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
Sustainability:
The Earth-Shattering Topic of Our Time
Sustainability through the years

UN Conference on the Human Environment (UNCHE) in Stockholm

Kyoto Protocol extended the 1992 United Nations Framework Convention on Climate Change

1972

1997

1992

2015

2020s: A new level of urgency among government regulators

Paris Agreement & UN SDGs (framework to succeed the Millennium Development Goals which ended in 2015)

UN Conference on Environment and Development (UNCED) in Rio de Janeiro results in the United Nations Framework Convention on Climate Change (UNFCCC)

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

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

- UN SDGs: 75%
- GRI (Global Reporting Initiative): 72%
- ESG: 70%
- CDP (Carbon Disclosure Project): 62%
- SASB (Sustainability Accounting Standards Board): 29%
- MSCI ESG Rating: 25%
- Dow Jones Sustainability Indices: 24%
- Ecovadis: 19%
- Sustainalytics: 9%
- EU Taxonomy: 6%

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

93% publish sustainability report

Source: Own research (2021)
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
Source: DiligenceVault, DV Looks at ESG
What is the most suitable framework to analyze sustainable innovation?

<table>
<thead>
<tr>
<th>ESG</th>
<th>SDG</th>
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<tbody>
<tr>
<td>No global definition and framework for ESG</td>
<td>Globally accepted and acknowledged framework</td>
</tr>
<tr>
<td>Not target-oriented, focused on processes</td>
<td>Goals defined in the agenda 2030</td>
</tr>
<tr>
<td>No standardized metrics to calculation or presentation of ESG metrics</td>
<td>Clearly defined by 17 global goals 169 targets, 231 detailed indicators and accompanying metadata</td>
</tr>
<tr>
<td>Mapping of technologies would be vague</td>
<td>Allows to distinctly map patentable, novel and innovative technologies</td>
</tr>
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A New Objective Way to Measure Sustainable Innovation

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

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

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

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

Redefining patent analytics by overcoming fundamental data problems

<table>
<thead>
<tr>
<th>Legacy patent software problems:</th>
<th>PatentSight’s solutions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incomplete ownership information</td>
<td>Mapping all worldwide patents to their ultimate owner</td>
</tr>
<tr>
<td>Ambiguous legal status information, not readily available for analytics</td>
<td>Providing industry leading legal status information</td>
</tr>
<tr>
<td>No accurate trend analysis possible</td>
<td>Point in time historic data, enabling true trend analyses</td>
</tr>
<tr>
<td>Legacy indicators with limited applicability, often put in black boxes</td>
<td>Scientifically proven and industry-wide accepted indicators around the Patent Asset Index™</td>
</tr>
</tbody>
</table>
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

Market Coverage

Market size protected by active patents and pending patent applications on a certain invention
Value of granted US patent: 1

Competitive Impact

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

Patent Asset Index™

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

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

The Global Drivers of Sustainable Technological Development
Sustainable Development Goal Dashboard

**Development of the SDG Portfolio Quality & Quantity**

**Owner Type of SDG Related Patent**
- **Company**: Patent Asset Index™ 3.6 m, Portfolio Size 2.5 m
- **Research**: 0.7 m
- **Government**: 0.1 m

**Technologies Contributing to SDGs**
- Agriculture
- Nutrition
- Healthcare
- Information
- Telecommunication
- Transport
- Physics
- Fabrication
- Machines
- Consumer
- Constructions
- Electronics
- Chemistry
- SDG related technologies
- Not SDG related technologies

**Average Quality of SDG and not SDG Related Patents**
- SDG related: 1.25
- Not SDG related: 0.83

**Development of Share of SDG Related Patents 2000-2020**
- **2000**
  - 11% 16%
  - 89% 84%
- **2010**
  - 21%
  - 79%
- **2020**
  - 21%

**Number of patents across the SDGs**
- SDG 01: No Poverty
- SDG 02: Zero Hunger
- SDG 03: Good Health and Well-being
- SDG 04: Quality Education
- SDG 05: Gender Equality
- SDG 06: Clean Water and Sanitation
- SDG 07: Affordable and Clean Energy
- SDG 09: Industry, Innovation and Infrastructure
- SDG 11: Sustainable Cities and Communities
- SDG 12: Responsible Consumption and...
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

Samsung
Johnson & Johnson
Toyota Motor
Qualcomm
LG Electronics
GE
Roche
Alphabet
LG Chem
Microsoft

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

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)

- Vestas Wind: 88.7%
- Samsung SDI: 74.5%
- LG Chem: 48.2%
- Merck KGaA: 26.8%
- Toyota Motor: 23.9%
- GE: 19.9%
- GM: 16.4%
- Panasonic: 13.1%
- Bosch: 12.2%
- Samsung: 3.6%
Patent data reveals the true effort companies put into more sustainability

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Contributing to solving social issues

Through businesses
- Improving value by adapting to CASE
  - Safe and reliable
    - Zero deaths and injuries from traffic accidents
    - Comfortable and congestion-free travel
  - Environment
    - Zero emissions (zero CO2 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
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

SDG intelligence will be shared with all members of the company to create significant opportunities for each market in the business. We immediately compared our company with our competitors.

“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.

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.

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

Click to download whitepaper

Visit: www.patentsight.com

Schedule a demo at: www.patentsight.com/demo
Thank you

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