

Case study | PETRONAS Chemicals Group Berhad

Breaking new ground faster in petrochemical technology innovation





Ch'ng Guan How
Chief Innovation and Technology Officer

Ch'ng Guan How is responsible for PCG's product development, customer application co-development, technical support and product stewardship functions to deliver innovative customer solutions



Mohd Mazran bin Ibrahim
Head of Technology Strategy and Planning, Innovation and Technology Department

Mohd Mazran Ibrahim manages and develops long-term strategy for PCG's Innovation and Technology Department in order to stay competitive

Uncovering insights into white space and technology options to deliver the most innovative customer solutions

PETRONAS Chemicals Group Berhad (PCG) is one of the largest integrated petrochemical companies in Asia. Listed on Bursa Malaysia since 2010, PCG posted a revenue of RM19.6 billion (over USD 4.7 billion) in 2018. The group operates several world class production sites, which are fully integrated from feedstock to downstream end-products.

Since entering the chemicals market in 1985, PETRONAS had seen rapid growth in petrochemicals which helped accelerate the company's listing on Bursa Malaysia in 2010.

A key priority for PCG at that time was to establish the Innovation and Technology Department to stimulate new ideas, identify white space and uncover technology options.

As part of that initiative, PCG invested in patent search and analysis tools to better equip the team to monitor, understand and evaluate the patent landscape and innovation trends impacting the market.

4.7B+

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"Our aspiration is to be the preferred chemical company providing innovative solutions that address customers' business challenges and pain points. To do this effectively, we need a comprehensive view of the innovation landscape to plan the way forward for our product development and partnering strategy."

Ch'ng Guan How
Chief Innovation and Technology Officer, PCG

"Finding relevant chemical patents is particularly challenging because our application technologists need to search for patents based both on the molecule itself as well as by application."

Mohd Mazran bin Ibrahim
Head of Technology Strategy and Planning
Innovation and Technology Department, PCG

The challenges

Investigating product development options for new customer requirements

PCG is continuously innovating around new chemical products as well as co-creating proprietary formulations to meet specific customer requirements. This creates various opportunities for the development team to focus on patent research in specific technology areas. However, patents are often written in an obscure manner making it difficult and time consuming to find and evaluate all the relevant inventions.

Developing a view of the innovation landscape across millions of patents

In order to make informed decisions on strategy and planning, PCG would need to develop a broad view of the technology landscape, identify white space and the dynamics of the competitive landscape. While there are many sources of directional insight, answering very specific questions about a technology area means exporting and manipulating large amounts of patent data. This impacts PCG's turnaround times responding to relevant patent and industry insights and making recommendations on those findings to internal decision makers.

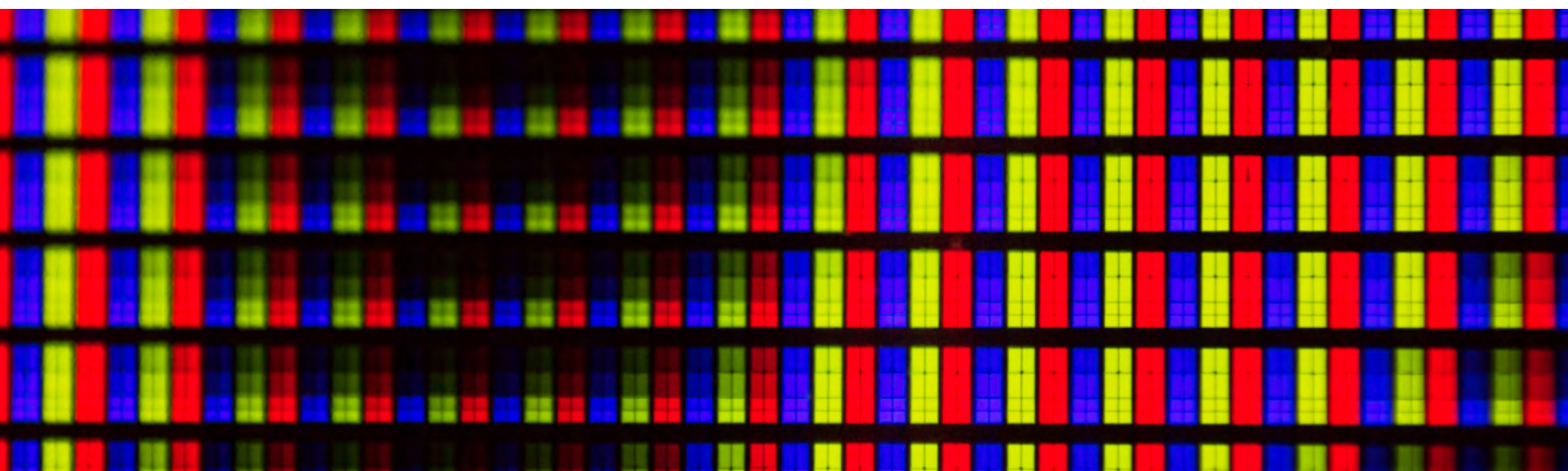
The solution

Comprehensive content and insightful tools for product development and corporate strategy

PCG's product development team, among others, leverages the Derwent Innovation patent research application to explore technology options for new products and specific customer requirements.

In parallel, PCG uses Derwent Data Analyzer to manipulate and analyse massive volumes of patent data, answering specific questions around a technology, its level of maturity and the current players in the space. Derwent Data Analyzer includes standard reports for technologies and company comparisons, and the results data can be exported to Microsoft Excel.

Derwent solutions are powered by Derwent World Patent Index (DWPI). DWPI is a trusted source of global patent data, correcting and summarizing the novelty, use and advantage of an invention for more than 84 million worldwide patents, covering 41 million patent families in more than 26 languages.



"Derwent is one of the tools that we use before considering new chemistry. Before we jump in, one of the things we want to understand is what else is out there and how mature the technology is. This gives us optionality on how we are going to move forward."

Ch'ng Guan How
Chief Innovation and Technology Officer, PCG

Value delivered

Insights gained into white space and technology options uncovered for innovative customer solutions

With the help of Derwent solutions, PCG's Innovation and Technology Department has successfully implemented a framework to evaluate the technology options for new products and subsequently, validate the company's strategy.

At the same time, the Innovation and Technology Department uses Derwent Data Analyzer to get a comprehensive view of the technology landscape and inform long-term strategy. This comprehensive view of the latest technology, helps broaden the application technologist's comprehension on the relevant subject matter, in delivering innovative solutions to the market.

By using Derwent solutions, PCG is able to:

- Maintain a better understanding of the ever-changing landscape for a particular technology and identify new opportunities in the market
- Trigger new ideas and technology options when developing new products
- Save time searching, understanding and responding to patent data allowing for business decisions to be made faster

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