

THOMSON REUTERS

TOP100

GLOBAL INNOVATORS

HONORING THE WORLD LEADERS IN INNOVATION

FINDINGS AND METHODOLOGY
2011



THOMSON REUTERS™



“INNOVATION DISTINGUISHES
BETWEEN A LEADER AND A
FOLLOWER.”

-Steve Jobs, Apple, Inc.

INNOVATION is the cornerstone of economic growth and success, for both the companies that innovate and the countries that embrace them.

For the past several years, talk about innovation has permeated news stories, corporate board rooms and government forums. No wonder the term “innovation” has become a buzz word of the 21st century, especially as companies and nations grapple with a shifting global economy, financial crises of unprecedented proportions and a desire to create the next era of opportunity for future generations.

These factors, in conjunction with the awareness at Thomson Reuters of the powerful insights that can be gleaned from studying patent information, prompted us to seize the moment and develop a program that measures innovation from an unbiased and scientific perspective.

Patent activity has always been an indicator of innovation. However, innovation comprises much more than mere patent filing volume. As such, we developed a range of metrics based on various facets of innovation that relate to patenting and science. The Thomson Reuters 2011 Top 100 Global InnovatorsSM are companies that invent on a significant scale; are working on developments which are acknowledged as innovative by patent offices across the world, and by their peers; and, whose inventions are so important that they seek global protection for them.

This award acknowledges innovation in its purest form. Being recognized as a Top 100 Global Innovator is a prestigious distinction. It confirms an organization's commitment to progressing innovation globally, to the protection of ideas and to the commercialization of inventions.

Thomson Reuters Top 100 Global Innovators are the world leaders in innovation.

METHODOLOGY

The methodology used to determine the 2011 Top 100 Global Innovators was developed by Thomson Reuters and approved by several IP-savvy, external organizations. While the final methodology is proprietary, we recognize the need for a deeper explanation of how the list was compiled.

The following is a closer look at the data used and how it was calculated and analyzed. Thomson Reuters Derwent World Patents Index[®] (DWPISM), Derwent Patents Citation Index[®], Quadrilateral Patent Index[™], and Thomson Innovation[®], the IP intelligence and collaboration platform, were utilized in our research and analysis. Comparative analysis was done using the Thomson Reuters Eikon platform, the single source for financial professionals to turn information into action.

The criteria for the Top 100 Global Innovator award are:

1: **SUCCESS**

Patenting an invention through one or more patent offices is expensive. Not all patent applications pass through the examination process and are granted. The success metric measures the ratio of published applications (those patents which are filed and publicly published by the patent office but not yet granted) to granted patents over the most recent three years.

2: **GLOBAL**

Protecting an invention in major world markets is an indication of the significant value a company places on its intellectual property. The number of “innovative” patents that have quadrilateral patents in their patent families, according to the Thomson Reuters Quadrilateral Patent Index, was calculated to create a ratio that shows which companies place a high value on their portfolios in major world markets. The quadrilateral patent authorities is comprised of the Chinese Patent Office, the European Patent Office, the Japanese Patent Office and the United States Patent and Trademark Office.

3: **INFLUENCE**

The impact of an invention “down the line” can be determined by looking at how often it is subsequently cited by other companies in their inventions. Through the Thomson Reuters Derwent Patents Citation Index database, we counted citations to each organizations’ patents over the most recent five years, excluding self-citations, and put a weighted value on this measurement of 50%.

4: **VOLUME**

This award focuses on companies that are responsible for generating a sizeable amount of innovation. All organizations with 100 or more “innovative” patents from the most recent three years were included in our analysis. An “innovative” patent is defined as the first publication in a patent document of a new technology, drug, business process, etc. In DWPI, these are called “basic” patents. DWPI provides a record of patents published by nearly 50 patent issuing authorities worldwide to enable a comprehensive picture of the innovation landscape. Subsequent filings for the same invention are recorded as “equivalents” in DWPI and collated in “patent families” and, for this analysis, were not included.

“Innovation is the primary source of economic growth, job creation and competitiveness in today’s global economy. An efficiently operating intellectual property system is critical to our ability to spur innovation and bring new services and products to the marketplace faster.”

*-Barack Obama, President, United States of America
on the America Invents Act*

KEY FINDINGS & ECONOMIC INFLUENCE

Thomson Reuters Top 100 Global Innovator companies are truly the world leaders of innovation and economic growth. A statement made about the recently signed America Invents Act can be applied globally with its proclamation that "Innovation is the primary source of economic growth, job creation and competitiveness in today's global economy. An efficiently operating intellectual property system is critical to our ability to spur innovation and bring new services and products to the marketplace faster. For investors, patents are strong indicators of market potential for new companies; and for inventors, they are often vital to attracting investment."¹

Using our proprietary data and analysis tools, coupled with the expertise of our IP Consulting Services team, we confirmed the value the Top 100 Global Innovators deliver to their shareholders, employees and the nations in which they reside:

- Top 100 Global Innovator companies added over 400,000 new jobs in 2010, a greater percent increase over 2009 than was experienced by the S&P 500
- The Market Cap Weighted Average revenue of the Top 100 Global Innovators increased by 12.9 percent, more than five percent more than the S&P 500 for the same period (2010 vs. 2009)
- Top 100 Global Innovator companies more than doubled the R&D spend of their S&P 500 counterparts
- 74.2 percent of the publicly-traded top 100 innovator companies had an increase in stock price year over year

Other key findings include:

- The United States leads the world in Semiconductor & Electronic Component Manufacturing
- Asia leads the world in Computer Hardware Manufacturing and Automotive Manufacturing
- Europe leads the world in Machinery Manufacturing and has more than half of the Top 100 Global Innovators in this category in Sweden
- France leads the world in Scientific Research and is the European nation with the most companies represented in the list

These and other findings are spelled out in more detail later in this report.

These points underscore the value for recipients of being a Thomson Reuters Top 100 Global Innovator. This designation proves that companies that invest in innovation, and protect and enforce their intellectual assets, are significantly more likely to contribute to economic growth, both within their organizations and the nations in which they reside.

¹ America Invents Act, commerce.gov, September 16, 2011

INTRODUCING THE THOMSON REUTERS TOP 100 GLOBAL INNOVATORS

COMPANY	COUNTRY	INDUSTRY
3M Company	USA	Chemical Manufacturing
ABB, Ltd.	Switzerland	Electrical Products Manufacturing
Advanced Micro Devices, Inc.	USA	Semiconductor & Electronic Component Manufacturing
Airbus	France	Aerospace Manufacturing
Alcatel-Lucent	France	Telecommunication Equipment Manufacturing
Alcon, Inc.	USA	Healthcare Product Manufacturing
Alfa Laval	Sweden	Machinery Manufacturing
Analog Devices, Inc.	USA	Semiconductor & Electronic Component Manufacturing
Apple, Inc.	USA	Telecommunication Equipment Manufacturing
Applied Materials, Inc.	USA	Machinery Manufacturing
Arkema	France	Chemical Manufacturing
ASML	Netherlands	Machinery Manufacturing
Atlas Copco	Sweden	Machinery Manufacturing
Avaya, Inc.	USA	Telecommunication Equipment Manufacturing
BASF	Germany	Chemical Manufacturing
Bayer	Germany	Pharmaceutical Manufacturing
Boeing	USA	Aerospace Manufacturing
Bristol-Myers Squibb Company	USA	Pharmaceutical Manufacturing
Brother Industries, Ltd.	Japan	Computer Hardware Manufacturing
Canon Inc.	Japan	Computer Hardware Manufacturing
Cheil Industries, Inc.	S. Korea	Chemical Manufacturing
Chevron U.S.A. Inc.	USA	Chemical Manufacturing
CNRS, The French National Center for Scientific Research	France	Scientific Research
Commissariat à l'énergie atomique	France	Scientific Research
Corning Incorporated	USA	Semiconductor & Electronic Component Manufacturing
Daikin Industries, Ltd.	Japan	Industrial Manufacturing
Denso Corporation	Japan	Transportation Equipment Manufacturing
Dow Chemical Company	USA	Chemical Manufacturing
DuPont	USA	Chemical Manufacturing

THE TOP 100 GLOBAL INNOVATORS

COMPANY	COUNTRY	INDUSTRY
Eaton Corporation	USA	Electrical Products Manufacturing
Ericsson	Sweden	Telecommunication Equipment Manufacturing
Ethicon Inc.	USA	Healthcare Product Manufacturing
Exxon Mobil Corporation	USA	Petroleum Manufacturing
Fanuc Ltd.	Japan	Electrical Products Manufacturing
Fujitsu Limited	Japan	Computer Hardware Manufacturing
General Electric Company	USA	Consumer Products Manufacturing
Goodyear Tire & Rubber Company	USA	Industrial Manufacturing
Hamilton Sundstrand Corporation	USA	Aerospace Manufacturing
Harris Corporation	USA	Telecommunication Equipment Manufacturing
Hewlett-Packard Company	USA	Computer Hardware Manufacturing
Hilti Corporation	Liechtenstein	Machinery Manufacturing
Hitachi, Ltd.	Japan	Computer Hardware Manufacturing
Hoffmann La Roche	USA	Healthcare Product Manufacturing
Honda Motor Company Ltd.	Japan	Automotive Manufacturing
Honeywell International Inc.	USA	Electrical Products Manufacturing
IFP Energies Nouvelles	France	Scientific Research
Intel Corporation	USA	Semiconductor & Electronic Component Manufacturing
International Business Machines Corporation	USA	Computer Hardware Manufacturing
Japan Aviation Electronics Industry, Ltd.	Japan	Semiconductor & Electronic Component Manufacturing
Konami Digital Entertainment Co., Ltd.	Japan	Computer Software Manufacturing
LG Electronics Inc.	S. Korea	Consumer Products Manufacturing
L'Oréal	France	Consumer Products Manufacturing
LS Industrial Systems	S. Korea	Semiconductor & Electronic Component Manufacturing
LSI Corporation	USA	Semiconductor & Electronic Component Manufacturing
Microsoft Corporation	USA	Computer Software Manufacturing
Mitsubishi Electric Corporation	Japan	Machinery Manufacturing
Motorola, Inc.	USA	Telecommunication Equipment Manufacturing

THE TOP 100 GLOBAL INNOVATORS

COMPANY	COUNTRY	INDUSTRY
Murata Manufacturing Co., Ltd.	Japan	Semiconductor & Electronic Component Manufacturing
NCR Corporation	USA	Computer Hardware Manufacturing
NEC Corporation	Japan	Computer Hardware Manufacturing
Nippon Telegraph and Telephone Corporation	Japan	Telecommunication Equipment Manufacturing
Nitto Denko Corporation	Japan	Chemical Manufacturing
Olympus Optical	Japan	Healthcare Product Manufacturing
Panasonic Corporation	Japan	Consumer Products Manufacturing
Philips	Netherlands	Consumer Products Manufacturing
Procter & Gamble Company	USA	Consumer Products Manufacturing
Qualcomm Incorporated	USA	Semiconductor & Electronic Component Manufacturing
Raytheon Company	USA	Transportation Equipment Manufacturing
Rhodia Operations	France	Chemical Manufacturing
Rockwell Automation, Inc.	USA	Electrical Products Manufacturing
Rohm and Haas Company	USA	Chemical Manufacturing
Rosemount Inc.	USA	Machinery Manufacturing
Royal Dutch Shell	Netherlands	Petroleum Manufacturing
Saint-Gobain	France	Industrial Manufacturing
Samsung Electronics Co., Ltd.	S. Korea	Semiconductor & Electronic Component Manufacturing
SanDisk Corporation	USA	Semiconductor & Electronic Component Manufacturing
Sandvik Intellectual Property AB	Sweden	Machinery Manufacturing
Scania	Sweden	Transportation Equipment Manufacturing
Seiko Epson Corporation	Japan	Computer Hardware Manufacturing
Semiconductor Energy Laboratory Co., Ltd.	Japan	Semiconductor & Electronic Component Manufacturing
Sharp Corporation	Japan	Semiconductor & Electronic Component Manufacturing
Shin-Etsu Chemical Co., Ltd.	Japan	Chemical Manufacturing
Siemens	Germany	Electrical Products Manufacturing
Snecma	France	Transportation Equipment Manufacturing
Societe De Technologie Michelin	France	Industrial Manufacturing
Sony Corporation	Japan	Consumer Products Manufacturing

THE TOP 100 GLOBAL INNOVATORS

COMPANY	COUNTRY	INDUSTRY
Sumitomo Electric Industries Ltd.	Japan	Transportation Equipment Manufacturing
Sumitomo Rubber Industries, Ltd.	Japan	Industrial Manufacturing
Symantec Corporation	USA	Computer Software Manufacturing
Synopsys, Inc.	USA	Computer Software Manufacturing
TE Connectivity	Switzerland	Semiconductor & Electronic Component Manufacturing
Tetra Laval	Switzerland	Industrial Manufacturing
Toshiba Corporation	Japan	Computer Hardware Manufacturing
Toyota Motor Corporation	Japan	Automotive Manufacturing
Unilever	Netherlands/UK	Consumer Products Manufacturing
UOP LLC., a Honeywell Company	USA	Chemical Manufacturing
Volvo	Sweden	Automotive Manufacturing
Wacker Chemie	Germany	Chemical Manufacturing
Xerox Corporation	USA	Computer Hardware Manufacturing
Yamaha Corporation	Japan	Consumer Products Manufacturing

“New ideas lie at the heart of innovation, but ideas alone are not enough. Innovation requires translating ideas into value-adding products and services. . . . Bridging the gap between an idea and its beneficial result is the crucial step in innovation. . . . Success will demand a greater ability to quickly close the gap.”

-Soumitra Dutta, author of *Innovating at the Top*²

² McKinsey & Company, “Optimizing for Innovation,” Sept 2009

GEOGRAPHIC BREAKOUT

Thomson Reuters 2011 Top 100 Global Innovator companies span the globe. The largest percentage is from North America: 40%. Asia accounts for 31% of the most innovative companies in the world and Europe for 29%. A breakout of the Top 100 companies by country is in Figure 1.

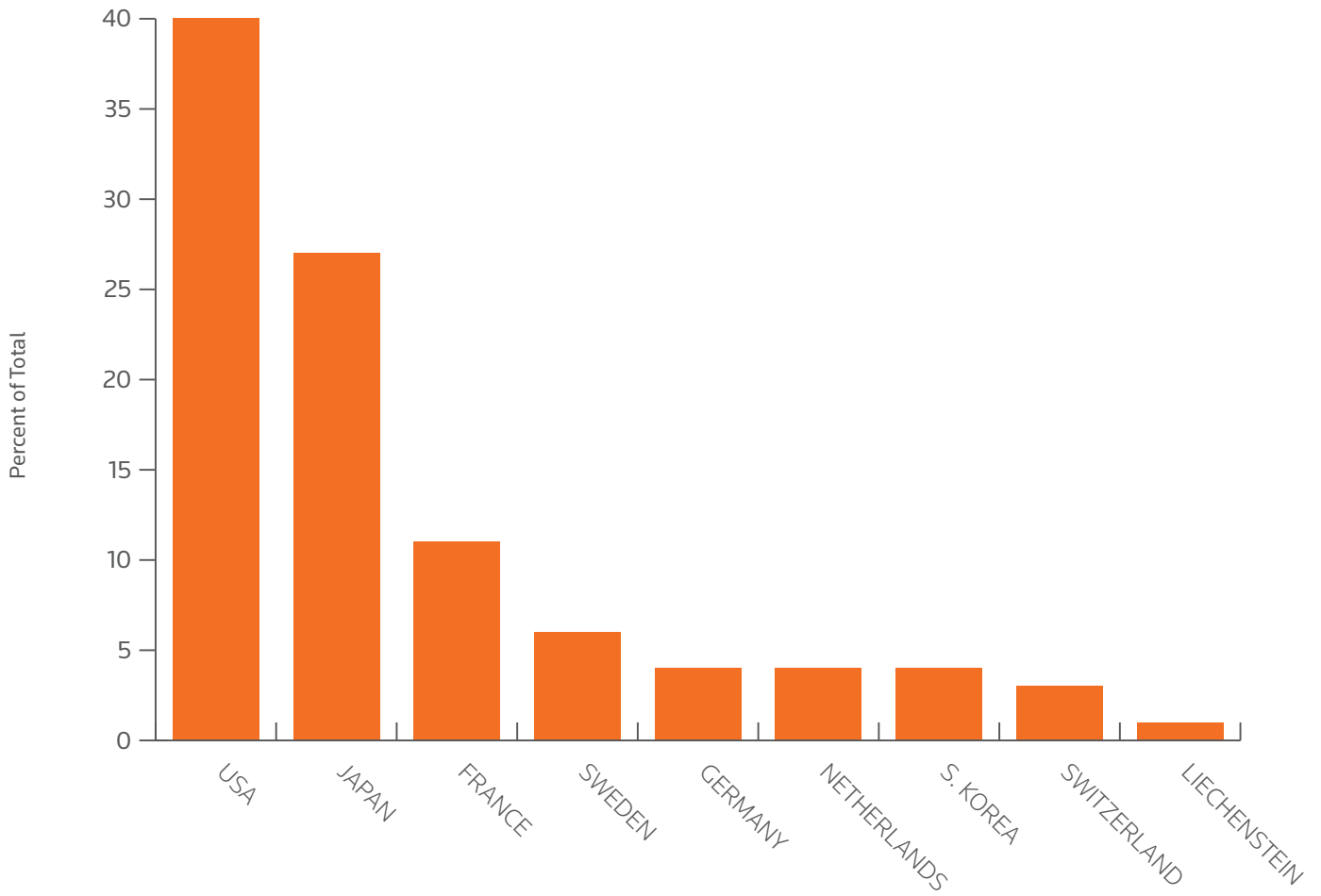
In Asia, Japan dominates with 27% of the representation. As a testament to Japan's solid innovation foundation, it has representative companies in 12 of the 16 industries. The only other Asian nation present is South Korea, with 4% of the companies. The lack of companies from China is noteworthy and underscores the fact that although China is leading the world in patent volume, quantity does not equate to influence and quality.

There is much broader representation across Europe, with six European nations having one or more companies in the Top 100 Innovators list. France is the innovation leader in Europe, with 11 organizations spread across a number of industries. Interestingly, all of the Scientific Research entities in the list are from France: IFP Energies Nouvelles; CNRS, the French National Center for Scientific Research; and Commissariat à l'Énergie Atomique. Given the geographic footprint of France, its representation in the Top 100 Global Innovator list is impressive.

Another European surprise is the Principality of Liechtenstein. This country of approximately 62 square miles (just over 160 square kilometers) and approximately 35,000 people is also home to one of the most innovative companies in the world: privately owned machine manufacturer Hilti Corporation.

GEOGRAPHIC DISTRIBUTION OF TOP 100 GLOBAL INNOVATOR COMPANIES

FIGURE 1



INDUSTRY BREAKOUT

The industry breakouts for the Top 100 Global Innovator companies are shown in Figure 2. Manufacturing companies permeate the list, as compared to academic institutions, research laboratories or service-based organizations. The dominance of manufacturing is somewhat expected, as it is these companies that invent new products to bring to market – and they protect them with patents.

The most prevalent industry within the Top 100 list is Semiconductor & Electronic Component Manufacturing; 14 of the 100 companies are from this sector. Fifty percent of these innovation leaders are from North America and 43% are from Asia. The remaining company is from Europe. Figure 3 shows the geographic distribution of these companies.

In the Chemical Manufacturing sphere, the US continues to lead with 46% of the companies, followed by Europe with 31% and Asia with 23%. Figure 4 shows the geographic distribution of these companies.

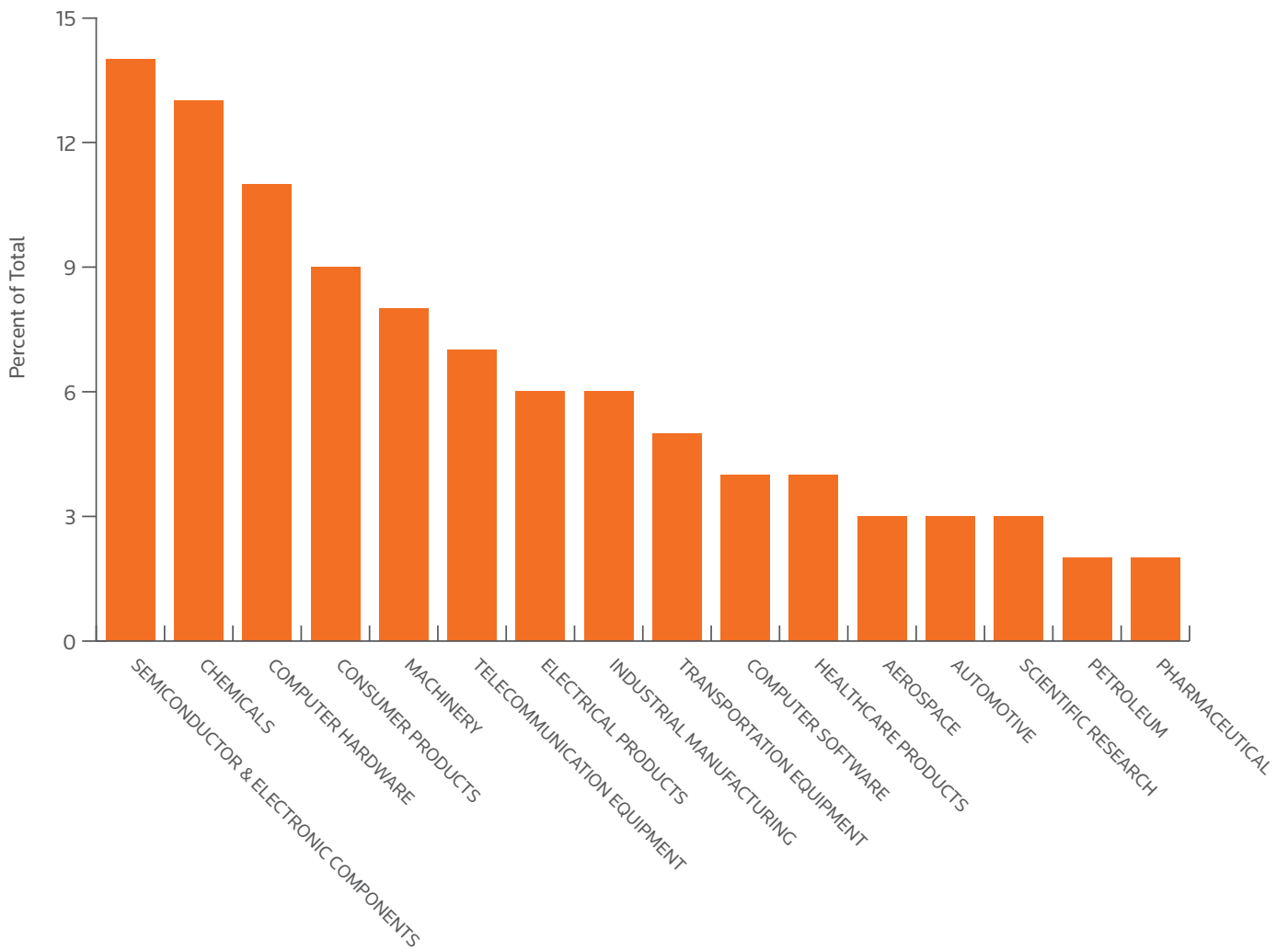
The industry breakouts for the US, Europe and Japan are shown in Figures 5-7. In the US, the leading industry represented is Semiconductor & Electronic Component Manufacturing at 18%, followed by Chemical Manufacturing at 15%. The US leads the world in Semiconductor & Electronic Component Manufacturing with 50% of the Top 100 Global Innovators. The US has representation in 14 of the 16 industries, the two not represented are Automotive Manufacturing and Scientific Research.

For Europe, the top two industries are Machinery Manufacturing at 17% and Chemical Manufacturing at 13%. Europe leads the world in Machinery Manufacturing; 63% of the Top 100 Global Innovators in Machinery Manufacturing are in Europe, with more than half of them in Sweden.

In Asia, the predominant industry is Computer Hardware Manufacturing at 23% followed by Semiconductor & Electronic Component Manufacturing at 19%. Asia leads the world in Computer Hardware Manufacturing with 64% of the companies and in Automotive Manufacturing with 67% of them.

TOP 100 GLOBAL INNOVATOR COMPANY INDUSTRIES

FIGURE 2



GLOBAL DISTRIBUTION OF SEMICONDUCTOR & ELECTRONIC COMPONENT MANUFACTURERS

FIGURE 3



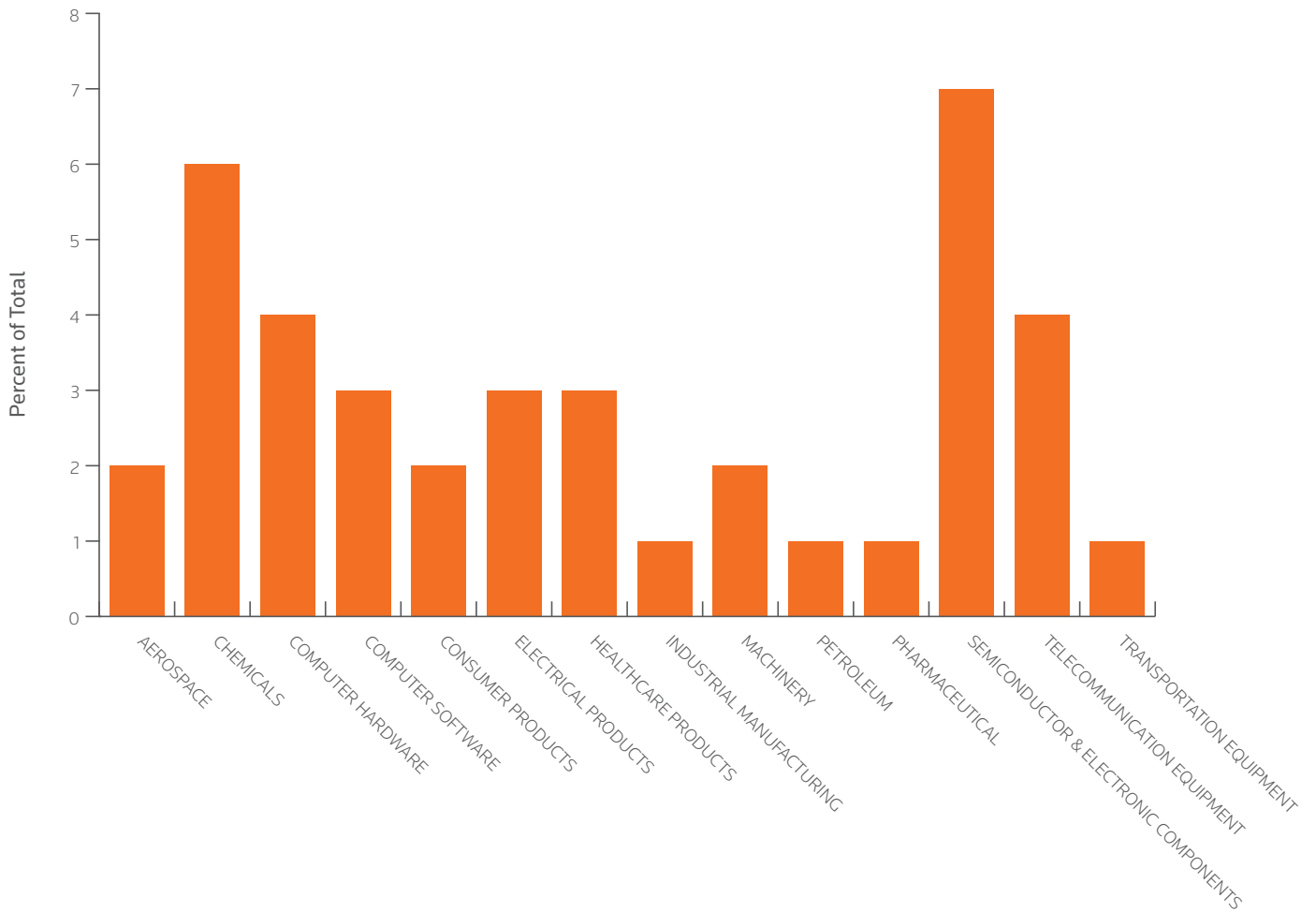
GLOBAL DISTRIBUTION OF CHEMICAL MANUFACTURERS

FIGURE 4



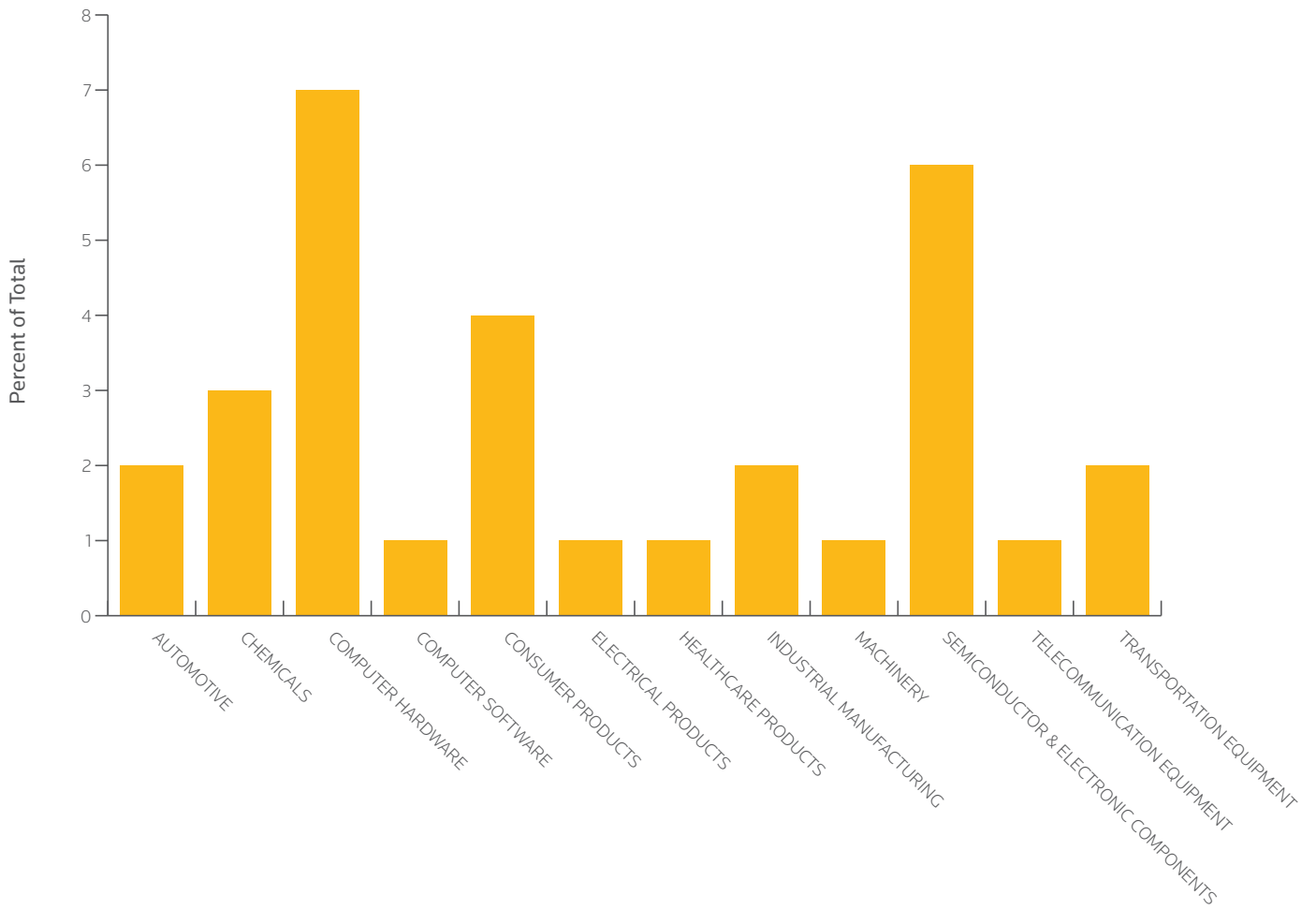
INDUSTRY BREAKOUT - NORTH AMERICA

FIGURE 5



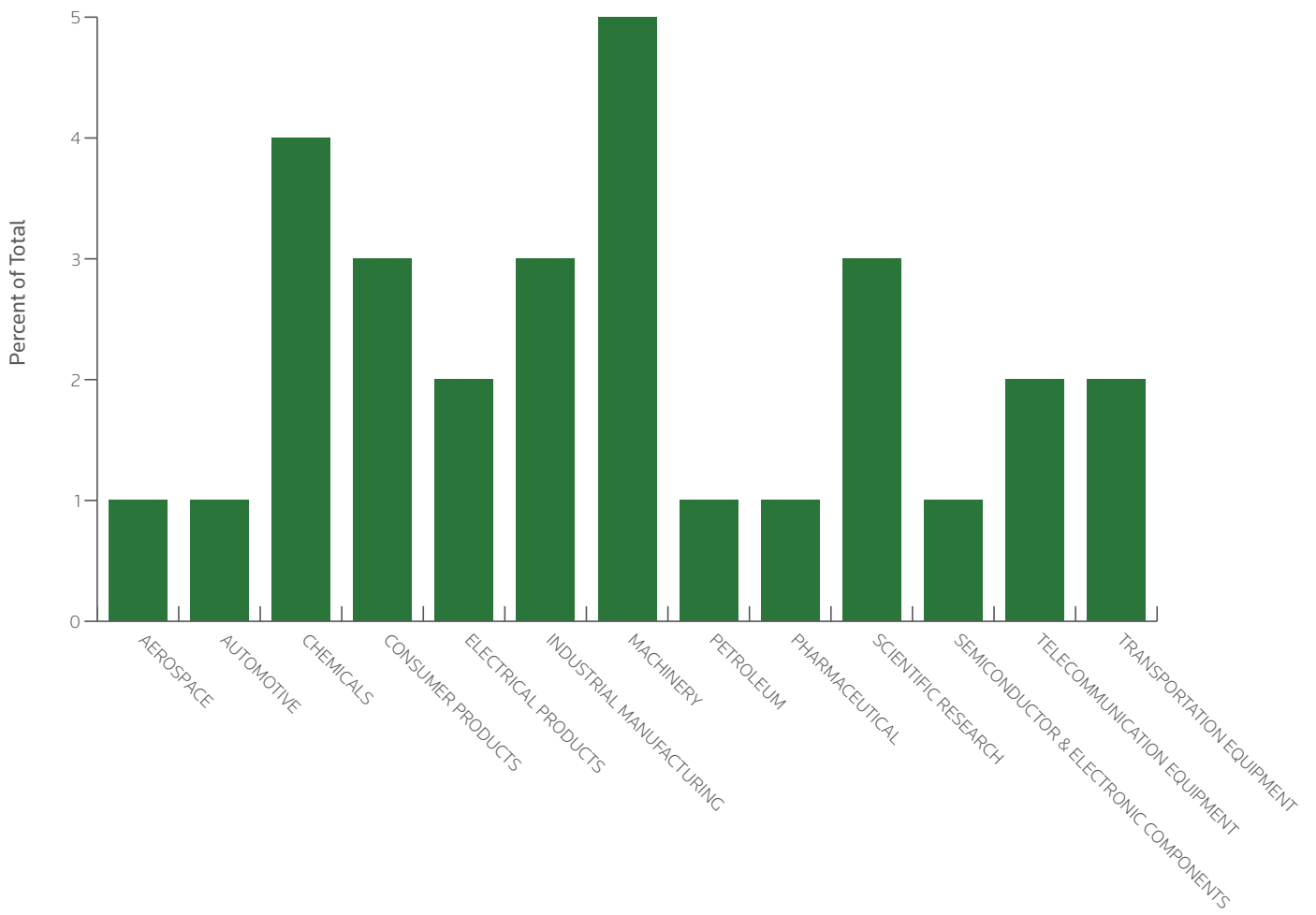
INDUSTRY BREAKOUT - EUROPE

FIGURE 6



INDUSTRY BREAKOUT - ASIA

FIGURE 7



CONCLUSION

Intellectual property is the bridge that connects innovation with economic growth. Without it there may be creativity but it won't have sustained marketability.

The Thomson Reuters Top 100 Global Innovator companies are the world leaders in innovation. They exemplify the essence of innovation and drive inventions for economic growth. They encourage idea generation and the invention process. They have established systems for vetting their innovation funnels and determining which ideas are worthy of protection. They rigorously monitor prior art and the competitive landscape, and prosecute the best-of-the-best in terms of concept generation.

But, that is just the beginning. The Top 100 Global Innovator companies also look at innovation through a global lens. They determine the market potential of an invention and actively seek protection for it around the world. Their strategic rationale may differ, but they are one in the same when it comes to seeking and capitalizing on the global potential of their inventions.

Finally, they are viewed by their peers, competitors and others as making an impactful difference. Their inventions are oftentimes significantly cited by others and are seen as founding technologies in their respective areas.

Thomson Reuters congratulates and thanks the Top 100 Global Innovators for the spirit of innovation they foster in their organizations and their adherence to IP systems and the protection of intellectual rights.

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