

# FRAMEWORK FOR BREAKTHROUGH IMPACT ON THE SDGS THROUGH INNOVATION

**A PRACTICAL GUIDE**



**United Nations**  
Global Compact



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As a special initiative of the UN Secretary-General, the United Nations Global Compact is a call to companies everywhere to align their operations and strategies with ten universal principles in the areas of human rights, labour, environment and anti-corruption. Launched in 2000, the mandate of the UN Global Compact is to guide and support the global business community in advancing UN goals and values through responsible corporate practices. With more than 9,500 companies and 3,000 non-business signatories based in over 160 countries, and more than 60 Local Networks, it is the largest corporate sustainability initiative in the world.

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# SECTION 1

## INTRODUCTION

### 1.1 About the Framework for Breakthrough Impact on the SDGs

The Framework provides practical guidance to corporate teams wishing to use the Sustainable Development Goals (SDGs) as an inspiration for innovation. It helps companies orient their innovation processes to better address the SDGs and provides a toolkit for leveraging disruptive technologies and new business models to build the breakthrough solutions required to progress the SDGs.

### 1.2 Who Should Use this Guide

This guide is for companies that have made a commitment to the SDGs at the executive level and now want to integrate the goals throughout the company. Within companies this guide targets teams responsible for innovation, research and development, and product development.

This guide is intended to compliment current innovation processes and frameworks. Additionally, it provides inspiration and step-by-step guidance for innovation teams to use the SDGs as a lens to uncover new product, service and business model opportunities that have the potential to dramatically improve the lives of people around the world and the environment.

### 1.3 What are the Sustainable Development Goals

In September 2015, the 193 UN Member States unanimously adopted the 2030 Agenda for Sustainable Development. Central to the 2030 Agenda are its Sustainable Development Goals (also known as SDGs or Global Goals). The SDGs are composed of 17 Goals and 169 targets to be achieved by the year 2030. Together, they address the most important economic, social, environmental and governance challenges of our time. They present an ambitious set of objectives to generate universal peace, end inequality, eradicate extreme poverty and protect the planet.

The SDGs resulted from one of the most inclusive and transparent consultation processes in the history of United Nations. Through consultations held in 83 countries, an online survey and working groups with representatives from 70 countries, people all around the world provided the input that created this universal set of goals with the driving ethos of leaving no one behind.

While Governments are ultimately responsible for achieving the SDGs, realizing this ambitious vision for a better world will require unprecedented effort and collaboration from all sectors of society.



**Source:** United Nations

## 1.4 Why Business is Critical to Achieving the SDGs

Business have an outsized role to play in advancing the SDGs. Companies have a unique combination of resources and capabilities (e.g. skilled workforce, partners, supply chains and innovation capabilities) that have contributed to the improvement of the communities where they operate. Private sector action will be key to the success of each goal through responsible business operations, investment, the development of new business models, innovations and technology, and collaboration. Research has shown that the share of the world's population living in absolute poverty has declined from 30 per cent in 2000 to 9.6 per cent in 2015. This change is partly due to global economic growth driven by the private sector.<sup>1</sup>

## 1.5 Why the SDGs are Critical for Business

The SDGs present one of the most comprehensive articulations of the world's most pressing needs.<sup>2</sup> Companies that take a principles-based approach to addressing the SDGs have a unique opportunity to meet the world's needs while capturing future markets. The SDGs, if achieved by 2030, can create immense market opportunities. According to the Business Commission for Sustainable Development (BCSD), achieving the SDGs by 2030 opens up market opportunities that could generate trillions of U.S. dollars in global wealth and millions of jobs. Half of these opportunities will be realized in lower and middle-income economy countries.

**Figure 1.** SDG Business Opportunities



**Source:** BCSD, Better Business, Better World, p. 4

In further analysis, the BCSD has subdivided the \$12 trillion into four economic systems:

**Cities:** US\$ 3.7 trillion

**Energy and Materials:** US\$ 2.3 trillion

**Food and Agriculture:** US\$ 4.3 trillion

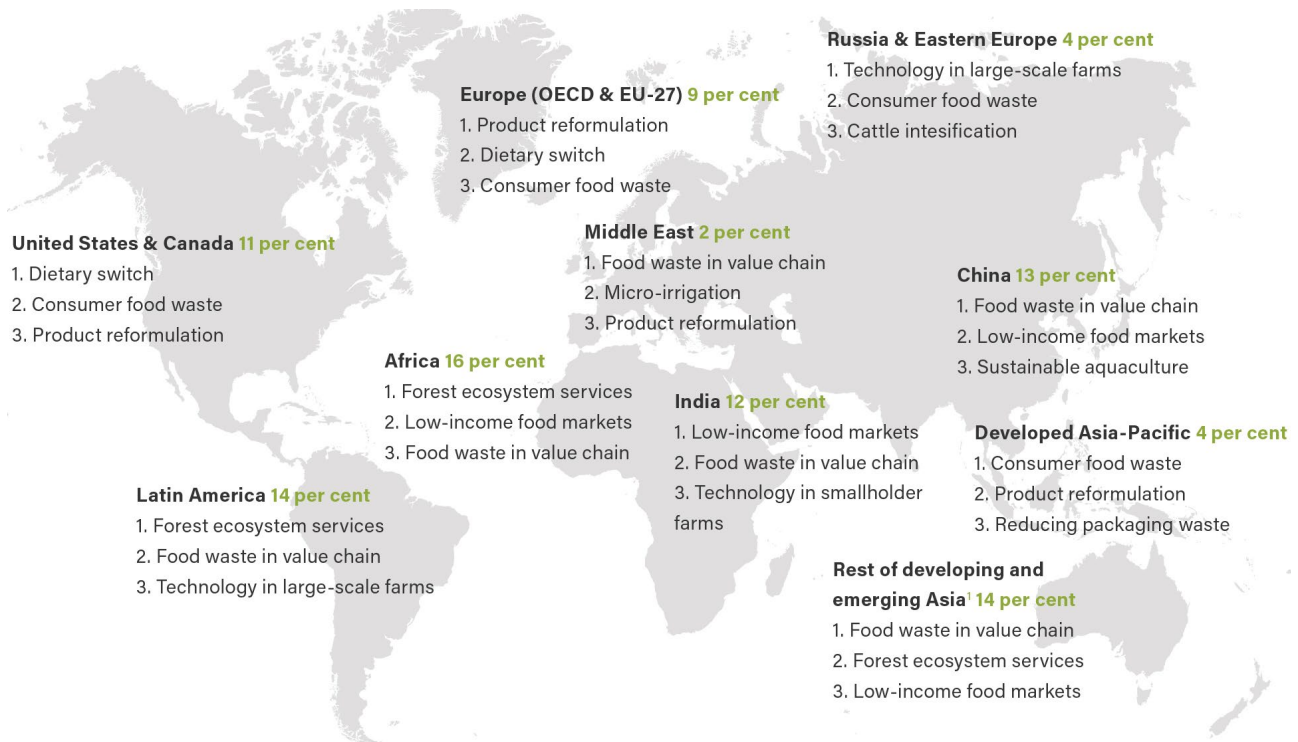
**Health and Well-being:** US\$ 1.8 trillion<sup>3</sup>

<sup>1</sup> Our World in Data. Share of World Population Living in Absolute Poverty, 1820–2015. <https://ourworldindata.org/wp-content/uploads/2013/05/World-Poverty-Since-1820.png>

<sup>2</sup> Principles for Responsible Investment and PwC. The SDG Investment Case. January 2017.

<sup>3</sup> Business Commission for Sustainable Development. Better Business, Better World, pp.31–33.

**Figure 2.**



**Source: Literature search; AlphaBeta analysis**

<sup>1</sup> Rest of developing Asia includes Central Asia (e.g., Uzbekistan), South Asia (e.g., Bangladesh), Southeast Asia (e.g., Lao PDR), and North Korea.

The figure 2 above demonstrates just one example of the impact business could have by leveraging the market potential of the SDGs as well as how that impact varies by region.

Governments also recognize that certain SDGs can have more critical impact than others in their countries. Many of the Governments of the 193 countries that have endorsed the SDGs have developed plans that align national priorities with the Goals. Every year, several of these countries have published their national plans in the form of a Voluntary National Review (VNR).

Each country's VNR outlines the SDGs which are priorities for the country, targets for achieving those SDGs, analysis of progress made on those SDGs and critical challenges. Additionally, these VNRs outline national priorities for investment, which will guide policy and market development over the next decade at least. Mapping the economic systems to the SDGs prioritized in country VNRs provide an overview of where the SDGs align with future markets.

Analysis of VNRs can be effective tools to show where investments could be directed and areas where countries have identified SDG alignment with national priorities. Currently there are over 100 VNRs available on the [Sustainable Development Knowledge Platform](#).

# A PRINCIPLES-BASED APPROACH

Ten Principles of the United Nations Global Compact provide a common ethical and practical framework for corporate responsibility rooted in a principles-based approach. A principles-based approach to business is about far more than minimum standards or compliance. The Principles provide the common ground for partners, a moral code for employees, and accountability measure and ultimately are the foundation for building trust across the board. By incorporating these Ten Principles into strategies, policies and processes, and establishing a culture of integrity, companies are not only upholding their basic responsibilities to people and planet, but also setting the stage for long-term success.

## The Ten Principles of the UN Global Compact



### Principle 1:

Businesses should support and respect the protection of internationally proclaimed human rights; and

### Principle 2:

make sure that they are not complicit in human rights abuses.



### Principle 3:

Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

### Principle 4:

the elimination of all forms of forced and compulsory labour;

### Principle 5:

the effective abolition of child labour; and

### Principle 6:

the elimination of discrimination in respect of employment and occupation.



### Principle 7:

Businesses should support a precautionary approach to environmental challenges;

### Principle 8:

undertake initiatives to promote greater environmental responsibility; and

### Principle 9:

encourage the development and diffusion of environmentally friendly technologies.



### Principle 10:

Businesses should work against corruption in all its forms, including extortion and bribery.

## ACT RESPONSIBLY

The CEO commits the company to embed the Ten Principles of the UN Global Compact and report annually on efforts to make them an integral part of their business strategy, day-to-day operations and organizational culture.

## FIND OPPORTUNITIES

Take bold actions and find new business solutions to support the 2030 Agenda and its 17 Sustainable Development Goals. Inspire and Advocate.

## INSPIRE AND ADVOCATE

Advance the case for responsible business practices through advocacy and outreach within their sphere of influence to peers, partners, employees, consumers and the public at large.

# SECTION 2

## UNDERSTANDING BREAKTHROUGH INNOVATION

In the Introduction, we discussed why the SDGs are critical for business and vice versa, and highlighted the market opportunities that the SDGs can offer to companies that are willing to leverage them.

In this section, we will look at how business can meaningfully contribute to achieving the SDGs while also leveraging the new market opportunities through breakthrough innovation.

### This section answers the questions:

1. What is Breakthrough Innovation?
2. What does business need to do to achieve breakthrough for the SDGs?
3. What are some business models and technologies that can lead to breakthrough innovation for the SDGs?

This section will provide case examples of companies that are exhibiting core features of breakthrough innovation and show how they are using them to advance one or more of the SDGs.

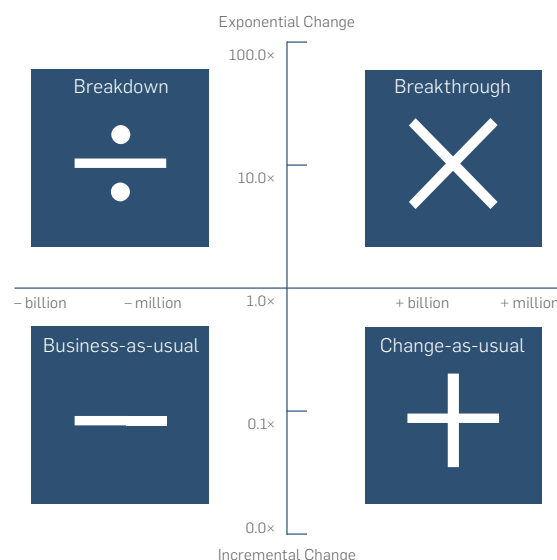
### 2.1 Why Breakthrough Innovation is Critical for Achieving the SDGs

The SDGs are universal, interconnected and exponential in nature. Several of the goals, such as Goal 1 on no poverty and Goal 2 on zero hunger call for transforming the conditions of billions of people in a short time frame. The global ambitions of the SDGs require transformational solutions that go beyond incremental improvements.

Business needs to venture beyond incremental approaches. While compliance, corporate social responsibility, reporting and shared-value initiatives continue to be valuable, they are now part of the baseline of expectations to which all businesses need to adhere. Exponential change is required to achieve the ambitious vision the SDGs present. This is Breakthrough Innovation.

As illustrated in Figure 3, a 'Business-as-Usual' approach ignores the signals that change is needed. As negative environmental, social and/or governance impacts grow at exponential rates, this trajectory can lead to a 'Breakdown.' What the SDGs require are solutions that have exponential positive impacts, moving beyond the incremental 'Change-as-Usual' and leading into a "Breakthrough."

**Figure 3.** Going for Breakthrough



**Source:** BCSD, Better Business, Better World, p. 4

We use the term Breakthrough as shorthand for a business agenda that accepts that: (1) while incremental change has its place, it is no longer even close to being enough for what comes next; (2) rapidly accelerating market disruptions offer huge new opportunities for those who can move fast and in the right direction; and (3) companies that do business responsibly and find opportunities to innovate around the SDGs will be the market leaders of tomorrow.

Breakthrough Innovation, in this context, is defined by the impact or outcome of the innovation. Breakthrough Innovation for the SDGs is innovation that creates positive impact at an exponential pace and scale in line with one or more of the SDGs.

## 2.2 The Three Pillars of Breakthrough Innovation

Breakthrough Innovation means engaging and acting across three pillars simultaneously:

### 1.

#### **Adopting an exponential mindset**

The essence of an exponential mindset — and why it's critical for breakthrough innovation — is well articulated by Marcus Shingle, CEO, XPRIZE Foundation:

*"if you tell a group of engineers or a group of employees to go 10 per cent ... they still have some of the legacy handcuffs on in terms of their thinking. If you tell them 10X, it requires them to forgo any preconceived notions around what it has to be or should be and it gives them the freedom to think more creatively about what 10X could look like."*<sup>4</sup>

### 2.

#### **Building and trialing new business models**

Business models are what connect a technology's potential with real market needs and consumer demand. New technologies tend to grab the headlines, but it's often business model innovation that underpins the most successful examples of breakthrough innovation. Developing new business models is typically a process of hybridization. As part of Project Breakthrough, we identified six features that recur, in different combinations, in many breakthrough business models. These are: **Personalization, Closed-Loop, Asset Sharing, Usage-Based Pricing, Collaborative Ecosystem** and **Agility**.<sup>5</sup>

### 3.

#### **Developing and deploying disruptive technologies**

It is the exponential nature of many emerging technologies — from next generation robotics and artificial intelligence, to gene editing and additive manufacturing — that underpins the ability of companies to create new products and services that have a Breakthrough impact. Developed in association with PA Consulting and as part of Project Breakthrough, we created a set of 12 Disruptive Technology Executive Briefs covering some of the most important emerging technologies and their applications and implications for delivering the SDGs.

<sup>4</sup> Marcus Shingles, Interview with Project Breakthrough, 2017.

<sup>5</sup> Six Secrets of Breakthrough Business Models, John Elkington and Jacqueline Lim, Volans, 2017.

## 2.3 Steps to Build and Grow a Breakthrough Mindset

All companies will have to evolve (either by choice or as a market necessity to remain competitive) in order to tackle the big and urgent challenges that the Global Goals represent. How can we accelerate the business transformation we need to see to meet the exponential rates of change we see in society and the environment?

Mindset is crucial. When we look back on past examples of transformative innovation, we tend to emphasize the role of breakthroughs in technology or the implementation of new business models. But just as important as these — if not more so — is the role of an enabling mindset.

Without the right mindset, organizations and individuals tend to ignore disruptive ideas until it's too late. Just think of what happened to Kodak and Nokia. Both companies were past masters at disruptive innovation, before they got disrupted themselves by digital cameras and smartphones respectively. But it was not new technology that triggered these companies' downfall: the first digital camera was invented by a Kodak engineer; Nokia's R&D team was ahead of the competition in developing smartphone technology in the early 2000s. In both cases, it was the absence of an enabling mindset — a willingness to self-disrupt — that explains why other companies reaped the rewards of technological progress.<sup>6</sup>

By examining stories of both success and failure, we identified five key elements of a Breakthrough Mindset—characteristics that need to be nurtured at all levels within an organization:

### 1. Ask “why not?” as opposed to “why?”:

Creating a culture that is open to new ideas is essential to avoid the Kodak syndrome of shutting down disruptive innovations before they have a chance to flourish.

**2. Think 10X:** The Global Goals provide an excellent basis for framing innovation challenges that are transformative rather than incremental in nature. Aiming for a 10-fold improvement over the status quo forces innovators to forgo preconceived notions about how a problem should be solved, which opens up new realms of possibility.

### 3. Love the problem, not your solution:

This characteristic calls for innovation teams to put the user/beneficiary/client at the center of decision making. It requires a deep understanding of the end-users' problems and a desire to build a solution that addresses those challenges. As the Global Goals represent the world's most complex challenges, no one solution will be enough and it is important to let the needs of the market drive your innovation rather than be defined by your company's existing solutions.

**4. Embrace uncertainty:** When building a process to enable early consideration of a project's impact on the Global Goals, do not be afraid to have only a “60 per cent solution”. That is to say, when venturing into new and ambitious territory, no one can be expected to be an expert and have all the answers. Learn to be embrace experimentation. Understand that quantitative measurements of a project's impact may not be possible initially. Aim for a balance between a structured and organic process.

**5. Invite others to join in:** Collaboration with partners, especially unconventional ones, can result in breakthroughs that would not have been possible otherwise. Diversity of thought is what helps you see beyond preconceptions of how something should be done. Since some of the necessary diversity will almost certainly be outside your organization, it is essential to embrace open innovation processes and partnerships as part of your Global Goals innovation strategy.

<sup>6</sup> [Why Mindsets Matter, Richard Roberts, Volans, 2018](#)

## 2.4 Breakthrough Business Models to Achieve the SDGs

Successful business models consider how to create value for people, how to capture value (so the business can be sustainable over the long term and fund growth), and how to deliver value (what capabilities — people, process, technology and partners — does it need to deliver its propositions that create value).

- **Personalization:** Beyond tailoring products and services to meet customers' individual and immediate needs, Breakthrough Leadership involves businesses identifying potential customer segments experiencing real world problems and unmet needs. The SDGs offer a powerful compass in identifying such needs.
- **Closed-Loop:** This means progressively replacing a linear 'take-make-use-waste' paradigm with a circular system, where products are recovered and recycled — and, ideally, stressed ecosystems are progressively regenerated. Here Breakthrough Leadership requires businesses to do more with less, reducing the creation and consumption of new products.
- **Asset Sharing:** Where the cost of costly assets is shared across users, typically via a digitally enabled "platform," the Breakthrough imperative pushes the designers of business models to ensure value is created across both financial and extra-financial domains, for the business, the value chain and, ideally, other stakeholders.

Building on research from Judge Business School in Cambridge UK, we have identified six features of Breakthrough business models that, when applied in combination, have the potential both to disrupt markets and create exponential positive impact:

- **Usage-Based Pricing:** By charging customers only for usage, they benefit from not having to buy a product outright. Breakthrough business models take into account the affordability and accessibility of essential products and services to customers, incentivizing customers to adapt their behavior.
- **Collaborative Ecosystem:** Businesses that improve collaboration with partners across the supply chain can better allocate risks and cut costs. There is scope for businesses to look beyond the traditional supply chain, working with non-traditional partners such as competitors and other industries or sectors to achieve system-level impact on SDG-related opportunities.
- **Agility:** The use of innovative tracking and sensor technologies enables businesses to adapt and respond to market decisions and adapt in real-time, creating greater value for customers and lowering costs. Those pursuing the opportunities presented by the SDGs must be prepared for the intense cycles of trial and error required, and nurture the mindsets and cultures necessary to stimulate and sustain innovation.

## 2.5 Role of Disruptive Technologies in Increasing the Breakthrough Impact of Your Innovation Portfolio

Disruptive technologies can be critical drivers of progress on the SDGs if developed and deployed in a principled manner. Technology innovation has been one of the great drivers of progress for humanity.

From access to clean water and sustainable methods of production, to reducing poverty and ensuring health and well-being for all, we have looked to technology to help us solve these challenges.

Developed by PA Consulting, this series of Disruptive Technology Executive Briefs explores a range of technologies with the potential to help companies do business in a better way, and to make a breakthrough contribution to achieving the SDGs. We think these twelve technologies can open up completely new ways of doing things. Some are revolutionary in their underpinning science, others revolutionary in their application. Some are in the mainstream awareness already, others are less well known.

Much of their power comes from when they are applied in combination rather than in isolation, and with an understanding of the business model

Some are in the mainstream awareness already, others are less well known. Much of their power comes from when they are applied in combination rather than in isolation, and with an understanding of the business model implications.

But they have all reached a point of maturity where they have transformative potential over the timeframe of the SDGs. They include:

### Technology that imitates life

- **Next generation robots:** Increasingly, robots will perform jobs that only people could do previously. That can have huge benefits in areas like social care but also has risks. How is your organization preparing for this shift?
- **Artificial Intelligence:** AI will allow more effective and efficient production and consumption to be designed and managed, at a scale and complexity that's beyond existing approaches. What are the possible unintended consequences?
- **New realities:** With significant investment flowing into this area, augmented, virtual and mixed realities will change the way we interact with technology and each other. How can this be applied to education in both developed and developing worlds?

### Technology that affects our well-being

- **Gene editing:** This technology has the potential to rethink many of the healthcare, food and energy challenges we face at the fundamental building block level. How do you take advantage of these while still carefully considering the many societal considerations that arise?
- **Microbiome:** We have evolved to work with the bugs around us and in us, yet have not taken full advantage of the wide ranging benefits that harnessing them can have. Do you understand how broad an impact new understanding into Microbiome is likely to have over the coming years?
- **Digital agriculture:** A 60 per cent increase in food supply is required to feed the population in 2050. Why will digital agriculture be key to achieving this?

### Technology that makes connections

- **The Internet of Things:** The Internet of Things will fundamentally change the way we interact with equipment, automating many manual processes and making vast volumes of data and insight available. What does that mean for sustainable business?
- **Big data:** The exponential increase in data is helping us know what was previously unknown. How can applying big data techniques help us improve our wellbeing, communities and environment?
- **Blockchain:** Perhaps one of the most exciting and talked about, yet least understood, technologies of recent years. How much do you understand it?

### Technology that affects how we make and move things

- **Unmanned aviation systems:** US\$ 3.9 billion is estimated to be invested in this R&D in 2020. How can drones be used to deliver medical or nutritional supplies to remote areas or reduce congestion and related emissions from road transportation?
- **Autonomous road vehicles:** Over the next 30 to 40 years, travel and logistics will completely change. Almost all of the focus to date has been on the developed world, but what opportunities does this present for the developing world?
- **Additive manufacturing:** It is now possible to "print" everything from concrete to biological tissues and the ability to manufacture at point-of-need. What new applications to reduce waste and challenge global supply chains are we likely to see?

## 2.6 Illustrative Examples of Breakthrough Innovation

The following examples have been selected to illustrate the three pillars of Breakthrough Innovation being put into practice. In each case, the companies involved actually incorporated elements of all three pillars, but we have categorized them on the basis of which pillar comes through most strongly in their Breakthrough Innovation story.

# 1.

## Exponential Mindsets

### Interface®

Since 1994, the carpet tile manufacturer has had a goal of zero negative environmental impact ("Mission Zero"). In 2017, with the zero negative impacts goal almost achieved, the company set out a new ambition: to actively contribute to reversing global warming ("Climate Take Back"). Already, this shifting of the goalposts is beginning to bear fruit in terms of the quality of innovation around climate impacts at the company.

Chief Sustainability Officer Erin Meezan explains the impact like this:

*"Would you rather be working on a challenge that shows that we can reverse global warming, or knock off another 10 per cent in terms of the carbon footprint of the product. What's more exciting? You want to work on the product that's going to manifest an intention to solve the biggest issue facing humanity. Who doesn't want to do that?"<sup>7</sup>*

### Ørsted

Ørsted (formerly DONG Energy) was established in July 2006 as a result of a merger of six Danish energy companies. It was one of the most coal-intensive companies in Europe — 85 per cent of its heat and power came from coal, and only 15 per cent renewable. Since then, it has reduced its coal consumption by 73 per cent, halved emissions and become a global leader in offshore wind. By 2023, the company will have phased out coal completely and cut emissions by 96 per cent (against a 2006 baseline).

Ørsted's transformation from a black to a green energy company has been made possible by a radical vision. Rather than taking the company as it was and seeking to incrementally reduce environmental harm, the company's leadership took as their starting point the very different company they knew Ørsted would need to become and worked back from there.

<sup>7</sup> Erin Meezan, Interview with Project Breakthrough.

## 2. New Business Models

This involved significant risk-taking across the whole business: Ørsted started diverting time and resources away from coal towards offshore wind in 2006, at which time the latter was an immature technology; between 2008 and 2012, it had to manage the challenge of losing up to two-thirds of its operating income from its core business, offsetting this decline by growing new businesses and shifting renewable power from a sideline to a core business.

### kaer

Singapore-based Kaer transitioned from being a distributor and installer of air conditioning units to a business model where they offer air-conditioning as a service to its customers. Instead of paying an upfront cost, customers pay a fixed rate for getting cool air.

Kaer takes responsibility for both the design and installation of the air-con system, as well as the operation of the system to make sure it runs effectively. The idea here is to really simplify the decision making related to the operation of air-con systems in buildings. Instead, Kaer uses IoT sensors and data analytics combined with AI to constantly fine-tune and optimize the systems for energy efficiency.

This new business model aligns Kaer more closely to its customers' needs, but also its broader sustainability goals. Building energy consumption amongst its customers is reduced by up to 70 per cent, building operating costs for customers are reduced by 10–20 per cent, and Kaer benefits from greater profits and better relationships with its customers.



In response to the huge tractor shortage in Africa, and the consequences to food security for local populations as well as the productivity and livelihoods of smallholder farmers, Hello Tractor has developed a low-cost "smart" tractor with parts that are easily serviceable and replaceable. But what's innovative, is Hello Tractor's Uber-like platform that allows owners of its Smart Tractors to easily rent them out to fellow farmers while keeping track of usage and maintenance, and preventing fraud or misuse, all via SMS. This translates into convenient and affordable tractor services for farmers, as well as additional income for Smart Tractor owners.

# 3.

## Disruptive Technologies



China-based Ant Financial (the company that first originated from Alibaba's Alipay, and in which Alibaba has a 33 per cent stake in) is actively targeting ways to meet the needs of those previously excluded from mainstream finance using new technologies.

The company's services span online banking, consumer credit and online wealth management, and boasts more than 450 million active users (compared to Apple Pay's 12 million).

Fundamentally, Ant Financial is utilizing Artificial Intelligence (AI) to radically transform incumbent business models at play in the financial services industry. For instance, users involved in a car accident can file an insurance claim simply by taking a photo of the accident. Claims are instantaneously assessed and processed using AI. In providing micro loans to the unbanked, Ant Financial uses machine-learning algorithms to assess customer's creditworthiness based on spending history and other data such as friends' credit scores — all in a matter of seconds.



BIMA provides access to affordable insurance and mobile health services for low income communities in emerging markets. Using mobile technology to access a previously underserved target population, BIMA has scaled its impact at an astonishing rate.

By collecting small monthly payments of \$0.60 through its customers' mobile phones, BIMA is able to tap into a small trickle of revenue — at considerable scale. In just seven years it has registered more than 27 million customers — and is currently adding 600,000 new customers a month.

## SECTION 3

# USING THE SDGS AS A LENS FOR IDEATION

In the first two sections, we discussed the critical role that the SDGs play for business and how Breakthrough Innovation and the adoption and deployment of breakthrough mindsets, business models and technologies could have an exponentially positive impact on the SDGs.

In this section, we will explore how the SDGs can be used as a lens for ideation to drive the generation of new ideas, create new avenues of business, and to solve existing problems.

The section is designed to provide guidance for innovation teams on how they can reframe the goals and targets of the SDGs to become problem statements at the core of their innovation design. This section also includes an overview of the tools that you can use for SDG innovation in practice.

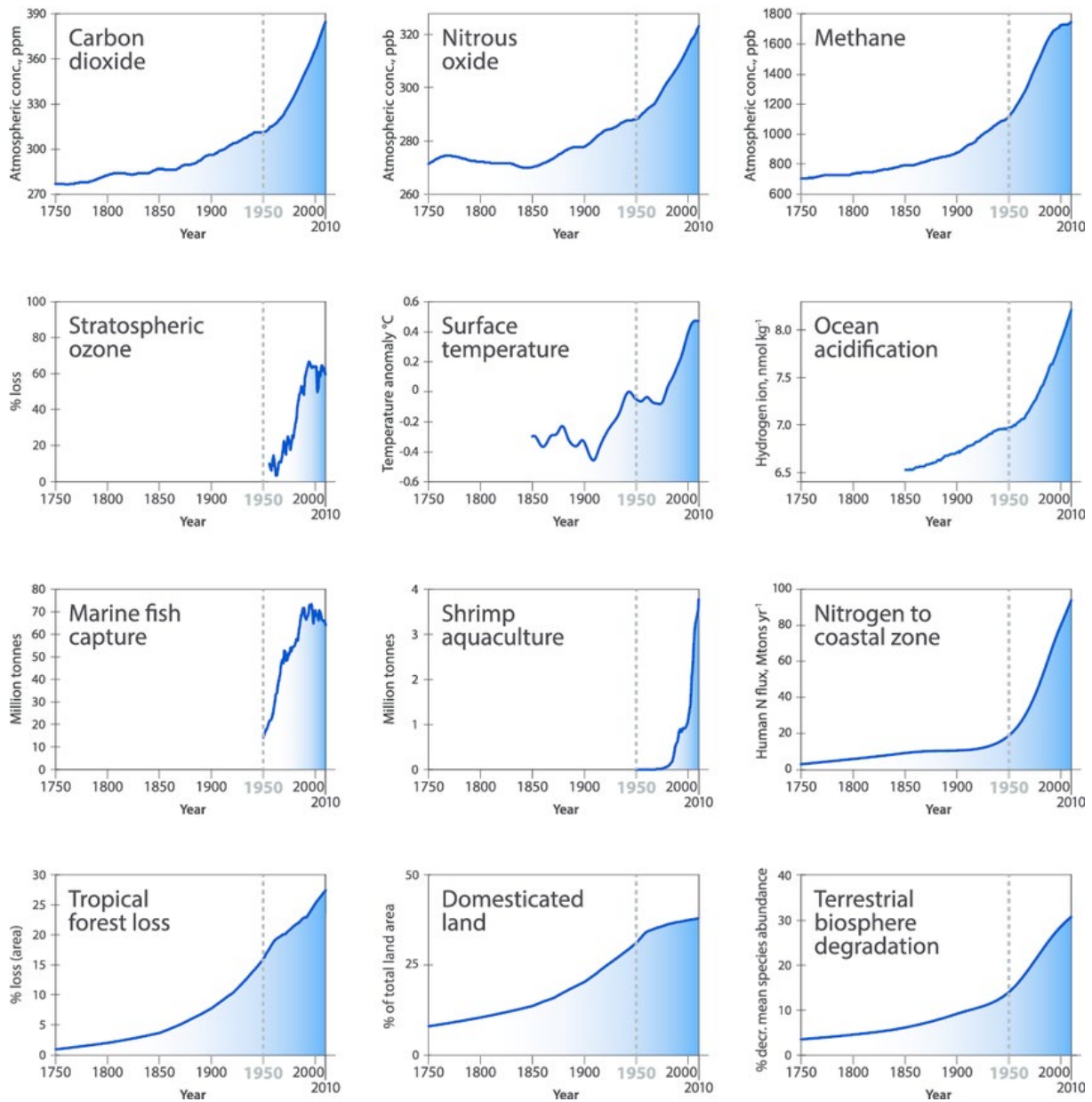
### 3.1 Why the SDGs are Important for Innovation Teams

Disruption has always been a key feature of industry. What is different today is the velocity of disruption. Emerging technologies, new business models and pioneering startups are changing the way people live, interact, work and do business. All of these trends are happening within a wider context of megatrends that are taking exponential trajectories.

#### **This section answers the questions:**

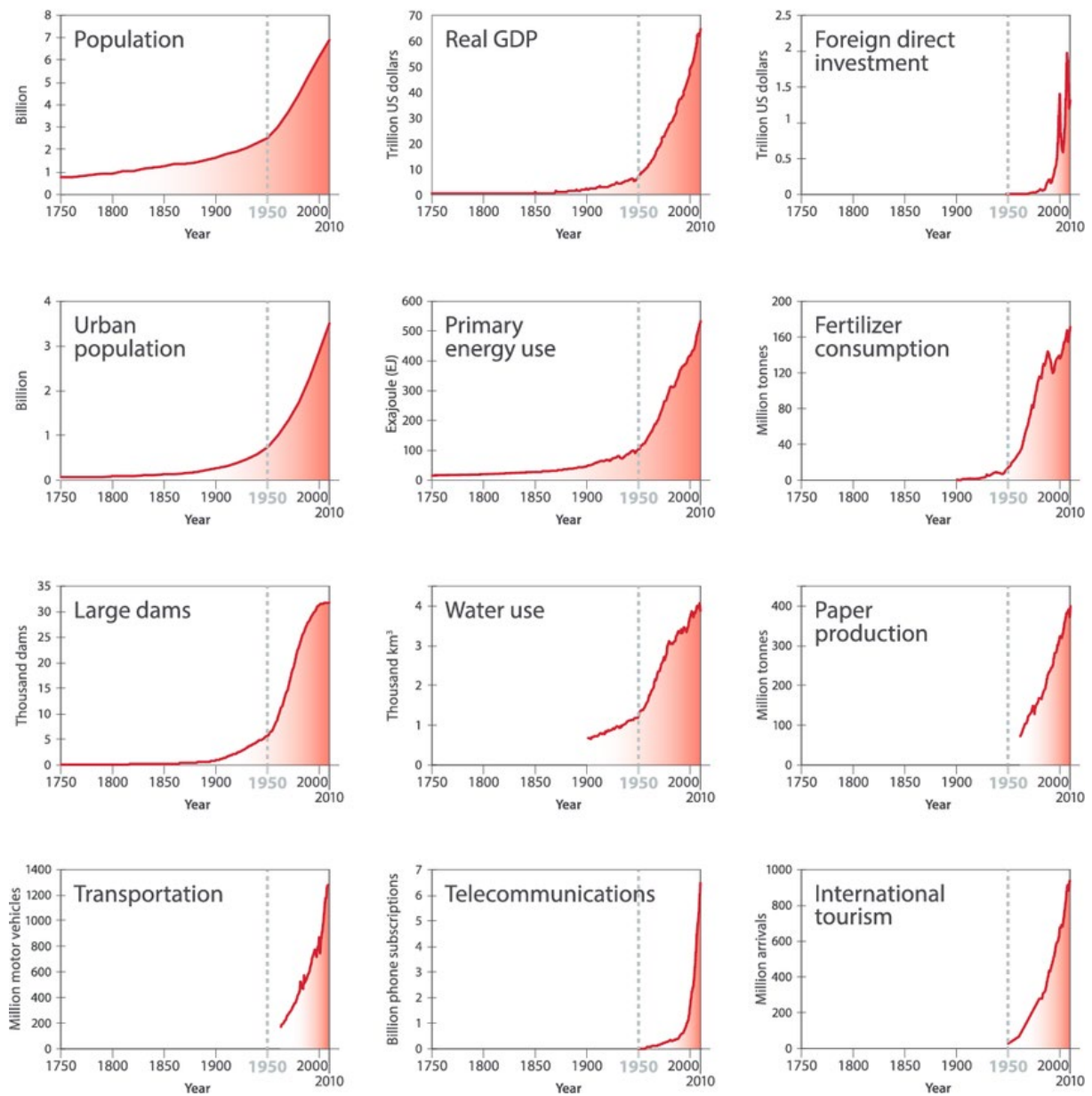
- 1.** How can teams leverage the SDGs as a source of innovation?
- 2.** What are some tools and methods that can be used to define concepts around SDG innovation?

## Earth System Trends

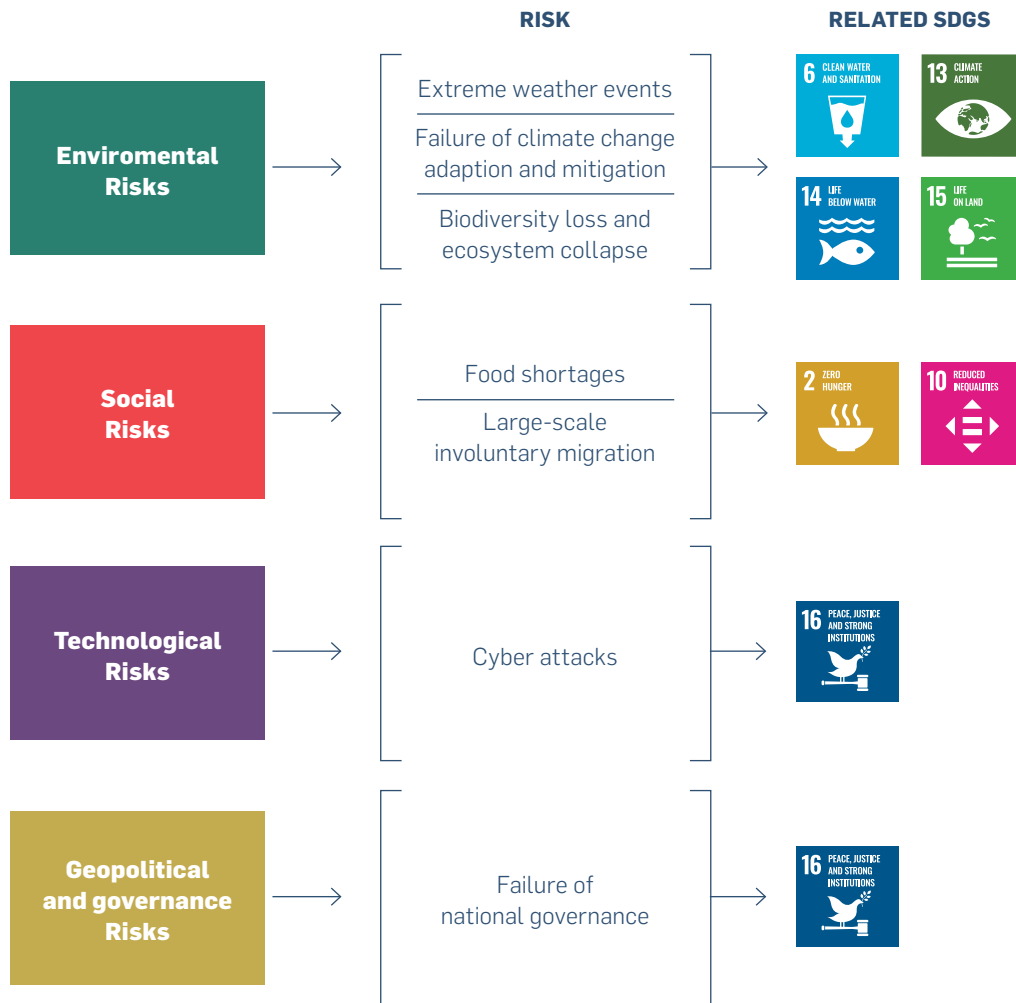


**Source:** International Geosphere-Biosphere Programme (2015)

## Socio-Econmic Trends



**Source:** International Geosphere-Biosphere Programme (2015)

**Figure 1.** SDG Business Opportunities

**Source:** World Economic Forum Global Risk Report 2018, authors' analyses

To stay competitive and weather waves of disruption, companies need to find new ways of creating and delivering value by seeking new and untested markets. Often this comes through a series of activities (e.g. **new investments, partnerships, knowledge creation, creation of new products, services and solutions**) that are central to the activities of R&D and Innovation teams.

The SDGs articulate the world's current and future needs. By using the SDGs as problem statements to solve for, innovation teams can uncover new market opportunities, rethink current approaches and markedly improve the performance of existing products and service to achieve exponential impact. In so doing, this provides companies with opportunities to become more resilient and find ways to disrupt — rather than be disrupted.

## 3.2 Using the SDGs as a Lens for Ideation

Effective innovation is a journey, from ambition and insight, ideation and concept development, through to deliver and scale-up. Innovating for sustainability is no different. The SDGs can be practically used when setting ambition, discovering insight, and in ideation and early concept development. An SDG perspective can be incorporated into commonly used innovation methods.

This section aims to provide step-by-step guidance to companies on how to integrate the SDGs into common innovation methodologies like Design Thinking, Lean Start-up, Agile, etc.

**“We view the SDGs as a way to promote competitiveness, resilience and drive future business opportunities”**

Marina Migliorato, Head of Sustainability Innovation and Stakeholder Management, Enel

### SDGs and Design Thinking

Design thinking is a useful approach for the early stages of innovation. At the core of design thinking are two ideas — that design requires a blend of analytical and creativity thinking. And that good innovation comes at the intersect of people needs (desirability), technology possibilities (feasibility), and business or economic success (viability).

We can add a sustainability lens to this, that looks at environmental and societal outcomes (impact).

The SDGs and their underpinning targets represent the future needs of the world, and are a useful spur for inspiration and ideation.

### Lean Start-up and SDGs

The Lean start-up provides a scientific approach to creating and managing startups and get a desired product to customers' hands faster. It is based on a set of four principles:

- Eliminate uncertainty
- Work smarter, not harder
- Develop a minimum viable product (MVP)
- Validated learning

The heart of the 'lean start-up' approach to development is the mantra of (1) outline hypothesis, (2) design tests, (3) build prototypes for testing, (4) conduct tests and learn, and (5) iterate. And doing this as fast and as directly with the customers as is possible.

Applying lean start-up in relation to the innovation for SDGs is no different than normal. The SDGs help define the problem spaces, give direction given for the hypothesis, as can inform some of the test criteria.

Hypothesis	Define Tests	Prototypes	Learnings	Iterate
Write out the hypothesis you are testing for.	<p>List out your tests defining what each test will teach you.</p> <p>Some might have success criteria. This rigor will help ensure that your prototypes</p>	<p>Develop a set of prototypes will allow you to conduct the tests in order to validate the hypothesis (your idea).</p> <p>One prototype doesn't need to be able to conduct all tests.</p>	Test feedback and your learnings are crucial to ensure that you are developing towards the right outcome quickly.	<p>Build the learnings into the next iteration of hypothesis and tests.</p> <p>Write out what you are changing for the next iteration — or confirm that you have reached the minimum requirement to satisfy the customer, the business model, the practicality of execution, and the SDG ambitions you have set yourself.</p>

## Agile and SDGs

Agile at its essence is a development approach valuing short development sprints, user engagement and feedback, multi-disciplinary team working, and creating 'product' that can be shown. The needs the SDGs represent are complex, ambitious and new. So it is likely that finding successful solutions will involve a process of trial and error — so an agile approach, to build quickly, experiment and learn, fail fast, then try again, will be a better development approach.

## 3.3 Innovating with the SDGs in Practice

Innovation starts with new ideas, and the key to this is new inspiration. Without new inputs to challenge and expand our thinking, we are likely to come up with the "same old stuff" that was already thought of previously. We also know that self-critique and concerns about what others may think can stifle the ideation process. Good practice is then to separate out the generation of ideas from their evaluation.

In practice, and building on design thinking, the below steps can help you get started with integrating the SDGs into the innovation process. When going through these steps, it is important to capture the reflections and insights from the activities and note what "caught your eye." Don't push for solutions but rather focus on understanding the challenges first before moving into idea generation.

**1.** Set out an ambitious big question to explore around one of the SDGs — make this specific, not abstract. Look at the underpinning targets and find a way of creating a story of those who might be affected — through film, audio, narrative — real, or involving some creativity.

**2.** Identify and explore the needs of those affected, and those around them. Find ways of creating empathy or "putting yourselves in others shoes." There are various ways of doing this — from listening to stories from affected people, to observational and experiential visits, to creating pen pictures and user journeys. (This is the consumer desirability lens in design thinking.)

**3.** Explore the art of the possible from technology.

Share case studies of new disruptive technologies, from other countries, sectors and applications. (This is the technology feasibility lens in design thinking.)

**4.** Look at the question from the perspective of other organizations and businesses. How would they approach this? Ask yourself, "What would a leader in this space do (This is the business viability lens in design thinking.)

**5.** Look at the impact on environmental and societal outcomes and use the SDGs as a lens. Consider both intended and unintended impacts. Look at the SDGs and their underpinning goals. Don't over analysis or qualify out possible impacts at this stage. (This is an additional sustainability impact lens for design thinking.)

**6.** Only now, start to generate ideas. Go for volume — as many ideas as possible — and avoid any evaluation of them. There are various techniques that are useful at different stages of generating ideas, such as brainstorming, word association and question generation.

**7.** Once you have exhausted the ideation process, move into evaluation. Some kind of assessment of attractiveness and feasibility is needed. You can then down-select and prioritize the ideas which are most interesting and worthy of further exploration and development.

### 3.4 Tools for SDG Innovation

We have identified three SDG-specific tools to help you innovate.

#### SDG Goal Finder

This tool is designed to help you identify your ambition and challenge area for innovation. It links the SDGs, their underpinning targets, the types of general activities being done to address the targets, and then to the activities that your business engages in.

The tool combines a top-down (SDG down) exploration (step 1, moving left to right), with a bottom-up (your business activities) exploration (step 2, moving right to left).

#### How to use:

- Move through step 1: considering the questions left to right
- Then step 2: considering right to left
- Repeat to explore further.
- Remember, this is a framework to support creative exploration, not a rigid analytic or deductive thinking process. If you get stuck, get creative.

	SDGs	SDG Targets	Activities	Industries
<b>Description</b>	Use this space to identify the broad SDG area to be tackled	<b>Use to:</b>  Understand the problem area and challenge being faced.  To provide empathy  Give ideas for what could be done to tackle this issue (feed through to 'things being done')  Connect with others tackling this issue (feed through to 'industries')	<b>Explore:</b>  Types of activity being done to tackle this	<b>Explore:</b>  Which industries are you in  Which industries and companies are doing which things
<b>Step 1</b>	<b>Progress left to right:</b> From SDGs and targets, exploring what could be done, and what your organization could do			
<b>Step 2</b>	<b>Then progress right to left:</b> From activities in your industry through what others are doing, to targets and SDGs			

### SDG Goal Finder

This tool provides a simple set of questions to explore problem spaces to help identify an appropriate challenge. It considers the questions why, who and what. It also examines context, value and delivery.

	Why?	Who?	What?
<b>Context</b>	<p>Why does the problem exist?</p> <p>Which SDG targets will you be working to?</p> <p>Over what time horizon are you looking to start addressing the problem?</p>	<p>Who experiences the problem?</p> <p>Who is impacted by the problem?</p> <p>Who are the following in the context of the problem?</p> <ul style="list-style-type: none"> <li>■ Customers (both users and buyers)</li> <li>■ Influencers</li> <li>■ Benefactors</li> </ul>	<p>What type of problem is it? (business, technical, process, cultural)</p> <p>What are the drivers for the problem?</p> <p>What is the problem?</p> <p>Can you empathetically explain the challenge being felt by those for whom the SDG target will impact?</p>
<b>Value</b>	<p>Why are you tackling this problem, is there benefit of solving the problem?</p> <p>Which other SDGs or targets could be met with tackling the problem?</p>	<p>Who benefits from the problem being solved?</p> <p>Who owns the problem?</p>	<p>What has already been solved?</p>
<b>Delivery</b>	<p>Why does this need to be delivered now?</p> <p>Where are the most important needs?</p>	<p>Who is already working on the problem?</p> <p>Who else could solve the problem?</p> <p>Who could you partner with to help tackle the problem?</p>	<p>What is stopping it from being solved right now?</p> <p>What future scenarios could exist that will impact your problem space (e.g. future competition, materials, political environment)?</p>

It should be used to explore and better define a problem space that has been identified — for example, from the SDG Goal Finder tool. The questions should be worked through and considered — the top-left is a logical starting point, but it can be navigated in many ways.

## SDG Morphological Box

The morphological box is an innovation tool to help identify opportunity spaces or to stimulate new ideas. It encourages linking individual SDG targets to stimulate thinking on the challenge space and uncover opportunities that sit inside the overlap of a few different challenge areas.

As an **example...** we have created a problem space where the ideas need to address these five SDG targets:

- 1.4: Equal access to economic resources and basic services including control over land and property
- 2.3: Double the agricultural productivity and incomes of small-scale food producers (women, indigenous, family)
- 3.6: Halve the number of global deaths and injuries from road traffic accidents
- 5.1: End all discrimination against girls and women
- 17.1: Strengthen domestic resource mobilization improving tax and revenue collection

<div><div>1</div><div>NO POVERTY</div></div>	1.1	1.2	1.3	1.4	1.5	1.A	1.B												
<div><div>2</div><div>ZERO HUNGER</div></div>	2.1	2.2	2.3	2.4	2.5	2.A	2.B	2.C											
<div><div>3</div><div>GOOD HEALTH AND WELL-BEING</div></div>	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.A	3.B	3.C	3.D						
<div><div>4</div><div>QUALITY EDUCATION</div></div>	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.A	4.B	4.C									
<div><div>5</div><div>GENDER EQUALITY</div></div>	5.1	5.2	5.3	5.4	5.5	5.6	5.A	5.B	5.C										
<div><div>6</div><div>CLEAN WATER AND SANITATION</div></div>	6.1	6.2	6.3	6.4	6.5	6.6	6.A	6.B											
<div><div>7</div><div>AFORDABLE AND CLEAN ENERGY</div></div>	7.1	7.2	7.3	7.A	7.B														
<div><div>8</div><div>DECENT WORK AND ECONOMIC GROWTH</div></div>	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	8.10	8.A	8.B							
<div><div>9</div><div>INDUSTRY, INNOVATION AND INFRASTRUCTURE</div></div>	9.1	9.2	9.3	9.4	9.5	9.A	9.B	9.C											
<div><div>10</div><div>REDUCED INEQUALITIES</div></div>	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.A	10.B	10.C									
<div><div>11</div><div>SUSTAINABLE CITIES AND COMMUNITIES</div></div>	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.A	11.B	11.C									
<div><div>12</div><div>RESPONSIBLE CONSUMPTION AND PRODUCTION</div></div>	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.A	12.B	12.C								
<div><div>13</div><div>CLIMATE ACTION</div></div>	13.1	13.2	13.3	13.A	13.B														
<div><div>14</div><div>LIFE BELOW WATER</div></div>	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.A	14.B	14.C									
<div><div>15</div><div>LIFE ON LAND</div></div>	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	15.A	15.B	15.C							
<div><div>16</div><div>PEACE, JUSTICE AND STRONG INSTITUTIONS</div></div>	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	16.10	16.A	16.B							
<div><div>17</div><div>PARTNERSHIPS FOR THE GOALS</div></div>	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	17.10	17.11	17.12	17.13	17.14	17.15	17.16	17.17	17.18	17.19

We can already see how it could stimulate thinking about solutions for this space — which, because they are addressing multiple needs, are more likely to have marketplace security. For example, it could prompt the idea of having drone based agricultural deliveries for remote and developing areas. Ways it addresses the issues above:

- 1.4: The increased value of their products (as they are fresher) would ensure that farmers can maintain ownership over land, perhaps even owning the drones.
- 2.3: As drones can get to rural areas less accessible by road, this ensures that people are not leaving to head to cities and thus works to increase agricultural productivity of small farmers.
- 3.6: Reduction in road traffic due to agricultural trucks reduces road deaths.
- 5.1: Women are taught how to conduct drone maintenance, and thus gives them greater social status and worth than they possibly have currently.
- 17.1: Drones could be Government-owned and thus the weight of produce carrier can easily be measured by the drone and thus taxed through automatic transportation fee levied on the drone transportation cost.

# SECTION 4

## HOW TO APPLY BREAKTHROUGH TO YOUR EXISTING INNOVATION PIPELINE

In section 2, we introduced the concept of Breakthrough Innovation, defined as innovation that creates positive impact at an exponential pace and scale in line with one or more of the SDGs.

We outlined three pillars of Breakthrough Innovation: Mindsets, Business Models and Technologies. Section 3 explored how the SDGs can be used as a lens for ideation with an overview of tools you can use for SDG innovation.

In this section, we will explore the question of how to assess the impact of new products and services against the SDGs in more detail. Additionally, we will look at how you can take ideas, prototypes and pilots from your existing innovation pipeline and give them a Breakthrough twist. We will then also look at practical steps for embedding Breakthrough Innovation in your organization's culture.

### This section answers the questions:

1. How can teams integrate the SDGs into open innovation processes?
4. What are some considerations and models for collaborating externally?
5. Why is it particularly important for companies to collaborate and engage in open innovation for the SDGs?

Additionally, this section will provide case examples of ways in which companies work with an ecosystem of diverse stakeholders to innovate for the SDGs.

### 4.1 How to Innovate with Impact

Principled-prioritization of the SDGs is the foundation of a sound corporate strategy to address the SDGs.

The process of principled-prioritization entails a thorough assessment of the company's greatest risks of negative impact throughout its end-to-end operations and where it can adopt practices that will maximize positive impact for the SDGs. Principled-prioritization also recognizes that while market opportunities can be an important driver of prioritization, a leading company will uphold its essential obligations to the Ten Principles of the UN Global Compact.<sup>8</sup>

For the purposes of this section, we presume that the company has gone through a process of identifying the SDGs on which it has the most direct impact (positive and negative) and has reflected on its impact on interconnected SDGs. For more guidance on aligning corporate strategy with the SDGs, please view the SDG Compass and The Blueprint for Business Leadership on the SDGs.

The Blueprint proposes five leadership qualities for companies who want to exhibit leadership on the SDGs. Taken together, the five qualities — Intentionality, Ambition, Consistency, Collaboration and Accountability — serve as a useful starting point for thinking about impact within the innovation process. Using the following set of questions innovation teams can start making a high-level qualitative assessment of how well projects in the portfolio contribute to the company's overall SDG strategy.

<sup>8</sup> EUN Global Compact. The Blueprint for Business Leadership on the SDGs. <http://blueprint.unglobalcompact.org/sdgs/intro/> First published September 2017.

## Intentionality

- **Enterprise level standard:** Support for the SDGs is an integral, deliberate part of a leading company's strategy
- **Project level considerations:** What are the specific set of SDGs we are trying to address with this project, product, or service?

## Ambition

- **Enterprise level standard:** The company's level of ambition greatly exceeds prevailing levels of ambition, its actions are material in the context of its end-to-end operations.
- **Project level consideration(s):** How might we design this project, product or service in a way that dramatically improves the condition of the end user? What might be some of the short-term and long-term outcomes of this product, service or project?

## Consistency

- **Enterprise level standard:** Support for the SDGs is embedded across organizational functions and external communications. There is a consistency between what the company says and what it does throughout out the business.
- **Project level consideration(s):** What SDGs do this project, product or service address and are they consistent with the SDGs that the company has identified as the ones upon which it will have the greatest impact?

## Collaboration

- **Enterprise level standard:** Support for the SDGs, involves partnerships, including with business, Government, civil society and other actors. Collaboration follows established guidelines and principles of engagement in the relevant areas. Partnerships are co-owned and involve shared decision-making.
- **Project level considerations:** What groups are missing (e.g. women, marginalized and vulnerable communities) from the design phase? How might their insights inform the design of this product, service, or project? Who might we partner with to gain these insights?

## Accountability

- **Enterprise level standard:** The company is transparent, manages, risk and seeks out meaningful engagement with stakeholders, and is accountable for adverse impacts. Accountable leadership means being transparent and engaging stakeholders proactively on challenges and progress towards the SDGs. The company has systems to identify the impact it causes, contributes to and is linked to; risk management process
- **Project level considerations:** What are the risks, with respect to the SDGs, associated with the launch and use of this product, service or project? What are things we can do in this design phase to mitigate the risks identified?

By going through this analysis during the ideation and project design stage, innovation teams can start identifying potential risks, envision potential impacts and map out stakeholders that can inform the development process.

## 4.2 Overview of Impact Assessment Methodologies

The five leadership qualities outlined in The Blueprint for Business Leadership on the SDGs serve as a first-level check to help innovation teams brainstorm potential positive and negative impacts. Yet in keeping with those leadership qualities, analyses of impact should be made throughout the product development process and considered throughout the product life cycle.

There are several methodologies for assessing impact that can support teams in conducting these analyses.

Enterprise-wide assessment
Future-Fit Business Benchmark
Product-level assessment
Social Life-cycle Analysis
Product Social Impact Assessment

### Future-Fit Business Benchmark

**Description:** Guidance on creating, monitoring and assessing systemic, social and environmental value created by a company's core business activities

**Developed by:** Future-Fit Foundation

**Purpose:** Use to assess the social and socio-economic impacts of products.

#### Main attributes:

- Break-Even Goals: Highlight the aspirational state across environmental, social and governance themes to which a company should aim
- Break-Even Indicators: Equip companies to assess and manage their progress toward each goal
- Positive Pursuits: Identifies the types of positive actions a company may undertake to create positive impact

### Social Life-cycle Analysis

**Description:** Method that can be used to assess the social and sociological aspects of products, their actual and potential positive, as well as negative impacts along the life cycle.

**Developed by:** UNEP, Université du Québec à Montréal (UQAM), International Reference Center for the Life Cycle of Products (CIRAG), Belgium Federal Public Planning Service Sustainable Development with input from 50 stakeholders consisting of universities, UN agencies and international organizations.

**Purpose:** Use to assess the social and socio-economic impacts of products.

#### Main attributes:

- Built upon ISO 14040 and 14044 standards for Life Cycle Assessment
- Classification of social impacts by stakeholder categories and impact categories
- Meant to be complimentary to the LCA

### Product Social Impact Assessment

**Description:** An aligned method for measuring social impact at a product or service level.

**Developed by:** The Roundtable for Product Social Metrics — facilitated by PRé Sustainability, with ArcelorMittal, BASF, Corbion, DSM, Mahindra Sanyo, Nestlé, Solvay and Steelcase. And previous involvement from Ahold, AkzoNobel, BMW Group, Covestro, Goodyear, L'Oréal, Marks & Spencer, Philips, Reckitt Benckiser, Vattenfall and VebeGo.

**Purpose:** Be the leading, cross-sector initiative to give guidance on how to measure social impacts of products and services, in a way that is recognized for its high quality, credibility and business viability.

The purpose is to improve the lives of workers, users and local communities by better insights that enables more balanced decision making.

#### Main attributes:

- A pragmatic methodology to assess the social impact of a product along its life cycle
- An impact assessment method
- Social topics and performance indicators
- Pilot use

## 4.3 Case Studies

The following section contains detailed case studies of how companies are actively integrating the SDGs into their innovation pipeline and using the Goals to identify hidden impacts, minimize negative impacts and identify new areas for innovation.

### INTEGRATING THE SDGS INTO YOUR INNOVATION MANAGEMENT PROCESS:

Sumitomo Chemical Group & Cambridge Display Technology

#### ABOUT THE COMPANY

Headquartered in Tokyo, Sumitomo Chemical Group is one of Japan's leading chemical companies. Cambridge Display Technology (CDT), which is owned by Sumitomo, is a research group that exists to incubate new technologies.

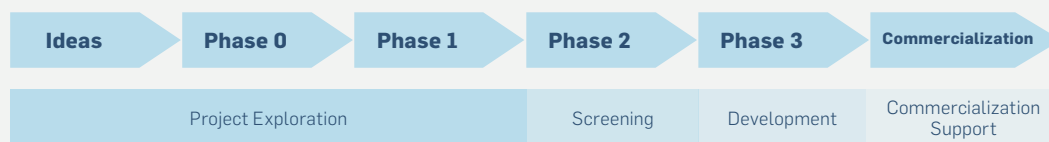
#### CHALLENGE

CDT aims to develop solutions that can positively impact the SDGs — notably in affordable and clean energy (e.g. devices which convert waste heat to electricity) and health and well-being (e.g. cost effective and accurate diagnostic sensors). They recognize that in order to do this, they need to integrate the SDGs into their innovation management systems and processes

#### SOLUTIONS

##### Solution 1: CDT phase gate management process

Off the back of the 2018 Breakthrough Innovation Challenge, CDT started integrating the SDGs into a phase gate management process for new innovations (see process chart below).



Employee-generated ideas go through a four-phase evaluation to determine their business scope and alignment with the SDGs. At each phase, concepts are screened for their alignment with the SDGs and marked from 1 to 3. Those that score 1 can be sent back through ideation (or rejected).

Initially, the evaluation criteria are qualitative and focused on alignment:

Idea to Phase 0: Sustainability Evaluation			
Score	1	2	3
Sustainability attractiveness of the idea	No alignment or weak alignment with UN-SDG	Clearly aligned with 1 or more UN-SDG	Directly aligned with one or more UN-SDG and indirectly aligned to others

At the next phase gate, the evaluation remains qualitative, but now the focus shifts from alignment to impact:

Phase 0 to Phase 1: Sustainability Evaluation					
Category		Score	1	2	3
Sustainability	Impact on UN-SDGs	Sustainability of proposed business	Low opportunity for business to net positive impact SDGs	Vision identified how business could net positively impact SDGs	Clear direct net positively impact on SDGs from business

At this phase gate, project teams are asked to identify which specific SDG targets the project positively addresses, as well as to consider potential indirect impacts (positive or negative), interdependencies between different impacts, and mitigation strategies for negative impacts.

Finally, to progress from Phase 1 to Phase 2, project teams are required to come up with a model for tracking SDG impacts in a quantifiable way:

Phase 1 to Phase 2: Sustainability Evaluation — Towards quantification			
Score	1	2	3
Sustainability of proposed business	No model identified to track impact on SDG	Model for tracking in-direct impact on SDG	Clear model for tracking direct impact on SDG

Resources used to support this phase gate process include the SDG Compass,<sup>9</sup> as well as an internal summary of potential indirect links between SDGs based on the PwC report Navigating the SDGs: A business guide to engaging with the UN Global Goals.<sup>10</sup>

### Solution 2: Sumitomo certification scheme for sustainable products

At the Group level, Sumitomo has launched a certification for their products called Sumika Sustainable Solutions.

Requirements range from the reduction of greenhouse gas emissions to efficient use of water resources. Certified products include SUMIKAEXCELTM™ PES, an additive for plastics that make aircraft lighter and more fuel-efficient, and the Olyset™ Net, developed for controlling malaria-carrying mosquitoes.

Product teams that receive certification gain recognition through an awards ceremony and the Sumika Sustainable Solutions are promoted by industrial marketing and corporate communications functions.

### Impact

CDT's phase gate management process is still relatively new (launched in January 2018), but implementation is already bringing greater rigor to the way sustainability is integrated into the company's innovation culture.

2017 sales for the 34 products and technologies certified as Sumika Sustainable Solutions in the first round were 340 billion yen (over US\$ 3 billion), and will contribute to an estimated reduction in greenhouse gases of 53 million tons of CO<sub>2</sub> emissions by 2020. Sumitomo aims to double sales of their sustainable solutions as early as possible.

<sup>9</sup> SDG Compass, UN Global Compact, Global Reporting Initiative, World Business Council for Sustainable Development, 2015.

<sup>10</sup> Navigating the SDGs: A business guide to engaging with the UN Global Goals, PwC, 2016.

# CREATING AN INNOVATION ECOSYSTEM:

Enel

## ABOUT THE COMPANY

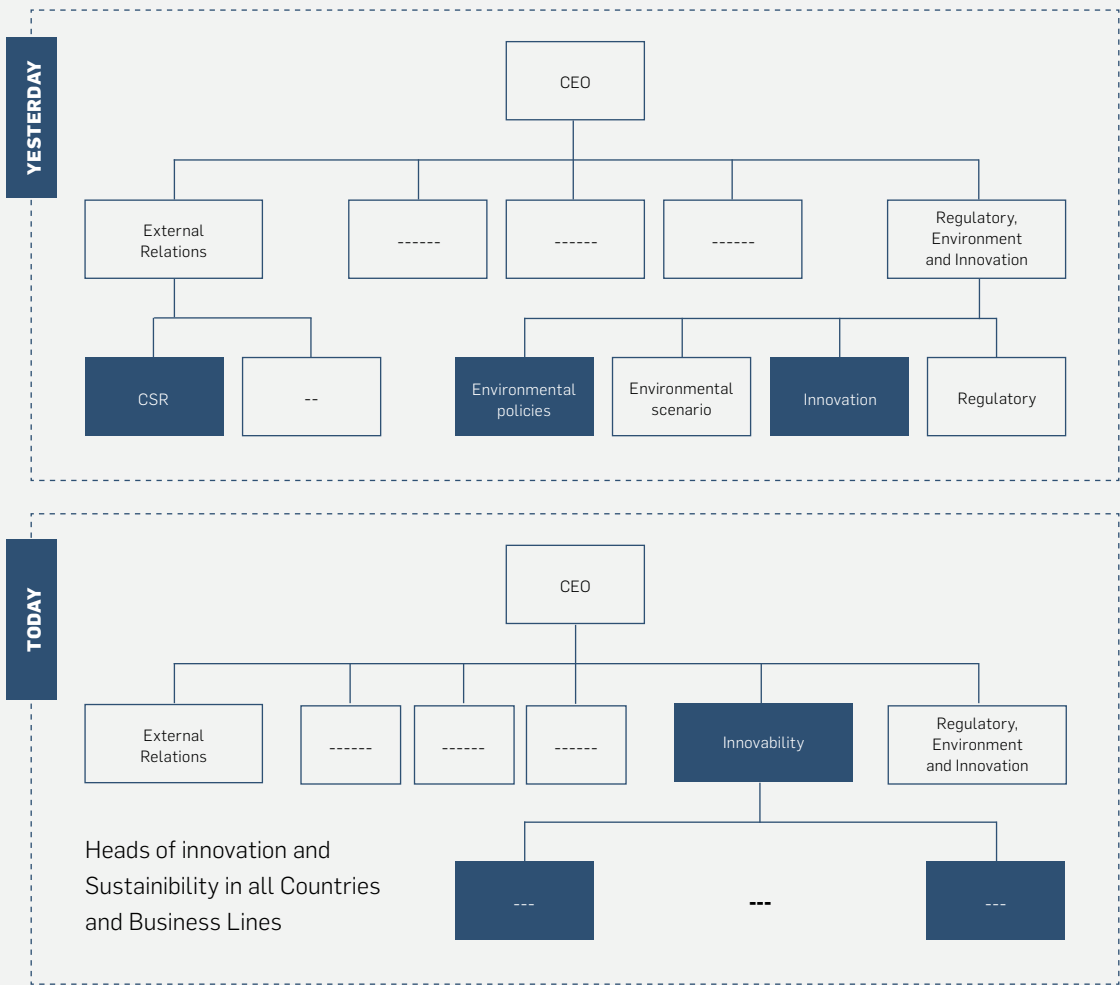
Enel is a multinational energy company and one of the world's leading integrated electricity and gas operators. Intent on being at the forefront of the global energy transition, Enel is a leading provider of renewable energy.

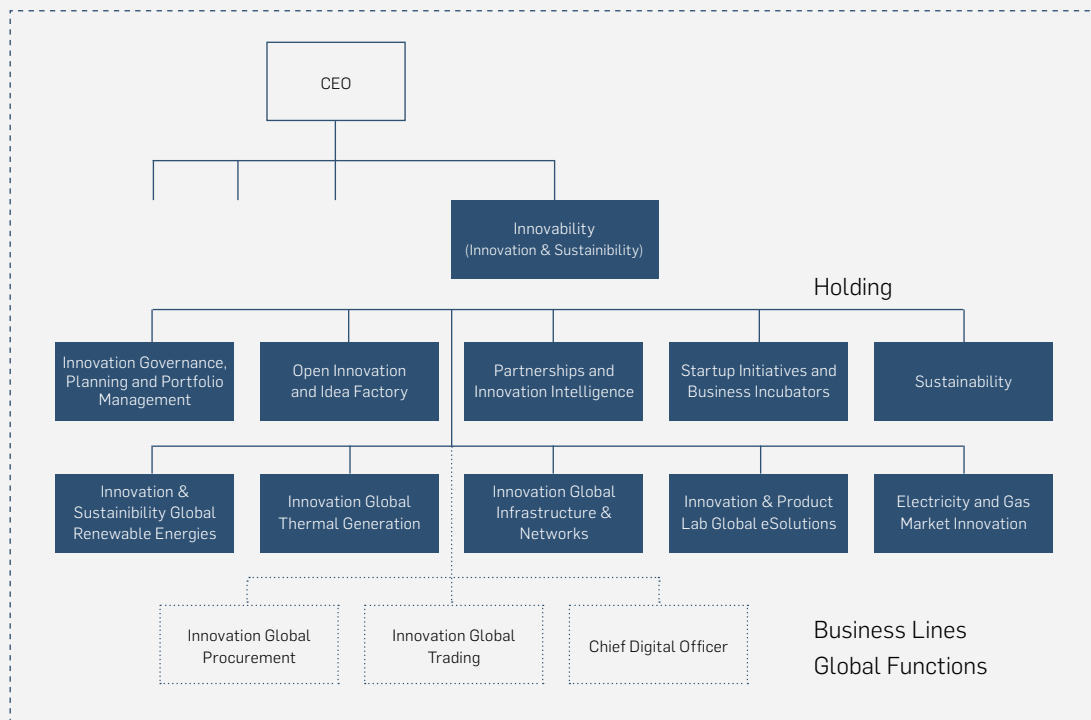
## CHALLENGE

Enel aims to embed social and environmental sustainability at the core of their innovation strategy. In order to succeed, they recognized a need to overcome traditional corporate silos that separated innovation from sustainability, and to open up their innovation processes to increase both the quantity and quality of sustainable innovation at the company.

## SOLUTIONS

In 2015, Enel began restructuring, merging Innovation, CSR and Environmental Policies into a single 'Innovability' function, with the Chief Innovability Officer reporting directly to the CEO. They have also appointed Heads of Innovation and Sustainability across all countries and business lines.





At the heart of this new model is 'Open Innovability', which aims to create a 'leading innovation ecosystem' by connecting talented people, ideas, expertise, technologies and resources.

As part of this, Enel has started eight innovation hubs and nine labs to collect and incubate ideas. The hubs scout technologies and business models of potential interest (from smart grids to artificial intelligence, e-mobility to IoT).

Enel has launched 24 online challenges to crowdsource solutions for sustainable development. It started a platform called "My Best Failure" to ensure the company culture is one in which failure is not feared, but celebrated and learned from.

Enel also has a Hub programme designed to help selected startups scale: they receive coaching from Enel managers, support for the development of their technologies, test solutions in Group plants and facilities, and are granted access to an international network of partners, venture capital and millions of potential customers.

### Impact

Through the Open Innovability model, Enel has to date scouted 3,000+ startups, incorporated 35+ scale-ups into their portfolio, and helped activate 140+ projects. Enel has also started an 'Idea Factory' for their own employees to creatively problem-solve, learn design-thinking, and adopt startup strategies to ensure that external learnings embed themselves within the company's internal mechanisms.

**3,000+**  
startups  
scouted

**35+**  
scale-ups into  
their portfolio

**140+**  
projects  
activated

# INVITING OTHERS IN TO COLLABORATE AND SCALE SOLUTIONS FOR THE SDGS

BRASKEM

## ABOUT THE COMPANY

Braskem is the largest petrochemical company in Latin America. Its growth strategy is aligned with minimizing social and environmental impacts, and to date they have set ten macro, strategic goals for 2020 linked to the SDGs, with intermediate actions in place to ensure they are reached.

## CHALLENGE

Braskem sees the SDGs as central to its growth strategy. While the company has a strong track record of sustainable innovation, in 2015, Braskem recognized the need to open up their innovation processes in order to scale their positive impact through innovation.

## SOLUTIONS

Braskem Labs, launched in 2015, is a platform to stimulate an ecosystem of enterprises while delivering on the SDGs. Partnering with ACE and Innoscience, Braskem has established three programmes for entrepreneurs to create new solutions that improve people's lives, especially through the use of plastic.

All businesses and startups involved must comply with at least one of the SDGs, and pass through various screenings so that only the most promising progress. Each programme offers the possibility of becoming a partner of Braskem or one of its clients.

### Ignition

The first programme, 'Ignition', supports fledgling startups. Entrepreneurs are filtered into one of two streams:

**ACE Start** lays the groundwork for promising ideas; validating business models, identifying the most viable product, running numbers, mapping potential risks, and cultivating skills of the individual entrepreneur.

**ACE Growth** is for startups further along; it aims to accelerate sales, distribution, strategies to scale, improve offerings, and help establish relationships with clients.

### Scale

'Scale', as the name suggests, is for scaleups ready to broaden their sphere of influence.

Following successful application, entrepreneurs embark on a four-month challenge period to test their weak spots and improve resilience. Braskem provides access to a network of mentors, as well as their innovation and technical teams to help with product application. They also focus on personal qualification training. More than 50 per cent of the companies which have taken part in 'Scale' have gone on to do business with Braskem.

## Challenge

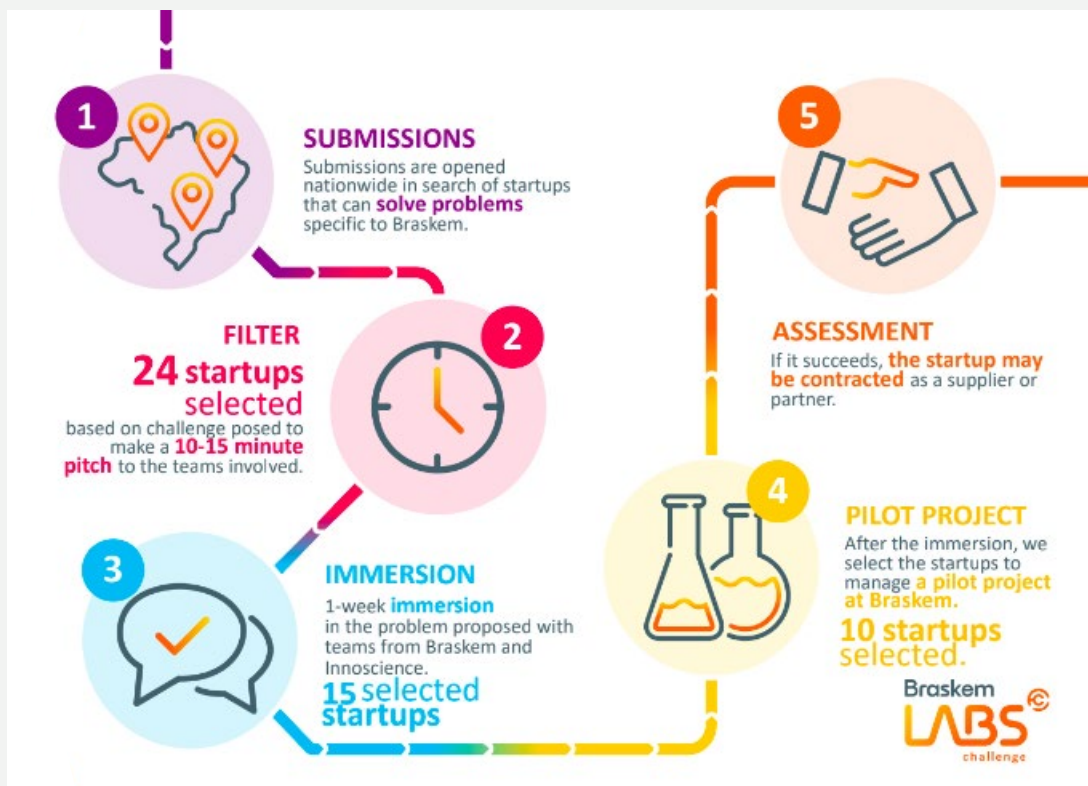
The third programme, 'Challenge', is not designed to accelerate startups, but invite them in to solve for Braskem's internal challenges (see process below). From the total pool of submissions:

**24** startups are selected to give a 10–15 minute pitch on what they aim to solve for,

**15** of these are invited to do a deep dive into their proposed solution, and

**10** are selected to launch pilot projects.

Following a successful assessment, certain finalists may be contracted as a supplier or partner.



**Source:** Braskem Labs

## Impact

The Scale programme has, since 2015, accelerated over 40 companies. Of the ten companies selected as finalists in the 2017 edition, 60 per cent received investment or are in advanced conversations. As of 2018, all projects selected must make clear how they will positively impact the SDGs relevant to their proposals.

In Braskem Labs' first year, mentors and entrepreneurs alike were asked to submit a satisfaction survey. There was only one question: "On a scale of 1 to 10, how would you rate this experience for another person on your level?" Mentors averaged 9.1 and recipients all gave 10.

# ALIGNING THE INNOVATION PIPELINE WITH THE SDGS

COVESTRO

## ABOUT THE COMPANY

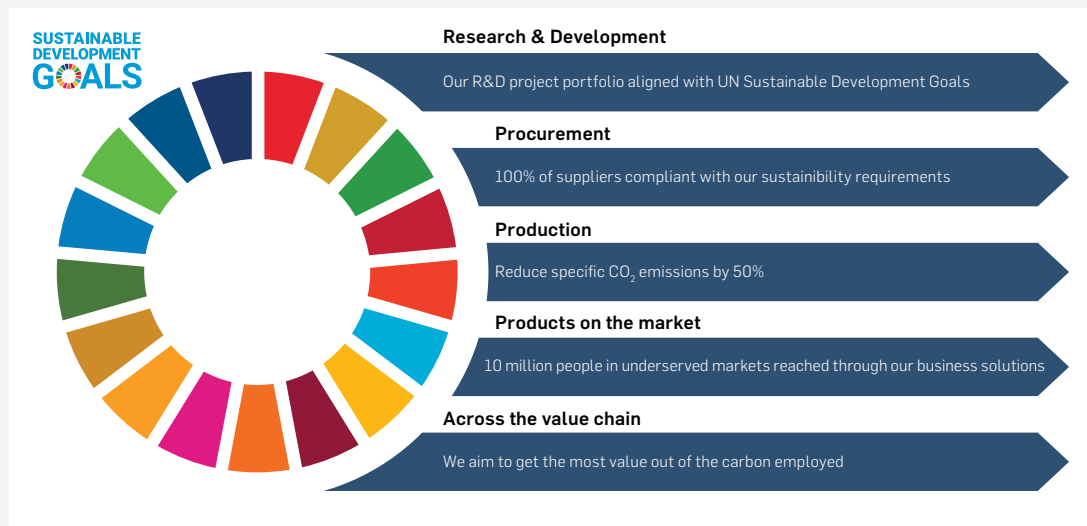
Covestro is a German specialty chemical manufacturer and one of the world's largest suppliers of high-tech polymer materials. Its growth strategy is aligned to its corporate vision "to make the world a bright place," and to achieving the SDGs related to the company's core products.

## CHALLENGE

The UN Sustainable Development Goals identify unmet needs for a sustainable future and unveil untapped market opportunities. Covestro aims to implement a comprehensive, global approach to using the SDGs as a roadmap for growth and a driver for innovation to tap into these market opportunities and to — at the same time — live up to its responsibilities as a global company. In order to do so, the company recognizes the need to adopt a holistic approach to the SDGs without making compromises.

## SOLUTIONS

To push innovation inspired by sustainability, one of the company's five sustainability targets is to invest 80% of its R&D project budget to serve the SDGs.



**Source:** Covestro

In order to operationalize this goal, the company has incorporated an SDG lens into its structured Innovation Stage-Gate process, the decision-making process which determines whether new projects can move forward in development by dividing the project development into specific phases, or "gates," and then setting decision points at the end of each gate to approve further development of the project. By so incorporating the SDGs into its innovation stage-gate, the company has placed sustainability as an additional decision-making criteria that holds an equal level of importance in its decision-making to profitability and market/product strategy fit.


### Details and success factors of this approach and process:

- A key success factor for SDG integration is the translation of all SDGs, their sub-targets, indicators and UN guidance documents into the language of the organization, namely an "SDG questionnaire". This SDG questionnaire consists of 22 questions covering all 17 SDGs and their sub-targets, and it considers the whole life cycle of the project outcome. The phrasing of the questions translates the SDG content into "Covestro language". Furthermore, examples are included to make the questions tangible and comprehensible.

- The questionnaire is part of an expert-guided interview and core to triggering change as part of the innovation process. The goal is to avoid “check-boxing” and instead to establish “SDG thinking”. With the aim of ensuring that each employee in the R&D environment understands the purpose of their project from an SDG perspective, the sustainability assessment is jointly done by the project lead and a sustainability assessment expert. They discuss and answer the questions together, select the main contribution and formulate a sustainability value proposition.
- During the expert interview, each question can be answered with the following options:

++ “Drives SDG”
+ “Contributes to the SDG”
0 “No impact”
- “Potential negative impact to the SDG (mitigation in place)”
-- “Potential negative impact to the SDG (no mitigation in place)”

- Having a “Negative” rating does not mean that the project is automatically stopped but rather prompts the issue to be highlighted at the decision point to trigger a transparent discussion about the issue and allow the gatekeeping team to make an informed decision. Projects that score in the negative (mitigation in place) then require the mitigation plans to be articulated and implemented.
- Based on the individual ratings, a final project classification will be derived.
- After completion of the guided interview, the project team together with the sustainability expert develops a sustainability value proposition. This is a crisp statement that explains the particular value the development creates with respect to sustainability. This statement later becomes part of the overall project value proposition and the decision in the gate.

Overall project classification:			
People		Planet	
<b>Sustainability value proposition (as of now):</b> <span style="color: green; font-weight: bold;">+</span>		<b>Potential negative impacts and risk mitigation:</b> <span style="color: red; font-weight: bold;">!</span>	
<div style="border: 1px solid #ccc; padding: 5px;"> <p>.....</p>  </div>		<div style="border: 1px solid #ccc; padding: 5px;"> <p>...</p> </div>	
<b>Next Steps:</b> <span style="color: blue; font-weight: bold;">↻</span>			
<div style="border: 1px solid #ccc; padding: 5px;"> <p>.....</p> </div>			

**Source:** Covestro

The goal of the sustainability assessment is to create clear and transparent information on the sustainability impact of projects to allow for sustainability-influenced project portfolio management. The outcome of the performed assessment is presented at the gate meeting. A dedicated discussion is necessary in cases where a project has a negative SDG rating that is not mitigated or in cases where the related environmental rating has revealed a negative hotspot that cannot be compensated. In general, such projects can only pass the gate if concrete measures are taken to solve the issues; a re-discussion at the next gate is then mandatory. If no measures are possible, the project will be stopped.

In general, such projects can only pass the gate if concrete measures are taken to solve the issues; a re-discussion at the next gate is then mandatory. If no measures are possible, the project will be stopped.

### Impact

The sustainability assessment delivers a way to classify and measure what is in the pipeline for the company, not only allowing for transparency on the company stands and how it develops, but only influencing what projects go into the pipeline indirectly. Over a six-month period, one-third of Covestro's current projects in development have gone through the Innovation Stage-Gate process using the new SDG assessment.

Additionally, qualitative data from employee interviews show that SDG and sustainability knowledge and engagement within the company's R&D unit has increased since the launch of the SDG assessment integration.

# SECTION 5

## RESOURCES

### 5.1 About the SDGs

#### Goals, Targets and Indicators

Overview of the SDGs, Downloadable icons, listing of targets.

### 5.2 Resources to Identify Business Opportunities Aligned with the SDGs

#### Better Business, Better World

This report shows how pursuing the Global Goals could raise trillions in new market opportunities in ways that extend prosperity to all.

Regional Market Opportunities:

- [Better Business, Better World Africa](#)
- [Better Business, Better World Asia](#)
- [Better Business, Better World Latin America and the Caribbean](#)
- [Better Business Better World, Middle East and North Africa](#)

### 5.3 Tools to Align Corporate Strategy with the SDGs

#### **The Blueprint for Business Leadership on the SDGs**

The Blueprint is a tool for any business that is ready to create and advance a principles-based approach to the SDGs. It outlines how five leadership qualities of Ambition, Collaboration, Accountability, Consistency and Intentionality can be applied to a business' strategy, business model, products, supply chain, partnerships and operations to raise the bar and create impact at scale.

**SDG Compass:** The SDG Compass provides guidance for companies on how they can align their strategies as well as measure and manage their contribution to the realization of the SDGs.

### 5.4 Tools to Communicate the SDGs to Internal Teams

#### **The Breakthrough Pitch**

The Breakthrough Pitch is designed as a template to help business leaders- including Chief Sustainability Officers (CSOs) — build and present the case for breakthrough change.

### 5.5 Additional Cases and Examples of Breakthrough Innovation

#### **Project Breakthrough**

Project Breakthrough spotlights the best thinking and examples in sustainable innovation that demonstrate a commitment towards an exponential scale of change and impact — across mainstream companies and next generation innovators and entrepreneurs.

It also features analysis of innovative business models and disruptive technologies that will be crucial in driving the next wave of sustainable solutions.

#### **Disruptive Technology Briefs**

Developed in partnership with PA Consulting Group, these briefs give an overview of 12 business-critical disruptive technologies and their potential to impact the SDGs.

# THE TEN PRINCIPLES OF THE UNITED NATIONS GLOBAL COMPACT

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## HUMAN RIGHTS

1.  
**Businesses should support and respect the protection of internationally proclaimed human rights; and**
2.  
**make sure that they are not complicit in human rights abuses.**



## LABOUR

3.  
**Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;**
4.  
**the elimination of all forms of forced and compulsory labour**
5.  
**the effective abolition of child labour; and**
6.  
**the elimination of discrimination in respect of employment and occupation.**



## ENVIRONMENT

7.  
**Businesses should support a precautionary approach to environmental challenges;**
8.  
**undertake initiatives to promote greater environmental responsibility; and**
9.  
**encourage the development and diffusion of environmentally friendly technologies.**



## ANTI-CORRUPTION

10.  
**Businesses should work against corruption in all its forms, including extortion and bribery.**

The Ten Principles of the United Nations Global Compact are derived from: the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against Corruption.