



Unlocking Investment Insights Through Patent Data and Innovation

A Forward-Looking Lens for Sustainable Investment Strategies

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About Entis

Entis is a data-driven investment intelligence company specializing in advanced AI combined with analyst expertise to deliver highly precise analyses of global corporate dynamics. By transforming complex qualitative data into actionable insights, Entis empowers more informed investment decisions. With a commitment to reliability, transparency, and precision, Entis provides data insights that deepen understanding of the investment landscape. For more information, please visit: www.entis.ai

About the SDI AOP

The Sustainable Development Investments Asset Owner Platform (SDI AOP) develops and manages the SDI taxonomy, definitions, and classification methodology for investments aligned with the UN Sustainable Development Goals. Governed by APG, AustralianSuper, BCI, and PGGM, its offerings include the SDI Classification, SDI Innovation Outlook, and SDI Private Markets Membership. Starting 1 March, SDI Outcomes will enhance the product portfolio.

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Executive summary

The SDI Innovation Outlook provides a transformative dataset for forward-looking investment strategies by leveraging patent data to identify trends in innovation and sustainability. Focused on the UN Sustainable Development Goals (SDGs) and encompassing key domains such as energy transition, health technology, and future mobility, the SDI Innovation Outlook addresses the increasing need for investors to integrate actionable, sustainability-aligned insights into their portfolios.

Patent data offers distinct advantages over traditional financial metrics by being inherently forward-looking, unbiased, and granular. By analysing ~20 million patents through the SDI taxonomy, the dataset highlights companies driving innovation in technologies critical to sustainable development. These insights enable investors to anticipate market shifts, identify thematic opportunities, and support long-term growth strategies.

A key feature is its historical dataset, spanning over a decade of patent activity. This historical lens helps uncover pervasive trends, evaluate the economic relevance of emerging technologies, and validate thematic investment hypotheses with robust quantitative evidence.

Through structured methodologies and advanced AI tools, the SDI Innovation Outlook ensures consistency and replicability. It empowers investors to align financial performance with sustainability objectives and capitalize on opportunities in a world increasingly focused on achieving the SDGs.

Box 1. Four ways in which the SDI Innovation Outlook can be used

- 1 **Portfolio construction process:** It aids in identifying companies with the potential for increased future returns and informs engagement strategies around business practices and investment in sustainable innovation
- 2 **Quantitative analysis:** It allows the inclusion of sustainability innovation as an investment factor based on historical performance.
- 3 **Trend analysis:** It allows monitoring of transitions and emerging trends in patent activity to evaluate future revenue potential through the assessment of companies' innovation capabilities. This enables investment selections that are consistent with specific investment beliefs.
- 4 **Leading indicator:** The Outlook serves as a predictive tool because patents are associated with new products and future revenue composition.

01 Setting the Stage: Innovation Meets Asset Management

Institutional investors are increasingly challenged to identify investments that align with long-term priorities, such as sustainability and innovation, while maintaining competitive returns. As these themes grow in importance, data-driven approaches have become essential for informing investment decisions and ensuring alignment with evolving market dynamics.

The rise of non-traditional data, such as patent filings, offers new ways to uncover opportunities in emerging technologies and sectors. Recent advancements in AI and data processing enable the integration of this data into systematic investment approaches, allowing for deeper insights and enhanced decision-making. However, leveraging non-traditional data effectively requires overcoming challenges related to structuring, consistency, and scalability.

This paper explores the role of patent data as a forward-looking tool for identifying innovation aligned with the UN Sustainable Development Goals (SDGs). It demonstrates how insights derived from the SDI Innovation Outlook can inform thematic investment strategies, enabling investors to align financial objectives with sustainability goals. The paper is structured as follows:

- **Chapter 2** examines how new technologies and trends reshape the asset management industry and introduces the potential of patent data as a leading indicator.
- **Chapter 3** discusses the methodologies and tools required to unlock actionable insights from non-traditional data, with a focus on the SDI Innovation Outlook.

- **Chapter 4** highlights use cases and opportunities for integrating patent-based insights into investment strategies.
- **The conclusion** reflects on the relevance and future potential of using non-traditional data, emphasizing its importance in an increasingly competitive asset management landscape.

02 Adapting to a New Era of Technologies and Trends

The asset management industry is undergoing substantial change due to megatrends including the energy transition, increased emphasis on intangibles, demographic changes and the emergence of new technologies (e.g. Artificial Intelligence). These trends are reshaping market dynamics and creating new challenges for investors seeking to anticipate long-term opportunities.

In this evolving landscape, traditional financial metrics often fall short of capturing the full picture. Investors increasingly recognize the need for non-traditional data sources—such as unstructured text, sustainability metrics, and patent filings—that can provide deeper insights into emerging themes, industry shifts, and technological advancements.

However, incorporating non-traditional data into investment strategies poses challenges. The volume, complexity, and heterogeneity of such data make it difficult to process systematically. Ensuring consistency, reliability, and replicability is critical, as is the ability to extract actionable signals that align with investment objectives.

The integration of cutting-edge technologies, including artificial intelligence (AI), has opened new possibilities for overcoming these challenges. By structuring and analysing non-traditional data, investors can gain forward-looking insights into innovation and sustainability trends, offering a competitive edge in the increasingly complex investment landscape.

This chapter explores the potential of one such non-traditional data source—patent filings—as a forward-looking indicator of technologies and solutions. By uncovering patterns and trends in technological innovation, patent data provides a unique lens for identifying firms that are poised to lead in key areas, such as sustainability, energy transition, and digital transformation.

The potential of forward-looking technology data

Innovation is a critical driver of long-term growth and industry transformation, particularly in sectors with exposure to global megatrends such as sustainability, the energy transition, and digital transformation. Identifying firms that are investing in these transformative technologies offers a significant opportunity for investors to anticipate market shifts and position portfolios for long-term success.

While traditional metrics like capital expenditure (capex) or research and development (R&D) spending provide some insight into a company's investment in innovation, they often fail to capture the nuances and forward-looking nature of technology development. Patent filings, by contrast, serve as an inherently predictive data source, revealing where firms are allocating resources to establish and expand their intellectual property (IP) and to position themselves for future market opportunities.

Academic research consistently highlights the value of patent data as a leading indicator of technological advancement and financial performance (see references). For example, studies show that companies with high-quality patent portfolios enjoy sustained competitive advantages and superior returns, particularly in areas such as sustainable technologies. This makes patent data a compelling resource for identifying firms driving innovation in key sectors. Patent data has several unique advantages:

- **Forward-Looking Insights:** Patent filings indicate where firms themselves see future potential, offering a preview of upcoming technologies and solutions.
- **Comprehensiveness and Objectivity:** Patent data is public, highly granular, and unbiased, as firms file patents to protect their IP, not as a reporting choice.
- **Historical Depth:** Decades of historical patent data allow for time-series analysis and the identification of long-term innovation trends.
- **Economic Relevance:** Patents represent substantial investments by firms, as filing and maintaining patents is costly, focusing attention on economically viable innovations.

By leveraging the inherent characteristics of patent data, investors can gain valuable insights into the trajectory of technological development and its implications for market opportunities. In the following section, we introduce the SDI Innovation Outlook, a solution designed to systematically harness the potential of patent data for investment decision-making.

Introducing the SDI Innovation Outlook: Capturing Relevant Technology Themes

The SDI Innovation Outlook is designed to translate the predictive power of patent data into actionable insights for investors. By leveraging ~20 million patent filings, systematically analysed and aligned with the UN Sustainable Development Goals (SDGs), this solution helps investors identify firms driving innovation in sustainable and transformative technologies.

Purpose and Relevance

Investors increasingly focus on forward-looking insights to align portfolios with emerging global challenges such as the energy transition, health innovation, and food security. Patent data is a powerful tool for this purpose, as it reveals early-stage investments in technologies poised to reshape industries. The SDI Innovation Outlook captures these dynamics, mapping patent activity to SDG-aligned themes to help investors gauge the economic relevance of technologies and the firms behind them.

What it Does

The SDI Innovation Outlook evaluates patents based on the SDI Taxonomy, a framework developed by the SDI AOP to assess the SDG alignment of products and services (see Box 2). Based on a comprehensive mapping of the SDI taxonomy to companies' patent portfolios over time, the SDI Innovation Outlook provides:

- **Trend Analysis:** Tracking the share of patents aligned with the SDGs over time to uncover long-term innovation trends.
- **Contextual Metrics:** Providing the potential for additional insights by enabling normalization of patent activity against R&D spending, industry benchmarks or even investor-proprietary data and thereby helping investors evaluate firms' innovation strategies more effectively.
- **Technology Clustering:** Grouping patents into distinct technological categories (e.g., battery advancements, precision agriculture) to provide insights for investment strategies.
- **Thematic grouping:** The technologies can be grouped according to themes other than the SDGs alone, such as Biodiversity, Pollution and Circular Economy.
- **Consistent Lens:** Ensuring consistency for every cross-section based on the same taxonomy and methodology.

Illustrative Insights from the Data

The SDI Innovation Outlook's dataset reveals significant trends in innovation related to sustainability. For example, Figure 1 highlights the steady growth in the share of patents aligned with the SDGs among firms in the SDI Universe from 2015 to 2023. This upward trajectory underscores the increasing economic relevance of these technologies, reflecting firms' long-term focus on aligning with global sustainability objectives.

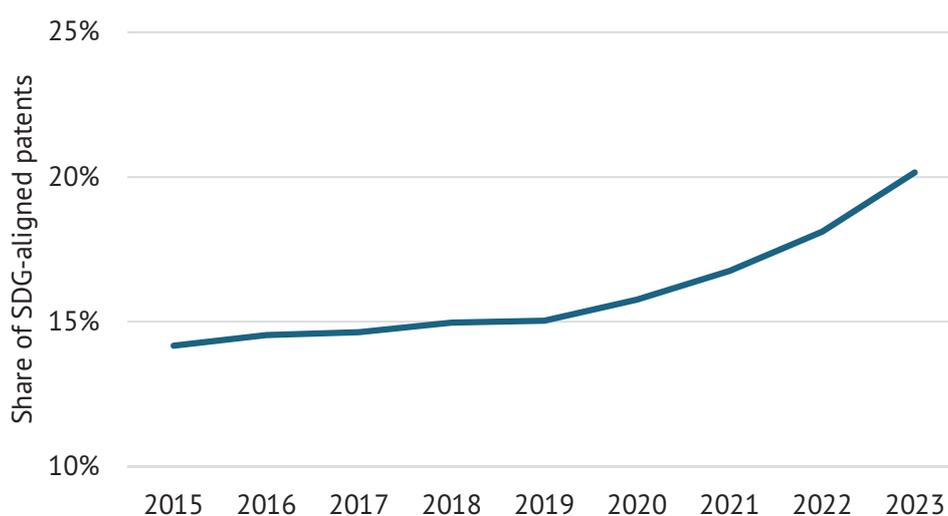


Figure 1. Percentage of SDG-aligned patents filed by firms in SDI Universe. 2015-2023, by percentage of total patent corpus among listed equities

While this overarching trend is insightful, the dataset also allows investors to explore more specific patterns, such as the emergence and development of individual technologies over time. Figure 2 illustrates the relative growth of selected technology areas, including:

- **Informatics for agriculture:** a key enabler of precision agriculture,
- **Auxiliary bicycle technologies:** notably e-bikes,
- **Active vehicle safety:** supporting autonomous driving, and
- **Medical Personal protective equipment:** which saw a temporary surge during the COVID-19 pandemic.

These insights enable investors to identify not only broad shifts in innovation but also nuanced changes within specific sectors and technologies.

Addressing Historical Gaps

A notable feature of the SDI Innovation Outlook is its historical dataset, spanning over a decade of patent filings. This enables investors to identify pervasive trends, such as shifts in technology focus, and to backtest strategies against historical data. For instance, the dataset can reveal how specific technologies, such as electric vehicle batteries, have evolved over time and which companies have consistently led these advancements.

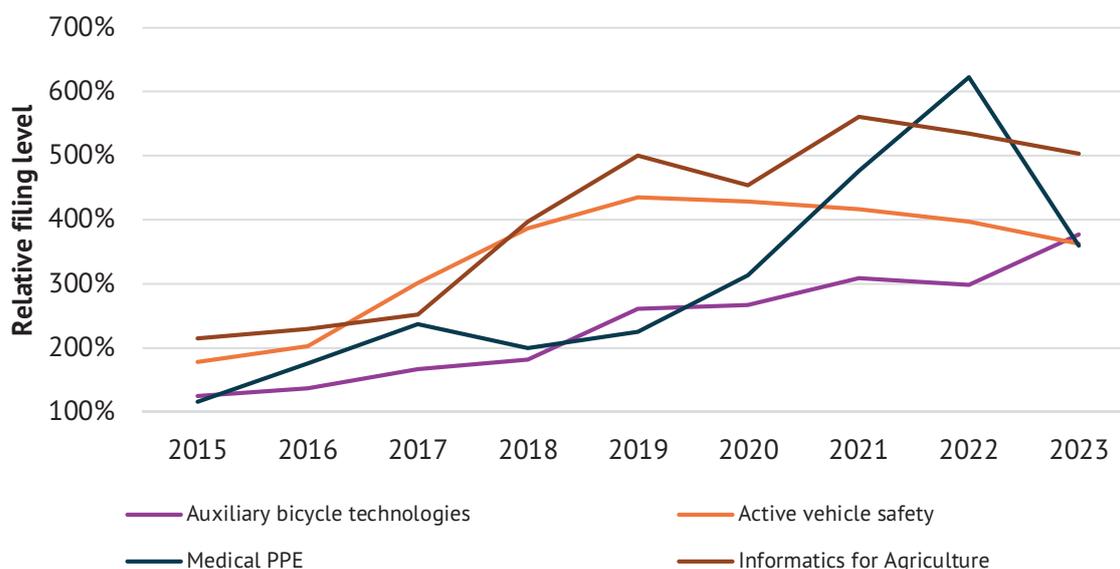


Figure 2. Technology areas with rising levels of patenting. Filing level¹ per technology 2015-2023; indexed to average 100% over 2011-2013.

Overcoming Challenges

Historically, linking patent data to firms has been a significant challenge due to the complex structure of corporate ownership and subsidiary relationships. The SDI Innovation Outlook addresses this issue through advanced methodologies and AI-driven techniques, ensuring that every patent is accurately attributed to its parent firm. This enables investors to seamlessly integrate the insights into their decision-making processes.

In summary, the SDI Innovation Outlook provides a structured and investment-oriented approach to harnessing patent data, offering investors a clear view of emerging technologies, their alignment with global challenges, and their potential for driving financial performance.

Having established the broader relevance of non-traditional data and the unique advantages of patent data, the following chapter explores how to extract actionable insights and apply these in investment strategies.

03 Unlocking Value: Non-Traditional Data in Investment Strategies

As investment strategies evolve, the demand for high-quality non-traditional data has grown significantly. Asset managers increasingly recognize the potential of such data to uncover insights that traditional financial metrics cannot capture. However, incorporating non-traditional data into investment decision-making requires ensuring it meets the same rigorous standards of consistency, replicability, and relevance as traditional datasets.

Patent data exemplifies a non-traditional data source with significant potential. Its forward-looking nature and unbiased structure make it uniquely suited to identifying innovation trends and gauging alignment with long-term investment themes, such as sustainability. Properly processed and contextualized, patent data offers actionable insights that enhance portfolio strategies and help investors address complex challenges, from thematic investing to sustainability integration.

Box 2. Innovation Outlook as a composition of technological domains

The SDI Innovation Outlook score is composed of over 130 underlying technology scores. Each patent is evaluated individually against all technologies. The company score is the result of aggregating the technology exposure over a company’s portfolio and over the corresponding historical period. As patent portfolios of listed companies often consist of hundreds to thousands of patents per year this offers an immensely granular perspective on the research and development that is (and was) going on inside the companies. Examples of key technological areas include:

- **Energy Transition:** Wind turbines, hydrogen and fuel cells, electric powertrains, and charging infrastructure.
- **Future of Mobility:** Autonomous driving, auxiliary bicycle systems, and electrification.
- **Food Security and Agriculture:** Precision agriculture, protein treatment, and breeding and engineering of crops.
- **Sustainability:** Biodegradable plastics, recycling technologies, and emission reduction solutions.

SDI AOP Taxonomy

Patent coding system

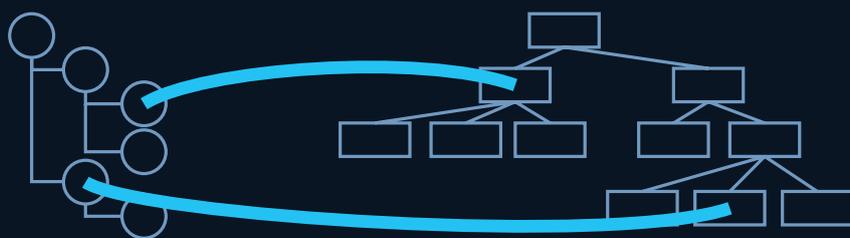


Figure 3a. The data is assembled by performing a detailed and investment-oriented mapping between the SDI taxonomy (of SDG-aligned products and services) and the underlying and enabling technologies in global patent coding systems.

The technologies are grounded in the comprehensive AOP SDI taxonomy. Each technology is operationalized by a group of experts with domain- and investment knowledge (see Figure 3a and b). The operationalization is curated through a careful process with review to ensure the mapping actually captures what is intended and that edge cases are treated correctly.

While the Innovation Outlook score is an aggregate over technologies, the granular data is available in detailed reports per company and to identify the major SDG-aligned technologies. Moreover, the data can be cut in more ways than just the SDGs. Out of the box, the technological exposure is also available by themes such as Circular Economy, Pollution etc.

2 ZERO HUNGER	3 GOOD HEALTH AND WELL BEING	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	11 SUSTAINABLE CITIES AND COMMUNITIES	15 LIFE ON LAND
Precision agriculture	Surgical equipment	Irrigation	Photovoltaics	Aggregates recycling	Biodegradable plastics
Food safety solutions	Radiation based diagnostics	Physical water treatment	Electric powertrain	Insulation material	Plastics from non-fossil feedstock
Crop breeding & engineering	Bio-engineering	Biological water treatment	Charging infrastructure	Vehicle emission reduction	Solid waste management
Biological agrichemicals	Active vehicle safety	Collecting & distribution	Wind turbines	Industrial emission reduction	Reuse, recycling & recovery
...

Figure 3b. The mapping results in over 130 technologies that contribute to the SDGs.

Identifying relevant technology themes within patent data

The ability to generate meaningful investment insights from patent data hinges on careful organization and analysis. To support this, the SDI Innovation Outlook integrates a detailed mapping of technologies to the SDI taxonomy, which aligns with the United Nations Sustainable Development Goals (SDGs). This mapping provides a structured framework for categorizing patents by their relevance to SDG-aligned products and services.

Through this approach, the SDI Innovation Outlook covers over 130 technologies critical to sustainability and future economic growth. By linking enabling technologies, such as battery advancements or digital healthcare solutions, to broader SDG-aligned categories, the dataset allows investors to assess a company's contributions to innovation and sustainability systematically.

A key strength of this framework is its ability to highlight shifts in technology focus. For example, by analysing changes in patent portfolios over time, the SDI Innovation Outlook captures trends such as the growing prominence of electric powertrain technologies in the automotive sector or advancements in sustainable agriculture.

This structured organization transforms patent data from an overwhelming set of raw information into actionable insights for investors, enabling comparisons, trend analyses, and targeted investment strategies across industries and themes.

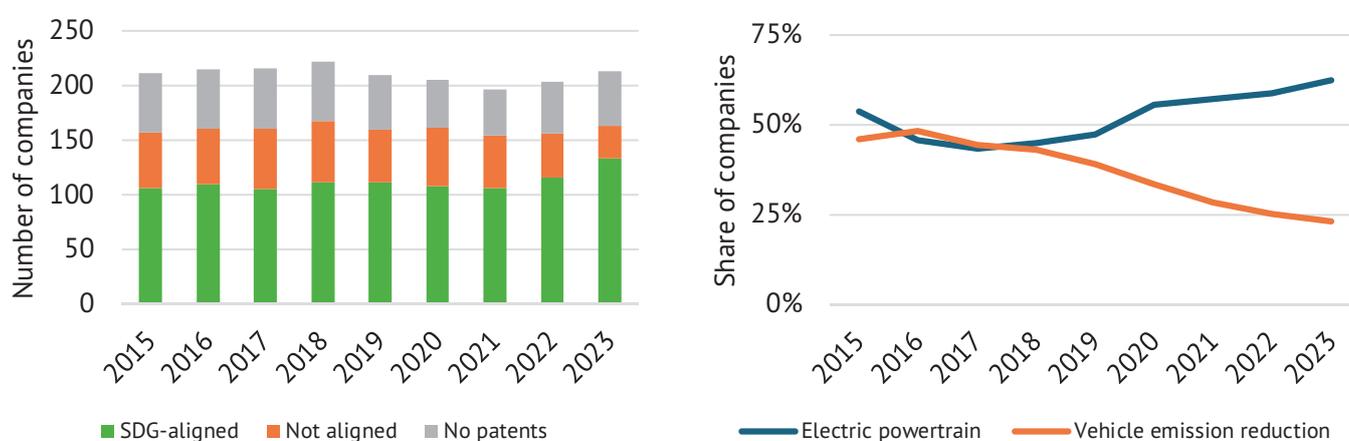


Figure 4. Movements in patent portfolio composition attributable to SDG's through time in the automotive sector a) The number of firms within the sector with at least 5% of its patent portfolio aligned to the SDGs (green). b) Share of SDG-aligned companies having a specific technology among its top 3 sustainable technologies, 2015-2023

Thematic trends in the automotive sector

Analyzing patent portfolios over time provides a window into industry-wide shifts and emerging innovation priorities. The automotive sector serves as a compelling example, given its critical role in the transition to sustainable mobility and its extensive reliance on technology-driven solutions.

The SDI Innovation Outlook highlights notable trends in this sector. For instance, the share of automotive firms with patent portfolios significantly aligned with the SDGs has grown consistently over the past decade, increasing from 50% to over 60% of firms. This reflects a broad shift in the industry toward more sustainable practices and technologies.

Delving deeper into the data reveals key insights into technological focus areas. Early in the last decade, firms divided their innovation efforts between emission-reduction technologies for internal combustion engines and advancements in electric powertrains. However, since 2019, there has been a clear divergence, with electric powertrain innovation accelerating rapidly, signalling the industry's pivot toward electric vehicles (EVs).

This data enables investors to identify and differentiate between firms actively driving sustainable innovation and those lagging behind. For instance, some firms continue to focus on emission reduction for internal combustion engines, while others lead in EV technology development. These insights allow investors to craft targeted strategies—whether to diversify exposure across scenarios or concentrate investments based on specific convictions about future trends.

By offering this level of granularity, the SDI Innovation Outlook empowers investors to make informed decisions that align with their strategic priorities, capturing value from transformative industry shifts.

Spotting Technology Trends Across Sectors

Innovation often transcends traditional sector boundaries, making it crucial to adopt a thematic lens when analysing technology trends. By focusing on specific technologies or challenges—rather than individual industries—investors can uncover unique opportunities that span multiple sectors. This cross-sector approach is particularly valuable for broad themes like the energy transition, where solutions such as battery technologies and renewable energy innovations drive impact across diverse industries.

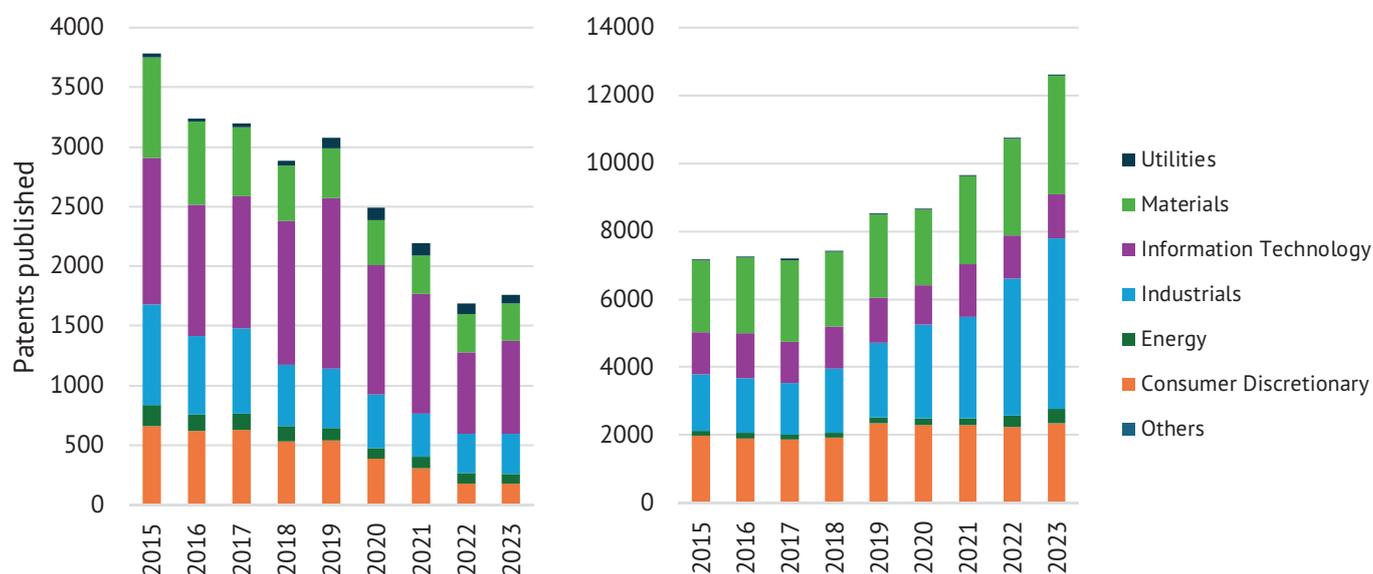


Figure 5. Global trends in filing[†] across sectors in Battery technologies and Solar power. a) Photovoltaics is showing an overall decrease. b) Battery technology is increasing, most strongly pronounced in Industrials and Materials companies.

The SDI Innovation Outlook facilitates this perspective by identifying technology trends and mapping them to relevant industries. For instance, global patent activity in lithium-ion battery technology has shown significant growth, driven by advancements in materials and operational performance. While initially concentrated in the Automotive sector, recent growth has been propelled by Consumer Discretionary and Industrials companies, highlighting the widespread adoption of this transformative technology.

In contrast, corporate photovoltaics R&D has seen a steady decline in patent activity over the years, as demonstrated in Figure 5. This trend reflects maturing innovation in solar technologies, with many firms consolidating their focus on existing advancements rather than developing new breakthroughs. These contrasting trajectories provide valuable insights for investors aiming to capitalize on emerging technologies while avoiding over-saturated areas.

The ability to track technology adoption across sectors empowers investors to construct portfolios that align with long-term megatrends. For example, a thematic strategy centred on battery technology could involve firms from Automotive, Materials, and Industrials sectors, offering diversified exposure to this high-growth area. By leveraging insights from the SDI Innovation Outlook, investors can navigate cross-sector dynamics with precision and uncover actionable opportunities within and beyond traditional industry classifications.

The observed decline in photovoltaics has a broad base in global patenting activity, i.e. reflects a decrease in filing from the majority of companies involved. Meanwhile the growth in battery technology is driven primarily by the major players in the industry that together account for more than half the total volume. Analogous to the automotive example, the SDI Innovation Outlook data enables us to look at the number of companies that are focusing on a particular technology over time, irrespective of the absolute size of their portfolio. The decline in photovoltaics is mirrored in these data points, as the number of firms that have photovoltaics among their top-3 SDG-aligned technologies (see Figure 6a). Whereas the decline continues for Materials companies, it

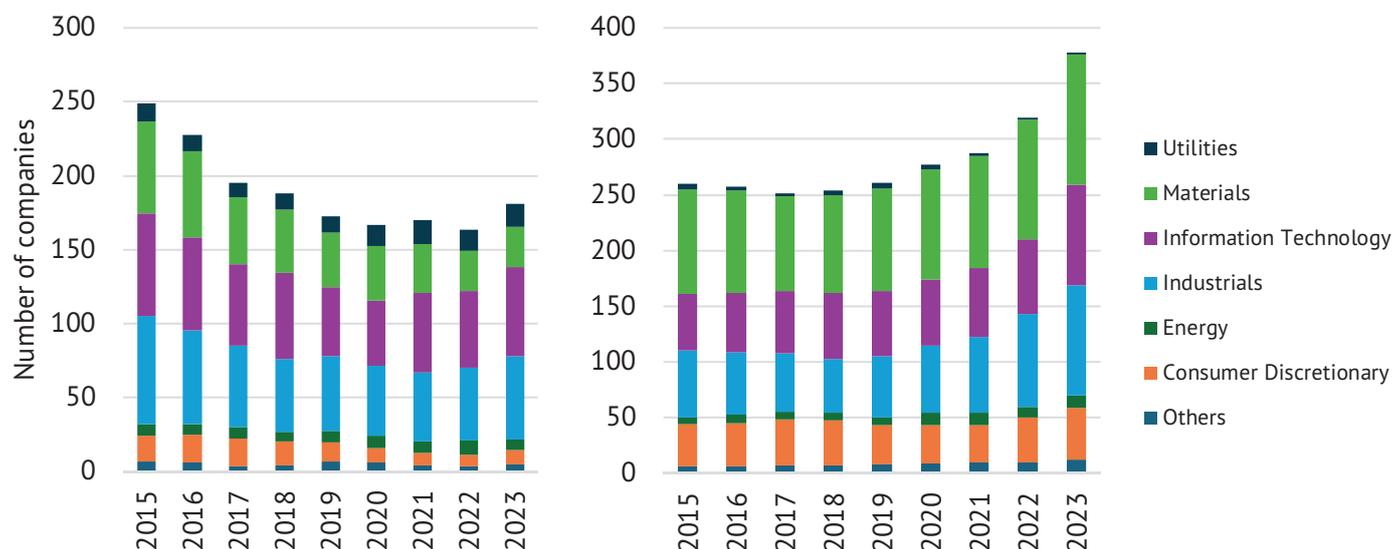


Figure 6. Number of firms focusing on key transition technologies Trend in number of firms that have PV (a) resp. Batteries (b) among its top 3 sustainable technologies, across sectors.

appears to have at least plateaued for Industrials and Information Technology companies. The evolution of battery technologies is qualitatively different in that it demonstrates a broad-based growth across the major contributing sectors (Figure 6b).

The predictive power of patent data

While patent data offers valuable insights into technological innovation and company strategy, its direct link to future revenues is not absolute. Individual product success can be difficult to predict, and not all patented innovations translate into marketable offerings. Nevertheless, academic research consistently finds a positive relationship between aggregated patent activity and financial performance, especially when focusing on leading-edge or highly cited patents.

To enhance the predictive utility of patent data, it is critical to differentiate between patents of high economic relevance and those of lesser significance. The SDI Innovation Outlook addresses this challenge by incorporating factors such as citation frequency, which reflects the influence and importance of specific patents within technological networks. By emphasizing these higher-impact patents, the dataset helps investors focus on innovations that are more likely to generate economic value.

Additionally, advanced AI techniques are used to process large patent datasets, identifying patterns and connections that are not immediately apparent. For example, clustering patents by technological theme and linking them to enabling SDG-aligned innovations provide a forward-looking lens for evaluating company potential. While the ultimate predictive power depends on the investor's ability to integrate these insights into their strategies, the SDI Innovation Outlook offers a strong foundation for identifying companies poised to benefit from transformative trends.

Investors are encouraged to explore this data further, testing its applicability to their specific strategies and objectives. The SDI Innovation Outlook not only provides the tools to uncover actionable insights but also fosters innovation in investment approaches, allowing users to gain an edge in identifying long-term opportunities.

04 From Data to Decisions – Unlocking Investment Opportunities

The SDI Innovation Outlook opens the door to a wide range of opportunities for investors by translating patent data into actionable insights. To illustrate its versatility, the following matrix highlights how these insights can be applied across different investment approaches (active, passive, and quantitative) and objectives (sustainability, thematic exposure, and risk-return optimization). This framework provides a clear overview of potential applications, showcasing the adaptability of SDI-aligned innovation data in meeting diverse investment goals.

The Road Ahead

As the asset management industry evolves, the integration of non-traditional data like patents is set to play a defining role. By offering consistent, scalable, and actionable insights, the SDI Innovation Outlook empowers investors to navigate complexity and stay ahead of market shifts. Whether through sustainable strategies, thematic products, or cutting-edge quant models, this data product equips investors with the tools to drive both performance and impact.

Conclusion: Unlocking the Potential of Non-Traditional Data for smarter Investments

The SDI Innovation Outlook represents a significant step forward in leveraging non-traditional data to enhance investment decision-making. By tapping into the vast and underutilized potential of patent data, this approach enables investors to access forward-looking insights that align with sustainability goals, identify thematic opportunities, and capture innovation-driven growth.

The growing demand for high-quality non-traditional data is fuelled by the increasing competition among asset managers to differentiate their strategies. Patent data offers a unique perspective, bridging the gap between technology trends and market potential. Categorizing innovations into relevant themes, such as those outlined by the UN SDGs, provides a structured way to evaluate companies' contributions to critical global challenges.

	Active fundamental investing	Passive and thematic strategies	Quantitative investing
Sustainability driven investment	Use SDG-aligned patent data to identify companies contributing to global challenges like climate action and food security, enhancing portfolio sustainability profiles	Construct thematic indices or ETFs aligned with SDGs to capture megatrends in sustainability such as renewable energy or clean water technologies	Meet sustainability constraints through 3D investing—optimizing risk, return, and sustainability exposure
Thematic exposure	Focus on firms leading transformational changes in technologies like electric mobility or advanced healthcare to prioritize investment decisions	Build thematic ETFs or indices targeting technology clusters like battery innovation or precision agriculture	Incorporate thematic metrics into systematic strategies, enabling a dynamic lens on megatrends like the energy transition
Risk-return optimization	Leverage forward-looking metrics to complement traditional financial data, helping identify firms with both strong performance and future innovation exposure	Use historical trends in innovation activity to design indices that balance thematic and financial goals, optimizing for multi-dimensional returns	Introduce orthogonal factors from SDI data to multi-factor models, uncovering untapped alpha opportunities and diversifying systematic strategies
Example use cases	Sustainable Portfolio Construction: An asset manager focusing on ESG integration can use the dataset to enhance exposure to companies with a proven commitment to SDG-aligned innovation. This complements traditional ESG metrics with forward-looking insights.	Thematic Index Development: A thematic ETF provider can leverage the data to build indices around fast-growing technologies, such as battery innovation or precision healthcare. These indices appeal to investors seeking targeted exposure to long-term trends.	Alpha-Driven Strategies: Quantitative investors can incorporate patent data into multi-factor models to capture uncorrelated sources of return. For example, patent citation metrics can serve as proxies for innovation leadership, offering a distinct edge in alpha generation.

What sets the SDI Innovation Outlook apart is its quality, historical perspective, and methodological rigor. By solving challenges like linking patents to companies, aggregating portfolios, and mapping technologies to thematic frameworks, this dataset empowers investors with consistent and actionable insights.

This whitepaper has illustrated the power of patent data to transform investment strategies, from sustainable and thematic investing to quantitative models that deliver robust returns. While the predictive power of this data depends on specific contexts—such as the sector, underlying technologies, and SDG alignment—it provides a rich foundation for further exploration.

A Call to Action

The value of this data lies in its application. Whether you are an active manager seeking to optimize portfolio construction, a thematic investor looking for emerging trends, or a quant-driven strategist aiming for uncorrelated alpha, the SDI Innovation Outlook offers unparalleled opportunities to stay ahead of the curve.

Now is the time to embrace this forward-looking approach. Leverage these insights to refine your strategies, align with global sustainability goals, and position yourself as a leader in an increasingly competitive asset management landscape.

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Notes

† The level of patent filings by listed companies has been fairly stable over the past decade, with the exception of a significant rise in Chinese domestic patents: patents that indicate no intention to commercialize the technology abroad. Figures 2 and 5 explore changes in absolute filing levels. Whereas company-level statistics (Figures 4, 6) are robust to such underlying trends, the absolute levels would include the broad rise in domestic patenting. Therefore, in these figures we screen out this type of patents to offer insight in global dynamics. A further analysis to differentiate geographical trends is beyond the scope of the current whitepaper.

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