

High Technology

Overview

Utah's technology sector posted a modest year-over employment gain of 386 workers in 2004, ending the decline that began in 2001. During the first six months of 2005, average employment crept up to 59,107, an increase of about 2,200 workers over the 2004 average of 56,884 (a 3.9% year-over growth rate). However, despite this increase, more than 5,800 jobs have been lost in the technology sector since 2000 (a drop of 9.0%). In 2004, 11 high tech industries posted job gains, seven of which were more than 100 workers. Eight industries posted job losses, the largest of which occurred in computer and peripheral equipment and motion picture and video production.

2004 Summary

In 2004, 56,884 people worked in the technology sector accounting for 5.2% of the state's nonagricultural employment. This sector appears to have recovered from the decline that began in 2001, with net employment gains posted each quarter since the second quarter of 2004. However, since 2000, Utah's technology sector has lost more than 5,800 jobs; a decline of 9.0%.

On an industry-by-industry basis, 11 industry segments posted year over increases, seven of which reported gains of 100 workers or more. Significant increases were seen in engineering services (263), semiconductor and electronic components (255) and communication equipment (213). Together, these three segments added 731 jobs to the economy in 2004. Other industry segments with increases of more than 100 workers included aerospace, Internet service providers, computer systems design, and medical equipment.

In contrast, eight industry segments posted job losses in 2004. However, only two segments posted job losses of more than 100 workers. The largest decline occurred in computer and peripheral equipment which posted job losses totaling 519 employees. Problems in this segment began in 2001 with the closure of the Gateway, Inc.'s manufacturing facility in Salt Lake County, which resulted in a loss of 660 jobs. Layoffs at Evans and Sutherland and the Palm Pilot plant closure in 2001 also contributed to the decline in this technology segment.

The average wage in the technology sector increased from \$53,698 in 2003 to \$55,681 in 2004, a 3.7% increase. This increase was slightly higher than the rate of growth reported for non-agricultural wages as a whole, which posted an increase of 3.5%.

Although the technology sector accounts for a small segment of all non-agricultural employment in Utah, it accounts for 9.1% of total non-agricultural payroll. In 2004, the average wage paid in the technology sector was about 76% higher than the average wage for all non-agricultural workers.

Major Industry Analysis

Utah's technology sector is concentrated in four industry segments: computer systems design, medical equipment and supplies, aerospace, and engineering services. Employment in these four industries accounts for 54.8% of all technology employment in 2004.

Computer Systems Design

As measured by employment, computer systems design is the largest industry segment in Utah's technology sector. In 2004, almost 11,000 people worked in this segment, accounting for about 19.2% of total tech-

nology employment. This segment includes companies that provide expertise in the field of information technologies and is characterized by a large number of very small firms. The largest employers are 3M Company, Altiris, Inc., Sento Technical Innovations and Unisys Corp., none of which employ more than 500 workers.

Poor economic conditions hit this industry segment especially hard, as employment fell from 13,028 in 2000 to 10,521 in 2002, a drop of 19.2%. Contributing to these declines were job losses at Intel and Iomega totaling 550 workers. The rebound of this sector appeared to be fueled by an increase in the number of firms, rather than employment growth in existing ones. Since 2000, the average number of computer systems design firms has increased 17.1% from 1,264 to 1,481, while the average employment per firm has fallen from 10 employees to seven.

Preliminary data for 2005 showed continued growth in both employment and the number of firms in the sector. For the first six months of 2005, employment averaged 11,664 and the number of firms averaged 1,583.

Medical Equipment

This segment of Utah's technology sector has been the most stable over the past six years, with average employment ranging from a low of 7,479 in 2001 to a high of 7,715 in 2004. This stability is due, in part, to the fact that many of the companies in this sector manufacture products that are in high demand. With more than 1,000 workers each, Becton Dickinson and Fresenius USA continue to be the largest employers the sector. Other large employers are Ballard Medical, Hospira and Merit Medical.

Although average employment in the sector was up slightly during the first six months of 2005, the sector may face significant challenges in 2006. In March of 2005, Hospira, a spin-off of Abbot Laboratories, announced the sale of its Salt Lake facility to another company that plans to close the Utah plant by 2007, eliminating roughly 750 jobs. In July of 2005, Ballard Medical Products (a division of Kimberly-Clark) announced that it will close its manufacturing plant in Draper, eliminating 450 employees. Both companies plan to reopen facilities in Mexico.

Alternatively, Merit Medical, a manufacturer of proprietary disposable products used in cardiology and radiology procedures, recently doubled its production capacity in Utah and added 134 new positions to its Utah workforce. Merit currently employs about 900 people in Utah, and with the new expansion, could increase to 1,200 within a few years.

Aerospace Products

The aerospace industry was once the largest component of Utah's technology sector, employing more than 14,000 people, but has experienced significant downsizing over the past decade. In 2004, employment averaged about 6,494 workers, an increase of almost 2.9% over 2003. The largest companies in this sector are Thiokol Corp. and Alliant (divisions of ATK). Together, these companies employed more than 4,000 people, or 61.6% of all workers in the aerospace sector.

Aerospace is projected to be one of the fastest growing technology sectors in 2005. Average employment in this sector for 2005 showed an increase of 511 workers over average employment reported in 2004. Much of this growth is the result of NASA contracts received by Thiokol and Alliant's munitions sales to the U.S. military.

2005 Outlook

Preliminary data for 2005 show that the technology sector is gaining momentum and has finally rebounded from the downturn which began in 2001. From January 2005 to July 2005, technology employment averaged 59,107, an increase of 2,223 workers, and more than 3.9% higher than average technology employment during the same period in 2004.

It is estimated that only five industry segments will post employment declines and all of these are small segments of the technology sector. Of the remaining industry segments, six posted employment gains in excess of 100 workers. The largest gains were in computer systems design (744), aerospace (511) and software (307).

While the technology sector is expanding, it is still 9.1% smaller (as measured by employment) than it was in 2000. By mid-2005, two of the largest industry segments had completely rebounded: medical equipment returned to its pre-downturn level and computer systems design gained nearly 750 jobs. However, at present growth rates, it may take three more years for the technology sector to regain the employment losses sustained since 2000.

Table 85
Technology Employment by Detailed Industry: Annual Averages

Sector	NAICS Code	Average Annual Employment					2003-2004 Net Change
		2000	2001	2002	2003	2004	
In-Vitro Diagnostic Substances	325413	18	22	23	23	34	11
Optical Instrument and Lens Manufacturing	333314	174	170	158	154	140	-14
Computer and Peripheral Equipment	3341	3,575	3,181	1,540	1,255	736	-519
Communication Equipment	3342	2,286	2,393	2,370	2,428	2,641	213
Semiconductor and Electronic Components	3344	4,110	4,215	3,315	2,888	3,143	255
Navigational, Measuring and Electromedical Products	3345	3,211	3,242	3,109	3,185	3,109	-76
Carbon and Graphite Product Manufacturing	335991	398	368	341	324	423	99
Aerospace Products and Parts Manufacturing	3364	7,465	7,201	6,634	6,314	6,494	180
Medical Equipment and Supplies	3391	7,530	7,479	7,575	7,593	7,715	122
Software	5112	5,819	5,348	4,845	4,735	4,726	-9
Motion Picture and Video Production	51211	2,685	2,643	2,478	2,364	1,904	-460
Post Production Services	51219	42	42	49	28	23	-5
Wireless Telecommunications Carriers	5172	1,480	1,179	879	701	728	27
Satellite Telecommunications	5174	100	96	90	79	85	6
Other Telecommunications	5179	25	98	119	82	79	-3
Internet Service Providers	5181	3,476	3,276	3,016	2,975	3,147	172
Engineering Services	54133	5,502	5,767	5,579	5,802	6,065	263
Testing Laboratories	54138	1,182	1,214	1,152	1,173	1,173	0
Computer Systems Design	5415	13,028	12,491	10,521	10,755	10,920	165
Scientific Research	54171	2,847	3,340	3,815	3,640	3,599	-41
Total		64,951	63,766	57,609	56,498	56,884	386

Note: NAICS stands for North American Industry Classification System.

Source: Utah Department of Workforce Services

Table 86

Technology Employment by Detailed Industry: Comparison of 2004 and Six Month Average of 2005

Sector	NAICS Code	Average Employment		
		2004	2005	2004-2005 Net Change
In-Vitro Diagnostic Substances	325413	34	36	2
Optical Instrument and Lens Manufacturing	333314	140	174	34
Computer and Peripheral Equipment	3341	736	696	-40
Communication Equipment	3342	2,641	2,763	122
Semiconductor and Electronic Components	3344	3,143	3,062	-81
Navigational, Measuring and Electromedical Products	3345	3,109	3,172	63
Carbon and Graphite Product Manufacturing	335991	423	431	8
Aerospace Products and Parts Manufacturing	3364	6,494	7,005	511
Medical Equipment and Supplies	3391	7,715	7,771	56
Software	5112	4,726	5,033	307
Motion Picture and Video Production	51211	1,904	1,894	-10
Post Production Services	51219	23	67	44
Wireless Telecommunications Carriers	5172	728	730	2
Satellite Telecommunications	5174	85	90	5
Other Telecommunications	5179	79	70	-9
Internet Service Providers	5181	3,147	3,396	249
Engineering Services	54133	6,065	6,296	231
Testing Laboratories	54138	1,173	1,092	-81
Computer Systems Design	5415	10,920	11,664	744
Scientific Research	54171	3,599	3,665	66
Total		56,884	59,107	2,223

Note: NAICS stands for North American Industry Classification System.

Source: Utah Department of Workforce Services

Figure 87

Technology Employment by Detailed Industry: Second Quarter 2000 and Second Quarter 2005

Sector	NAICS Code	Average Employment			2000-2005 Net Change
		Second Quarter 2000	Second Quarter 2004	Second Quarter 2005	
In-Vitro Diagnostic Substances	325413	16	29	36	20
Optical Instrument and Lens Manufacturing	333314	172	139	180	8
Computer and Peripheral Equipment	3341	3,498	721	705	-2,793
Communication Equipment	3342	2,221	2,667	2,800	579
Semiconductor and Electronic Components	3344	3,998	3,120	2,990	-1,008
Navigational, Measuring and Electromedical Products	3345	3,241	3,083	3,172	-69
Carbon and Graphite Product Manufacturing	335991	398	440	435	37
Aerospace Products and Parts Manufacturing	3364	7,477	6,456	7,134	-343
Medical Equipment and Supplies	3391	7,523	7,819	7,767	244
Software	5112	5,852	4,675	5,096	-756
Motion Picture and Video Production	51211	2,505	1,778	1,779	-726
Post Production Services	51219	43	25	98	55
Wireless Telecommunications Carriers	5172	1,480	709	710	-770
Satellite Telecommunications	5174	113	88	91	-22
Other Telecommunications	5179	5	87	71	66
Internet Service Providers	5181	3,455	3,152	3,494	39
Engineering Services	54133	5,540	6,106	6,449	909
Testing Laboratories	54138	1,199	1,190	1,126	-73
Computer Systems Design	5415	13,108	10,794	11,847	-1,261
Scientific Research	54171	2,822	3,591	3,745	923
Total		64,666	56,669	59,725	-4,941

Note: NAICS stands for North American Industry Classification System.

Source: Utah Department of Workforce Services

Table 88
High Technology Establishments in Utah: Annual Averages

Sector	NAICS Code	Average Number of Firms					2000-2004 Net Change
		2000	2001	2002	2003	2004	
In-Vitro Diagnostic Substances	325413	5	5	5	5	5	0
Optical Instrument and Lens Manufacturing	333314	7	8	7	7	7	0
Computer and Peripheral Equipment	3341	26	24	25	23	23	-3
Communication Equipment	3342	33	36	32	28	27	-5
Semiconductor and Electronic Components	3344	56	59	56	52	56	-4
Navigational, Measuring and Electromedical Products	3345	54	57	59	59	61	5
Carbon and Graphite Product Manufacturing	335991	4	4	2	2	2	-2
Aerospace Products and Parts Manufacturing	3364	48	45	41	44	48	-4
Medical Equipment and Supplies	3391	182	187	185	182	197	0
Software	5112	153	150	156	158	177	5
Motion Picture and Video Production	51211	181	184	184	185	201	5
Post Production Services	51219	14	19	23	22	24	8
Wireless Telecommunications Carriers	5172	74	82	92	81	73	7
Satellite Telecommunications	5174	10	11	15	13	12	3
Other Telecommunications	5179	5	6	7	7	7	3
Internet Service Providers	5181	209	265	243	236	235	27
Engineering Services	54133	562	577	597	626	666	65
Testing Laboratories	54138	101	105	107	104	109	3
Computer Systems Design	5415	1,264	1,365	1,357	1,354	1,481	90
Scientific Research	54171	216	237	250	245	254	29
Total		3,201	3,422	3,440	3,432	3,665	232

Note: NAICS stands for North American Industry Classification System.
Source: Utah Department of Workforce Services

Table 89
High Technology Total Wages in Utah (Millions of Dollars)

Sector	NAICS Code	Total Wages				
		2000	2001	2002	2003	2004
In-Vitro Diagnostic Substances	325413	\$1.1	\$1.0	\$1.0	\$1.1	1.4
Optical Instrument and Lens Manufacturing	333314	4.0	4.4	4.2	4.5	4.0
Computer and Peripheral Equipment	3341	185.4	184.0	111.6	91.4	47.1
Communication Equipment	3342	152.3	152.8	153.3	158.7	174.1
Semiconductor and Electronic Components	3344	149.9	148.4	124.4	114.1	131.3
Navigational, Measuring and Electromedical Products	3345	162.8	165.6	155.4	172.2	172.7
Carbon and Graphite Product Manufacturing	335991	19.2	18.5	17.7	18.2	22.1
Aerospace Products and Parts Manufacturing	3364	403.6	416.6	399.3	380.2	402.7
Medical Equipment and Supplies	3391	247.5	257.2	273.8	295.5	307.0
Software	5112	463.8	381.4	351.0	346.2	356.4
Motion Picture and Video Production	51211	58.7	66.1	52.7	52.7	47.3
Post Production Services	51219	0.8	1.0	0.4	0.5	0.5
Wireless Telecommunications Carriers	5172	65.1	56.6	52.7	42.6	45.8
Satellite Telecommunications	5174	4.1	3.4	3.2	3.0	3.3
Other Telecommunications	5179	1.3	3.9	4.7	3.3	3.3
Internet Service Providers	5181	149.9	150.1	118.9	118.2	129.7
Engineering Services	54133	260.8	283.9	290.1	302.4	329.7
Testing Laboratories	54138	42.1	43.2	42.1	44.0	46.9
Computer Systems Design	5415	753.6	739.6	647.4	688.5	726.2
Scientific Research	54171	159.4	185.8	198.6	196.5	216.0
Total High Technology Wages		3,285.2	3,263.4	3,002.4	3,033.8	3,167.5
Utah State Wide Wages		30,972.6	32,059.7	32,337.3	32,886.9	34,992.3
High Technology Wages as Percent of Total		10.6%	10.2%	9.3%	9.2%	9.1%

Note: Wages for 2004 are preliminary based on the first two quarters only.
Note: NAICS stands for North American Industry Classification System.
Source: Utah Department of Workforce Services