OUTCOMES BEYOND PERFORMANCE

HERMES IMPACT OPPORTUNITIES FUND

Quarterly Impact Report

Hermes Investment Management
Q3 2018

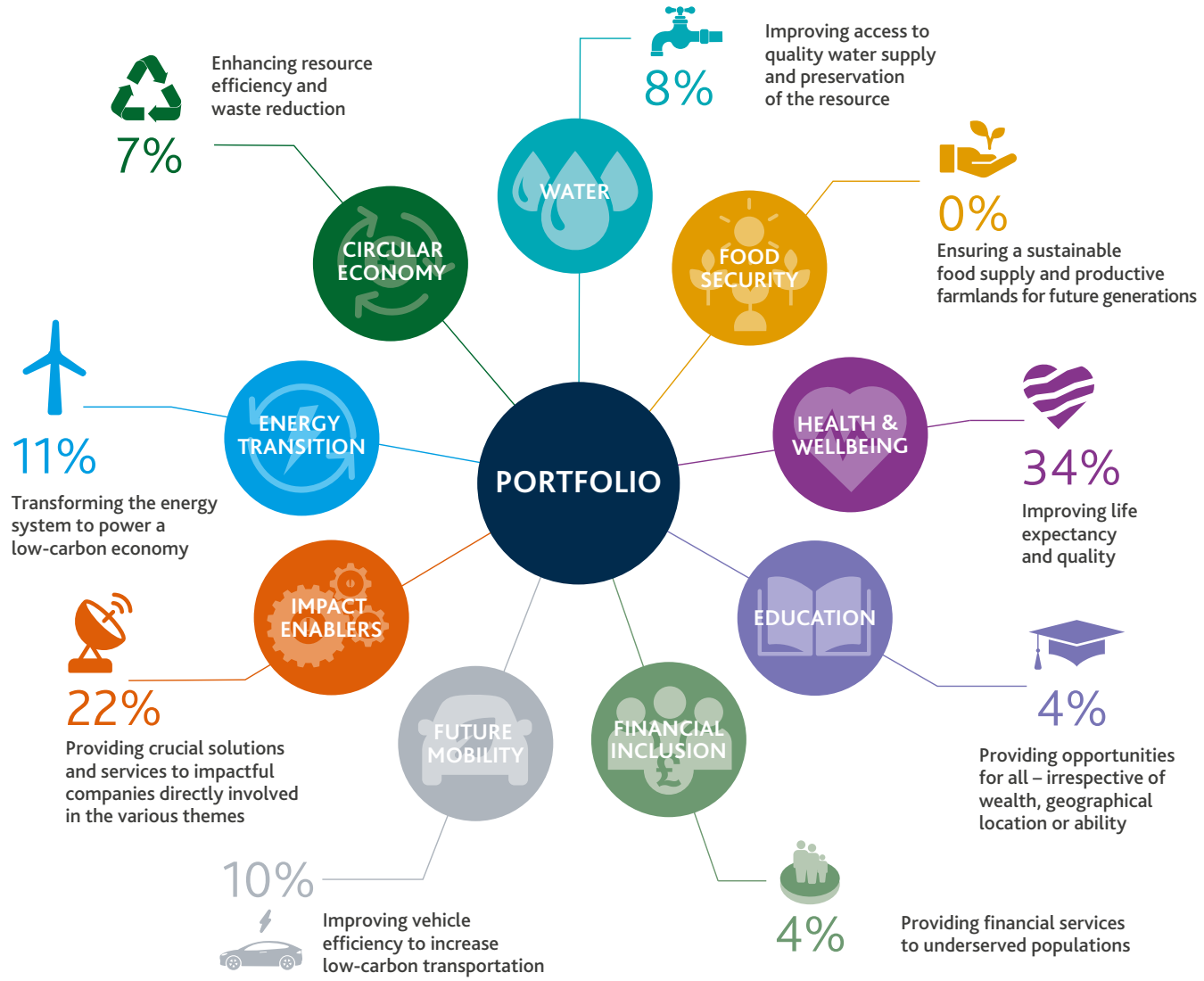
For professional investors only

www.hermes-investment.com

HERMES
INVESTMENT MANAGEMENT

The Hermes Impact Opportunities Fund is a high-conviction global equity strategy with a bold objective. It aims to generate long-term outperformance by investing in companies succeeding in their core purpose: to generate value by creating positive and sustainable change that addresses the underserved needs of society and the environment. In this way, it focuses on tomorrow's leading companies, today.

EXPOSURE BY IMPACT THEME

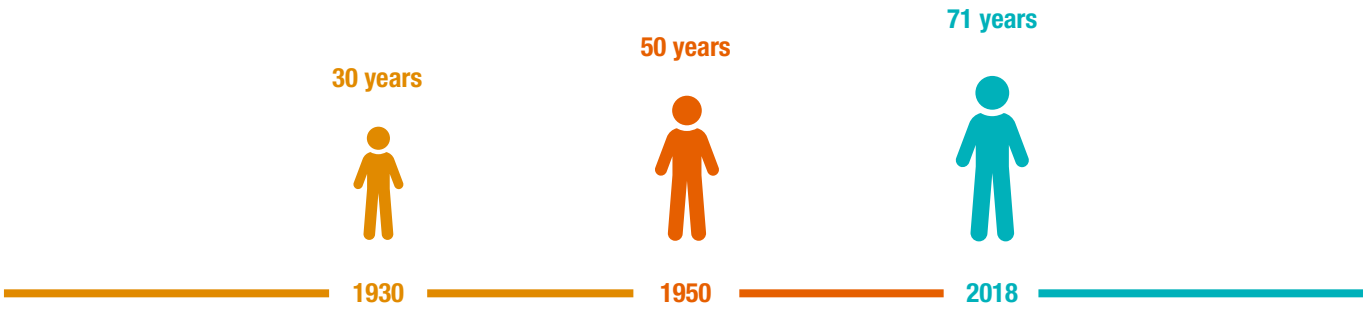


Source: Hermes as at 30 September 2018.

THEMATIC FOCUS: HEALTH AND WELLBEING

Improving life expectancy and quality

1 Worldwide, life expectancy is on the rise



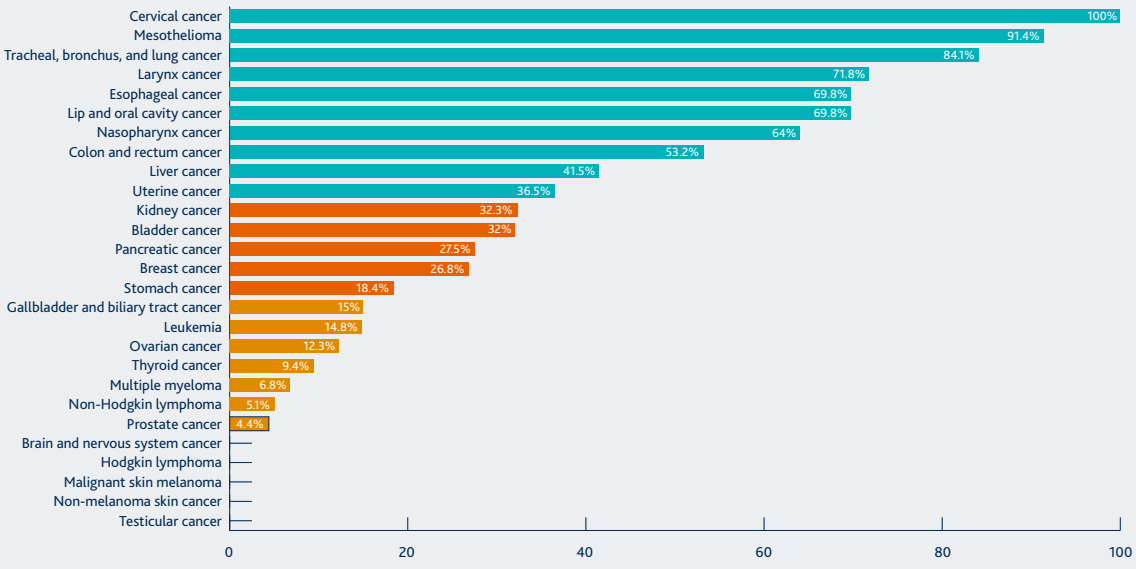
2 But we are far from an all-clear diagnosis for global health and wellbeing

- Cancer survival rates have increased by 25% overall – but there has been little or no progress in effective treatments for incidences affecting the pancreas, lung, oesophagus or brain
- Over-use of antibiotics – by humans and in livestock production – promotes antimicrobial resistance that could render this basic but effective medication useless
- Access to quality healthcare is unequal within and among countries, and national health systems are struggling with rising costs
- Certain unethical behaviours from some companies persist within the healthcare sector and include excessive pricing, aggressive marketing and biases in research publication

In many aspects of daily life, we are not helping the cause

Researchers are finding more evidence that many types of cancer are primarily caused by external risk factors – such as smoking, diet and nutrition, alcohol consumption, air pollution and exposure to carcinogens – rather than bad luck: random mutations during DNA replication in non-cancerous cells

Share of cancer deaths attributed to risk factors, 2016



Source: IHME, Global Burden of Disease, as at 2017.

3 To help overcome these challenges, we invest in companies creating the following impacts

MEDICAL INNOVATIONS that radically change outcomes for patients

- Accelerating **genome sequencing**, potentially enabling further breakthroughs in gene and cell therapy, at ever-lower costs
- Alleviating heavy medical burdens, like diabetes, through innovative and **widely accessible medicines**
- Enabling **research validation and progress** by consistently providing high-quality antibodies, and plasma, the building block of biological drugs

OUR EXPOSURE

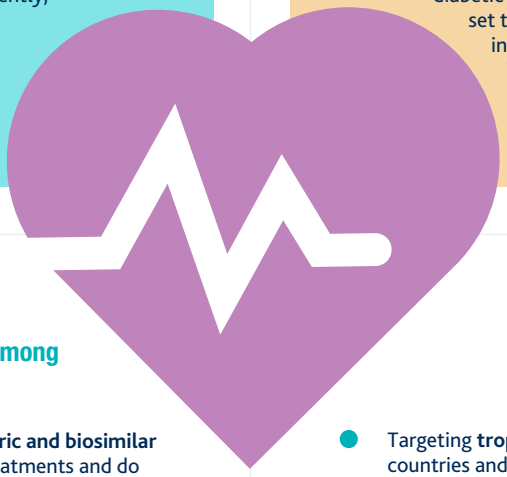
Medical-technology company **LivaNova** is recognised as a leader in cardiac-surgery solutions, supplying heart-lung machines and heart-valve prostheses. The London-headquartered company also pioneered the vagus nerve stimulation system for treating heart failure, drug-resistant epilepsy and, most recently, treatment-resistant depression. Depression is the leading cause of disability worldwide and the second leading cause of death among 15-19 year old girls.

DISEASE PREVENTION and early diagnosis

- **Cleanliness and hygiene** in healthcare operations to prevent the spread of disease and infection
- More **powerful diagnostics, testing and research** laboratories
- Improved infrastructure to **reduce road fatalities**, the ninth-largest cause of death worldwide

OUR EXPOSURE

Supplier of surgical and diagnostics products for the treatment of cataracts and diabetic retinopathy, **Carl Zeiss** plays an important role in alleviating the burden of preventable sight loss. Cataracts are responsible for 51% of the blindness in the world and diabetic retinopathy – a cause of blindness set to increase along with the incidence of diabetes – is on the World Health Organisation's priority list of eye conditions which can be partially prevented and treated.



BROADENING ACCESS to cost-effective healthcare among underserved populations

- Expanding the coverage of **generic and biosimilar medicines**, which are proven treatments and do not require lengthy clinical tests
- Provision of **affordable healthcare** services, including through digital channels

OUR EXPOSURE

With the greatest share of the next-generation sequencing market, **Illumina** has been instrumental in driving down costs and is credited for breaking the $1000 human-genome-sequencing barrier. Its latest technologies aim to lower costs further, potentially increasing the volumes and speed of sequencing and thereby enabling progress in the fields of precision medicine and research into genetic deficiencies.

Improving outcomes in NEGLECTED AREAS

- Targeting **tropical diseases** in developing countries and building resistance to pandemics
- Treating **rare diseases**, which can affect one in 15 people – or 400m worldwide – and are often genetically based, chronic and potentially life threatening

OUR EXPOSURE

Biotechnology company **Emergent Biosolutions** focuses on threats to public health and has a promising pipeline of treatments – particularly those targeting emerging infectious diseases. The company's products help governments improve their capacity to respond to and contain those risks that could otherwise lead to pandemics. These include the development of vaccines and treatments for the Zika, Chikungunya, influenza A, Ebola and HIV viruses.

REVOLUTIONARY PROMISE: NEXT-GENERATION SEQUENCING

Advanced genetic sequencing is believed to be capable of fulfilling one of the greatest promises of future medicine. It aims for nothing less than to decipher the human genome – our organism's complete set of genetic information – thereby supporting breakthroughs in medical research and treatment. As such, companies leading in this field are firmly aligned with our Health and Wellbeing impact theme.

Since a human genome was sequenced for the first time in 2003, researchers have gained unprecedented insights into genetic factors that cause or influence disease. But much more can be achieved. Next-generation sequencing (NGS) is able to handle much higher throughput volume, enabling scientists to progress from sequencing one DNA fragment at a time to millions in a single run.[1]

The wealth of genomic data that NGS provides could accelerate progress in precision medicine: treatments tailored to each individual. Researchers hope that it will eventually help correct genetic deficiencies linked to several diseases targeted by the third Sustainable Development Goal – Good Health and Well-Being – ranging from diabetes to cancer. To indicate the magnitude of its potential impact, we note that genetic diseases account for 45-51% of deaths in neonatal intensive care units and 60% of end-of-life admissions.[2]

The increasing prominence of genetic sequencing is intrinsically linked to its affordability: as the process becomes less expensive, more genes can be sequenced and volumes of data generated, yielding deeper insights. The cost of genetic sequencing has tumbled dramatically in defiance of Moore's law, the observation that computing power doubles and price halves every two years.

Indeed, the cost of sequencing the first human genome, achieved by the Human Genome Project in 2003, is estimated to have been anywhere between $500m and $1bn.[3] Researchers have now broken the $1000 genome barrier, widely considered to be the threshold at which NGS will become commonplace in medicine (see figure 1).

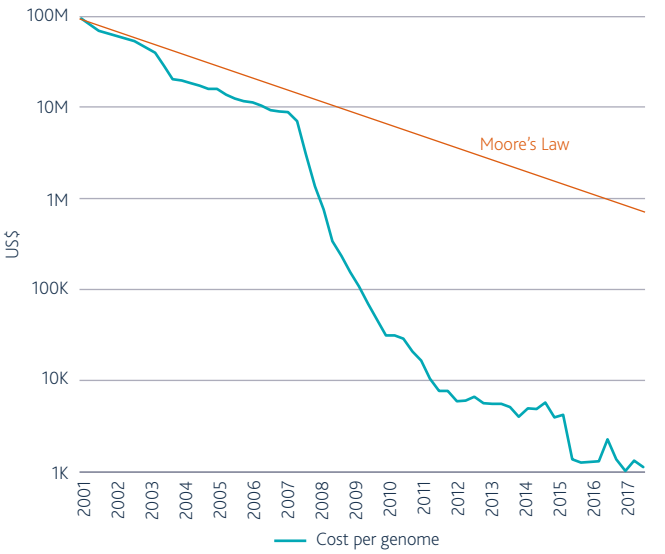
Genetic sequencing, once an expensive tool reserved for academic and government research, is now rapidly beginning to inform clinical practices and even the consumer market. It is likely to reshape medicine as we know it.

We believe that two companies we invest in, Illumina and Qiagen, generate impacts that support the delivery of targets within the SDG of Good Health and Well-Being:

SDG sub-target 3.2: By 2030, end preventable deaths of newborns and children under five years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and mortality in under-five-year-olds to at least as low as 25 per 1000 live births

SDG sub-target 3.4: By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment, and promote mental health and well-being

Figure 1. Lawbreakers in laboratories: the cost of sequencing genomes declined rapidly in the past decade[4]



Source: National Human Genome Research Institute as at July 2017.

Illumina

Commanding the vast majority of market share in the NGS market, Illumina has been the key contributor to driving down the cost of genetic sequencing. Indeed, according to the San Diego-based company, more than 90% of the world's sequencing data has been generated by using Illumina technology.[4]

Notably, Illumina is credited for having broken the $1000 genome-sequencing barrier. But the company is aiming to lower costs further. With NovaSeq, the most powerful sequencer that Illumina has launched to date, the business seeks to show that a genome can be sequenced for $100 – a cost that is cheaper than most x-rays.[5] The sequencer's launch in 2017 has surpassed expectation to date and catapulted Illumina to record quarterly revenue this year.

Illumina's other investments include Grail, which aims to create a very early stage and universal cancer test, and Helix, a consumer genomics marketplace with a mission to democratise access to genetic sequencing.

Qiagen

While Illumina is undoubtedly the giant in the NGS market, boasting a broad range of instruments for whole-of-genome sequencing, Qiagen has thrived in a specialist niche: expanding access to NGS for the smaller diagnostic and clinical research markets.

The German company's GeneReader solution, launched in 2015, focuses on oncology applications in these markets. Since then, Qiagen has targeted further markets: this year, the company announced its foray into the analysis of hereditary disease, and it has applications in the pipeline that range from prenatal testing to infectious-disease genotyping.

[1] "Key differences between next-generation sequencing and Sanger sequencing," published by Illumina. Accessed October 2018.
[2] "Unlocking the power of the genome," by Samad, S. Presentation to the William Blair Growth stock conference on 13 June 2018.
[3] "The cost of sequencing a human genome," published by the National Human Genome Research Institute. Last updated 6 July 2016.
[4] According to Illumina calculations in 2015.
[5] "The secret genomic revolution," by Gillian Tett. Published in the FT Magazine on 17 March 2017.

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Hermes Investment Management

We are an asset manager with a difference. We believe that, while our primary purpose is to help savers and beneficiaries by providing world class active investment management and stewardship services, our role goes further. We believe we have a duty to deliver holistic returns – outcomes for our clients that go far beyond the financial – and consider the impact our decisions have on society, the environment and the wider world.

Our goal is to help people invest better, retire better and create a better society for all.

Our investment solutions include:

High active share equities, private markets, credit and responsible investment advisory services.

For more information, visit www.hermes-investment.com or connect with us on social media:

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