materials-oriented interdisciplinary research areas	MEXT	2,140	2,500	2,008
189	A	Alternate materials for rare metals	METI	1,100	1,400	0
181	A	Semiconductor manufacturing technology for developing Extreme UltraViolet (EUV) lithography system	MEXT	748	996	830
204	A	Frontier optical science research: extreme photonics	MEXT/RIKEN	606	675	606
196	A	Medical equipment development (nanomedicine) - expanded projects	MHLW	505	935	0
183	A	Nanoelectronics semiconductor new materials/new structure technology development: New materials and new structure nano electronic devices	METI	500	300	0
185	A	Nanoelectronics semiconductor new materials/new structure technology development: Nitrogen-related chemical combination semiconductor board/epitaxial development technology	METI/NEDO	500	533	0
182	A	Luminescent materials for next-generation white LED	MEXT/NIMS	467	584	0
191	A	Innovative parts material development by use of highly functional complex metal glass	METI/NEDO	350	500	0

206	B	Commercialization of nanotechnology/frontier parts materials (nanotech challenge): part of continuing projects	METI/NEDO	Part of 2,170	500	500
192	B	Diagnosis/treatment technologies by nanobiotechnology: Molecular imaging equipment	METI/NEDO	Part of 1,200	675	510
195	B	Medical equipment development (nanomedicine) - continuing projects	MHLW	1,432	1,646	1,646
190	B	Innovative advancement of strength and functions of steel materials	METI/NEDO	825	876	0
199	B	Commercialization of nano-scaling/processing technologies: next-generation electronic microscope element technologies	MEXT	460	730	936
203	B	Creation of new functional materials and chemical research on materials conversion system (provisional name)	MEXT/RIKEN	123	356	0
188	B	Efficient use of platinum-related rare elements	MEXT/NIMS	0	310	0
198	B	Frontier nano fusion center	MEXT	0	1,000	0
194	C	Nanoscale processing of food materials and evaluation technologies: Use of added value of nanotechnology-based domestic agriculture/forestry/fisheries products	MAFF	Part of 204	Part of 300	0
184	C	Nanoelectronics semiconductor new materials/new structure technology development: New function nanoelectronic devices	METI	0	300	0
187	C	Activation of solid surface functions by nanotextile engineering	MEXT/NIMS	0	546	0
Energy						
211	S	Commercialization of fast breeder reactor cycle	MEXT/JAEA	10,260	10,459	5,318

253	S	Commercialization of next-generation power reserve system	METI/NEDO	4,900	5,000	0
222	S	Contract fee for developing new-type reactor for generating electric power	METI	3,240	3,390	0
231	S	Frontier basic research on hydrogen reserve materials	METI/NEDO	757	757	0
210	S	Personnel fostering in energy fields	METI	162	180	0
209	S	Personnel fostering in energy fields	MEXT	150	156	0
229	A	New energy technology development (in energy field)	METI/NEDO	Part of 4,584	Part of 4,158	0
230	A	New energy venture technology innovation project	METI/NEDO	Part of 4,584	1,000	0
259	A	Global warming countermeasures (energy field): new projects	MOE	Part of 3,302	Part of 4,113	0
212	A	Fast breeder reactor "Monju"	MEXT/JAEA	8,778	8,878	8,383
245	A	Advanced functional interdisciplinary technology development for refining oil	METI	7,600	8,220	5,250
217	A	ITER	MEXT	5,382	7,722	1,401
235	A	Commercialization of solid macromolecule-type fuel cell	METI/NEDO	5,130	5,400	5,750
237	A	Large-scale experiment of residential fuel cell	METI/NEDO	3,420	3,600	3,300
221	A	Full reactor MOX fuel nuclear reactor facilities	METI	3,400	3,800	3,800
225	A	Geological disposal technology	METI	3,376	3,808	3,183
213	A	Fast breeder reactor "Joyo"	MEXT/JAEA	3,199	3,804	2,870
255	A	Superconductivity-related basic technology R&D: Priority S&T	METI/NEDO	1,913	1,913	1,944
236	A	Practical application of fuel cell system	METI	1,800	2,000	1,306
246	A	Coal production/use technology promotion: Multi-purpose coal gas production	METI	1,800	1,900	0
243	A	Innovative next-generation oil refining technology development	METI	1,730	1,930	0
233	A	Frontier science basic research on hydrogen	METI/NEDO	1,665	1,700	1,700

228	A	Repair and rebooting of JMTR	MEXT/JAEA	1,500	1,500	0
215	A	High-level radioactive waste disposal R&D (geological disposal)	MEXT/JAEA	1,482	1,482	1,395
252	A	Confinement of CO2 underground	METI	1,020	1,070	1,200
232	A	Frontier research on fuel cell	METI	996	1,080	1,200
223	A	Supplemental funds for promoting uranium condensing technologies, using centrifugal method	METI	911	994	2,907
241	A	Practical application of solid oxide fuel cell	METI/NEDO	765	900	0
226	A	Innovative commercialization of nuclear energy (expanded projects)	METI	100	100	0
257	A	Urban system technology development by use of area energy network: heat energy flow between buildings	MLIT	0	298	0
258	A	Urban system technology development by use of area energy network: excluding "heat energy flow between buildings"	MLIT	0	152	0
216	B	High-level radioactive waste disposal R&D (research on geological layer)	MEXT/JAEA	7,455	7,520	7,610
249	B	GTL technologies of natural gas	METI/JOGMEC	6,867	7,229	1,710
219	B	Atomic energy system R&D	MEXT	5,205	5,500	6,267
214	B	MOX fuel manufacturing technology development	MEXT/JAEA	4,439	4,938	4,556
242	B	Methane hydrate development	METI	4,014	4,460	3,981
238	B	Establishment of codes and standards for hydrogen economy society	METI/NEDO	2,550	3,000	3,559
234	B	Basic R&D on safe use of hydrogen	METI/NEDO	2,253	2,650	2,925
247	B	Power generation by gasification of jet stream floor coal	METI	1,596	1,900	7,000
254	B	Superconductive electric power network control technology development	METI/NEDO	1,591	1,745	1,915
240	B	Solid oxide fuel cell system technology development	METI/NEDO	1,530	1,800	2,666
251	B	Oil/natural gas development	METI/JOGMEC	1,204	1,417	2,392
218	B	Atomic energy experimental research	MEXT	1,019	1,273	1,273

244	B	Innovative next-generation oil refining technology development (refining technologies for oil sand)	METI	594	752	0
239	B	Development of ceramic reactor	METI/NEDO	450	500	600
224	B	Contract research on the advanced technology for deradiation process before conversion of collected uranium	METI	310	619	0
260	C	Global warming countermeasures (energy field): continuing projects	MOE	Part of 3,302	Part of 4,113	Part of 2,716
256	C	Superconductivity-related basic technology R&D: (excluding Priority S&T)	METI/NEDO	1,107	1,365	1,334
227	C	Innovative commercialization of nuclear energy (continuing projects)	METI	802	1,195	1,900
220	C	Innovative atomic energy system technology contract fee	MEXT	435	500	1,301
248	C	Analyses of energy obtained from conversion of coal to hydrogen	METI	430	590	766
250	C	Synthesizing technology of oil and gas	METI	0	220	0
Monozukuri (manufacturing) technologies						
264	S	Optical catalyst creation project for recycling society	METI/NEDO	1,100	1,200	0
268	S	Frontier measurement analysis technology/equipment development (new project)	MEXT/JST	600	2,040	0
261	A	Strategic basic technology advancement	METI/SMRJ	9,361	12,644	6,401
269	A	Frontier measurement analysis technology/equipment development (continuing project)	MEXT/JST	4,200	4,200	4,200
262	A	Highly integrated and complex MEMS technology development	METI/NEDO	1,100	1,210	1,100
265	A	Super hybrid material technology development (Focusing research)	METI	800	Part of 1,000	0
270	A	Monozukuri technician fostering project	MEXT	150	800	0
263	B	Super flexible display parts technology development	METI/NEDO	620	700	540

267	C	Super analyzer development technology	MEXT/RIKEN	60	200	0
266	C	Super hybrid material technology development (cooperative research)	METI	0	Part of 1,000	0

Social Infrastructure

297	S	Operation of land observation satellite "Daichi" (ALOS)	MEXT/JAXA	3,477	3,484	3,169
276	S	Special project for urban area earthquake disaster prevention/mitigation: excluding "real-time strong-motion seismograph"	MEXT	1,450	3,429	0
287	S	Next -generation environment-friendly airplane (Environment-friendly highly functional small airplane R&D)	METI/NEDO	1,330	2,000	500
290	S	Domestic airplane: highly functional technology/clean engine technology R&D (domestic airplane)	MEXT/JAXA	892	892	704
274	S	Safe and Secure Society	MEXT	405	883	0
272	S	Recognition of movement from biological materials by SNPs analyses	PA	43	43	0
301	A	Precise measurement using quazi-zenith satellite system	MEXT/JAXA	3,298	4,435	2,350
288	A	Next-generation environment-friendly airplane (R&D on environment-friendly small airplane engine)	METI/NEDO	2,060	2,150	1,900
291	A	Domestic airplane: highly functional technology/clean engine technology R&D (clean engine)	MEXT/JAXA	1,664	1,703	481
278	A	Earthquake/tsunami observation/monitoring system (seabed network system)	MEXT	1,480	1,785	1,764
284	A	Advancement of monitoring/modeling of the change in crust for mitigation of earthquake and volcanic lava disaster and advancement of prediction accuracy	MLIT	1,053	1,163	1,062
298	A	Next-generation disaster monitoring satellite: Optical satellite	MEXT/JAXA	350	600	0

275	A	Disaster prevention S&T research development	MIC	311	383	350
285	A	Development of monitoring technology for disaster mitigation by advanced image processing	MLIT	141	304	0
296	A	IT-aided aviation management/flight support technologies	MLIT/ENRI	118	148	0
293	A	Silent super-sonic research plane: flight to be implemented in 2012 and priority technology R&D that is the source of international competitiveness	MEXT/JAXA	101	874	101
271	A	On-site processing technology for explosives	PA	32	34	0
273	A	Advanced analyzing technology for traffic accidents	PA	30	31	0
280	A	Earthquake observation facilities (renewal of high sensitivity earthquake observation facilities)	MEXT/NIED	0	1,781	0
286	B	Monitoring of moving sands to avoid beach erosion	MLIT	Part of 154	30	0
282	B	Anti--seismic research, using E-Defense	MEXT/NIED	1,962	2,345	1,906
289	B	Net-generation airplane materials creation/processing technology development	METI	830	900	850
295	B	All-weather/high density flight technology	MEXT/JAXA	381	932	381
292	B	Domestic airplane: highly functional technology/clean engine technology R&D (development risk mitigation, investment of frontier technologies)	MEXT/JAXA	148	992	852
279	B	Earthquake/tsunami observation/monitoring system (trench-type earthquake investigation/observation)	MEXT	78	472	78
299	B	Next-generation disaster monitoring satellite: Radar satellite	MEXT/JAXA	0	400	0

300	C	Next-generation disaster monitoring satellite: element technologies for future satellite	MEXT/JAXA	132	1,207	132
283	C	Strategic observation/study for mitigation of earthquake disaster (Long-term monitoring system by drilling)	MEXT/JAMSTEC	6	500	6
277	C	Special project for urban area earthquake disaster prevention/mitigation: "real-time strong-motion seismograph"	MEXT	0	366	0
281	C	Earthquake observation facilities (deep-earth earthquake observation, wide area earthquake observation)	MEXT/NIED	0	428	0
294	C	Silent super-sonic research plane: stereotyped airframe design	MEXT/JAXA	0	330	0
Frontier						
308	S	Space transport system: H-IIA rocket development/production/launching	MEXT/JAXA	16,217	17,600	12,178
302	S	Deep-sea drilling by a riser drilling vessel "Chikyu" (measurement technologies)	MEXT/JAMSTEC	3,736	6,269	2,011
313	S	Advancement of reliability of satellites	MEXT/JAXA	652	1,482	1,200
310	A	Space transport system: ISS HTV development and operation (excluding "procurement of long-term parts materials and domestic production of loaded equipment")	MEXT/JAXA	16,209	19,169	8,633
309	A	Space transport system: H-IIB rocket	MEXT/JAXA	3,824	3,824	3,824
316	A	Oil resource remote detection technology	METI	1,550	1,581	1,780
317	A	Basic technology development for next-generation satellite	METI	1,265	1,350	1,583
307	A	R&D on quasi-zenith satellite system	MIC	713	1,100	792
314	A	Next-generation remote sensing technology R&D (Hyper-spectrum sensor technology R&D, basic technology R&D by use of next-generation global observation satellite)	MEXT/NEDO	603	700	40

304	A	Next-generation cruising exploration vessel	MEXT/JAMSTEC	200	500	0
305	A	Deep-sea highly functional unmanned exploration vessel	MEXT/JAMSTEC	100	300	0
306	A	Ocean platform	MLIT	70	80	0
312	B	Operation and use of ISS	MEXT/JAXA	18,972	19,364	19,477
303	B	Deep-sea drilling by a riser drilling vessel "Chikyu" (organisms that survive extreme environment)	MEXT/JAMSTEC	0	811	0
311	C	Space transport system: ISS HTV development and operation (procurement of long-term parts materials and domestic production of loaded equipment)	MEXT/JAXA	1,609	3,769	905
315	C	SERVIS (space environment reliability verification implementation project)	METI/NEDO	600	1,750	300

Personnel Fostering/Public Understanding/Internationalization

320	S	Fellowship program: Ph.D. program, selected postdoc	MEXT/JSPS	10,030	12,125	9,299
318	S	Graduate education reform support program	MEXT	3,501	10,434	0
325	S	Assistants for science classes	MEXT/JST	2,000	6,000	0
329	S	Science education facilities	MEXT	1,310	1,400	1,298
338	A	Foreign researcher invitation program	MEXT/JSPS	6,085	6,085	6,522
333	A	National Museum of Emerging Science and Innovation	MEXT/JST	2,859	2,938	2,938
334	A	Electronic information distribution	MEXT/JST	2,505	2,872	2,405
337	A	International fellowship program	MEXT/JSPS	1,487	1,550	1,682
326	A	Super science high school	MEXT/JST	1,420	1,420	1,420
339	A	Strategic international program: international research exchange	MEXT/JST	1,000	2,000	470
336	A	International opportunities for young researchers	MEXT/JSPS	476	1,294	294
327	A	Teachers' science camp	MEXT/JST	200	500	0
323	A	Service/innovation personnel fostering program	MEXT	150	450	0
322	A	Math and science students support project	MEXT	50	400	0

330	A	Scientific experiment learning program	MEXT	50	101	0
331	A	Development and use of science education materials (distribution of hard copies)	MEXT/JST	50	577	0
342	A	Promotion of foreign researchers to be rooted in Japan (research and training at companies program)	MEXT	30	126	0
321	B	Fellowship program: postdoc	MEXT/JSPS	4,885	5,324	5,331
319	B	"Attractive education in graduate schools" initiative	MEXT	1,229	1,428	4,200
328	B	Science partnership project	MEXT/JST	1,218	1,284	1,284
332	B	Development and use of science education materials (improvement of digitized materials)	MEXT/JST	635	758	635
324	C	Advancement of technicians' ability	MEXT	0	300	0
335	C	Public understanding of "science and culture"	MEXT	0	100	0
340	C	Strategic international program: international industry-university-government	MEXT/JST	0	200	0
341	C	Invitation of excellent researchers from overseas	MEXT/JSPS	0	375	0
343	C	Promotion of foreign researchers to be rooted in Japan (recruitment program)	MEXT	0	61	0

Local Area Innovation/Industry-University-Government Cooperation/Intellectual Property

344	S	Okinawa S&T graduate university	CAO/OIST	8,726	9,391	7,702
346	S	Intelligent cluster creation program (2nd phase)	MEXT	5,521	6,900	0
359	S	Local area resource utilization-type R&D	METI	1,956	2,000	0
368	S	Frontier research facilities joint use innovation creation program (for use of industrial strategies)	MEXT	1,380	4,500	0
374	S	University intellectual property office (international industry-university-government promotion)	MEXT	785	1,500	0
372	A	Innovation creation for companies (partially)	METI	9,525	12,694	10,765

		competitive funds)				
350	A	Local area innovation creation program (seeds, fostering, local area incentive R&D)	MEXT/JST	6,238	9,091	4,152
373	A	Industrial technology research	METI/NEDO	5,892	6,973	6,549
366	A	Unique seeds development program (contract research, innovation venture utilization research)	MEXT/JST	4,802	5,102	4,802
348	A	Urban area industry-university-government program promotion (matching funds)	MEXT	2,750	3,000	1,600
370	A	Industry-university cooperation for innovation creation (small- & medium-size companies/university cooperation to foster key personnel)	METI	2,630	2,830	2,830
375	A	University intellectual property office (University intellectual property office and super industry-university-government center)	MEXT	2,170	2,585	2,585
378	A	International standardization for successful innovation (R&D for international standardization, personnel fostering)	METI (Partially NEDO)	2,050	2,303	1,855
376	A	Technology transfer center program (overseas patent application)	MEXT/JST	2,034	2,346	2,146
360	A	Small & medium size and venture companies support program	METI	1,901	3,006	3,136
365	A	Industry-university seeds innovation program	MEXT/JST	1,800	2,320	1,400
356	A	Local area new consortium R&D (intelligent cluster creation and related projects)	METI	1,386	1,293	1,241
369	A	Industry-university cooperation for innovation creation (tech transfer at universities)	METI	591	696	612
345	A	Okinawa innovation creation program	CAO	270	357	0
361	A	Tech transfer support center (part of the program)	MEXT/JST	100	500	0

362	A	Advancement of industry-university-government programs (local area vitalization and bridge between them)	MEXT	100	200	0
357	B	Local area new consortium R&D (excluding intelligent cluster creation and related projects)	METI	8,532	9,451	15,051
367	B	Unique seeds development program (unique model research)	MEXT/JST	4,241	4,674	4,677
347	B	Intelligent cluster creation program	MEXT	3,420	4,893	9,972
358	B	Local area new industry creation R&D	METI	3,350	4,300	5,144
351	B	Local area innovation creation program (research results utilization plaza, local area R&D resource utilization)	MEXT/JST	3,173	4,201	3,033
352	B	Local area incentive cooperative research program	MEXT/JST	2,341	2,601	3,435
349	B	Urban area industry-university-government program promotion (excluding matching funds)	MEXT	1,760	1,800	2,400
355	B	Wide area new project support network	METI	1,699	1,931	1,931
363	B	Advancement of industry-university-government programs (excluding local area vitalization and bridge between them)	MEXT	806	1,004	1,004
377	B	Technology transfer center program (protection of university patent right)	MEXT/JST	508	672	572
353	B	Strengthening of the relation between S&T and industry/society (tech transfer)	MEXT/RIKEN	300	580	300
379	B	International standardization for successful innovation (energy rationalization, new electric power generation system)	METI/NEDO	284	311	345
354	C	Strengthening of the relation between S&T and industry/society (pharmaceutical field)	MEXT/RIKEN	0	716	0
364	C	Industry-university-government researcher exchange program	MEXT	0	180	0

371	C	Industry-university cooperation for innovation creation	METI	0	100	0
Large-scale projects reviewed by CSTP but not rated						
380	N/A	Grants-in-Aid for scientific research	MEXT	191,300	210,600	189,500
381	N/A	Subsidies for private universities	MEXT	162,596	166,723	165,823
382	N/A	Renovation of university facilities	MEXT	41,011	63,725	41,530
383	N/A	Coordination funds for promoting S&T	MEXT	36,800	47,400	39,800
386	N/A	Solar energy system field test program (part of "new energy technology field test program")	METI/NEDO	Part of 10,824	8,960	0
385	N/A	Target protein research program (Post-protein 3000)	MEXT	5,527	7,425	0
384	N/A	World top-level research center program	MEXT	3,500	Part of 47,400	0

Table 2: Abbreviations for Ministries, Agencies, and Research Institutions

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, Labour, 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