Research Patents in a Specific Technology Domain

Can I find all patents for a specific technology? How do I make that sure my keyword searches find all the patents relevant to a technology? How can I focus large result sets on specific aspects of a technology?

Classification codes identify patents by technological subject matter. You can use these codes to describe a technology and research inventions that match that description.

Patent Classification Codes Made Easy

Major Types Classification Codes

International Patent Classification (IPC)

- Administered by WIPO and used in over 100 countries
- Classifies patents into 8 main subject areas, and can optionally be used at a Core or Advanced level

**Cooperative Patent Classification System (CPC)**

- Developed by the EPO and USPTO to create a common system for US and European patents
- Provides a more specific, detailed version of IPC

DWPI Manual Codes

- A unique, proprietary system applied consistently by subject specialists
- Classifies all patents into 20 categories with clear, easy to read English-language definitions

How to Understand a Classification Code

Classification codes use hierarchical structure that describes increasingly specific areas of technology, from very broad at the highest level to very specific at the lowest level, as demonstrated in an example IPC code:
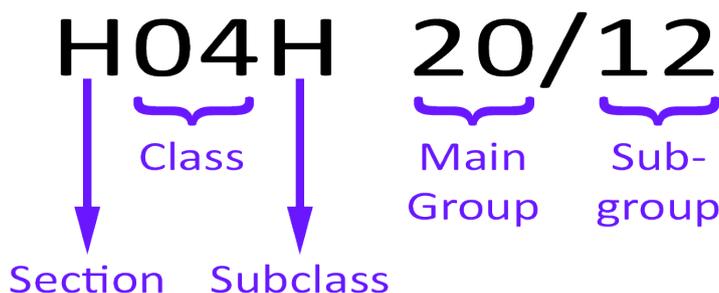
- **Section:** The highest level of the code, which represents a broad technology area (e.g., Electricity)
- **Class:** A major subarea of the technology (e.g., Electric Communication Technique)
- **Subclass:** A specific, broad application for the technology area (e.g., Broadcast Communication)
- **Main Group:** Major components of technology for a particular application (e.g., Arrangements specially adapted for receiving broadcast information)
- **Subgroup:** Precisely defines a specific field within a main group

Note: DWPI Manual Codes use a similar hierarchical structure, but use different terminology to describe each level in the hierarchy.

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Identify Classification Codes to Use in Your Search

Use Keyword Search and the Results Dashboard

A quick keyword search finds patents for the technology you want to research. Then, the Results Dashboard helps you identify potential classification codes to research.

Just search the **Title** field for key terms that describe the technology space.

Tip: Title-DWPI provides a concise description rewritten by DWPI experts to highlight inventions' content and novelty.

Then, review the Results Dashboard to see top matching classification codes:

- Review the **Current IPC**, **Current CPC**, or **DWPI Manual Code** charts to see the top class codes in your results.
- Review **IPC-4 character (Category)** and **DWPI Class** to see broad technology areas found by your search.

Tip: Hover your mouse over the items in the IPC-4 character chart to see a detailed decription of the technology area it represents.

Find Classification Codes on Relevant Patents

You can also review specific patents (e.g., the most relevant patents in your Smart Search results) to review class codes assigned by patent examiners and the patent specialists at DWPI.

- Click a hyperlinked patent number to open the record view and click **Classes/Indexing** to jump to the class codes assigned to the patent
- Hover your mouse over each class code to see a detailed description; note that the description for some lower-level codes may complete the description on higher level codes, so they may seem incomplete
- For CPC, the first code (in bold) is the primary code, which best describes the invention
- Note codes with different first letters, as that may indicates the invention crosses technology areas
- Copy all the codes relevant to the technology area you want to research for use in a search

Tip: Copy IPC and CPC codes at the subclass (first 4 characters) or main group (first 5 or 6 characters) level. Classification codes are hierarchical, so searches for higher level codes automatically find patents with relevant lower level codes. If you search with a full class code (including subgroup), you will need to either list each specific code you want to search or use truncation operators.

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## Browse Classification Codes with a Search Aid
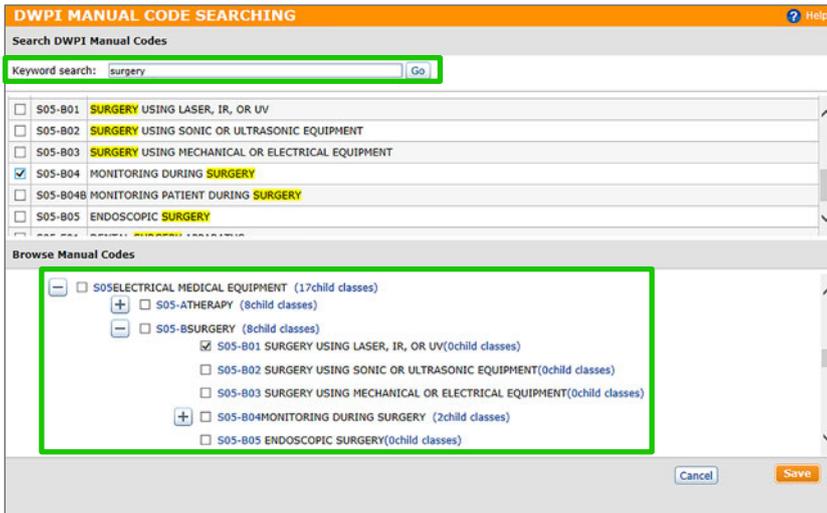
When you select the CPC-Any, IPC-Any, and DWPI Manual Code fields on the fielded search form, a **Browse** button displays after the text field. Click that button to access a complete list classification codes for that system.

- Use the Keyword search box to find codes that contain a specific key term; use the **Browse** section to explore the codes by subject matter
- Select check boxes for the codes you want to add to your search
- Select high level codes (first few characters) to explore broad areas of a technology, as high level codes automatically search related full class codes
- Select full class codes to focus on specific aspects of the technology area
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Note: Keyword search finds all codes that match the terms you enter, regardless of the section or technology area. For example, a search for computer *may find codes for computer desks. Make sure that the codes you select in keyword search match the technology space you want to research.*

Explore a Technology Area with Classification Codes

Find All Patents for a Specific Technology Space
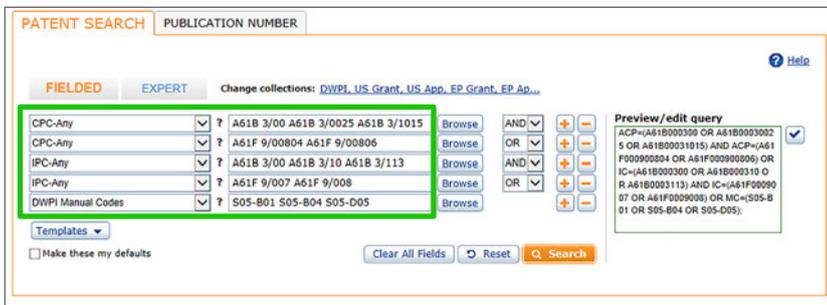
1. Click the **Patents** tile on the Dashboard
2. Click a field dropdown and select a classification type to use (e.g., CPC or DWPI Manual Codes)
3. Enter the classification codes for the technology area that you want to explore
4. Click **Search**

Tips: Unlike many search fields, Thomson Innovation automatically inserts OR operator between individual classification codes you enter.

You can use multiple instances of a classification search field to research patents that cross technology areas. Use a separate field for each technology area (first four characters in IPC and CPC; first 3 characters in DWPI Manual codes. Make sure you use the AND operator between the same classification fields (e.g., each CPC field) and use the OR operator between different classification fields.

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*Use the **CPC-Primary** field to focus your search on the class code that best describes an invention, which can provide a more focused result set.*

Explore Top Trends in the Technology Space
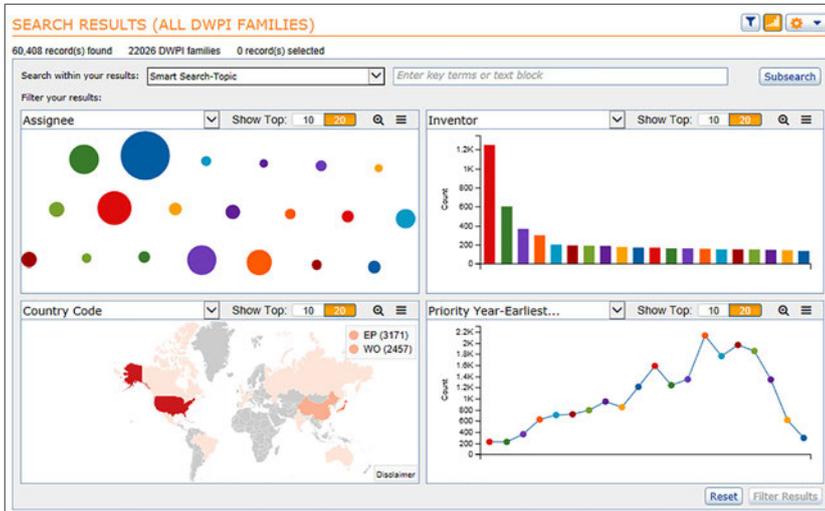
The Results Dashboard provides immediate insight into the technology space:

- **Assignee** and **Inventor** reveal the top organizations and individuals working in this area
- **Country Code** shows the top territories for patent filings involving this technology
- **Priority Year-Earliest** helps you see trends in innovation in this technology space
- **Publication Year** can show how filings in the technology space evolved over time
- Compare **Priority Year-Earliest** and **Publication Year** to see how innovation in the space may have affected global filing trends

Find Centers of Innovation
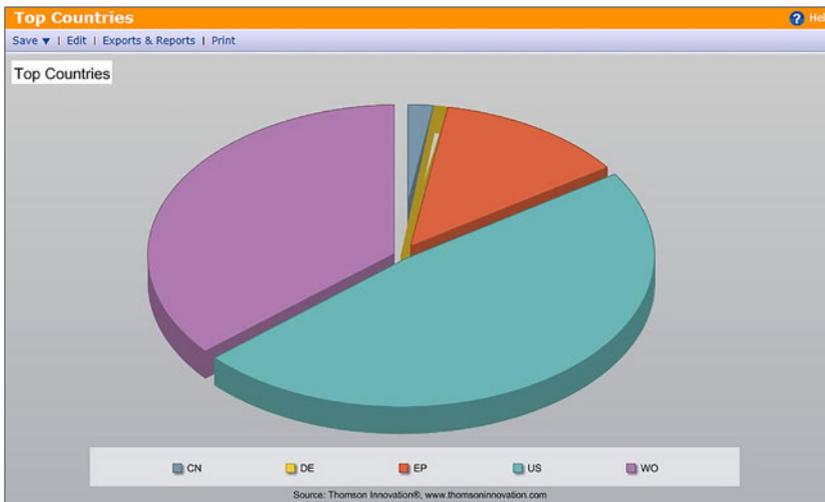
Often, the earliest patent (or DWPI Basic patent) indicates where an invention originated. A Top Countries chart based on the earliest (or DWPI Basic) patents in your results can help reveal where innovation in the technology space occurs.

1. Click the tools icon and select Display and Sort Options
2. Select Collapse by: **DWPI Family** and Preferred Document: **Basic**, then click **OK**
   Users without DWPI should select **INPADOC Family** and **Earliest**
3. Click Analyze, Charts,
4. Click the **General** tab, and click **Top Countries**
5. Review the chart to see top innovation centers for this technology space

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Create a ThemeScape Map for Additional Analysis
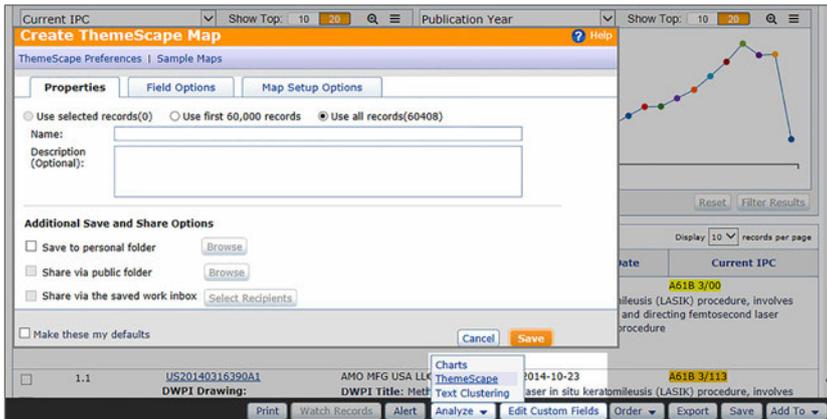

ThemeScape can help you identify hidden trends in the technology space, such as drift into new areas or disruptive innovators.

1. Click **Analyze**, **ThemeScape**
2. Enter a **Name** for the map and click **Create**
3. Wait for the map to process, then open the map

You can keep working in Thomson Innovation while the map processes. Return to Saved Work to open the map.

Explore the ThemeScape Map to Discover Trends
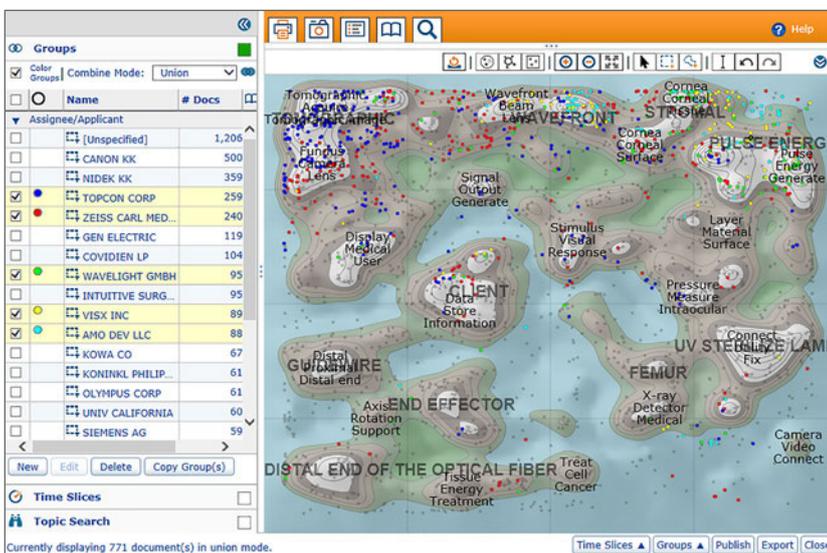
ThemeScape maps cluster patents with similar technology. Groups provide overlays on the map to help you view changes in the landscape based on different factors.

- **Publication Year** and **Time Slices** help you see development over time and drift into new areas
- **Topics** help you relate key terms to technology areas
- **Assignee/Applicant** helps you identify major players in technology spaces and see where different organizations may have dominance or competition
- **Countries** helps you identify centers of innovation for specific aspects of the technology space

You can combine groups with each other or Time Slices to get additional insight into the map. For example, you may want to review Time Slices with assignees to see how company strategies evolved over time, or you may want to review Countries and Topics to review filing activity in different territories.

Tip: You can also create custom groups, e.g., a group for several assignees that belong to the same organization but have separate listings.

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Focus a Broad Search on Specific Technology Areas

Classification codes also help you focus a broad search (e.g., a Smart Search with the Retrieve all Results option) on specific technology areas.

- Use the Results Dashboard to focus on broad technology areas (**IPC-4 character** of **DWPI Class**) or top specific classification codes in your results
- Select the code(s) that you want to focus on and click **Filter Results** to view matching records
- Use **Search within your results** to find patents with a specific codes
- Enter the code(s) that you want to focus on and click **Subsearch** to view matching records
- You can use operators such as AND or NOT to search for patents with specific code combinations

Learn More with these Additional Resources

- ThemeScape Quick Reference Guide

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