



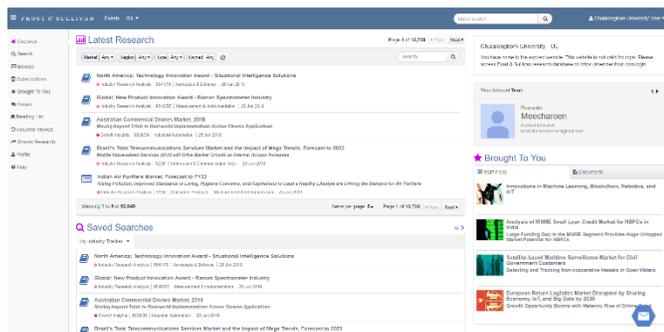
Frost & Sullivan is a business database founded over 50 years, dividing the business into 17 industries by combining business content and education through 360-degree research that is unique to Frost & Sullivan. Covering industries around the world. Focus on emerging markets, Innovation To you and technology that change Mega Trends etc.

## How to use the database?

To access to Frost & Sullivan database, users can: 1) Access with Chula IP address, or 2) access at the service points in the university. For the needs of full-text files, please contact at the service points within the university only. See the service point list at [https://www.car.chula.ac.th/upload/library\\_2.pdf](https://www.car.chula.ac.th/upload/library_2.pdf)

### 1) Access to the database using Chula IP address

To access to Frost & Sullivan database using Chula IP address you can access [www.car.chula.ac.th/curef](http://www.car.chula.ac.th/curef) and click Frost & Sullivan or access directly at <https://cds.frost.com>. The screen will appear as a picture below.



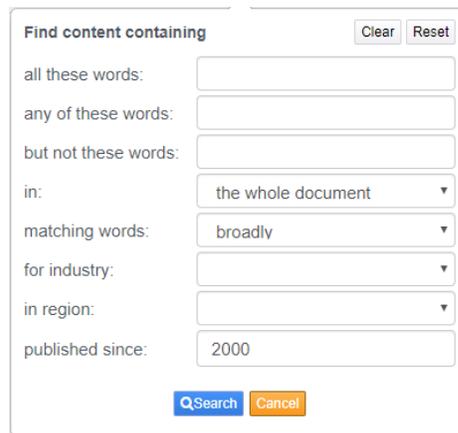
## Search Method

Click at **Q Search** On the left hand side to search.

1. Basic Search: Type the word you want to search in Quick Search box. Then click **Q** for search the articles



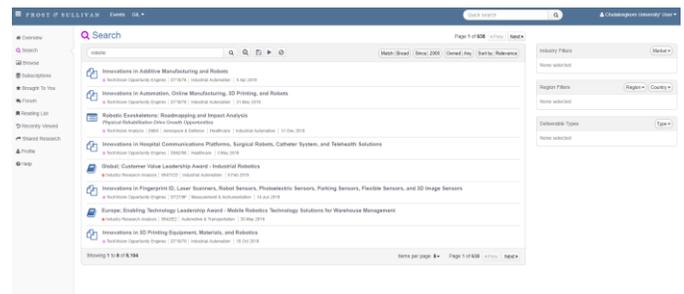
2. Advance Search: Click the symbol **Q** then the screen will appear as a next picture.



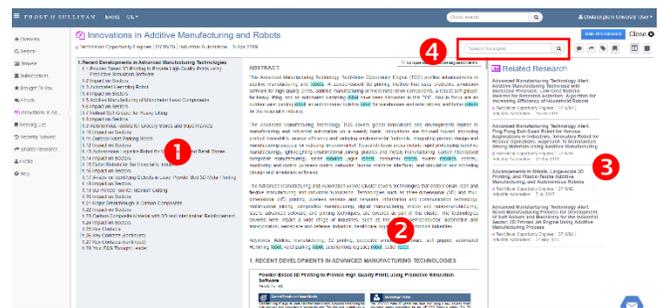
Type the word or phrases you want to search, then click **Q Search** for search the articles.

## Search Results

The screen of search results is shown as a picture below.



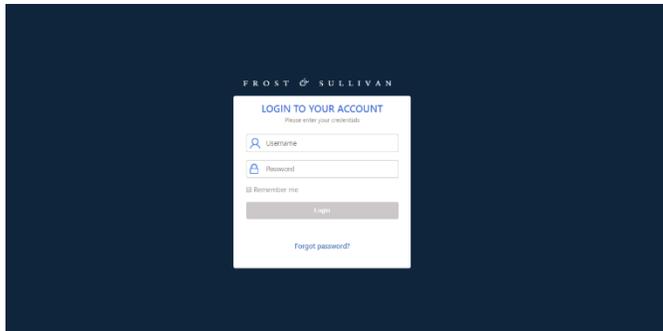
Select the article to read. When clicking on the title, the main page of the article will appear as picture below.



1. Table of content
2. Full article
3. Related Research
4. Search in article

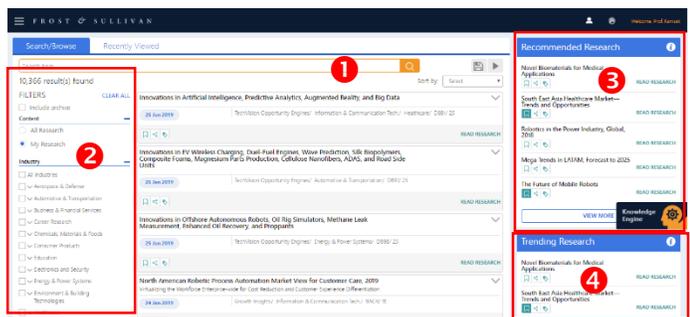
## 2) Access at the service points in the university

Request for access with the staff at each service point shown on the list above. Enter the URL <https://member.frost.com/> from your device(s), and then contact staff to log in to Frost & Sullivan database.



## Search Method

After login, the screen is show as a picture below.



1. Search the article by type words or phrases, then click  to search the articles
2. Limit your results by select the content, types of industry, deliverable types, region and published year.
3. Recommended Research
4. Trending Research

The main page of the article, the screen is show as a picture below.



1. Table of content
2. Toolbar

## Download figure and table

Place the cursor on figure or table. A symbol of "Add to Vault" will appear, then click  to download figure or table.

## Executive Summary

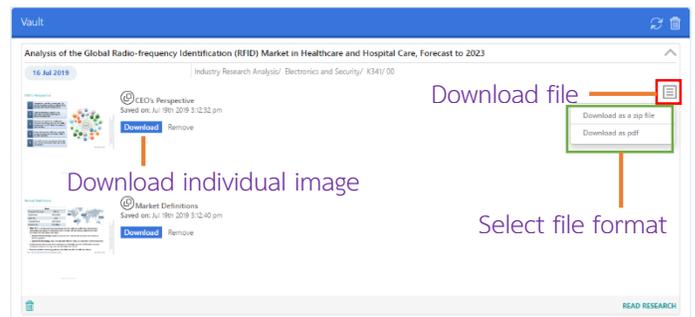
### Impact of Robotics on the Power Sector

Deployment of robotic solutions results in operational and monetary benefits.



Focus	Content
<b>Main Technology Categories</b>	Autonomous, Remotely Controlled, Drone Integrated, Magnetic
<b>Main Providers and Solutions Offered Today</b>	There are a number of companies manufacturing and offering robotic solutions that target different ends of the energy value chain. GE, ABB, SIEMENS, MIR Innovation, Helical Robotics, Ecoppia and Blueye Pioneer are some of the key robotics solution providers. The robotics solutions offered by these companies are past research and development and currently in application.  Some of these solutions include: <ul style="list-style-type: none"> <li>• Transmission and distribution line inspection robots</li> <li>• Solar panel installing and monitoring robots</li> <li>• Solar panel cleaning and monitoring robots</li> <li>• Undervator drone-integrated robot to monitor offshore wind farms</li> <li>• Climbing robots to inspect a hydro dam's surface</li> <li>• Magnetic robots to inspect and monitor onshore and offshore wind turbines</li> </ul>
<b>Opportunity Applications</b>	The main opportunities/applications have been found in renewable energy, especially in solar and wind power plant sites. Others include transmission and distribution and conventional hydro dams.
<b>Main Impact in the</b>	Renewable generation sites and associated maintenance operations: transmission and distribution

Figure or table will save in Vault, go to  VAULT for download it again in PDF file or Zip file by click  on the left side in Search Result page. Then the screen is show as a picture below. Click  to select file format and download it.



## Download Full Text File

Click a symbol  on the right hand side in toolbar in main page of article. Then will appear the symbol of PDF File . Click in this symbol for download Full Text File. Full-texts can appear as various file extensions (e.g. .pdf, .xlsx, pptx). Depends on the articles' types and displays.

