



What Can We Find From IP Statistics ?

Japan Patent Office
Ryo FUNAKOSHI



OUTLINE

- Importance of Statistics
- What is IP statistics
- Data Availability



Why Statistics? (1)

- “I keep saying that the sexy job in the next 10 years will be statisticians, And I’m not kidding”
 - Hal Varian (Chief Economist, Google)

Why Statistics? (2)

- How do we navigate ourselves to our goal?
 - > We may lose our way
- Where is our goal?
 - > We may not find our goal



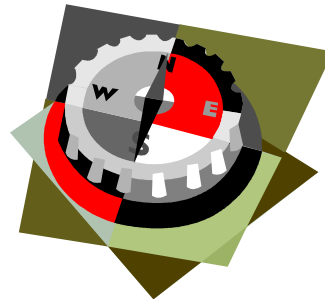
- Statistics can highlight our way

Why Statistics? (3)

- Based on Statistics,

We can

- envision our goals
- highlight the ways
- do actions





What is IP statistics?

Patent indicators are one of indicators

1) which reflect technology output

And

2) which are utilized for science
innovation policy



What is IP statistics?

- A Patent Document contains a large amount of information for statistics analysis
 - Technology (IPC, Prior arts)
 - Place (Address)
 - Time (Date of filing, Date of Grant)

What is IP statistics?

Front Page published in Japan Patent Office

(19)日本国特許庁(JP) (12)公開特許公報(A) (11)特許出願公開番号
特開2000-244579
(P2000-244579A)
(43)公開日 平成12年5月20日(2000.5.20)

(51)Int. Cl. ⁷ G01B 3/00 G02C 26/00 23/02	識別記号 101	FI G01B 3/00 G02C 26/00 23/02 A45C 12/00 A47B 23/02	キーワード(参考) 101 A 2C032 2F029 101 A
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審査請求 未請求 請求項の数 1 〇 L 外国語出願 公開請求 (全6頁) 最終頁に続く

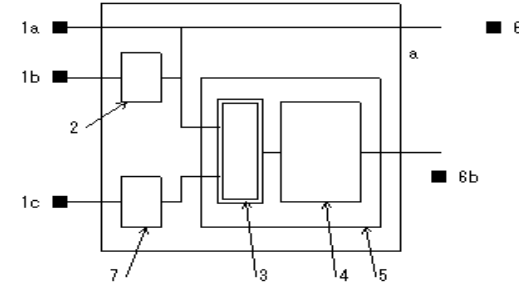
(21)出願番号 特願平11-123456	(71)出願人 390000011 パテント コーポレーション Patent Cooperation アメリカ合衆国ケンタッキー州ルイビル ビー・オー・ボックス 35090 ルイビルガ レリアブラウン タワー 1500 (無番地)
(22)出願日 平成11年11月10日(1999.11.10)	(71)出願人 090000423 日本特許発明株式会社 東京都千代田区内幸町4丁目5番6号
(31)優先権主張番号 83304359.9	(72)発明者 発明 太郎 神奈川県横浜須賀町1丁目2200番地
(32)優先日 平成10年11月12日(1998.11.12)	(74)代理人 123456789 弁理士 代理 太郎 (外2名) 最終頁に続く
(33)優先権主張国 フランス (FR)	

特許法第30条第1項適用申請有り 平成10年9月21日付
画像工学会研究専門委員会主催の1992年度画像符号化シ
ンポジウム (PSCJ92) において文書をもって発表

特許法第65条の2第2項第4号の規定により明細書及び
図面の一部は不掲載とする。

(54)【発明の名称】 ファクシミリ走査装置

(57)【要約】 (修正有)
【目的】 ファクシミリ端末パラメータ識別方法に関し、
ファクシミリ装置機能のパラメータ拡張を容易にする。
【構成】 通信時の端末パラメータを識別する方法におい
て、端末パラメータを含む制御信号の送信端末 1 a、1
bは制御信号のファクシミリ情報フィールドを、複数の
サブフィールドに分離し、各サブフィールドの情報を分
離するファクシミリ情報フィールドのデータ中には現れ
ない特定の識別コードを挿入してファクシミリ情報フ
ィールドを作成する。制御信号の受信端末 7はファクシ
ミリ情報フィールド内の上記特定の識別コードを検出し、
ファクシミリ情報フィールドを複数のサブフィールドに
分離して、各サブフィールドの情報の内容を解析し相手
端末の端末パラメータの内容を検出する。装置機能のパ
ラメータを拡張する場合はユニークコードを挿入して可
変長の端末パラメータを分離する。



1a ■ 6
1b ■
2
1c ■ 8b
7 3 4 5

(11) publication number
(43) publication date

(12) kind of document

(71) applicant
(72) inventor
(74) attorney

(51) IPC

(21) application number
(22) filing date
(31) priority number
(32) priority data
(33) priority country

(54) title of invention
(57) abstract

Indicators

– view from technology

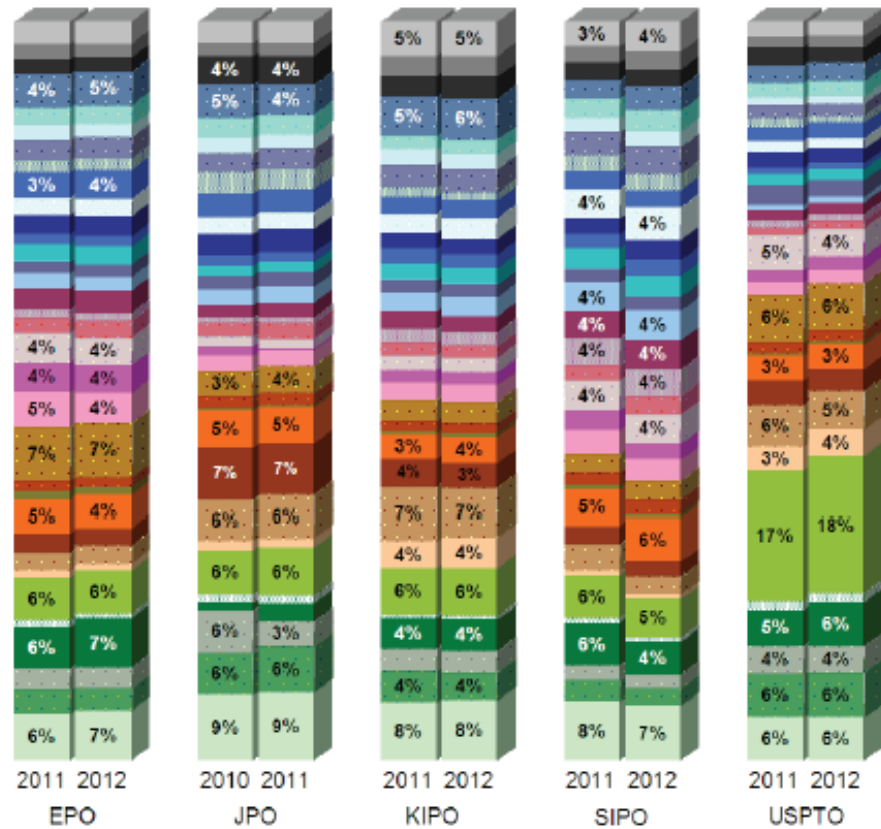
- IPC
- Patent indicators are a unique means to track the rise of emerging technologies



Indicators - Field of Technology

Fig. 4.4: APPLICATIONS FILED - FIELD OF TECHNOLOGY

fiveIPoffices
IP Offices in China, Europe, Japan, Korea and the US



Fields:

- Electrical machinery, apparatus, energy
- Telecommunications
- Basic communication processes
- IT methods for management
- Optics
- Analysis of biological materials
- Medical technology
- Biotechnology
- Macromolecular chemistry, polymers
- Basic materials chemistry
- Surface technology, coating
- Chemical engineering
- Handling
- Engines, pumps, turbines
- Other special machines
- Mechanical elements
- Furniture, games
- Civil engineering
- Audio-visual technology
- Digital communication
- Computer technology
- Semiconductors
- Measurement
- Control
- Organic fine chemistry
- Pharmaceuticals
- Food chemistry
- Materials, metallurgy
- Micro-structural and nano-technology
- Environmental technology
- Machine tools
- Textile and paper machines
- Thermal processes and apparatus
- Transport
- Other consumer goods

Indicators

– view from address

- Address of applicants and inventors: the place where the inventions were born

Patent are used to monitor the technological performance of companies, regions or countries

Indicators

– Location and Technology

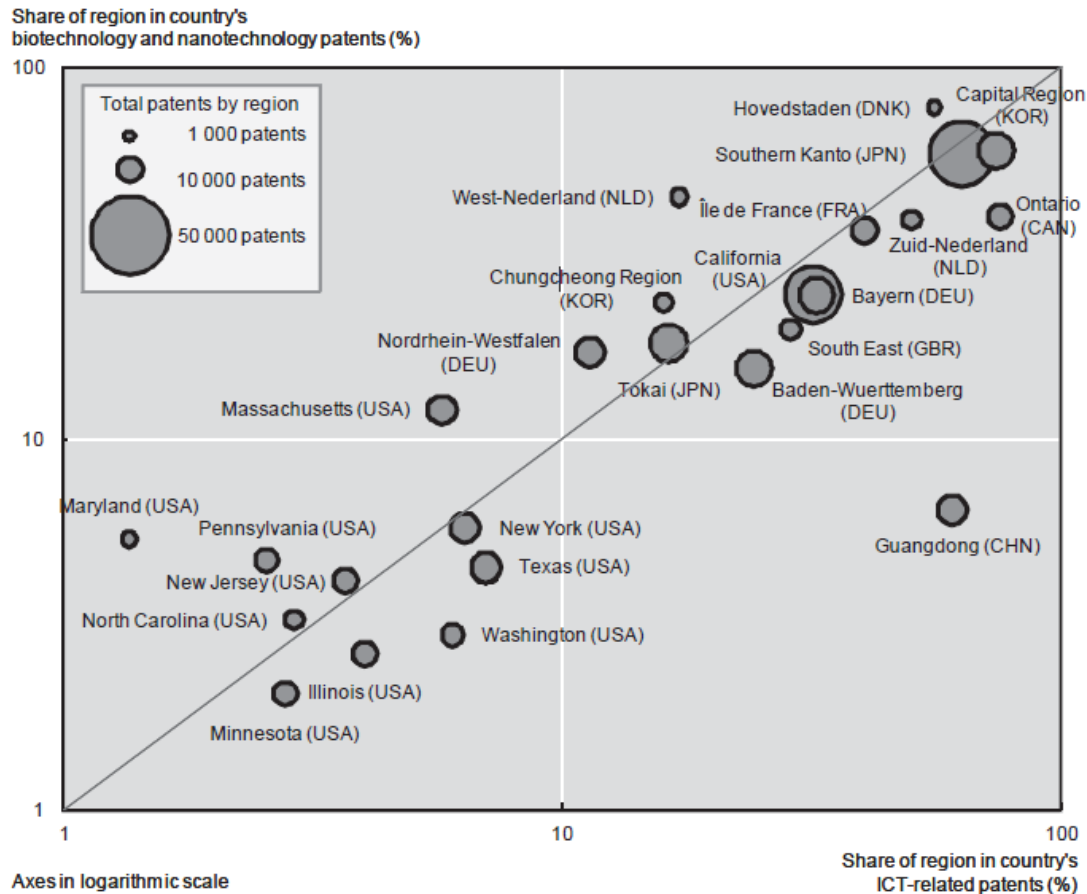


Fig2. Innovation hot spots in ICT, Biotechnologies and nanotechnologies, 2006-2008 (Source: OECD, STI Scoreboard 2011)

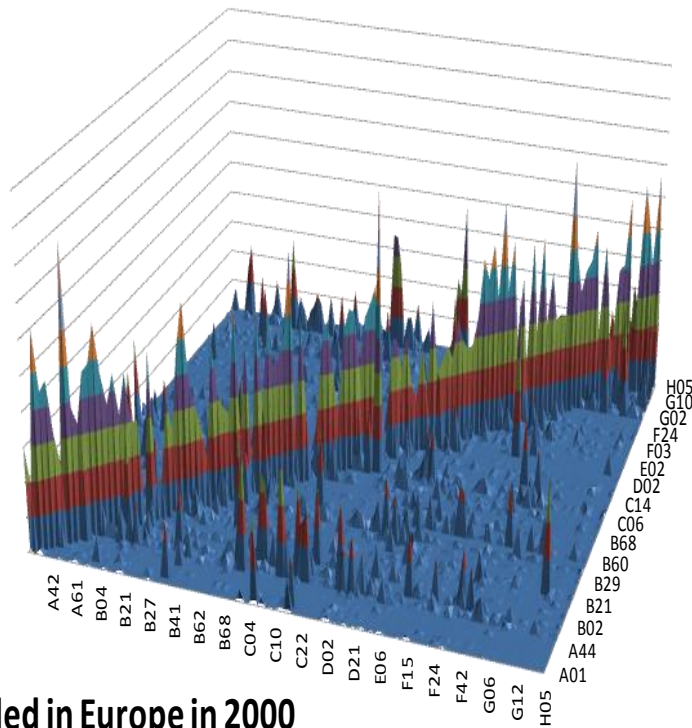


Indicators

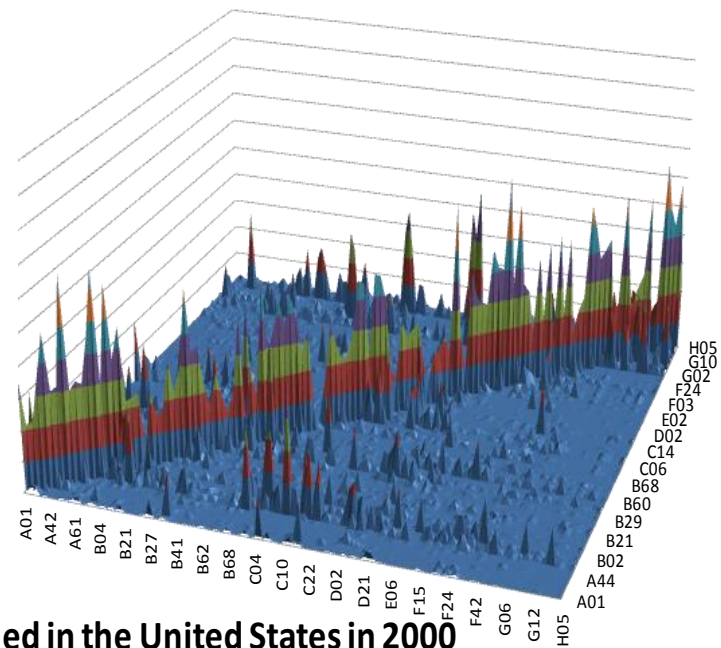
- Patent citations point the use of previous inventions in new inventions, which makes it possible to identify the influence of particular inventions or particular sets of inventions and map between in the economy.

Indicators

– Technological Proximity



Patents filed in Europe in 2000

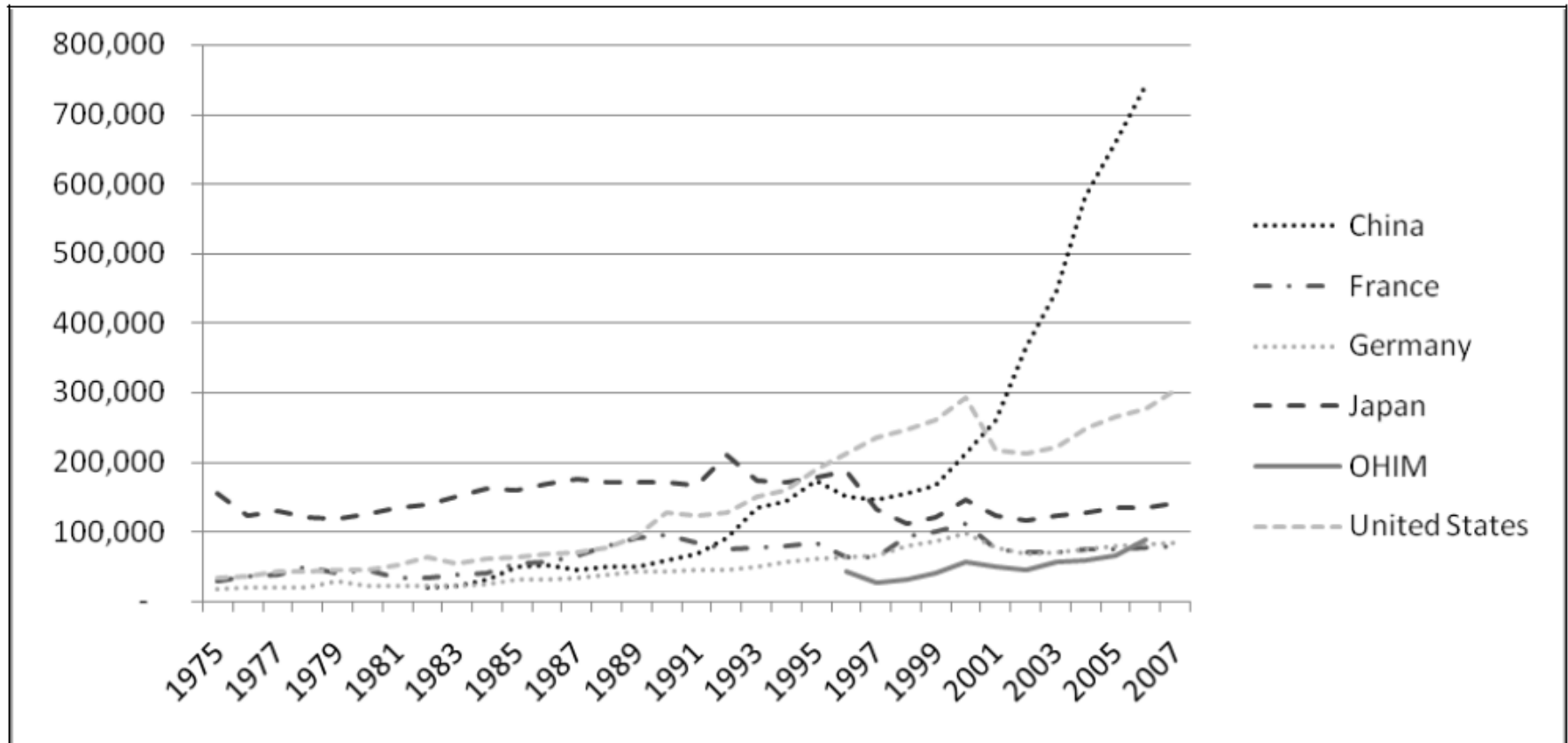


Patents filed in the United States in 2000

Indicators

- Trademark

Figure 3. Evolution of the applications since 1975 in 6 major offices



Indicators

- Trademark

Table 1. Survival rate of registered trademarks at USPTO between 1987 and 2007

		Cancellation or abandonment date																						
		Still valid in 2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	
Registration date	2007	99.97	0.03																					
	2006	99.87	0.10	0.03																				
	2005	99.75	0.10	0.11	0.03																			
	2004	99.66	0.10	0.13	0.09	0.02																		
	2003	99.63	0.09	0.09	0.10	0.07	0.03																	
	2002	99.51	0.13	0.10	0.07	0.06	0.07	0.03																
	2001	87.81	11.99	0.13	0.09	0.07	0.09	0.07	0.02															
	2000	45.56	38.49	14.85	0.09	0.10	0.09	0.09	0.09	0.01														
	1999	45.89	0.14	40.48	11.95	0.10	0.12	0.10	0.08	0.09	0.01													
	1998	44.40	0.09	0.31	41.46	12.53	0.13	0.12	0.10	0.11	0.08	0.02												
	1997	41.19	3.00	0.10	0.34	42.95	11.28	0.12	0.09	0.09	0.10	0.07	0.02											
	1996	30.00	10.72	3.55	0.19	0.14	40.95	12.49	0.10	0.13	0.08	0.09	0.09	0.03										
	1995	29.76	0.10	11.85	3.33	0.04	0.15	52.77	0.19	0.13	0.08	0.08	0.13	0.08	0.03									
	1994	29.52	0.04	0.10	12.44	3.87	0.05	2.38	49.52	0.26	0.11	0.09	0.09	0.14	0.10	0.02								
	1993	30.00	0.04	0.04	0.11	12.90	3.74	0.31	2.36	31.98	16.66	0.09	0.10	0.10	0.12	0.07	0.01							
	1992	30.17	0.11	0.01	0.02	0.13	14.43	2.50	0.06	0.37	32.29	18.45	0.13	0.12	0.10	0.09	0.07	0.01						
	1991	30.00	0.04	0.02	0.01	0.02	0.09	18.19	0.06	0.05	0.09	27.26	24.80	0.14	0.13	0.10	0.10	0.17	0.02					
	1990	28.76	0.06	0.01	0.01	0.03	0.05	0.55	14.77	0.02	0.04	0.13	24.59	29.67	0.13	0.11	0.11	0.15	0.12	0.03				
	1989	41.32	0.04	0.08	0.05	0.03	0.04	0.07	0.66	1.31	0.02	0.05	0.39	28.94	26.14	0.11	0.10	0.15	0.10	0.14	0.01			
	1988	43.15	0.08	0.09	0.07	0.04	0.05	0.04	0.08	0.04	0.04	0.03	0.12	0.33	28.65	26.26	0.11	0.15	0.09	0.18	0.11	0.03		
1987	37.14	5.64	0.06	0.08	0.05	0.05	0.06	0.05	0.04	0.02	0.03	0.05	0.06	0.32	30.40	24.72	0.14	0.11	0.13	0.15	0.09	0.02		

Source: USPTO Trademark Database, OECD calculations. (STI WORKING PAPER 2009/6)

Indicators

- Patents and Trademarks

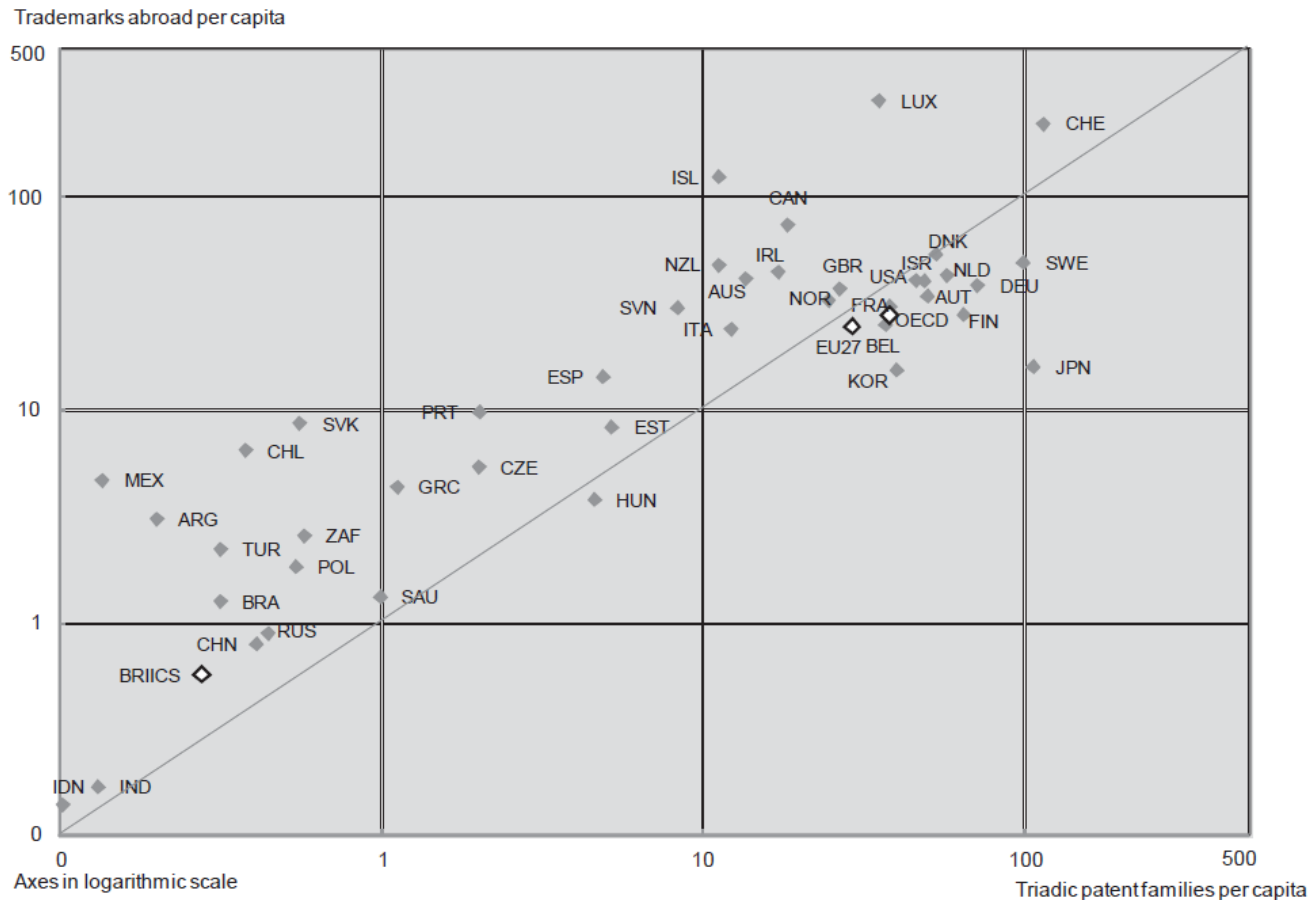
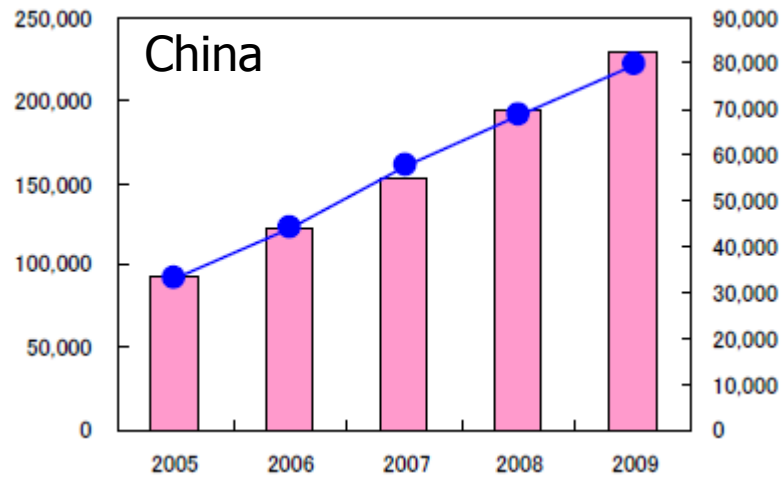
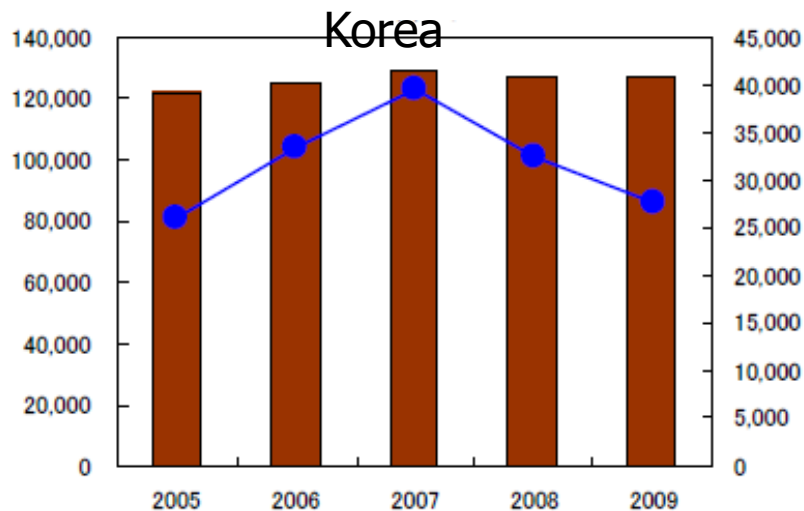
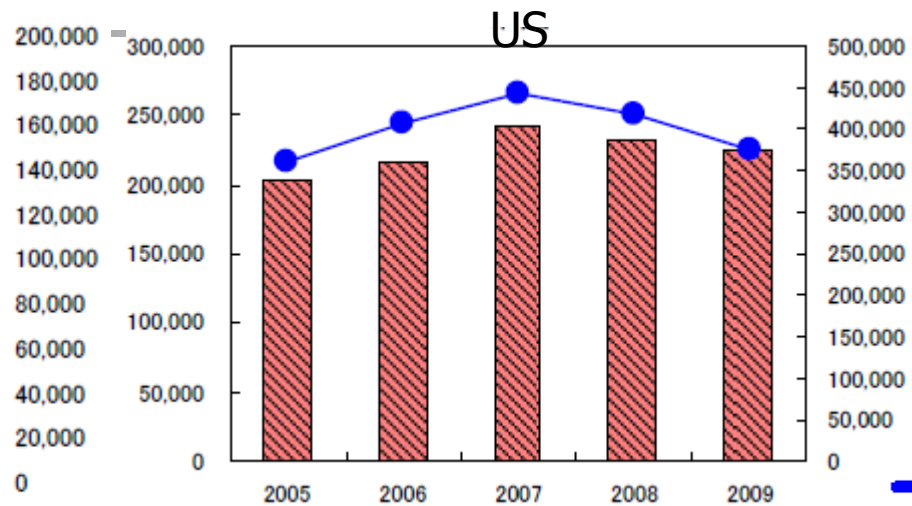
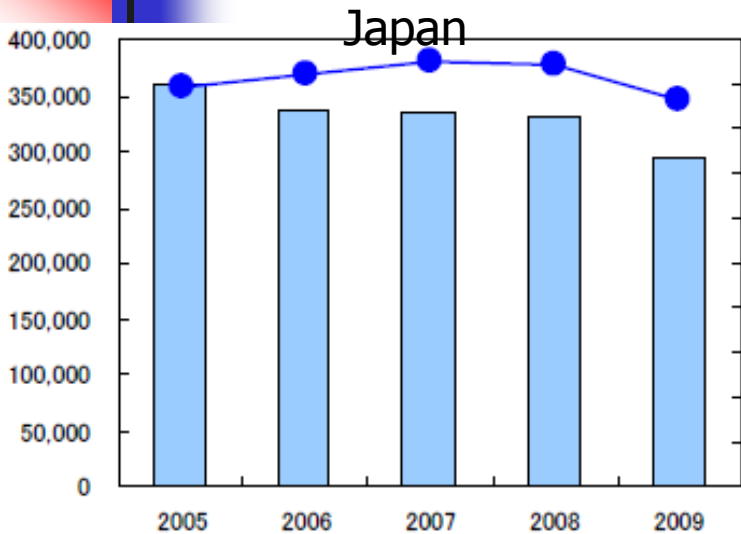


Fig4. Patents and Trademarks per capita, 2007-2009 (Source: OECD, STI Scoreboard 2011)

Indicators

- Patent and R&D

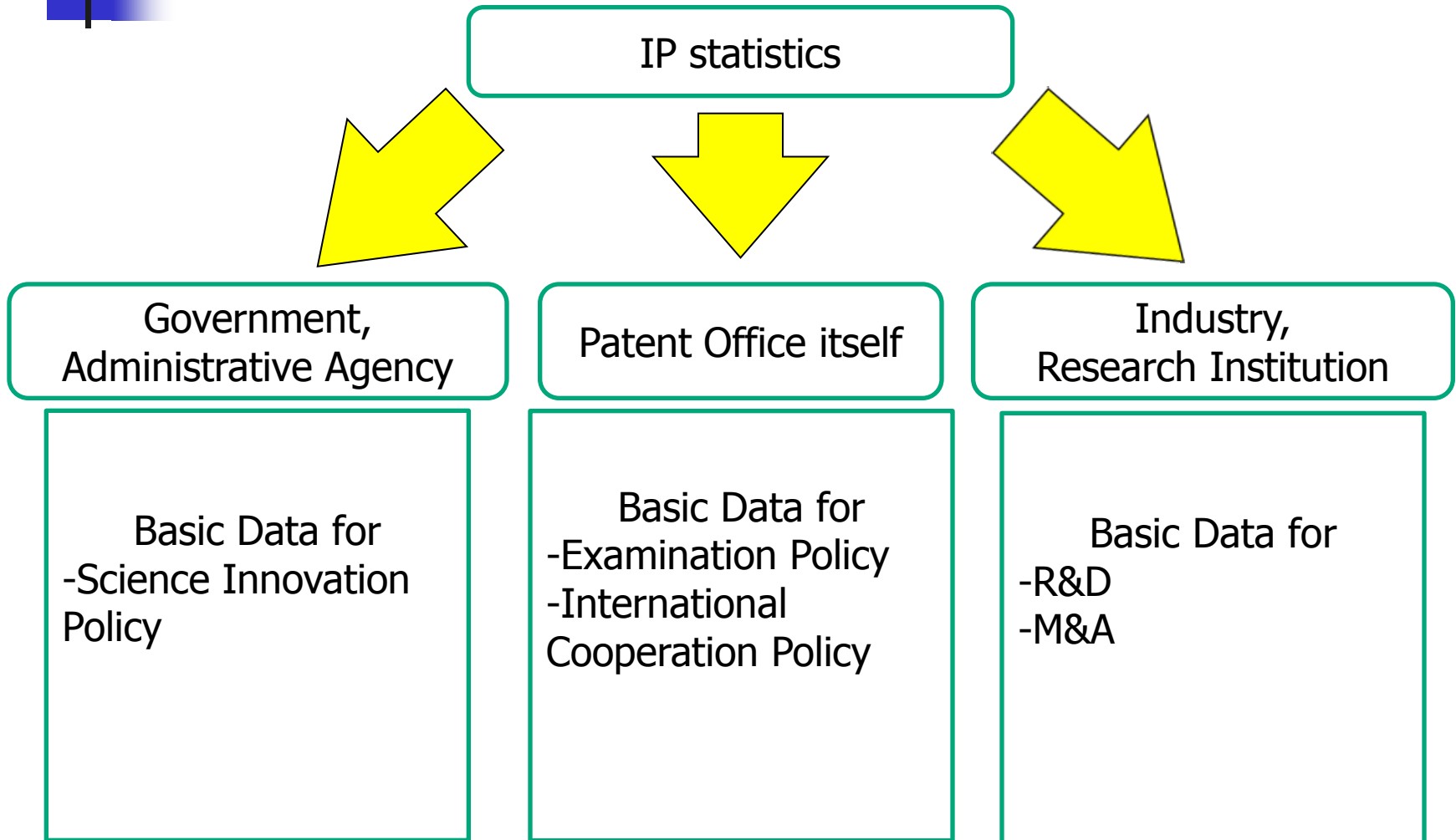


R&D
(YEN)

JPO, Trend of patent application, 2013

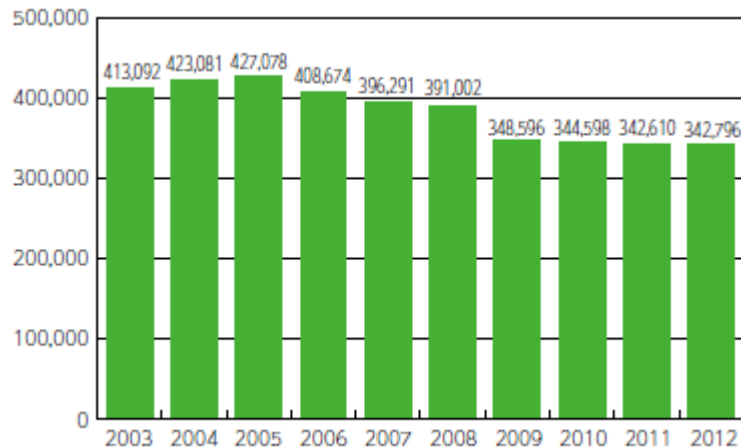


How to use IP indicators

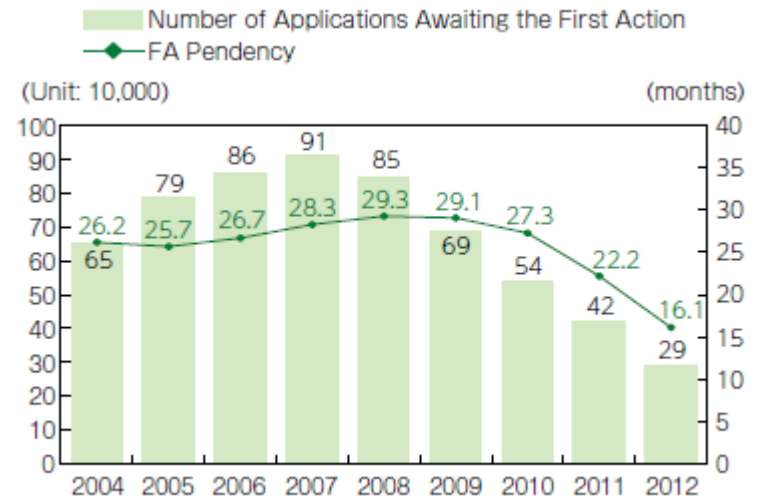


How to use indicators

Number of Patent Applications



Number of Applications awaiting the First Action and First Action Pendency



JPO's goal is that JPO has to decrease the FA pendency less than 12 months. Based on the result of statistics,

- JPO re-distributes human capital
- JPO hired fixed-term examiners
- JPO increases the outsourcing of prior art searches



How to use IP indicators

Annual Conference

<Patent Statistics For Decision Makers>

- 2010 Vienna
- 2011 Washington DC
- 2012 Paris
- 2013 Rio de Janeiro
- 2014 Tokyo



Availability of Data

- Where do we collect data for IP Statistics?

- Document data

- e.g.) IPDL (JPO), Espacenet (EPO), etc

- Raw data

- e.g.) Standardized Data : JPO

- DocdB, PATSTAT : EPO

- Harmonized Name Data, etc : OECD

Data Availability

The Industrial Property Digital Library (IPDL) offers the public access to IP Gazettes of the JPO free of charge through the Internet.

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Published since March 2001

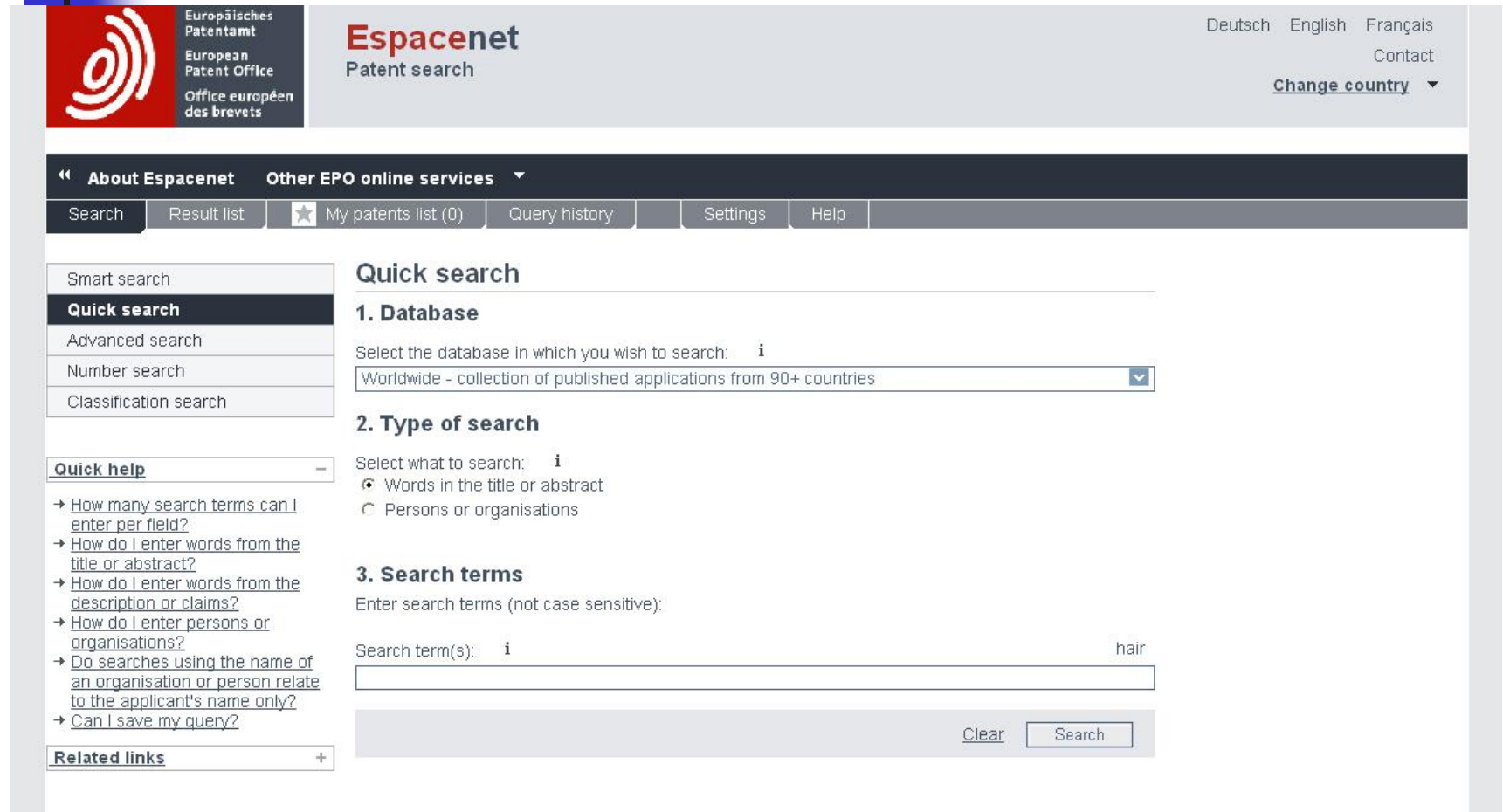
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(72) Inventor	<input type="text"/>	ex) kiminho
(11) Publication(Reg.) No.	<input type="text"/>	ex) 1020000001010, (100143812)
(43) Publication Date	<input type="text"/>	ex) 20040301~20040323
(21) Application No.	<input type="text"/>	ex) 1019980023646
(22) Application Date	<input type="text"/>	ex) 20040301~20040323
(51) IPC	<input type="text"/>	ex) B60R13/10
(30) Priority No.	<input type="text"/>	ex) US96628428
(54) Title	<input type="text"/>	ex) (car+vehicle)*engin?
(57) Abstract	<input type="text"/>	ex) LCD*monitor

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ex) (Applicant **AND** Inventor) = AP * IV
ex) (Applicant **OR** IPC) = AP + IP

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Data Availability

EPO Worldwide Patent Statistical Database (PATSTAT)

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Bibliographic data can be retrieved from 1920 for some patent authorities.

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Data Availability

Raw data on patents

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- OECD [Triadic Patent Families Database](#), July 2011: set of patents filed for at the EPO, the Japan Patent Office (JPO) and granted by the USPTO that share one or more priority applications.
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Also available: the OECD HAN database

The [OECD "Harmonised Applicants' Names" database](#) provides a dictionary of applicants' names which have been elaborated with business register data, so that it can easily be matched by all users. The data is based on applicant's for patents filed to the EPO and through PCT. The dataset is complementary to Eurostat's method for harmonising applicants names.

Most of these datasets mainly derive from EPO's Worldwide Statistical Patent Database ([PATSTAT](#), April 2011) which provides a harmonised and comparable set of information on patent applications taken in patent offices worldwide. Please contact the [EPO](#) for further information on this database.

<http://www.oecd.org/sti/inno/oecdpatentdatabases.htm>

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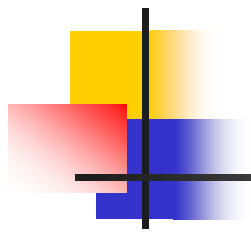
ISBN : 9789264056442 (PDF) ; 9789264054127 (print)

DOI : 10.1787/9789264056442-en

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This 2009 edition of the *OECD Patent Statistics Manual* takes stock of the recent developments in the field. It provides guiding principles for the use of patent data in the context of S&T measurement, and recommendations for the compilation and interpretation of patent indicators in this context. It aims to show what patent statistics can and cannot be used for, and how to count patents in order to maximise information on S&T activities while minimising statistical noise and biases. Finally, it describes how patent data can be used in the analysis of a wide array of topics related to technical change and patenting activity including industry-science linkages, patenting strategies by companies, internationalisation of research, and indicators on the value of patents.

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Thank you