

The Role of Patent Information in Promoting Innovation

Andrew Czajkowski
Head, Innovation and Technology Support Section

Kigali
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Overview

- Why have a patent system?
- Which information can be obtained from a patent?
- How can we use this information?

Patent system

- **Protection:** Reward investments made in developing a new invention
- **Disclosure:** Publish and make known technical information of a new invention

→ Innovation and economic growth

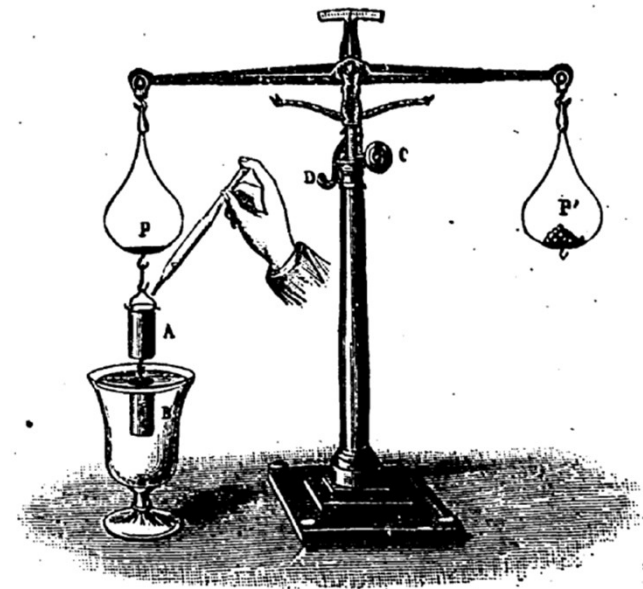


FIG. 57. — Balance hydrostatique.

Nature of patent information

Protection

- Territorial
- Time-limited
- Claims only

→ Exclusive right

Disclosure

- Global
- Permanent
- Full document

→ Learning opportunity

Patent documents

- 100+ million patent documents published to date
- 2+ million new patent applications published yearly
- Technical information never published elsewhere
- Highly standardized format

→ A unique source of information

Source: Bregonje, 2005; WIPO, 2012

Patent information: New opportunities!

- Many patent collections are now available online in digital format
- Search services and tools have made the exploitation of this information simpler and more cost-effective
- Many search services and tools are available for free!
→ Opportunities exist to open patent information to new constituencies

Users of patent information

- Individual inventors
- Academic institutions
- Research institutions
- Small and medium enterprises (SMEs)
- Industry
- Government agencies
- Patent attorneys
- and many others...

Uses of patent information: Legal

- Determine the patentability of your inventions
- Draft strong patent applications
- Avoid patent infringement
- Determine the validity of existing patents and which technologies belong to the public domain

Patent information and the public domain

- Technology disclosed in a patent document **may** be in the public domain if:
 - The patent application has not been filed in a given country
 - The patent has not been granted
 - The patent term has expired, or the patent has not been renewed
 - The disclosed information is not covered by the claims

Scenario

- A manufacturer of wind turbines would like to identify new technologies to incorporate into its products.
 - The manufacturer would also like to know whether these technologies can be exploited freely, or whether licenses must be obtained from patent holders.
- Avoid patent infringement



Photo source: Pavel Ševela / Wikimedia Commons

Record

1. (WO2001069081) BEARING FOR AN ADJUSTABLE ROTOR BLADE ON A WIND ENERGY PLANT

PCT Biblio. Data	Description	Claims	National Phase	Notices	Documents
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Latest bibliographic data on file with the International Bureau [↔](#)

Pub. No.: WO/2001/069081 **International Application No.:** PCT/EP2001/002008
Publication Date: 20.09.2001 **International Filing Date:** 22.02.2001
Chapter 2 Demand Filed: 18.07.2001

IPC: *F03D 11/00* (2006.01), *F16C 19/18* (2006.01), *F16C 19/54* (2006.01)

Applicants: WOBLEN, Aloys [DE/DE]; (DE)
Inventors: WOBLEN, Aloys; (DE)
Agent: EISENFÜHR, Günther; Eisenführ, Speiser & Partner Martinstrasse 24 28195 Bremen (DE)


Priority Data: 100 11 464.4 10.03.2000 DE

Title
(DE) LAGERUNG EINES VERSTELLBAREN ROTORBLATTS EINER WINDENERGIEANLAGE
(EN) BEARING FOR AN ADJUSTABLE ROTOR BLADE ON A WIND ENERGY PLANT
(FR) PALIER POUR UNE PALE DE ROTOR REGLABLE D'UNE EOLIENNE

Abstract:
(DE) Die Lagerung eines verstellbaren Rotorblatts an der Rotornabe einer Windenergieanlage hat als Stellantrieb-Schwenklager ein Wälzlager für die Übertragung hoher Axialkräfte und grosser Biegemomente bei geringen Relativbewegungen zwischen den Lagerpartnern. Es besteht aus einem zwei radial zueinander versetzte Reihen von Wälzkörpern formschlüssig aufnehmenden Lagerring für den einen Lagerpartner und einem diese im Querschnitt U-förmig umgreifenden Lagerring für den anderen Lagerpartner. Der Lagerring für das den anderen Lagerpartner bildende Rotorblatt besteht aus zwei Ringen (10, 12) mit unterschiedlichen Durchmessern, die unabhängig voneinander am Rotorblatt (3) befestigt sind. Die kreisförmige Wurzel des hohlen Rotorblatts (3) ist in zwei Teilschalen (3a, 3b) gegabelt und jede Teilschale ist an einem der beiden Ringe (10, 12) des einen Lagerrings befestigt.
(EN) The invention relates to the bearing for an adjustable rotor blade on



Legal status: National phase

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1. (WO2001069081) BEARING FOR AN ADJUSTABLE ROTOR BLADE ON A WIND ENERGY PLANT

PCT Biblio. Data | Description | Claims | **National Phase** | Notices | Drawings | Documents

Available information on National Phase entries([more information](#))

Office	Entry Date	National Number	National Status
South Africa	02.09.2002	200207033	
Japan	10.09.2002	2001567934	
Republic of Korea	09.09.2002	1020027011801	Published: 20.12.2002 Granted: 13.07.2007
South Africa	02.09.2002	2002/07033	
European Patent Office	26.09.2002	2001907550	Published: 18.12.2002 Granted: 11.08.2004
Canada	04.09.2002	2402044	
Australia	02.09.2002	2001235488	Granted: 21.10.2004
India	02.09.2002	IN/PCT/2002/01120/KOL	Published: 25.11.2005 Granted: 03.05.2007
New Zealand	12.09.2002	521333	Published: 28.10.2005 Granted: 09.02.2006
United States of America	17.12.2002	10220950	

Legal status: Australia

The screenshot shows the AusPat website interface. At the top left is the Australian Government IP Australia logo. The main header features the 'AusPat' logo. Below the header, the page title is 'Application Details'. On the right side, there are two buttons: 'MySearches (0)' and 'MyList (0)'. A 'Start again' link is located below these buttons. In the center, there are links for 'Hide empty sections', 'Add to MyList', 'Expand all', and 'Collapse all'. The main content area displays the application number '2001235488' and the title ': Bearing for an adjustable rotor blade on a wind energy plant'. A list of expandable sections follows: Bibliographic data, Specification/e-Register, eDossier, Lifecycle details, Fee/Publication history, and Continuation/Renewal fee history. The 'Continuation/Renewal fee history' section is expanded, showing a table with the following data:

Date paid	2018-02-12	Paid to date	2019-02-22	Next fee due	18	Fee Table
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Below the table, the 'Last agency address' section is visible, with expandable options for Publication history, Ownership details, and Oppositions, Disputes & Amendments.

Uses of patent information: technical

- Develop new solutions to technical challenges faced in the country, or adapt existing technologies to suit local conditions
- Target research resources more effectively (avoid “reinventing the wheel”)
- Technical information must be sufficiently clear and comprehensive to be carried out by a typical expert in the field of technology (“a person having ordinary skill in the art”)

Record

1. (EP2339175) System for monitoring and controlling a wind turbine farm

National Biblio. Data	Description	Claims	Drawings	Documents
Permanent Link/ Bookmark: 				
Application Number: 10194645 Application Date: 13.12.2010				
Publication Number: 2339175 Publication Date: 29.06.2011				
Publication Kind : A3				
Designated States: AL,AT,BA,BE,BG,CH,CY,CZ,DE,DK,EE,ES,FI,FR,GB,GR,HR,HU,IE,IS,IT,LI,LT,LU,LV,MC,ME,MK,MT,NL,NO,PL,PT,RO,RS,SE,SI,SK,SM,TR.				
IPC:	F03D 11/00 F03D 7/04 			
Applicants:	GEN ELECTRIC			
Inventors:	ZHU WEI RAJ VASANT			
Priority Data:	200910262639 25.12.2009 CN			
Title:	(FR) Système de surveillance et de contrôle d'un parc éolien (EN) System for monitoring and controlling a wind turbine farm (DE) System zur Überwachung und Steuerung einer Windturbinenanlage			
Abstract:	(EN) A computerized system (40) for operating at least one wind turbine (10) is disclosed. The system (40) includes a supervisory control and data acquisition (SCADA) system and a display (80) for depicting a graphical output of information from the SCADA system. The SCADA system analyzes the information and transmits a signal to the display (80) to visually depict the information in a dynamic manner.			

European patent application

[0001] The present disclosure is directed generally to a system and method for monitoring and controlling the operation of a wind turbine or wind turbines, and specifically to a system or method for dynamically displaying performance-related information for a wind turbine or wind turbines.

[0002] In recent years, reliance upon wind as a source of energy has grown. As reliance upon wind as a source of energy continues to grow, increased efficiency of wind turbines and wind turbine farms increases in importance.

[0003] Generally, a wind turbine converts wind energy into rotational energy, and more specifically, converts kinetic energy of wind into mechanical energy. The mechanical energy is used for producing electrical power. Wind turbines may include a rotor having multiple blades that rotate in response to force provided by the wind. Upon rotating the multiple blades, a drive shaft rotates, which in turn drives an electrical generator to generate the electrical power.

[0004] A wind farm is a group of interconnected wind turbines at a location. The location of the wind farm may consist of two wind turbines to hundreds of wind turbines. The location of the wind farm may cover a small area of hundreds of square yards (square meters) to an extended area of hundreds of square miles (square kilometers). The location of the wind farm may be located off-shore or near-shore, typically selected so as to increase the energy of the wind. The location may be selected to increase the energy generated by the wind.

[0005] Wind turbines and wind farms can be monitored by a computer system, for example, a Supervisory Control and Data Acquisition system ("SCADA" system). The SCADA system can monitor and control a plant or equipment in industries such as telecommunications, water and waste control, energy, oil and gas refining, transportation. The SCADA system can gather information, such as where a leak on a pipeline has occurred, transfer the information back to a central site, alert a home station that the leak has occurred, carry out necessary analysis and control, such as determining if the leak is critical, and display the information in a logical and organized manner. The SCADA system can be simple, such as a system that monitors environmental conditions of a small office building, or complex, such as a system that monitors all activity in a nuclear power plant or a municipal water system.

[0006] As wind turbines and wind farms become more interconnected, larger, and/or more remote, providing performance-related information to an operator about one or more wind turbines or wind farms becomes more important. If the operator receives too little information, then the operator will not be aware of performance-related issues. If the operator receives too much information, then the operator will not be capable of adequately responding to performance-related issues. If the operator receives the information too late, then a trip event will likely occur. Addressing the performance-related issue prior to a trip event can increase overall efficiency of a wind turbine or wind turbine farm. Failure to monitor and control the wind turbines or wind farms can result in decreased efficiency or failure of the wind turbine or wind farm.

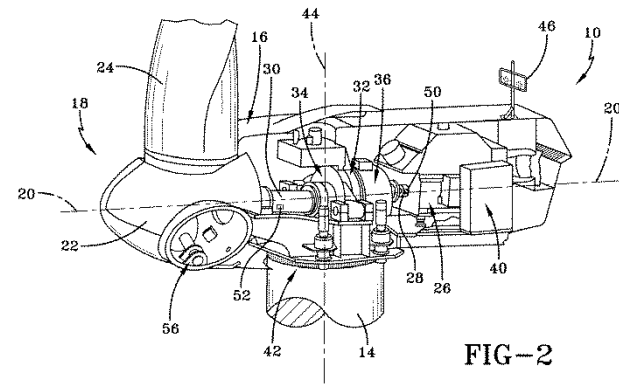


FIG-2

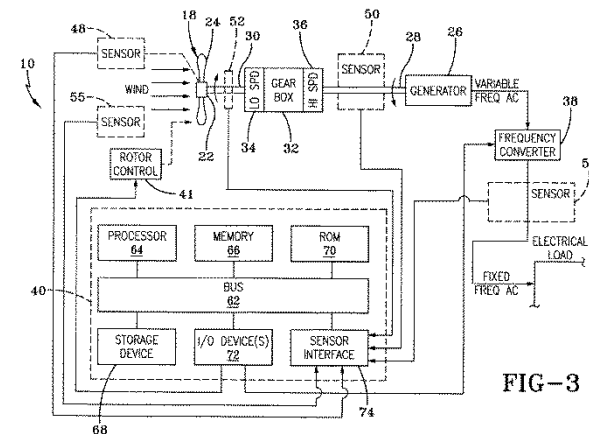


FIG-3

Uses of patent information: business / policy

- Track research activities of competitors
- Identify opportunity for licensing and joint ventures
- Review trends in specific areas of technology

Scenario

- The manufacturer of wind turbines would like to identify its major competitors and potential partners to develop new technologies and products.



Photo source: W.Wacker (Wikimedia)

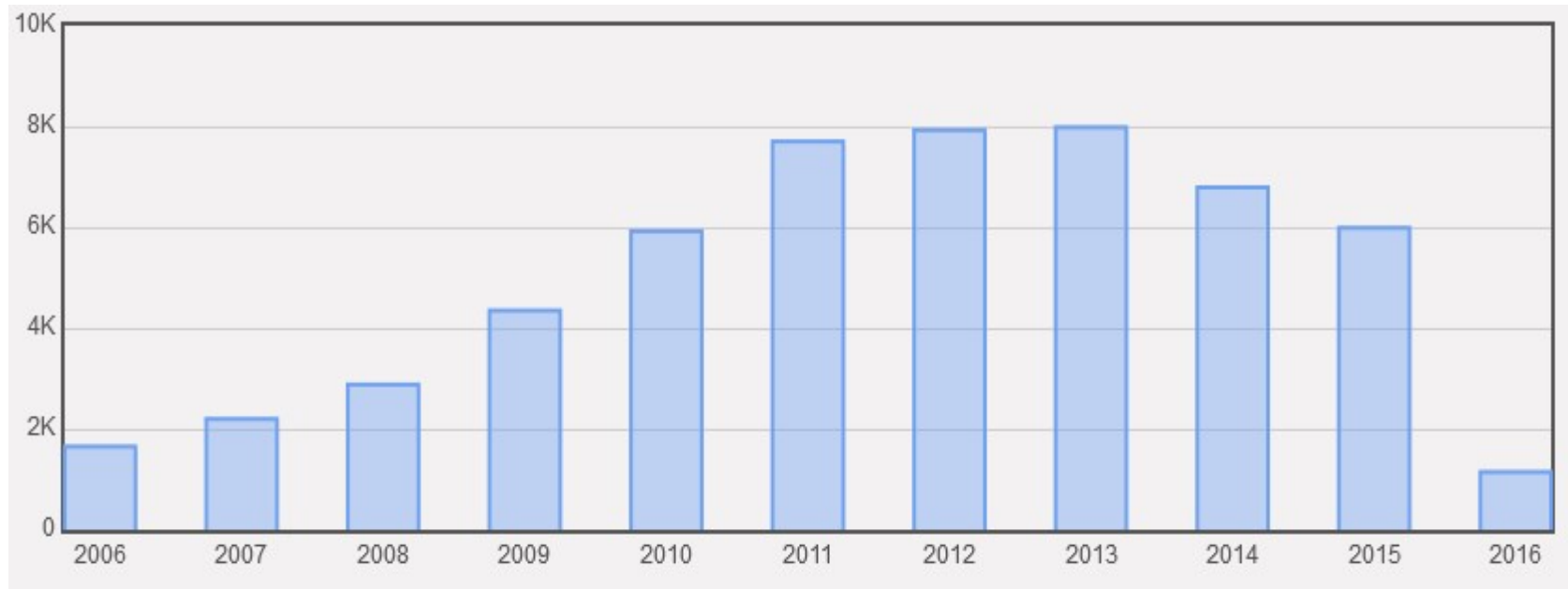
Search results

Analysis

Options Table Graph Options bar pie Line

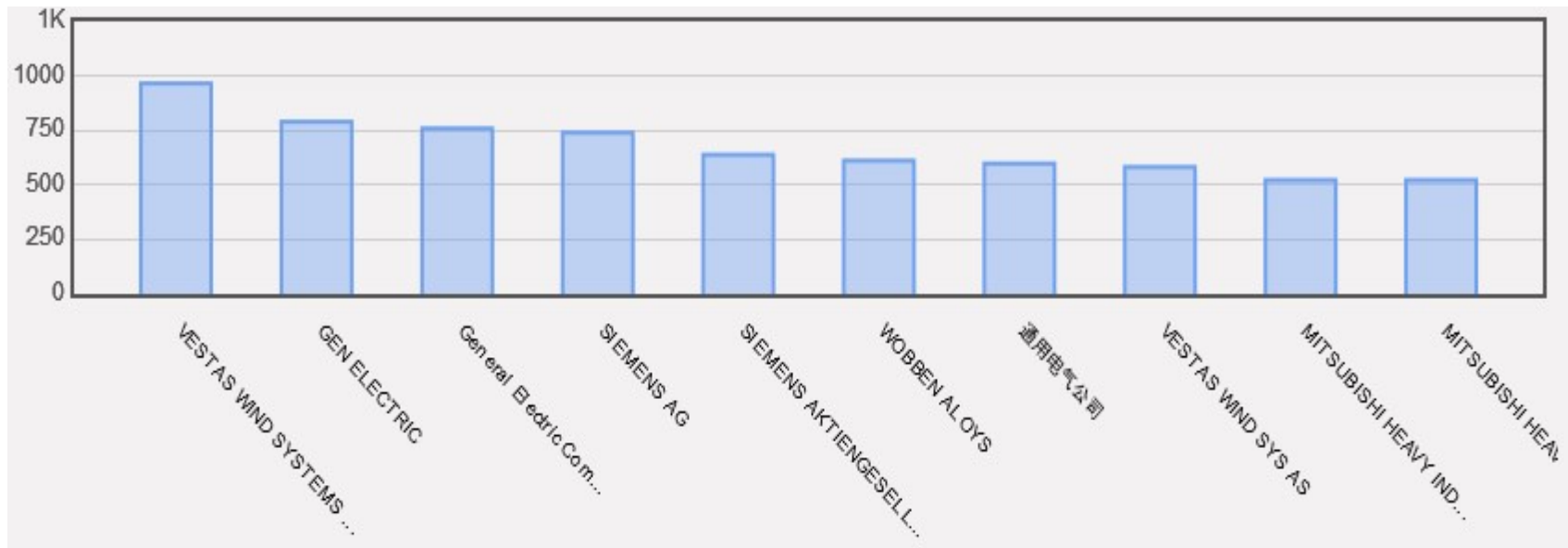
Countries		Main IPC		Main Inventor		Main Applicant		Pub Date	
Name	No	Name	No	Name	No	Name	No	Date	No
China	20984	F03D	66043	WOBZEN ALOYS	474	VESTAS WIND SYSTEMS A/S	966	2006	1653
United States	9403	F03B	3632	WOBZEN, ALOYS	261	GEN ELECTRIC	790	2007	2196
PCT	7380	H02K	3022	Wobzen Aloys	189	General Electric Company	759	2008	2880
European Patent Office	6965	H02J	2551	Литвиненко Александр Михайлович (RU)	175	SIEMENS AG	740	2009	4349
		H02P	2533			SIEMENS AKTIENGESELLSCHAFT	639	2010	5920
Republic of Korea	5334	F16H	1570	gleich Anmelder	148			2011	7701
Japan	3765	E04H	1415	WOBZEN, Aloys	127	WOBZEN ALOYS	612	2012	7926
Germany	3442	F01D	1322	STIESDAL HENRIK	125	通用电气公司	598	2013	7985
Spain	2477	F16C	1167	Litvinenko Aleksandr Mikhajlovich (RU)	107	VESTAS WIND SYS AS	582	2014	6791
Canada	2440	F03G	1081	원인호	102	MITSUBISHI HEAVY INDUSTRIES, LTD.	523	2015	5992
Russian Federation	1884			アロイス・ヴォベン	94	MITSUBISHI HEAVY IND LTD	522	2016	1145
Brazil	723								
Argentina	302								

Filing trends



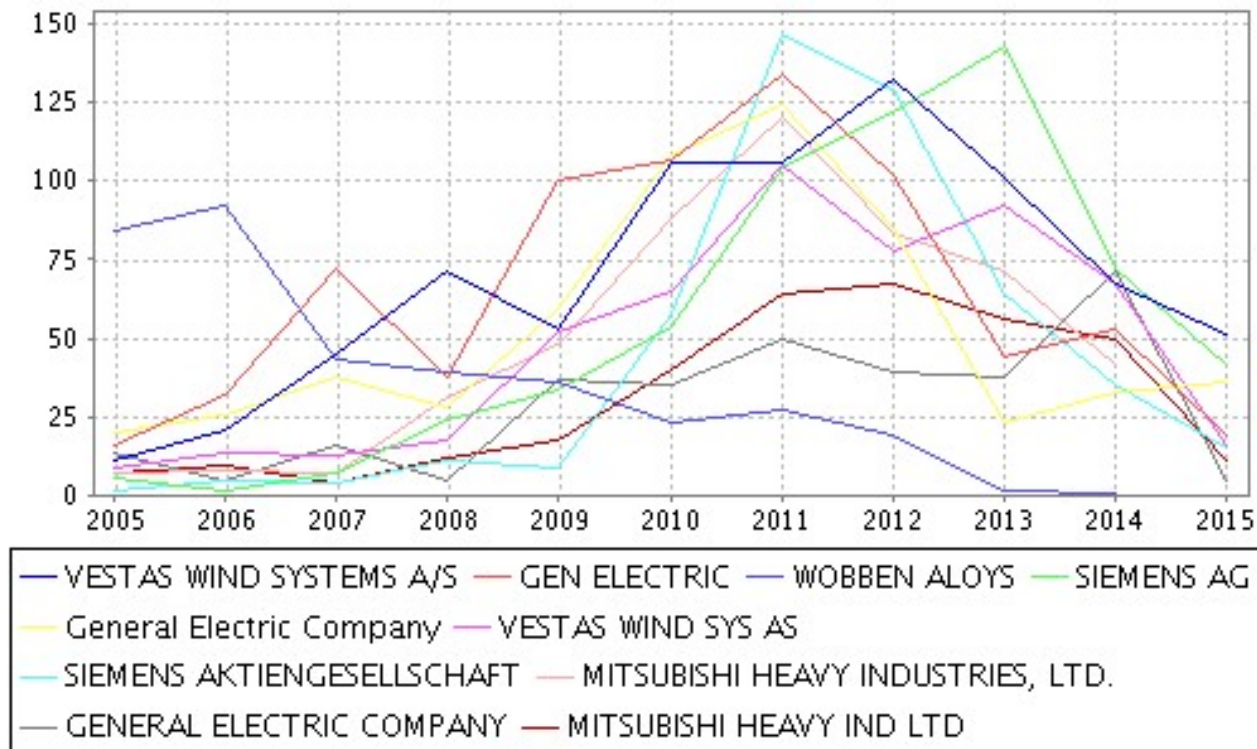
■ How is this technology evolving over time?

Top applicants



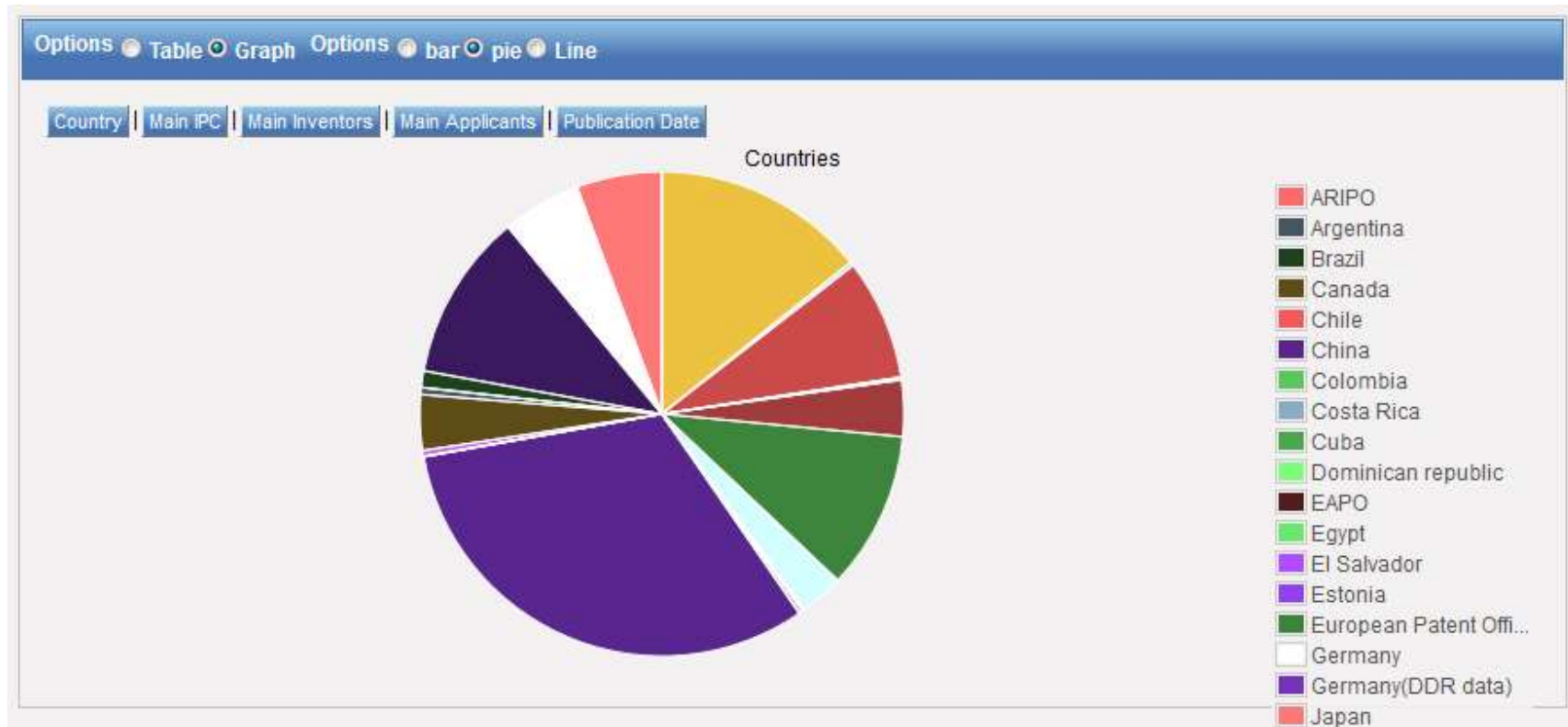
- Who is particularly active in this field of technology?
- From whom can I seek licenses, or with whom can I negotiate partnerships?

Top applicants



■ How is the patenting activity of top applicants evolving over time?

Top offices of filing



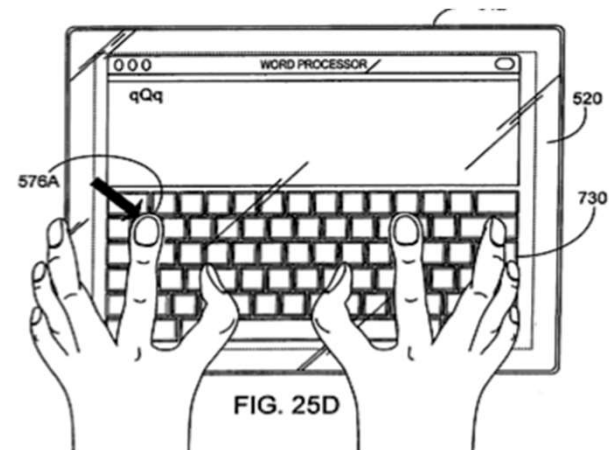
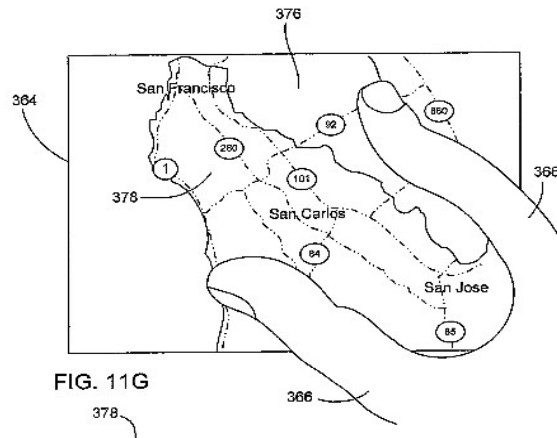
- With which offices do applicants tend to file their patent applications in this field of technology?

Scenario

- A consumer electronics company would like to find out more about the research and development activities of its secretive competitor.

→ Track research activities of competitors

Patent application



- PCT application: WO 2006/020305 (“Gestures for Touch-Sensitive Input Devices”)
- Published: February 2006

Competitor intelligence: Product



- Apple Computer's iPhone
- Released: January 2007

tisc@wipo.int