

UNITED STATES
PATENT AND TRADEMARK OFFICE



PatentsView

Andrew A. Toole, PhD, Acting Chief Economist
Office of the Chief Economist, USPTO
IPSDM Conference
November 15, 2017

UNITED STATES
PATENT AND TRADEMARK OFFICE



The views presented are those of the authors and do not necessarily represent the position of USPTO.

Why data?

Access to high quality data
is fundamental to any
evidence-based effort to
improve patent office
efficiency

What is PatentsView?

A unique visualization and analysis platform with over 40 years of USPTO patent data

<https://www.patentsview.org>

Public-Private Partnership

UNITED STATES
PATENT AND TRADEMARK OFFICE



UMassAmherst



Today's Introduction

1. What are the main features of PatentsView?
2. What's new?
3. How are stakeholders reacting to PatentsView?

Data Visualization & Export:
**EXPORTABLE GRAPHS, MAPS,
NETWORKS & MORE**



PatentsView Tools

USPTO
PatentsView

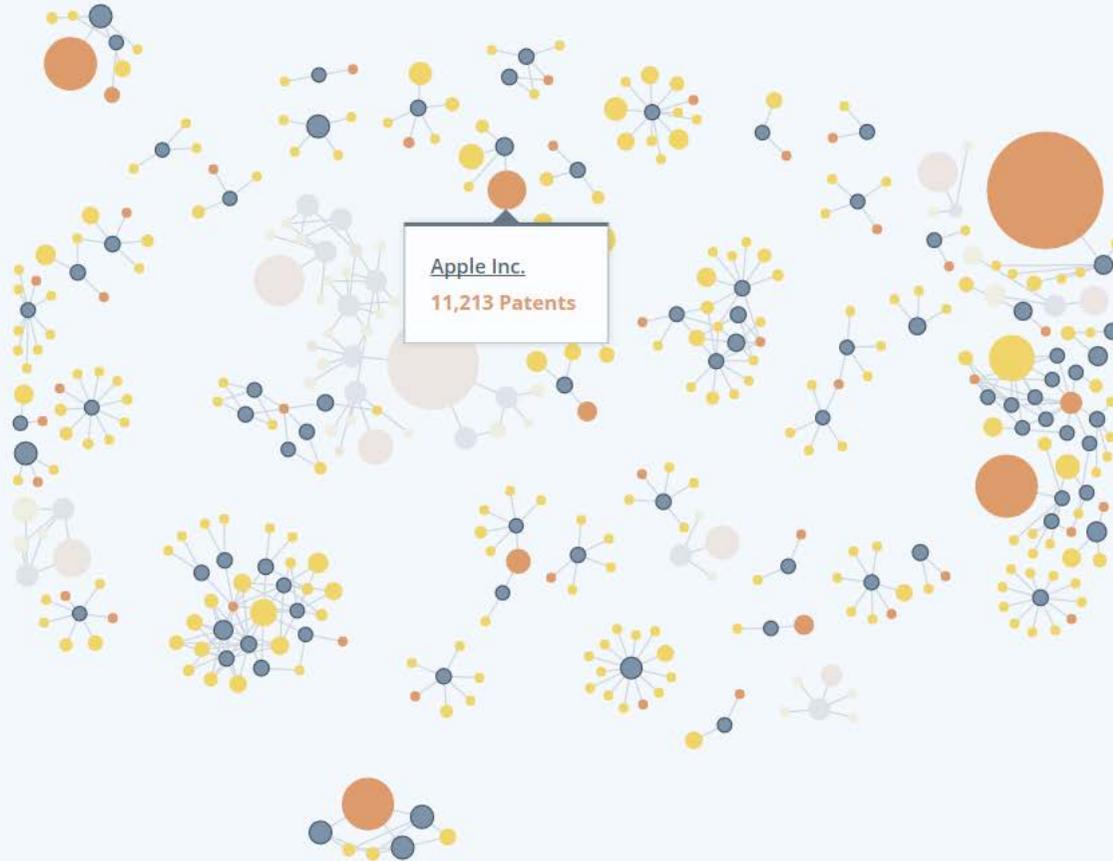
RELATIONSHIPS LOCATIONS COMPARISONS LIST SEARCH DATA SOURCES

How would you like to explore 40 years of patent data?

● Patents Granted (Since 2001) ● Inventors ● Assignees

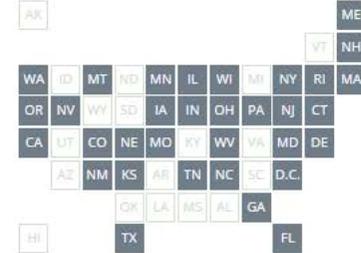
SHOW PATENTS FOR: United States^x

Showing top 100 cited patents



RELATED LOCATIONS

U.S. STATE



COUNTRY

- Brazil
- Canada
- Iceland
- Israel
- Japan
- Sweden
- United States**
- Virgin Islands, British

RELATED TECH FIELDS

All Innovators

Inventors

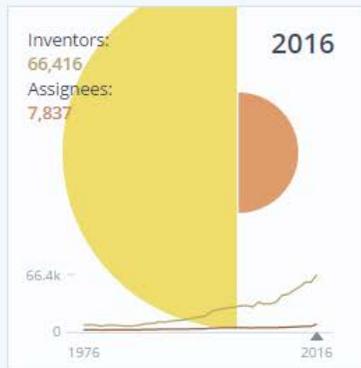
Assignees

GROUP BY: U.S. States

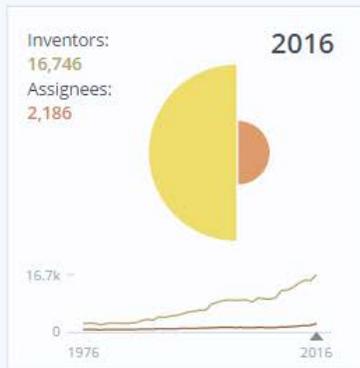
SORT BY: Most - Fewest

FILTER BY: All Tech Fields

California



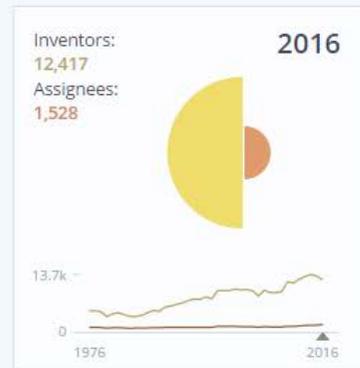
Texas



Pennsylvania



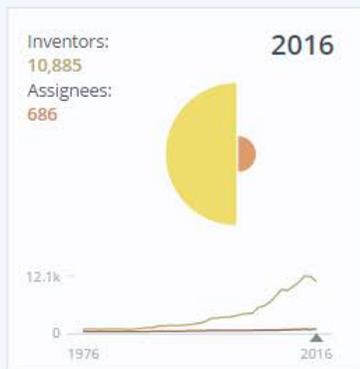
New York



Illinois



Washington



Massachusetts



Ohio





Visualizations



Search



Details



VIEW RESULTS BY:

Patent

Inventor

Assignee

Classification: CPC

SEARCH OPTIONS

RESET

SEARCH

Patent

with the exact phrase:

with all these words:

with at least one of the words:

title or number

Patent Type (show only)

Utility Design Plant

autonomous vehicle

Inventor

Assignee, At-Issue

Patent Class

Location, At-Issue

Date (1976-Present)

Either Filed Granted

yyyy, mm/yyyy, or range

We found **215 patents** matching your search criteria.

Additional results include **373 inventors**, **78 assignees** and **66 CPC classes**.

showing 50 of 215 patents

EXPAND PATENT SUMMARY +

PATENT TITLE	CITATIONS	FILED DATE	GRANT DATE
Navigational control system for an autonomous vehicle	345	19 May 1990	5 May 1992
Autonomous vehicle arrangement and method for controlling an autonomous vehicle	333	3 Nov 1998	21 Nov 2000
Apparatus and method for autonomous vehicle navigation using path data	271	1 May 1995	25 Mar 1997
Multi-purpose autonomous vehicle with path plotting	240	7 Aug 1991	8 Dec 1992
Autonomous vehicle for working on a surface and method of controlling same	182	7 Feb 1989	9 Oct 1990

WHERE THIS PATENT HAS BEEN CITED

EXPORT



CITATION LOCATIONS

Inventors on This Patent Inventors on Citing Patents



Showing maximum 200 of 205 total locations



PATENT DETAILS

Navigational control system for an autonomous vehicle

PUBLICATION NUMBER	INVENTORS	ASSIGNEES AT-ISSUE
5111401	<ol style="list-style-type: none"> <u>Hobart R. Everett, Jr.</u> San Diego, CA, US <u>Gary A. Gilbreath</u> San Diego, CA, US <u>Robin T. Laird</u> San Diego, CA, US 	<ol style="list-style-type: none"> <u>The United States of America as represented by the Secretary of th...</u> Washington, DC, US

WHERE THIS PATENT HAS BEEN CITED

📍 Inventors on This Patent ● Inventors on Citing Patents



Data Updates:

NEW FIELDS TO API & DATA QUERY

New Front of Patent Fields

Summary Text	Detailed Description Text	Drawing Description Text
Number of Drawings & Figures	Non-Inventor Applicant	Foreign Priority
PCT	Related Documents	Examiner (raw) Name

Government Interest:

NEW LIST SEARCH FEATURES

VIEW RESULTS BY: Patent Inventor Assignee Classification: CPC

SEARCH OPTIONS

RESET SEARCH

Patent

- with the exact phrase:
- with all these words:
- with at least one of the words:

title or number

Patent Type (show only)

Utility Design Plant

Inventor

Assignee, At-Issue

Patent Class

Location, At-Issue

Government Interest

Either Name Org. ID

organization name or id

Date (1976-Present)

Either Filed Granted

yyyy, mm/yyyy, or range

Government Interest

What is Government Interest?

Data are extracted from the government interest statement on a patent. Government organization name and contract or grant number are then parsed and structured using the Stanford-maintained Named Entity

Recognition library and information retrieval techniques. The government organization name is mapped to the current hierarchy of the U.S. federal government organizations. More information is available [here](#).

Search for patent results

VIEW RESULTS BY: Patent Inventor Assignee Classification: CPC

SEARCH OPTIONS ?

RESET SEARCH

Patent -

with the exact phrase:
 with all these words:
 with at least one of the words:

title or number

Patent Type (show only)

Utility Design Plant

Inventor +

Assignee, At-Issue +

Patent Class ? +

Location, At-Issue +

Government Interest ? -

Either Name Org. ID

cancer

119 National Cancer Institute

Either Filed Granted

yyyy, mm/yyyy, or range

Use the search options to explore over 5 million U.S. patents around the world.

showing 0 of 0 patents EXPAND PATENT SUMMARY +

PATENT TITLE	CITATIONS	FILED DATE	GRANT DATE
 <p><i>Search for patent results</i></p>			

VIEW RESULTS BY: Patent Inventor Assignee Classification: CPC

SEARCH OPTIONS

RESET SEARCH

Patent

with the exact phrase:
 with all these words:
 with at least one of the words:

title or number

Patent Type (show only)
 Utility Design Plant

Inventor

Assignee, At-Issue

Patent Class

Location, At-Issue

Government Interest

Either Name Org. ID

National Cancer Institute

National Cancer Institute

Date (1976-Present)

Either Filed Granted

yyyy, mm/yyyy, or range

We found **2,041 patents** matching your search criteria.

Additional results include **3,026 inventors**, **438 assignees** and **93 CPC classes**.

showing 50 of 2,041 patents

COLLAPSE PATENT SUMMARY

PATENT TITLE CITATIONS FILED DATE GRANT DATE

Method and apparatus for the endoscopic treatment of deep tumors using RF hyperthermia 362 31 Aug 1988 1 May 1990

PUBLICATION NUMBER US4920978
CLASS CPC: A61N, A61B
INVENTORS David P. Colvin
INVENTOR LOCATIONS Apex, NC, US
ASSIGNEE AT-ISSUE Triangle Research and Development Corporation
PATENT TYPE Utility
ASSIGNEE LOCATIONS Raleigh, NC, US
GOVERNMENT INTEREST
 ID NAME
 87 Small Business Innovation Research (SBIR)
 119 National Cancer Institute (NCI)

Systems and methods for the multispectral imaging and characterization of skin tissue 254 27 Feb 1998 27 Jun 2000

PUBLICATION NUMBER US6081612
CLASS CPC: A61B, G06T
INVENTORS Marek Elbaum
 Dina Gutkowicz-Krusin
 Michael Greenebaum
INVENTOR LOCATIONS Dobbs Ferry, NY, US
 Princeton, NJ, US
 Brooklyn, NY, US
 Glen Ridge, NJ, US
 New York, NY, US
ASSIGNEE AT-ISSUE Electro Optical Sciences Inc.
ASSIGNEE LOCATIONS Irvington, NY, US

PATENT DETAILS

Method and apparatus for the endoscopic treatment of deep tumors using RF hyperthermia

An attachment for an endoscope for the treatment of deep tissue tumors using RF hyperthermia is disclosed. In one embodiment, electrodes are adapted to straddle or penetrate a tumor in order to confine the interstitial current heating and are detachably fitted to the distal end of the endoscope. The electrodes are electrically coupled to an RF generating power source by means of wires that extend... [more](#)

[Go to Google Patents](#)

PATENT INFORMATION

PROCESSING TIME



FILED

Aug 31, 1988

GRANTED

May 1, 1990

PUBLICATION NUMBER

US4920978

PATENT TYPE

Utility

CLASS TYPE

CPC: [A61N - Electrotherapy; magnetotherapy; radiation therapy; ultrasound therapy](#)
[A61B - Diagnosis; surgery; identification](#)
 NBER: [32 - Surgery & Med Inst.](#)
 USPC: [607 - Surgery: light, thermal, and electrical application](#)

INVENTORS

1. [David P. Colvin](#)
[Apex, NC, US](#)

ASSIGNEES AT-ISSUE

1. [Triangle Research and Development Corporation](#)
[Raleigh, NC, US](#)

GOVERNMENT ORGANIZATION(S)

ID	NAME
87	Small Business Innovation Research (SBIR)
119	National Cancer Institute (NCI)

GOVERNMENT INTEREST STATEMENT

This invention was made with partial Government support under SBIR contract No. N93-CM-67951 awarded by the Division of Health and Human Services/National Cancer Institute. The Government may have certain rights in this invention.



PatentsView Community Webpage:
LEARN, CONTRIBUTE, ENGAGE

Community Site

- **Purpose**
 - The PatentsView community site provides updates on data and tools and links to relevant activities. It is also a curated space for community members to post notes, questions, and provide feedback on PatentsView data products.
- **Sections**
 - Forum
 - Data in Action
 - Events
- **Rules of Conduct**

Forum

- General discussion
- New data fields
- Data quality
- Disambiguation

DATA FORUM

Community Discussion

Contribute to the PatentsView community message board with questions and feedback, or share your interest in patents and innovation. We encourage robust and engaged conversations as we build and expand the community.

Please read the rules of conduct below before participating in the conversation.

[Read the Rules of Conduct](#)

+ Log in to post new content in the forum.

GENERAL DISCUSSION

GENERAL DISCUSSION TOPICS	REPLIES	LAST REPLY
 General FAQs By admin 3 days 2 hours ago	0	n/a

NEW DATA FIELDS

NEW DATA FIELDS TOPICS	REPLIES	LAST REPLY
 New data fields FAQs By admin 3 days ago	0	n/a

[Search PatentsView Community Site >](#)

NEW FORUM TOPICS

Disambiguation FAQs [>](#)

New data fields FAQs

Data quality FAQs

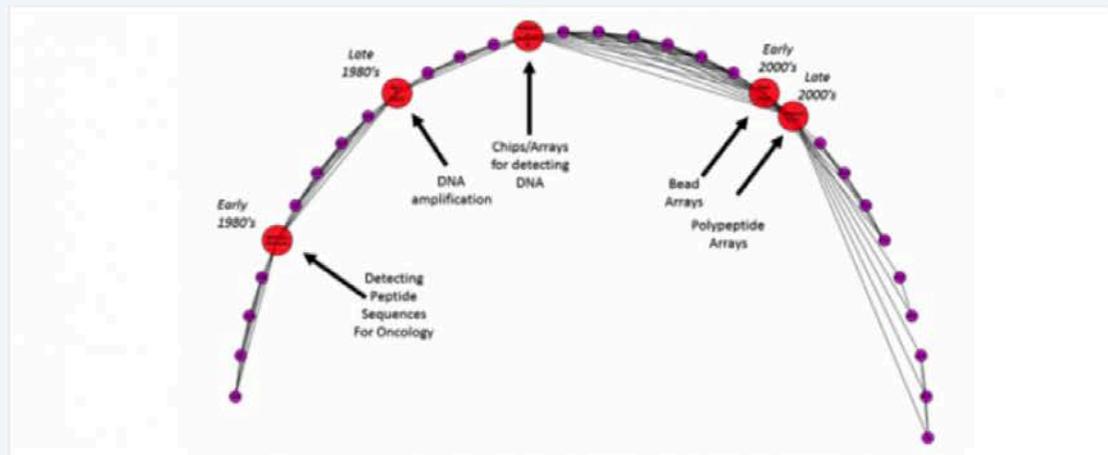
[More](#)

Data Spotlight

There are many ways PatentsView data can be used and visualized. Data in Action is a place for PatentsView data users to share how they are applying patent data and gather feedback from the user community.

We encourage you to submit any examples of the PatentsView data that you have seen or created yourself to be highlighted here.

[Submit a post](#)



Social Network Analysis using PatentsView and NetworkX

Wednesday, October 4, 2017 - 21:13

The USPTO's Office of Chief Economist developed the **InventorAnalyze** package for bibliometric (and other) researchers studying the social networks of inventors, i.e., the community of inventors who collaborate on jointly invented patents. The **InventorAnalyze** package combines disambiguated patent data from the United States Patent and Trademark Office's PatentsView project with social network analysis tools from the Los Alamos National Laboratory's **NetworkX** library. PatentsView uses a statistical algorithm for disambiguating patent inventor names, so that multiple variants of a name are assigned a common identifier and distinct inventors having a similar name are assigned separate identifiers. Such entity resolution is critical to identifying inventors and their

TAGS

PYTHON

OPEN SCIENCE

R

SOCIAL NETWORK ANALYSIS

TESLA

NETWORKX

MEDICINE

FACEBOOK

DATA

FIRMS

INNOVATION

INTREXON

CANCER MOONSHOT

See data visualizations created by the USPTO community.

[USPTO Developer Site >](#)

How are stakeholders reacting to PatentsView?

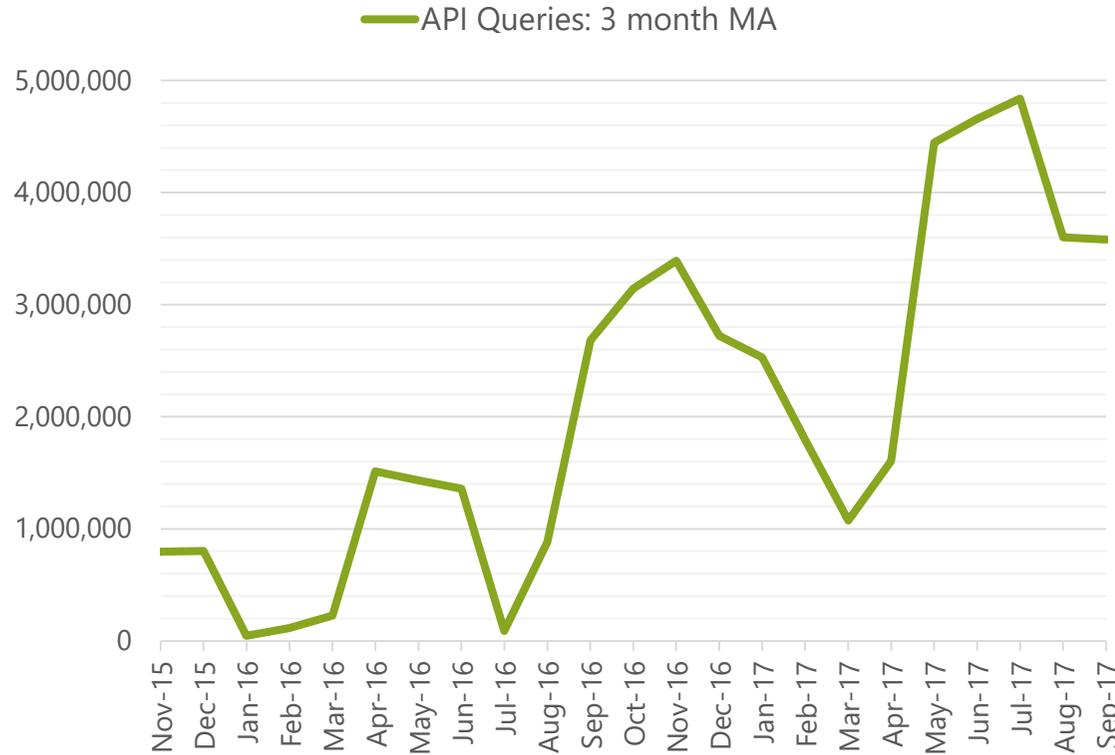


PatentsView

“...thanks for making this invaluable tool freely available to the public. As an academic researcher I deeply appreciate and strongly believe that public access to good quality data is a powerful accelerator of scientific and technological progress.”

– *PatentsView user, Massachusetts Institute of Technology*

PatentsView API



74% year-to-date
(Sep 2017) growth

104K average queries per
day in 2017

27.9M total queries in 2017

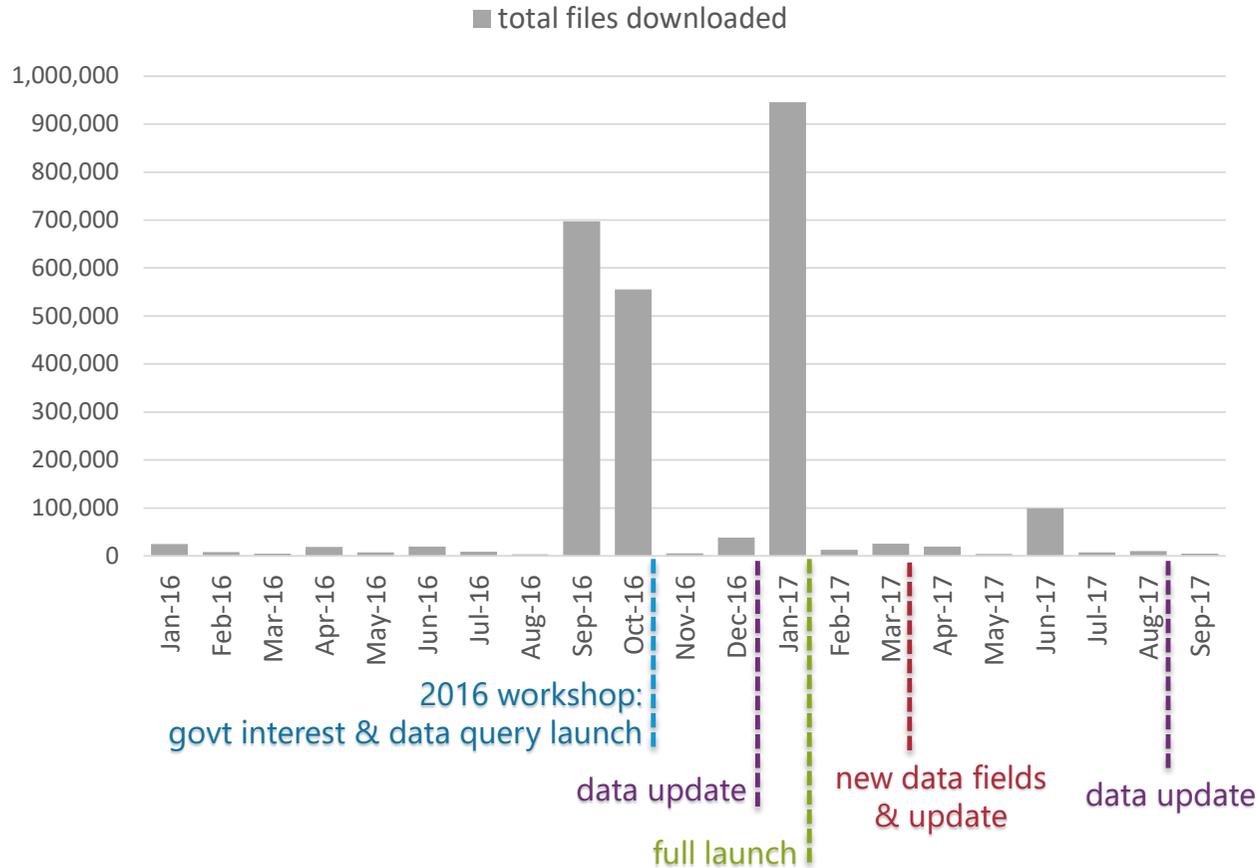
PatentsView API



Map based on average of Longitude and average of Latitude. Size shows sum of Query Total. The marks are labeled by City.



Data downloads



35% year-to-date
(Sep 2017) growth

1.13M total files
downloaded in 2017



Facebook

Unlike at Tesla and Intrexon, which are dominated by one pattern, patent holders organize in various ways, perhaps to contribute to different parts of the overall product. One large network has roughly 60 percent of the company's inventors (*dark gray nodes*), including the most prolific ones (*largest nodes*). Yet a set of employees has formed a relatively large and productive secondary network (*orange nodes*). Others work in smaller, isolated teams.



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THANK YOU