

Attachment A

Detailed Statistical Tables

Detailed Statistical Tables

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**Percentage of Firms Adversely Affected by Availability of
Qualified Scientist, Engineer, or Technical Job Candidates
in the Near Term, by Branch of Industry**

Branch of Industry	Not at All		Some		A Great Deal	
	Number of Firms	Percent of Firms	Number of Firms	Percent of Firms	Number of Firms	Percent of Firms
Manufacturing						
<i>Food Processing</i>	27	24%	61	54%	24	21%
<i>Beverages & Tobacco</i>	2	13%	11	69%	3	19%
<i>Textiles & Textile Products</i>	9	22%	19	46%	13	32%
<i>Leather & Leather Products</i>	2	33%	2	33%	2	33%
<i>Wood and Wood Products</i>	14	30%	27	59%	5	11%
<i>Furniture & Fixtures</i>	8	33%	10	42%	6	25%
<i>Paper, Printing, & Publishing</i>	23	33%	36	51%	11	16%
<i>Chemicals & Chemical Products (including drugs)</i>	48	37%	70	54%	11	9%
<i>Petroleum & Coal</i>	8	32%	10	40%	7	28%
<i>Rubber Products</i>	37	33%	54	48%	21	19%
<i>Plastic Products</i>	58	34%	79	47%	32	19%
<i>Non-Metallic Mineral Products</i>	11	14%	45	57%	23	29%
<i>Basic Metal Products</i>	56	42%	59	44%	18	14%
<i>Fabricated Metal Products</i>	29	25%	59	52%	26	23%
<i>Machinery Manufacturing</i>	5	12%	19	45%	18	43%
<i>Office, Computing & Accounting Machines</i>	5	16%	24	75%	3	9%
<i>Electric, Electronic & Communications Products</i>	69	20%	180	51%	102	29%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	27	32%	33	39%	24	29%
<i>Other Transportation Equipment</i>	3	20%	9	60%	3	20%
<i>Other Manufacturing</i>	9	22%	18	44%	14	34%
Total Manufacturing	450	27%	825	50%	366	22%
Non-Manufacturing						
<i>Building Construction</i>	35	22%	65	41%	60	38%
<i>Other Non-Manufacturing</i>	80	33%	83	35%	76	32%
Total Non-Manufacturing	115	29%	148	37%	136	34%
TOTAL	565	28%	973	48%	502	25%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in A* September, 1996.

Table 1

**Percentage of Firms Adversely Affected by Availability of
Qualified Scientist, Engineer, or Technical Job Candidates
Over the Long Term, by Branch of Industry**

Branch of Industry	Not at All		Some		A Great Deal	
	Number of Firms	Percent of Firms	Number of Firms	Percent of Firms	Number of Firms	Percent of Firms
Manufacturing						
<i>Food Processing</i>	11	10%	61	55%	38	35%
<i>Beverages & Tobacco</i>	2	13%	8	50%	6	38%
<i>Textiles & Textile Products</i>	5	12%	21	50%	16	38%
<i>Leather & Leather Products</i>	2	33%	2	33%	2	33%
<i>Wood and Wood Products</i>	13	28%	21	45%	13	28%
<i>Furniture & Fixtures</i>	6	25%	13	54%	5	21%
<i>Paper, Printing, & Publishing</i>	7	10%	47	67%	16	23%
<i>Chemicals & Chemical Products (including drugs)</i>	22	17%	69	54%	36	28%
<i>Petroleum & Coal</i>	2	8%	13	54%	9	38%
<i>Rubber Products</i>	21	19%	48	43%	43	38%
<i>Plastic Products</i>	32	19%	77	47%	56	34%
<i>Non-Metallic Mineral Products</i>	10	13%	35	44%	34	43%
<i>Basic Metal Products</i>	26	20%	70	53%	37	28%
<i>Fabricated Metal Products</i>	13	12%	54	48%	46	41%
<i>Machinery Manufacturing</i>	2	5%	17	40%	24	56%
<i>Office, Computing & Accounting Machines</i>	3	9%	19	59%	10	31%
<i>Electric, Electronic & Communications Products</i>	24	7%	177	50%	150	43%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	10	12%	43	52%	30	36%
<i>Other Transportation Equipment</i>	2	12%	9	53%	6	35%
<i>Other Manufacturing</i>	3	7%	21	50%	18	43%
Total Manufacturing	216	13%	825	50%	595	36%
Non-Manufacturing						
<i>Building Construction</i>	21	13%	81	51%	57	36%
<i>Other Non-Manufacturing</i>	50	21%	109	45%	81	34%
Total Non-Manufacturing	71	18%	190	48%	138	35%
TOTAL	287	14%	1,015	50%	733	36%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry* in September, 1996.

Table 2

Currently Employed Scientists and Engineers, by Branch of Industry

Branch of Industry	Number of Firms	Firms Employing Scientists & Engineers	Number of Scientists & Engineers	Percent of Total Scientists & Engineers
Manufacturing				
<i>Food Processing</i>	117	90	546	2.1%
<i>Beverages & Tobacco</i>	17	11	69	0.3%
<i>Textiles & Textile Products</i>	46	24	151	0.6%
<i>Leather & Leather Products</i>	5	3	4	0.0%
<i>Wood & Wood Products</i>	53	43	181	0.7%
<i>Furniture & Fixtures</i>	24	16	55	0.2%
<i>Paper, Printing, & Publishing</i>	74	53	168	0.7%
<i>Chemicals & Chemical Products (including drugs)</i>	135	118	912	3.6%
<i>Petroleum & Coal</i>	26	26	2,381	9.3%
<i>Rubber Products</i>	117	80	493	1.9%
<i>Plastic Products</i>	175	125	611	2.4%
<i>Non-Metallic Mineral Products</i>	82	69	498	1.9%
<i>Basic Metal Products</i>	139	114	878	3.4%
<i>Fabricated Metal Products</i>	115	94	818	3.2%
<i>Machinery Manufacturing</i>	48	45	281	1.1%
<i>Office, Computing & Accounting Machines</i>	32	28	822	3.2%
<i>Electric, Electronic & Communications Products</i>	377	339	7,989	31.2%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	85	69	2,467	9.6%
<i>Other Transportation Equipment</i>	17	14	129	0.5%
<i>Other Manufacturing</i>	48	36	420	1.6%
Total Manufacturing	1,732	1,397	19,873	77.6%
Non-Manufacturing				
<i>Building Construction</i>	174	166	2,373	9.3%
<i>Other Non-Manufacturing</i>	254	219	3,375	13.2%
Total Non-Manufacturing	428	385	5,748	22.4%
TOTAL	2,160	1,782	25,621	100.0%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 3

Currently Employed Scientists, by Branch of Industry

Branch of Industry	Number of Firms	Firms Employing Scientists	Number of Scientists	Percent of Total Scientists
Manufacturing				
<i>Food Processing</i>	117	48	256	9.4%
<i>Beverages & Tobacco</i>	17	8	28	1.0%
<i>Textiles & Textile Products</i>	46	2	6	0.2%
<i>Leather & Leather Products</i>	5	2	2	0.1%
<i>Wood & Wood Products</i>	53	8	33	1.2%
<i>Furniture & Fixtures</i>	24	0	0	0.0%
<i>Paper, Printing, & Publishing</i>	74	6	14	0.5%
<i>Chemicals & Chemical Products (including drugs)</i>	135	72	409	15.0%
<i>Petroleum & Coal</i>	26	8	383	14.0%
<i>Rubber Products</i>	117	32	173	6.3%
<i>Plastic Products</i>	175	14	57	2.1%
<i>Non-Metallic Mineral Products</i>	82	13	29	1.1%
<i>Basic Metal Products</i>	139	8	28	1.0%
<i>Fabricated Metal Products</i>	115	9	17	0.6%
<i>Machinery Manufacturing</i>	48	0	0	0.0%
<i>Office, Computing & Accounting Machines</i>	32	2	3	0.1%
<i>Electric, Electronic & Communications Products</i>	377	38	767	28.1%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	85	2	7	0.3%
<i>Other Transportation Equipment</i>	17	0	0	0.0%
<i>Other Manufacturing</i>	48	9	20	0.7%
Total Manufacturing	1,732	281	2,232	81.8%
Non-Manufacturing				
<i>Building Construction</i>	174	15	58	2.1%
<i>Other Non-Manufacturing</i>	254	30	437	16.0%
Total Non-Manufacturing	428	45	495	18.2%
TOTAL	2,160	326	2,727	100.0%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 4

Currently Employed Engineers, by Branch of Industry

Branch of Industry	Number of Firms	Firms Employing Engineers	Number of Engineers	Percent of Total Engineers
Manufacturing				
<i>Food Processing</i>	117	75	290	1.3%
<i>Beverages & Tobacco</i>	17	8	41	0.2%
<i>Textiles & Textile Products</i>	46	22	145	0.6%
<i>Leather & Leather Products</i>	5	2	2	0.0%
<i>Wood & Wood Products</i>	53	40	148	0.6%
<i>Furniture & Fixtures</i>	24	16	55	0.2%
<i>Paper, Printing, & Publishing</i>	74	51	154	0.7%
<i>Chemicals & Chemical Products (including drugs)</i>	135	82	503	2.2%
<i>Petroleum & Coal</i>	26	24	1,998	8.7%
<i>Rubber Products</i>	117	69	320	1.4%
<i>Plastic Products</i>	175	122	554	2.4%
<i>Non-Metallic Mineral Products</i>	82	69	469	2.0%
<i>Basic Metal Products</i>	139	112	850	3.7%
<i>Fabricated Metal Products</i>	115	94	801	3.5%
<i>Machinery Manufacturing</i>	48	45	281	1.2%
<i>Office, Computing & Accounting Machines</i>	32	28	819	3.6%
<i>Electric, Electronic & Communications Products</i>	377	339	7,222	31.5%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	85	69	2,460	10.7%
<i>Other Transportation Equipment</i>	17	14	129	0.6%
<i>Other Manufacturing</i>	48	36	400	1.7%
Total Manufacturing	1,732	1,317	17,641	77.1%
Non-Manufacturing				
<i>Building Construction</i>	174	164	2,315	10.1%
<i>Other Non-Manufacturing</i>	254	208	2,938	12.8%
Total Non-Manufacturing	428	372	5,253	22.9%
TOTAL	2,160	1,689	22,894	100.0%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 5

Currently Employed Technicians, by Branch of Industry

Branch of Industry	Number of Firms	Firms Employing Technicians	Number of Technicians	Percent of Total Technicians
Manufacturing				
<i>Food Processing</i>	117	99	1,034	2.2%
<i>Beverages & Tobacco</i>	17	17	198	0.4%
<i>Textiles & Textile Products</i>	46	40	1,248	2.7%
<i>Leather & Leather Products</i>	5	3	22	0.0%
<i>Wood & Wood Products</i>	53	42	353	0.8%
<i>Furniture & Fixtures</i>	24	24	165	0.4%
<i>Paper, Printing, & Publishing</i>	74	69	419	0.9%
<i>Chemicals & Chemical Products (including drugs)</i>	135	112	1,327	2.9%
<i>Petroleum & Coal</i>	26	22	4,858	10.6%
<i>Rubber Products</i>	117	102	1,046	2.3%
<i>Plastic Products</i>	175	161	1,787	3.9%
<i>Non-Metallic Mineral Products</i>	82	69	894	1.9%
<i>Basic Metal Products</i>	139	126	3,117	6.8%
<i>Fabricated Metal Products</i>	115	105	2,027	4.4%
<i>Machinery Manufacturing</i>	48	43	524	1.1%
<i>Office, Computing & Accounting Machines</i>	32	28	670	1.5%
<i>Electric, Electronic & Communications Products</i>	377	365	15,939	34.7%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	85	78	1,571	3.4%
<i>Other Transportation Equipment</i>	17	16	932	2.0%
<i>Other Manufacturing</i>	48	44	1,141	2.5%
Total Manufacturing	1,732	1,565	39,272	85.4%
Non-Manufacturing				
<i>Building Construction</i>	174	117	2,362	5.1%
<i>Other Non-Manufacturing</i>	254	196	4,353	9.5%
Total Non-Manufacturing	428	313	6,715	14.6%
TOTAL	2,160	1,878	45,987	100.0%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 6

**Ratio of Technicians to Scientists and Engineers,
by Branch of Industry**

Branch of Industry	Scientists & Engineers	Technicians	Technicians Per Scientist/ Engineer
Manufacturing			
<i>Food Processing</i>	546	1,034	1.9
<i>Beverages & Tobacco</i>	69	198	2.9
<i>Textiles & Textile Products</i>	151	1,248	8.3
<i>Leather & Leather Products</i>	4	22	5.4
<i>Wood & Wood Products</i>	181	353	2.0
<i>Furniture & Fixtures</i>	55	165	3.0
<i>Paper, Printing, & Publishing</i>	168	419	2.5
<i>Chemicals & Chemical Products (including drugs)</i>	912	1,327	1.5
<i>Petroleum & Coal</i>	2,381	4,858	2.0
<i>Rubber Products</i>	493	1,046	2.1
<i>Plastic Products</i>	611	1,787	2.9
<i>Non-Metallic Mineral Products</i>	498	894	1.8
<i>Basic Metal Products</i>	878	3,117	3.6
<i>Fabricated Metal Products</i>	818	2,027	2.5
<i>Machinery Manufacturing</i>	281	524	1.9
<i>Office, Computing & Accounting Machines</i>	822	670	0.8
<i>Electric, Electronic & Communications Products</i>	7,989	15,939	2.0
<i>Motor Vehicles & Motor Vehicle Equipment</i>	2,467	1,571	0.6
<i>Other Transportation Equipment</i>	129	932	7.2
<i>Other Manufacturing</i>	420	1,141	2.7
Total Manufacturing	19,873	39,272	2.0
Non-Manufacturing			
<i>Building Construction</i>	2,373	2,362	1.0
<i>Other Non-Manufacturing</i>	3,375	4,353	1.3
Total Non-Manufacturing	5,748	6,715	1.2
TOTAL	25,621	45,987	1.8

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in India in Malaysia*, September, 1996.

Table 7

Currently Employed Foreign Scientists and Engineers, by Branch of Industry

Branch of Industry	Firms	Firms Employing		Number of	Foreign S&Es as a Percent of Total S&Es
	Employing Scientists & Engineers	Foreign Scientists & Engineers	Number of	Foreign Scientists & Engineers	
			Scientists & Engineers		
Manufacturing					
<i>Food Processing</i>	90		546	16	2.9%
<i>Beverages & Tobacco</i>	11		69	0	0.0%
<i>Textiles & Textile Products</i>	24		151	29	19.2%
<i>Leather & Leather Products</i>	3		4	0	0.0%
<i>Wood & Wood Products</i>	43		181	2	1.1%
<i>Furniture & Fixtures</i>	16		55	0	0.0%
<i>Paper, Printing, & Publishing</i>	53		168	8	4.8%
<i>Chemicals & Chemical Products (including drugs)</i>	118		912	50	5.5%
<i>Petroleum & Coal</i>	26		2,381	272	11.4%
<i>Rubber Products</i>	80		493	39	7.9%
<i>Plastic Products</i>	125		611	40	6.5%
<i>Non-Metallic Mineral Products</i>	69		498	38	7.6%
<i>Basic Metal Products</i>	114		878	45	5.1%
<i>Fabricated Metal Products</i>	94		818	101	12.3%
<i>Machinery Manufacturing</i>	45		281	31	11.0%
<i>Office, Computing & Accounting Machines</i>	28		822	8	1.0%
<i>Electric, Electronic & Communications Products</i>	339		7,989	339	4.2%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	69		2,467	69	2.8%
<i>Other Transportation Equipment</i>	14		129	8	6.2%
<i>Other Manufacturing</i>	36		420	13	3.1%
Total Manufacturing	1,397		19,873	1,108	5.6%
Non-Manufacturing					
<i>Building Construction</i>	166		2,373	243	10.2%
<i>Other Non-Manufacturing</i>	219		3,375	358	10.6%
Total Non-Manufacturing	385		5,748	601	10.5%
TOTAL	1,782		25,621	1,709	6.7%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 8

Currently Employed Foreign Scientists, by Branch of Industry

Branch of Industry	Firms Employing Scientists	Firms Employing Foreign Scientists	Number of Scientists	Number of Foreign Scientists	Foreign Scientists as a Percent of Total Scientists
Manufacturing					
<i>Food Processing</i>	48	3	256	3	1.2%
<i>Beverages & Tobacco</i>	8	0	28	0	0.0%
<i>Textiles & Textile Products</i>	2	0	6	0	0.0%
<i>Leather & Leather Products</i>	2	0	2	0	0.0%
<i>Wood & Wood Products</i>	8	0	33	0	0.0%
<i>Furniture & Fixtures</i>	0	0	0	0	0.0%
<i>Paper, Printing, & Publishing</i>	6	2	14	2	14.3%
<i>Chemicals & Chemical Products (including drugs)</i>	72	10	409	12	2.9%
<i>Petroleum & Coal</i>	8	5	383	67	17.5%
<i>Rubber Products</i>	32	3	173	22	12.7%
<i>Plastic Products</i>	14	3	57	3	5.3%
<i>Non-Metallic Mineral Products</i>	13	5	29	5	17.2%
<i>Basic Metal Products</i>	8	2	28	2	7.1%
<i>Fabricated Metal Products</i>	9	2	17	2	11.8%
<i>Machinery Manufacturing</i>	0	0	0	0	0.0%
<i>Office, Computing & Accounting Machines</i>	2	0	3	0	0.0%
<i>Electric, Electronic & Communications Products</i>	38	10	767	44	5.7%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	2	2	7	2	28.6%
<i>Other Transportation Equipment</i>	0	0	0	0	0.0%
<i>Other Manufacturing</i>	9	2	20	2	10.0%
Total Manufacturing	281	49	2,232	166	7.4%
Non-Manufacturing					
<i>Building Construction</i>	15	0	58	0	0.0%
<i>Other Non-Manufacturing</i>	30	7	437	8	1.8%
Total Non-Manufacturing	45	7	495	8	1.6%
TOTAL	326	56	2,727	174	6.4%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry* in September, 1996.

Table 9

Currently Employed Foreign Engineers, by Branch of Industry

Branch of Industry	Firms Employing Engineers	Firms Employing Foreign Engineers	Number of Engineers	Number of Foreign Engineers	Foreign Engineers as a Percent of Total Engineers
Manufacturing					
<i>Food Processing</i>	75	5	290	13	4.5%
<i>Beverages & Tobacco</i>	8	0	41	0	0.0%
<i>Textiles & Textile Products</i>	22	6	145	29	20.0%
<i>Leather & Leather Products</i>	2	0	2	0	0.0%
<i>Wood & Wood Products</i>	40	2	148	2	1.4%
<i>Furniture & Fixtures</i>	16	0	55	0	0.0%
<i>Paper, Printing, & Publishing</i>	51	5	154	6	3.9%
<i>Chemicals & Chemical Products (including drugs)</i>	82	14	503	38	7.6%
<i>Petroleum & Coal</i>	24	13	1,998	205	10.3%
<i>Rubber Products</i>	69	6	320	17	5.3%
<i>Plastic Products</i>	122	19	554	37	6.7%
<i>Non-Metallic Mineral Products</i>	69	14	469	33	7.0%
<i>Basic Metal Products</i>	112	32	850	43	5.1%
<i>Fabricated Metal Products</i>	94	32	801	99	12.4%
<i>Machinery Manufacturing</i>	45	16	281	31	11.0%
<i>Office, Computing & Accounting Machines</i>	28	6	819	8	1.0%
<i>Electric, Electronic & Communications Products</i>	339	80	7,222	295	4.1%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	69	16	2,460	67	2.7%
<i>Other Transportation Equipment</i>	14	6	129	8	6.2%
<i>Other Manufacturing</i>	36	6	400	11	2.8%
Total Manufacturing	1,317	278	17,641	942	5.3%
Non-Manufacturing					
<i>Building Construction</i>	164	45	2,315	243	10.5%
<i>Other Non-Manufacturing</i>	208	59	2,938	350	11.9%
Total Non-Manufacturing	372	104	5,253	593	11.3%
TOTAL	1,689	382	22,894	1,535	6.7%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 10

Currently Employed Foreign Technicians, by Branch of Industry

Branch of Industry	Firms Employing Technicians	Firms Employing Foreign Technicians	Number of Technicians	Number of Foreign Technicians	Foreign Technicians as a Percent of Total Technicians
Manufacturing					
<i>Food Processing</i>	99	2	1,034	2	0.2%
<i>Beverages & Tobacco</i>	17	2	198	10	5.1%
<i>Textiles & Textile Products</i>	40	0	1,248	149	11.9%
<i>Leather & Leather Products</i>	3	0	22	0	0.0%
<i>Wood & Wood Products</i>	42	5	353	39	11.0%
<i>Furniture & Fixtures</i>	24	0	165	0	0.0%
<i>Paper, Printing, & Publishing</i>	69	0	419	0	0.0%
<i>Chemicals & Chemical Products (including drugs)</i>	112	6	1,327	28	2.1%
<i>Petroleum & Coal</i>	22	5	4,858	65	1.3%
<i>Rubber Products</i>	102	5	1,046	13	1.2%
<i>Plastic Products</i>	161	6	1,787	8	0.4%
<i>Non-Metallic Mineral Product</i>	69	8	894	57	6.4%
<i>Basic Metal Products</i>	126	6	3,117	25	0.8%
<i>Fabricated Metal Products</i>	105	11	2,027	101	5.0%
<i>Machinery Manufacturing</i>	43	5	524	13	2.5%
<i>Office, Computing & Accounting Machines</i>	28	0	670	0	0.0%
<i>Electric, Electronic & Communications Products</i>	365	24	15,939	115	0.7%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	78	7	1,571	43	2.7%
<i>Other Transportation Equipment</i>	16	2	932	2	0.2%
<i>Other Manufacturing</i>	44	6	1,141	25	2.2%
Total Manufacturing	1,565	100	39,272	695	1.8%
Non-Manufacturing					
<i>Building Construction</i>	117	10	2,362	71	3.0%
<i>Other Non-Manufacturing</i>	196	19	4,353	202	4.6%
Total Non-Manufacturing	313	29	6,715	273	4.1%
TOTAL	1,878	129	45,987	968	2.1%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in* A September, 1996.

Table 11

Current Shortage of Scientists and Engineers, by Branch of Industry

Branch of Industry	Currently Employed Scientists and Engineers	Would Hire Immediately			Percent of Currently Employed S&Es
		Firms	Scientists & Engineers	Percent by Branch of Industry	
Manufacturing					
<i>Food Processing</i>	546	50	208	4.0%	38.1%
<i>Beverages & Tobacco</i>	69	8	17	0.3%	24.6%
<i>Textiles & Textile Products</i>	151	17	33	0.6%	21.9%
<i>Leather & Leather Products</i>	4	5	5	0.1%	122.0%
<i>Wood & Wood Products</i>	181	16	40	0.8%	22.1%
<i>Furniture & Fixtures</i>	55	10	44	0.9%	80.0%
<i>Paper, Printing, & Publishing</i>	168	30	54	1.1%	32.1%
<i>Chemicals & Chemical Products (including drugs)</i>	912	64	165	3.2%	18.1%
<i>Petroleum & Coal</i>	2,318	13	170	3.3%	7.1%
<i>Rubber Products</i>	493	42	111	2.2%	22.5%
<i>Plastic Products</i>	611	88	229	4.5%	37.5%
<i>Non-Metallic Mineral Products</i>	498	43	201	3.9%	40.4%
<i>Basic Metal Products</i>	878	53	169	3.3%	19.2%
<i>Fabricated Metal Products</i>	818	68	253	4.9%	30.9%
<i>Machinery Manufacturing</i>	281	30	90	1.8%	32.0%
<i>Office, Computing & Accounting Machines</i>	822	16	110	2.1%	13.4%
<i>Electric, Electronic & Communications Products</i>	7,989	210	1,301	25.3%	16.3%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	2,467	48	347	6.8%	14.1%
<i>Other Transportation Equipment</i>	129	11	70	1.4%	54.3%
<i>Other Manufacturing</i>	420	13	48	0.9%	11.4%
Total Manufacturing	19,648	835	3,665	13.3%	18.4%
Non-Manufacturing					
<i>Building Construction</i>	2,373	102	683	13.3%	28.8%
<i>Other Non-Manufacturing</i>	3,375	125	790	15.4%	23.4%
Total Non-Manufacturing	5,971	227	1,473	28.7%	25.6%
TOTAL	25,619	1,062	5,138	100.0%	20.1%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 12

Current Shortage of Scientists, by Branch of Industry

Branch of Industry	Currently Employed Scientists	Would Hire Immediately			Percent of Currently Employed Scientists
		Firms	Scientists	Percent by Branch of Industry	
Manufacturing					
<i>Food Processing</i>	256	31	101	18.2%	39.5%
<i>Beverages & Tobacco</i>	28	3	6	1.1%	21.4%
<i>Textiles & Textile Products</i>	6	2	2	0.4%	33.3%
<i>Leather & Leather Products</i>	2	0	0	0.0%	0.0%
<i>Wood & Wood Products</i>	33	5	8	1.4%	24.2%
<i>Furniture & Fixtures</i>	0	0	0	0.0%	0.0%
<i>Paper, Printing, & Publishing</i>	14	5	8	1.4%	57.1%
<i>Chemicals & Chemical Products (including drugs)</i>	409	38	62	11.2%	15.2%
<i>Petroleum & Coal</i>	383	5	36	6.5%	9.4%
<i>Rubber Products</i>	173	16	22	4.0%	12.7%
<i>Plastic Products</i>	57	19	26	4.7%	45.6%
<i>Non-Metallic Mineral Products</i>	29	16	25	4.5%	86.2%
<i>Basic Metal Products</i>	28	6	20	3.6%	71.4%
<i>Fabricated Metal Products</i>	17	6	16	2.9%	94.1%
<i>Machinery Manufacturing</i>	0	2	2	0.4%	200.0%
<i>Office, Computing & Accounting Machines</i>	3	0	0	0.0%	0.0%
<i>Electric, Electronic & Communications Products</i>	767	35	107	19.3%	14.0%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	7	2	2	0.4%	28.6%
<i>Other Transportation Equipment</i>	0	0	0	0.0%	0.0%
<i>Other Manufacturing</i>	20	3	5	0.9%	25.0%
Total Manufacturing	2,232	194	448	80.9%	20.1%
Non-Manufacturing					
<i>Building Construction</i>	58	10	19	3.4%	32.8%
<i>Other Non-Manufacturing</i>	437	26	87	15.7%	19.9%
Total Non-Manufacturing	495	36	106	19.1%	21.4%
TOTAL	2,727	230	554	100.0%	20.3%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 13

Current Shortage of Engineers, by Branch of Industry

Branch of Industry	Currently Employed Engineers	Would Hire Immediately			Percent of Currently Employed Engineers
		Firms	Engineers	Percent by Branch of Industry	
Manufacturing					
<i>Food Processing</i>	290	45	107	2.3%	36.9%
<i>Beverages & Tobacco</i>	41	6	11	0.2%	26.8%
<i>Textiles & Textile Products</i>	145	17	31	0.7%	21.4%
<i>Leather & Leather Products</i>	2	5	5	0.1%	n/a
<i>Wood & Wood Products</i>	148	16	32	0.7%	21.6%
<i>Furniture & Fixtures</i>	55	10	44	1.0%	80.0%
<i>Paper, Printing, & Publishing</i>	154	29	46	1.0%	29.9%
<i>Chemicals & Chemical Products (including drugs)</i>	503	54	103	2.2%	20.5%
<i>Petroleum & Coal</i>	1,998	13	134	2.9%	6.7%
<i>Rubber Products</i>	320	39	89	1.9%	27.8%
<i>Plastic Products</i>	554	84	203	4.4%	36.6%
<i>Non-Metallic Mineral Products</i>	469	43	176	3.8%	37.5%
<i>Basic Metal Products</i>	850	53	149	3.3%	17.5%
<i>Fabricated Metal Products</i>	801	68	237	5.2%	29.6%
<i>Machinery Manufacturing</i>	281	30	88	1.9%	31.3%
<i>Office, Computing & Accounting Machines</i>	819	16	110	2.4%	13.4%
<i>Electric, Electronic & Communications Products</i>	7,222	208	1,194	26.0%	16.5%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	2,460	48	345	7.5%	14.0%
<i>Other Transportation Equipment</i>	129	11	70	1.5%	54.3%
<i>Other Manufacturing</i>	400	11	43	0.9%	10.8%
Total Manufacturing	17,641	806	3,217	70.2%	18.2%
Non-Manufacturing					
<i>Building Construction</i>	2,315	101	664	14.5%	28.7%
<i>Other Non-Manufacturing</i>	2,938	117	703	15.3%	23.9%
Total Non-Manufacturing	5,253	218	1,367	29.8%	26.0%
TOTAL	22,894	1,024	4,584	100.0%	20.0%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 14

Current Shortage of Technicians, by Branch of Industry

Branch of Industry	Currently Employed Technicians	Would Hire Immediately			Percent of Currently Employed Technicians
		Firms	Technicians	Percent by Branch of Industry	
Manufacturing					
<i>Food Processing</i>	1,034	45	204	2.3%	19.7%
<i>Beverages & Tobacco</i>	198	11	46	0.5%	23.2%
<i>Textiles & Textile Products</i>	1,248	22	87	1.0%	7.0%
<i>Leather & Leather Products</i>	22	3	8	0.1%	36.4%
<i>Wood & Wood Products</i>	353	23	63	0.7%	17.8%
<i>Furniture & Fixtures</i>	165	14	71	0.8%	43.0%
<i>Paper, Printing, & Publishing</i>	419	38	104	1.2%	24.8%
<i>Chemicals & Chemical Products (including drugs)</i>	1,327	54	217	2.5%	16.4%
<i>Petroleum & Coal</i>	4,858	8	168	1.9%	3.5%
<i>Rubber Products</i>	1,046	59	267	3.1%	25.5%
<i>Plastic Products</i>	1,787	92	472	5.4%	26.4%
<i>Non-Metallic Mineral Products</i>	894	39	537	6.1%	60.1%
<i>Basic Metal Products</i>	3,117	55	695	8.0%	22.3%
<i>Fabricated Metal Products</i>	2,027	72	406	4.6%	20.0%
<i>Machinery Manufacturing</i>	524	30	220	2.5%	42.0%
<i>Office, Computing & Accounting Machines</i>	670	16	176	2.0%	26.3%
<i>Electric, Electronic & Communications Products</i>	15,939	217	3,002	34.4%	18.8%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	1,571	43	265	3.0%	16.9%
<i>Other Transportation Equipment</i>	932	11	173	2.0%	18.6%
<i>Other Manufacturing</i>	1,141	14	104	1.2%	9.1%
Total Manufacturing	39,272	866	7,285	83.4%	18.6%
Non-Manufacturing					
<i>Building Construction</i>	2,362	80	769	8.8%	32.6%
<i>Other Non-Manufacturing</i>	4,353	101	678	7.8%	15.6%
Total Non-Manufacturing	6,715	181	1,447	16.6%	21.5%
TOTAL	45,987	1,047	8,732	100.0%	19.0%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 15

**Expectations Regarding Employment of Scientists and Engineers by Year
2000, by Branch of Industry
(Current Employers Only)**

Branch of Industry	By Year 2000		Percent of Total Scientists & Engineers In Year 2000
	Firms	Scientists & Engineers	
Manufacturing			
<i>Food Processing</i>	58	954	1.9%
<i>Beverages & Tobacco</i>	8	138	0.3%
<i>Textiles & Textile Products</i>	17	261	0.5%
<i>Leather & Leather Products</i>	5	8	0.0%
<i>Wood & Wood Products</i>	21	355	0.7%
<i>Furniture & Fixtures</i>	11	155	0.3%
<i>Paper, Printing, & Publishing</i>	35	507	1.0%
<i>Chemicals & Chemical Products (including drugs)</i>	73	1,957	3.9%
<i>Petroleum & Coal</i>	11	4,120	8.3%
<i>Rubber Products</i>	59	995	2.0%
<i>Plastic Products</i>	95	1,290	2.6%
<i>Non-Metallic Mineral Products</i>	48	1,093	2.2%
<i>Basic Metal Products</i>	56	2,259	4.5%
<i>Fabricated Metal Products</i>	70	1,537	3.1%
<i>Machinery Manufacturing</i>	32	548	1.1%
<i>Office, Computing & Accounting Machines</i>	14	1,803	3.6%
<i>Electric, Electronic & Communications Products</i>	221	14,921	30.0%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	43	4,592	9.2%
<i>Other Transportation Equipment</i>	13	188	0.4%
<i>Other Manufacturing</i>	14	1,333	2.7%
Total Manufacturing	904	39,016	78.4%
Non-Manufacturing			
<i>Building Construction</i>	111	4,649	9.3%
<i>Other Non-Manufacturing</i>	128	6,117	12.3%
Total Non-Manufacturing	239	10,766	21.6%
TOTAL	1,143	49,782	100.0%

Note: Numbers are probably extremely overstated; the literature contains evidence suggesting that employers tend to be overly optimistic in their estimates of future growth in employment.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 16

**Expectations Regarding Increase in Employment of Scientists and Engineers
from 1996 to Year 2000, by Branch of Industry
(Current Employers Only)**

Branch of Industry	Number of Currently Employed S&Es	Estimated S&Es by Year 2000	Percent Change
Manufacturing			
<i>Food Processing</i>	546	954	74.7%
<i>Beverages & Tobacco</i>	69	138	100.7%
<i>Textiles & Textile Products</i>	151	261	73.2%
<i>Leather & Leather Products</i>	4	8	95.1%
<i>Wood & Wood Products</i>	181	355	95.9%
<i>Furniture & Fixtures</i>	55	155	182.0%
<i>Paper, Printing, & Publishing</i>	168	507	201.7%
<i>Chemical & Chemical Products (including drugs)</i>	912	1,957	114.6%
<i>Petroleum & Coal</i>	2,381	4,120	73.0%
<i>Rubber Products</i>	493	995	101.8%
<i>Plastic Products</i>	611	1,290	111.1%
<i>Non-Metallic Mineral Products</i>	498	1,093	119.5%
<i>Basic Metal Products</i>	878	2,259	157.3%
<i>Fabricated Metal Products</i>	818	1,537	87.9%
<i>Machinery Manufacturing</i>	281	548	95.1%
<i>Office, Computing & Accounting Machines</i>	822	1,803	119.4%
<i>Electric, Electronic & Communications Products</i>	7,989	14,921	86.8%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	2,467	4,592	86.2%
<i>Other Transportation Equipment</i>	129	188	45.9%
<i>Other Manufacturing</i>	420	1,333	217.4%
Total Manufacturing	19,873	39,016	96.3%
Non-Manufacturing			
<i>Building Construction</i>	2,373	4,649	95.9%
<i>Other Non-Manufacturing</i>	3,375	6,117	81.3%
Total Non-Manufacturing	5,748	10,766	87.3%
TOTAL	25,621	49,782	94.3%

Note: Numbers are probably extremely overstated; the literature contains evidence suggesting that employers tend to be overly optimistic in their estimates of future growth in employment.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 17

**Expectations Regarding Employment of Scientists by Year 2000,
by Branch of Industry
(Current Employers Only)**

Branch of Industry	By Year 2000		Percent of Total Scientists In Year 2000
	Firms	Scientists	
Manufacturing			
<i>Food Processing</i>	39	423	7.9%
<i>Beverages & Tobacco</i>	6	46	0.9%
<i>Textiles & Textile Products</i>	2	6	0.1%
<i>Leather & Leather Products</i>	0	2	0.0%
<i>Wood & Wood Products</i>	8	59	1.1%
<i>Furniture & Fixtures</i>	0	0	0.0%
<i>Paper, Printing, & Publishing</i>	6	14	0.3%
<i>Chemicals & Chemical Products (including drugs)</i>	56	629	11.8%
<i>Petroleum & Coal</i>	4	486	9.1%
<i>Rubber Products</i>	22	293	5.5%
<i>Plastic Products</i>	29	120	2.2%
<i>Non-Metallic Mineral Products</i>	18	85	1.6%
<i>Basic Metal Products</i>	9	105	2.0%
<i>Fabricated Metal Products</i>	10	49	0.9%
<i>Machinery Manufacturing</i>	3	8	0.1%
<i>Office, Computing & Accounting Machines</i>	0	3	0.1%
<i>Electric, Electronic & Communications Products</i>	51	1,914	35.8%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	5	7	0.1%
<i>Other Transportation Equipment</i>	2	3	0.1%
<i>Other Manufacturing</i>	5	40	0.7%
Total Manufacturing	275	4,291	80.3%
Non-Manufacturing			
<i>Building Construction</i>	18	139	2.6%
<i>Other Non-Manufacturing</i>	32	915	17.1%
Total Non-Manufacturing	50	1,054	19.7%
TOTAL	325	5,345	100.0%

Note: Numbers are probably extremely overstated; the literature contains evidence suggesting that employers tend to be overly optimistic in their estimates of future growth in employment.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 18

**Expectations Regarding Increase in Employment of Scientists from 1996 to
Year 2000, by Branch of Industry
(Current Employers Only)**

Branch of Industry	Currently Employed Scientists	Scientists by Year 2000	Percent Change
Manufacturing			
<i>Food Processing</i>	256	423	65.1%
<i>Beverages & Tobacco</i>	28	46	64.4%
<i>Textiles & Textile Products</i>	6	6	0.0%
<i>Leather & Leather Products</i>	2	2	0.0%
<i>Wood & Wood Products</i>	33	59	77.8%
<i>Furniture & Fixtures</i>	0	0	0.0%
<i>Paper, Printing, & Publishing</i>	14	14	0.0%
<i>Chemical & Chemical Products (including drugs)</i>	409	629	53.9%
<i>Petroleum & Coal</i>	383	486	26.8%
<i>Rubber Products</i>	173	293	69.3%
<i>Plastic Products</i>	57	120	110.9%
<i>Non-Metallic Mineral Products</i>	29	85	191.4%
<i>Basic Metal Products</i>	28	105	275.1%
<i>Fabricated Metal Products</i>	17	49	185.6%
<i>Machinery Manufacturing</i>	0	8	n/a
<i>Office, Computing & Accounting Machines</i>	3	3	0.0%
<i>Electric, Electronic & Communications Products</i>	767	1,914	149.6%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	7	7	0.0%
<i>Other Transportation Equipment</i>	0	3	n/a
<i>Other Manufacturing</i>	20	40	100.0%
Total Manufacturing	2,232	4,291	92.3%
Non-Manufacturing			
<i>Building Construction</i>	58	139	140.0%
<i>Other Non-Manufacturing</i>	437	915	109.4%
Total Non-Manufacturing	495	1,054	113.0%
TOTAL	2,727	5,345	96.0%

Note: Numbers are probably extremely overstated; the literature contains evidence suggesting that employers tend to be overly optimistic in their estimates of future growth in employment.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 19

**Expectations Regarding Increase in Employment of Scientists from 1996 to
Year 2000, by Branch of Industry
(Current Employers Only)**

Branch of Industry	By Year 2000		Percent of Total Engineers in Year 2000
	Firms	Engineers	
Manufacturing			
<i>Food Processing</i>	54	531	1.2%
<i>Beverages & Tobacco</i>	6	92	0.2%
<i>Textiles & Textile Products</i>	17	255	0.6%
<i>Leather & Leather Products</i>	5	6	0.0%
<i>Wood & Wood Products</i>	21	296	0.7%
<i>Furniture & Fixtures</i>	11	155	0.3%
<i>Paper, Printing, & Publishing</i>	35	493	1.1%
<i>Chemicals & Chemical Products (including drugs)</i>	63	1,328	3.0%
<i>Petroleum & Coal</i>	11	3,634	8.2%
<i>Rubber Products</i>	56	702	1.6%
<i>Plastic Products</i>	95	1,169	2.6%
<i>Non-Metallic Mineral Products</i>	48	1,009	2.3%
<i>Basic Metal Products</i>	56	2,154	4.8%
<i>Fabricated Metal Products</i>	70	1,488	3.3%
<i>Machinery Manufacturing</i>	32	540	1.2%
<i>Office, Computing & Accounting Machines</i>	14	1,800	4.1%
<i>Electric, Electronic & Communications Products</i>	220	13,007	29.3%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	43	4,585	10.3%
<i>Other Transportation Equipment</i>	13	185	0.4%
<i>Other Manufacturing</i>	13	1,293	2.9%
Total Manufacturing	883	34,725	78.1%
Non-Manufacturing			
<i>Building Construction</i>	110	4,510	10.1%
<i>Other Non-Manufacturing</i>	125	5,202	11.7%
Total Non-Manufacturing	235	9,712	21.9%
TOTAL	1,118	44,437	100.0%

Note: Numbers are probably extremely overstated; the literature contains evidence suggesting that employers tend to be overly optimistic in their estimates of future growth in employment.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 20

**Expectations Regarding Increase in Employment of Engineers from 1996 to
Year 2000, by Branch of Industry
(Current Employers Only)**

Branch of Industry	Number of Currently Employed Engineers	Estimated Engineers by Year 2000	Percent Change
Manufacturing			
<i>Food Processing</i>	290	531	83.2%
<i>Beverages & Tobacco</i>	41	92	125.5%
<i>Textiles & Textile Products</i>	145	255	76.2%
<i>Leather & Leather Products</i>	2	6	n/a
<i>Wood & Wood Products</i>	148	296	100.0%
<i>Furniture & Fixtures</i>	55	155	182.0%
<i>Paper, Printing, & Publishing</i>	154	493	220.0%
<i>Chemical & Chemical Products (including drugs)</i>	503	1,328	164.0%
<i>Petroleum & Coal</i>	1,998	3,634	81.9%
<i>Rubber Products</i>	320	702	119.3%
<i>Plastic Products</i>	554	1,169	111.1%
<i>Non-Metallic Mineral Products</i>	469	1,009	115.1%
<i>Basic Metal Products</i>	850	2,154	153.4%
<i>Fabricated Metal Products</i>	801	1,488	85.8%
<i>Machinery Manufacturing</i>	281	540	92.3%
<i>Office, Computing & Accounting Machines</i>	819	1,800	119.8%
<i>Electric, Electronic & Communications Products</i>	7,222	13,007	80.1%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	2,460	4,585	86.4%
<i>Other Transportation Equipment</i>	129	185	43.6%
<i>Other Manufacturing</i>	400	1,293	223.3%
Total Manufacturing	17,641	34,725	96.8%
Non-Manufacturing			
<i>Building Construction</i>	2,315	4,510	94.8%
<i>Other Non-Manufacturing</i>	2,938	5,202	77.1%
Total Non-Manufacturing	5,253	9,712	84.9%
TOTAL	22,894	44,437	94.1%

Note: Numbers are probably extremely overstated; the literature contains evidence suggesting that employers tend to be overly optimistic in their estimates of future growth in employment.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 21

**Expectations Regarding Employment of Technicians by Year 2000, by Branch
of Industry
(Current Employers Only)**

Branch of Industry	By Year 2000		Percent of Total Technicians In Year 2000
	Firms	Technicians	
Manufacturing			
<i>Food Processing</i>	62	2,257	1.9%
<i>Beverages & Tobacco</i>	10	396	0.3%
<i>Textiles & Textile Products</i>	24	2,251	1.9%
<i>Leather & Leather Products</i>	3	55	0.0%
<i>Wood & Wood Products</i>	24	733	0.6%
<i>Furniture & Fixtures</i>	13	483	0.4%
<i>Paper, Printing, & Publishing</i>	43	1,052	0.9%
<i>Chemicals & Chemical Products (including drugs)</i>	68	2,452	2.1%
<i>Petroleum & Coal</i>	10	5,949	5.0%
<i>Rubber Products</i>	67	1,667	1.4%
<i>Plastic Products</i>	103	4,602	3.9%
<i>Non-Metallic Mineral Products</i>	45	3,234	2.7%
<i>Basic Metal Products</i>	59	6,159	5.2%
<i>Fabricated Metal Products</i>	65	3,920	3.3%
<i>Machinery Manufacturing</i>	32	1,118	0.9%
<i>Office, Computing & Accounting Machines</i>	14	1,656	1.4%
<i>Electric, Electronic & Communications Products</i>	226	30,316	25.4%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	45	34,714	29.1%
<i>Other Transportation Equipment</i>	13	2,185	1.8%
<i>Other Manufacturing</i>	14	1,466	1.2%
Total Manufacturing	940	106,666	89.5%
Non-Manufacturing			
<i>Building Construction</i>	94	5,263	4.4%
<i>Other Non-Manufacturing</i>	114	7,215	6.1%
Total Non-Manufacturing	208	12,478	10.5%
TOTAL	1,148	119,144	100.0%

Note: Numbers are probably extremely overstated; the literature contains evidence suggesting that employers tend to be overly optimistic in their estimates of future growth in employment.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 22

**Expectations Regarding Increase in Employment of Technicians from 1996 to
Year 2000, by Branch of Industry
(Current Employers Only)**

Branch of Industry	Number of Currently Employed Technicians	Estimated Technicians by Year 2000	Percent Change
Manufacturing			
<i>Food Processing</i>	1,034	2,257	118.3%
<i>Beverages & Tobacco</i>	198	396	100.2%
<i>Textiles & Textile Products</i>	1,248	2,251	80.4%
<i>Leather & Leather Products</i>	22	55	150.0%
<i>Wood & Wood Products</i>	353	733	107.7%
<i>Furniture & Fixtures</i>	165	483	192.6%
<i>Paper, Printing, & Publishing</i>	419	1,052	151.1%
<i>Chemicals & Chemical Products (including drugs)</i>	1,327	2,452	84.8%
<i>Petroleum & Coal</i>	4,858	5,949	22.5%
<i>Rubber Products</i>	1,046	1,667	59.4%
<i>Plastic Products</i>	1,787	4,602	157.5%
<i>Non-Metallic Mineral Products</i>	894	3,234	261.7%
<i>Basic Metal Products</i>	3,117	6,159	97.6%
<i>Fabricated Metal Products</i>	2,027	3,920	93.4%
<i>Machinery Manufacturing</i>	524	1,118	113.4%
<i>Office, Computing & Accounting Machines</i>	670	1,656	147.2%
<i>Electric, Electronic & Communications Products</i>	15,939	30,316	90.2%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	1,571	34,714	2109.7%
<i>Other Transportation Equipment</i>	932	2,185	134.4%
<i>Other Manufacturing</i>	1,141	1,466	28.5%
Total Manufacturing	39,272	106,666	171.6%
Non-Manufacturing			
<i>Building Construction</i>	2,362	5,263	122.8%
<i>Other Non-Manufacturing</i>	4,353	7,215	65.7%
Total Non-Manufacturing	6,715	12,477	85.8%
TOTAL	45,987	119,144	159.1%

Note: Numbers are probably extremely overstated; the literature contains evidence suggesting that employers tend to be overly optimistic in their estimates of future growth in employment.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 23

Currently Employed Scientists and Engineers Engaged in R&D, by Branch of Industry

Branch of Industry	Engaged in R & D		
	Firms	R&D Scientists & Engineers	Percent of Total R&D Scientists & Engineers
Manufacturing			
<i>Food Processing</i>	45	111	3.2%
<i>Beverages & Tobacco</i>	3	5	0.1%
<i>Textiles & Textile Products</i>	10	27	0.8%
<i>Leather & Leather Products</i>	2	2	0.1%
<i>Wood & Wood Products</i>	10	24	0.7%
<i>Furniture & Fixtures</i>	10	22	0.6%
<i>Paper, Printing, & Publishing</i>	24	37	1.1%
<i>Chemicals & Chemical Products (including drugs)</i>	70	276	7.9%
<i>Petroleum & Coal</i>	8	217	6.2%
<i>Rubber Products</i>	51	166	4.7%
<i>Plastic Products</i>	53	148	4.2%
<i>Non-Metallic Mineral Products</i>	30	64	1.8%
<i>Basic Metal Products</i>	27	67	1.9%
<i>Fabricated Metal Products</i>	32	100	2.8%
<i>Machinery Manufacturing</i>	24	33	0.9%
<i>Office, Computing & Accounting Machines</i>	9	92	2.6%
<i>Electric, Electronic & Communications Products</i>	132	1,250	35.6%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	30	166	4.7%
<i>Other Transportation Equipment</i>	8	24	0.7%
<i>Other Manufacturing</i>	14	40	1.1%
Total Manufacturing	592	2,871	81.7%
Non-Manufacturing			
<i>Building Construction</i>	24	70	2.0%
<i>Other Non-Manufacturing</i>	49	573	16.3%
Total Non-Manufacturing	73	643	18.3%
TOTAL	665	3,514	100.0%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 24

**Currently Employed R&D Scientists and Engineers as a Percent of,
Total Scientists and Engineers, by Branch of Industry**

Branch of Industry	Total Scientists & Engineers	R&D Scientists & Engineers	R&D S&Es as a Percent of Total S&Es
Manufacturing			
<i>Food Processing</i>	546	111	20.3%
<i>Beverages & Tobacco</i>	69	5	7.2%
<i>Textiles & Textile Products</i>	151	27	17.9%
<i>Leather & Leather Products</i>	4	2	48.8%
<i>Wood & Wood Products</i>	181	24	13.3%
<i>Furniture & Fixtures</i>	55	22	40.0%
<i>Paper, Printing, & Publishing</i>	168	37	22.0%
<i>Chemicals & Chemical Products (including drugs)</i>	912	276	30.3%
<i>Petroleum & Coal</i>	2,381	217	9.1%
<i>Rubber Products</i>	493	166	33.7%
<i>Plastic Products</i>	611	148	24.2%
<i>Non-Metallic Mineral Products</i>	498	64	12.9%
<i>Basic Metal Products</i>	878	67	7.6%
<i>Fabricated Metal Products</i>	818	100	12.2%
<i>Machinery Manufacturing</i>	281	33	11.7%
<i>Office, Computing & Accounting Machines</i>	822	92	11.2%
<i>Electric, Electronic & Communications Products</i>	7,989	1,250	15.6%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	2,467	166	6.7%
<i>Other Transportation Equipment</i>	129	24	18.6%
<i>Other Manufacturing</i>	420	40	9.5%
Total Manufacturing	19,873	2,871	14.4%
Non-Manufacturing			
<i>Building Construction</i>	2,373	70	2.9%
<i>Other Non-Manufacturing</i>	3,375	573	17.0%
Total Non-Manufacturing	5,748	643	11.2%
TOTAL	25,621	3,514	13.7%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 25

Currently Employed Scientists Engaged in R&D, by Branch of Industry

Branch of Industry	Engaged in R &D		
	Firms	R&D Scientists	Percent of Total R&D Scientists
Manufacturing			
<i>Food Processing</i>	37	79	8.8%
<i>Beverages & Tobacco</i>	3	5	0.6%
<i>Textiles & Textile Products</i>	2	6	0.7%
<i>Leather & Leather Products</i>	2	2	0.2%
<i>Wood & Wood Products</i>	6	11	1.2%
<i>Furniture & Fixtures</i>	0	0	0.0%
<i>Paper, Printing, & Publishing</i>	6	8	0.9%
<i>Chemicals & Chemical Products (including drugs)</i>	62	190	21.3%
<i>Petroleum & Coal</i>	6	121	13.5%
<i>Rubber Products</i>	21	83	9.3%
<i>Plastic Products</i>	18	43	4.8%
<i>Non-Metallic Mineral Products</i>	9	13	1.5%
<i>Basic Metal Products</i>	3	8	0.9%
<i>Fabricated Metal Products</i>	8	14	1.6%
<i>Machinery Manufacturing</i>	0	0	0.0%
<i>Office, Computing & Accounting Machines</i>	2	3	0.3%
<i>Electric, Electronic & Communications Products</i>	21	99	11.1%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	3	8	0.9%
<i>Other Transportation Equipment</i>	0	0	0.0%
<i>Other Manufacturing</i>	8	16	1.8%
Total Manufacturing	217	709	79.4%
Non-Manufacturing			
<i>Building Construction</i>	7	14	1.6%
<i>Other Non-Manufacturing</i>	16	170	19.0%
Total Non-Manufacturing	23	184	20.6%
TOTAL	240	893	100.0%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 26

**Currently Employed R&D Scientists as a Percent of Total Scientists,
by Branch of Industry**

Branch of Industry	Total Scientists	R&D Scientists	R&D Scientists as a Percent of Total Scientists
Manufacturing			
<i>Food Processing</i>	256	79	30.9%
<i>Beverages & Tobacco</i>	28	5	17.9%
<i>Textiles & Textile Products</i>	6	6	100.0%
<i>Leather & Leather Products</i>	2	2	100.0%
<i>Wood & Wood Products</i>	33	11	33.3%
<i>Furniture & Fixtures</i>	0	0	0.0%
<i>Paper, Printing, & Publishing</i>	14	8	57.1%
<i>Chemicals & Chemical Products (including drugs)</i>	409	190	46.5%
<i>Petroleum & Coal</i>	383	121	31.6%
<i>Rubber Products</i>	173	83	48.0%
<i>Plastic Products</i>	57	43	75.4%
<i>Non-Metallic Mineral Products</i>	29	13	44.8%
<i>Basic Metal Products</i>	28	8	28.6%
<i>Fabricated Metal Products</i>	17	14	82.4%
<i>Machinery Manufacturing</i>	0	0	0.0%
<i>Office, Computing & Accounting Machines</i>	3	3	100.0%
<i>Electric, Electronic & Communications Products</i>	767	99	12.9%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	7	8	114.3%
<i>Other Transportation Equipment</i>	0	0	0.0%
<i>Other Manufacturing</i>	20	16	80.0%
Total Manufacturing	2,232	709	31.8%
Non-Manufacturing			
<i>Building Construction</i>	58	14	24.1%
<i>Other Non-Manufacturing</i>	437	170	38.9%
Total Non-Manufacturing	495	184	37.2%
TOTAL	2,727	893	32.7%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 27

Currently Employed Engineers Engaged in R&D, by Branch of Industry

Branch of Industry	Engaged in R & D		
	Firms	R&D Engineers	Percent of Total R&D Engineers
Manufacturing			
<i>Food Processing</i>	21	32	1.2%
<i>Beverages & Tobacco</i>	0	0	0.0%
<i>Textiles & Textile Products</i>	8	21	0.8%
<i>Leather & Leather Products</i>	0	0	0.0%
<i>Wood & Wood Products</i>	6	13	0.5%
<i>Furniture & Fixtures</i>	10	22	0.8%
<i>Paper, Printing, & Publishing</i>	21	29	1.1%
<i>Chemicals & Chemical Products (including drugs)</i>	22	86	3.3%
<i>Petroleum & Coal</i>	6	96	3.7%
<i>Rubber Products</i>	40	83	3.2%
<i>Plastic Products</i>	48	105	4.0%
<i>Non-Metallic Mineral Products</i>	26	51	1.9%
<i>Basic Metal Products</i>	27	59	2.3%
<i>Fabricated Metal Products</i>	30	86	3.3%
<i>Machinery Manufacturing</i>	24	33	1.3%
<i>Office, Computing & Accounting Machines</i>	9	89	3.4%
<i>Electric, Electronic & Communications Products</i>	132	1,151	43.9%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	29	158	6.0%
<i>Other Transportation Equipment</i>	8	24	0.9%
<i>Other Manufacturing</i>	11	24	0.9%
Total Manufacturing	478	2,162	82.5%
Non-Manufacturing			
<i>Building Construction</i>	19	56	2.1%
<i>Other Non-Manufacturing</i>	43	403	15.4%
Total Non-Manufacturing	62	459	17.5%
TOTAL	540	2,621	100.0%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 28

Currently Employed R&D Engineers as a Percent of Total Engineers, by Branch of Industry

Branch of Industry	Total Engineers	R&D Engineers	R&D Engineers as a Percent of Total Engineers
Manufacturing			
<i>Food Processing</i>	290	32	11.0%
<i>Beverages & Tobacco</i>	41	0	0.0%
<i>Textiles & Textile Products</i>	145	21	14.5%
<i>Leather & Leather Products</i>	2	0	0.0%
<i>Wood & Wood Products</i>	148	13	8.8%
<i>Furniture & Fixtures</i>	55	22	40.0%
<i>Paper, Printing, & Publishing</i>	154	29	18.8%
<i>Chemicals & Chemical Products (including drugs)</i>	503	86	17.1%
<i>Petroleum & Coal</i>	1,998	96	4.8%
<i>Rubber Products</i>	320	83	25.9%
<i>Plastic Products</i>	554	105	19.0%
<i>Non-Metallic Mineral Products</i>	469	51	10.9%
<i>Basic Metal Products</i>	850	59	6.9%
<i>Fabricated Metal Products</i>	801	86	10.7%
<i>Machinery Manufacturing</i>	281	33	11.7%
<i>Office, Computing & Accounting Machines</i>	819	89	10.9%
<i>Electric, Electronic & Communications Products</i>	7,222	1,151	15.9%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	2,460	158	6.4%
<i>Other Transportation Equipment</i>	129	24	18.6%
<i>Other Manufacturing</i>	400	24	6.0%
Total Manufacturing	17,641	2,162	12.3%
Non-Manufacturing			
<i>Building Construction</i>	2,315	56	2.4%
<i>Other Non-Manufacturing</i>	2,938	403	13.7%
Total Non-Manufacturing	5,253	459	8.7%
TOTAL	22,894	2,621	11.4%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 29

Currently Employed Technicians Engaged in R&D, by Branch of Industry

Branch of Industry	Engaged in R & D		
	Firms	R&D Technicians	Percent of Total R&D Technicians
Manufacturing			
<i>Food Processing</i>	32	66	3.0%
<i>Beverages & Tobacco</i>	3	5	0.2%
<i>Textiles & Textile Products</i>	14	61	2.8%
<i>Leather & Leather Products</i>	0	0	0.0%
<i>Wood & Wood Products</i>	14	28	1.3%
<i>Furniture & Fixtures</i>	5	11	0.5%
<i>Paper, Printing, & Publishing</i>	13	67	3.0%
<i>Chemicals & Chemical Products (including drugs)</i>	43	316	14.3%
<i>Petroleum & Coal</i>	6	203	9.2%
<i>Rubber Products</i>	48	158	7.1%
<i>Plastic Products</i>	37	121	5.5%
<i>Non-Metallic Mineral Products</i>	24	50	2.3%
<i>Basic Metal Products</i>	26	88	4.0%
<i>Fabricated Metal Products</i>	22	54	2.4%
<i>Machinery Manufacturing</i>	14	27	1.2%
<i>Office, Computing & Accounting Machines</i>	6	33	1.5%
<i>Electric, Electronic & Communications Products</i>	95	449	20.3%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	26	119	5.4%
<i>Other Transportation Equipment</i>	8	46	2.1%
<i>Other Manufacturing</i>	10	30	1.4%
Total Manufacturing	446	1,932	87.4%
Non-Manufacturing			
<i>Building Construction</i>	10	16	0.7%
<i>Other Non-Manufacturing</i>	37	262	11.9%
Total Non-Manufacturing	47	278	12.6%
TOTAL	493	2,210	100.0%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 30

**Currently Employed R&D Technicians as a Percent of Total Technicians,
by Branch of Industry**

Branch of Industry	Total Technicians	R&D Technicians	R&D Technicians as a Percent of Total Technicians
Manufacturing			
<i>Food Processing</i>	1,034	66	6.4%
<i>Beverages & Tobacco</i>	198	5	2.5%
<i>Textiles & Textile Products</i>	1,248	61	4.9%
<i>Leather & Leather Products</i>	22	0	0.0%
<i>Wood & Wood Products</i>	353	28	7.9%
<i>Furniture & Fixtures</i>	165	11	6.7%
<i>Paper, Printing, & Publishing</i>	419	67	16.0%
<i>Chemicals & Chemical Products (including drugs)</i>	1,327	316	23.8%
<i>Petroleum & Coal</i>	4,858	203	4.2%
<i>Rubber Products</i>	1,046	158	15.1%
<i>Plastic Products</i>	1,787	121	6.8%
<i>Non-Metallic Mineral Products</i>	894	50	5.6%
<i>Basic Metal Products</i>	3,117	88	2.8%
<i>Fabricated Metal Products</i>	2,027	54	2.7%
<i>Machinery Manufacturing</i>	524	27	5.2%
<i>Office, Computing & Accounting Machines</i>	670	33	4.9%
<i>Electric, Electronic & Communications Products</i>	15,939	449	2.8%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	1,571	119	7.6%
<i>Other Transportation Equipment</i>	932	46	4.9%
<i>Other Manufacturing</i>	1,141	30	2.6%
Total Manufacturing	39,272	1,932	4.9%
Non-Manufacturing			
<i>Building Construction</i>	2,362	16	0.7%
<i>Other Non-Manufacturing</i>	4,353	262	6.0%
Total Non-Manufacturing	6,715	278	4.1%
TOTAL	45,987	2,210	4.8%

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 31

Ratio of R&D Technicians to R&D Scientists and Engineers, by Branch of Industry

Branch of Industry	R&D Scientists & Engineers	R&D Technicians	R&D Technicians Per R&D Scientist/ Engineer
Manufacturing			
<i>Food Processing</i>	111	66	0.6
<i>Beverages & Tobacco</i>	5	5	1.0
<i>Textiles & Textile Products</i>	27	61	2.3
<i>Leather & Leather Products</i>	2	0	0.0
<i>Wood & Wood Products</i>	24	28	1.2
<i>Furniture & Fixtures</i>	22	11	0.5
<i>Paper, Printing, & Publishing</i>	37	67	1.8
<i>Chemicals & Chemical Products (including drugs)</i>	276	316	1.1
<i>Petroleum & Coal</i>	217	203	0.9
<i>Rubber Products</i>	166	158	1.0
<i>Plastic Products</i>	148	121	0.8
<i>Non-Metallic Mineral Products</i>	64	50	0.8
<i>Basic Metal Products</i>	67	88	1.3
<i>Fabricated Metal Products</i>	100	54	0.5
<i>Machinery Manufacturing</i>	33	27	0.8
<i>Office, Computing & Accounting Machines</i>	92	33	0.4
<i>Electric, Electronic & Communications Products</i>	1,250	449	0.4
<i>Motor Vehicles & Motor Vehicle Equipment</i>	166	119	0.7
<i>Other Transportation Equipment</i>	24	46	1.9
<i>Other Manufacturing</i>	40	30	0.8
Total Manufacturing	2,871	1,932	0.7
Non-Manufacturing			
<i>Building Construction</i>	70	16	0.2
<i>Other Non-Manufacturing</i>	573	262	0.5
Total Non-Manufacturing	643	278	0.4
TOTAL	3,514	2,210	0.6

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 32

Currently Annual Expenditures on in-House R&D, by Branch of Industry

Branch of Industry	Total Number of Firms	Number of Firms Conducting In-House R&D	Annual Expenditures on In-House R&D (RM'000)	Percent of Total Industrial In-House R&D Expenditures
Manufacturing				
<i>Food Processing</i>	117	53	9,044	1.5%
<i>Beverages & Tobacco</i>	17	5	1,638	0.3%
<i>Textiles & Textile Products</i>	46	19	3,629	0.6%
<i>Leather & Leather Products</i>	5	2	467	0.1%
<i>Wood & Wood Products</i>	53	18	1,237	0.2%
<i>Furniture & Fixtures</i>	24	10	1,236	0.2%
<i>Paper, Printing, & Publishing</i>	74	26	4,991	0.8%
<i>Chemicals & Chemical Products (including drugs)</i>	135	75	29,680	5.0%
<i>Petroleum & Coal</i>	24	10	83,875	14.2%
<i>Rubber Products</i>	117	66	28,304	4.8%
<i>Plastic Products</i>	175	56	10,765	1.8%
<i>Non-Metallic Mineral Products</i>	82	35	10,381	1.8%
<i>Basic Metal Products</i>	139	35	7,085	1.2%
<i>Fabricated Metal Products</i>	115	33	5,144	0.9%
<i>Machinery Manufacturing</i>	48	24	3,404	0.6%
<i>Office, Computing & Accounting Machines</i>	32	9	22,392	3.8%
<i>Electric, Electronic & Communications Products</i>	377	138	302,947	51.2%
<i>Motor Vehicles & Motor Vehicle Equipment</i>	85	34	40,638	6.9%
<i>Other Transportation Equipment</i>	17	9	1,372	0.2%
<i>Other Manufacturing</i>	48	14	1,625	0.3%
Total Manufacturing	1,730	671	569,853	96.3%
Non-Manufacturing				
			0	
<i>Building Construction</i>	176	24	1,632	0.3%
<i>Other Non-Manufacturing</i>	254	54	20,011	3.4%
Total Non-Manufacturing	430	78	21,643	3.7%
TOTAL	2,160	749	591,496	100.0%

September, 1998

Source: STI International, Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia
scientists, engineers and/or technicians but failed to provide expenditures on R&D.

*Note: Expenditures data are in part estimated to account for survey respondents who reported employing R&D

Table 33

**Percentage of Firms Adversely Affected by Availability of
Qualified Scientist, Engineer, or Technical Job Candidates
Over the Near Term, by State**

State	Not at All		Some		A Great Deal	
	Number of Firms	Percent of Firms	Number of Firms	Percent of Firms	Number of Firms	Percent of Firms
<i>Johor</i>	72	32%	90	40%	64	28%
<i>Kedah</i>	11	17%	39	59%	16	24%
<i>Kelantan</i>	0	0%	2	100%	0	0%
<i>Melaka</i>	16	30%	19	36%	18	34%
<i>Negeri Sembilan</i>	11	26%	24	56%	8	19%
<i>Pahang</i>	5	22%	10	43%	8	35%
<i>Perak</i>	26	35%	27	36%	22	29%
<i>Perlis</i>	2	100%	0	0%	0	0%
<i>Pulau Pinang</i>	64	27%	123	51%	53	22%
<i>Sabah</i>	6	16%	24	63%	8	21%
<i>Sarawak</i>	13	20%	33	52%	18	28%
<i>Selangor</i>	208	28%	359	48%	174	23%
<i>Terengganu</i>	3	30%	2	20%	5	50%
Federal Territory						
<i>Kuala Lumpur</i>	128	28%	221	48%	108	24%
<i>Labuan</i>	0	0%	0	0%	0	0%
Total	565	28%	973	48%	502	25%

Note: Some companies may operate in more than one state.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 34

**Percentage of Firms Adversely Affected by Availability of
Qualified Scientist, Engineer, or Technical Job Candidates
Over the Long Term, by State**

State	Not at All		Some		A Great Deal	
	Number of Firms	Percent of Firms	Number of Firms	Percent of Firms	Number of Firms	Percent of Firms
<i>Johor</i>	40	18%	99	44%	88	39%
<i>Kedah</i>	7	11%	37	57%	21	32%
<i>Kelantan</i>	0	0%	2	100%	0	0%
<i>Melaka</i>	5	9%	26	47%	24	44%
<i>Negeri Sembilan</i>	5	12%	22	51%	16	37%
<i>Pahang</i>	3	14%	8	36%	11	50%
<i>Perak</i>	13	17%	35	47%	27	36%
<i>Perlis</i>	2	100%	0	0%	0	0%
<i>Pulau Pinang</i>	33	14%	110	46%	94	40%
<i>Sabah</i>	2	5%	19	49%	18	46%
<i>Sarawak</i>	5	8%	28	44%	30	48%
<i>Selangor</i>	106	14%	383	52%	248	34%
<i>Terengganu</i>	0	0%	7	70%	3	30%
Federal Territory						
<i>Kuala Lumpur</i>	64	14%	239	52%	154	34%
<i>Labuan</i>	0	0%	0	0%	0	0%
Total	287	14%	1,015	50%	733	36%

Note: Some companies may operate in more than one state.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 35

Currently Employed Scientists, Engineers, and Technicians, by State

State	Scientists	Engineers	Scientists & Engineers	Technicians
<i>Johor</i>	163	2,102	2,265	4,477
<i>Kedah</i>	20	579	599	1,672
<i>Kelantan</i>	0	5	5	20
<i>Melaka</i>	34	358	392	714
<i>Negeri Sembilan</i>	51	251	302	378
<i>Pahang</i>	24	362	386	903
<i>Perak</i>	33	2,030	2,063	3,165
<i>Perlis</i>	0	3	3	5
<i>Pulau Pinang</i>	339	2,620	2,959	3,866
<i>Sabah</i>	25	332	357	634
<i>Sarawak</i>	69	682	751	1,439
<i>Selangor</i>	1,300	8,383	9,683	16,350
<i>Terengganu</i>	8	211	219	272
Federal Territory				
<i>Kuala Lumpur</i>	660	4,973	5,633	12,093
<i>Labuan</i>	0	2	2	0
Total	2,727	22,894	25,621	45,988

Note: Some companies may operate in more than one state.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 36

Currently Employed Foreign Scientists, Engineers, and Technicians, by State

State	Foreign Scientists	Foreign Engineers	Foreign Scientists & Engineers	Foreign Technicians
<i>Johor</i>	6	118	124	106
<i>Kedah</i>	0	52	52	92
<i>Kelantan</i>	0	0	0	0
<i>Melaka</i>	5	11	16	5
<i>Negeri Sembilan</i>	0	16	16	11
<i>Pahang</i>	2	37	39	0
<i>Perak</i>	3	102	105	72
<i>Perlis</i>	0	0	0	0
<i>Pulau Pinang</i>	26	294	320	134
<i>Sabah</i>	0	10	10	0
<i>Sarawak</i>	3	14	17	0
<i>Selangor</i>	58	378	436	127
<i>Terengganu</i>	0	33	33	6
Federal Territory				
<i>Kuala Lumpur</i>	69	470	539	415
<i>Labuan</i>	0	0	0	0
Total	174	1,535	1,709	968

Note: Some companies may operate in more than one state.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Ind in Malaysia*, September, 1996.

Table 37

**Foreign Scientists, Engineers, and Technicians as a Percentage of
Total Scientists, Engineers, and Technicians, by State**

State	Percent Foreign Scientists	Percent Foreign Engineers	Percent Foreign Scientists & Engineers	Percent Foreign Technicians
<i>Johor</i>	3.7%	5.6%	5.5%	2.4%
<i>Kedah</i>	0.0%	9.0%	8.7%	5.5%
<i>Kelantan</i>	0.0%	0.0%	0.0%	0.0%
<i>Melaka</i>	14.7%	3.1%	4.1%	0.7%
<i>Negeri Sembilan</i>	0.0%	6.4%	5.3%	2.9%
<i>Pahang</i>	8.3%	10.2%	10.1%	0.0%
<i>Perak</i>	9.1%	5.0%	5.1%	2.3%
<i>Perlis</i>	0.0%	0.0%	0.0%	0.0%
<i>Pulau Pinang</i>	7.7%	11.2%	10.8%	3.5%
<i>Sabah</i>	0.0%	3.0%	2.8%	0.0%
<i>Sarawak</i>	4.3%	2.1%	2.3%	0.0%
<i>Selangor</i>	4.5%	4.5%	4.5%	0.8%
<i>Terengganu</i>	0.0%	15.6%	15.1%	2.2%
Federal Territory				
<i>Kuala Lumpur</i>	10.5%	9.5%	9.6%	3.4%
<i>Labuan</i>	0.0%	0.0%	0.0%	0.0%
Total	6.4%	6.7%	6.7%	2.1%

Note: Some companies may operate in more than one state.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Indust. in Malaysia*, September, 1996.

Table 38

Currently Shortage of Scientists, Engineers, and Technicians, by State

State	Scientists	Engineers	Scientists & Engineers	Technicians
<i>Johor</i>	41	523	564	2,056
<i>Kedah</i>	10	202	212	477
<i>Kelantan</i>	0	2	2	6
<i>Melaka</i>	17	98	115	154
<i>Negeri Sembilan</i>	21	55	76	60
<i>Pahang</i>	13	73	86	195
<i>Perak</i>	8	254	262	172
<i>Perlis</i>	0	0	0	0
<i>Pulau Pinang</i>	113	577	690	767
<i>Sabah</i>	7	96	103	132
<i>Sarawak</i>	24	137	161	331
<i>Selangor</i>	170	1,547	1,717	2,694
<i>Terengganu</i>	2	32	34	22
Federal Territory			0	
<i>Kuala Lumpur</i>	128	989	1,117	1,667
<i>Labuan</i>	0	0	0	0
Total	554	4,584	5,138	8,732

Note: Some companies may operate in more than one state.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 39

**Currently Employed Scientists, Engineers, and Technicians Engaged in R&D,
by State**

State	Scientists	Engineers	Scientists & Engineers	Technicians
<i>Johor</i>	64	178	242	213
<i>Kedah</i>	11	19	30	21
<i>Kelantan</i>	0	0	0	0
<i>Melaka</i>	31	52	83	46
<i>Negeri Sembilan</i>	0	38	38	10
<i>Pahang</i>	11	50	61	22
<i>Perak</i>	19	144	163	256
<i>Perlis</i>	0	0	0	0
<i>Pulau Pinang</i>	149	241	390	279
<i>Sabah</i>	8	32	40	32
<i>Sarawak</i>	31	45	76	71
<i>Selangor</i>	428	1,455	1,883	920
<i>Terengganu</i>	0	2	2	5
Federal Territory			0	
<i>Kuala Lumpur</i>	141	366	507	336
<i>Labuan</i>	0	0	0	0
Total	893	2,621	3,514	2,211

Note: Some companies may operate in more than one state.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 40

**Currently Employed Scientists and Engineers,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	48	95	114	99	0	165	521
<i>Beverages & Tobacco</i>	0	14	0	32	24	0	70
<i>Textiles & Textile Products</i>	2	8	38	19	3	83	153
<i>Leather & Leather Products</i>	0	0	2	0	2	0	4
<i>Wood & Wood Products</i>	13	5	32	18	25	89	182
<i>Furniture & Fixtures</i>	5	3	16	31	0	0	55
<i>Paper, Printing, & Publishing</i>	29	2	95	16	19	0	161
<i>Chemical & Chemical Products (including drugs)</i>	167	279	313	15	134	0	908
<i>Petroleum & Coal</i>	25	0	468	272	393	1,224	2,382
<i>Rubber Products</i>	89	23	198	84	51	31	476
<i>Plastic Products</i>	95	116	200	153	23	2	589
<i>Non-Metallic Mineral Products</i>	65	41	192	126	70	0	494
<i>Basic Metal Products</i>	128	88	152	356	153	0	877
<i>Fabricated Metal Products</i>	121	164	218	230	79	0	812
<i>Machinery Manufacturing</i>	76	74	106	26	0	0	282
<i>Office, Computing & Accounting Machines</i>	13	2	462	185	83	78	823
<i>Electric, Electronic & Communications Products</i>	244	244	673	1,031	1,414	4,217	7,823
<i>Motor Vehicles & Motor Vehicle Equipment</i>	31	97	160	143	132	1,905	2,468
<i>Other Transportation Equipment</i>	0	0	0	0	0	0	0
<i>Other Manufacturing</i>	36	17	118	120	74	56	421
Total Manufacturing	1,190	1,288	3,579	2,987	2,737	7,850	19,631
	0	0	0	0	0	0	0
Non-Manufacturing	0	0	0	0	0	0	0
<i>Building Construction</i>	455	273	548	814	138	50	2,278
<i>Other Non-Manufacturing</i>	468	639	623	701	819	79	3,329
Total Non-Manufacturing	923	912	1,171	1,515	957	129	5,607
	0	0	0	0	0	0	0
TOTAL	2,113	2,200	4,750	4,502	3,694	7,979	25,238
Number of Companies	559	311	440	239	107	88	1,744

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 41

**Currently Employed Scientists,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	21	48	62	26	0	83	240
<i>Beverages & Tobacco</i>	0	11	0	16	2	0	29
<i>Textiles & Textile Products</i>	0	6	0	0	0	0	6
<i>Leather & Leather Products</i>	0	0	2	0	0	0	2
<i>Wood & Wood Products</i>	5	0	16	2	11	0	34
<i>Furniture & Fixtures</i>	0	0	0	0	0	0	0
<i>Paper, Printing, & Publishing</i>	5	0	0	0	3	0	8
<i>Chemical & Chemical Products (including drugs)</i>	74	129	131	13	60	0	407
<i>Petroleum & Coal</i>	6	0	140	22	0	216	384
<i>Rubber Products</i>	44	18	32	41	12	26	173
<i>Plastic Products</i>	16	0	8	33	0	0	57
<i>Non-Metallic Mineral Products</i>	0	3	18	6	0	0	27
<i>Basic Metal Products</i>	3	2	0	22	2	0	29
<i>Fabricated Metal Products</i>	2	3	0	6	6	0	17
<i>Machinery Manufacturing</i>	0	0	0	0	0	0	0
<i>Office, Computing & Accounting Machines</i>	0	0	3	0	0	0	3
<i>Electric, Electronic & Communications Products</i>	13	22	45	76	89	518	763
<i>Motor Vehicles & Motor Vehicle Equipment</i>	0	7	0	0	0	0	7
<i>Other Transportation Equipment</i>	0	0	0	0	0	0	0
<i>Other Manufacturing</i>	5	0	8	5	0	3	21
Total Manufacturing	194	249	465	268	185	846	2,207
Non-Manufacturing							
<i>Building Construction</i>	3	3	15	17	0	20	58
<i>Other Non-Manufacturing</i>	73	61	7	0	291	4	436
Total Non-Manufacturing	76	64	22	17	291	24	494
TOTAL	270	313	487	285	476	870	2,701
Number of Companies	97	68	73	43	28	17	322

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 42

**Currently Employed Engineers,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2,000	
Manufacturing							
<i>Food Processing</i>	27	47	52	73	0	82	281
<i>Beverages & Tobacco</i>	0	3	0	16	22	0	41
<i>Textiles & Textile Products</i>	2	2	38	19	3	83	147
<i>Leather & Leather Products</i>	0	0	0	0	2	0	2
<i>Wood & Wood Products</i>	8	5	16	16	14	89	148
<i>Furniture & Fixtures</i>	5	3	16	31	0	0	55
<i>Paper, Printing, & Publishing</i>	24	2	95	16	16	0	153
<i>Chemical & Chemical Products (including drugs)</i>	93	150	182	2	74	0	501
<i>Petroleum & Coal</i>	19	0	328	250	393	1,008	1,998
<i>Rubber Products</i>	45	5	166	43	39	5	303
<i>Plastic Products</i>	79	116	192	120	23	2	532
<i>Non-Metallic Mineral Products</i>	65	38	174	120	70	0	467
<i>Basic Metal Products</i>	125	86	152	334	151	0	848
<i>Fabricated Metal Products</i>	119	161	218	224	73	0	795
<i>Machinery Manufacturing</i>	76	74	106	26	0	0	282
<i>Office, Computing & Accounting Machines</i>	13	2	459	185	83	78	820
<i>Electric, Electronic & Communications Products</i>	231	222	628	955	1,325	3,699	7,060
<i>Motor Vehicles & Motor Vehicle Equipment</i>	31	90	160	143	132	1,905	2,461
<i>Other Transportation Equipment</i>	3	16	22	31	58	0	130
<i>Other Manufacturing</i>	31	17	110	115	74	53	400
Total Manufacturing	996	1,039	3,114	2,719	2,552	7,004	17,424
Non-Manufacturing							
<i>Building Construction</i>	452	270	533	797	138	30	2,220
<i>Other Non-Manufacturing</i>	395	578	616	701	528	75	2,893
Total Non-Manufacturing	847	848	1,149	1,498	666	105	5,113
TOTAL	1,843	1,887	4,263	4,217	3,218	7,109	22,537
Number of Companies	514	289	427	237	106	87	1,660

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 43

**Currently Employed Technicians,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	64	172	144	290	0	332	1,002
<i>Beverages & Tobacco</i>	3	49	0	101	45	0	198
<i>Textiles & Textile Products</i>	30	20	105	348	2	745	1,250
<i>Leather & Leather Products</i>	0	3	0	0	19	0	22
<i>Wood & Wood Products</i>	13	16	64	126	33	101	353
<i>Furniture & Fixtures</i>	14	15	62	74	0	0	165
<i>Paper, Printing, & Publishing</i>	91	36	186	52	47	0	412
<i>Chemical & Chemical Products (including drugs)</i>	236	243	449	11	385	0	1,324
<i>Petroleum & Coal</i>	8	0	549	1,522	1,138	1,641	4,858
<i>Rubber Products</i>	72	115	323	168	281	62	1,021
<i>Plastic Products</i>	199	443	660	396	65	12	1,775
<i>Non-Metallic Mineral Products</i>	73	74	266	362	114	0	889
<i>Basic Metal Products</i>	201	454	634	954	858	0	3,101
<i>Fabricated Metal Products</i>	230	242	487	778	238	0	1,975
<i>Machinery Manufacturing</i>	123	200	152	49	0	0	524
<i>Office, Computing & Accounting Machines</i>	17	19	163	115	122	233	669
<i>Electric, Electronic & Communications Products</i>	425	231	1,156	2,148	4,858	7,031	15,849
<i>Motor Vehicles & Motor Vehicle Equipment</i>	72	264	175	291	276	492	1,570
<i>Other Transportation Equipment</i>	3	49	56	700	124	0	932
<i>Other Manufacturing</i>	83	31	119	156	430	322	1,141
Total Manufacturing	1,957	2,676	5,750	8,641	9,035	10,971	39,030
Non-Manufacturing							
<i>Building Construction</i>	517	224	795	132	398	100	2,166
<i>Other Non-Manufacturing</i>	544	600	956	1,822	280	70	4,272
Total Non-Manufacturing	1,061	824	1,751	1,954	678	170	6,438
TOTAL	3,018	3,500	7,501	10,595	9,713	11,141	45,468
Number of Companies	571	371	469	243	109	79	1,842

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 44

Current Shortage of Scientists and Engineers, by Size of Company and Branch of Industry

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	16	42	38	25	0	76	197
<i>Beverages & Tobacco</i>	0	11	0	6	0	0	17
<i>Textiles & Textile Products</i>	0	8	8	9	5	33	63
<i>Leather & Leather Products</i>	0	2	2	0	2	0	6
<i>Wood & Wood Products</i>	5	0	15	7	6	8	41
<i>Furniture & Fixtures</i>	5	8	6	25	0	0	44
<i>Paper, Printing, & Publishing</i>	26	2	25	2	0	0	55
<i>Chemical & Chemical Products (including drugs)</i>	50	59	37	0	17	0	163
<i>Petroleum & Coal</i>	0	0	57	91	0	24	172
<i>Rubber Products</i>	16	13	65	3	6	4	107
<i>Plastic Products</i>	39	63	87	24	2	2	217
<i>Non-Metallic Mineral Products</i>	48	16	60	51	19	0	194
<i>Basic Metal Products</i>	33	21	24	39	50	0	167
<i>Fabricated Metal Products</i>	56	42	75	43	13	0	229
<i>Machinery Manufacturing</i>	40	30	19	0	0	0	89
<i>Office, Computing & Accounting Machines</i>	5	0	28	30	17	31	111
<i>Electric, Electronic & Communications Products</i>	129	33	195	200	333	404	1,294
<i>Motor Vehicles & Motor Vehicle Equipment</i>	20	15	48	45	8	212	348
<i>Other Transportation Equipment</i>	3	8	9	8	41	0	69
<i>Other Manufacturing</i>	7	2	16	12	8	3	48
Total Manufacturing	498	375	814	620	527	797	3,631
	0	0	0	0	0	0	0
Non-Manufacturing	0	0	0	0	0	0	0
<i>Building Construction</i>	179	37	139	212	78	4	649
<i>Other Non-Manufacturing</i>	176	89	132	151	135	78	761
Total Non-Manufacturing	355	126	271	363	213	82	1,410
	0	0	0	0	0	0	0
TOTAL	853	501	1,085	983	740	879	5,041

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 45

**Current Shortage of Scientists,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	6	24	14	0	0	50	94
<i>Beverages & Tobacco</i>	0	3	0	3	0	0	6
<i>Textiles & Textile Products</i>	0	2	0	0	0	0	2
<i>Leather & Leather Products</i>	0	0	0	0	0	0	0
<i>Wood & Wood Products</i>	0	0	2	0	3	3	8
<i>Furniture & Fixtures</i>	0	0	0	0	0	0	0
<i>Paper, Printing, & Publishing</i>	8	0	0	0	0	0	8
<i>Chemical & Chemical Products (including drugs)</i>	22	21	12	0	6	0	61
<i>Petroleum & Coal</i>	0	0	17	16	0	5	38
<i>Rubber Products</i>	3	8	10	0	0	2	23
<i>Plastic Products</i>	10	3	10	3	0	0	26
<i>Non-Metallic Mineral Products</i>	5	5	6	5	3	0	24
<i>Basic Metal Products</i>	2	0	0	11	8	0	21
<i>Fabricated Metal Products</i>	0	2	0	0	5	0	7
<i>Machinery Manufacturing</i>	2	0	0	0	0	0	2
<i>Office, Computing & Accounting Machines</i>	0	0	0	0	0	0	0
<i>Electric, Electronic & Communications Products</i>	19	8	11	17	30	19	104
<i>Motor Vehicles & Motor Vehicle Equipment</i>	0	2	0	0	0	0	2
<i>Other Transportation Equipment</i>	0	0	0	0	0	0	0
<i>Other Manufacturing</i>	5	0	0	0	0	0	5
Total Manufacturing	82	78	82	55	55	79	431
Non-Manufacturing							
<i>Building Construction</i>	10	0	0	7	0	2	19
<i>Other Non-Manufacturing</i>	35	3	7	0	41	0	86
Total Non-Manufacturing	45	3	7	7	41	2	105
TOTAL	127	81	89	62	96	81	536

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 46

**Current Shortage of Engineers,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	10	18	24	25	0	26	103
<i>Beverages & Tobacco</i>	0	8	0	3	0	0	11
<i>Textiles & Textile Products</i>	0	6	8	9	5	33	61
<i>Leather & Leather Products</i>	0	2	2	0	2	0	6
<i>Wood & Wood Products</i>	5	0	13	7	3	5	33
<i>Furniture & Fixtures</i>	5	8	6	25	0	0	44
<i>Paper, Printing, & Publishing</i>	18	2	25	2	0	0	47
<i>Chemical & Chemical Products (including drugs)</i>	28	38	25	0	11	0	102
<i>Petroleum & Coal</i>	0	0	40	75	0	19	134
<i>Rubber Products</i>	13	5	55	3	6	2	84
<i>Plastic Products</i>	29	60	77	21	2	2	191
<i>Non-Metallic Mineral Products</i>	43	11	54	46	16	0	170
<i>Basic Metal Products</i>	31	21	24	28	42	0	146
<i>Fabricated Metal Products</i>	56	40	75	43	8	0	222
<i>Machinery Manufacturing</i>	38	30	19	0	0	0	87
<i>Office, Computing & Accounting Machines</i>	5	0	28	30	17	31	111
<i>Electric, Electronic & Communications Products</i>	110	25	184	183	303	385	1,190
<i>Motor Vehicles & Motor Vehicle Equipment</i>	20	13	48	45	8	212	346
<i>Other Transportation Equipment</i>	3	8	9	8	41	0	69
<i>Other Manufacturing</i>	2	2	16	12	8	3	43
Total Manufacturing	416	297	732	565	472	718	3,200
Non-Manufacturing							
<i>Building Construction</i>	169	37	139	205	78	2	630
<i>Other Non-Manufacturing</i>	141	86	125	151	94	78	675
Total Non-Manufacturing	310	123	264	356	172	80	1,305
TOTAL	726	420	996	921	644	798	4,505

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 47

**Current Shortage of Technicians,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	32	40	33	31	0	53	189
<i>Beverages & Tobacco</i>	0	21	0	25	0	0	46
<i>Textiles & Textile Products</i>	0	8	27	14	8	0	57
<i>Leather & Leather Products</i>	0	2	0	0	6	0	8
<i>Wood & Wood Products</i>	12	0	14	20	9	8	63
<i>Furniture & Fixtures</i>	10	10	21	31	0	0	72
<i>Paper, Printing, & Publishing</i>	40	3	52	2	8	0	105
<i>Chemical & Chemical Products (including drugs)</i>	60	64	63	0	31	0	218
<i>Petroleum & Coal</i>	0	0	85	84	0	0	169
<i>Rubber Products</i>	28	65	114	13	39	3	262
<i>Plastic Products</i>	85	123	201	37	7	0	453
<i>Non-Metallic Mineral Products</i>	345	29	45	82	19	0	520
<i>Basic Metal Products</i>	70	70	106	56	384	0	686
<i>Fabricated Metal Products</i>	97	62	98	68	16	0	341
<i>Machinery Manufacturing</i>	70	99	48	3	0	0	220
<i>Office, Computing & Accounting Machines</i>	14	3	14	0	66	78	175
<i>Electric, Electronic & Communications Products</i>	219	62	332	349	775	1,265	3,002
<i>Motor Vehicles & Motor Vehicle Equipment</i>	24	16	42	114	14	54	264
<i>Other Transportation Equipment</i>	3	11	16	78	66	0	174
<i>Other Manufacturing</i>	5	3	16	25	17	39	105
Total Manufacturing	1,114	691	1,327	1,032	1,465	1,500	7,129
Non-Manufacturing							
<i>Building Construction</i>	197	41	169	134	156	17	714
<i>Other Non-Manufacturing</i>	170	145	152	104	16	31	618
Total Non-Manufacturing	367	186	321	238	172	48	1,332
TOTAL	1,481	877	1,648	1,270	1,637	1,548	8,461

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 48

**Currently Employed Scientists and Engineers Engaged in R&D,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	22	31	36	15		8	112
<i>Beverages & Tobacco</i>		5		0			5
<i>Textiles & Textile Products</i>		8	10	2			20
<i>Leather & Leather Products</i>		0	2		0		2
<i>Wood & Wood Products</i>	3	0	8	13	0		24
<i>Furniture & Fixtures</i>	3	10					13
<i>Paper, Printing, & Publishing</i>	9	0	16	3	5		33
<i>Chemical & Chemical Products (including drugs)</i>	52	77	95		47		271
<i>Petroleum & Coal</i>			205	11		0	216
<i>Rubber Products</i>	33	8	53	31		17	142
<i>Plastic Products</i>	45	41	36	26		2	150
<i>Non-Metallic Mineral Products</i>	3	13	27	19	0		62
<i>Basic Metal Products</i>	18	10	17	12	10		67
<i>Fabricated Metal Products</i>	30	23	5	32	10		100
<i>Machinery Manufacturing</i>	19	13	2				34
<i>Office, Computing & Accounting Machines</i>	5	0	36		0	23	64
<i>Electric, Electronic & Communications Products</i>	78	55	104	138	242	607	1,224
<i>Motor Vehicles & Motor Vehicle Equipment</i>	5	19	51	5		83	163
<i>Other Transportation Equipment</i>	2		3	8	8		21
<i>Other Manufacturing</i>	7					9	16
Total Manufacturing	337	319	724	361	349	757	2,847
Non-Manufacturing							
<i>Building Construction</i>	35	8	12	8	0	0	63
<i>Other Non-Manufacturing</i>	60	45	13	26	430		574
Total Non-Manufacturing	95	53	25	34	430	0	637
TOTAL	432	372	749	395	779	757	3,484
Number of Companies	183	140	168	89	42	30	652

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 49

**Currently Employed Scientists Engaged in R&D,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	15	24	23	9	0	8	79
<i>Beverages & Tobacco</i>	0	5	0	0	0	0	5
<i>Textiles & Textile Products</i>	0	6	0	0	0	0	6
<i>Leather & Leather Products</i>	0	0	2	0	0	0	2
<i>Wood & Wood Products</i>	3	0	5	3	0	0	11
<i>Furniture & Fixtures</i>	0	0	0	0	0	0	0
<i>Paper, Printing, & Publishing</i>	3	0	0	0	3	0	6
<i>Chemical & Chemical Products (including drugs)</i>	36	59	49	5	40	0	189
<i>Petroleum & Coal</i>	3	0	116	3	0	0	122
<i>Rubber Products</i>	24	5	10	18	9	17	83
<i>Plastic Products</i>	21	3	10	10	0	0	44
<i>Non-Metallic Mineral Products</i>	0	2	3	6	0	0	11
<i>Basic Metal Products</i>	0	0	0	6	2	0	8
<i>Fabricated Metal Products</i>	5	5	0	3	2	0	15
<i>Machinery Manufacturing</i>	0	0	0	0	0	0	0
<i>Office, Computing & Accounting Machines</i>	0	0	3	0	0	0	3
<i>Electric, Electronic & Communications Products</i>	16	8	18	9	43	0	94
<i>Motor Vehicles & Motor Vehicle Equipment</i>	0	7	2	0	0	0	9
<i>Other Transportation Equipment</i>	0	0	0	0	0	0	0
<i>Other Manufacturing</i>	7	0	5	3	0	2	17
Total Manufacturing	133	124	246	75	99	27	704
Non-Manufacturing							
<i>Building Construction</i>	9	0	1	3	0	0	13
<i>Other Non-Manufacturing</i>	22	8	0	0	140	0	170
Total Non-Manufacturing	31	8	1	3	140	0	183
TOTAL	164	132	247	78	239	27	887

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 50

**Currently Employed Engineers Engaged in R&D,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	7	7	13	6	0	0	33
<i>Beverages & Tobacco</i>	0	0	0	0	0	0	0
<i>Textiles & Textile Products</i>	0	2	10	2	0	8	22
<i>Leather & Leather Products</i>	0	0	0	0	0	0	0
<i>Wood & Wood Products</i>	0	0	3	10	0	0	13
<i>Furniture & Fixtures</i>	3	10	2	8	0	0	23
<i>Paper, Printing, & Publishing</i>	6	0	16	3	2	0	27
<i>Chemical & Chemical Products (including drugs)</i>	16	18	46	0	7	0	87
<i>Petroleum & Coal</i>	0	0	89	8	0	0	97
<i>Rubber Products</i>	9	3	43	13	11	0	79
<i>Plastic Products</i>	24	38	26	16	0	2	106
<i>Non-Metallic Mineral Products</i>	3	11	24	13	0	0	51
<i>Basic Metal Products</i>	18	10	17	6	8	0	59
<i>Fabricated Metal Products</i>	25	18	5	29	8	0	85
<i>Machinery Manufacturing</i>	19	13	2	0	0	0	34
<i>Office, Computing & Accounting Machines</i>	5	0	33	28	0	23	89
<i>Electric, Electronic & Communications Products</i>	62	47	86	129	199	607	1,130
<i>Motor Vehicles & Motor Vehicle Equipment</i>	5	12	49	5	5	83	159
<i>Other Transportation Equipment</i>	2	3	3	8	8	0	24
<i>Other Manufacturing</i>	0	3	11	2	2	7	25
Total Manufacturing	204	195	478	286	250	730	2,143
Non-Manufacturing							
<i>Building Construction</i>	26	8	11	5	0	0	50
<i>Other Non-Manufacturing</i>	38	37	13	26	290	0	404
Total Non-Manufacturing	64	45	24	31	290	0	454
TOTAL	268	240	502	317	540	730	2,597

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 51

**Currently Employed Technicians Engaged in R&D,
by Size of Company and Branch of Industry**

Branch of Industry	Number of Employees						Total
	Less Than 100	100-199	200-499	500-999	1000-1999	More Than 2000	
Manufacturing							
<i>Food Processing</i>	9	16	18	6	0	17	66
<i>Beverages & Tobacco</i>	0	5	0	0	0	0	5
<i>Textiles & Textile Products</i>	2	11	16	9	23	0	61
<i>Leather & Leather Products</i>	0	0	0	0	0	0	0
<i>Wood & Wood Products</i>	7	0	8	13	0	0	28
<i>Furniture & Fixtures</i>	2	2	0	8	0	0	12
<i>Paper, Printing, & Publishing</i>	14	0	39	3	11	0	67
<i>Chemical & Chemical Products (including drugs)</i>	31	36	233	0	14	0	314
<i>Petroleum & Coal</i>	0	0	196	8	0	0	204
<i>Rubber Products</i>	16	52	38	12	19	17	154
<i>Plastic Products</i>	33	28	24	33	0	3	121
<i>Non-Metallic Mineral Products</i>	10	6	19	15	0	0	50
<i>Basic Metal Products</i>	49	15	18	2	0	0	84
<i>Fabricated Metal Products</i>	14	24	2	5	8	0	53
<i>Machinery Manufacturing</i>	21	6	0	0	0	0	27
<i>Office, Computing & Accounting Machines</i>	3	0	3	8	0	19	33
<i>Electric, Electronic & Communications Products</i>	82	19	78	95	112	48	434
<i>Motor Vehicles & Motor Vehicle Equipment</i>	3	12	35	16	5	49	120
<i>Other Transportation Equipment</i>	0	9	5	16	17	0	47
<i>Other Manufacturing</i>	5	8	5	5	0	8	31
Total Manufacturing	301	249	737	254	209	161	1,911
Non-Manufacturing							
<i>Building Construction</i>	7	5	4	0	0	0	16
<i>Other Non-Manufacturing</i>	34	29	84	8	106	0	261
Total Non-Manufacturing	41	34	88	8	106	0	277
TOTAL	342	283	825	262	315	161	2,188

Note: Totals differ slightly from other tables in the series because only 2121 of the 2160 total respondents (weighted number) provided data on size of company.

Source: SRI International, *Survey of Employment of Scientists, Engineers and Technicians in Industry in Malaysia*, September, 1996.

Table 52

