

Finding **TECHNOLOGY** Using **PATENTS**

An Introduction



<https://patentscope.wipo.int>

Patents represent a vast source of information covering every field of technology. Using patent information to find technology from around the world is easy.

▶▶ How does the patent system work?

The **patent system** aims to encourage innovation and economic growth by:

- **Protecting** the creativity and **rewarding** investments made in developing a new invention;
- **Publishing** and **disclosing** technical information related to new inventions.

Patents protect inventions for a specific period of time – generally no more than 20 years – and only in a specific country or a group of countries.

Patents are published after a specific time – usually 18 months after filing – disclosing all the technical details of the invention.

It is important to differentiate between the two principal functions of the patent system:

- **Patent protection** is granted on a **territorial** basis, i.e., protection is limited to a specific country or region; while
- **Patent information** is disclosed **globally**, i.e., anyone, anywhere in the world can learn from this information.

▶▶ What does patent information cover?

Patent information comprises all information which has either been published in a patent document or can be derived from analyzing patent statistics. It includes:

- **Technical information** from the description and drawings of the invention;
- **Legal information** from the patent claims defining the scope of the patent and from its legal or validity status in specific countries;
- **Business-relevant information** from reference data identifying the inventor, date of filing, country of origin, etc.;
- **Public policy-relevant information** from an analysis of filing trends which can be used by policymakers, e.g., in national industrial policy strategy.

More particularly, the information in a patent document refers to the following:

- **Applicant:** the name of the individual or company applying to have a particular technology protected;
- **Inventor:** the name of the person or persons who invented and developed the invention;
- **Description:** a clear and concise explanation of known existing technologies and problems associated with them and how the new technology is applied to solve these problems; specific examples of the new technology are also usually given;
- **Claims:** a statement defining the scope of the protection sought or granted through the patent;
- **Citation and references:** certain patent documents also include references to related technology information uncovered by the applicant or by a patent examiner during the patent granting procedure; these references and citations include both patent and non-patent documents.

Fig. 1 Front page of an international patent application

Type of application or publication, in this particular case an International Application	(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)
Applicant's name and address	(19) World Intellectual Property Organization International Bureau
Inventor's name and address	(43) International Publication Date 28 October 2004 (28.10.2004)
Agent or attorney representing applicant or inventor	(18) International Publication Number PCT WO 2004/092013 A2
Title	(51) International Patent Classification ¹ B64G
Abstract	(57) Abstract: A rocket-powered spacecraft having a wing which has hinged all portions which can be elevated above a hinge line. Tail booms extend rearwardly from the outer ends of the all wing portions, and rudders are mounted at the all ends of the booms. Each tail boom supports a horizontal tail with an elevator at its trailing edge. In normal flight, the wing all portions are not elevated, and the wing has a normal airfoil shape. During atmosphere reentry, the wing all portions are evenly elevated to provide a stable high drag attitude for the spacecraft for speed reduction at low thermal and structural loading. After reentry, the all wing is returned to an un-elevated position which enables gliding flight to a horizontal runway landing.

The information contained in patent documentation can be aggregated to provide **statistics** on levels of patenting activity within or between countries and regions.

►► Why use patent information?

Patent information represents a vast source of technological and legal information presented in a **standardized format** and often **not reproduced anywhere else**. It can assist users to:

- Avoid duplication of research and development effort;
- Determine the patentability of their inventions;
- Avoid infringing other inventors' patents;
- Estimate the value of their or other inventors' patents;
- Exploit technology from patent applications that have never been granted, and patents that are not valid in certain countries or are no longer in force;
- Gain intelligence on the innovative activities and future direction of business competitors;
- Extract, analyze and review key trends in specific technical fields, in particular those of public interest, such as those relating to health and environment issues.

►► Where can patent information be found?

Patent information is now highly accessible through online databases.

- **Free databases.** WIPO as well as many patent offices and other public institutions offer free-of-charge access to patent information. These databases tend to be more suitable for initial simple searches.

- > WIPO's PATENTSCOPE search service is at <https://patentscope.wipo.int/>
- > A list of national patent databases is at www.wipo.int/patentscope/en/national_databases.html
- > Statistics on national, regional and international patent activity are at www.wipo.int/ipstats/en

- **Commercial databases.** Certain providers offer value-added patent information services on a fee-paying basis.

- > A list of such databases and many others can be found on the website of the Patent Information Users Group (PIUG) at www.piug.org/vendors.php

▶▶ How can specific patent information be found?

Patent documents contain information in all fields of technology. The following **search criteria** can facilitate an effective technology search:

- **Keywords within text fields.** A specific technology can be defined simply by using very specific words which describe the most basic or essential concept of the invention. Keywords can be searched in any part of a patent document, e.g., in the abstract, description and claims, as supported by the search service used and can be combined using Boolean logic.

Example: Keywords in the example shown on the next page could include: "glove", "sports", "soccer" or "football".

- **Names within Applicant and Inventor fields.** A particular inventor or applicant, whether a company or individual, is often associated with a specific technical field. The name can be used to search technology and patent documentation in this field.

Example: Applicants include companies such as Sony, Daimler, Novartis, etc.; while inventors could include names such as Dyson, Jobs, etc.

- **Patent classification.** All patents are systematically classified according to their specific technical field. Though various national classification systems exist, the International Patent Classification (IPC) system is a common system shared by many patent offices. Further information on the IPC, including how to use keywords to find the right classification, is at www.wipo.int/classifications/ipc.

Example: The international patent application shown on the next page has the IPC classification: A63B 71/14 "Body-protectors for players or sportsmen, for the hands".



- **Others.** Other search criteria include: patent document reference numbers such as application (or filing), publication or priority numbers (the latter refers to the first filed patent document from which subsequent filings with other national patent offices are derived), filing dates, country of origin of the applicant or inventor, data concerning the entry of an international patent application into a national stage of the patenting procedure, etc.

Example: The international patent application shown below has:

- > publication number WO2003/071888
- > application number PCT/US2003/003327
- > priority numbers 60/358,607 US and 10/245,919 US
- > filing date of 05.02.2003
- > publication date of 04.09.2003

Fig. 2 Bibliographic data page of an international patent application

The screenshot shows the bibliographic data page for an international patent application. The page includes the following information:

- International Patent Classification (IPC):** A63B 71/14 (2006.01)
- Reference data identifying the applicant, inventor, representative, etc.:**
 - Applicants: LUCAS, Alfred, W., Jr. (USA); (US)
 - Inventors: LUCAS, Alfred, W., Jr. (US)
 - Agent: STEPHENS, Eugene, S., Eugene Stephens and Associates 56 Windsor Street Rochester, NY 14605 (US)
- Abstract contains the fundamental features of the invention (keywords are found in the abstract, as well as the description and claims):**

Abstract: (EN)A palm face of a soccer goalkeeper glove (10) is provided with a strand mesh (20) secured at wrist (35) and fingertip regions (31) to strengthen back bending resistance of the thumb and fingers of the glove. The mesh can extend across spaces between the thumb and fingers on the glove, and can extend over fingertip regions of the glove to be bonded to back sides of the fingertip regions. The strand mesh can have screen or other configurations, and can be formed in a continuous laminate (40) extending over the palm face (of the glove). The goal is to reduce injuries from back bending of a goalkeeper's fingers from impact by soccer balls travelling at high velocities.

(FR) invention concerne un gant (10) pour gardien de but de football. Le côté paume de ce gant comprend un fillet en mailles de fil (20), fixé dans la région du poignet (35) et des extrémités des doigts (31), servant à renforcer la résistance à la flexion du pouce et des doigts du gant. Ce fillet peut couvrir les espaces séparant le pouce et les doigts du gant, et peut recouvrir la région des extrémités des doigts pour venir se fixer sur la partie arrière des extrémités des doigts. Ce fillet peut présenter une configuration de type tamis ou une autre configuration, et peut se présenter sous forme d'une couche stratifiée continue (40) recouvrant la face interne du gant. Ce gant a pour objet de réduire les blessures causées par la flexion en arrière des doigts du gardien de but sous l'effet du choc provoqué par les ballons de football se déplaçant à des vitesses élevées.
- Patent document reference numbers, e.g.,**
 - publication number
 - application number
 - priority number, etc.
- Drawings, pictures, graphical representations are found in the abstract, as well as later in the description:**
- Countries for which protection has been requested:**

Designated States: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GM, GR, HK, HU, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW

African Regional Intellectual Property Org. (ARIPO): (GH, GM, KE, LS, MW, MZ, SD, SI, SZ, TZ, UG, ZM, ZW)

Eurasian Patent Organization (EAPO): (AM, AZ, BY, KG, KZ, MD, RU, T.J, TM)

European Patent Office (EPO): (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR)

African Intellectual Property Organization (OAPI): (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

▶▶ An example database: WIPO's Patentscope search service

The PATENTSCOPE search service (<https://patentscope.wipo.int>) provides free access to the technology contained in millions of published patent documents. Its main features include:

- **Full-text search** facilities, permitting the contents of the whole document – and not just bibliographic data or abstracts – to be searched;
- **Status information for PCT applications** and **file contents**;
- **Graphical analysis** of search results;
- **RSS feeds** to help track technology developments in specific areas.

The PATENTSCOPE search service offers the user four possible levels of search. These can be chosen from the «Search» drop-down menu indicated below:

Fig. 3 Search interface



- **Simple:** for a targeted search using specific search criteria in a selected search field (e.g., full-text, ID/Number, Names, etc.);
- **Field Combination:** for additional search fields that can be combined flexibly (e.g., the title, abstract, description, etc.);
- **Advanced:** for the most flexible search strategy allowing the maximum use of all possible search criteria and their combinations;
- **Cross Lingual Expansion:** for a translation of search queries into several languages.

The user can select from multiple display options for results using the “Options” drop-down menu.



Practical case

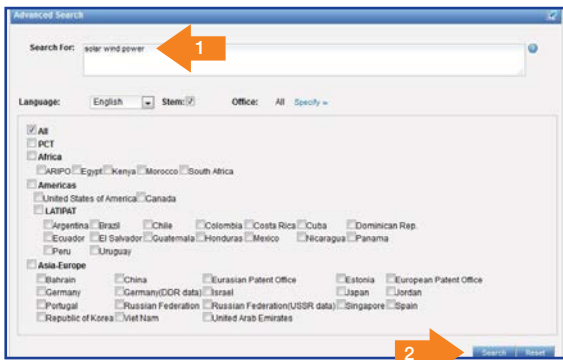
A simple search using the PATENTSCOPE search service can assist users in finding and accessing a broad range of information about a particular technology (<https://patentscope.wipo.int>).

For example, to gather information on solar and wind power technologies, the following steps can be taken:

A. Enter your search query (Fig. 4)

1. Type the keywords best describing the concept of the invention, in this case “solar”, “wind” and “power”.
2. Click the Search button.

Fig. 4 Advanced search interface of Patentscope search service



B. Browse the search result list (Fig. 5)


1. Indicates the search query performed and the number of retrieved documents.
2. Allows the search query to be redefined in reaction to retrieved documents.
3. Provides bibliographic data with search terms highlighted and allows access to detailed records by clicking on publication number and title.
4. Gives access to graphical analysis of the search results.
5. RSS  notification of new search results for this search query allows monitoring of patenting activity in specific areas of interest.

Fig.5 Search result list

Results 1-10 of 47,890 for **criteria:solar wind power** **Criteria:1** **Language:EN** **Stemming: true**

1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9 → 10 → next Page: 1 / 4790 Go

2 → Refine Search solar wind power Search RSS

5 →

4 →

3 →

Pub. No.	Pub. Date	Desc	View	All	List Length	10	Machine translation	Title	Applicant	IPC Class	Pub. Date
1. WO/2015/086054								SYSTEM AND METHOD FOR ANTI-ISLANDING PROTECTION OF DISTRIBUTED GENERATORS	GREEN POWER TECHNOLOGIES, S.L.	H02J 3/08	18.06.2015
2. WO/2015/085598								METHODS FOR LAUNCHING AND LANDING AN UNMANNED AERIAL VEHICLE	SZ DJI TECHNOLOGY CO., LTD.	B64C 13/18	18.06.2015
3. WO/2015/087020								METHOD, APPLIANCE AND SYSTEM FOR LIMITING POWER CONSUMPTION	KHALIFA UNIVERSITY OF SCIENCE, TECHNOLOGY AND RESEARCH	F24F 11/00	18.06.2015

System and method for anti-islanding protection of distributed generators. The system comprises a **power** converter (8) for transferring **power** from a distributed generator (9) to the grid (1) and a controller (5) that measures the grid frequency (f_{grid}) and grid reactive **power** (Q_{grid}) and provides the **power** converter (8) with a reactive **power** perturbation, to be repeatedly injected into the grid (1), dependent upon a correlation coefficient (R_{xy}) between a grid frequency derivative signal (dF_{grid}) and a grid reactive **power** derivative signal (dQ_{grid}). The reactive **power** perturbation is increased for strong correlations and decreased for weak correlations, so that upon islanding condition this active protection modifies the reactive **power** perturbation to reach the limits of a passive protection. The controller (5) then detects the islanding condition and commands the trip of a breaker (7).

Methods and apparatus are provided for launching and landing unmanned aerial vehicles (UAVs) including multi-rotor aircrafts. The methods and apparatus disclosed herein utilize positional change of the UAV, visual signal, or other means to effect the launch or landing. The methods and apparatus disclosed herein are user friendly, particularly to amateur UAV users lacking practice of operating a UAV.

This invention relates to methods and systems for limiting consumption, particularly **power** consumption, more particularly by appliances in a building, and is generally suitable for integration with building management systems. Embodiments of the invention provide arrangements in which the aggregated **power** load of a plurality of appliances is capped to a selected value (which may be arbitrary, or may be dictated by conditions) whilst seeking to minimize the deviation from target environmental conditions within the building through a combination of distributed decision making by the appliances themselves and centralized orchestration, which may be informed by real-time sensor readings and/or known properties of the building. The distributed decision-making by individual devices may be based on projected deviation from the target conditions after a period of activity or inactivity but with a central controller which determines which devices should be switched on.

C. View details of a patent document

Opening detailed records will allow full **bibliographic data** to be viewed as well as **description and claims, national phase entry data, notification of changes** in the application after publication, drawings and **related documents** by selecting the appropriate tabs.

Fig. 6 Claims

PCT Biblio: Data Description Claims **NATIONAL PHASE** Notices Drawings Documents

Note: Text based on automatic Optical Character Recognition processes. Please use the PDF version for legal matters.

CLAIMS

WE CLAIM:

1. A process for producing a compound of Formula XVI

$$R_1-C(=O)-CH=C(OR_2)-C(=O)-OR_3 \quad (XVI)$$

comprising:

(a) reacting compounds of Formula III, XIII, and XIV to produce an enolate salt of Formula XV and alkyl alcohol:

$$+R_2OH + R_3OH$$

$$H_3C-C(=O)-OR_2 + R_1-C(=O)-OR_3 + R_2-OM \longrightarrow R_1-C(=O)-CH=C(OM)-C(=O)-OR_3$$

(III) (XIII) (XIV) (XV)

(b) distilling the enolate salt of Formula XV to remove residual Formula XIII and the alkyl alcohol to provide a purified enolate salt of Formula XV; and

(c) acidifying the purified enolate salt of Formula XV to provide the compound of Formula XVI

$$R_1-C(=O)-CH=C(OM)-C(=O)-OR_3 \longrightarrow R_1-C(=O)-CH=C(=O)-C(=O)-OR_3$$

(XV) (XVI)

wherein:
R₁ is CF₂H, CFH₂, CF₃, CC₁₋₄H, CC₁₋₄H₂, or CC₁₋₃.

Related documents are accessible by selecting the **“Documents”** tab and include the original published application as well as related patent documents and notifications from patent offices (see figure below). These documents constitute important information regarding the status of the international patent application procedure.

Fig. 7 Related documents for a specific international patent application

PCT Biblio. Data	Description	Claims	National Phase	Notices	Drawings	Documents
International Application Status (®)						
Date	Title	View		Download		
18.06.2015	International Application Status Report	HTML, PDF		PDF, XML		
Published International Application						
Date	Title	View		Download		
18.06.2015	Initial Publication with ISR (A1 24/2015)	PDF (28p.)		PDF (28p.), ZIP(XML + TIFFs)		
18.06.2015	Request for Rectification	PDF (2p.)		PDF (2p.), ZIP(XML + TIFFs)		
Search and Examination-Related Documents						
Date	Title	View		Download		
18.06.2015	International Search Report	PDF (3p.)		PDF (3p.), ZIP(XML + TIFFs)		
Related Documents on file at the International Bureau						
Date	Title	View		Download		
18.06.2015	(RO/101) Request form	PDF (4p.)		PDF (4p.), ZIP(XML + TIFFs)		
18.06.2015	(IB/301) Notification of receipt of record copy	PDF (1p.)		PDF (1p.), ZIP(XML + TIFFs)		
18.06.2015	Rectified Sheets	PDF (4p.)		PDF (4p.), ZIP(XML + TIFFs)		
18.06.2015	(RO/105) Notification of the International Application Number and of the International Filing Date	PDF (1p.)		PDF (1p.), ZIP(XML + TIFFs)		
18.06.2015	Power of Attorney	PDF (1p.)		PDF (1p.), ZIP(XML + TIFFs)		
18.06.2015	Validation Log	PDF (2p.)		PDF (2p.), ZIP(XML + TIFFs)		
18.06.2015	Application Body as Filed	PDF (26p.)		PDF (26p.), ZIP(XML + TIFFs)		
18.06.2015	(ISA/217) Notification of Decision Concerning Request for Rectification	PDF (1p.)		PDF (1p.), ZIP(XML + TIFFs)		
18.06.2015	(ISA/217) Notification of Decision Concerning Request for Rectification	PDF (26p.)		PDF (26p.), ZIP(XML + TIFFs)		
18.06.2015	(ISA/202) Notification of Receipt of Search Copy	PDF (1p.)		PDF (1p.), ZIP(XML + TIFFs)		
18.06.2015	(IB/311) Notification Concerning Availability of Publication of the International Application	PDF (1p.)		PDF (1p.), ZIP(XML + TIFFs)		

Regional and international patent application files may contain “national phase entry” data, which is accessed by clicking the **“National Phase”** tab. This is important information which shows the countries where the applicant is seeking patent protection and gives the patent reference number from which it is possible to investigate whether the patent has been granted.

Fig. 8 National status information regarding a specific international patent application

Office	Entry Date	National Number	National Status
Australia	18.12.2009	2008267838	Published: 21.01.2010
Canada	21.12.2009	2691458	
China	16.06.2008	200880022032.4	
European Patent Office	07.12.2009	2008761083	Published: 02.06.2010
India	04.01.2010	57/DELNP/2010	
Japan	25.12.2009	2010513846	
Malaysia	08.01.2010	PI 20095113	

To conclude,

Patent information:

- is easily accessible, often for free, from many search services on the Internet, e.g., the WIPO PATENTSCOPE search service;
- provides technical, legal, business and public policy- relevant information; and
- indicates where and whether a technology is protected.

We welcome your comments

Suggestions and questions may be sent to patentscope@wipo.int

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