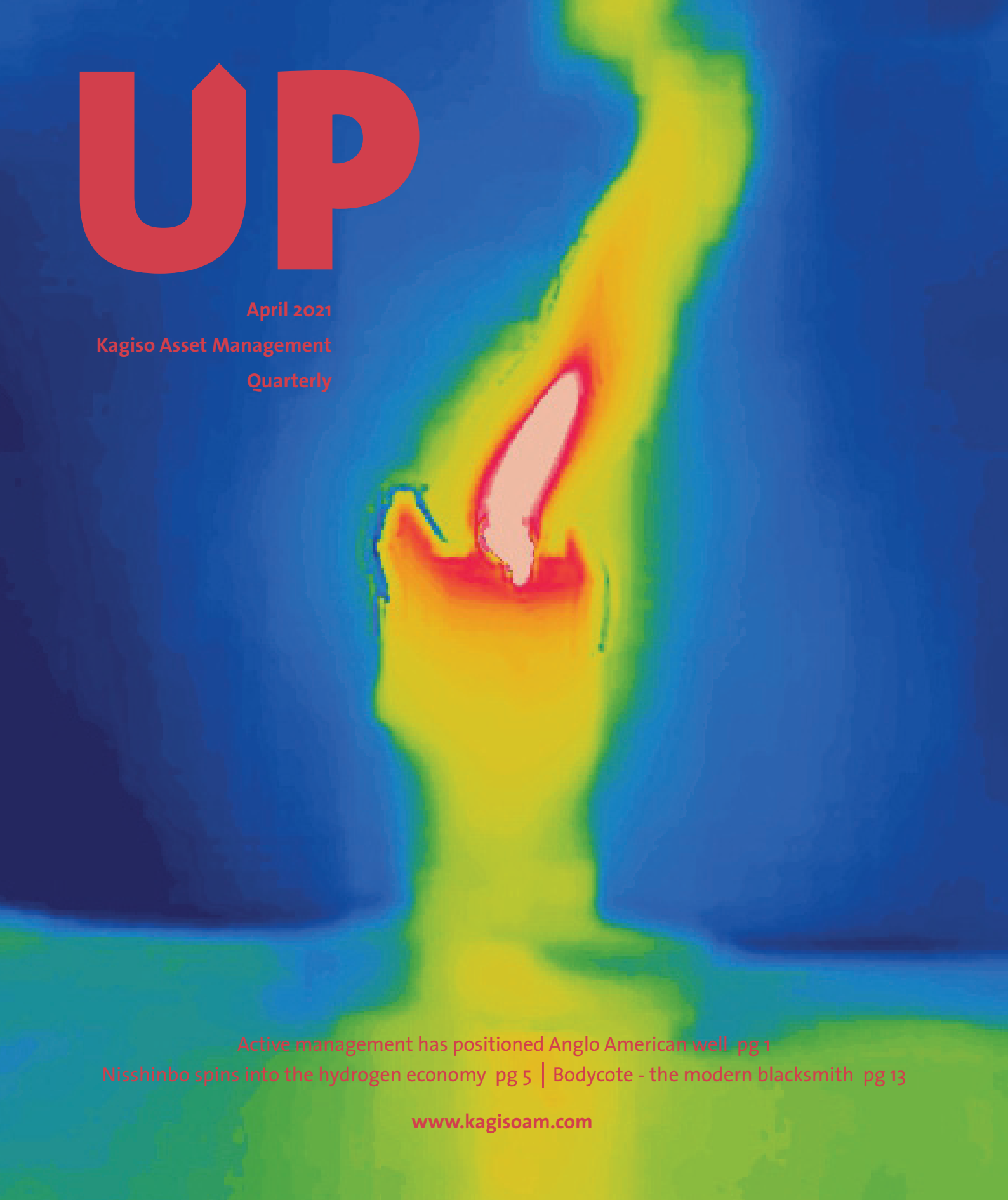
UP

April 2021

Kagiso Asset Management

Quarterly



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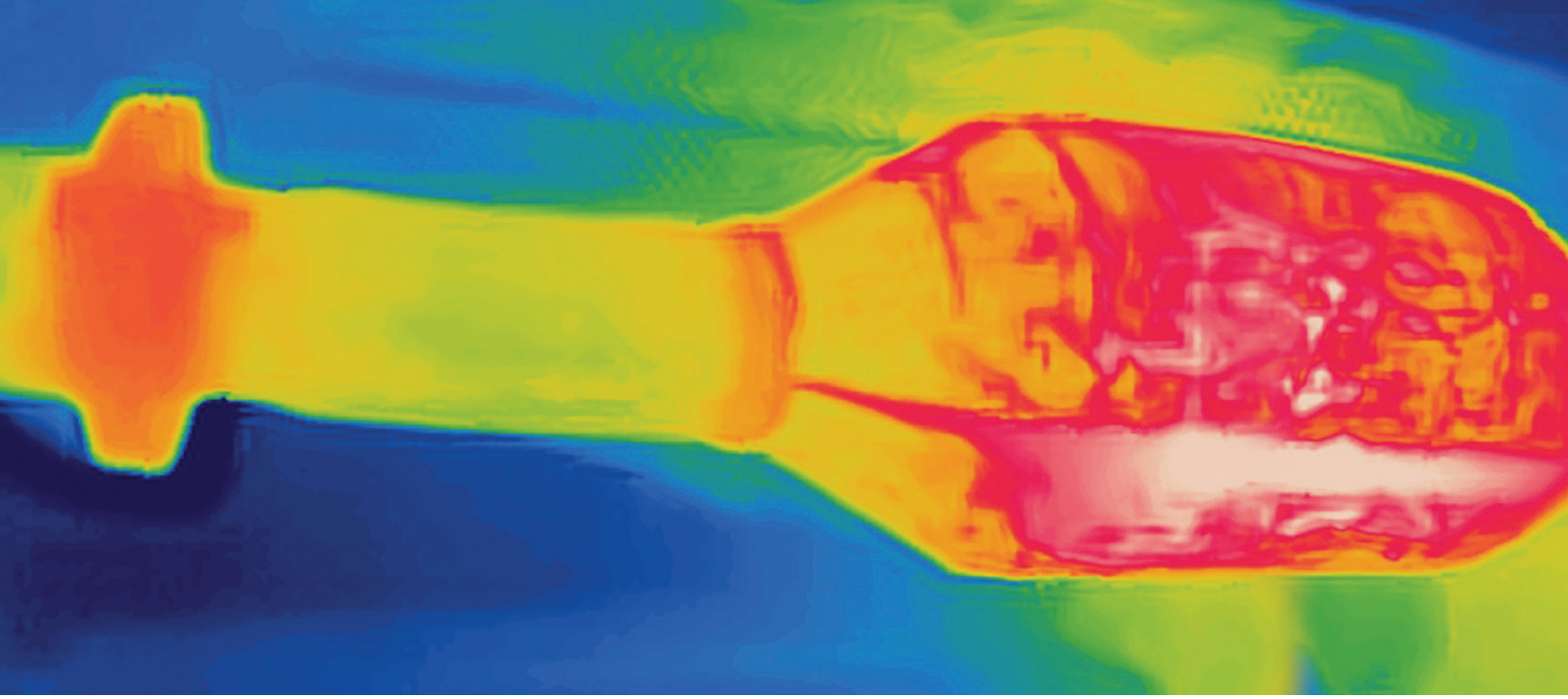
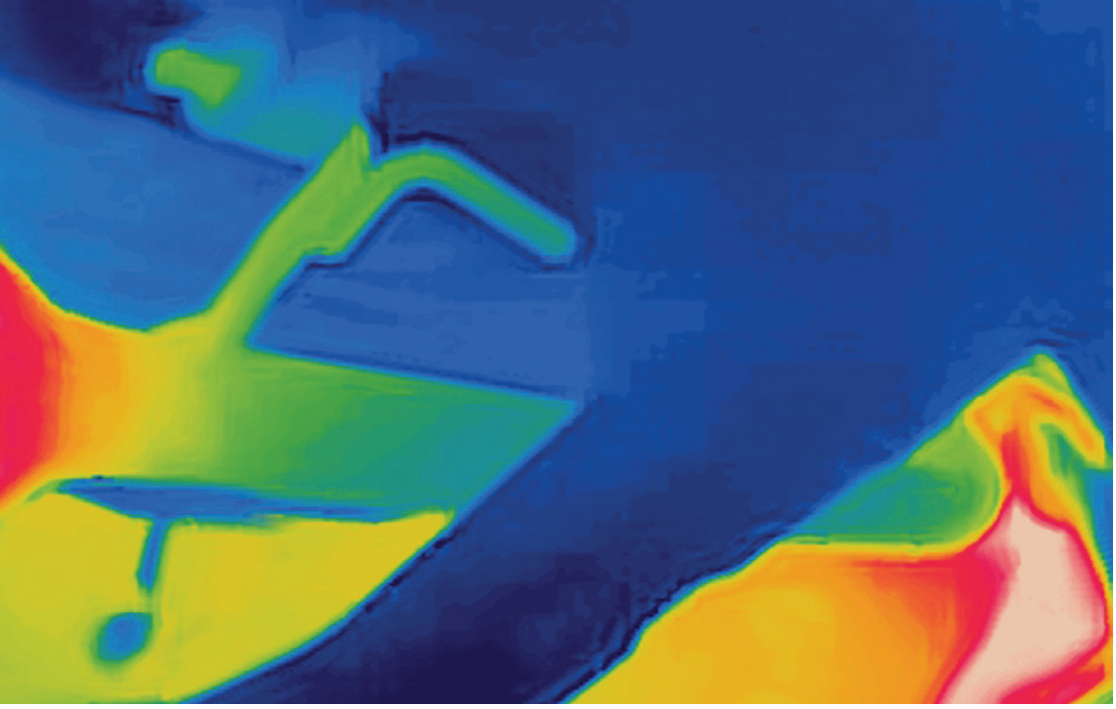




Active management has positioned Anglo American well

Mandi Dungwa - Portfolio Manager

Anglo American (Anglo) is a global mining and minerals processing company, operating in 15 countries, with a diversified commodity portfolio. The company is positioning itself to produce commodities that will aid the transition to a low carbon economy, while meeting the increasing consumption demands of growing economies.

Active management has positioned Anglo American well

Boom to bust prompts strategy shift

Since the beginning of the 21st century, China's rapid industrialisation has led to a surge in demand for most commodities and a consequent increase in commodity prices. This resulted in one of the greatest ever booms in the mining sector, which ended in 2015/16. The high increase in demand over this period prompted mining companies to embark on large new projects and make material acquisitions. The resultant large debt balances they built up placed balance sheets under enormous pressure when commodity prices eventually declined.

Anglo was no exception and faced deep financial trouble. They reacted by changing management and pursuing a new strategy aimed at focusing on emerging long-term trends (ie materials used in a lower emissions world) and reducing their operating footprint by selling off assets or closing operations unless they fitted a low cost, low risk format. The *chart below* presents the current composition of global greenhouse gas emissions.

The Anglo core commodity portfolio

The company's portfolio of high-quality, long-life resources assets includes the following:

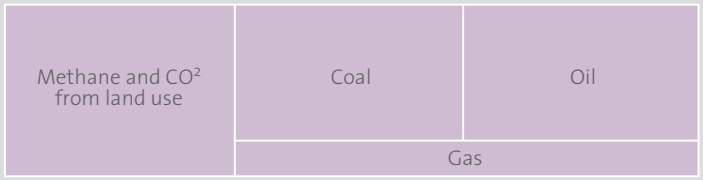
Iron ore is the key ingredient used to make steel, the most widely used of all metals. Anglo's iron ore operations provide customers with a high-grade ore that is primarily used in steel-making blast furnaces. As steel producers in China and elsewhere face tougher emissions legislation and are actively seeking ways to operate their furnaces more cleanly and efficiently, the demand for higher grade (64/67% vs 62% iron content) and higher quality (lump and pellet vs fines) iron ore products - such as those produced by Anglo - increases. Iron ore is integral to infrastructure growth plans, particularly in developing nations, with China being the largest consumer at over 65% of global demand.

The company currently has two iron ore operations: JSE-listed Kumba Iron Ore in South Africa (Anglo has a 69.7% shareholding) and Minas-Rio in Brazil (owned outright by Anglo). Both facilities produce high-grade iron ore, thereby differentiating them from competitors who predominantly produce iron ore of a lower grade (less than 62% iron content). Kumba's lump iron ore commands a premium price, owing to its excellent strength and high iron content (averaging 64% to 65%). Minas-Rio's pellet feed product also commands a premium price due to the ultra-low contaminant levels and high iron content (67%) - particularly sought after by steel producers who seek to minimise emissions while boosting productivity. Competitors typically produce iron ore fines that need to be refined further by steelmakers through a process called sintering, which generates additional carbon emissions.

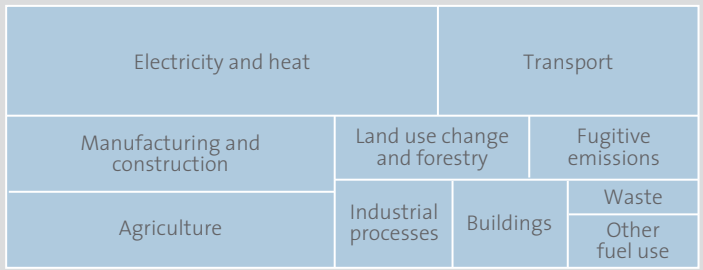
The need to move towards a cleaner, greener, more sustainable world

Global greenhouse gas emissions - 49.4 billions tonnes

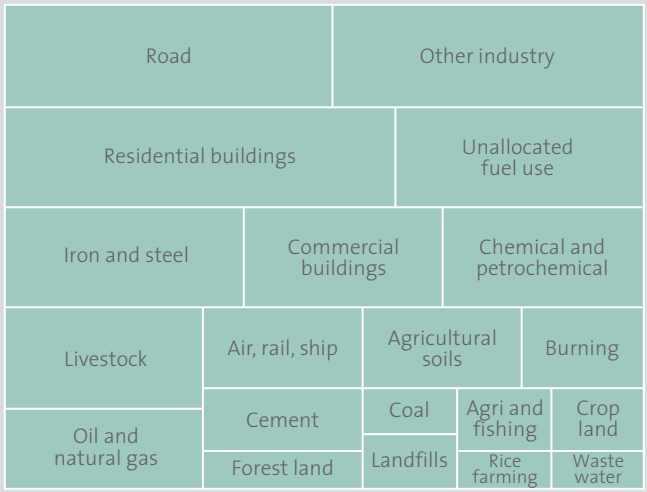
By source:



By sector:



By activity:



Source: Glencore

Copper has unique and varied properties (superior thermal and electrical conductivity, resistance to corrosion, durability, reliability and malleability), making it an essential resource for urban and industrial development. Importantly, it is fast becoming a prominent part of infrastructure planning in the US, China and Europe and is playing a growing role in the global renewable energy mix, centred around renewable electricity.

Copper is an essential input resource in the automotive industry. The batteries in electric vehicles contain three to four times more copper than conventional internal combustion engine batteries and it is also used on inverters, wiring and charging stations. Similarly, the electricity sector constitutes a major area of demand (60% at present) where copper is used for wiring, cabling and connection. 20% of copper is used in construction and, more recently, has been intensively deployed in the building of wind turbines, generators and transformers - all requiring extensive cabling to transfer electricity.

Anglo's copper division is expanding with the development of the Quellaveco mine in Peru, scheduled to start production in 2022 at an expected rate of 300 000 tonnes per annum. Current total copper output is at 640 000 tonnes per annum via two of the world's largest copper mines located in Chile - Los Bronces (a 50.1% Anglo owned and managed operation) and Collahuasi (Anglo has 44% interest in this independently managed joint operation), with reserves for 37 years and 68 years respectively.

Diamonds have long remained an iconic symbol of romance, yet changing consumer preferences and marriage trends are challenging the ongoing stability of the market for these precious stones. Strong growth in the Chinese and Indian markets should, however, continue to offset plateaus or low growth in developed markets where marriage rates are declining. Market leader, De Beers, is Anglo's global diamond business producing around a third of the world's rough diamonds by value - positioning it to benefit accordingly.

The precious basket

Platinum Group Metals (PGMs) are used in an extensive range of applications across the chemical, electrical, medical, glass and petroleum industries.

In the automotive industry they are used in catalytic converters and fuel cell technology. Platinum, palladium and rhodium specifically, enable catalytic converters in conventional vehicles to reduce pollutants from exhaust gases. Consequently, demand for PGMs from this industry is expected to continue to grow, further supported by stricter emissions regulations. Hydrogen fuel cell powered electric vehicles provide a zero-emissions powertrain solution, particularly well-suited to heavy-duty, long-range and fleet vehicles. With increasing focus on the environment, a growing interest in hydrogen fuel cells as an alternative energy source is evident - this technology is platinum intensive.

Platinum is also used in jewellery, the outlook for which remains positive given growing income levels in populous developing countries.

Anglo's PGM business is held through an 80.8% interest in JSE-listed Anglo American Platinum (Amplats) who own and operate five mining assets in South Africa's bushveld complex. This includes Mogalakwena, the world's largest open pit PGM mine and the only operation in the Northern limb of the bushveld with a high composition of base metal content, copper and nickel along with its PGM metals (platinum, palladium, rhodium and others). The rich base metal content makes it a valuable mine - along with being a low risk and lower cost operation.

Other valuable assets

With a growing global population and increasing income levels in developing economies, the demand for fertiliser is intensifying in line with the demand for more food. Sustainable increases in crop yields across a limited amount of arable land will require a greater use of potash fertilisers as a critical element in supporting soil replenishment.

Anglo's **crop nutrient** segment is represented by their recently acquired Woodsmith Project in the UK, situated at the site of the world's largest known deposit of polyhalite[1]. The project will supply premium quality fertiliser certified for organic use, with a low carbon footprint. The *chart on the following page* indicates the expected population and economic growth over

[1] A natural mineral fertiliser product containing potassium, sulphur, magnesium and calcium.

Active management has positioned Anglo American well

the next decade, along with increased urbanisation. This growth will lead to an exponential rise in food demand.

Anglo is the world's third largest producer of **metallurgical coal**, with operations strategically located in Australia, close to growing Asian markets. Metallurgical coal is used primarily in blast-furnace steel making. Roughly 70% of global steel is currently produced using this method and there are no viable substitutes for metallurgical coal in the steelmaking process. The Asia-Pacific region is growing strongly, with consequent high and rising demand for the the steel needed for building and transport infrastructure, housing and machinery.

Ditching dirty assets

Thermal coal constitutes a third of energy production globally and is responsible for a third of the world's carbon dioxide emissions. In line with the shift towards decarbonisation, thermal coal usage will need to be significantly reduced in favour of cleaner energy sources. Anglo has focussed on meaningfully reducing its thermal coal exposure over the last five years, announcing plans to dispose of the remainder of their thermal coal assets over the near term.

Active management pays off

Anglo has been progressively positioning itself to benefit from emerging long-term trends, while creating value for shareholders. In addition, value creation results from the group's focus on technology and operational excellence. Their P101 Programme aims to have operations achieving the highest productivity targets across all processes it undertakes, resulting in marked cost savings since its implementation in 2016. Furthermore, the use of technology such as bulk ore sorting and coarse particle recovery has meaningful cost improvements and productivity gains across its various mines. Anglo management have evidently significantly improved the company over the last five years and its portfolio of assets is poised to deliver meaningful growth and shareholder value. UP

Growing consumer-driven demands of the world

Population growth

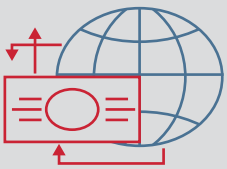
2019
7.7 billion

2030
8.5 billion

... of which urban ...

2019
4.3 billion

2030
5.2 billion

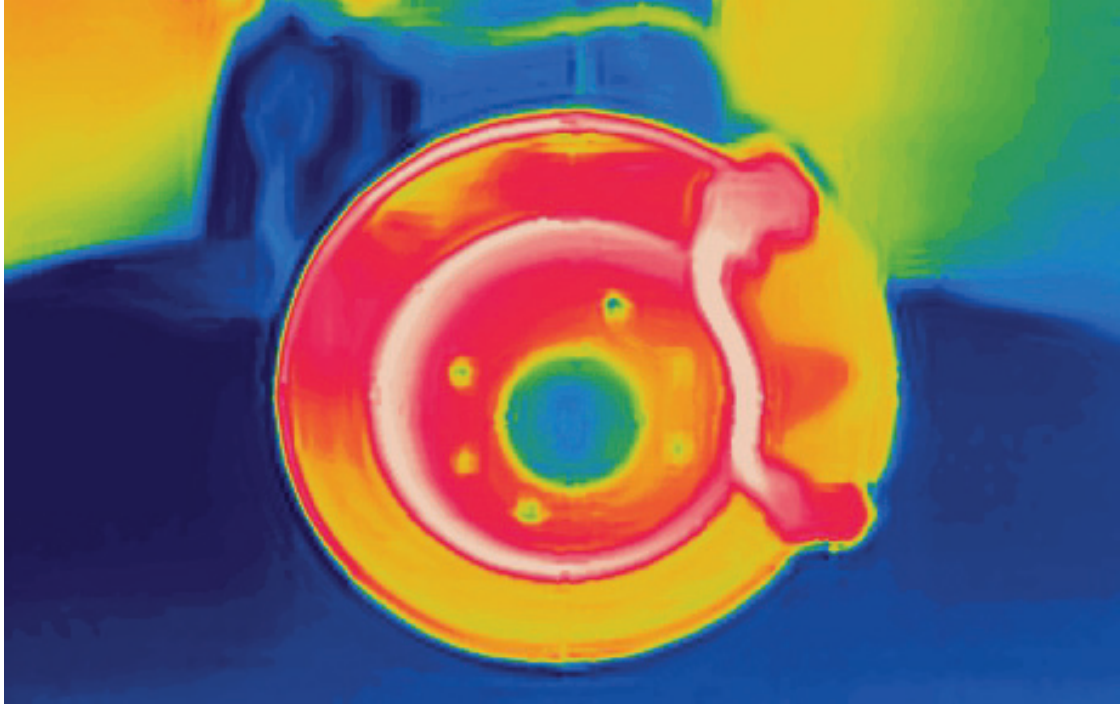


... creates new demand ...
(world GDP nominal US$)

2019
8.8 trillion

2030
152 trillion

Source: UN World Population Prospects 2019, UN World Urbanization Prospects, IMF World Ecomomic Outlook, BHP



Nisshinbo spins into the hydrogen economy

Abdul Davids - Portfolio Manager

Nisshinbo Holdings is a Japanese company founded in 1907 as the Nisshin Cotton Spinning Company - a mass producer of cotton yarn. Today, it comprises a diverse group of businesses including TMD Friction, the leading producer of friction materials for the global automotive brake market, as well as a key supplier into the burgeoning hydrogen fuel cell market.

Nisshinbo spins into the hydrogen economy

The word Nisshin originates from the Sino-Japanese era of the early 1900s where it was widely used in reference to maintaining friendly relations and mutual prosperity through trade ('ni' referring to Japan and 'shin' to China).

Nisshinbo has reinvented itself several times over its 114-year history, all the while aiming to uphold the core objective of creating a sustainable future for the planet and its people. It has grown into a ¥142 trillion ($1.3 billion) market capitalisation business through the harnessing of organic growth opportunities as well as carefully planned acquisitions in the automotive and telecommunications sectors. Despite experiencing substantial economic upheaval over the years (Japan's devastating economic collapse in the late 1980s), Nisshinbo is one of the few Japanese companies that has not ever reported an operating loss.

Transitioning from textiles to automotive brakes

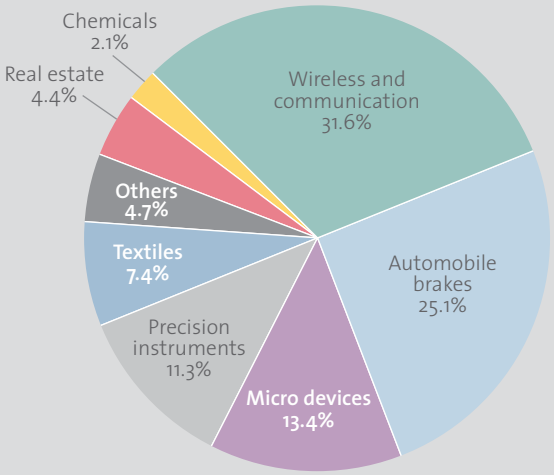
Nisshinbo has focused on diversifying the business since the 1940s, when it became apparent that the cotton spinning industry was set to decline. Most of the company's businesses were started organically, with the automotive sector becoming a key growth area for the group. Together with the selling off of non-core businesses, the most notable transactions of the last decade have included the acquisition of TMD Friction in 2011 and investments into the Japan Radio Company (JRC) between 2016 and 2017. The *left chart below* indicates the current contributions to revenue from its seven business segments.

Key segments include the wireless and communications, micro devices, chemicals (all of which are expected to show robust revenue and earnings growth due to continued product innovation and strong underlying demand) and automobile brakes businesses (expected to recover from the 2020 decline in global vehicle production as the world emerges from Covid-19 constraints).

JRC is a major subsidiary in the **wireless and communications** segment. Founded in 1915, it has been a leading developer of wireless communication products and technology for worldwide satellite broadcasting communications, maritime radar and automotive information management systems among others. It released the world's first GPS receiver for passenger vehicle navigation in 1990. Nisshinbo bought the 38% minority shareholders' interest in JRC in September 2017 for ¥17.9 billion ($157 million).

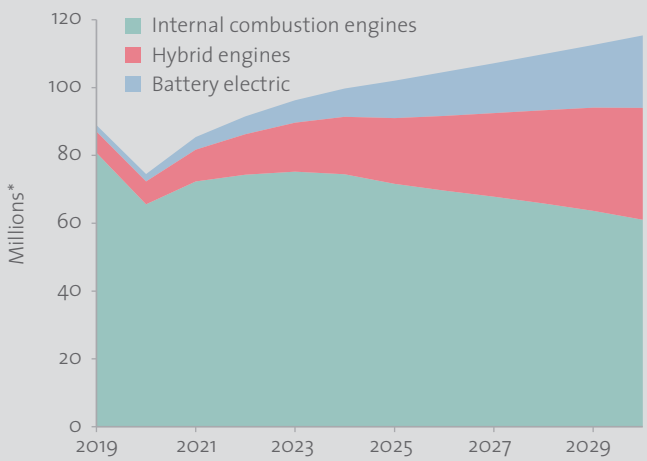
After World War II, Nisshinbo began producing friction materials for **automobile brakes** as an alternative use for its textile spinning technology. Before the war, Japan relied mainly

Nisshinbo revenue split (2020)



Source: company financials

Medium term demand outlook remains robust



*Annual global light duty automotive production
Source: LMC Automotive

on asbestos imports from Canada for braking plates, which was used in all types of machinery. However, geopolitical tensions and a deterioration in international relations with the West forced Japan to look into processing its own asbestos. Nisshinbo entered the brake business by using textile spinning technology to process the domestic supply of asbestos[1] - albeit of a poorer quality.

Nisshinbo's acquisition of the Luxembourg-based TMD Friction Group resulted in the company becoming the world's leading supplier of friction materials for automotive braking systems, with an estimated 20% global market share. Nisshinbo friction materials are fitted to an average of 18 million new cars annually including the Bugatti Veyron - the world's fastest sports car. The brakes business also supplies brake pads to original equipment manufacturers (OEMs) such as Toyota and Volkswagen, and automotive parts retailers.

The Continental Automotive Corporation is a joint venture established by Nisshinbo (with 35% shareholding) and Continental AG - to develop, design, manufacture and sell automobile braking systems in Japan and China.

Nisshinbo has also pioneered a copper-free friction material for brake pads, which is expected to gain significant sales volumes as laws limiting copper content in brake pads come into effect from 2025. The friction materials market size was $11 billion in 2019 and is projected to reach $15 billion by 2026[2]. While the growth in hybrid and battery powered electric vehicles (EVs) is expected to result in a loss of market share by traditional petrol and diesel passenger vehicles, the demand for automotive brakes should continue to grow as annual vehicle production increases (*right chart on previous page*).

The **micro devices** segment comprises New Japan Radio (NJR) and Ricoh - acquired by Nisshinbo in 2018 for a combined price tag of ¥23.9 billion ($219 million).

NJR is a leading supplier of analogue semiconductors for audio, automotive and industrial equipment along with devices that enable wireless communications and the Internet of Things[3]. NJR's integrated circuit products are used in car infotainment, sensors that enable autonomous driving and battery management systems.

Similar to NJR, Ricoh specialises in imaging and electronic devices including small, energy-efficient analogue semiconductors. Bluetooth-enabled headphones and hand-held gaming devices would be key end markets for the micro devices segment. Ricoh's product overlap with NJR prompted Nisshinbo to merge the two businesses in January 2021, which should result in substantial cost savings for the group.

Nisshinbo's hidden assets

Nisshinbo's policy is to buy and hold stakes in companies with which it has existing relationships to strengthen corporate relations. Consequently, the company has amassed a formidable portfolio of listed equity holdings in key customer and supplier businesses such as Toyota Motor Corporation and Hino Motors. The value of this portfolio (excluding subsidiaries and joint ventures) represents approximately 53% of Nisshinbo's market value. The *left table on the following page* highlights some of Nisshinbo's prominent holdings.

Hydrogen fuel cells lead the next phase of growth

While the **chemicals** segment currently generates the smallest revenue for Nisshinbo, it is potentially the most exciting in terms of growth opportunities. Nisshinbo Chemical is developing products with Ballard Power Systems, the world's leading developer and supplier of hydrogen fuel cells for industrial and automotive applications. In 2015, Nisshinbo acquired a 2.5% stake in Ballard for around $6 million. Currently, annual sales for the fuel cell business are at ¥3 billion ($30 million), comprising mainly the Japanese domestic market.

Fuel cells generate electricity through a chemical reaction between hydrogen and oxygen in the air. Nisshinbo develops and manufactures carbon bipolar plates that are one of the main components of proton exchange membrane fuel cells (PEMs) - supplying them to Ballard and OEMs for over 20 years. The growth of these products is linked to the progress of the fuel cell vehicle market, with large vehicle applications (proton exchange membrane fuel cells for buses and trucks) looking especially promising.

[1] The company no longer uses asbestos due to the environmental concerns related to this product.
[2] According to global market insights.
[3] Describes the network of physical objects that are embedded with sensors, software and other technologies for the purposes of connecting and exchanging data with other systems and devices over the internet.

Nisshinbo spins into the hydrogen economy

A sizeable market opportunity

Although the hydrogen fuel cell market is still small, it is expected to grow significantly over the next decade as the world endeavours to reduce carbon emissions. The biggest advantage that fuel cells have over combustion engines, coal plants and nuclear plants is that they do not produce harmful by-products (provided the hydrogen is produced without carbon emissions). Heavy duty trucks and buses are large emitters of carbon, yet standard battery EV solutions are cumbersome and impractical for these vehicles. Hydrogen fuel cells are highly feasible for long-haul routes due to resultant lower electricity costs and higher energy density.

The European Union adopted the 'Green Deal' in 2020 that set a goal of climate neutrality by 2050, with the approval of a 750 billion euro Green Recovery Plan. As *indicated below right*, this includes an ambitious target of 2 250 terawatt hours (TWh) of hydrogen, representing an estimated 24% of total energy demand in Europe by 2050. Additionally, the chart includes 70 TWh of hydrogen fuel cell demand from the transportation industry by 2030, implying the deployment of approximately 45 000 fuel cell powered trucks and buses in Europe over the next nine years.

Ballard's dominant global market share in fuel cell technology and established base of fuel cell powered trucks and buses is a key competitive advantage for this partnership, positioning Ballard and Nisshinbo to benefit from the expected growth in the fuel cell market.

From opacity to outperformance

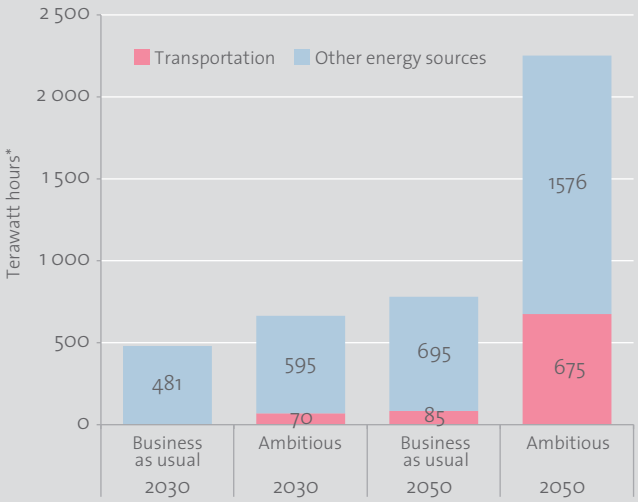
Nisshinbo is an under-researched company with little broker analyst coverage in Japan. However, an impressive track record of innovation and product development is apparent on inspection. The company's well-established research and development expertise coupled with their strategic relationships with leading global industrial companies should begin to pique investors' interest and underpins why we are invested. UP

Nisshinbo share holdings (2019)

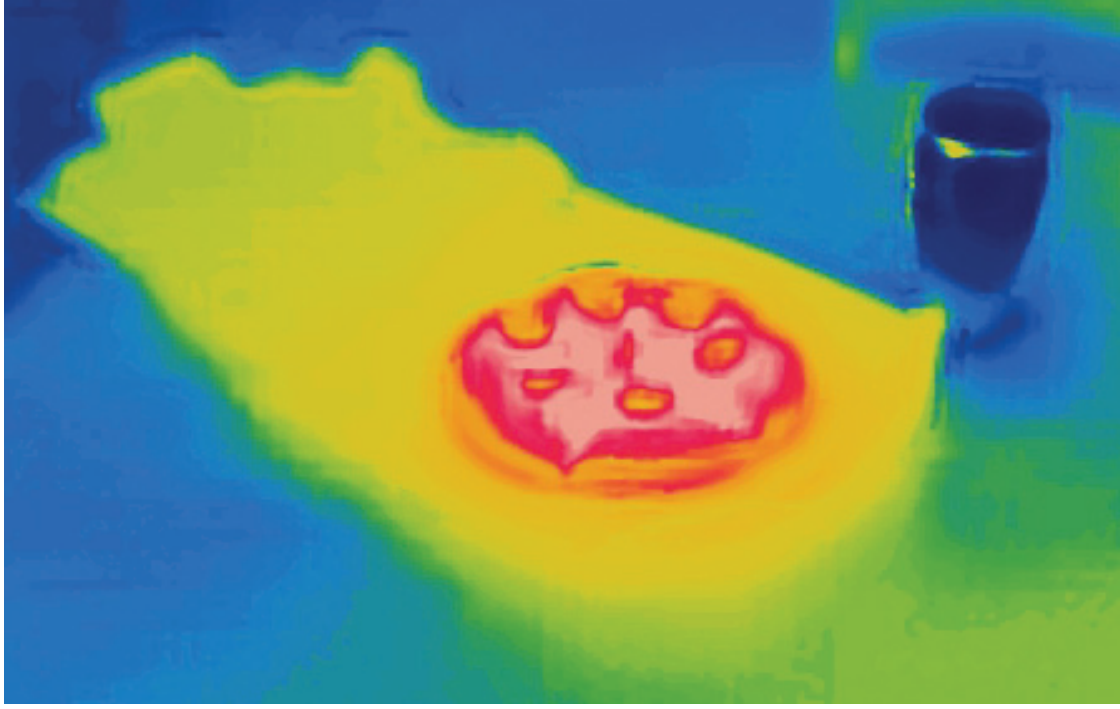
Investments as at 28 February 2021	Japanese yen (millions)	% of total	% of Nisshinbo's market cap
Toyota Motor Corp	37 668	46	25
Ballard Power Systems	9 356	11	6
Saeron Automotive Corp	6 804	8	4
Shikoku Chemicals Corp	6 942	8	5
Hino Motors Ltd	4 352	5	5
Teijin Ltd	3 782	5	2
Japan Wool Textile Co	2 705	3	2
Nisshin Seifun Group	1 853	2	1
Rane Brake Lining Ltd	1 326	2	1
Mizuho Financial Group	1 051	1	1
Other investments	5 981	7	4
Total	**81 821**	**100**	**53**

Source: Nisshinbo annual report

Energy contribution by source



*A terawatt equals a trillion watts. One terawatt hour is a unit of energy equal to one trillion watts in one hour.
Source: The Hydrogen Council



Many more miles to go for food delivery

Aslam Dalvi - Portfolio Manager

The global online food delivery market has grown at an impressive 80% per year since 2018. However, despite rapid growth it is still regarded as an emerging market, with online food delivery accounting for less than 10% of the total food service market (*charted on the next page*).

Many more miles to go for food delivery

Market growth has been spurred on by the obvious convenience of ordering takeout, where the wide range of choice and improved price transparency has resulted in a customer experience far superior to the traditional call-and-collect way of ordering takeout. As geographic coverage expands and broad consumer awareness increases, so the market continues to grow.

The food delivery model is also highly attractive for the restaurant industry, which typically does not have the scale, financial resources, digital marketing capabilities or technical expertise to generate online demand as efficiently as the leading food delivery players.

This large growth opportunity has attracted significant investor capital in recent years, which has resulted in a rapid rise in competition. However, most food delivery platforms are currently loss-making and the ongoing battle to attract customers adds significant uncertainty to the potential evolution of profitability for the sector.

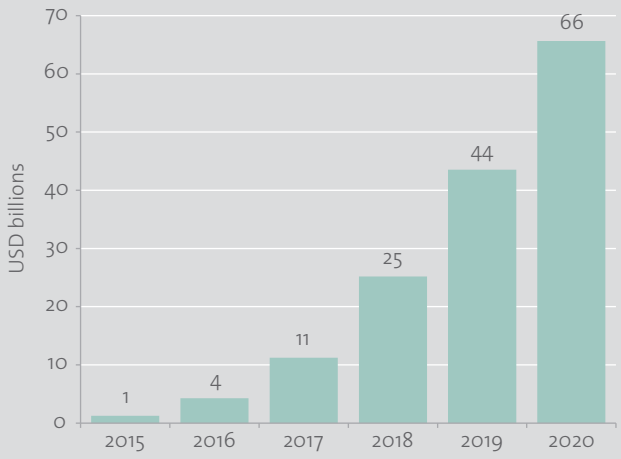
The global online food delivery landscape

While competition is fierce, regional markets tend to be dominated by only a small number of firms, with Uber Eats arguably the only true global player. As *illustrated on the next page*, North America is dominated by Door Dash, Grub Hub and Uber Eats. In Europe, Delivery Hero and Uber Eats lead the pack, while Just Eat Takeaway commands an impressive 50% share of the UK market. Emerging market food delivery companies hold strong positions in their respective markets, including IFood in Brazil, Swiggy and Zomato in India, Food Panda, Go-Jek and Grab in Asia (ex-China). China, however, accounts for a massive 55% share of this market, where Meituan and Ele.me dominate, together commanding around 98% share. With over 500 million users at present, Meituan is the only profitable food delivery player in the world, as it benefits from unmatched scale and several unique market factors including lower customer subsidies, low incentives for drivers and relatively high urban density.

The food delivery model

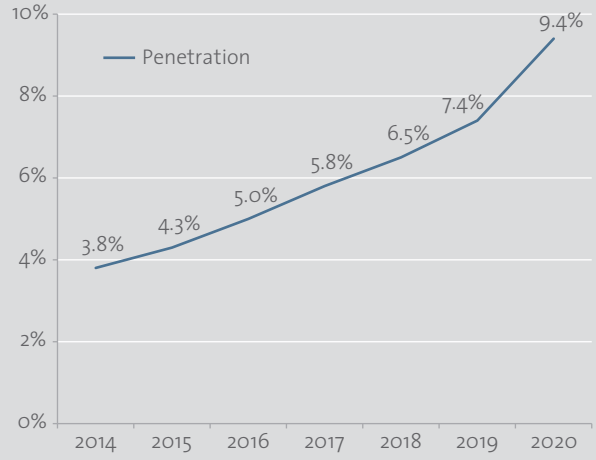
While food delivery is a global business, local market factors evidently affect long-term success and profitability. Like other platform businesses, competitive advantages are established through valuable local network effects: as more customers join a platform, orders increase; growing demand attracts new restaurants that in turn benefit from increased volume; and greater volume and network density provides more earnings opportunities for delivery partners - encouraging more efficient and timely delivery. As a result of a wider choice and a more efficient and reliable delivery network, customers

Online food delivery market revenue



Source: Kagiso Asset Management estimates

Global food delivery penetration*



*Online food delivery penetration is measured by online food delivery sales as a percentage of the overall food service market (food prepared outside the home).
Source: Kagiso Asset Management estimates, Bernstein research

order more frequently and for a broader range of occasions, establishing a virtuous circle that is continuously reinforced to the benefit of all participants within the network.

There are currently two prevalent business models in the online food delivery industry:

- A **marketplace** or **third party (3P) model** is capital light and structured so that the food delivery platform acts as the agent - charging a fee for bringing together buyer and seller. This model is well established with gross margins typically in the 55-65% range.
- The **first party (1P) model** has evolved from the original marketplace model, whereby the delivery platform also provides delivery services for an additional fee. This enables platforms to include many more restaurants and to better control the quality of delivery - directly impacting the user experience.

All food delivery companies are now shifting to a 1P model, however this comes with significantly higher capital investment, which materially changes the underlying economics of the business model.

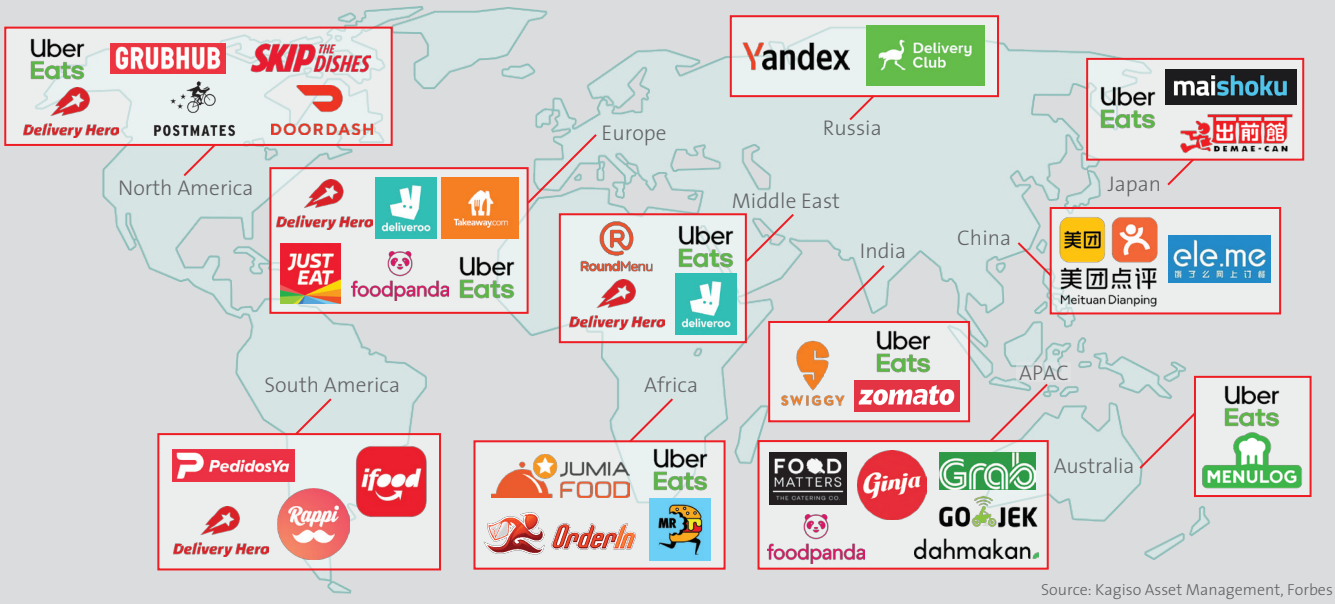
Unpacking the economics

Food delivery platforms generate revenue mostly by charging commission on the order value. Industry commissions (take rates) currently sit at 25-30%, which we believe cannot be raised much more over time as commission is already very high in the context of the gross profit margin for independent restaurants (estimated to be 60-70%).

Key expenses in the fulfilment of an order include customer acquisition costs (vouchers or discounts on meals) and marketing, delivery and payment costs (related to completing the transaction). We estimate most food delivery platforms outside of China are loss making before even accounting for indirect costs (ie operational overheads, central marketing and funding). See *chart on following page*.

Ideally, the platform will scale over time, generating much higher revenue at only a small incremental increase in costs. However, it is problematic that a large proportion of costs are variable and will, therefore, grow as the volume of orders increase. Delivery fees remain a primary fixed cost item, but it is unclear whether this can be sufficiently reduced with scale, given the point-to-point nature of the delivery service that is generally quite inefficient. For example, a typical food delivery driver travels the same route several times a day, utilisation of the delivery network is low outside of mealtimes and the small size of the vehicles used places a limit on the number of orders that can be delivered per trip.

Global food delivery landscape



Source: Kagiso Asset Management, Forbes

Many more miles to go for food delivery

Generating sufficient fixed cost leverage is challenging and large global delivery/logistics companies eke out very slim margins despite achieving significant efficiency from well-established hub and spoke delivery models[1].

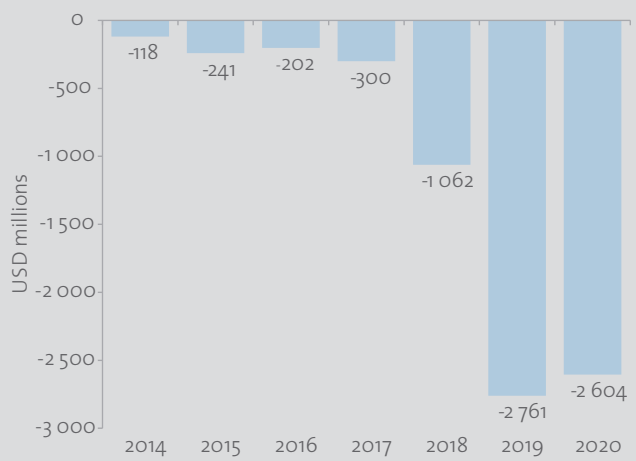
Long-term success factors

Due to the hyperlocal nature of food delivery models, there are often several market specific factors that can have a large impact on profitability. Tipping culture, customer price elasticity to delivery fees, traffic congestion and weather are just a few examples of these. Common factors that we believe are critical to long-term success include:

- **Demographics and urban density:** Urban density is a key driver of profitability and the economics of delivery is likely to be better in countries where a significant proportion of the population reside in a few large cities or close together.
- **Low competitive intensity:** The cost of acquiring new customers is lower in less competitive markets as less marketing spend is required to attract new customers and keep existing customers on the platform. Scale is not as costly to achieve as the pool of potential customers are divided between fewer players. Furthermore, better scale leads to improved pricing power (ie higher commission rates) and thus, better economics.
- **Flexible labour laws:** Ridesharing and food delivery business models have become heavily reliant on the so-called "gig economy", referring to the trend of hiring contractors, freelancers, contingent workers and other similar roles instead of traditional full-time workers. This benefits fast growing companies through lower labour costs and increased labour flexibility. Delivery models are more likely to succeed where labour laws remain flexible but there is a growing risk that governments and regulators will intervene to ensure workers are better protected and receive equivalent benefits to permanent staff.

[1] These models avoid route duplication and allow for optimal scheduling/efficient transit routing and high asset utilisation

Food delivery profits (excluding China)



Source: AFS for Delivery Hero, Uber Eats, Just Eat, Takeaway.com, Door Dash, Prosus Food Delivery

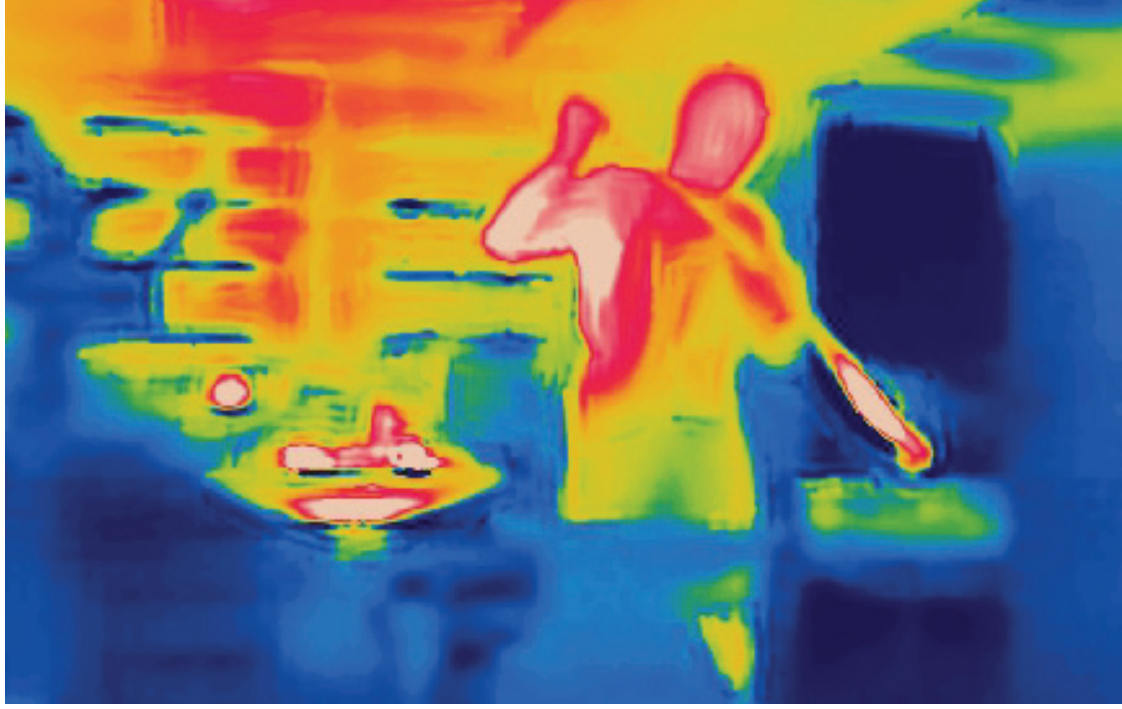
Evolving models encourage novel thinking

The recent introduction of "dark kitchens" is evidence that food delivery models are evolving and they are a small but growing addition to many delivery business models. Dark kitchens are fully equipped commercial kitchens created solely with the aim of fulfilling online delivery service orders. They are often built using prefabricated structures or shipping containers, which are quick to set up and allow food delivery companies to easily grow supply in under-served areas with good demand. Delivery platforms are adept at capturing user data and the use of algorithms enable them to accurately match newly created supply to current customer demand.

The online delivery platform often incurs the upfront cost of setting up these kitchen facilities and, typically, multiple restaurants operate out of a single dark kitchen, with each restaurant employing its own staff and managing its own operating costs (generally far lower than a traditional restaurant). This allows for lower meal prices, in turn improving affordability and further stimulating demand.

Possibly a long road ahead

While the potential growth opportunity for online food delivery platforms is exciting, we remain cautious given the uncertainty around the longer-term profit evolution of 1P food delivery business models. In our view, profitability is likely to vary significantly by market due to the impact of unique factors on the overall economics of delivery. Additionally, given the nascent stage of these business models, investors should be prepared for many years of material investment ahead. Our clients have exposure to these businesses via our Prosus and Naspers holdings. UP



Bodycote - the modern blacksmith

Edward Mtsweni - Associate Analyst

Founded in the UK in 1923 as a consumer textiles manufacturer, Bodycote was specialising in bulletproof and flame retardant clothing by the 1970s. The flood of cheap textiles from the Asian market in the 1980s accelerated their move away from textiles and into heat treatment services - through organic growth and careful acquisitions within a very fragmented and localised industry.

Bodycote - the modern blacksmith

The 2001 acquisition of the Lindberg Corporation (the biggest heat treatment provider in the US) entrenched Bodycote as having the largest integrated network of thermal processing sites - the scale and efficiency of which has improved further since. We discuss Bodycote's key specialist technologies and the strategic actions that have set them apart from competitors.

A valuable link in the chain

Thermal processing services have always been an essential part of production across many industries, yet much of our understanding of how the properties of metal can be altered has arisen from developments only over the last 200 years.

Bodycote has endeavoured to remain at the forefront of technological advancements within the heat services field and acts as a key link in the manufacturing chain. Their expertise is applied mid-process to strengthen clients' product components, with a minimal cost for services rendered compared to the value add, as final product quality is heavily reliant on their specialist applications.

Bodycote primarily services multinationals in the automotive, aerospace and defence, energy and general industrial end-markets. Their thermal processing services are centred around two key technologies:

Classical Heat Treatment (CHT) involves the controlled heating and cooling of metals by industrial furnaces to alter the microstructure of a component, thereby increasing wear resistance and providing protection against corrosion. CHT is a critical part of the production process used in the manufacturing of a multitude of products - from seat belt buckles to turbine blades. The current value of the global CHT market exceeds £20 billion per annum and Bodycote is the largest independent service provider in this market, with three times the market share of its nearest competitor. Less than 20% of the market is processed by sub-contractors such as Bodycote, with the balance handled by manufacturers' in-house capacity.

Specialist Technologies (ST) comprises a range of six early-phase, highly differentiated processes that exist within a fragmented market (four are unique to Bodycote, two are substitutes for CHT). Of the specialist technologies *tabled below,* Hot Isostatic Pressing (HIP) and Specialty Stainless Steel Processing (S3P) are the most prominent for Bodycote, as can be seen by recent contributions to revenue and operating profit as *charted on the following page*.

Specialist technologies are the growth engine

The global ST market is currently valued at £5 billion and forecast to grow by 8% per annum in the coming years due

Bodycote's specialty heat treatments according to degree of competitive advantage

Degree of competitive advantage

Specialty heat treatment	Description
Hot Isostatic Pressing	Combines very high temperatures and pressure to eliminate porosity in castings and bond dissimilar technologies
Specialty Stainless Steel Processing	Offers unique surface hardening solutions for stainless steel and nickel-based alloys, producing increased mechanical and wear properties without adversely affecting resistance to corrosion
Surface Technology	Specialised (ceramic) coatings used to prolong working life of components
Low Pressure Carburising	Case hardening process carried out in a vacuum furnace using hydrocarbon gases at very low pressure and elevated temperatures to obtain a hardened surface layer and tough core
HIP Powdered	Specialist techniques using metal powders together with heat treatment processes to 3D print high integrity metal components
Corr-I-Dur®	Improves corrosion resistance and wear properties and is primarily used as an environmentally friendly substitute for hard chrome

Technology specific to Bodycote | Technology specific to Bodycote but acquired via Ellison acquisition | High

Source: Kagiso Asset Management research

to increasing demand, particularly from the aerospace and automotive end-markets.

There are significant barriers to entry in the aviation industry (quality certification and insurance) for smaller players and Bodycote's size is therefore advantageous. This is further strengthened through their recent acquisition of US-based Ellison Technologies that offers complementary specialist technologies in thermal and engineered surface spraying. Although hindered by the Covid-19 depression of the travel market, considerable changes in the aerospace market are creating opportunities for Bodycote.

The use of specialty heat treatment technologies in the automotive market has been buoyed by the current rapid transition from traditional Internal Combustible Engines (ICEs) to Hybrid Electric Vehicles (HEVs) and, eventually, Battery Electric Vehicles (BEVs). Bodycote's current ICE heat treatment exposure is relatively low (10% of group revenues) and encompasses the classical heat treatment of products such as gears and air bag components, whereas high volume, high surface area products like doors and bonnets are handled in-house by OEMs (original equipment manufacturers). HEVs have more complex drivetrains than ICE vehicles, creating more opportunities for specialty heat treatment due to increased needs for thinner, lighter components built with higher tolerances. This presents another attractive opportunity for Bodycote, which should significantly outweigh losses from the inevitable decline of ICE vehicles.

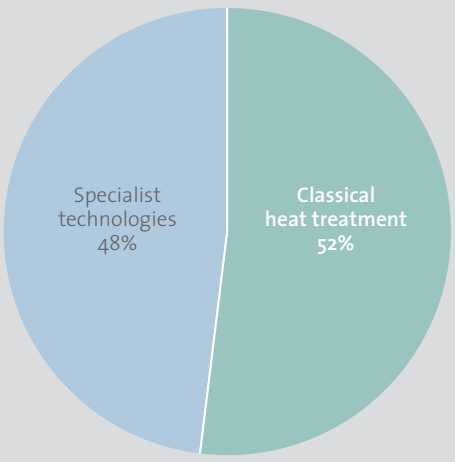
A winning network allows furnaces to stay fuller for longer

Bodycote's extensive facilities network is one of their strongest strategic advantages - boosting economies of scale and particularly benefitting logistics and equipment utilisation (as *illustrated on the next page*):

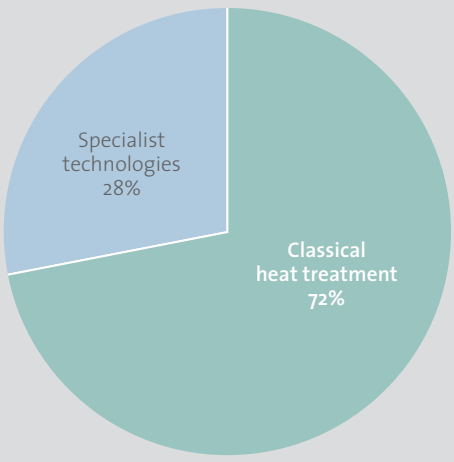
- Bodycote's facilities are linked by trucking routes, where a single facility focusses on one technology in particular - continuously sourcing smaller batches from the catchment area of its sister facilities in the network (within a 100 km radius). In contrast, most competitors operate from only one facility having to offer a full range of services under one roof, typically causing inefficiency. Bodycote can therefore compete in this very fragmented market, which together with capabilities in specialist technologies, allows them to increasingly win business from OEMs themselves - in higher value-added work segments.
- OEMs perform a large amount of the global heat treatment services in-house, where they have the scale to ensure high-capacity utilisation in their facilities (ie in large surface area, high volume components like car doors or where the heat treatment is an inherent part of the manufacturing process).

Bodycote's segmental contribution to revenue and operating profit (2020)

Operating profit £53 million*



Revenue from operations £598 million



*Impacted by Covid-19, the normal level is at approximately £130 million
Source: company presentations

Bodycote - the modern blacksmith

- While OEMs are better positioned to manage higher volume runs - achieving better returns and benefitting from automation - Bodycote thrives on more complex runs that require skilled labour. Being able to simultaneously handle more of these complicated runs for a number of OEMs enables higher capacity utilisation (furnaces are full for longer) and, therefore, excellent margins.

Additionally, Bodycote's high capacity utilisation for certain treatments means that carbon dioxide emissions per treated product are often lower than they would be for the OEMs on an in-house basis.

Past challenges support future solutions

As the only global thermal processing service provider in an extremely fragmented market, Bodycote operates across 23 countries with an extensive network of more than 165 facilities (the closest competitor has three facilities) - each generating approximately £4 million in revenue. The business has high fixed costs [primarily skilled labour (40%), and utility and gasses (20%)] and holds low levels of its own inventory - rather applying value added services to customer's work in progress material. In past downcycles, this has proven to have had a levered effect when customer volumes drop sharply, as Bodycote experiences a more pronounced cash flow decline than its customers (who can run down their inventories).

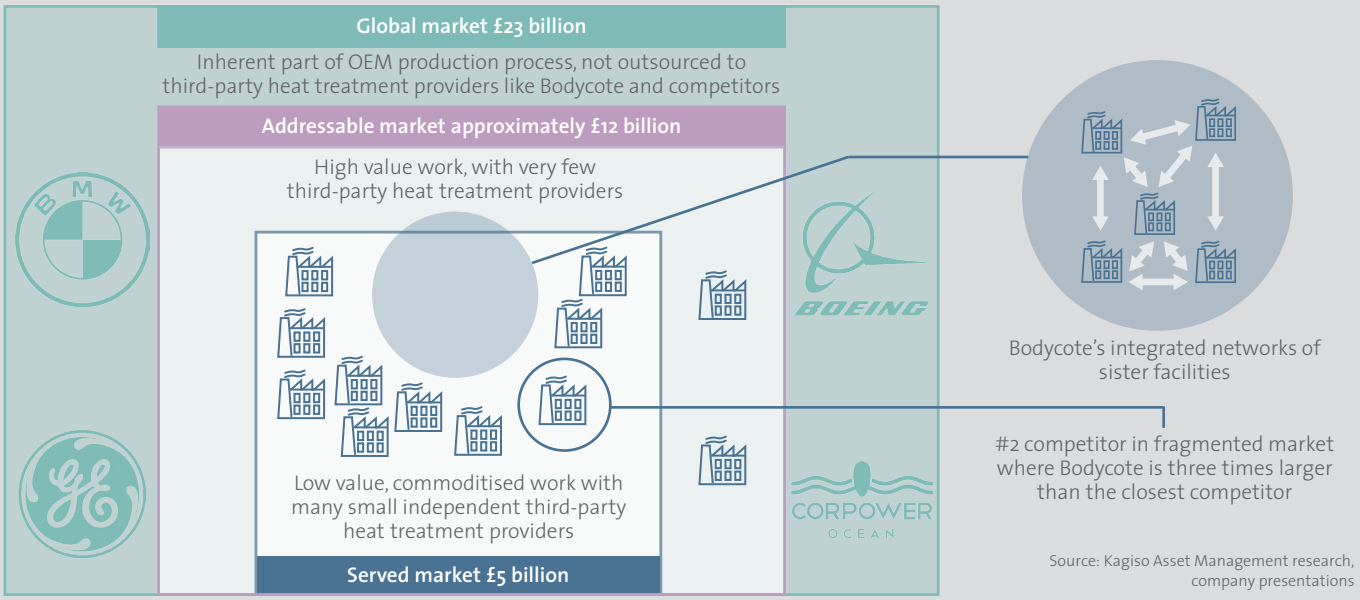
Since the financial crisis in 2009, the company has worked hard at controlling costs through carefully engineering large degrees of flexibility in labour and site costs. The management team's focus on cost restructuring resulted in a reduction of the employee base by a staggering 5 000 members (representing 45% of the total labour force) and the subsequent doubling of productivity measures (ie revenue per employee). They have also sought to increase the number of temporary employees (to 15% of the total labour force).

A winning network of sister facilities also provides a useful opportunity to scale down sites when necessary, in a way that concentrates certain production types at single sites to preserve profitability. This flexibility was evident during the Covid-19 hard lockdowns, where the company materially outperformed its own previous crises track record and smaller competitors - boding well for future market share gains.

Difficult to replicate with growing competitive advantages

The ability to add value to metal makes heat treatment an integral link in manufacturing processes. An ever-strengthening network of sites and increasing leadership in fast growing specialist heat treatment applications, means that this modern blacksmith should continue to forge ahead. As such, our client portfolios have exposure to this unique long-term investment opportunity. UP

Bodycote is well positioned for growth



Source: Kagiso Asset Management research, company presentations

Kagiso Asset Management Funds

Performance to 31 March 2021	1 year	3 years[1]	5 years[1]	10 years[1]	Since launch[1]	Launch	TER[2]	TC[3]
Unit trust funds[4]								
Equity Alpha Fund	73.3%	15.8%	11.3%	10.7%	16.4%	Apr-04	2.01%	0.51%
SA Equity General funds mean	48.7%	5.7%	4.6%	8.1%	12.2%			
Outperformance	24.6%	10.1%	6.7%	2.6%	4.2%			
Balanced Fund	43.0%	11.7%	9.4%	-	9.6%	May-11	1.61%	0.43%
SA Multi Asset High Equity funds mean	30.7%	7.3%	5.5%		8.4%			
Outperformance	12.3%	4.4%	3.9%		1.2%			
Protector Fund	36.3%	11.2%	9.3%	7.6%	9.9%	Dec-02	1.60%	0.35%
CPI + 4%	7.1%	7.9%	8.7%	9.7%	10.2%			
Outperformance	29.2%	3.3%	0.6%	-2.1%	-0.3%			
Stable Fund	21.7%	8.4%	7.8%	-	7.9%	May-11	1.53%	0.46%
CPI + 2%	5.2%	5.9%	6.2%		5.8%			
Outperformance	16.5%	2.5%	1.6%		2.1%			
Global Equity Feeder Fund#	43.3%	-	-	-	13.1%	Nov-19	2.86%	0.35%
FTSE World Index (ZAR)[8]	27.2%				17.2%			
Outperformance	16.1%				-4.1%			
Institutional funds[5]								
Managed Equity Fund*	72.1%	14.5%	10.4%	10.4%	12.0%	Sep-06		
FTSE/JSE Capped SWIX Index	54.2%	5.3%	5.4%	10.3%	11.0%			
Outperformance	17.9%	9.2%	5.0%	0.1%	1.0%			
Domestic Balanced Fund	50.6%	12.7%	10.4%	9.1%	9.1%	May-07		
Peer median[6]	35.9%	5.1%	6.0%	8.9%	8.7%			
Outperformance	14.7%	7.6%	4.4%	0.2%	0.4%			
Global Balanced Fund	45.3%	13.4%	10.8%	-	10.5%	Jul-13		
Peer median[7]	31.8%	8.2%	6.9%		9.1%			
Outperformance	13.5%	5.2%	3.9%		1.4%			
Bond Fund	14.5%	5.7%	-	-	8.1%	Aug-15		
BESA All Bond Index	17.0%	5.5%			7.6%			
Outperformance	-2.5%	0.2%			0.5%			
Money Market Fund	5.8%	7.5%	7.9%	7.1%	7.8%	Jan-04		
Alexander Forbes STeFI Composite Index	4.6%	6.3%	6.8%	6.3%	7.2%			
Outperformance	1.2%	1.2%	1.1%	0.8%	0.6%			
Sharia unit trust funds[4]								
Islamic Equity Fund	57.7%	11.9%	10.6%	9.1%	11.5%	Jul-09	1.55%	0.22%
SA Equity General funds mean	48.7%	5.7%	4.6%	8.1%	10.2%			
Outperformance	9.0%	6.2%	6.0%	1.0%	1.3%			
Islamic Balanced Fund	43.2%	11.4%	9.2%	-	8.1%	May-11	1.55%	0.15%
SA Multi Asset High Equity funds mean	30.7%	7.3%	5.5%		8.4%			
Outperformance	12.5%	4.1%	3.7%		-0.3%			
Islamic High Yield Fund#	13.8%	-	-	-	7.3%	Mar-19	0.57%	0.03%
Short-term Fixed Interest Index (STeFI)	4.6%				6.0%			
Outperformance	9.2%				1.3%			
Islamic Global Equity Feeder Fund#	27.0%			-	14.9%	Jan-19	2.42%	0.18%
Global Equity General funds mean	27.0%	-	-		22.2%			
Outperformance	0.0%				-7.3%			

Highest and lowest monthly fund performance	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest
Equity Alpha Fund	12.6%	-1.7%	12.6%	-21.6%	12.6%	-21.6%	12.6%	-21.6%	12.6%	-21.6%
Balanced Fund	9.1%	-1.0%	9.1%	-15.7%	9.1%	-15.7%	-	-	9.1%	-15.7%
Protector Fund	7.4%	-0.4%	7.4%	-13.9%	7.4%	-13.9%	7.4%	-13.9%	9.5%	-13.9%
Stable Fund	6.1%	-1.7%	6.1%	-11.4%	6.1%	-11.4%	-	-	6.1%	-11.4%
Global Equity Feeder Fund	18.1%	-6.6%	-	-	-	-	-	-	18.1%	-15.6%
Islamic Equity Fund	9.6%	-1.4%	9.6%	-14.3%	9.6%	-14.3%	9.6%	-14.3%	9.6%	-14.3%
Islamic Balanced Fund	8.0%	-1.1%	8.0%	-9.3%	8.0%	-9.3%	-	-	8.2%	-9.3%
Islamic High Yield Fund	2.7%	0.1%	-	-	-	-	-	-	2.7%	-2.4%
Islamic Global Equity Feeder Fund	14.6%	-4.9%	-	-	-	-	-	-	14.6%	-8.4%

Footnotes and disclaimer follow overleaf.

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Footnote: [1] Annualised (ie the average annual return over the given time period); [2] TER (total expense ratio) = % of average NAV of portfolio incurred as charges, levies and fees in the management of the portfolio for the rolling three-year period to 31 March 2021; [3] Transaction costs (TC) are unavoidable costs incurred in administering the financial products offered by Kagiso Collective Investments and impact financial product returns. It should not be considered in isolation as returns may be impacted by many other factors over time including market returns, the type of financial product, the investment decisions of the investment manager and the TER. This is also calculated on the rolling three-year period to 31 March 2021; # over 12 months to 31 March 2021. [4] Source: Morningstar; net of all costs incurred within the fund and measured using NAV prices with income distributions reinvested; [5] Source: Kagiso Asset Management; gross of management fees; [6] Median return of Alexander Forbes SA Manager Watch: BIV Survey; [7] Median return of Alexander Forbes Global Large Manager Watch; [8] Benchmark changed with effect from 1 January 2021 from "Average performance in Global Equity unit trust universe".

* Our two Managed Equity composites have been amalgamated with immediate effect. The history of Managed Equity (SWIX) has been maintained and the benchmark changed to Capped SWIX with effect from 1 July 2019. In future, therefore, we have just one Managed Equity composite with a Capped SWIX benchmark. This change has been implemented after consultation with our GIPS auditors, and therefore our composites will continue to be GIPS verified going forward.