RO/CA24 Rotterdam / Carleton International Case Competition

BOLIDT: GROUNDWORK FOR THE LONG-TERM

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In one of the meeting rooms at the Bolidt Campus, Rientz Willem Bol is gazing out through the glass wall. He can just make out the Noord River between the other office buildings. The Noord is the waterway that runs through the Drechtsteden towns with old and new industries lining its banks. "Many shipping companies also operate as a family model like we do," muses Rientz Willem. "Financial returns are necessary to fuel development and ensure long-term continuity."

The longer term also applies to Bolidt's own product—synthetic flooring. This reminds Rientz Willem of the baker he recently spoke with. The baker was retiring and personally informed Rientz Willem that the floor in his bakery, which has been there for 40 years, was still in excellent condition and therefore still far from retiring. "That is a great observation, but how do we extract the added value of sustainability even better, for the customer and the employee?" wonders Rientz Willem. This question lies at the heart of the new chapter in Bolidt's existence, which began after the company's recent crisis.

COMPANY BACKGROUND

The idea that synthetic materials could be a good alternative to steel and concrete when used on flat surfaces, such as ship decks, building floors and infrastructure, is Bolidt's foundation (www.bolidt.com). While concrete can rot and steel can rust, synthetic materials have little or no corrosion problems. The idea originated with Mr. Bol and Mr. Schmidt, two employees of Sikkens (now Akzo-Nobel). They decided to start a company to develop and exploit their idea. In February 1964, Bolidt Maatschappij tot Exploitatie van Kunststoffen & Bouwwerken became a reality. The company's name is the combination of three letters from the surnames of its two founders: Bol-idt.

Over the years, the company has undergone significant growth and development. The focus was not only on developing the right synthetics but also on their application. In doing so, Bolidt effectively created its own market, which was important considering that synthetics were an unknown material in the early years. The combination of *developing* (determining optimal material compositions), *mixing* (composing materials) and *application* (applying the material) is still an important and unique feature of the company today. Bolidt is vertically integrated and is one of the few suppliers of synthetic materials that controls the entire process, from development and production to application.

Bolidt is active in a number of markets:

- public buildings, such as museums, education, healthcare facilities and prisons
- industry, such as the petrochemical and pharmaceutical industries

- food, such as industrial kitchens and the dairy industry
- maritime, such as ferries, cruise ships, super yachts and offshore vessels
- infrastructure, such as wear layers for bridges, viaducts and platforms

Examples of the company's work include:

- The floor of the Danone factory in the Netherlands
- The floor of the Rhine Bridge in Karlsruhe, Germany
- The floor of the European Parliament in Strasbourg, France
- The floor of the King Abdul Aziz Centre for World Culture, Saudi Arabia
- The wear layer of the Erasmus Bridge road surface, Rotterdam
- The floors of the cruise ship Celebrity Flora

In the early years, applications included the waterproofing of water basins and industrial flooring. In addition to functional aspects, decorative aspects also received increasing attention. The fluid product allowed for the creation of an infinite variety of patterns and colours. Virtually all projects are customised in terms of composition and design. Bolidt has one subsidiary: Esthec. This company focuses on the prefab production of three-by-two metre panels with a finished deck surface. These panels are suitable for smaller yachts and terrace decks.

The use of synthetic materials for ship decks emerged in the 1980s. Regulations imposed by the International Maritime Organization (IMO) to prevent ship fires led to the banning of wooden floors. Moreover, synthetic materials are more durable and easier to maintain than wood. Bolidt has become the world market leader for cruise ship decks with high-quality materials and customer-oriented application methods. To date, the company has fitted more than 400 ships with (new or refit) flooring. The company experienced significant growth between 2010 and 2020. Turnover increased in all market segments, the growth of the cruise market and the increase in scale of cruise ships created a lot of work. Due to the high level of expertise required, Bolidt applies the flooring with its own personnel. The company's operations span the globe, so applicators can be found worldwide. Some are local personnel, while others are flown in from the Netherlands.

The combination of developing, producing and applying necessitates a very diverse workforce at Bolidt: from highly skilled lab technicians to "applicators" who may be away from home for long periods of time while working on projects. There is a family culture, fuelled in part by family ownership. In the late 1980s, a nephew of one of the founders joined the management and the founders gradually stepped down. Rientz Willem Bol, son of co-founder Bol, joined the company in 1998. He has been the CEO for several years now. The Schmidt family is no longer involved in the business. The hope and expectation are that the next generation of the Bol family will be able and willing to lead the company into the future. The shares are held in a foundation, which facilitates this continuation and makes a hostile takeover more difficult.

SYNTHETIC FLOORING

Thermosetting synthetics are composed of long chains of molecules that are cross-linked. Their structure is very rigid. Once the various components are mixed, the curing process commences. Synthetic floors are usually applied using the poured floor method. The liquid synthetic material is a blend of binders, hardeners, pigments, fillers and additives. By adjusting the composition of this mixture, the functional properties, thickness, colour and design of the material can be changed. It can be applied to various surfaces, both horizontal and vertical. Application is critical, as the material cures and various conditions (including temperature and base) affect the process. In addition, one has to deal with changing situations on the building site, including environmental legislation and rules for working conditions.

MARKETS AND MANUFACTURERS

The global thermosetting synthetics market was valued at US$127 billion in 2022. An average growth rate of 4 to 5 per cent per year until 2030 is forecast, mainly due to increasing demand in countries such as China and India. The European market was worth around US$20 billion and is expected to reach US$27 billion by 2030. Applications are diverse, ranging from car interiors to pipelines and from electronics to floor and wall finishes. Of course, synthetic finishes compete with many other materials for floor and wall finishes. Consider not only traditional floor coverings like linoleum, but also sand-cement, plaster, steel and wood. These other materials represent a much larger volume than synthetics.

Because the market for synthetic flooring is very diverse, the market structure is also diversified. There are suppliers who focus on one or a few segments. The sports flooring market segment has many smaller suppliers, mostly concentrated in certain regions. There are also a few wholesalers operating in this market, supplying standard or customised floor elements. Synthetic flooring manufacturers thus come in a wide variety, from multinationals to SMEs:

- One major manufacturer of synthetic flooring is Sika. This Swiss chemical company operates in several markets in 100 countries. Synthetic materials are applied to dampen vibrations and noise, to protect materials and to bind materials. One part of Sika focuses on marine flooring. Sika is a listed company and had a turnover of €11.7 billion in 2023.

- A small manufacturer is Herculan. This Dutch family business, located in the same region as Bolidt, operates largely in the same segments as Bolidt and also carries out international projects. Unlike Bolidt, Herculan uses third parties for the application of the floors, such as Specialist Sports Surfaces in the UK.

The trend in larger projects is that it is not the end user but the main contractor who decides who can supply components. In the industrial sector, this could be an engineering firm, for example, and in the cruise market, a design studio. In pharmaceutical facilities, the owner of the property is involved, often in consultation with the end user. These so-called EPC contracts (engineering, procurement and construction) make it more difficult for suppliers like Boldit to have direct contact with the end user, while this is essential for developing, presenting and marketing innovative and sustainable solutions.

Quality and sustainability are important in all market segments, but price remains a critical factor. Like so many other industries, the synthetics industry is facing significant increases in the cost of both materials and wages. The expectation is that the cost of materials, in particular, will continue to rise in the coming years. Unfortunately, this cannot be passed on to customers, which puts pressure on margins.

Bolidt is the only fully integrated player internationally. This is cost-efficient: “the margins remain within the company”, explains Rientz Willem Bol, “and it makes it possible to respond quickly to new customer needs.” It is also interesting that Bolidt uses its own applicators, whereas other manufacturers require clients to hire their own. In-house personnel benefits the quality of the finish, which is particularly important with highly demanding clients in the mega yacht segment for example. In-house employees are also a logistical advantage. There is often little time available for applying floors or other surfaces during a construction project. Cruise ships are an example. For the renovation of a cruise ship, it is in a dry dock for several weeks, such as Verolme in Rotterdam. During this period, the manufacturer typically has a very tight 'time slot' to replace floors and intensive coordination is required.

SUSTAINABILITY

Synthetic finishes have significant sustainability advantages over steel and concrete. First, they have a lower weight, which is important for ships, for example, with an eye to efficiency. Second, they require

less maintenance, which means lower costs and less use of cleaning agents. Third, synthetic materials have a long service life, fifty years is no exception. However, synthetic materials also have sustainability drawbacks: oil is an important raw material and synthetic materials are not easily degradable.

Sustainability was primarily a regulatory issue for Bolidt until 2013. Work on sustainability was reactive and incidental, when new laws and regulations made it necessary or when customers asked for something new. In 2013, a list of so-called Substances of Very High Concern (SVHCs) was published for the first time in the Netherlands. These substances are dangerous for humans and the environment because they, for example, hinder reproduction, are carcinogenic or accumulate in the food chain.

This SVHC list was the signal for Bolidt to drastically change course: a number of raw materials were on the list and sooner or later this would affect the company. The materials cause exposure risks during production, application and later during possible removal. Since then, the company has been working proactively on sustainability. An important component is a database for sustainable raw materials. Bolidt's experts gather insights to determine at the molecular level to what extent a raw material can be replaced by a sustainable alternative. They assess, for instance, whether an alternative adheres well to other components, how it holds up under long-term use and whether it can be processed safely. Numerous formulas are calculated in this way. An extensive database on sustainable substances has now been compiled. This database is of great value and could even be of interest to competitors. Given the amount of data, information technology and artificial intelligence are used.

Innovating for sustainability requires collaboration with all stakeholders, such as clients and suppliers: what do they need, what can they deliver, what preconditions must be taken into account? To raise awareness of sustainability, Bolidt has organized various sessions in recent years with clients, suppliers and employees. Everyone in the organization particularly remembers the meeting with employees' partners. They were specifically invited to think along, because they are more concerned about the future—the time when their children grow up - than their partners. This initiative was followed up by the "Next Generation" project. A group of young Bolidt employees and children of employees periodically considers the impact Bolidt can have on the United Nations' Sustainable Development Goals.

2020 CRISIS

In the spring of 2020, the company lost a third of its turnover in a very short time, as many orders were suddenly cancelled due to the COVID crisis. These included orders from the cruise industry but also from other markets. In addition, orders could not be carried out because applicators were not allowed to travel. Only very drastic cutbacks could save the company. Of necessity, dozens of people have also been laid off. The impact of the crisis on the organization was severe, also in mental terms.

The consequences of the sudden drop in demand were compounded by weaknesses in the functioning of the company itself. The success in previous years had led to uncontrolled growth and inefficiency within the organization. Everything seemed to come naturally, making beautiful things was paramount and not as streamlined a work process as possible. In addition, people were used to a lot of independence with a wide variety of working methods.

In this setting, Mr Bol operated as the sole CEO. He tried to take on all dimensions of the directorship himself and also lead innovation. The crisis was a wake-up call. It highlighted the financial impact of the sudden drop in sales, but even more so where insufficient understanding and oversight of the business was concerned, based in part on the corporate culture in which people could take a lot of leeway. Finally, the primary role of Rientz Willem Bol as CEO became clear: all responsibility for the larger group of employees, customers and their future lay on his shoulders.

Transformation

The 2020 crisis was used to initiate a transformation of the company. Changes have included:

1. A director, who was not part of the family, was appointed as COO alongside Rientz Willem Bol.
2. A longer-term vision was developed.
3. Management in teams has been introduced and work processes have been standardised.
4. Innovation is fully focused on sustainability

Ad 1. Bolidt's organization has been changed and improved. In addition to the two-person management, there are managers with their own mandate. The structure is in place. The management team is still under development. In principle, each manager must be able and willing to take responsibility for the bigger picture and be a culture bearer. There is a sizeable sales force, broadly divided between maritime and land-based activities. For the cruise market, Bolidt has a sales office in the United States. Besides sales managers, the organization has a production manager, an R&D manager and an applications manager. Rientz Willem Bol 'carries' the organization as CEO, for the long-term course and for safeguarding the corporate culture (see Exhibit 2).

Ad 2. The long-term vision is set out in "Mission 2050". This provides direction for both strategy and corporate culture. Bolidt wants to be an efficient manufacturing company, focused on long-term added value for all stakeholders. Essential for the future-proof functioning of Bolidt is the corporate culture, which offers people a grip to work in an innovative company with social commitment. The principles are defined as follows: (1) the long term is the guideline, so that action is taken with a view to continuity, (2) quality is paramount, so that products have the longest possible service life, (3) the market price is leading, so that working (more) efficiently is stimulated, (4) it is about developing people, so that they are given opportunities and no one needs to be laid off, and (5) innovating is done together with all stakeholders, so that fundamental renewal becomes feasible.

Ad 3. Even before the crisis, principles of Total Quality Management were already applied at Bolidt. After the crisis, it became a cornerstone of the policy. The core is predictable work through clear objectives, plans and procedures, and ample communication within and between teams. Predictability helps prevent mistakes and avoid waste. There are "daily stands" with all teams. Responsibility starts low in the organization. There are clear agreements on when and how something must be escalated. Every employee has the freedom to contribute ideas for improvement. This is done frequently. At the same time, everyone has a duty to report problems quickly so that they do not linger. Then there is the Bolidt Academy, where working according to Total Quality Management is taught at all levels of the organization. Not only is Rientz Jan Bol now convinced of the benefits of Total Quality Management, the new COO worked for Toyota for many years and therefore knows the principles inside out.

Ad 4. The company crisis has once again made it clear that Bolidt's added value lies in innovative products and manufacturing processes. That is where the company's expertise can yield the most. In the past, the R&D department mainly supported the sales department: 80 per cent of the time involved support for customer processes and 20 per cent in-house development. After the crisis, the focus is on "break to innovate" and the aim is to achieve a time commitment of 80 per cent innovation and 20 per cent support for customer questions.

CURRENT STATE

The company entered calmer waters in 2024 after a very turbulent period. Bolidt survived the crisis partly thanks to a conservative financing policy. The company finances itself as much as possible. For the CEO, money is a means, not an end in itself. It is not about short-term profit, but about healthy long-term development. As Rientz Willem Bol stated in an interview in *MT Sprout* (3 July 2017): "I think it

would be terrible if someone who has no real connection to our company were to decide what we can and cannot do from an Excel sheet. We prefer to remain the boss in our own house. Especially for a family business like ours, that's an important principle" (see Exhibits 1 and 2).

While the soft side is essential, it requires elaboration, substantiation and maintenance. For instance, the principles Rientz Willem Bol applies are not yet fully known and leading throughout the organization. Some employees put their own interests first, while others still have mistrust after the crisis in the company a few years ago. There is still a lack of expression of the corporate culture in words and images. Rientz Willem Bol himself is still the most important bearer of the culture. Employees see him as a role model and want to discuss the future with him. But he cannot possibly be in all places at once. It is important that others embrace the culture and help spread it.

The transformation of the R&D department was accomplished in 2023. Now, most of the time is spent on in-house (fundamental) development. The focus is still on finding and testing sustainable alternatives for certain components. In addition, the R&D department pays attention to circular opportunities for Bolidt's products. This involves developing so-called "R strategies" to prevent floors from eventually becoming waste (see Exhibit 3). The search by R&D creates opportunities, but also risks: Investments in research & innovation are not always profitable and long-term guarantees cannot yet be given on the use of sustainable materials.

It is becoming increasingly clear that sustainability comes with a fundamental dilemma for Bolidt. This is because the product technically lasts much longer than the user can foresee. Of all circular strategies, "refuse" is the most sustainable: Do not buy a new floor, but keep the existing one. But it is not that simple. After a lease expires, a real estate investor may find a new tenant with different floor requirements. An EPC contractor also has limited interest in the future value of the floor. So how do you continue to create value, deliver value and appropriate value? In essence, these are the three value mechanisms of a business model (see Exhibit 4). The core of Bolidt's current business model is the sale of flooring. How can you make money by not selling something?

EPILOGUE

The importance of sustainable innovation is reflected in Bolidt's headquarters. At the end of 2019, the new head office and innovation centre was completed in Hendrik Ido Ambacht, 20 kilometres southeast of Rotterdam. The Bolidt Innovation Centre is a futuristic three-storey, 10,000-square-metre centre with a lot of glass and synthetic applications. At the time of the crisis, it seemed like a very costly investment (the building cost around €20 million), but Bolidt sees the centre as a valuable tool for conveying the company's mission: innovating for customers. Customers and other partners can get to work themselves in the open source innovation centre. This is important because many customers spend relatively little time selecting new products for a better world. With all functions under one roof, the building promotes the philosophy of working together on innovation—with the teams within Bolidt and with all stakeholders.

In the Bolidt Innovation Centre, Rientz Willem Bol once again looks outside. Much has happened within Bolidt in the past four years. Rientz Willem looks back with mixed feelings. With pain when it comes to people he has had to let go. But also with pride, because the crisis has been used to make the company much more efficient and focused. This now offers the opportunity to implement a growth strategy. The greatest good is continuity—passing the company on to the next generation, being a good employer for employees and their families, and contributing to broad prosperity. "Sustainability is the essence. That's where we have to create value and that's what has to connect our people. Our product is very sustainable, how can we make the story work even better?" Rientz Willem opens his laptop and starts typing.

EXHIBIT 1: KEY FINANCIALS

Profit and Loss
(000s of euros)

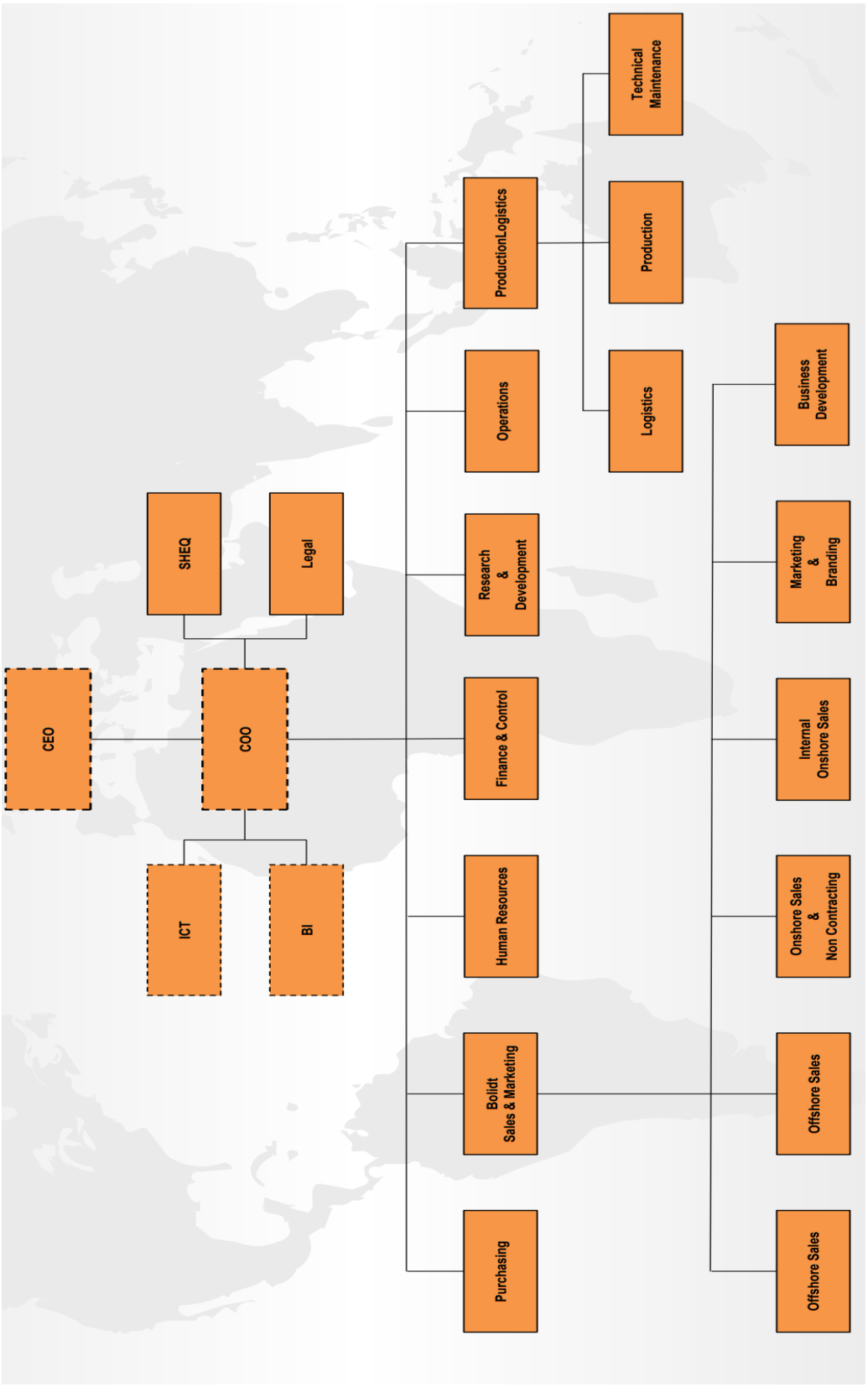
	2019	2020	2021	2022	2023
Turnover sales	62400	41800	39700	43900	48200
Turnover services	4500	1600	2400	2900	3400
Cost of materials	29300	19600	19400	21950	25000
Gross margin	37600	23800	22700	24850	26600
Direct labour	18200	14500	11700	12100	12800
Indirect labour	4700	3600	3100	2700	2800
Logistics	2700	2100	1800	1600	1700
Accommodation	2300	2200	2200	2000	2100
Communication	1200	700	600	800	1000
Administration	1400	1300	1100	1000	1100
Financing costs	500	400	400	300	300
Depreciation	3800	3700	3600	3500	3600
Other overhead	1200	800	600	700	700
Result before tax	1600	-5500	-2400	150	500

Balance Sheet
(000s of euros)

Debit	2022	2023	Credit	2022	2023
Plant and equipment	4750	4400	Common stock	15300	15450
Real estate	18400	18100	Preferred stock	2940	2940
Inventory raw materials	920	1250	Retained earnings	150	500
Inventory semi-finished materials	450	790	Long term debt	3300	3250
Debtors	770	1530	Mortage	4100	4100
Financial leases	1240	1250	Creditors	560	680
Cash	50	60	Accrued taxes	230	460
Total	26580	27380	Total	26580	27380

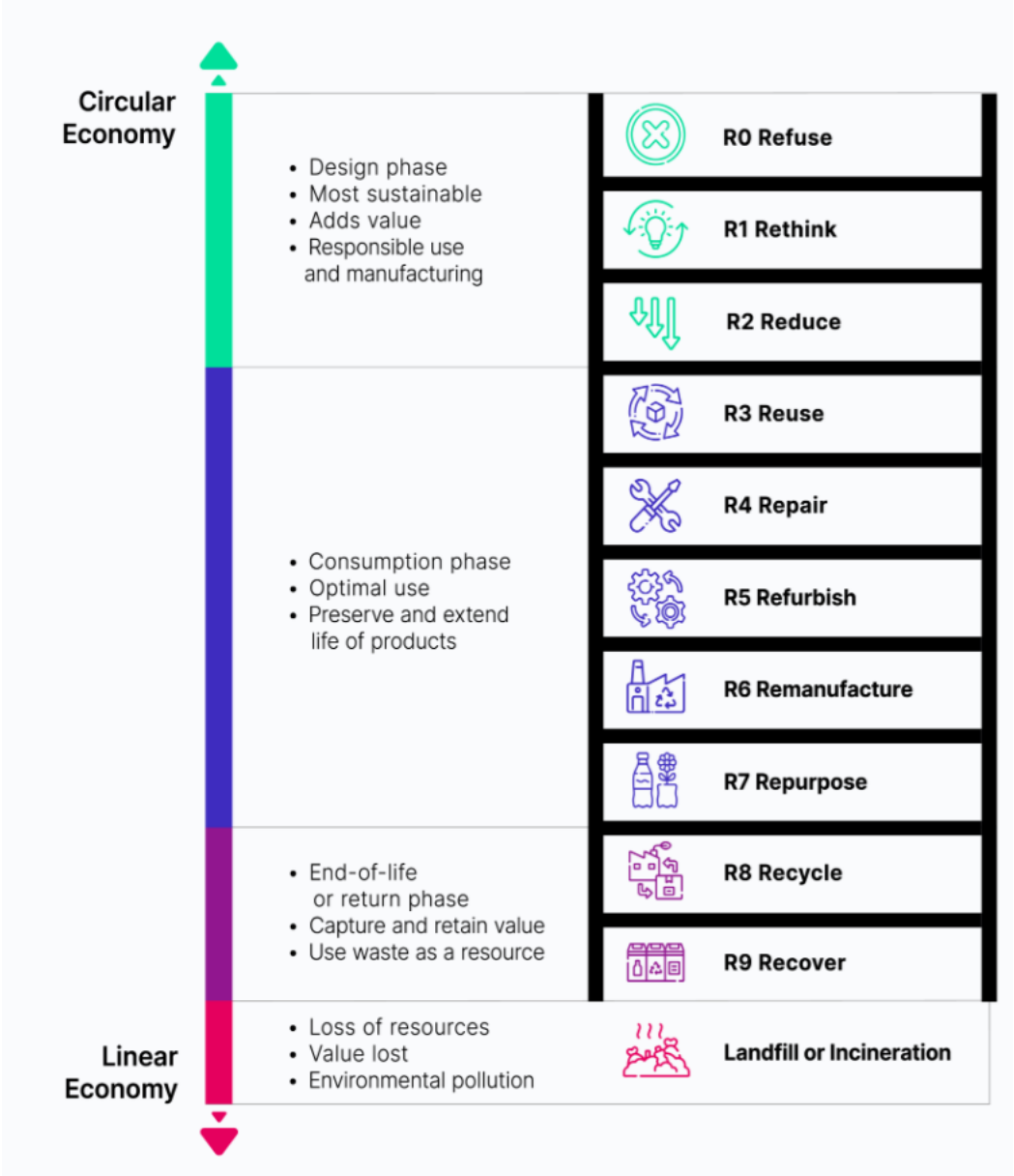
Source: Company files. Financial data have been disguised to protect confidentiality.

EXHIBIT 2: BOLIDT ORANIZATIONAL CHART



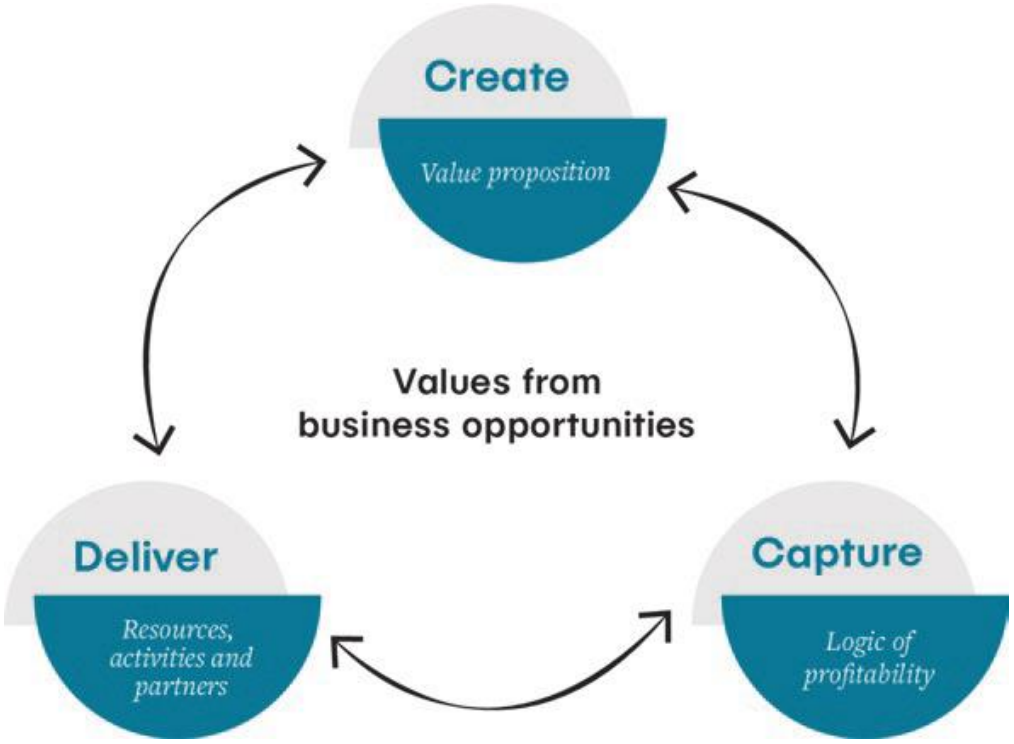
Source: Company files

EXHIBIT 3: R-STRATEGIES



Source: www.circularise.com

EXHIBIT 4: VALUE MECHANISMS



Source: Sveinung Jorgensen & Lars Jacob Tynes Pedersen, Restart sustainable business model innovation, 2018