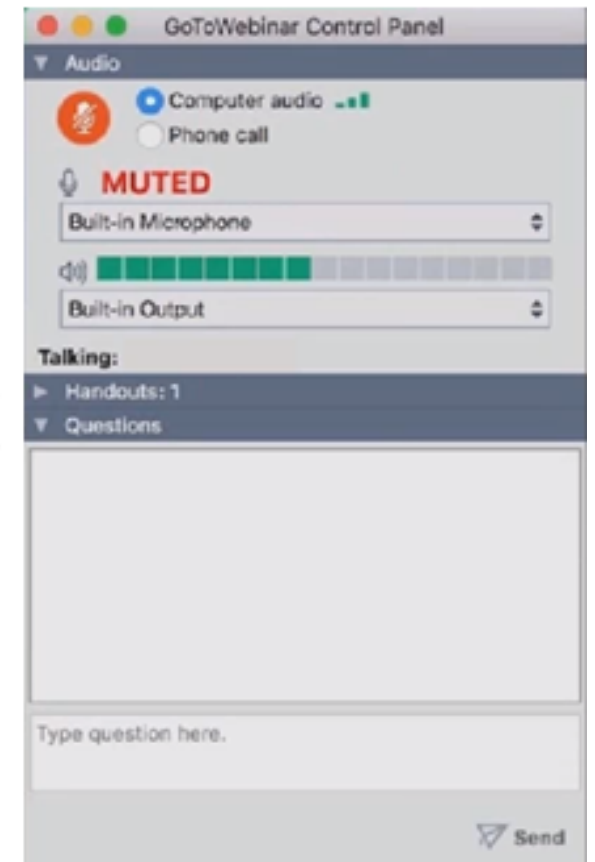


# Calling for Action: How to Track and Measure Sustainable Innovation and Investments



# Housekeeping

- This webinar is being recorded, you will receive a link to access it, in a follow-up e-mail.
- You can download the slides from the *Handouts Section*
- If you have questions during the presentation, please send us via the *Questions Section*



# Agenda

Introduction

Sustainability and the United Nations Sustainable Development Goals (SDGs)

A New Objective Way to Measure Sustainable Innovation

The Global Drivers of Sustainable Technological Development

SDG 13: Who is Currently Making Our Planet a Better Place?

Q&A

Presenter



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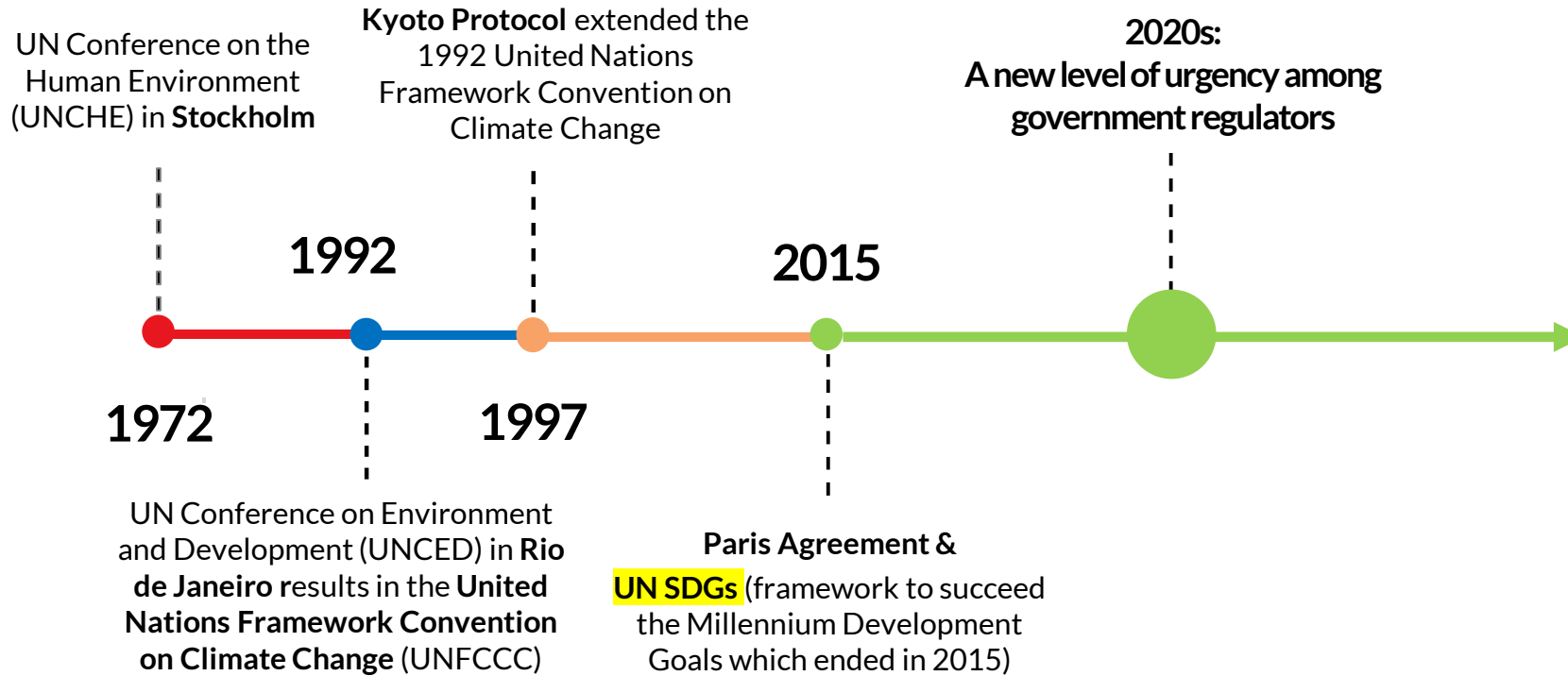
**Marco Richter**  
Global Lead Product  
and Customer Success



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**Sustainability:  
The Earth-Shattering  
Topic of Our Time**

# Sustainability through the years



## THE WHITE HOUSE



Biden admin committed to cutting greenhouse gas emissions by 50% by 2030



**JPX**

JAPAN EXCHANGE GROUP

Revised Japan's Corporate Governance Code: emphasis on sustainability and ESG issues



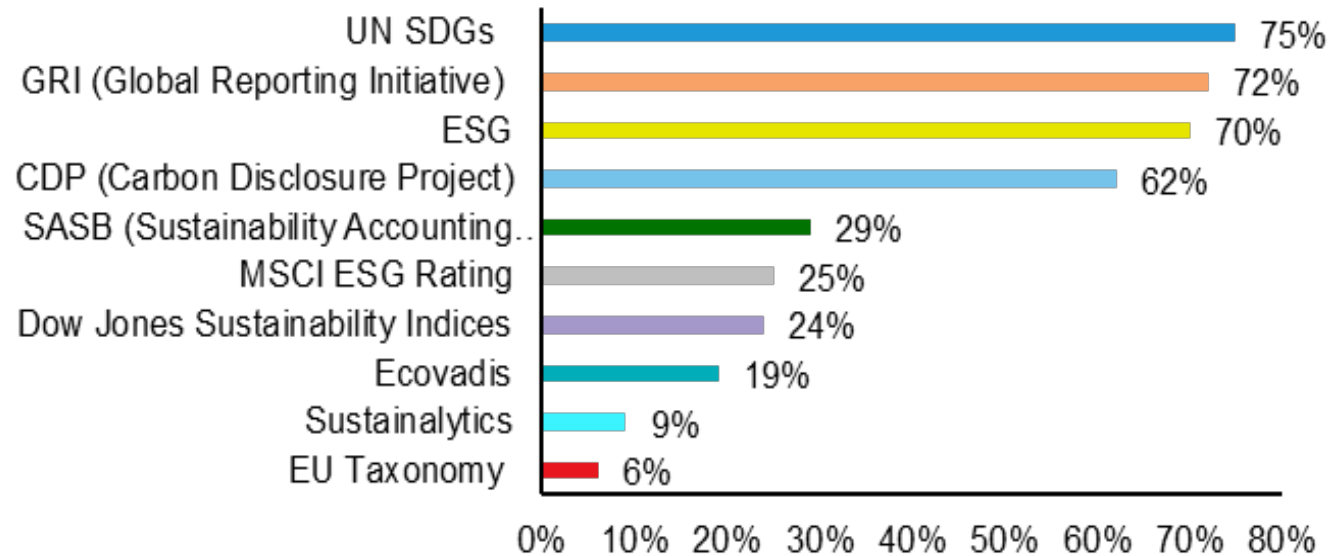
European Green Deal & EU Taxonomy for Sustainable Activities

# The 17 Sustainable Development Goals defined by the United Nations



# Innovators around the world are looking to report on sustainability

Type of framework mentioned in reporting of top 100 corporate patent owner



Source: Own research (2021)

Sample based on top 100 corporate patent owners by Portfolio Size (worldwide)



87% public,  
13% private (or Chinese state-owned)



35% Japan, 21% USA, 19% China, 8%  
South Korea, 8% Germany, 3% Taiwan, 3%  
France, 1% Netherlands, 1% Finland, 1%  
Sweden

7



93% publish sustainability report

# Why do the SDGs matter for your business?

- 78% of customers are now more likely to buy from companies that signed up to the SDGs agenda
- 71% of businesses say they are already planning how they will engage with the SDGs
- 41% of businesses say they will embed SDGs into strategy and the way they do business within five years



Source: PwC, Make it your business: Engaging with the Sustainable Development Goals



# What is the most suitable framework to analyze sustainable innovation?

## ESG

Environmental, Social, and Corporate Governance (ESG) refers to the three central factors in measuring the sustainability and societal impact of an investment in a company or business.

## SDG

The United Nations Sustainable Development Goals collection of 17 interlinked global goals designed to be a "blueprint to achieve a better and more sustainable future for all". The SDGs were set up in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030.

# Different attempts at trying to show overlaps and gaps between ESG and SDG



Source: Berenberg, Understanding the SDGs in sustainable investing



Source: Foresight Analytics, ESG & Sustainability Analytics

Figure 1: SDGs Mapped Against Environmental, Social, and Governance Categories



Source: DiligenceVault, DV Looks at ESG

# What is the most suitable framework to analyze sustainable innovation?

## ESG

- No global definition and framework for ESG
- Not target-oriented, focused on processes
- No standardized metrics to calculation or presentation of ESG metrics
- Mapping of technologies would be vague

## SDG

- ✓ Globally accepted and acknowledged framework
- ✓ Goals defined in the agenda 2030
- ✓ Clearly defined by 17 global goals 169 targets, 231 detailed indicators and accompanying metadata
- ✓ Allows to distinctly map patentable, novel and innovative technologies

“We cannot solve our problems with the same thinking we used when we created them.”

*Albert Einstein*

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## **A New Objective Way to Measure Sustainable Innovation**

# How we mapped all patents to the UN Sustainable Development Goals

## Patents

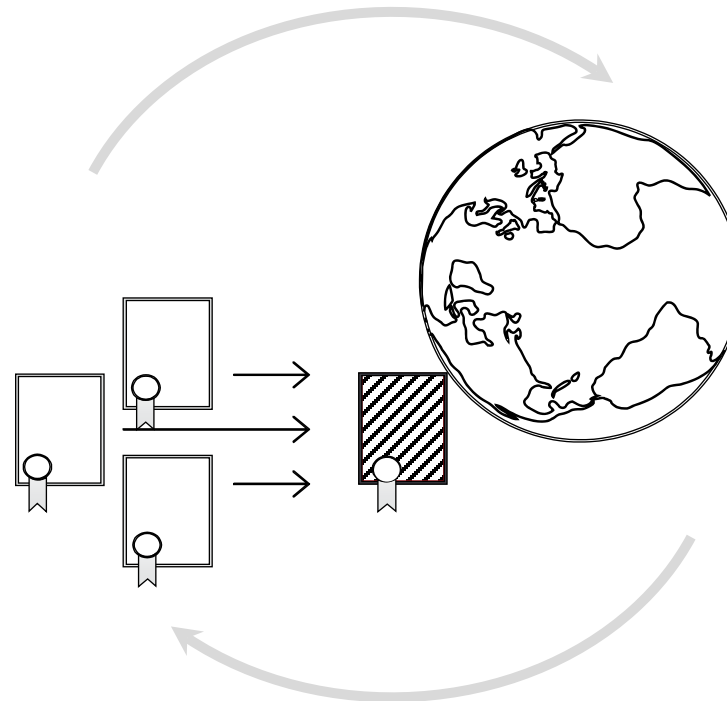
Patents are territorial rights granted for inventions in science and technology as per the law in each country where the patent has been applied for.

Across most nations, patents are granted for inventions that are:

- Novel
- Inventive and /or non-obvious and
- Capable of industrial application.



The searches and search topics are not generic, but are based on the targets, indicators and the metadata of each UN SDG. Therefore, more are covered than only those found in the Green Inventory of e.g., the WIPO. For a better understanding of the patents to SDG mapping fact sheets with direct linkage are created for each SDG and their respective sub targets.



## UN SDG Targets

The United Nations Sustainable Development Goals (SDGs) are targets for global development adopted in September 2015, set to be achieved by 2030. All countries of the world have agreed to work towards achieving these goals. The 17 Sustainable Development Goals are defined in a list of 169 SDG Targets. Progress towards these Targets is agreed to be tracked by 232 unique Indicators.

## Indicators

The Global SDG Indicators Database maintained and regularly updated by the Statistics Division makes data on the global SDG indicators available to all users and includes both country-level data and regional and global aggregates. As of July 2019, it includes data for 166 of the 232 indicators and more than 1.2 million data records.

## Metadata

An accompanying metadata repository provides the metadata for the indicators that have internationally established methodology and standards. Access to the country-level data and the metadata ensures full transparency with respect to the data and methodologies used for global reporting.

# Our solution: easily accessible insights into sustainable innovation





RELX is a dedicated signatory of the UN Global Compact which uses the SDGs to chart business participation in achieving these aims.



As an active contributor at the United Nations Rule of Law Steering Committee, LexisNexis helped set the UN SDGs in motion.



# How does the patent to SDG mapping help you?



## Measurability

Patent data is an important source to measure a company's contribution to a sustainable world. Innovation has been identified a key contributor to more sustainability\*.



## Transparency

Including patent data in the SDG evaluation process helps to shed more light on the effort companies put into becoming SDG compliant and avoids "green washing."



## Valuation

Patent data in combination with the Patent Asset Index™ reveals real champions and allows stakeholders as well as shareholders a better decision-making process.



## Accessibility

PatentSight has mapped its global patent database to SDG related tech-fields. This enables non patent experts to easily access their fields of interest and gain valuable insights for their analyses.

\*Boons, F.; Luedeke-Freund, F. Business models for sustainable innovation: State-of-the-art and steps towards a research agenda. J. Clean. Prod. 2013, 45, 9–19.



# Why LexisNexis PatentSight is uniquely positioned to bring this solution to market

Redefining patent analytics by overcoming fundamental data problems

## Legacy patent software problems:



Incomplete ownership information



Ambiguous legal status information, not readily available for analytics



No accurate trend analysis possible



Legacy indicators with limited applicability, often put in black boxes

## PatentSight's solutions:



Mapping all worldwide patents to their ultimate owner



Providing industry leading legal status information



Point in time historic data, enabling true trend analyses



Scientifically proven and industry-wide accepted indicators around the Patent Asset Index™

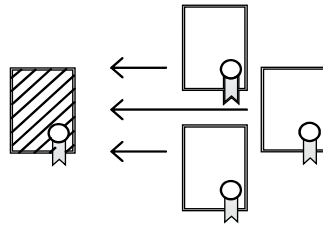
# LexisNexis applies its unique Patent Asset Index to measure innovation

The Patent Asset Index™ is the only scientifically developed, peer-reviewed and industry wide adopted patent indicator

## Technology Relevance

Worldwide citations received from later patents, adjusted for age, patent office practices and technology field

Average value: 1



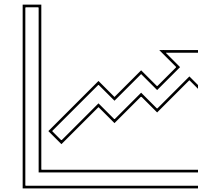
## Competitive Impact

(Individual patent strength)  
The relative business value of a patent family

X

Σ

## Patent Asset Index™

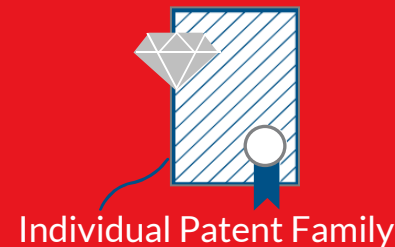


Innovative strength of a company or portfolio (ability to achieve competitive advantage)!

## Market Coverage

Market size protected by active patents and pending patent applications on a certain invention

Value of granted US patent: 1



Ernst, H., Omland, N. (2011): *The Patent Asset Index - A New Approach to Benchmark Patent Portfolios*. *World Patent Information* 33, pp. 34-41.

# We have a strong track record in the world of patent analytics



The **European Commission** analyses the **technology share** using the Patent Asset Index™ to examine the **Dow-DuPont** and **Bayer-Monsanto** mergers and assess dominance in **M&A cases**



*"The method is valuable not only to demonstrate the importance of our patent portfolio to investors, but also to internally evaluate our patent strategy over time"*  
Dr. Andreas Kreimeyer, Member of the Board of Executive Directors



In front of the **U.S. Tax Court**, the Patent Asset Index™ is used to **measure the relative value of certain patents over time** for expert reports in depositions and testimony at trial  
(U.S. Treasury against Amazon)



*"The Patent Asset Index™ from PatentSight® evaluates global coverage and Competitive Impact. According to the results, Symrise's IP portfolio has the most competitive impact in the entire industry"*  
Symrise Annual Report



*"This method provides an accurate, overall view of the impact and efficiency of an enterprise's investment in innovation"*  
Dr. William F. Banholzer, Executive Vice President and CTO

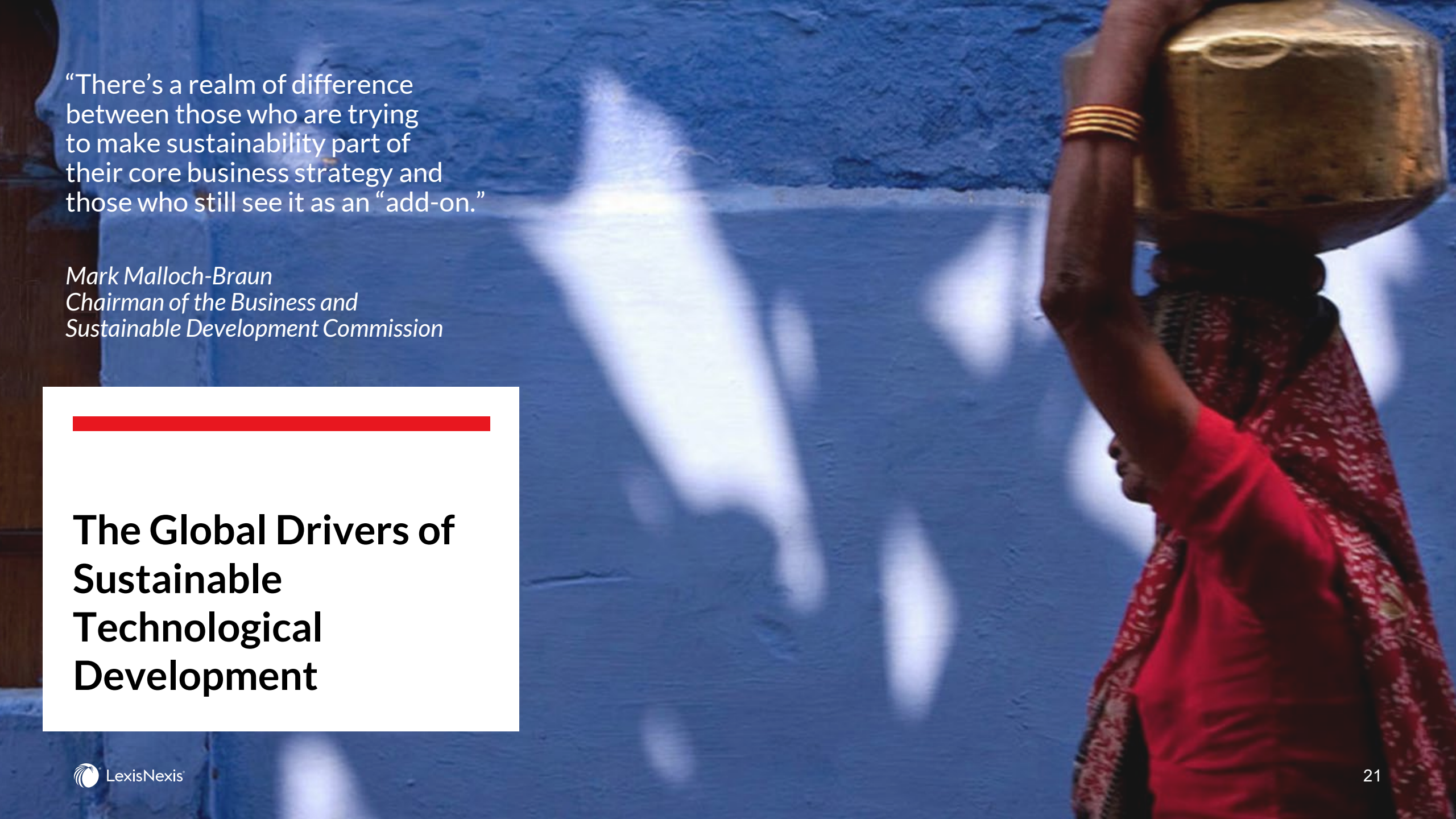
# What is the role for information and data in achieving the SDGs?

“Business is a vital partner in achieving the Sustainable Development Goals. Companies can contribute through their core activities, and we ask companies everywhere to assess their impact, set ambitious goals and communicate transparently about the results.”

“In making sure that the SDGs are all implemented in its entirety, it's important that we need to have various systematic and scientific checking and assessment of the situation and (...) **information and data can play a very important role. Without knowing how much we are making progress you will not be able to know where we are going.**”

Ban Ki-moon, United Nations Secretary-General (2007-2016)





“There’s a realm of difference between those who are trying to make sustainability part of their core business strategy and those who still see it as an “add-on.”

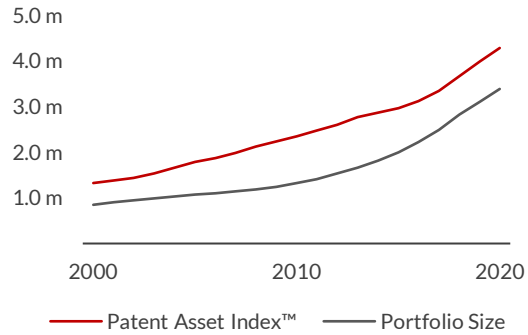
*Mark Malloch-Braun  
Chairman of the Business and  
Sustainable Development Commission*

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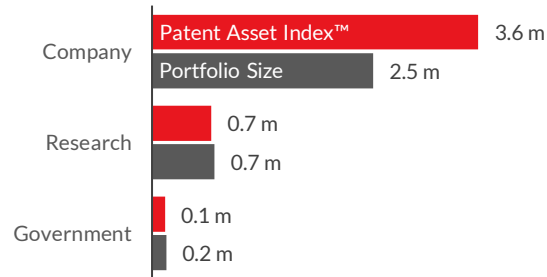
## **The Global Drivers of Sustainable Technological Development**

# Sustainable Development Goal Dashboard

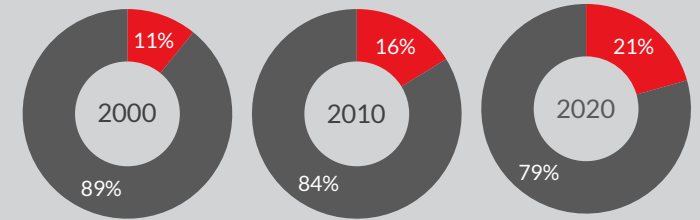
Development of the SDG Portfolio Quality & Quantity



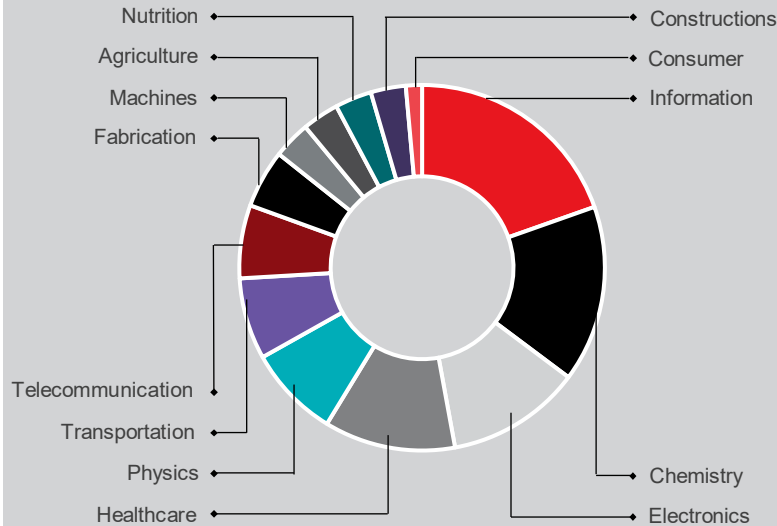
Owner Type of SDG Related Patent



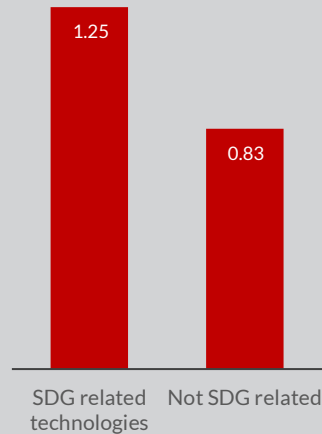
Development of Share of SDG Related Patents 2000-2020



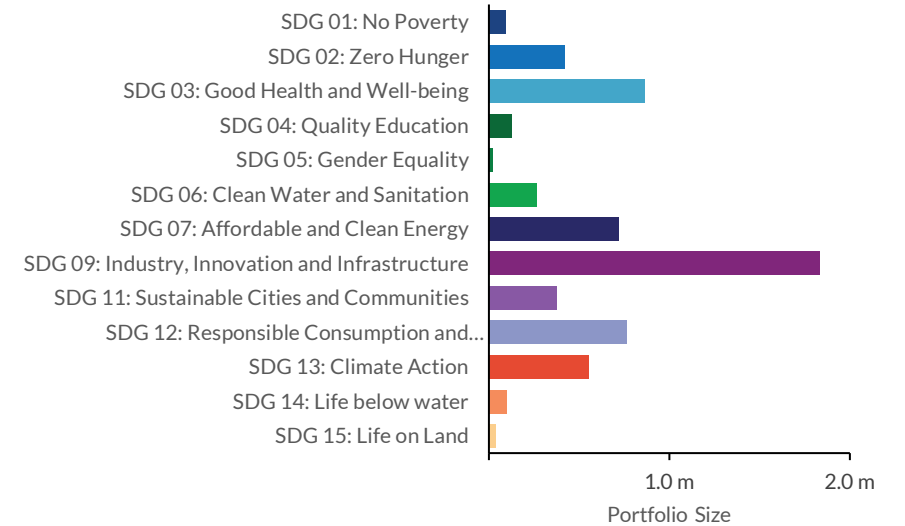
Technologies Contributing to SDGs



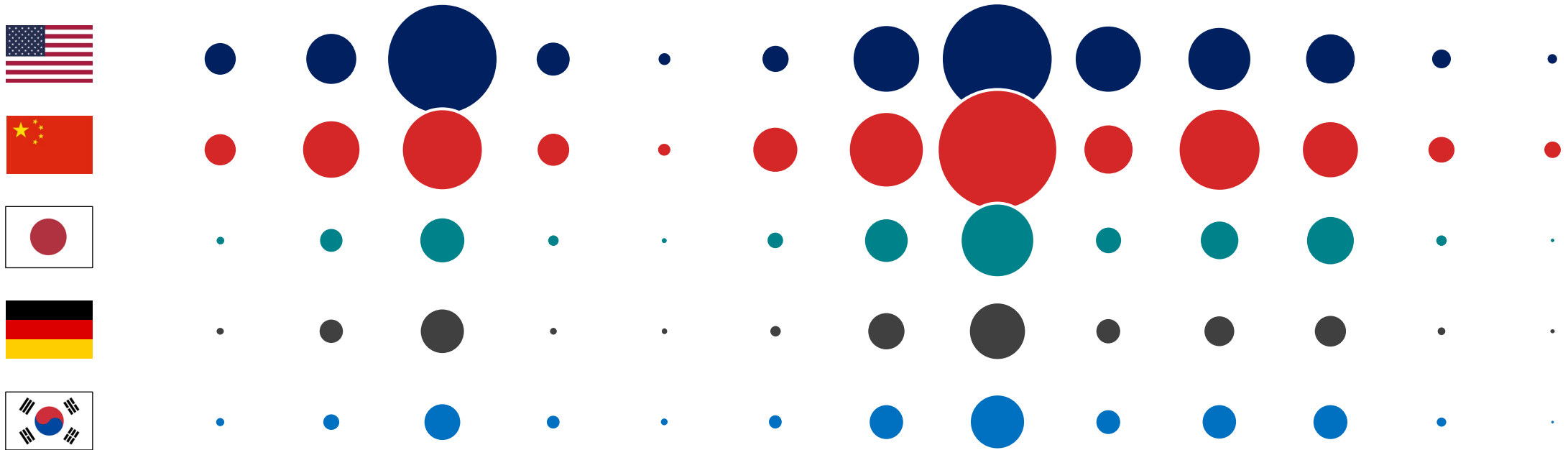
Average Quality of SDG, and not SDG, Related Patents



Number of patents across the SDGs



# Patent Asset Index™ distribution of the UN SDGs across Top 5 authorities




Bubble Area: Patent Asset Index™

# Patent Asset Index™ distribution of the UN SDGs across Top 10 Companies



Bubble Area: Patent Asset Index™





"Solutions to the climate crisis are within reach, but in order to capture them, we must take urgent action today across every level of society."

*Al Gore  
Chairman and Founder,  
The Climate Reality Project*

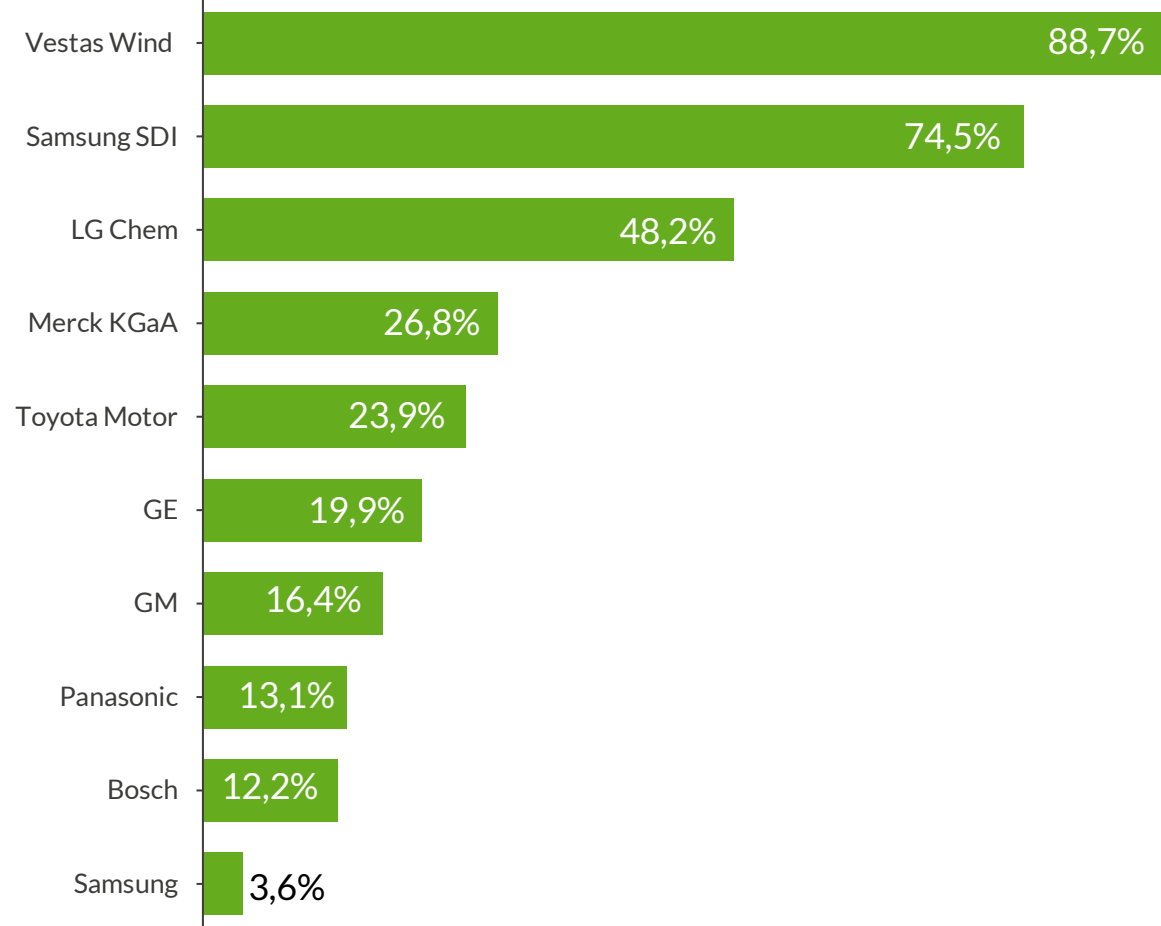
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**SDG 13:  
Who is Currently  
Making Our Planet a  
Better Place?**

# Patent data reveals the true effort companies put into more sustainability



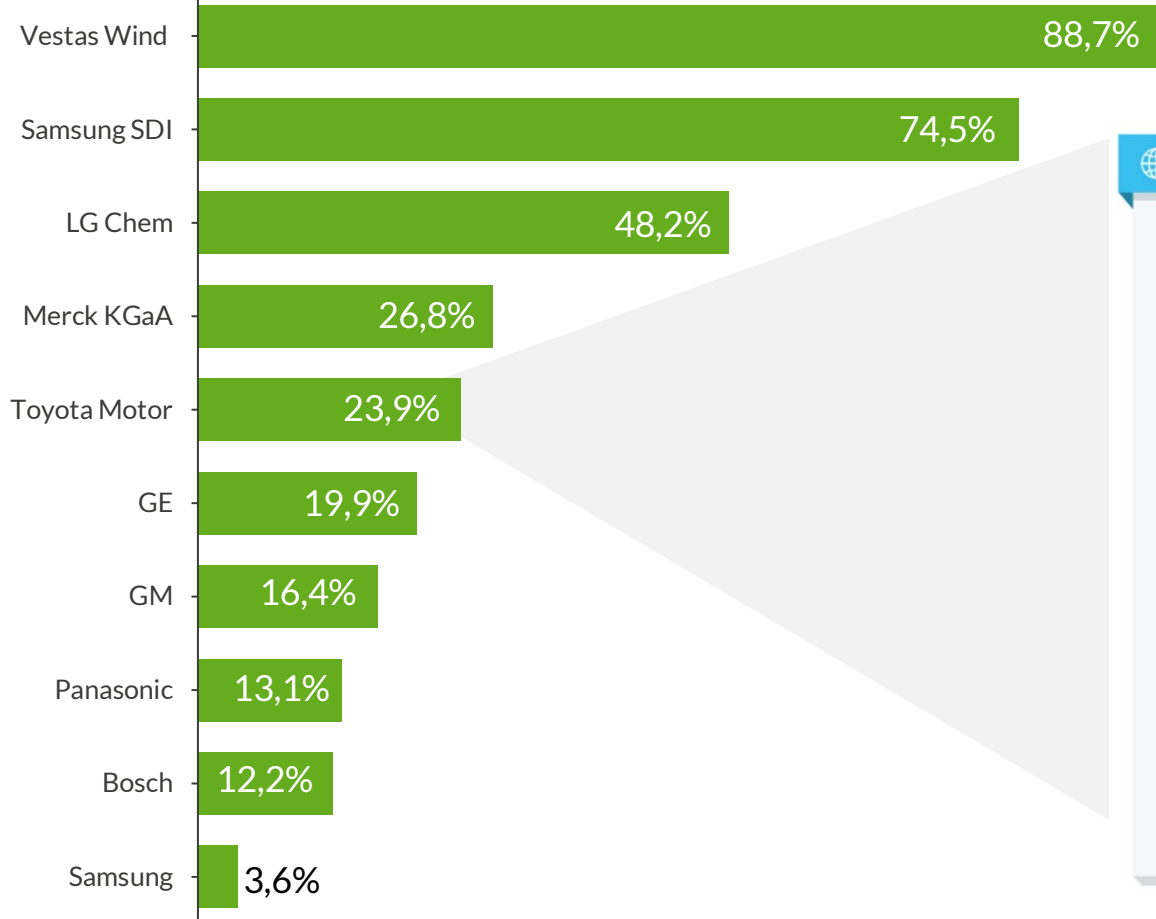
**Share of Patent Asset Index™ in entire company portfolio belonging to Climate-friendly Technologies** (Top 10 Companies in SDG 13 related inventions)



# Patent data reveals the true effort companies put into more sustainability



Share of Patent Asset Index™ in entire company portfolio belonging to Climate-friendly Technologies (Top 10 Companies in SDG 13 related inventions)



**Contributing to solving social issues**

**Through businesses** / Improving value by adapting to CASE

**Safe and reliable** / **Environment**

Zero deaths and injuries from traffic accidents  
Comfortable and congestion-free travels

No one lacking access to means of transportation  
Spread of cars serving also as power sources

Use of hydrogen to promote energy diversification

**TOYOTA ENVIRONMENTAL CHALLENGE 2050**

Zero emissions (zero CO<sub>2</sub> emissions)  
Recycling/reuse of resources

**By social contribution activities** / Aiming to become a reliable corporate citizen

**Enhancing ESG**

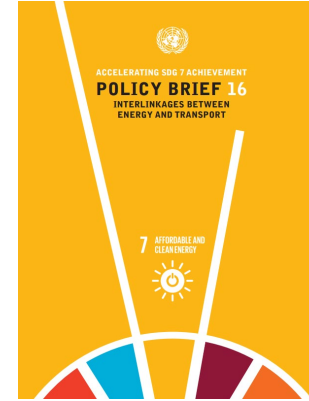
- Tackling human rights issues
- Promoting diversity

**Waku-doki (heart-pumping excitement)**

Fun and pleasure of sports and movement

And excitement for everyone

# Patent data reveals the true effort companies put into more sustainability



## ACCELERATING SDG 7 ACHIEVEMENT POLICY BRIEF 16 INTERLINKAGES BETWEEN ENERGY AND TRANSPORT

Developed by  
FIA Foundation, UN Environment, United Nations  
Economic Commission for Europe (UNECE),  
International Civil Aviation Organization (ICAO)  
and International Maritime Organization (IMO)

In addition to improving the efficiency of petrol combustion engines, further measures are needed to support expansion of the fleet of road vehicles propelled by alternative and renewable fuels, such as liquefied natural gas (LNG) and biofuels, hydrogen and fuel cells, and expanding the fleet of **hybrid electric vehicles (HEV)** and **electric vehicles (EV)**. The extent of the contribution of EVs will depend both on improving battery vehicle range on a single charge without adding significant additional cost and on the construction of EV charging infrastructure networks. The use of sustainable aviation fuel and other clean energy in air transport

<https://sustainabledevelopment.un.org/content/documents/17501PB16.pdf>

# Take-aways from today – let our customers have the last word

*It would not have been easy to create the search query for 17 goals by ourselves, so we feel that it is very useful for us to understand our own patent strength and to compare with other companies by providing it as a new function. We immediately compared our company with our competitors.*

*Already actively using the SDGs to look for sustainable research collaboration partners*

*We've subscribed several patent analytics tools, but PatentSight SDGs makes us take a trial phase because PS SDGs is **very unique and interesting for IR purpose.***

***“How long have you been working on this project? This is huge amount of work”***

*SDGs has been focused by large-scaled enterprises in recent years. We witnessed the new functionalities of PatentSight SDG during **yesterday's training session, it was extraordinary.** There will be multiple ways to utilize the SDG module.*

*SDG intelligence **will be shared with all members of the company** to create significant opportunities for each market in the business.*

*Being able to classify patents by SDG categories is very useful to easily promote the strengths of our technology or complement its weaknesses from a different perspective.*

*Sustainability is a common issue which comes up, actively looking to use the PatentSight SDG in C- and Board-level discussions*

*Will use to implement a **“sustainability-related patent KPI” for performance monitoring***

*Having just been asked by top management to check our portfolio in relation to SDGs, this is very useful. **The objective criteria of SDGs is very important because we tend to create results that fit our own good image.***

# More about Advanced Analytics with LexisNexis PatentSight

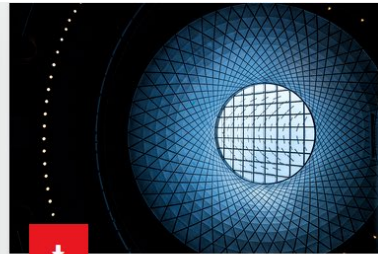
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The Patent Landscape of Artificial Intelligence



The Landscape of Machine Learning from a Patent Perspective



Looking into the Digital Crystal Ball



Early Identification of Disruptive Players with Advanced Patent Analytics



Merger Deals Increasingly Scrutinized Using Patent Analysis



Digital Aliens in Autonomous Driving

Visit: [www.patentsight.com](http://www.patentsight.com)

Schedule a demo at: [www.patentsight.com/demo](http://www.patentsight.com/demo)

# Thank you

Marco Richter  
Global Lead Product & Customer Success  
LexisNexis Intellectual Property Solutions

[marco.richter@lexisnexis.com](mailto:marco.richter@lexisnexis.com)  
+ 49 170 818 8963