Table A-2. Number of instrument systems, by system price range, detailed type of instrument, and field of science and engineering: 1993

[Number of systems]

Total, all systems

Detailed type of instrument	Field of science and engineering								
	Total	Engi-neering	Chemistry	Physics/ astronomy	Environ-mental sciences	Computer science	Agricul-tural sciences	Biologi-cal sciences	Other, multi-disci-plinary
Total, all instruments	61,684	18,051	6,787	6,415	5,126	2,110	615	20,978	1,603
Computers and data handling instruments	12,023	4,137	817	1,443	1,455	1,812	67	2,126	167
Computers/components costing:									
$1,000,000 and over	131	2	1	0	5	118	0	3	0
$500,000 - $999,999	118	27	1	28	31	18	0	7	5
$50,000 - $499,999	4,384	1,140	321	668	616	958	26	583	72
$20,000 - $49,999	7,390	2,967	493	747	802	717	41	1,532	91
Chromatographs and spectrometers	13,789	2,723	4,003	1,159	1,740	0	227	3,797	140
Chromatographs and elemental analyzers	4,391	892	792	5	611	0	65	1,993	33
Electron/auger/ion scattering	335	113	70	88	27	0	0	37	0
UV/visible/infrared spectrophotometer	3,033	709	838	627	78	0	46	715	19
NMR/EPR spectrometer	1,318	41	996	80	8	0	8	184	0
Xray diffraction systems	927	260	224	76	199	0	2	164	2
Other spectroscopy instruments	3,785	707	1,082	283	817	0	106	704	86
Microscopy instruments	5,597	801	180	212	554	0	27	3,611	211
Electron microscopes	1,768	404	8	87	265	0	5	800	199
Other microscopy instruments	3,829	397	171	125	290	0	23	2,811	12
Bioanalytical instruments	10,205	273	32	303	142	0	172	9,217	66
Cell sorters/counters, cytometers	258	22	0	0	13	0	0	223	0
Centrifuges and accessories	5,113	64	11	0	31	0	18	4,971	18
DNA/protein synthesizers/sequencers/ analyzers	1,294	18	22	0	3	0	2	1,242	6
Growth/environmental chambers	703	128	0	111	40	0	67	352	5
Scintillation/gamma radiation/counters/ detectors	2,837	41	0	191	55	0	85	2,428	36
Other instruments	20,071	10,117	1,755	3,299	1,234	298	122	2,227	1,019
Electronics instruments (cameras,etc)	2,587	1,856	135	343	18	14	0	220	2
Temperature/pressure control/ measurement instruments	2,056	1,199	41	449	235	0	23	27	81
Lasers and optical instruments	4,371	1,339	841	1,269	25	7	0	163	727
Robots, manufacturing machines	995	687	55	57	4	22	24	124	22
Telescopes/astronomical	298	0	0	298	0	0	0	0	0
Nuclear reactors/nuclear science instrument systems	90	18	5	56	11	0	0	0	0
Research vessels/planes/helicopters	39	0	2	7	27	0	0	2	1
Wind/wave/water/shock tunnels	74	74	0	0	0	0	0	0	0
Molecular/electron/ion beam systems	369	186	28	132	18	0	0	5	0
Major prototype systems	758	616	49	26	51	2	0	13	0
Other, not elsewhere classified	8,433	4,142	598	662	844	252	75	1,674	185

See explanatory information, if any, and SOURCE at end of table.

Table A-2. Number of instrument systems, by system price range, detailed type of instrument, and field of science and engineering: 1993

[Number of systems]

Systems costing $20,000-$999,999

Detailed type of instrument	Field of science and engineering								
	Total	Engi-neering	Chemistry	Physics/ astronomy	Environ-mental sciences	Computer science	Agricul-tural sciences	Biologi-cal sciences	Other, multi-disci-plinary
Total, all instruments	61,348	17,996	6,771	6,316	5,101	1,992	615	20,955	1,603
Computers and data handling instruments	11,892	4,135	815	1,443	1,449	1,694	67	2,122	167
Computers/components costing:									
$1,000,000 and over	0	0	0	0	0	0	0	0	0
$500,000 - $999,999	118	27	1	28	31	18	0	7	5
$50,000 - $499,999	4,384	1,140	321	668	616	958	26	583	72
$20,000 - $49,999	7,390	2,967	493	747	802	717	41	1,532	91
Chromatographs and spectrometers	13,730	2,696	3,999	1,152	1,737	0	227	3,778	140
Chromatographs and elemental analyzers	4,391	892	792	5	611	0	65	1,993	33
Electron/auger/ion scattering	312	92	70	85	27	0	0	37	0
UV/visible/infrared spectrophotometer	3,033	709	838	627	78	0	46	715	19
NMR/EPR spectrometer	1,295	41	994	79	8	0	8	165	0
Xray diffraction systems	927	260	224	76	199	0	2	164	2
Other spectroscopy instruments	3,773	701	1,081	280	813	0	106	704	86
Microscopy instruments	5,579	800	180	195	554	0	27	3,611	211
Electron microscopes	1,766	404	8	85	265	0	5	800	199
Other microscopy instruments	3,813	396	171	110	290	0	23	2,811	12
Bioanalytical instruments	10,205	273	32	303	142	0	172	9,217	66
Cell sorters/counters, cytometers	258	22	0	0	13	0	0	223	0
Centrifuges and accessories	5,113	64	11	0	31	0	18	4,971	18
DNA/protein synthesizers/sequencers/ analyzers	1,294	18	22	0	3	0	2	1,242	6
Growth/environmental chambers	703	128	0	111	40	0	67	352	5
Scintillation/gamma radiation/counters/ detectors	2,837	41	0	191	55	0	85	2,428	36
Other instruments	19,943	10,091	1,744	3,224	1,218	298	122	2,227	1,019
Electronics instruments (cameras,etc)	2,583	1,854	135	343	15	14	0	220	2
Temperature/pressure control/ measurement instruments	2,052	1,195	41	449	235	0	23	27	81
Lasers and optical instruments	4,371	1,339	841	1,269	25	7	0	163	727
Robots, manufacturing machines	995	687	55	57	4	22	24	124	22
Telescopes/astronomical	276	0	0	276	0	0	0	0	0
Nuclear reactors/nuclear science instrument systems	78	16	5	46	11	0	0	0	0
Research vessels/planes/helicopters	25	0	0	1	20	0	0	2	1
Wind/wave/water/shock tunnels	73	73	0	0	0	0	0	0	0
Molecular/electron/ion beam systems	357	182	21	131	18	0	0	5	0
Major prototype systems	749	612	49	21	51	2	0	13	0
Other, not elsewhere classified	8,386	4,134	596	631	838	252	75	1,674	185

See explanatory information, if any, and SOURCE at end of table.

Table A-2. Number of instrument systems, by system price range, detailed type of instrument, and field of science and engineering: 1993

[Number of systems]

Systems costing $1 million or more

Detailed type of instrument	Field of science and engineering								
	Total	Engi-neering	Chemistry	Physics/ astronomy	Environ-mental sciences	Computer science	Agricul-tural sciences	Biologi-cal sciences	Other, multi-disci-plinary
Total, all instruments	337	55	16	99	25	118	0	23	0
Computers and data handling instruments	131	2	1	0	5	118	0	3	0
Computers/components costing:									
$1,000,000 and over	131	2	1	0	5	118	0	3	0
$500,000 - $999,999	0	0	0	0	0	0	0	0	0
$50,000 - $499,999	0	0	0	0	0	0	0	0	0
$20,000 - $49,999	0	0	0	0	0	0	0	0	0
Chromatographs and spectrometers	59	26	4	7	3	0	0	19	0
Chromatographs and elemental analyzers	0	0	0	0	0	0	0	0	0
Electron/auger/ion scattering	23	21	0	3	0	0	0	0	0
UV/visible/infrared spectrophotometer	0	0	0	0	0	0	0	0	0
NMR/EPR spectrometer	23	0	2	1	0	0	0	19	0
Xray diffraction systems	0	0	0	0	0	0	0	0	0
Other spectroscopy instruments	13	5	1	3	3	0	0	0	0
Microscopy instruments	19	1	0	17	0	0	0	0	0
Electron microscopes	2	0	0	2	0	0	0	0	0
Other microscopy instruments	16	1	0	15	0	0	0	0	0
Bioanalytical instruments	0	0	0	0	0	0	0	0	0
Cell sorters/counters, cytometers	0	0	0	0	0	0	0	0	0
Centrifuges and accessories	0	0	0	0	0	0	0	0	0
DNA/protein synthesizers/sequencers/ analyzers	0	0	0	0	0	0	0	0	0
Growth/environmental chambers	0	0	0	0	0	0	0	0	0
Scintillation/gamma radiation/counters/ detectors	0	0	0	0	0	0	0	0	0
Other instruments	128	26	11	75	16	0	0	0	0
Electronics instruments (cameras,etc)	5	1	0	0	3	0	0	0	0
Temperature/pressure control/ measurement instruments	5	5	0	0	0	0	0	0	0
Lasers and optical instruments	0	0	0	0	0	0	0	0	0
Robots, manufacturing machines	0	0	0	0	0	0	0	0	0
Telescopes/astronomical	22	0	0	22	0	0	0	0	0
Nuclear reactors/nuclear science instrument systems	12	2	0	10	0	0	0	0	0
Research vessels/planes/helicopters	15	0	2	5	7	0	0	0	0
Wind/wave/water/shock tunnels	1	1	0	0	0	0	0	0	0
Molecular/electron/ion beam systems	12	4	6	1	0	0	0	0	0
Major prototype systems	9	4	0	5	0	0	0	0	0
Other, not elsewhere classified	47	8	2	32	6	0	0	0	0

NOTES: This table includes data for supersystems, which are large, integrated instrumentation systems/facilities generally with an aggregate purchase price of $1 million or more.

Because of rounding, details may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Academic Research Instruments and Instrumentation Needs: 1993