

Table 8-6

Personnel engaged in research and development by major fields of science or technology and industry, 2011<sup>a</sup>

	Natural and formal sciences	Engineering and technology	Medical and health sciences	Agricultural sciences	Total
	number				
<b>Total all industries</b>	<b>19,391<sup>A</sup></b>	<b>106,497<sup>A</sup></b>	<b>11,335<sup>A</sup></b>	<b>3,200<sup>A</sup></b>	<b>140,423<sup>A</sup></b>
<b>Agriculture, forestry, fishing and hunting</b>	<b>x</b>	<b>236<sup>A</sup></b>	<b>x</b>	<b>1,342<sup>A</sup></b>	<b>1,738<sup>A</sup></b>
Agriculture	89 <sup>A</sup>	191 <sup>A</sup>	5 <sup>E</sup>	1,139 <sup>A</sup>	1,424 <sup>A</sup>
Forestry, logging and support activities for forestry	x	x	x	x	208 <sup>A</sup>
Fishing, hunting, trapping and animal aquaculture	15 <sup>A</sup>	x	x	x	106 <sup>A</sup>
<b>Mining and oil and gas extraction</b>	<b>170<sup>C</sup></b>	<b>1,619<sup>A</sup></b>	<b>0<sup>A</sup></b>	<b>25<sup>B</sup></b>	<b>1,814<sup>A</sup></b>
Oil and gas extraction, contract drilling and related services	148 <sup>A</sup>	1,189 <sup>A</sup>	0 <sup>A</sup>	7 <sup>D</sup>	1,344 <sup>A</sup>
Mining and related support activities	F	430 <sup>B</sup>	0 <sup>A</sup>	18 <sup>A</sup>	470 <sup>C</sup>
<b>Utilities</b>	<b>x</b>	<b>1,150<sup>A</sup></b>	<b>x</b>	<b>F</b>	<b>1,303<sup>B</sup></b>
Electric power generation, transmission and distribution	x	x	0 <sup>A</sup>	x	975 <sup>B</sup>
Other utilities	x	x	x	x	328 <sup>B</sup>
<b>Construction</b>	<b>102<sup>A</sup></b>	<b>1,711<sup>A</sup></b>	<b>0<sup>A</sup></b>	<b>8<sup>C</sup></b>	<b>1,821<sup>A</sup></b>
<b>Manufacturing</b>	<b>3,287<sup>A</sup></b>	<b>51,050<sup>A</sup></b>	<b>3,045<sup>A</sup></b>	<b>783<sup>A</sup></b>	<b>58,164<sup>A</sup></b>
Food manufacturing	83 <sup>A</sup>	1,411 <sup>A</sup>	18 <sup>A</sup>	430 <sup>A</sup>	1,942 <sup>A</sup>
Beverage and tobacco product manufacturing	x	x	0 <sup>A</sup>	23 <sup>A</sup>	141 <sup>A</sup>
Textiles	27 <sup>A</sup>	458 <sup>A</sup>	0 <sup>A</sup>	0 <sup>A</sup>	485 <sup>A</sup>
Wood product manufacturing	9 <sup>A</sup>	660 <sup>A</sup>	0 <sup>A</sup>	28 <sup>A</sup>	697 <sup>A</sup>
Paper manufacturing	x	844 <sup>A</sup>	x	x	885 <sup>A</sup>
Printing and related support activities	x	688 <sup>A</sup>	x	0 <sup>A</sup>	830 <sup>B</sup>
Petroleum and coal products manufacturing	x	241 <sup>A</sup>	0 <sup>A</sup>	x	286 <sup>A</sup>
Pharmaceutical and medicine manufacturing	603 <sup>A</sup>	121 <sup>A</sup>	2,374 <sup>A</sup>	11 <sup>A</sup>	3,108 <sup>A</sup>
Other chemicals	600 <sup>A</sup>	1,533 <sup>A</sup>	29 <sup>B</sup>	177 <sup>A</sup>	2,338 <sup>A</sup>
Plastic product manufacturing	123 <sup>A</sup>	1,609 <sup>A</sup>	0 <sup>A</sup>	0 <sup>A</sup>	1,732 <sup>A</sup>
Rubber product manufacturing	29 <sup>A</sup>	199 <sup>A</sup>	0 <sup>A</sup>	0 <sup>A</sup>	229 <sup>A</sup>
Non-metallic mineral product manufacturing	33 <sup>B</sup>	663 <sup>A</sup>	0 <sup>A</sup>	0 <sup>A</sup>	696 <sup>B</sup>
Primary metal (ferrous)	3 <sup>A</sup>	258 <sup>A</sup>	0 <sup>A</sup>	0 <sup>A</sup>	261 <sup>A</sup>
Primary metal (non-ferrous)	x	x	0 <sup>A</sup>	0 <sup>A</sup>	684 <sup>A</sup>
Fabricated metal product manufacturing	77 <sup>A</sup>	3,369 <sup>A</sup>	x	x	3,451 <sup>A</sup>
Machinery manufacturing	275 <sup>A</sup>	6,850 <sup>A</sup>	6 <sup>A</sup>	86 <sup>A</sup>	7,217 <sup>A</sup>
Computer and peripheral equipment manufacturing	x	467 <sup>A</sup>	0 <sup>A</sup>	x	531 <sup>A</sup>
Communications equipment manufacturing	92 <sup>A</sup>	8,840 <sup>A</sup>	0 <sup>A</sup>	0 <sup>A</sup>	8,932 <sup>A</sup>
Semiconductor and other electronic component manufacturing	x	4,152 <sup>A</sup>	0 <sup>A</sup>	x	4,295 <sup>A</sup>
Navigational, measuring, medical and control instrument manufacturing	429 <sup>A</sup>	3,063 <sup>A</sup>	x	x	3,652 <sup>A</sup>
Other computer and electronic products	44 <sup>A</sup>	313 <sup>A</sup>	0 <sup>A</sup>	0 <sup>A</sup>	357 <sup>A</sup>
Electrical equipment, appliance and component manufacturing	F	1,788 <sup>A</sup>	x	x	1,947 <sup>D</sup>
Motor vehicle and parts	14 <sup>B</sup>	2,287 <sup>A</sup>	0 <sup>A</sup>	0 <sup>A</sup>	2,301 <sup>A</sup>
Aerospace products and parts manufacturing	x	x	x	0 <sup>A</sup>	6,167 <sup>A</sup>
All other transportation equipment	x	1,364 <sup>A</sup>	0 <sup>A</sup>	x	1,372 <sup>A</sup>
Furniture and related product manufacturing	13 <sup>A</sup>	702 <sup>A</sup>	x	x	724 <sup>A</sup>
Other manufacturing industries	178 <sup>A</sup>	2,280 <sup>A</sup>	444 <sup>A</sup>	3 <sup>C</sup>	2,904 <sup>A</sup>
<b>Services</b>	<b>15,548<sup>A</sup></b>	<b>50,732<sup>A</sup></b>	<b>8,267<sup>A</sup></b>	<b>1,037<sup>A</sup></b>	<b>75,583<sup>A</sup></b>
Wholesale trade	1,077 <sup>A</sup>	6,767 <sup>A</sup>	1,795 <sup>A</sup>	409 <sup>A</sup>	10,049 <sup>A</sup>
Retail trade	170 <sup>A</sup>	815 <sup>A</sup>	45 <sup>B</sup>	45 <sup>B</sup>	1,075 <sup>A</sup>
Transportation and warehousing	x	440 <sup>A</sup>	x	x	539 <sup>A</sup>
Information and cultural industries	2,425 <sup>A</sup>	9,806 <sup>A</sup>	x	x	12,531 <sup>A</sup>
Finance, insurance and real estate	1,535 <sup>A</sup>	1,431 <sup>A</sup>	x	x	3,018 <sup>A</sup>
Architectural, engineering and related services	1,565 <sup>A</sup>	4,992 <sup>A</sup>	50 <sup>B</sup>	59 <sup>A</sup>	6,666 <sup>A</sup>
Computer systems design and related services	5,512 <sup>A</sup>	12,917 <sup>A</sup>	248 <sup>A</sup>	16 <sup>B</sup>	18,694 <sup>A</sup>
Management, scientific and technical consulting services	464 <sup>B</sup>	795 <sup>A</sup>	86 <sup>C</sup>	50 <sup>E</sup>	1,395 <sup>C</sup>
Scientific research and development services	1,681 <sup>A</sup>	8,855 <sup>A</sup>	4,352 <sup>A</sup>	275 <sup>A</sup>	15,163 <sup>A</sup>
Health care and social assistance	x	170 <sup>A</sup>	1,100 <sup>A</sup>	x	1,387 <sup>A</sup>
All other services	948 <sup>A</sup>	3,745 <sup>A</sup>	265 <sup>B</sup>	110 <sup>D</sup>	F