

INFOGRAPHIC

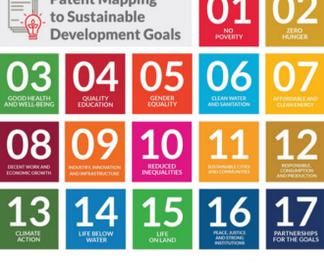
# Who Is Developing Sustainable Technologies?

Using patents to track and measure sustainable innovation



## The business of sustainability

Facing a global pandemic and increasingly consequential natural disasters, there is growing pressure on organizations to take urgent action on sustainability, making it a priority focus for leaders and innovators.



## What are the Sustainable Development Goals?

The United Nations' collection of 17 interlinked global Sustainable Development Goals (SDGs) are designed to be a "blueprint to achieve a better and more sustainable future for all." They are laid out in a list of 169 SDG targets with 231 unique indicators tracking progress toward these targets.

## The proof is in the patents

What makes patents an ideal measure against the U.N. SDG framework?



Patents are the result of extensive research and development leading to an invention.



Policies and patent laws more conducive to sustainable inventions will result in more sustainable inventions being legally protected.



Patents have the potential to impact the society in which the invention is legally protected thus bringing a positive change.



Patents contain information about entities that commercially own the technologies that contribute toward achieving sustainability.

## Our methodology

We have directly and explicitly mapped all technological topics that encompass patentable inventions to the framework of the U.N. SDGs, targets and indicators.

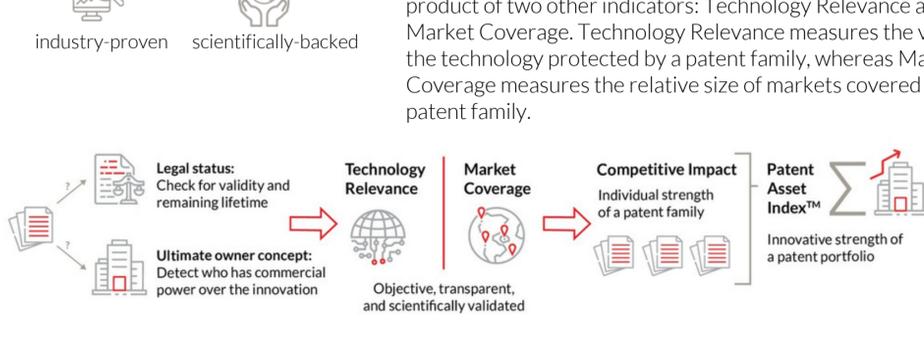


## Quality > Quantity

Studies show that 80% of all the patents filed worldwide have no commercial value. So, the number of patents in a portfolio is not a good indicator of the quality of the portfolio. Hence, it is essential to identify the most commercially relevant patents in a portfolio and ultimately compare portfolios based on intrinsic quality.

## The Patent Asset Index™

The Patent Asset Index is calculated as the sum of all the Competitive Impact values of all patent families in a portfolio. Competitive Impact is measured at a patent family level and is product of two other indicators: Technology Relevance and Market Coverage. Technology Relevance measures the value of the technology protected by a patent family, whereas Market Coverage measures the relative size of markets covered by the patent family.



Using LexisNexis® PatentSight® and the scientifically validated Patent Asset Index methodology, we analyzed the SDGs with the most patenting activity:

- SDG 03: Good health and well-being
- SDG 09: Industry, innovation, and infrastructure
- SDG 12: Responsible consumption and production

As a result, we're able to understand which countries and companies are delivering quality SDG-related technology and innovation.

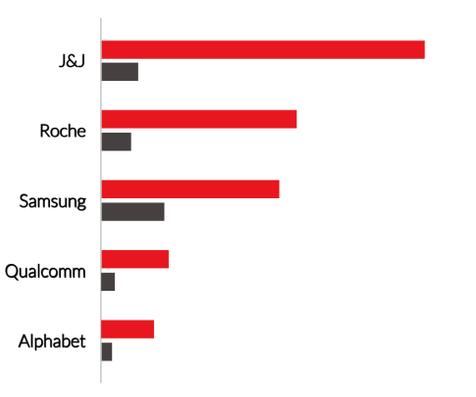
# The Sustainable Innovators

## SDG 03

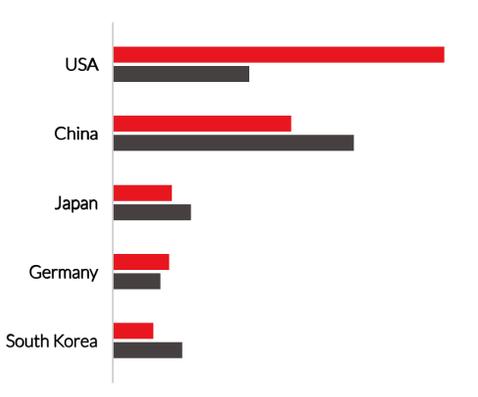
Good health and well-being

Ensure healthy lives and promote well-being for all at all ages

### Top Companies by Quality of Patents



### Top Countries by Quality of Patents



Even though Samsung owns 2x as many patent families as Johnson & Johnson related to this SDG, the J&J portfolio contains patents of a higher quality as measured by the Patent Asset Index.

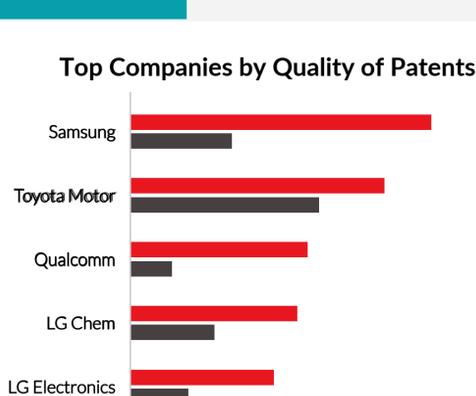
There are 28% more patent families filed in this category in China, but in terms of patent quality, the U.S. leads.

## SDG 09

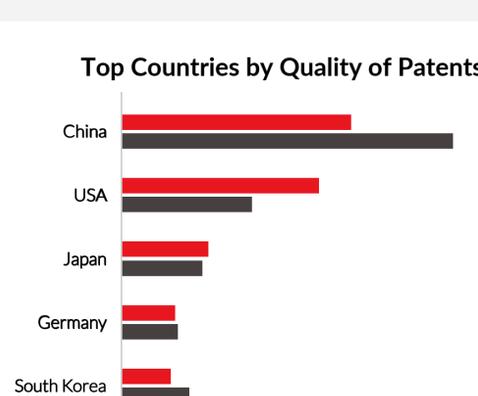
Industry, innovation, and infrastructure

Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation

### Top Companies by Quality of Patents



### Top Countries by Quality of Patents



LG Chem and Samsung have similar-sized portfolios in SDG 12, but in terms of quality, LG Chem only ranks fourth.

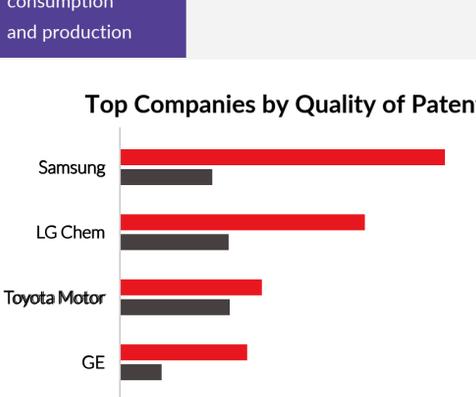
China has more than 2x the portfolio size as the U.S. but the US patents have a higher rate of quality.

## SDG 12

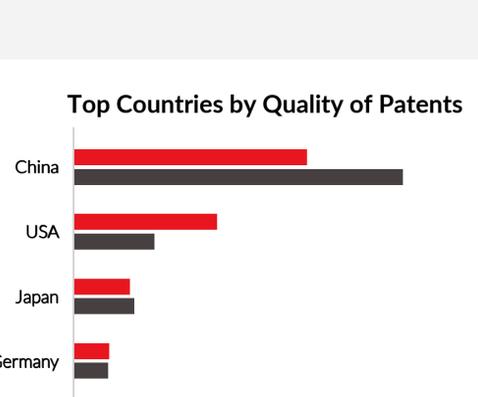
Responsible consumption and production

Ensure sustainable consumption and production patterns

### Top Companies by Quality of Patents



### Top Countries by Quality of Patents



Toyota has the largest portfolio size related to SDG 12, with 5297 patent families.

China's portfolio size is almost 5x that of the U.S. in patents related to SDG 12.