

2010 Washington Patent Report:

Despite Soft Economy,
Washington Patent Activity Remains Strong

Prepared by



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Prepared by the full-service U.S. business law firm Stoel Rives LLP

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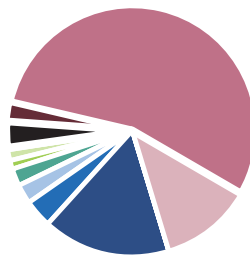
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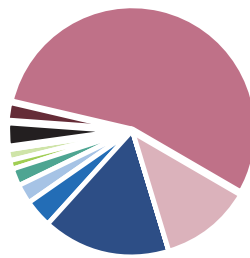
The 2010 Washington Patent Report, as well as patent reports for Idaho, Oregon, and Utah, is available online at **www.stoel.com/patentreports**.



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Executive Summary

Total U.S. Patent Activity

In 2010, the U.S. Patent and Trademark Office (USPTO) awarded 244,358 patents to foreigners and U.S.-resident inventors. These patents, the most ever issued by the USPTO in a single year, represented a 27.3 percent increase over 2009, when 191,933 patents were issued.

Leading the list of the 50 top global companies that were awarded U.S. patents in 2010 was IBM with 5,896 U.S. patents. Four other companies on the list also appeared on one or more of Stoel Rives' Washington 2010 top awardees lists. Those companies and their rankings are Microsoft Corporation (3), Intel Corporation (8), Hewlett-Packard Development Company, L.P. (10) and The Boeing Company (40).

U.S. Patents Awarded to Foreigners

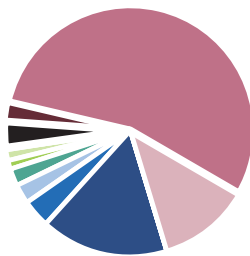
For the third year in a row, foreigners out-patented U.S.-resident inventors, whose share of U.S. patents was 49.6 percent of those awarded. Patents obtained by foreign inventors included 2,270 from China. Although that country ranked eighth in the number of U.S. patents obtained by foreign inventors in 2010, its ranking is expected to go higher.

Washington Patent Activity

The number of U.S. patents issued to Washington companies grew significantly. In 2010, Washington companies obtained 6,758 patents, the most ever issued in a single year. The issuances reflected a 21.9 percent jump over the 5,541 patents issued in the previous year. Leading the pack on Stoel Rives' list of top five awardees in 2010 was Microsoft Corporation, which obtained 2,844 patents, representing 42 percent of all U.S. patents issued to Washington companies that year. Rounding out the list were The Boeing Company (360 Washington patents), Sharp Laboratories of America (125), Amazon Technologies, Inc. (119) and Intel Corporation (104). Among all the states, Washington ranked fourth in the number of U.S. patents issued.

Stoel Rives classifies Washington's patent activity in 10 invention fields or categories. These categories have a natural correlation with industry leaders and business sectors that play significant roles in Washington's economic development.

As in recent years, nearly three-quarters of the 2010 Washington patents were awarded in two main categories: computer science/business methods (54.8 percent) and mechanical (16.8 percent). The large number of computer science/business methods patents is attributable primarily to Microsoft Corporation. In 2010, the software giant received 2,574 patents in this category, accounting for 69 percent of all Washington patents in the category. Together, Microsoft Corporation and The Boeing Company received 216 mechanical patents, a 19 percent share in the category.



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Washington's Long-Term Patent Growth

U.S. patent issuances to Washington companies over the years have reflected consistent, long-term patent growth. For example, in 2010 the number of patents awarded—6,758—was 177.5 percent greater than the 2,435 awarded in 2000. The 2010 figure represents a nearly six-fold increase over 1990, when just 1,014 Washington patents were issued.

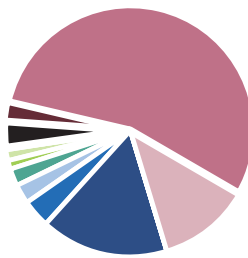
Washington Technology Sector and Clusters

Most experts in Washington's economic development policy arena agree that industry cluster strategy is key to the state's economic vitality. The Washington Economic Development Commission (EDC) has identified 14 so-called "emergent innovation clusters": cloud computing, advanced materials, environmental technology, freight mobility, smart grid, health IT, electric vehicle, nanophotonics, global development, advanced manufacturing, value add food processing, defense technology, biomedical device and clean tech.

Life sciences is an excellent example of an innovation cluster. Factors that make Washington an ideal place for life sciences companies include a vibrant existing life sciences sector, lower business expenses than California and Massachusetts, and the state's proximity to Asia and the western United States. Life sciences and research companies are currently based in 72 Washington cities, supporting more than 25,000 direct jobs and another 55,000 indirect jobs.

Future of Washington Patent Activity

The health of the Washington technology sector, which generates the vast majority of Washington patents, depends upon the overall health of the state's economy. While current economic signals are mixed, they suggest that the state's weakened economy has not seriously undermined the state's patent activity. Indeed, there is reason to believe that Washington's patent activity will continue to be strong in the future.



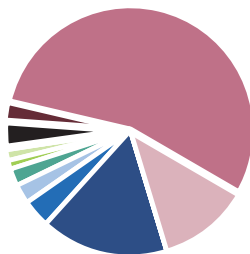
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Scope of Report

Prepared by Stoel Rives, the 2010 Washington Patent Report provides valuable information about the state's U.S. patent activities in 2010. The report is designed primarily for patent lawyers, in-house counsel and policymakers interested in Washington patent statistics.

Among other things, the report:

- Compares Washington's growth in U.S. patent awards to the growth of patents issued to all U.S.-resident inventors.
- Classifies Washington patents into 10 invention categories and provides statistical and interpretive information about patents in these categories.
- Identifies the top five Washington patent awardees overall and the top five awardees in each invention category.
- Analyzes the reasons for Washington's long-term patent growth.
- Examines the health of Washington's economy and technology sector, whose innovations are the basis for many Washington patents.
- Considers the future of Washington patent activity.

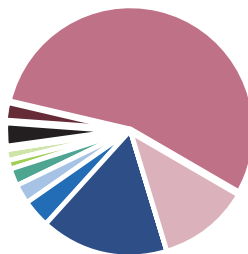


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About Stoel Rives LLP

Stoel Rives LLP is a full-service U.S. business law firm providing corporate and litigation services to clients nationwide. Established in 1907, the firm has nearly 400 attorneys in 11 offices in seven states. A leader in corporate, intellectual property, energy, environmental, labor, technology and other legal specialties, Stoel Rives represents public and private enterprises, including businesses at all stages of growth, from startups to multinational public companies.

The 2010 *U.S. News & World Report* Best Law Firm survey ranks Stoel Rives among the top 30 U.S. law firms for the number of national first-tier practice areas. In 2010, BTI Consulting Group rated the firm among the nation's 30 best for outstanding client service. In addition, 90 Stoel Rives lawyers have been rated among the best in their practice areas by Chambers USA: America's Leading Lawyers for Business, including 14 intellectual property/patent attorneys.



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Tallying and Ranking Washington Patents

To produce this report, Stoel Rives gathered patent statistics from the USPTO. The firm then categorized, analyzed and ranked the data.

Tallying and Ranking by Company

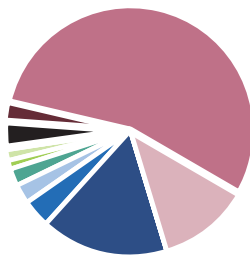
U.S. patents are awarded to individual inventors. Most patents, however, involve technologies that are developed within the scope of an inventor's employment and contractually assigned to the employer. Employer assignees are identified on patents and almost always are companies. Based on assignee data, the 2010 Washington Patent Report tallies patents by company name, when available, and ranks the companies (and individuals) receiving patents in 2010.

Some of these companies, such as Intel Corporation and Hewlett-Packard Development Company, L.P., have research facilities outside Washington. For such companies, Stoel Rives counted as a Washington patent any company patents that identify at least one inventor as a Washington resident, even if the company has no substantial Washington operations.

The USPTO calculates Washington patents differently. The USPTO considers as Washington patents only those for which the first-named inventor is from Washington. For purposes of this report, Stoel Rives considers a patent Washington-sourced where the patent names one or more Washington inventors, no matter where their names appear on the inventor list. Also, Stoel Rives does not include reexaminations in its calculations. For more information about the USPTO's calculations, see Patenting Trends Calendar Year 2010 (Patenting Trends 2010).¹

Percentages in this report are rounded to the nearest tenth.

¹ http://www.uspto.gov/web/offices/ac/ido/oeip/taf/pat_tr10.htm.



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National Patent Activity: Total U.S. Patent Awards

Our analysis of Washington's 2010 patent activity begins with an analysis of total U.S. patents issued.

In 2010, the USPTO issued 244,358 patents—the most ever awarded to foreigners and U.S.-resident inventors in a single year. As the following table illustrates, this figure represents a robust 27.3 percent increase from 2009, when the USPTO issued 191,933 patents. The 2010 percentage increase is the largest annual year-to-year increase since 2006, when there was a 24.5 percent jump from the previous year. The 2010 increase dwarfs the single-digit, year-to-year increases of 2009 (3.6 percent) and 2008 (1.3 percent).²

Number and Percentage Change for U.S. Patents Issued to Foreign and U.S.-Resident Inventors: 2005-2010³

Year	Number of Patent Issued	Percentage Change
2010	244,358	27.3%
2009	191,933	3.6%
2008	185,244	1.3%
2007	182,930	-6.9%
2006	196,436	24.5%
2005	157,741	n/a

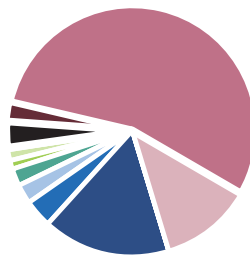
Reducing Application Backlog

The 2010 increase partly reflects USPTO efforts to process patent applications more efficiently, thereby trimming its backlog and increasing patent grants. In 2010, the backlog decreased by 1.3 percent, to 721,831 applications, preceded by an even larger decrease (3.9 percent) in 2009. In January 2011, USPTO Director David Kappos informed a congressional subcommittee that he hopes to reduce the backlog to approximately 658,000 applications in fiscal 2011,⁴ which ends September 30, 2011.

² Patenting Trends 2010.

³ These statistics are taken from Patenting Trends 2010 and similar USPTO reports from earlier years.

⁴ http://www.uspto.gov/news/speeches/2011/kappos_house_hearing.jsp. His testimony was before the House Judiciary Committee's Subcommittee on Intellectual Property, Competition and the Internet.



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Top Global Companies Receiving U.S. Patents

The list of the top 50 global companies receiving U.S. utility patents in 2010 was virtually unchanged from the prior year. Leading the 2010 pack with 5,896 utility patents was IBM, the first company to break the 5,000-patents mark. Also in the top 50 were several companies on one or more of Washington's top awardees lists: Microsoft Corporation (ranked 3), Intel Corporation (8), Hewlett-Packard Development Company, L.P. (10) and The Boeing Company (40).

Foreigners Out-Patent U.S. Patent Awardees

For the third year in a row, the percentage of all U.S. patents issued to U.S.-resident inventors (49.6 percent) dipped below 50 percent. In 2009, the percentage issued to U.S.-resident inventors was 49.5 percent, and in 2008 it was 49.7 percent. The following table shows the growth of U.S.-utility patents issued to foreigners in five different years.

Number and Percentage of U.S.-Utility Patents Issued to Foreigners and U.S.-Resident Inventors 1970-2010⁵

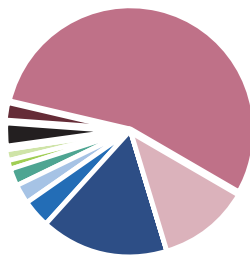
Year	Foreign Patent Grants	U.S.-Resident Inventor Patent Grants	Utility Patent Grants, Foreign Origin Percent Share
2010	111,822	107,792	50.9%
2000	72,426	85,068	46.0%
1990	42,974	47,391	47.6%
1980	24,464	37,355	39.6%
1970	17,357	47,072	26.9%

The five foreign countries receiving the most U.S. patents in 2010 were Japan (46,978), Germany (13,633), South Korea (12,508), Taiwan (9,635) and Canada (5,513). China, which recently passed Japan as the world's second-largest economy, was in eighth place with 3,303 patents.⁶ However, China's ranking is expected to rise. A recent study by Thomson Reuters predicts that by 2011 China, with its emphasis on research and development, likely will pass the United States and Japan in new patent applications worldwide.⁷ Although some global technology companies slashed R&D spending because of the recession, a number of China's

⁵ U.S. Patent Statistics Chart Calendar Years 1963-2010, http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm.

⁶ Patenting Trends Calendar Year 2010 http://www.uspto.gov/web/offices/ac/ido/oeip/taf/pat_tr10.htm (Counts include utility, design, plant and reissue patents, and statutory invention registrations.)

⁷ <http://www.reuters.com/article/2010/09/15/us-crisis-innovation-idUSTRE68E1RM20100915?pageNumber=2>.



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best-known technology companies increased their R&D budgets by 25 percent to 45 percent, according to the World Intellectual Property Organization.

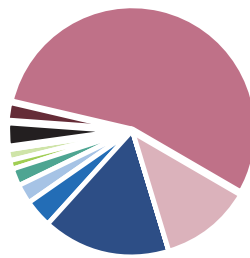
Stoel Rives client Mindray Medical International is one China-based company that is aggressively growing its U.S. portfolio. This medical device firm, with a research center in Seattle, currently holds 77 U.S. patents and has hundreds of patent applications in the USPTO pipeline. “We’re increasing our U.S. patent filings as fast as we can,” reports Jeffrey Pearce, Mindray’s assistant general counsel of intellectual property. He attributes this development to two factors. First, Mindray is expanding its U.S. operations. Second, in the United States businesses holding U.S. patents are quick to sue competitors for infringement. Accumulating U.S. patents can provide a valuable defense against such suits. “We have U.S. patents because we want to fight back,” says Pearce.

Future U.S. Patent Activity

Given the still struggling global and U.S. economies, there may be some question as to whether the total number of issued U.S. patents will continue to grow. According to Darlene Slaughter, general manager of IFI CLAIMS Patent Services,⁸ “[t]he tremendous increase in patent issues in 2010 suggests that so far the economy doesn’t appear to have slowed patent flow significantly in the U.S. Another important factor is the stepped up effort of the USPTO to improve turnaround times and its five-year strategic plan to increase efficiencies and reduce pendency. The bottom line: there is still a backlog of patents pending but the number of grants continues to grow even after a period of economic downturn.”⁹

⁸ IFI CLAIMS Patent Services, a division of Fairfield Research, provides data-enrichment technology and services for technical information retrieval and analysis, including text-searchable databases of U.S. patents.

⁹ <http://www.ificlaims.com/news/top-patents.html>.



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Domestic Patent Activity: U.S. Patent Awards to U.S.-Resident Inventors

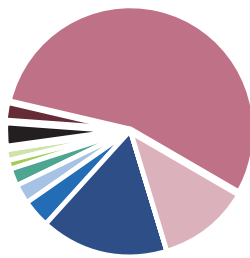
The following table shows the number and annual percentage change for U.S. patents issued to U.S.-resident inventors (domestic patents) for the years 2005-2010.

Year	Number of Patent Issued	Percentage Change
2010	121,179	27.5
2009	95,038	3.3
2008	92,000	-1.8
2007	93,690	-8.4
2006	102,267	23.8
2005	82,586	n/a

After declining in 2007, the number of domestic patents issued in 2008 and 2009 remained fairly constant, then rose significantly in 2010. In fact, the number of domestic patents awarded in 2010 by the USPTO was the most ever in a single year.

But the number of patent *applications* filed by U.S.-resident inventors has declined. In 2009, the last year for which USPTO statistics are available, 224,912 applications were filed, compared with 231,588 in 2008 and 241,347 in 2007.¹⁰ This decline may be a byproduct of the recent recession, with U.S. companies cutting back on the type of R&D spending that generates patent applications. Also, as a cost-reduction strategy, companies may be combining what once would have been separate patent applications for an invention into a single application.

¹⁰ U.S. Patent Statistics Chart Calendar Years 1963-2010.



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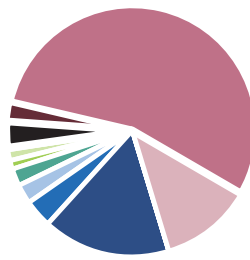
Washington Patent Activity

The following table lists the top five Washington patent awardees in 2010 and the number of patents issued to each. Microsoft Corporation, by far Washington's most patent-prolific awardee, accounted for 42 percent of the state's patent activity.

Top Five Patent Awardees in Washington: 2010

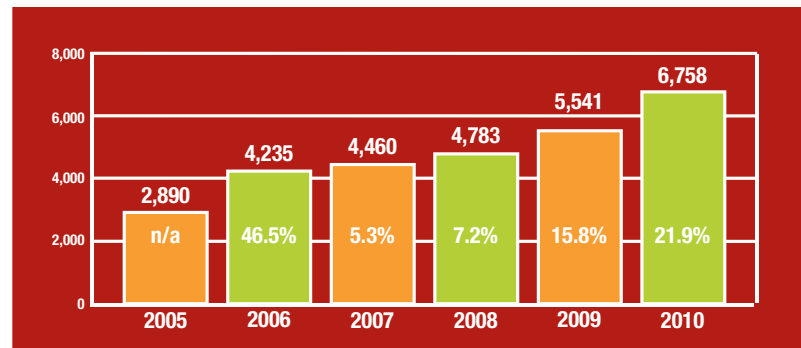
Company or Organization	Number of Patents
Microsoft Corporation	2,844
The Boeing Company	360
Sharp Laboratories of America	125
Amazon Technologies, Inc.	119
Intel Corporation	104

As shown in the table below, the number of patents awarded to Washington companies has steadily increased since 2005. Indeed, the 6,758 patents awarded in 2010 were the most ever for a single year. Between 2005 and 2010, the number of issuances rose by a remarkable 133.9 percent. That is more than double the increase (54.9 percent) in all U.S. patents issued during the same period, and it is nearly three times the increase in all domestic patents issued (46.7 percent).



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Annual Number and Percentage Change for Washington Patents: 2005-2010

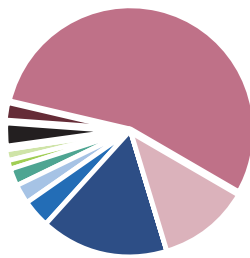


Three additional findings stand out in Washington's 2010 patent activity.

1. According to the USPTO, Washington companies received 4.8 percent of all domestic patents issued in 2010. Though slightly less than the 5.2 percent received in 2009, Washington remained the fourth highest-ranked state in patent awards, behind California, New York and Texas, and ahead of Massachusetts.¹¹
2. As noted earlier, Microsoft Corporation, the leader in Washington patent activity, continued to generate a substantial number of U.S. patents. Its 2,844 Washington patents in 2010 reflect a percentage growth of 4.9 percent compared to 2009.
3. The 2010 State New Economy Index (New Economy Index) ranked Washington second among all the states in the number of patents issued to companies or individuals per 1,000 workers, behind only sparsely populated Idaho.¹²

¹¹ Patent Trends 2010.

¹² http://www.kauffman.org/uploadedfiles/snei_2010_report.pdf. The New Economy Index is published by the Ewing Marion Kauffman Foundation and the Information Technology and Innovation Foundation.



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U.S. Patent Applications: Number and Impact

Patents granted by the USPTO in any year are the product of applications filed in earlier years. The following table contains (a) the total number of applications filed with the USPTO from 2004 to 2009 (the latest year for which statistics are available) and (b) statistics for Washington applications.

Patent Applications Filed and Percentage Change for (a) Total U.S. Patent Applications and (b) Washington Patent Applications: 2004–2009

Year	Total U.S. Patent Applications Filed	Percentage Change in Total U.S. Patent Applications	Number of Washington Patent Applications Filed	Percentage Change in Washington Patent Applications
2009	482,871	>1%	12,919	2.5%
2008	485,312	<1%	12,602	12.8%
2007	484,955	7.1%	11,163	6.9%
2006	452,633	8.4%	10,444	2.9%
2005	417,508	9.2%	10,149	26.3%
2004	382,139	n/a	8,033	n/a

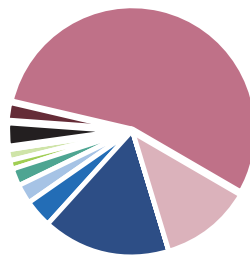
These statistics do not reflect any consistent pattern in the year-to-year growth of all U.S. patent applications compared to applications filed by Washington companies. But a significant disparity emerges when comparing cumulative increases. From 2004 to 2009, total U.S. patent applications grew 26.3 percent while Washington applications grew 60.8 percent.

Effect of Pendency

More patent applications usually lead to more patents. But more applications can also create a backlog at the USPTO. This backlog increased slightly in 2010 with 1,245,574 patent applications pending at the end of that year versus 1,207,794 at the end of 2009.¹³ Backlog in turn affects pendency. (“Pendency” refers to the period that begins when a patent application is filed and ends when a patent is issued or denied.)

As the following table shows, in 2010 average first action pendency (time required for initial review of a

¹³ <http://uspatentstatistics.com/averagependenciestechcenter.html> (USPTO 2010 Pendency Patent Stats). These figures do not include design patents, which have a much shorter pendency of 18 months.



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patent application) was 25.7 months versus 25.8 months for 2009. Total average pendency (time required for a complete review) was 35.3 months for 2010. For 2009, it was 34.6 months.¹⁴ In other words, for 2010 those two measures of pendency were virtually unchanged from 2009.

USPTO 2010 Patent Pendency Statistics¹⁵

Category	Average First Action Pendency (months)	Average Total Pendency (months)
Total UPR (Utility, Plant and Reissue)	25.7	35.3
Biology and Organic Chemistry	22.8	36.0
Chemical and Material Engineering	25.7	37.4
Computer Architecture, Software & Information Security	29.3	42.5
Networks, Multiplexing, Cable & Security	27.5	42.7
Communications	32.0	42.9
Semiconductor, Electrical, Optical Systems & Components	20.7	30.6
Transportation, Construction, Agriculture & Electrical Commerce	25.5	35.7
Mechanical Engineering, Manufacturing & Products	27.7	38.4

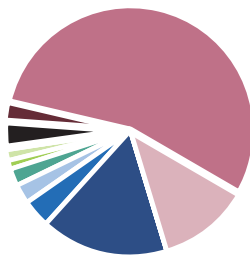
One objective in the USPTO's 2010-2015 Strategic Plan is to increase patent application examination capacity by taking various steps, including (1) hiring approximately 1,000 examiners in both fiscal year 2011 and fiscal year 2012, (2) targeting overtime to high backlog technology areas and (3) reducing examiner attrition by developing mentoring, best practices and retention strategies.¹⁶

Assessing pendency's impact on Washington patent activity is difficult because pendency varies by invention category. However, the USPTO's computer architecture, software & information security category, analogous to the Stoel Rives' computer science/business methods invention category, is worth noting. (For more information on Stoel Rives' patent invention categories, see the next section of this report.) In 2010, this USPTO category, which has one of the longest pendencies (42.5 months), accounted for more than half (54.6 percent) of all Washington patents.

¹⁴ USPTO 2010 Patent Pendency Stats.

¹⁵ USPTO 2010 Patent Pendency Stats.

¹⁶ http://www.uspto.gov/about/stratplan/USPTO_2010-2015_Strategic_Plan.pdf.



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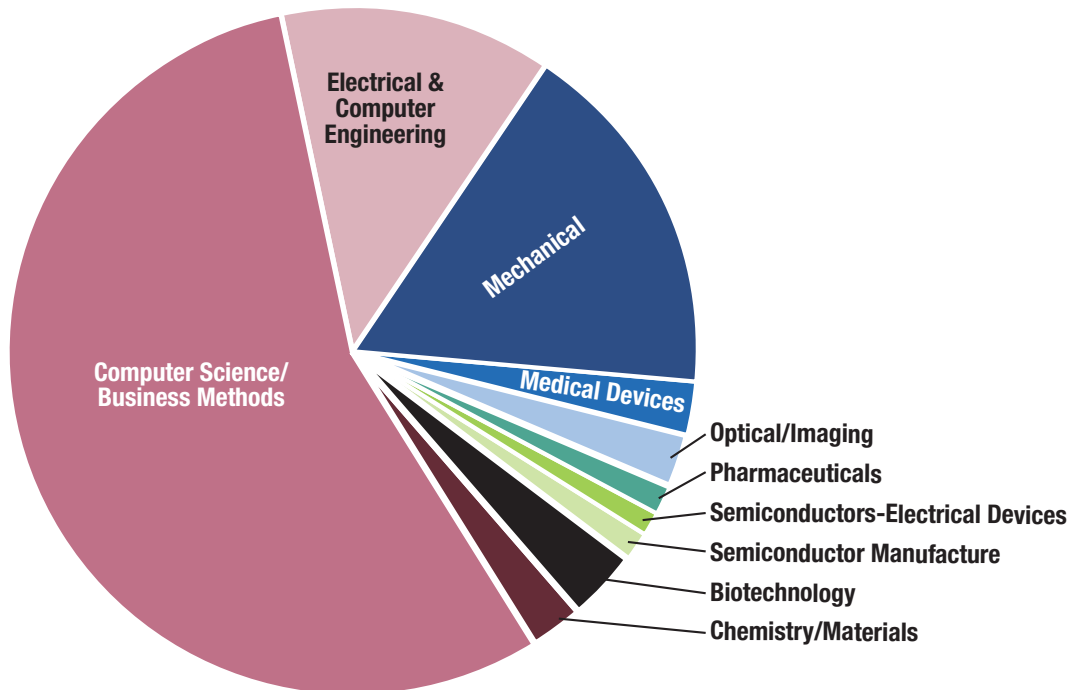
Analyzing Washington Patent Activity by Invention Category

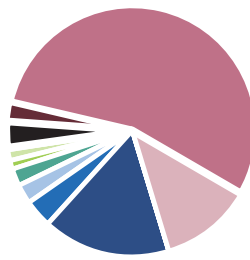
Stoel Rives has classified Washington's patent activity into 10 invention fields or categories. These categories have a natural correlation with industry leaders and business sectors that play significant roles in Washington's economic development.

The following pie chart illustrates the percentage of 2010 Washington patents in each of the 10 categories.

Percentage of 2010 and 2009 Washington Patents Attributable to Stoel Rives' 10 Invention Categories *(the figures below are rounded to the nearest 10th)*

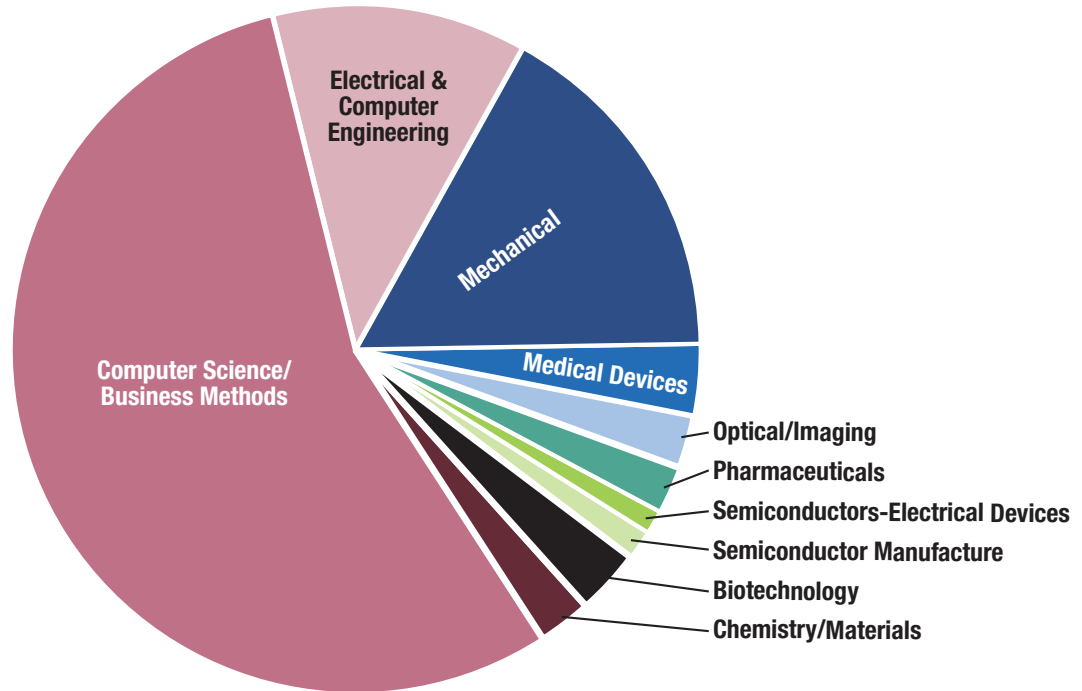
2009 Washington Patents by Category



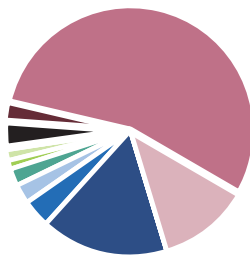


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2010 Washington Patents by Category



Category	Percentage of 2009 Washington Patents	Percentage of 2010 Washington Patents
Biotechnology	3.2%	3.5%
Chemistry/Materials	2.5%	2.3%
Computer Science/Business Methods	54.8%	54.8%
Electrical & Computer Engineering	11.8%	12.5%
Mechanical	16.4%	16.8%
Medical Devices	3.4%	2.3%
Optical/Imaging	2.4%	2.4%
Pharmaceuticals	2.3%	1.5%
Semiconductors-Electrical Devices	1%	<1%
Semiconductor Manufacture	1.3%	1.3%



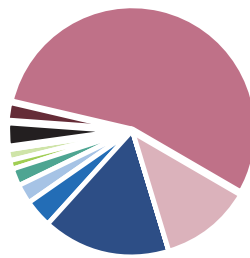
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In 2010, as in recent years, nearly three-quarters of Washington patents were awarded in just two categories: computer science/business methods (54.8 percent) and mechanical (16.8 percent). The large number of computer science/business methods patents is attributable primarily to Microsoft Corporation. In 2010, it received 2,574 patents in this category, accounting for 69 percent percent of all Washington patents in the category. Together, Microsoft Corporation and The Boeing Company received 216 mechanical patents, a 19 percent share of that category.

The following table reflects the percentage change in Washington patents from 2009 to 2010, by invention category.

Percentage Change in Washington Patent Awards from 2009 to 2010				
Category	2009 Washington Patents Issued	2010 Washington Patents Issued	Percentage Difference	
Biotechnology	181	243	34.2%	
Chemistry/Materials	126	185	46.8%	
Computer Science/Business Methods	3,117	3,706	18.8%	
Electrical & Computer Engineering	697	798	14.4%	
Mechanical	918	1,140	24.2%	
Medical Devices	129	234	81.3%	
Optical/Imaging	133	167	25.5%	
Pharmaceuticals	88	159	80.6%	
Semiconductors-Electrical Devices	48	70	45.8%	
Semiconductor Manufacture	73	88	20.5%	

The number of patents issued in 2010 rose in all 10 in categories. Some increases are dramatic: 81 percent in medical devices, 80.6 percent in pharmaceuticals and 46.8 percent in chemistry/materials.

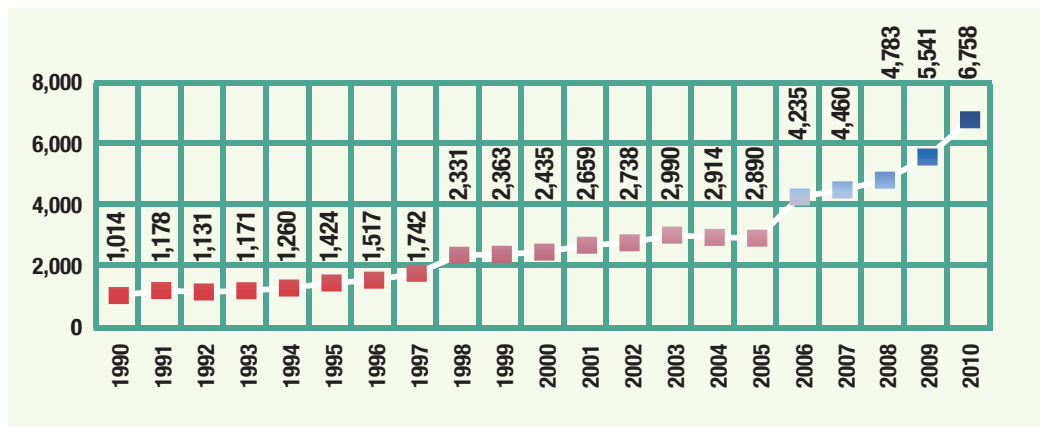


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Washington's Long-Term Patent Growth

The graph below illustrates Washington's consistent, long-term patent growth. For example, in 2010, the number of Washington patents awarded—6,758—is 177.5 percent greater than the 2,435 awarded in 2000. And the 2010 figure represents a nearly six-fold increase over 1990, when just 1,014 Washington patents were issued.

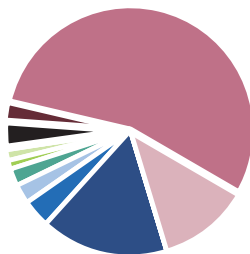
Growth in Washington Patents, 1990–2010



During the past 20 years, there have been only four year-to-year declines in the state's patent growth—1989-1990, 1991-1992, 2003-2004 and 2004-2005—and none represented a significant drop-off. Washington's patent growth has been particularly strong since 2006, when the number of patents issued—4,235—represented an increase of 46.5 percent over the 2,890 patents issued the prior year.

Some factors that account for Washington's robust long-term growth include the following:

- Software giant Microsoft Corporation, which has annually created an exceptionally large number of Washington patents—42 percent of all Washington patents in 2010.
- Other large companies, such as The Boeing Company and Intel Corporation, which annually generate significant numbers of Washington patents.
- The University of Washington, which annually receives the most research money—more than \$1 billion—of any U.S. public university, as well as other research institutions like Washington State University and Pacific Northwest Laboratories.
- Increased patent applications for Washington patents.
- An exceptionally strong and growing technology sector that generates patentable innovations.
- A highly educated workforce.



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Health of Washington's Economy and Technology Sector

Washington's patent activity depends heavily on the state's technology sector, which generates the vast majority of Washington patents. The sector's health in turn depends on the state's economy: a strong economy creates and fosters the growth of technology companies that spur innovation and patents. Like most states, Washington has been hurt by the recession. As of July 2011, statewide unemployment was 9 percent¹⁷

The following list includes factors—many positive, some negative—that bear on the health of the state's economy and its technology sector.

1. Strong public companies, including Microsoft Corporation and The Boeing Company, which generate significant numbers of patents. A recent University of Washington study¹⁸ found that Microsoft Corporation accounted for 13.6 percent of the state's gross product in 2008. The same year, Microsoft was the state's second-largest private employer, with 39,300 local employees. (The Boeing Company is number one.)
2. The University of Washington is a significant generator of innovative research, producing patentable technology that is licensed to the private sector.
3. In its 2010 list of The Best States for Business and Career, Forbes.com ranked Washington fifth. Although Washington fell from second in 2009 to fifth in 2010, it scored high in two key ranking metrics: labor supply (second) and growth prospects (four). Less favorably ranked metrics were business costs (28) and quality of life (29).¹⁹
4. In January 2009, *U.S. News & World Report* magazine selected Washington as the best of seven states to start a business and said this about the state:

"Washington is first among the states in steps toward energy efficiency and using more alternative-energy sources. It also has a highly productive manufacturing sector, signaling high wages and a tech-intensive economy. Washington leads the nation in value added per production hour as a percentage of the national average—the difference in value between inputs in the production process and the value of the units as finally sold. But in addition to these nonpolitical factors, Washington also has very low taxes, making the costs of growing a business quite low. It does not have its own income or capital-gains taxes, either personal or corporate."²⁰

5. The New Economy Index ranked Washington second of all the states in having a structure that best matches the ideal structure of the New Economy,²¹ which is global, entrepreneurial and knowledge-based and in which the keys to success lie in the extent to which knowledge, technology and innovation are embedded in products and services.

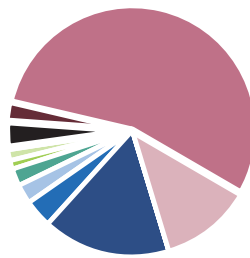
17 http://www.google.com/publicdata?ds=usunemployment&met_y=unemployment_rate&idm=state:ST530000&dl=en&hl=en&q=washington+state+unemployment.

18 <http://blog.seattlepi.com/microsoft/2010/04/09/uw-study-microsoft-accounts-for-13-6-of-wash-economy/>.

19 <http://www.forbes.com/2010/10/13/best-states-for-business-business-beltway-best-states-table.html>.

20 <http://www.usnews.com/articles/business/small-business-entrepreneurs/2009/01/06/the-7-best-states-to-start-a-business.html?PageNr=1>. The other six states, in order of rank, were Virginia, Colorado, Texas, Nevada, Utah and Florida.

21 The overall rankings are based on 26 indicators to capture what is new about the New Economy: knowledge jobs, globalization, economic dynamism, transformation to a digital economy and technical innovation capacity.



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6. A CNBC special report, America's Top States for Business 2010, ranked Washington 15th among all the states. Washington scored eighth on quality of life and fifth on access to capital and on technology and innovation. However, the state ranked 33rd on cost of business, 35th on transportation and 34th on business friendliness.²²
7. According to the Tax Foundation's 2011 State Business Tax Climate Index,²³ Washington has the 11th best business tax climate of all the states.
8. In its second quarter 2010 venture capital Outlook Survey (the latest available at the time of this report), the Washington Technology Industry Association reported that the economy continues to be the number one concern of Washington's Venture Capital (VC) community. However, "[c]autious optimism may be indicated by improvements in the predictions of moderate revenue growth and the absence of layoffs. For the first time since 2009 [VC] firms are predicting that they will be making C-round investments, which may indicate growing confidence in companies that have weathered the economic storm thus far."²⁴
9. A 2010 Brookings Institute report listed the nation's 21 most recession-proof metro areas. None are in Washington.²⁵
10. Washington has a strong and growing life sciences industry. According to a 2011 article in Xconomy, "Across Washington State, 72 cities host life science and research companies, which create more than 25,000 jobs directly linked to life sciences and 55,000 indirect jobs."²⁶
11. Washington slipped from fifth in 2009 to sixth in the State Technology and Science Index 2010. Published by the Milken Institute, the index uses 79 indicators to provide a nationwide benchmark for states to assess their science and technology capabilities, along with their ecosystems for converting them into companies and high-paying jobs. Washington, however, scored an impressive third in technology concentration and dynamism. The index attributed the score to Microsoft Corporation and its spin-offs, along with other start-up firms, positioning the Seattle area as one of the global centers of software. Washington also scored fourth in technology science workforce and sixth in R&D inputs. But, the index pointed out, "the state's overall score suffered most from a six-spot decline to 21st in human capital capacity. Washington was at its weakest in various measures of state appropriations for higher education, and in graduate students in science, engineering, and health sciences."²⁷
12. The Milken Institute's annual Best-Performing Cities index measures which U.S. metropolitan areas are most successful in job creation and retention, the quality of jobs being produced and overall economic performance. It pinpoints where jobs are being created and maintained, where wages and salaries are increasing, and where economies and businesses are growing and thriving. According to the index, "[a] best-performing city is one that [is] able to minimize job losses and economic dislocations in the midst of a severe national recession."²⁸

22 <http://www.cnbc.com/id/37516043/>.

23 <http://www.taxfoundation.org/research/show/22658.html>.

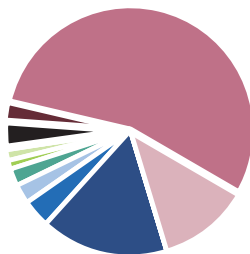
24 http://www.washingtontechnology.org/documents/pressreleases/VCOS_Q310.pdf.

25 http://money.cnn.com/2010/06/22/news/economy/recession_proof_cities/index.htm. These 21 large metro areas were singled out by Brookings for keeping their labor and housing markets stable and posting robust economic activity during the past few years.

26 <http://www.xconomy.com/seattle/2011/02/18/washingtons-innovation-corridor-a-key-to-recovery/>.

27 <http://www.milkeninstitute.org/publications/publications.taf?function=detail&ID=38801259>.

28 <http://www.milkeninstitute.org/pdf/bpc2010.pdf>



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The following table shows how Washington's six metro areas in the index's 200 largest-cities category ranked in 2009 and 2010.

The Milken Institute's Annual Best-Performing Cities Index, Largest Cities Category: Washington's Six Metro Areas

Metro Area	2009 Rank	2010 Rank
Kennewick-Richland-Pasco, WA	5	5
Olympia, WA	7	36
Portland-Vancouver-Beaverton, OR-WA	37	107
Seattle-Bellevue-Everett, WA	37	17
Spokane, WA	41	74
Tacoma, WA	47	21

These rankings present a mixed picture. Kennewick-Richland-Pasco held on to its 2009 number five spot, Seattle-Bellevue-Everett fell 20 places and Portland-Vancouver-Beaverton, OR-WA plummeted 70 places.

Although the foregoing factors include negatives, on balance Washington's economy and technology sector appear to be healthier than those of most other states.

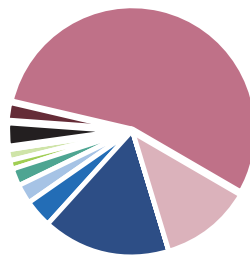
Clusters

For years, scholars have advocated for a cluster approach to economic development policy.²⁹ As explained in a 2010 Brookings report,

"An industry cluster ... is a geographic concentration of firms, suppliers, coordinating entities, and related institutions in a particular field that arises and grows because of the mutual benefits they derive from proximity and the powerful synergies it makes possible, whether of knowledge exchange, mutual access to skilled labor pools, or the use of shared public goods. Thanks to those synergies and efficiencies, clusters are signal features of the 'real' economy that have the power to enhance the performance of the economy; deliver higher returns on taxpayer investments in economic development; and enlist bipartisan support at a time of gridlock."³⁰

29 Much of the recent cluster movement has been championed by Peter Porter of Harvard Business School, who wrote the 1990 book *The Competitive Advantage of Nations*.

30 Mark Muro & Bruce Katz, Metropolitan Policy Program at Brookings, The New 'Cluster Moment': How Regional Innovation Clusters Can Foster the Next Economy (Sept. 2010), http://www.brookings.edu/~media/Files/rc/papers/2010/0921_clusters_muro_katz/0921_clusters_muro_katz.pdf.



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Industry clusters spur innovation potential, encourage entrepreneurship and ultimately promote growth in productivity, wages and jobs.

Most experts in Washington's economic development policy arena agree that industry cluster strategy is key to the state's economic vitality. Two congruent approaches have been used to identify clusters. The first focuses on strategic clusters that identify thriving industry groups that, within a region, offer ample employment opportunities. The Washington Training and Education Coordinating Board has identified 12 such regional areas. The second approach, which is being led by the Washington EDC,³¹ focuses on emergent innovation clusters. According to *Coordinating Workforce and Economic Development around Strategic Industry Clusters*, "[I]nnovation clusters represent early-stage economic activity driven by a distinct collection of knowledge, intellectual property, workforce talent, new products, and process development aimed at delivering radically new value propositions to customers worldwide."³²

Strategic clusters are constructed from *past data*, and they follow a traditional taxonomy. Innovation clusters, in contrast, look to the *future*.

The EDC has identified 14 of these clusters: Cloud Computing, Advanced Materials, Environmental Technology, Freight Mobility, Smart Grid, Health IT, Electric Vehicle, Nanophotonics, Global Development, Advanced Manufacturing, Value Add Food Processing, Defense Technology, Biomedical Device and Clean Tech.³³ EDC Executive Director Egils Milbergs explains that "innovation clusters are fuzzy. It is not clear what the real products and services will be. Advanced materials clusters, for example, could fit into aerospace or many other industries."

A key cluster theme is commercialization, adds Milbergs. "We want to let people know that we're not just obtaining patents and doing research, but moving patents and ideas into the market place." An example: the University of Washington's Center For Commercialization (C4C). Since 2005, C4C has supported the commercialization of more than 100 projects, provided comprehensive mentoring and over \$4 million in grants, and helped spin off new companies. These include Fate Therapeutics, EnerG2, MicroGREEN Polymers and Farecast. Creating spinoffs and enhancing the ability of innovators to commercialize their innovations foster patent development.

According to Chris Rivera, president of the Washington Biotechnology & Biomedical Association, "Increased emphasis on 'commercialization' at our research institutes may be contributing to an upward trend in the number of patents in the life sciences sector, which includes oncology, immunology and medical devices." For example, 159 U.S. pharmaceutical patents were awarded to Washington life sciences companies in 2010, twice as many as the 80 awarded in 2008.

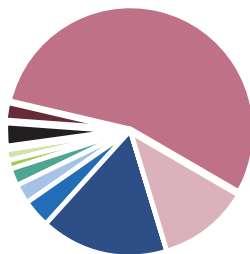
In addition to commercialization, other factors that make Washington State an ideal place for life sciences companies, according to Rivera, include a vibrant life sciences sector, lower business expenses than California and Massachusetts, and the state's proximity to Asia and the western United States. In a recent article in *Xonomy*, Rivera notes that life sciences and research companies are currently based in 72 Washington cities, supporting more than 25,000 direct jobs and an additional 55,000 indirect jobs.³⁴

31 The EDC advises the governor and the legislature on policies that foster growth in the state's innovation economy; for example, what barriers to growth need to be eliminated.

32 *Coordinating Workforce and Economic Development around Strategic Industry Clusters: A Progress Report on Substitute House Bill 1323* (Dec. 15, 2010), <http://www.wtb.wa.gov/Documents/1323ReportCoordinationofWorkforceandEconomicDevelopment.pdf>.

33 See *supra* note 31

34 See *supra* note 25



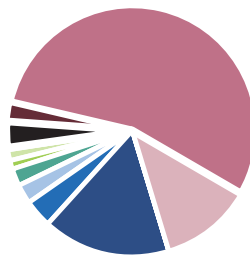
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Top Five U.S. Patent Awardees in Washington: 2006-2010

Company	2010	2009	2008	2007	2006
Microsoft Corporation	2,844	2,711	2,043	1,807	1,386
The Boeing Company	360	285	224	197	239
Sharp Laboratories of America	125	76	111	144	139
Amazon Technologies, Inc.	119	*	*	*	*
Intel Corporation	104	78	110	112	94
Zymogenetics, Inc.**	*	73	*	*	*
Hewlett-Packard Development Company, L.P.	*	*	90	78	129

* Not among the top five patent awardees for this year.

** ZymoGenetics was acquired in October 2010 by Bristol-Myers Squibb.

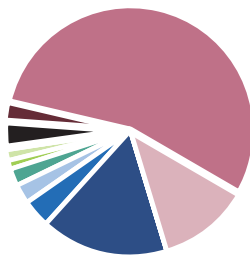


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Top Five U.S. Patent Awardees in Washington by Invention Category: 2006-2010

Company	BIOTECHNOLOGY				
	2010	2009	2008	2007	2006
ZymoGenetics, Inc.	25	62	18	26	16
The University of Washington	21	13	11	6	12
Immunex Corporation	19	11	16	23	19
Battelle Memorial Institute	11	*	3	*	*
The Invention Science Fund, LLC	10	*	*	*	*
Epoch Biosciences, Inc.	*	6	4	*	*
UCB	*	5	*	*	*
Washington State University Research Foundation	*	*	4	*	*
Pioneer Hi-Bred International, Inc.	*	*	3	*	*
Collectricon AB	*	*	3	*	*
Weyerhaeuser Company	*	*	*	5	*
Cell Therapeutics, Inc.	*	*	*	4	4
Rosetta Inpharmatics LLC	*	*	*	*	5
Corixa Corporation	*	*	*	*	4

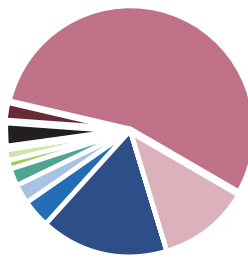
* Not among the top five patent awardees for this year



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CHEMISTRY/MATERIALS						
Company	2010	2009	2008	2007	2006	
The Boeing Company	32	22	9	*	5	
Battelle Memorial Institute	16	15	7	10	20	
Weyerhaeuser Company	9	7	9	9	15	
Abbott Diabetes Care, Inc.	6	*	*	*	*	
Velocys, Inc.	4	*	2	*	*	
Isoray Medical, Inc.	*	4	*	*	*	
University of Washington	*	4	2	6	8	
Sharp Laboratories of America	*	4	2	3	*	
Studsvik, Inc.	*	3	*	*	*	
Genesis Fueltech, Inc.	*	*	3	*	*	
GE Ionics, Inc.	*	*	2	*	*	
Potlatch Corporation	*	*	2	*	*	
Graphic Packaging International, Inc.	*	*	2	*	*	
Lumera Corporation	*	*	2	4	7	

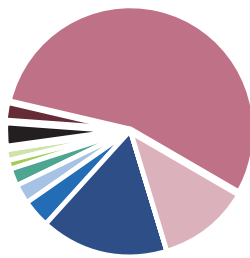
* Not among the top five patent awardees for this year.



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COMPUTER SCIENCE/BUSINESS METHODS						
Company	2010	2009	2008	2007	2006	
Microsoft Corporation	2574	2412	1766	1633	1241	
Amazon Technologies, Inc.	110	45	*	*	*	
The Boeing Company	76	48	30	40	48	
Sharp Laboratories of America	75	50	62	70	45	
Intel Corporation	63	52	69	70	46	
Hewlett-Packard Development Company, L.P.	*	*	32	*	36	
Cingular Wireless II, LLC	*	*	*	23	*	

* Not among the top five patent awardees for this year.



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ELECTRICAL AND COMPUTER ENGINEERING

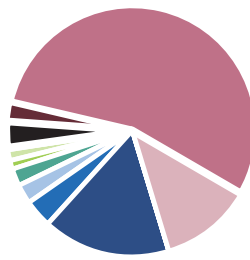
Company	2010	2009	2008	2007	2006
Microsoft Corporation	188	189	155	58	75
The Boeing Company	82	86	61	50	50
Intel Corporation	25	21	22	23	31
The Invention Science Fund	21	*	*	*	*
AT&T Intellectual Property	*	21	*	*	*
Honeywell International Inc.	20	20	18	*	*
Hewlett-Packard Development Company, L.P.	20	*	*	*	31
AT&T Mobility II Inc.	*	*	21	*	*
Impinj Inc.	*	*	*	19	*
Cypress Semiconductor Corporation	*	*	*	13	20
Sharp Laboratories of America	*	*	*	*	31
Battelle Memorial Institute	*	*	*	*	17
Cingular Wireless II, LLC	*	*	*	*	17

* Not among the top five patent awardees for this year.

MECHANICAL

Company	2010	2009	2008	2007	2006
The Boeing Company	153	112	107	92	130
Microsoft Corporation	63	81	108	95	57
Mikron Industries, Inc.	*	23	*	24	*
Pacific Market International, LLC	46	18	*	*	*
Chef'n Corporation	31	14	27	*	*
Hewlett-Packard Development Company, L.P.	*	14	*	30	46
Slam Brands, Inc.	29	*	*	*	*
Progressive International Corporation	*	*	30	31	18
Oakley, Inc.	*	*	21	*	*
IP Holdings, LLC	*	*	*	30	*
PACCAR, Inc.	*	*	*	*	18
Nike Inc.	*	*	*	*	16

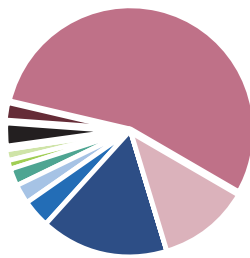
* Not among the top five patent awardees for this year.



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MEDICAL DEVICES					
Company	2010	2009	2008	2007	2006
Cardiac Dimensions, Inc.	26	11	6	5	*
Siemens Medical Solutions USA, Inc.	12	11	6	2	*
University of Washington	11	8	2	2	*
Cameron Health, Inc.	9	4	10	9	14
Koninklijke Philips Electronics N.V.	9	4	3	*	9
Boston Scientific Scimed, Inc.	8	*	*	2	*
Advanced Neuromodulation Systems, Inc.	8	4	*	*	*
Medtronic Emergency Response Systems	*	6	*	*	7
Sonosite, Inc.	*	5	*	*	*
Amnis Corporation	*	4	*	*	*
Cardiac Pacemakers, Inc.	*	*	7	*	*
Ekos Corporation	*	*	3	3	*
Northstar Neuroscience, Inc.	*	*	2	5	*
Isoray Medical, Inc.	*	*	2	*	*
Microvision, Inc.	*	*	2	*	*
SpineCore, Inc.	*	*	*	3	8
Acorn Cardiovascular, Inc.	*	*	*	3	4
Cardiac Intelligence Corporation	*	*	*	3	*
Spiration, Inc.	*	*	*	3	*
American Healthcare Products, Inc.	*	*	*	2	*
Calypso Medical Technologies, Inc.	*	*	*	2	*
Medtronic Physio-Control Manufacturing Corp.	*	*	*	2	*
Siemens Medical Solutions USA, Inc.	*	*	*	2	*

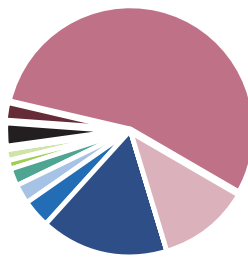
* Not among the top five patent awardees for this year.



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OPTICAL/IMAGING						
Company	2010	2009	2008	2007	2006	
Hewlett-Packard Development Company, L.P.	29	18	24	16	13	
Microvision, Inc.	17	14	9	11	*	
University of Washington	12	*	*	8	*	
Microsoft Corporation	10	16	*	21	11	
Lockheed Martin Corporation	9	*	*	*	*	
The Boeing Company	9	8	13	11	6	
The Invention Science Fund I, LLC	9	*	*	*	*	
Searete, LLC	*	13	9	8	*	
Mitutoyo Corporation	*	*	12	*	10	
Aculight Corporation	*	*	10	*	*	
Sharp Laboratories of America	*	*	*	10	15	

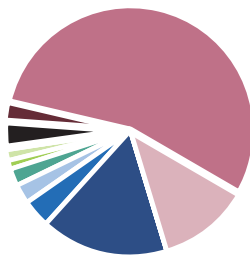
* Not among the top five patent awardees for this year.



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OPTICAL/IMAGING						
Company	2010	2009	2008	2007	2006	
ZymoGenetics, Inc.	24	11	9	7	18	
Seattle Genetics, Inc.	14	5	*	*	*	
University of Utah Research Foundation	12	*	*	*	*	
Metaproteomics, LLC	9	*	*	*	*	
Immunex Corporation	7	*	3	8	9	
University of Washington	*	6	3	3	*	
Corixa Corporation	*	5	7	4	14	
Choongwae Pharma Corporation	*	4	*	*	*	
Genzyme Corporation	*	4	3	*	*	
Cell Therapeutics, Inc.	*	3	*	*	*	
Myriad Genetics, Inc.	*	*	3	*	*	
Gilead Sciences, Inc.	*	*	3	*	*	
Elan Pharmaceuticals, Inc.	*	*	3	*	*	
AnorMED, Inc.	*	*	2	3	*	
The Board of Trustees of The Leland Stanford Junior University	*	*	2	*	*	
Bristol-Myers Squibb Company	*	*	2	*	*	
Nastech Pharmaceutical Company Inc.	*	*	*	7	*	
AVANIR Pharmaceuticals	*	*	*	3	*	
MediQuest Therapeutics, Inc.	*	*	*	3	*	
Lilly Icos LLC	*	*	*	*	7	
NeoRx Corporation	*	*	*	*	5	

* Not among the top five patent awardees for this year.



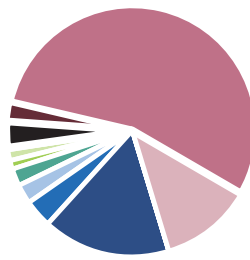
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SEMICONDUCTORS - ELECTRICAL DEVICES

Company	2010	2009	2008	2007	2006
Virage Logic Corporation	9	4	**	**	**
Microsoft Corporation	6	2	**	**	**
Leviton Manufacturing Company, Inc.	6	3	**	**	**
Fluke Corporation	5	*	**	**	**
Spansion LLC	5	*	**	**	**
Cypress Semiconductor Corporation	4	2	**	**	**
The Boeing Company	4	4	**	**	**
Intel Corporation	3	*	**	**	**
Broadcom Corporation	3	*	**	**	**
Interconnect Portfolio LLC	3	*	**	**	**
Cadence Design Systems, Inc.	*	2	**	**	**
Element CXI, LLC	*	2	**	**	**
University of Washington; Microsoft Corporation	*	2	**	**	**
Unity Semiconductor Corporation	*	2	**	**	**
Xilinx, Inc.	*	2	**	**	**
Samtec, Inc.	*	2	**	**	**
PACCAR, Inc.	*	2	**	**	**
Mechanical Answers, LLC	*	2	**	**	**
Utilix Corporation	*	2	**	**	**

* Not among the top five patent awardees for this year.

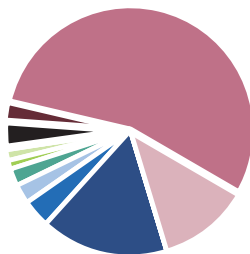
** Information prior to 2009 not available for this category.



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SEMICONDUCTOR MANUFACTURE					
Company	2010	2009	2008	2007	2006
Sharp Laboratories of America	28	15	41	51	39
Honeywell International, Inc.	5	4	7	*	*
Intel Corporation	5	*	11	8	4
Interconnect Portfolio LLC	4	*	*	*	*
Searete LLC	3	*	*	*	*
The Boeing Company	3	*	*	*	*
Impinj, Inc.	2	*	*	2	*
Agilent Technologies, Inc.	2	*	*	*	*
Cypress Semiconductor Corporation	2	*	*	3	*
Cascade Microtech, Inc.	2	5	*	*	*
Ekos Corporation	2	*	*	*	*
Rudolph Technologies, Inc.	2	*	*	*	*
The Invention Science Fund, LLC	2	*	*	*	*
Organicid, Inc.	2	*	*	*	*
Microsoft Corporation	*	9	*	*	*
LSI Corporation	*	7	10	9	11
Xilinx, Inc.	*	*	5	*	*
University of Washington	*	*	*	3	*
Advantest Corporation	*	*	*	2	*
Intersil Americas, Inc.	*	*	*	2	*
Lumera Corporation	*	*	*	2	*
Tessera, Inc.	*	*	*	*	3
Applied Materials, Inc.	*	*	*	*	2
Battelle Memorial Institute	*	*	*	*	2
International Business Machines Corporation	*	*	*	*	2
Lam Research Corporation	*	*	*	*	2
National Semiconductor Corporation	*	*	*	*	2
Semitool, Inc.	*	*	*	*	2

* Not among the top five patent awardees for this year.



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Conclusion

Compared to most states—and many countries—Washington has a strong economy and a strong tech sector. In addition, the state has significant patent generators like Microsoft Corporation and The Boeing Company. And, despite a soft economy, Washington 2010 patent activity set new records. In short, there is reason to believe that in 2011, and at least for the near future, Washington's patent activity will continue to flourish.

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