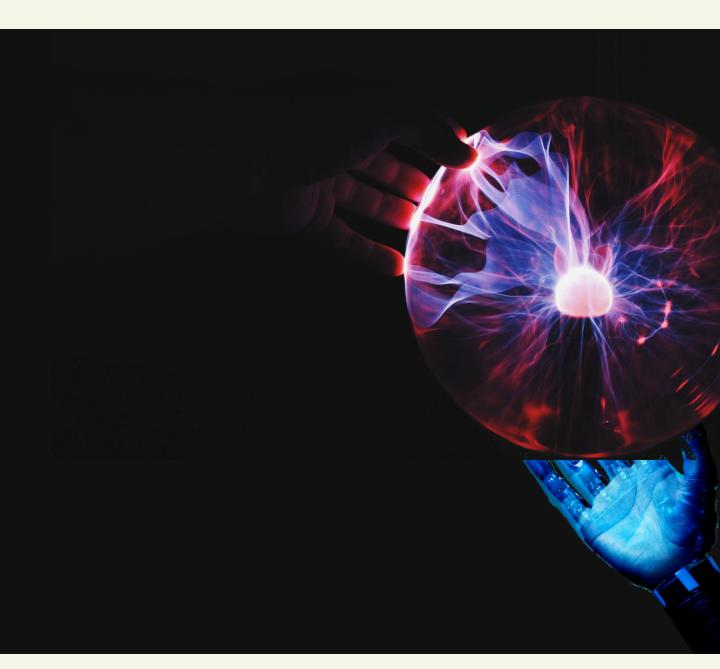
# ZEPHYR WATERFIELD Megatrends: Investing in our Digitized Future





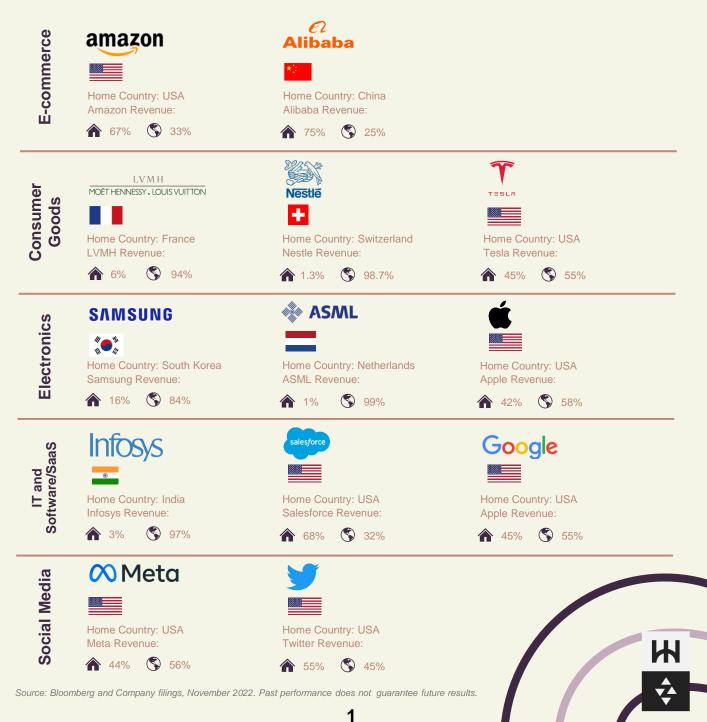


# **WATERFIELD**

# I. Investing in Our Digitized Future

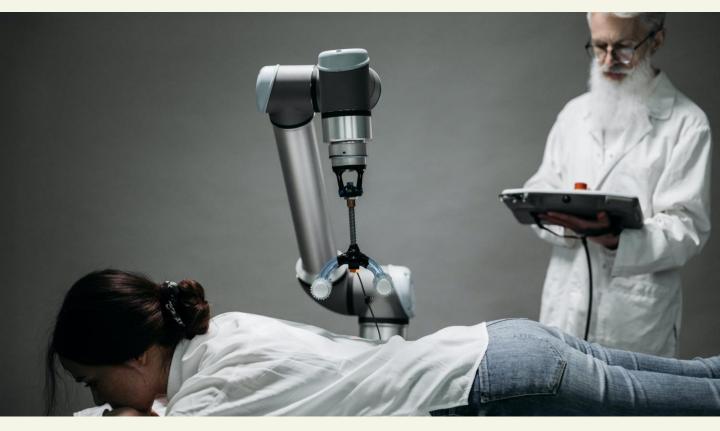
In the past, investors building their portfolio were often constrained by a home-country bias. This geographic approach led investors to focus on their home markets that they were familiar with, which often caused them to miss out on the best performing global businesses in the past ten years. These successful companies, such as Samsung in Korea, Google in the United States or ASML in The Netherlands, share two common traits. The first is that they are all technology-driven businesses that can produce goods and services on a large global scale at a low cost. The second commonality is that all three of these businesses generate a significant portion of their revenue from outside their home country by scaling globally through their use of technology.

#### Major Economies/ Business Successes of Past Decade are Exemplified by:



Companies in tech-enabled sectors of today, like E-Commerce and Electronics, mitigate some of the largest constraints to profitability. By using intelligent machines to perform tasks, companies avoid the impact of the aging labor force, increasing cost of labor, and declining productivity. Automation can also address quality and reliability concerns by providing precision and consistency with little marginal costs. The success of these companies is not necessarily achieved by inventing new products but improving existing products and processes that will shift consumer demand and spending. Learning from the success of existing tech-enabled companies, Zephyr Waterfield (ZW) has identified three Megatrends - intelligent machines, genetic science & biotech and 5G – poised to benefit from the next-generation of technology. Megatrends not only have an economic impact on a global scale but also transform the way we live. Investing in transformational companies in these Megatrends will require an approach that looks beyond geographic categorization. By focusing on the top performing companies by sector instead of by country, investors can participate in the success of technology companies of the next decade.

#### **II.** A look into Our Digitized Future



As heart disease continues to be the leading cause of death globally, one Megatrend has revolutionized available treatments. High-risk heart patients are often prescribed to undergo open heart surgery, which is associated with a long and painful recovery. Side effects include scarring, the risk of neurological complications and even stroke. Intelligent machines can help patients avoid this painful and risky surgical option. Robot-assisted surgery (RAS) allows a surgeon to use a specialized computer, like Da Vinci by <u>Intuitive</u> <u>Surgical</u>, to perform minimally invasive surgery. The robotic arms use fine instruments to make small, key-hole size incisions which yields precise results. Patients can return to work and activity within 10 days of surgery with little risk of complications and infections.

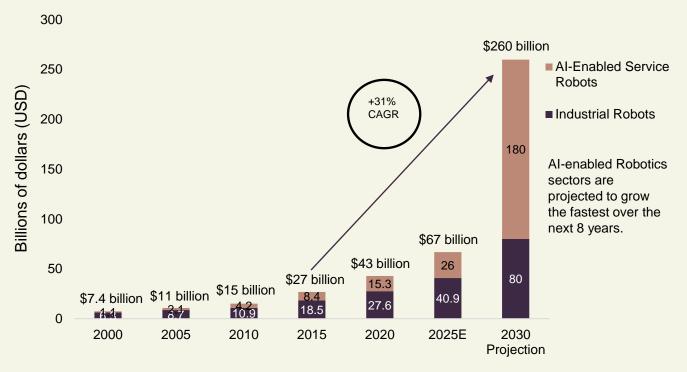
Patients no longer need to travel to far away locations to access the best treatment options. Next-generation connectivity is transforming healthcare by offering patients the option of remote surgery. Before the deployment of 5G, remote surgery using wireless networks was impossible due to the lag time between input and output. The delay, which can range from a guarter of a second up to two seconds, could be harmful or even fatal to the patient. Now, 5G's latency is reduced to an almost instantaneous 2 milliseconds between medical devices. Increased bandwidth from 5G also enables better surgical imaging to ensure precise incisions.

Some inherited diseases, however, do not respond well to drug and surgical treatment. Recently, biotechnology companies developed "gene therapy" that could treat a range of genetic diseases including congenital heart defects. Gene therapy can even prevent diseases by correcting defects at the DNA level. While this option remains extremely expensive, it can offer substantial savings by curing chronic conditions that would otherwise require costly lifelong treatments. The technology behind intelligent machines, next-generation connectivity, and genetic science positions companies in these Megatrends to be successful globally.

#### III. Artificial Intelligence and Robotics



Miso Robotics' Flippy 2 robot changed the fast-food industry by automating the process of frying food. Flippy 2 has a robot arm operated by cameras and AI (Artificial Intelligence) to take food out of a freezer, dip it in hot oil, then deposit it on to ready-to serve trays. CEO of Miso says Flippy 2 "does it faster or more accurately, more reliably and happier than most humans". Workers are glad to outsource the tasks like the frying station to a robot so that they have time for more customer interaction. Several restaurant chains cross the United States have adopted the robotic fry cook, including Jack in the Box and White Castle, and are looking to expand the use in more locations. (**Source**) The innovation behind Flippy 2 is an example of traditional automation now improved with AI technology.



#### Global Intelligent Machine Market Size Projections (US\$ billion)

Source: Boston Consulting Group, the international federation for Robotics, and Bloomberg November 2022. Projections may not be achieved

The traditional automation approach has been driven by mechanical robots to reduce costs and improve quality by replacing repetitive and low skill work. Recently, there's been a shift from mechanical robots to intelligent robots that can "learn" and adapt, to improve human-to-robot interactions. As mature economies experience aging populations, they will have a greater need for mobile services robots to assist in personal hygiene, exercise, meal delivery, and other jobs which require the reliability and quality assurance of intelligent machines

Application of <u>artificial intelligence</u> allow robots to handle unexpected situations unsupervised. Swarm intelligence, connecting individual AI systems, will increase the flexibility of mobile robots to share and alter tasks on location, and imaging systems will enhance autonomous inspections, analysis, and movements.

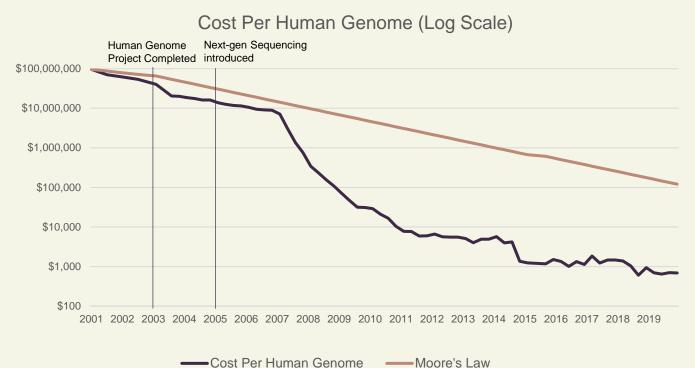
These intelligent machines are augmented by 5G communications networks that increase robot operational radius as well as so-called edge services, which are cloud-based networks that expand robot and sensor computing power. The

bulk of the growth in robotics over the next decade is projected to be from these "smart" robots in service industries such as mobility, healthcare and hospitality.

Moley is a company that enhanced the innovation behind Flippy 2, to build its product line Robotic Industrial Kitchen solutions which can be used to automate a whole kitchen. As recent as 2017, the robotic chef was only able to make one dish: crab bisque. Now, with AI it can create over 5,000 recipes and even cleans up after cooking. Robotic Kitchens can be customized to individual business requirements, such as hotels. restaurants. healthcare, and educational institutions, as well as care homes. The precision of Intelligent machines enables these institutions to automate the cooking processes and deliver consistently high quality fresh cooked meals safely.



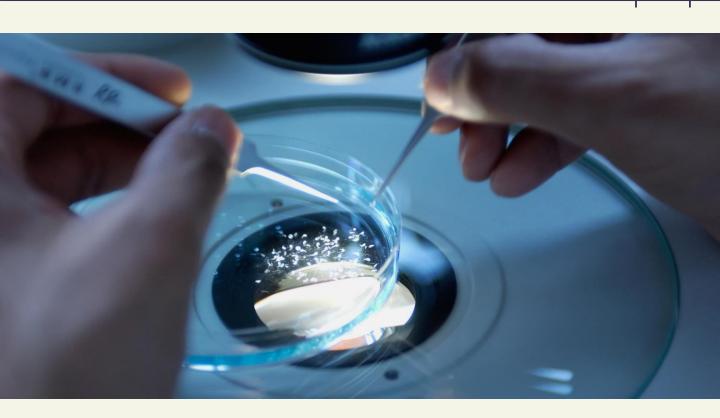
## **IV. Genetic Science and Biotechnology**



Source: National Human Genome Research Institute. Bloomberg 31/12/2020. Past performance does not guarantee future results.

The cost of sequencing the human genome has fallen quickly since it was first accomplished by scientists nearly 20 years ago. Moore's Law, a common benchmark for measuring the cost of technological developments, estimated a linear decline in the cost of sequencing a genome. Costs, however, have fallen much more quickly than projected thanks to rapid advances in computing and artificial intelligence. Gene mapping can provide valuable insights into the sources and causes of diseases and ailments facing individuals and has proven to be a revolutionary tool for doctors and medical researcher to develop customized drugs, treatments, and health solutions for individuals.





Companies that develop technology, products, and processes to improve health outcomes will see huge benefits from the dramatic rise in global healthcare spending over the next decade. 30% of global research and development spending is dedicated to bio-related industries, which can address 45% of the world's disease burden. Healthcare expenditures consist of over 10% of GDP for most western countries, which is a sizable and growing portion of their domestic spending. Investors can benefit from investing in innovative companies in genetic science growing rapidly. In the next two decades, visible pipelines of biological applications will revolutionize healthcare, from pharmacies that are AI enabled, to how diseases will be treated to robotic patient care.

Before next-generation sequencing (NGS) existed, patients with rare genetic diseases would often face year-long odysseys of testing and waiting for results before getting an accurate diagnosis. Analyzing genetic tests was a time consuming and labor-intensive effort performed by highly skilled personnel. Emedgene, a new subsidiary of Illumina, uses Artificial intelligence for gene sequencing.

The process is fully automated and uses an algorithm that interprets in real-time research from medical literature, databases, animal models and pathways. This allows genetic centers the capacity to test more patients and reduced the diagnostic turnaround time by 75%, giving clinicians, patients, and families essential information to move forward with customized treatment options. The successful of Emedgene's technology and companies alike, contributes to the growth of artificial intelligence in genomics, which is estimated to grow at a CAGR of 48.44% in the next 5 years.



## V. Digital Transformation

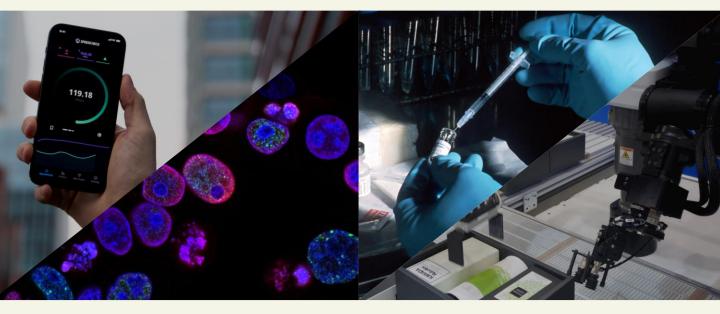


Next Generation Connectivity is the infrastructure and the foundation which enables all surrounding technology, and by far the highest volume of investments of all sectors. By 2026, the market size of the Internet of Things (IoT) is projected to be nearly \$1.3 trillion. 5G enables new user experiences and industries with four key benefits: Low latency, Ultra-reliability, High density, and Ultra-fast speeds. 5G can handle bigger data volumes and bandwidth requirements generated by the explosion of devices sharing spectrum and connections to the cloud. At its core, 5G is designed to enhance the IoT's consumer experience. Consumers will be able to access cloud services ranging from multiplayer cloud gaming, augmented realty (AR)-powered online shopping, and even telehealth and remote surgery.

A revolutionary application of 5G is that it enables Vehicle to Everything (V2X) technology. V2X enables communication to other devices and cars which will revolutionize road safety. Here Technologies, a location data and technology company, began using 5G to power its real-time traffic API to implement road safety. The API has real-time information on car location, type and location of each traffic incident, status, start and end time, and other relevant data. This data is useful to dynamically optimize route calculations, help avoid congestion, roadblocks, and hazards, and decrease response time for first responders. 5G's benefits of low latency, high density at ultra-fast and reliable speeds enables for this location intelligence and application to be successful.



### **VI. Zephyr Waterfield Megatrends Fund**



The companies leading the megatrends that ZW has identified - intelligent machines, genetic science & biotech and 5G - will be at the forefront of the global economy over the next decade. The ZW Megatrends Fund invests in these companies through an approach that provides exposure to multiple managers each of whom is a specialist in its respective market segment. The portfolio of these managers ZW has developed offers exposure to all these transformative trends in one place and will evolve with technological developments. ZW has created a pure play on these growth trends by largely excluding the last generation's successes in favor of the next generation of innovative companies favored by the managers in the portfolio located anywhere in the world. Investors can participate in all of these exciting trends by investing in the ZW Megatrends Strategy. For more information, please visit Zephyr Waterfield's website.

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