

DERWENT WORLD PATENTS INDEX

2011 STATE OF INNOVATION

*TWELVE KEY TECHNOLOGY AREAS
AND THEIR STATES OF INNOVATION*



INTRODUCTION

Innovation is viewed by many as the lynchpin of global economic prosperity. Political and governmental speeches from around the world reference “innovation” as essential to overcoming financial crises, creating jobs, and solving humanitarian challenges.

U.S. President Obama in his 2011 State of the Union address said:

“The first step in winning the future is encouraging American innovation. . . . What we can do — what America does better than anyone else — is spark the creativity and imagination of our people. We’re the nation that put cars in driveways and computers in offices; the nation of Edison and the Wright brothers; of Google and Facebook. In America, innovation doesn’t just change our lives. It is how we make our living.”¹

President of the European Commission Innovation Union Jose Manuel Durao Barroso at the Innovation Convention in Brussels in December 2011 said:

“Innovation is the cornerstone of the Europe 2020 Strategy, our European blueprint to get the economy back on track over the course of the decade. Innovation is a cross-cutting way of equipping all sectors of our economy to be more competitive. . . . It is indeed about turning new ideas into growth, prosperity, jobs and well-being.”²

From The World Economic Forum 2012 (DAVOS), there were 35 instances of “innovation” used in the program booklet.³ In one session, titled “Innovation Ecosystem 2.0,” with participants including Director General Francis Gurry of the World Intellectual Property Organization (WIPO), the discussion covered:

The movement of innovation from a corporate initiative for creating and realizing value to a national phenomenon on how “a country expresses and develops more innovation capabilities. In the current era . . . innovation is very much on the table. At least 50 countries now have national innovation agencies and chief innovation officers responsible for driving a national innovation strategy and the stewardship process supporting the strategy.”⁴

In all corners of the earth, executives, policy makers, government officials, politicians, teachers, entrepreneurs and so many others are talking about their hope for “innovation.”

1 <http://www.npr.org/2011/01/26/133224933/transcript-obamas-state-of-union-address>

2 <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/11/847>

3 <http://www.forbes.com/sites/julietbarbara/2012/01/28/insight-from-davos-how-global-thought-leaders-talk-about-innovation/>

4 <http://www.weforum.org/s?s=innovation>, summary written by Catherine Ong, 28 January 2012

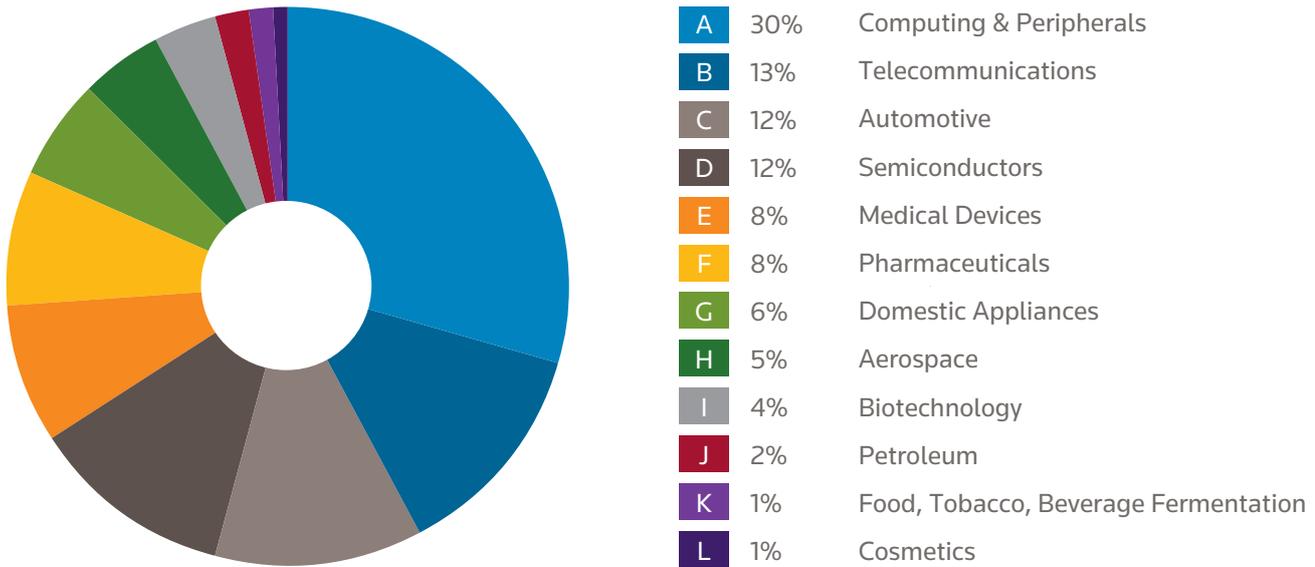
The topic is of equal interest to Thomson Reuters, as we have been tracking corporate and industry-specific innovative activity for several years. In this 2011 State of Innovation report, we showcase twelve technology areas and profile their innovation activity as measured through patent analysis. This annual report provides insight into which industries are most active, how their 2011 activity compares to 2010 (where the data is available) and where the areas of greatest growth (and decline) lie. The report also highlights the top assignees across three geographic regions: North America (predominantly the U.S.), Europe, and Asia.

The report provides insightful data points that benchmark innovation activity. Some key findings include:

- The largest year-over-year increases by technology area were Domestic Applications and Medical Devices, both of which jumped by 12 percent
- Aerospace was down overall from 2010 to 2011, however the category of Propulsion Plants increased by 202 percent
- The automotive sector saw the largest growth in the area of Alternate Powered Vehicles
- Biotechnology is a new category for 2012, as the Thomson Reuters editorial team has seen significant growth in this area and it warrants inclusion in this report; it replaces Agrochemicals and Agriculture, a category with less innovative activity
- The subcategory Antiperspirants within Cosmetics increased by 22 percent year over year, and L'Oreal® continues to lead the world in cosmetic makeup activity
- Domestic Appliances and Medical Devices were the only two industries that saw growth in all areas in 2011; the most substantial increases occurring in the Household Cleaning and Medical Aids and Oral Administration sectors, which increased 16 percent and 17 percent, respectively, from 2010
- There was a 42 percent increase in Tobacco innovation, within the Food, Tobacco and Beverage Fermentation industry
- Petroleum had declines in all areas except Petroleum & Gas Exploration, Drilling, Production and Processing, which saw an 11 percent bump year over year
- The area of Inorganics within Pharmaceuticals and Discrete Devices within Semiconductors both increased by 31 percent, the only subsectors to grow within Pharmaceuticals and Semiconductors, respectively

Data in this report was compiled using Thomson Reuters Derwent World Patents Index® (DWPISM), the world's most trusted and authoritative collection of editorially-enhanced patent information. Analysis was conducted by the Thomson Reuters Intellectual Property (IP) Services team, providers of expert research, analysis and consulting services for corporations, law firms, and governments around the world.

2011 PATENT ACTIVITY OVERVIEW OF 12 KEY TECHNOLOGY AREAS

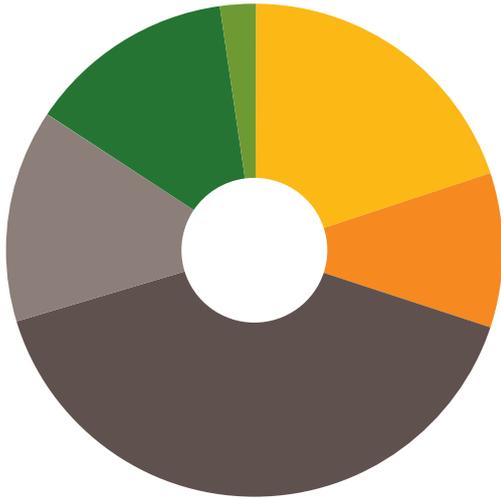


		2011 Volume	2011 Ranking	% of Total	2010 Volume	% Change in Volume (2011 v 2010)
A	Computers & Peripherals	216,858	1	30%	212,622	2%
B	Telecommunications	92,131	2	13%	87,920	5%
C	Automotive	86,788	3	12%	86,479	0%
D	Semiconductors	86,427	4	12%	88,867	-3%
E	Medical Devices	58,592	5	8%	52,117	12%
F	Pharmaceuticals	57,132	6	8%	59,350	-4%
G	Domestic Appliances	41,198	7	6%	36,816	12%
H	Aerospace	36,002	8	5%	N/A*	N/A
I	Biotechnology	25,648	9	4%	N/A*	N/A
J	Petroleum	13,652	10	2%	N/A*	N/A
K	Food, Tobacco, Beverage Fermentation	9,545	11	1%	N/A*	N/A
L	Cosmetics	6,082	12	1%	6,438	-6%

Source: Thomson Reuters Derwent World Patents Index (DWPI)

*Category was labeled differently in 2010 and covered different inventions; not like-for-like comparison

2011 PATENT ACTIVITY AEROSPACE



	SUBSECTORS	2011 Volume	2010 Volume	% Change
20%	Advanced Materials	5,260	5,937	-11%
10%	Instrumentation	2,758	2,786	-1%
41%	Propulsion Plants	10,777	3,566	202%
14%	Production Techniques	3,714	9,726	-62%
13%	Structures & Systems	3,531	3,612	-2%
2%	Space Vehicles & Satellite Technologies	602	n/a	n/a

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES SPACE VEHICLES & SATELLITE TECHNOLOGIES

	Company	Country	Number of Documents
1	Korea Aerospace Research Institute	KR	23
2	Harbin Institute of Technology	CN	15
3	Beijing University of Aeronautics and Astronautics	CN	11
4	Mitsubishi Electric Corporation	JP	9
5	IHI Corporation	JP	8
6	Mitsubishi Heavy Industries, Ltd.	JP	7
7	Mitsubishi Chemical Corporation	JP	5
8	NEC Corporation	JP	5
9	Nanjing University of Aeronautics and Astronautics	CN	4
10	Korea Institute of Science and Technology	KR	3

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES
SPACE VEHICLES & SATELLITE TECHNOLOGIES

	Company	Country	Number of Documents
1	EADS	NL	37
2	Energiya Rocket Cosmic Corporation	RU	21
3	Thales	UK	9
4	Information Satellite Systems Reshetnev	RU	8
5	Deutsches Zentrum für Luft-und Raumfahrt	DE	7
6	Rockets Cosmic Research Production Center	RU	7
7	Cosmic Science Production Center	RU	5
8	CNES, Centre National d'Études Spatiales	FR	4
9	Lavochkin Research Production Association	RU	4
10	Mechanical Engineering Research Institute	RU	4

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 NORTH AMERICA ASSIGNEES
SPACE VEHICLES & SATELLITE TECHNOLOGIES

	Company	Country	Number of Documents
1	Boeing	US	17
2	NASA	US	8
3	Honeywell International	US	6
4	Lockheed Martin	US	5
5	Raytheon	US	5
6	Hamilton Sundstrand	US	4
7	Qualcomm	US	4
8	United States Secretary of the Navy	US	4
9	Composite Technology Development	US	3
10	United States Secretary of the Airforce	US	2

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY AUTOMOTIVE



	SUBSECTORS	2011 Volume	2010 Volume	% Change
20%	Alternative Powered Vehicles	19,078	15,913	20%
6%	Security Systems	5,840	5,752	2%
12%	Navigation Systems	11,279	12,060	-6%
10%	Safety	9,858	10,263	-4%
3%	Entertainment Systems	2,576	3,052	-16%
6%	Steering Systems	6,305	6,327	0%
8%	Seats, Seatbelts and Airbags	8,212	7,769	6%
4%	Braking Systems	4,174	3,908	7%
12%	Transmission	11,413	11,577	-1%
6%	Suspension Systems	6,145	5,924	4%
5%	Engine Design and Systems	5,183	5,336	-3%
8%	Pollution Control	7,548	8,376	-10%

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES ALTERNATIVE POWERED VEHICLES

	Company	Country	Number of Documents
1	Toyota Motor Corporation	JP	1669
2	Honda Motor Company, Ltd.	JP	539
3	Denso Corporation	JP	382
4	Panasonic Corporation	JP	320
5	Hyundai	KR	276
6	Nissan Motor Company, Ltd.	JP	236
7	Sanyo Electric Company, Ltd.	JP	233
8	Sumitomo Electric Industries, Ltd.	JP	180
9	Samsung	KR	159
10	AISIN SEIKI Company, Ltd.	JP	146

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES
ALTERNATIVE POWERED VEHICLES

	Company	Country	Number of Documents
1	Daimler	DE	286
2	Robert Bosch	DE	235
3	SB LiMotive	DE	123
4	Peugeot Citroën Automobile	FR	101
5	BMW	DE	89
6	Porsche	DE	63
7	Continental Automotive	DE	56
8	Valeo	FR	48
9	Volkswagen	DE	48
10	Renault	FR	45

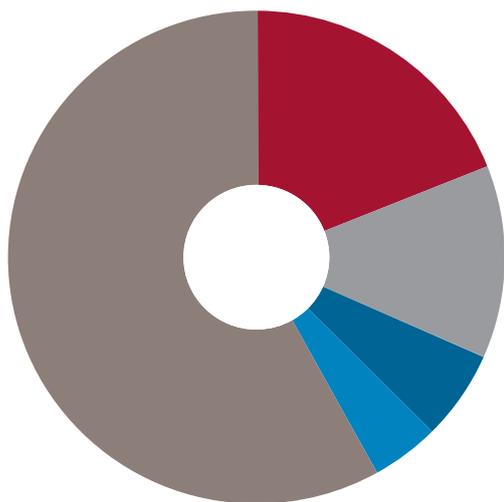
Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 NORTH AMERICA ASSIGNEES
ALTERNATIVE POWERED VEHICLES

	Company	Country	Number of Documents
1	General Motors	US	310
2	Ford	US	218
3	General Electric	US	34
4	Tesla Motors	US	23
5	Caterpillar	US	16
6	Protean Electric	US	15
7	DuPont	US	15
8	AeroVironment	US	13
9	Remy International	US	11
10	Lear Corporation	US	10

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY BIOTECHNOLOGY



	SUBSECTORS	2011 Volume
19%	Diagnosis of Diseases	5,154
13%	Cancer Treatment	3,549
6%	Genetically Modified Crops	1,550
5%	Drug Discovery	1,269
58%	General Biotechnology	15,858

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES CANCER TREATMENT

	Company	Country	Number of Documents
1	The University of Tokyo	JP	19
2	Osaka University	JP	15
3	Kyowa Hakko Kirin Company, Ltd.	JP	14
4	SNU R&DB Foundation	KR	14
5	Korea Research Institute of Bioscience and Biotechnology	KR	12
6	Fudan University	CN	12
7	Hokkaido University	JP	10
8	The Catholic University of Korea, Industry Academic Cooperation Foundation	KR	10
9	National Cancer Center	KR	9
10	Millennium Pharmaceuticals	JP	9

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES CANCER TREATMENT

	Company	Country	Number of Documents
1	Roche	CH	59
2	INSERM, Institute National de la Sante et de la Recherche Medicale	FR	43
3	CNRS, The French National Center for Scientific Research	FR	35
4	Novartis	CH	28
5	Deutsches Krebsforschungszentrum (German Cancer Research Center)	DE	11
6	Glaxo Group	UK	11
7	Schering	US	11
8	UCB Pharma	BE	11
9	Sanofi	DE	10
10	Ablynx	BE	10

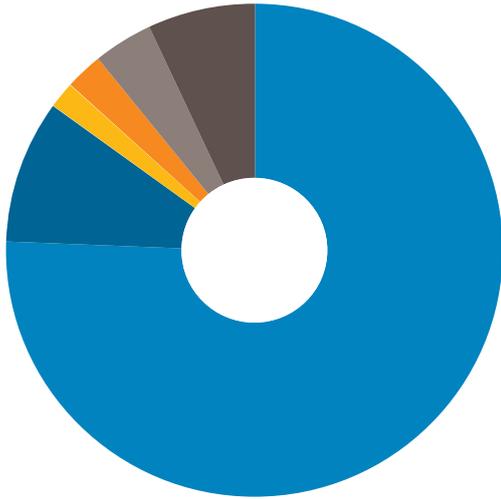
Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 NORTH AMERICA ASSIGNEES CANCER TREATMENT

	Company	Country	Number of Documents
1	Genentech	US	56
2	University of California	US	36
3	John Hopkins University	US	28
4	United States Department of Health and Human Services	US	27
5	University of Texas System	US	26
6	Abbott Laboratories	US	25
7	Opko Health	US	19
8	Amgen	US	18
9	Leland Stanford Junior University	US	18
10	University of Pennsylvania	US	17

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY COMPUTING AND PERIPHERALS



	SUBSECTORS	2011 Volume	2010 Volume	% Change
76%	Computing	184,134	178,509	3%
9%	Printers	22,879	25,079	-9%
2%	Scanners	4,190	6,372	-34%
3%	Screens	6,109	6,471	-6%
4%	Smart media	9,434	9,757	-3%
7%	Other peripherals	16,705	26,317	-37%

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES SMART MEDIA

	Company	Country	Number of Documents
1	Samsung	KR	229
2	Toshiba Corporation	JP	128
3	Toppan Printing Company, Ltd.	JP	121
4	Panasonic Corporation	JP	97
5	NEC Corporation	JP	84
6	The Tokyo Electric Power Company, Inc.	JP	82
7	Sony Corporation	JP	75
8	Dai Nippon Printing Company, Ltd.	JP	67
9	ZTE Corporation	CN	67
10	Electronics & Telecommunications Research Institute	KR	52

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES

SMART MEDIA

	Company	Country	Number of Documents
1	Giesecke & Devrient	DE	48
2	Gemalto	NL	47
3	NXP Semiconductors	NL	37
4	Siemens	DE	34
5	STMicroelectronics	DE	22
6	Nokia	CH	21
7	Oberthur Technologies	FI	17
8	Merck Patent GmbH	DE	17
9	Ericsson	SE	12
10	Bundesdruckerei	DE	11

Source: Thomson Reuters Derwent World Patents Index (DWPI)

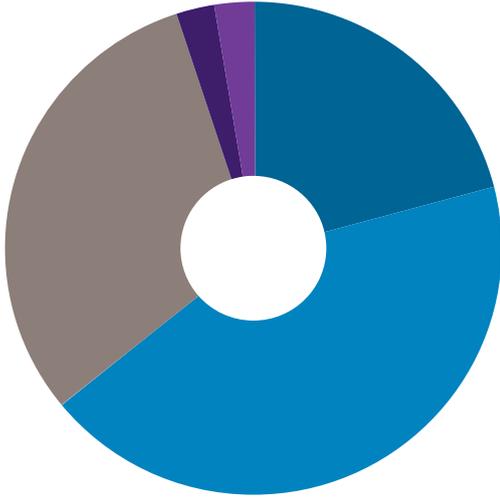
TOP 10 NORTH AMERICA ASSIGNEES

SMART MEDIA

	Company	Country	Number of Documents
1	Broadcom	US	34
2	SanDisk	US	32
3	IBM	US	27
4	Motorola Mobility	US	25
5	Apple	US	25
6	Microsoft	US	25
7	Avery Dennison	US	23
8	Micron Technology	US	18
9	Research In Motion	CA	16
10	AT&T	US	14

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY COSMETICS



	SUBSECTORS	2011 Volume	2010 Volume	% Change
21%	Hair	1,787	1,879	-5%
42%	Make-up	3,706	3,833	-3%
31%	Skin	2,652	2,859	-7%
3%	Antiperspirant	213	174	22%
3%	Perfume	212	216	-2%

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES MAKEUP

	Company	Country	Number of Documents
1	KAO Corporation	JP	147
2	Shiseido Company, Ltd.	JP	125
3	AmorePacific	KR	66
4	Kose Corporation	JP	63
5	Nippon Menard Cosmetic Company, Ltd.	JP	36
6	Lion Corporation	JP	34
7	Pola Chemical Industries, Inc.	JP	34
8	Dow Corning Toray Company, Ltd.	JP	30
9	Toyobo	JP	27
10	Noevir Company, Ltd.	JP	24

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES

MAKEUP

	Company	Country	Number of Documents
1	L'Oreal	FR	322
2	BASF	DE	51
3	Henkel	DE	48
4	Beiersdorf	DE	37
5	Evonik Goldschmidt	UK	28
6	Unilever	NL/UK	27
7	Cognis IP Managment	DE	16
8	Merck Patent GmbH	DE	13
9	CNRS, Centre National de la Recherche Scientifique	FR	12
10	Royal DSM	NL	12

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 NORTH AMERICA ASSIGNEES

MAKEUP

	Company	Country	Number of Documents
1	Procter & Gamble	US	44
2	ISP Investments	US	18
3	Avon Products	US	17
4	Johnson & Johnson Consumer Companies	US	15
5	DuPont	US	15
6	The Dow Chemical Company	US	12
7	Celanese International Corporation	US	12
8	Momentive Performance Materials	US	12
9	Allergan	US	9
10	ELC Management	US	8

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY DOMESTIC APPLIANCES



	SUBSECTORS	2011 Volume	2010 Volume	% Change
45%	Kitchen	19,422	17,235	13%
9%	Household Cleaning	3,970	3,414	16%
8%	Human Hygiene	3,530	3,193	11%
9%	Laundry	3,839	3,543	8%
29%	Heating/Air Conditioning	12,834	11,680	10%

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES KITCHEN

	Company	Country	Number of Documents
1	Panasonic Corporation	JP	675
2	LG	KR	642
3	Mitsubishi Electric	JP	428
4	Hitachi Appliances, Inc.	JP	197
5	Sanyo Electric Company, Ltd.	JP	165
6	Toshiba Corporation	JP	123
7	Haier Group	CN	111
8	Sharp Corporation	JP	110
9	WiniaMando	KR	108
10	Samsung	KR	94

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES

KITCHEN

	Company	Country	Number of Documents
1	Bosch and Siemens	DE	415
2	Electrolux	SE	66
3	Nestle	CH	64
4	SEB	FR	57
5	Liebherr-Hausgeraete	DE	56
6	Philips	NL	42
7	Arcelik Anonim Sirketi	TR	34
8	Indesit	IT	24
9	FagorBrandt	FR	22
10	Danfoss	DK	19

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 NORTH AMERICA ASSIGNEES

KITCHEN

	Company	Country	Number of Documents
1	Whirlpool	US	115
2	General Electric	US	42
3	Emerson Electric	US	21
4	Johnson Controls	US	21
5	Conair	US	15
6	DuPont	US	13
7	Sara Lee	US	12
8	Illinois Tool Works	US	11
9	Kraft Foods	US	9
10	Hamilton Sundstrand	US	9

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY

FOOD, TOBACCO AND BEVERAGE FERMENTATION



	SUBSECTORS	2011 Volume	2010 Volume	% Change
27%	Bakery	2,625	2,628	0%
24%	Meat	2,407	2,090	15%
3%	Sugar & Starch	326	338	-4%
22%	Tobacco	2,197	1,512	45%
24%	Beverage Fermentation	2,367	n/a	n/a

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR
SNAPSHOT:TOP 10 ASIA-PACIFIC ASSIGNEES
BEVERAGE FERMENTATION

	Company	Country	Number of Documents
1	Kirin Holdings Company, Ltd.	JP	14
2	Asahi Group Holdings, Ltd.	JP	10
3	Suntory Holdings, Ltd.	JP	10
4	South China University of Technology	CN	10
5	Korea Food Research Institute	KR	8
6	Meiji Holdings Company, Ltd.	JP	8
7	TianJin University of Science and Technology	CN	8
8	Zhejiang University	CN	8
9	Qinghua University	CN	6
10	Snow Brand Milk Products Company, Ltd.	JP	5

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES
BEVERAGE FERMENTATION

	Company	Country	Number of Documents
1	Novozymes	DK	11
2	Royal DSM	DK	11
3	Hansen	NL	8
4	Dannon	FR	7
5	Danisco	DK	6
6	Intellektualnoe Pravo	RU	5
7	Krones	DE	5
8	Nestle	CH	5
9	Effekt 91	RU	4
10	GEA Brewery Systems	DE	4

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 NORTH AMERICA ASSIGNEES
BEVERAGE FERMENTATION

	Company	Country	Number of Documents
1	Qteros	US	7
2	Butamax Advanced Biofuels	US	6
3	DuPont	US	5
4	Procter & Gamble	US	5
5	BP Corporation North America	US	3
6	Aquatech Bioenergy	US	3
7	Coskata	US	3
8	Ultra Maturation	US	3
9	Abengoa Bioenergy New Technologies	US	2
10	Archer Daniels Midland Company	US	2

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY MEDICAL DEVICES



	SUBSECTORS	2011 Volume	2010 Volume	% Change
34%	Diagnosis, Surgery	22,864	20,076	14%
19%	Dentistry, Bandages, Prosthesis	12,361	10,746	15%
17%	Medical Aids, Oral Administration	11,367	9,714	17%
30%	Sterilizing, Syringes, Electrotherapy	20,312	17,788	14%

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES DIAGNOSIS, SURGERY

	Company	Country	Number of Documents
1	Toshiba Corporation	JP	883
2	FUJIFILM Holdings Corporation	JP	524
3	Olympus Medical Systems Corporation	JP	420
4	Hoya Corporation	JP	249
5	Canon, Inc.	JP	229
6	Hitachi Medical Computer Systems, Inc.	JP	210
7	Konica Minolta Holdings, Inc.	JP	192
8	Terumo Corporation	JP	147
9	Samsung Medison	KR	119
10	Panasonic Corporation	JP	98

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES
DIAGNOSIS, SURGERY

	Company	Country	Number of Documents
1	Siemens	DE	381
2	Philips	NL	202
3	Aesculap	DE	64
4	Saint Petersburg Mechnikov State Medical Academy	RU	63
5	Karl Storz	DE	51
6	Roche	CH	44
7	Carl Zeiss Surgical	DE	41
8	Smith & Nephew	UK	38
9	Stryker Trauma	DE	29
10	Biedermann Motech	DE	28

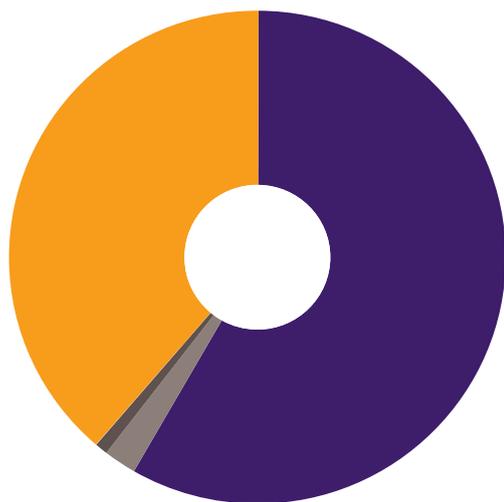
Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 NORTH AMERICA ASSIGNEES
DIAGNOSIS, SURGERY

	Company	Country	Number of Documents
1	Covidien	US	359
2	General Electric	US	237
3	Medtronic	US	194
4	Ethicon Endo-Surgery	US	170
5	Boston Scientific Corporation	US	140
6	Alcoa	US	96
7	DePuy	US	93
8	Warsaw Orthopedic	US	91
9	Nellcor Puritan Bennett	US	80
10	Abbott Diabetes Care	US	66

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY PETROLEUM



	SUBSECTORS	2011 Volume	2010 Volume	% Change
58%	Petroleum & Gas Exploration, Drilling, Production and Processing	8,386	7,554	11%
2%	Petroleum & Gas Transportation and Storage	281	311	-10%
1%	Petroleum Refining	131	194	-32%
39%	Petroleum & Gas Fuels and other products	5,544	5,787	-4%

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES

PETROLEUM & GAS EXPLORATION, DRILLING, PRODUCTION AND PROCESSING

	Company	Country	Number of Documents
1	China Petrochemical	CN	837
2	PetroChina	CN	481
3	JX Nippon Oil & Energy Corporation	JP	97
4	Cosmo Oil Company, Ltd.	JP	22
5	Nippon Steel Corporation	JP	20
6	Sumitomo Metal Industries, Ltd.	JP	18
7	East China University of Science and Technology	CN	18
8	Sekiyu Sangyo Kasseika Center	JP	17
9	University of Science and Technology Beijing	CN	12
10	TianJin University of Science and Technology	CN	11

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES

PETROLEUM & GAS EXPLORATION, DRILLING, PRODUCTION AND PROCESSING

	Company	Country	Number of Documents
1	Schlumberger Technology	NL	1058
2	PRAD Research & Development	NL	204
3	Shell	NL	150
4	IFP Energies Nouvelles	FR	142
5	Tatneft	RU	141
6	BASF	DE	50
7	National Oilwell Varco	US	50
8	BP	UK	31
9	Gazprom	RU	20
10	Air Liquide	FR	19

Source: Thomson Reuters Derwent World Patents Index (DWPI)

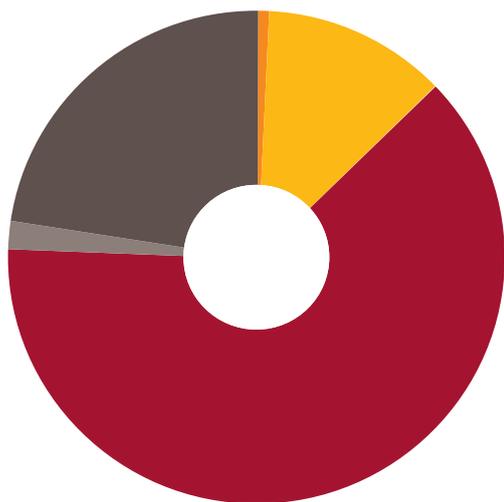
TOP 10 NORTH AMERICA ASSIGNEES

PETROLEUM & GAS EXPLORATION, DRILLING, PRODUCTION AND PROCESSING

	Company	Country	Number of Documents
1	Schlumberger Technology	US	1058
2	Baker Hughes	US	253
3	Halliburton Energy Services	US	249
4	Exxon Mobil	US	128
5	UOP a Honeywell Company	US	80
6	Chevron	US	71
7	Smith International	US	49
8	ConocoPhillips	US	43
9	Weatherford/Lamb	US	28
10	Vetco Gray	US	26

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY PHARMACEUTICALS



	SUBSECTORS	2011 Volume	2010 Volume	% Change
1%	Steroids	539	654	-18%
12%	Heterocyclics	7,946	10,013	-21%
63%	Organics	41,926	42,845	-2%
2%	Inorganics	1,290	986	31%
22%	General	14,957	15,404	-3%

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES HETEROCYCLICS

	Company	Country	Number of Documents
1	Takeda Pharmaceutical Company, Ltd	JP	57
2	Daiichi Sankyo Company, Ltd.	JP	56
3	Ranbaxy Laboratories	IN	52
4	Kowa Company, Ltd.	JP	34
5	Cadila Pharmaceuticals	IN	26
6	Dainippon Sumitomo Pharma Company, Ltd.	JP	24
7	Astellas Pharma, Inc.	JP	23
8	Shionogi & Company, Ltd.	JP	23
9	Zhejiang University	CN	23
10	Sumitomo Chemical Company, Ltd.	JP	22

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES
HETEROCYCLICS

	Company	Country	Number of Documents
1	Roche	CH	108
2	Sanofi	DE	103
3	GlaxoSmithKline	UK	100
4	Novartis	CH	86
5	Boehringer Ingelheim	DE	65
6	Bayer	DE	64
7	Schering	US	45
8	AstraZeneca	UK	36
9	Merck Patent GmbH	DE	30
10	Ratiopharm	DE	28

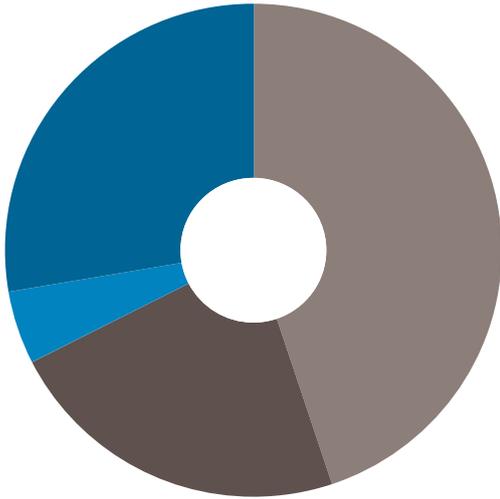
Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 NORTH AMERICA ASSIGNEES
HETEROCYCLICS

	Company	Country	Number of Documents
1	Merck	US	97
2	Bristol-Myers Squibb	US	60
3	Abbott Laboratories	US	58
4	Janssen Pharmaceuticals	US	42
5	Allergan	US	36
6	Vertex Pharmaceuticals	US	34
7	Pfizer	US	31
8	Theravance	US	26
9	Gilead Sciences	US	24
10	University of California	US	24

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY SEMICONDUCTORS



SUBSECTORS	2011 Volume	2010 Volume	% Change
Semiconductor Materials and Processes	47,942	50,812	-6%
Discrete Devices	24,535	18,709	31%
Integrated Circuits	4,789	5,127	-7%
Memories, Film and Hybrid Circuits	29,506	30,995	-5%

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES SEMICONDUCTOR MATERIALS AND PROCESSES

	Company	Country	Number of Documents
1	Samsung	KR	1331
2	Hynix Semiconductor	KR	1167
3	Toshiba Corporation	JP	1075
4	NEC Corporation	JP	1030
5	Panasonic Corporation	JP	857
6	Semiconductor Manufacturing International	CN	734
7	LG	KR	709
8	Semiconductor Energy Laboratory Co., Ltd.	JP	561
9	Seiko Epson Corporation	JP	549
10	Tokyo Electron, Ltd.	JP	532

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES
SEMICONDUCTOR MATERIALS AND PROCESSES

	Company	Country	Number of Documents
1	ASML	NL	201
2	STMicroelectronics	CH	149
3	Infineon Technologies	DE	138
4	Commissariat à l'énergie atomique	FR	106
5	Robert Bosch	DE	100
6	Merck Patent GmbH	DE	70
7	Carl Zeiss	DE	55
8	Wacker Siltronic	DE	53
9	NXP Semiconductors	NL	53
10	Fraunhofer Society	DE	47

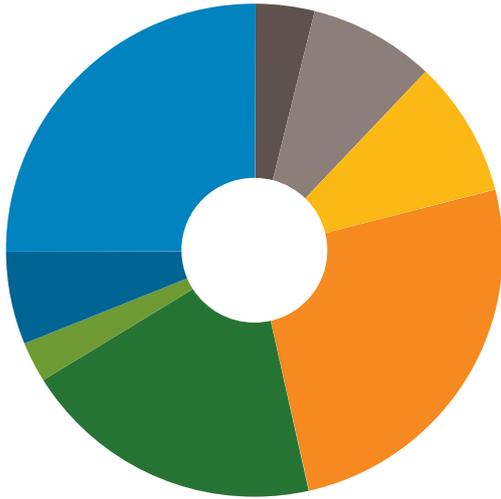
Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 NORTH AMERICA ASSIGNEES
SEMICONDUCTOR MATERIALS AND PROCESSES

	Company	Country	Number of Documents
1	IBM	US	750
2	Applied Materials	US	284
3	Micron Technology	US	249
4	GlobalFoundries	US	191
5	Texas Instruments	US	174
6	DuPont	US	144
7	Freescale Semiconductor	US	107
8	LAM Research	US	88
9	Qualcomm	US	78
10	Novellus Systems	US	76

Source: Thomson Reuters Derwent World Patents Index (DWPI)

2011 PATENT ACTIVITY TELECOMMUNICATIONS



	SUBSECTORS	2011 Volume	2010 Volume	% Change
4%	Telephone Exchange Systems	6,144	6,251	-2%
8%	Digital Information Transmission Systems	13,902	12,504	11%
8%	Multiplex & Multiple Access Information Transmission Systems	14,321	14,031	2%
26%	Data Transmission Networks	43,321	39,367	10%
20%	Telephone Subscriber Equipment	32,567	34,834	-7%
3%	Telephone Communications Systems & Installations	4,750	6,511	-27%
6%	Telemetry & Telecontrol	9,353	7,638	25%
25%	Mobile Telephony	41,836	42,836	-3%

Source: Thomson Reuters Derwent World Patents Index (DWPI)

SUBSECTOR SNAPSHOT:

TOP 10 ASIA-PACIFIC ASSIGNEES MOBILE TELEPHONY

	Company	Country	Number of Documents
1	Samsung	KR	1613
2	LG	KR	1209
3	Panasonic Corporation	JP	1108
4	NEC Corporation	JP	1080
5	Sony Corporation	JP	852
6	ZTE	CN	783
7	Kyocera Corporation	JP	778
8	Seiko Epson Corporation	JP	664
9	Sharp Corporation	JP	658
10	Nippon Telegraph and Telephone Corporation	JP	553

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 EUROPE ASSIGNEES
MOBILE TELEPHONY

	Company	Country	Number of Documents
1	Ericsson	SE	459
2	Nokia	FI	395
3	Alcatel-Lucent	FR	269
4	Sony Ericsson Mobile Communications	SE	218
5	Nokia Siemens Networks	NL	129
6	STMicroelectronics	CH	80
7	Vodafone	DE	79
8	France Telecom	FR	62
9	Infineon Technologies	DE	48
10	TomTom	NL	43

Source: Thomson Reuters Derwent World Patents Index (DWPI)

TOP 10 NORTH AMERICA ASSIGNEES
MOBILE TELEPHONY

	Company	Country	Number of Documents
1	Qualcomm	US	843
2	Research In Motion	CA	637
3	Apple	US	343
4	Microsoft	US	282
5	AT&T	US	200
6	Motorola Mobility	US	180
7	Broadcom	US	164
8	Micron Technology	US	137
9	Verizon	US	123
10	IBM	US	122

Source: Thomson Reuters Derwent World Patents Index (DWPI)

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