

Technical Note: Defining High-Technology Industries

The Bureau of Labor Statistics (BLS) developed a list of high-technology industries based on Standard Industrial Classification (SIC) codes in 1999.¹ The list was based on measures of industry employment in both R&D and technology-oriented occupations, using Occupational Employment Statistics surveys from 1993 to 1995 in which employers were asked to explicitly report the number of workers engaged in R&D activity. The researchers identified 31 three-digit SIC R&D-intensive industries in which the number of R&D workers and technology-oriented occupations accounted for a proportion of employment that was at least twice the average for all industries surveyed. These industries had at least 6 R&D and 76 technology-

oriented workers per 1,000 workers. The BLS list comprised 27 manufacturing and 4 service industries.

The Office of Technology Policy, with assistance from the Bureau of the Census, converted the BLS list of SIC codes into the newer North American Industrial Classification System (NAICS) codes using the concordance between the two classification systems. The process necessitated both splitting and combining codes. The resulting list of high-technology NAICS codes comprises 39 categories that range from four- to six-digit detail. Twenty-nine categories identify manufacturing industries, and 10 identify service industries. The industry categories included in the high-technology segment are shown in table 8-25.

Table 8-25
High-technology NAICS codes

NAICS code	Industry
32411	Petroleum refineries
3251	Basic chemical manufacturing
3252	Resin, synthetic rubber, and artificial and synthetic fibers and filaments manufacturing
3253	Pesticide, fertilizer, and other agricultural chemical manufacturing
3254	Pharmaceutical and medicine manufacturing
3255	Paint, coating, and adhesive manufacturing
3256	Soap, cleaning compound, and toilet preparation manufacturing
3259	Other chemical product and preparation manufacturing
332992	Ordnance and accessories manufacturing—small arms ammunition manufacturing
332993	Ordnance and accessories manufacturing—ammunition (except small arms) manufacturing
332994	Ordnance and accessories manufacturing—small arms manufacturing
332995	Ordnance and accessories manufacturing—other ordnance and accessories manufacturing
3331	Agriculture, construction, and mining machinery manufacturing
3332	Industrial machinery manufacturing
3333	Commercial and service industry machinery manufacturing
3336	Engine, turbine, and power transmission equipment manufacturing
3339	Other general purpose machinery manufacturing
3341	Computer and peripheral equipment manufacturing
3342	Communications equipment manufacturing
3343	Audio and video equipment manufacturing
3344	Semiconductor and other electronic component manufacturing
3345	Navigational, measuring, electromedical, and control instruments manufacturing
3346	Manufacturing and reproducing magnetic and optical media
3353	Electrical equipment manufacturing
33599	All other electrical equipment and component manufacturing
3361	Motor vehicle manufacturing
3362	Motor vehicle body and trailer manufacturing
3363	Motor vehicle parts manufacturing
3364	Aerospace product and parts manufacturing
3391	Medical equipment and supplies manufacturing
5112	Software publishers
514191	On-line information services
5142	Data processing services
5413	Architectural, engineering, and related services
5415	Computer systems design and related services
5416	Management, scientific, and technical consulting services
5417	Scientific research and development services
6117	Educational support services
811212	Computer and office machine repair and maintenance

NAICS North American Industrial Classification System

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¹Hecker, D. 1999. High-technology employment: A broader view. *Monthly Labor Review* 122(6):18.