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VIEW

**Those that innovate
the future understand
history the best**

VERITAS
INVESTMENT PARTNERS

SCIENCE FICTION: REALITY AHEAD OF SCHEDULE

Exciting news for residents of Sao Paulo: air taxis could take to the city's skies in the next five years. These small planes, powered by electricity and with vertical take-off and landing, could ferry passengers throughout the city centre for the cost of an Uber ride and in under half the time¹. Living in one of the most congested cities in the world, it's easy to see why this might appeal to Paulistanos.

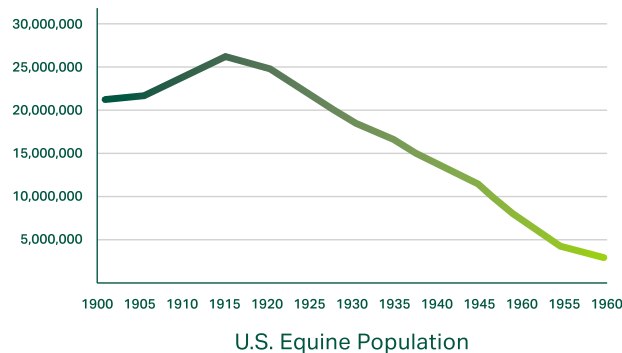
Air taxis could turn transport infrastructure on its head. According to the manufacturer, it was not one "big bang" development that propelled the idea forward. Rather, it was the culmination of improvements in multiple enabling technologies. These include renewable energy networks, avionics (the taxis' control systems are based on those used in fighter jets) and cloud computing². **Microsoft** is a partner on the project, providing access to its cloud computing service, artificial intelligence (AI) and data analytics.

Similar disruptive patterns are being repeated across sectors as enabling technologies reach scale and become cost effective, creating conditions for a fundamental rearrangement of industries, economies and societies. Advances in these technologies (which also include 5G, data processing and DNA sequencing) have been creating a buzz for several years. But now these small steps for companies are combining to prompt a giant leap for mankind.

Those that innovate the future understand history the best³

In a meeting with independent think tank RethinkX, we discussed how throughout history technological developments have collided to create monumental change, from the printing press to the car and the iPhone, and how people failed to understand the scale of disruption coming. In 1904, Carriage Monthly journal noted that "humankind has travelled for centuries in conveyances pulled by beasts, why would any reasonable person assume the future holds anything different?" Car sales grew from less than 5% of the vehicle fleet in 1905 to more than 95% in 1925⁴.

To meet our clients' long-term real return targets, we need to do better than Carriage Monthly by



anticipating the disruption on the horizon and understanding what it means for companies. A question we ask ourselves is whether, by investing in large, established companies with long-term track records, we will have exposure to companies with the cutting-edge technologies of tomorrow who can avoid being disrupted. After all, it can be challenging for companies to stay ahead of the pack for more than a decade.

But it is not a given that incumbent businesses will become obsolete when new technologies emerge. Far from it. Businesses that have resources to invest will not only survive but can become more indispensable to their customers. We therefore assess both companies' ability to invest, for example through high margins and strong balance sheets, and their culture of innovation. **Mastercard** first made investments in the digital currency space years ago meaning that, instead of being threatened by the shift in this direction, it is a key contributor. Even during a year of crisis, semiconductor company Infineon Technologies did not stop innovating: it spent over €1 billion on research and development in financial year 2020 and registered 1,690 new patents⁵.

As a team, we must also invest in our own knowledge bank. We place great value on diversity of thought and seek out multiple perspectives when making investment decisions, from experts within our company and those outside the investment industry. In 2019, two members of the team attended the IMEC⁶ Future's Summit to get a sneak peek at the technologies shaping the future. Surrounded by those

1. <https://www.theguardian.com/world/2021/sep/21/electric-air-taxis-sao-paulo-brazil>

2. <https://vertical-aerospace.com/partners/#partnerAnchor0>

3. Rick Warren, American pastor and author

4. RethinkX Rethinking Humanity: Five Foundational Sector Disruptions, the Lifecycle of Civilizations, and the Coming Age of Freedom June 2020

5. <https://www.infineon.com/dgdl/2020-11-09+Q4+FY20+Investor+Presentation.pdf?fileId=5546d461758eab830175a84fe1bb0001>

6. IMEC is the Interuniversity Microelectronics Centre. Based in Belgium, it acts an important conduit for collaborative innovation and knowledge sharing in the semiconductor industry.



on the front-line of the semiconductor industry, the urgent need to develop faster and better chips was brought to life.

Science fiction: reality ahead of schedule⁷

One area where we have been learning fast, with help from our in-house tech enthusiasts Arthur Ntale and James Moncrieff, is the metaverse. Debate rages about what it is (one article included 20 different definitions⁸) but most agree it involves extending existing augmented/virtual reality technology to further integrate our physical and digital worlds. In these environments, we will be able to collaborate, socialise with friends, buy goods and services, and attend events from the comfort of our homes. Predictions are mind-blowing: on one expert call, we heard that the digital economy could be ten times larger than the physical economy.

If this sounds like science fiction, remember that early forms of the metaverse already exist. A virtual concert held on gaming site Fortnite in April 2020 had more than 12.3 million concurrent viewers⁹ and you can already visit five of Egypt's most important heritage sites using virtual reality¹⁰. Things have clearly moved on since the investment team's demonstration from virtual reality experts in 2017 and we look forward to their next update in the coming months.

Demonstrating that incumbents can prevail in a changing world, our investee companies are providing the building blocks for the metaverse, from **Amphenol's** connectors to **TSMC's** market-leading semiconductor chips. As chip design advances and stretches the laws of physics to the limits, the design software provided by **Synopsys** is also becoming ever-more important. All of this will require vast infrastructure and computing power so the services of cloud computing providers, **Microsoft** and **Alphabet**, will be in high demand.

Just when you thought it was safe to go back in the water...

Enabling technologies are also helping us move to a more sustainable future. One area that has piqued our interest is synthetic biology. One of our investment managers, David Price (who holds a PhD in chemistry), gave us an expert's take on how synthetic biology combines cutting-edge science with the age-

old process of fermentation to produce essential ingredients for multiple industries sustainably. **Kerry** has already adopted the technology to provide ingredients to consumer goods companies and most cheese consumed today is made using rennet produced through fermentation, rather than it being extracted from calves. Crucial to its success are a better understanding of cellular biology and upgrades to equipment and reagents, advances in DNA sequencing facilitated by companies such as **Thermo Fisher Scientific**, and improvements in computing power which allows key genes to be identified.

The benefits will transcend industry boundaries. Pharmaceutical companies, such as Roche, can use the process to design and produce better medicines. And synthetic biology could hold the key to solving one of our greatest challenges: feeding a growing population while reducing our environmental impact. Moving from an "Age of Production" to an "Age of Creation", meat could be built up from individual molecules rather than being taken from animals. RethinkX argue that producing proteins in this way could be ten times cheaper than existing farming methods by 2035, while producing far less waste and using much less land.

There are unexpected beneficiaries of synthetic biology too: for example, producing squalene for face creams by fermentation saves 3 million sharks every year¹¹.

Some will win, some will lose

It's not just small sea creatures that might quake at this news: changes on this scale will always create winners and losers. After the early 1900s, the role of the horse was much diminished. To ensure the same fate does not await swathes of humanity, investments in education and re-training will be essential. The US Bureau of Labor Statistics predicts that jobs for wind turbine service technicians will increase by 68% over the next ten years but opportunities for typists and telephone operators combined will shrink by 60%¹². The current world order could be under pressure too. Experts suggest that enabling technologies could reduce reliance on global trade and allow a localised production model to flourish – an appealing prospect today given the negative headlines about supply chains.

Whilst we have a great deal of optimism and excitement, we recognise we are in for some turbulent times ahead. Protecting and growing our clients' capital means therefore we balance our optimism with thorough research, and a healthy dose of cynicism, to focus on identifying high-quality companies who are investing now to prepare for the future.

7. Syd Mead, American industrial designer

8. <https://www.forbes.com/sites/cathyhackl/2021/05/02/defining-the-metaverse-today/>

9. <https://www.nbcnews.com/tech/tech-news/welcome-decentraland-nfts-meet-virtual-world-rcna553>

10. <https://www.smithsonianmag.com/smart-news/virtually-tour-five-egyptian-landmarks-180974696/>

11. <https://archive.bio.org/articles/current-uses-synthetic-biology>

12. <https://www.visualcapitalist.com/the-20-fastest-growing-jobs-in-the-next-decade/>

SPOTLIGHT:

THERE ARE NO PASSENGERS ON SPACESHIP EARTH. WE ARE ALL CREW¹³

The latest UN progress report on the Sustainable Development Goals (SDGs) made for a sobering read. Among other findings, we are set to miss SDG 1 to eradicate poverty by 2030, the pandemic has exacerbated long-term healthcare inequalities and 2 billion people do not have access to a healthy, balanced diet, including 40 million in the US¹⁴. Meanwhile, nearly 2 billion people worldwide remain invisible to the financial system¹⁵.

For many of our investee companies, finding solutions to these problems is not an additional “nice to have” sitting at the periphery of their long-term strategies. It is at the heart of their business models and examples of this in action are included below.

UnitedHealth – Among multiple initiatives to improve access to care, the remote monitoring platform Vivify has led to a **74%** reduction in hospital admissions and a **40%** reduction in mortality¹⁶.

Cerner – The *Learning Health Network* aims to speed clinical trial recruitment **10-fold** (taking it from years to months) and address health inequalities by enabling more diverse clinical trial populations.

Alphabet – Google Career Certificates offers online professional qualifications in **six months at a cost of \$500**, versus three years and tens of thousands of dollars for university degrees.

Roche – **32 of its medicines and 90 tests** are on the World Health Organisation’s Essential Medicines and Diagnostics lists. Roche ensures access to essential healthcare by aligning prices for innovative medicines to a country’s relative income.

Nestlé – Nestlé fortified Maggi Noodles in India to address widespread iron deficiency. **2.5 billion servings** are consumed every year in the country¹⁷.

Experian – Its Limpa Nome debt recovery portal has helped **14 million Brazilians renegotiate debts** since launch in 2013¹⁸. This started as a social enterprise and now generates profits.

Mastercard – Mastercard has committed to bringing 1 billion people into the digital economy by 2025. It has already brought **500 million** unbanked people into the financial system¹⁹.



Written by **Philippa Bliss** and **Catriona Hoare**
on behalf of the Investment Team

13. Marshall McLuhan, Canadian philosopher

14. The Sustainable Development Goals Report 2021

15. <https://www.experianplc.com/media/4224/experian-sb-report-2021.pdf>

16. <https://sustainability.uhg.com/modernizing-health-care/expanding-access.html>

17. <https://www.nestle.com/sites/default/files/2021-03/creating-shared-value-report-2020-en.pdf>

18. <https://www.experianplc.com/media/4224/experian-sb-report-2021.pdf>

19. <https://www.mastercard.co.uk/en-gb/vision/priceless-causes.html>

VERITAS INVESTMENT PARTNERS

Veritas Investment Partners (UK) Ltd
Riverside House, 2a Southwark Bridge Road,
London, SE1 9HA
T +44 (0) 20 3740 8350

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