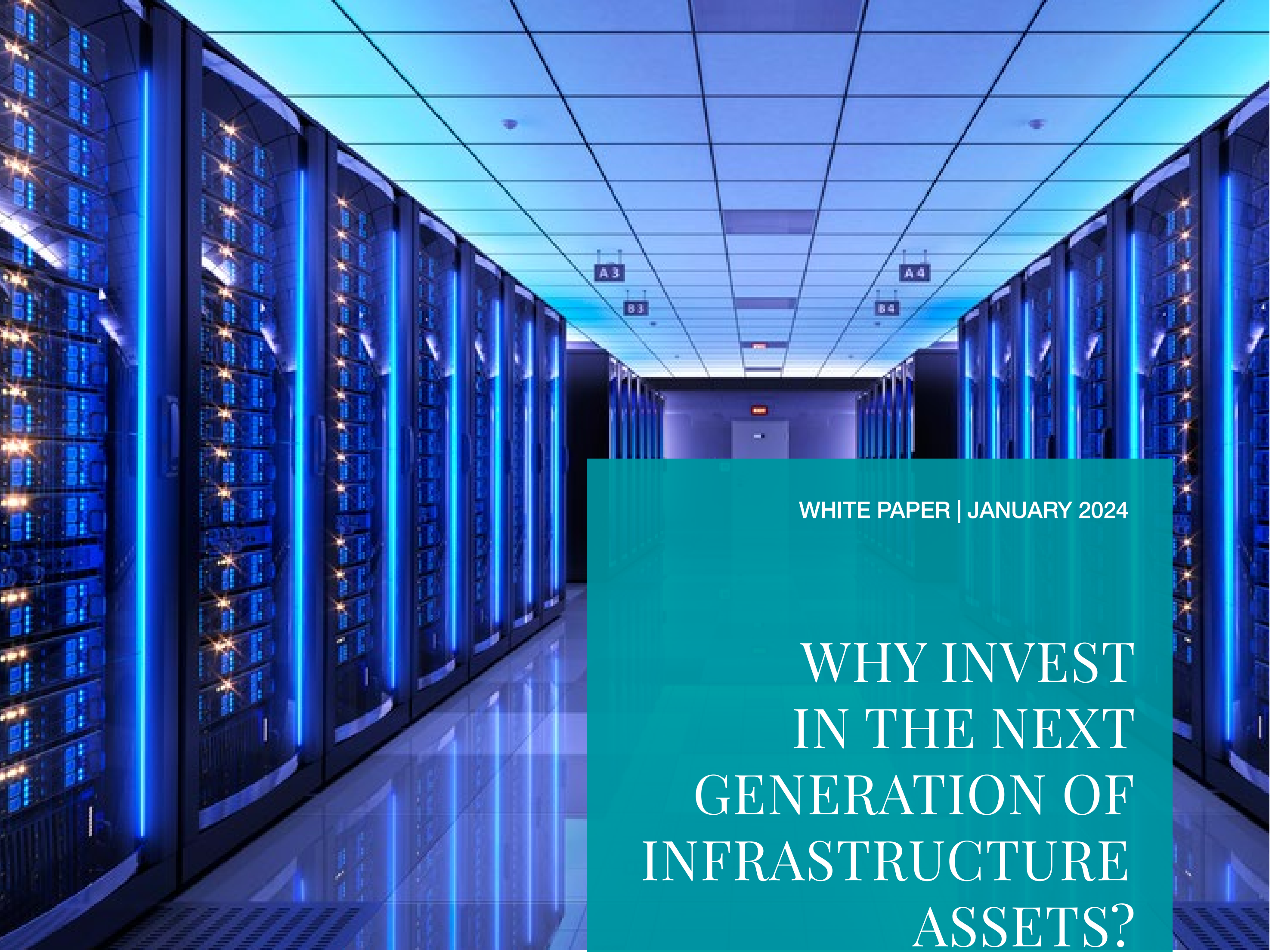


WHITE PAPER | JANUARY 2024

WHY INVEST IN THE NEXT GENERATION OF INFRASTRUCTURE ASSETS?

For Professional Investors in Switzerland or Professional Investors as defined by the relevant laws

Asset Management | Marketing communication

UNION BANCAIRE PRIVÉE

Introduction

Private infrastructure markets have, once again, managed to stay afloat amongst the continued global turmoil in 2023. The ongoing war in Ukraine, increasing interest rates, the denominator effect and now unrest in the Middle East have all left their mark on global equity markets, including to an extent the number of deals made in private infrastructure in 2023; yet the asset class has been able to demonstrate its resilience, maintain strong valuations and continue to produce attractive yields for investors.

Inflationary pressures have been a key topic in the infrastructure space. In this environment, private infrastructure investments offer some protection due to their essential characteristics and these long-life assets benefit from inelastic demand with revenues that are often linked to inflation.

How can transition infrastructure assets fulfil the needs of the future?

Traditionally speaking, infrastructure assets provide essential services or facilities and are typically characterised by a clear set of parameters, including long-term, real-asset-backed investments, which provide stable and visible cashflows, have high barriers to entry, or exist within monopolistic positions and display limited volume risk and low correlation to other asset classes. However, the definition of what infrastructure is has to evolve and continues to do so. Arguably, in many cases the infrastructure built over the last few decades is no longer fit for the future needs of society and we are in the midst of a period of transformation and transition to new types of infrastructure assets which better fit the requirement of future generations. The need for this transformation becomes more urgent in the face of heightened geopolitical risk, changing demographics and the impending climate crisis, and this is exactly where private capital can underpin the process.

The infrastructure we are familiar with might, for example, include bridges, roads, airports, rail and power, but we are now seeing a greater need to invest in the next wave of assets, including renewable energy technology, new mobility, decarbonisation assets, green logistics, waste facilities and digitalisation.

These shifts are driven by many global factors, but we can pinpoint some key trends to understand this evolution.

1. Environment transition and circular economies

Climate change requires urgent combative action. We are all aware that the planet has warmed to untenable levels and that there is a global political understanding that this temperature needs to decrease. The Paris and Glasgow Agreements underpin the intention of world leaders to reduce global warming, and infrastructure transition will play a key role here. To address climate change, reshaping industry and transport is key, as is the commitment of private companies to reduce resource consumption. Demographic growth is also driving infrastructure investment and, combined with the need for decarbonisation, it triggers investment in more circular economies. Water and waste infrastructure assets need to be modernised to reduce, reuse and recycle, as well as increase the transformation of waste into energy.

2. Decarbonisation

There exists a significant need to reduce the amount of carbon emitted from sectors such as transportation, energy and power, and construction and buildings. Another priority is to reduce greenhouse gas (GHG) emissions. The European Green Deal has mandated global economies to reduce carbon emissions by 55% below 1990 levels by 2030, and, according to the International Energy Agency, more than USD 4 trillion[1] needs to be invested annually in the energy transition until 2050 to meet Net Zero targets. This presents the need for a huge shift in how cars are run, how electricity is generated, how homes and offices are powered and how the global supply chain functions. Within this framework, infrastructure can provide new solutions such as low-carbon, low-cost district heating and cooling systems, adapt city centres to new urban mobility and electric modes of transportation, develop efficient electric vehicle charging stations and further support the expansion of new renewable energy technologies.

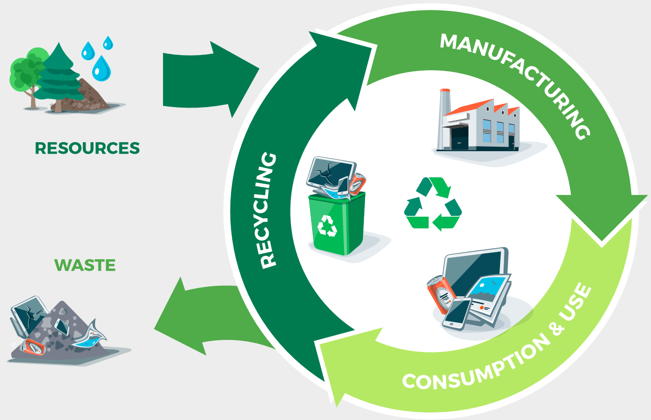
3. Digitalisation

As changing work patterns, business processes, global supply chains and customer demand all become more technology-driven, the need for digitalisation and better connectivity has expanded immensely in recent years. To face the huge demand for data consumption, transport and storage, significantly high amounts of capital need to be invested in digital infrastructure, whilst also controlling energy consumption and being conscious of the sources of this energy. Digitalisation will be a key part of the evolution of society and so digital infrastructure will be required to follow this global trend.

[1] https://www.iea.org/reports/net-zero-by-2050

WHAT IS A CIRCULAR ECONOMY?

A circular economy is a system where the materials we use are reused and kept in circulation so as to make sure that waste is avoided, and nature is allowed to regenerate its resources. Processes which would facilitate this goal include reuse, recycling, refurbishment, maintenance and composting. Ultimately, the circular economy will help tackle climate change by disconnecting the economy from the consumption of finite resources.

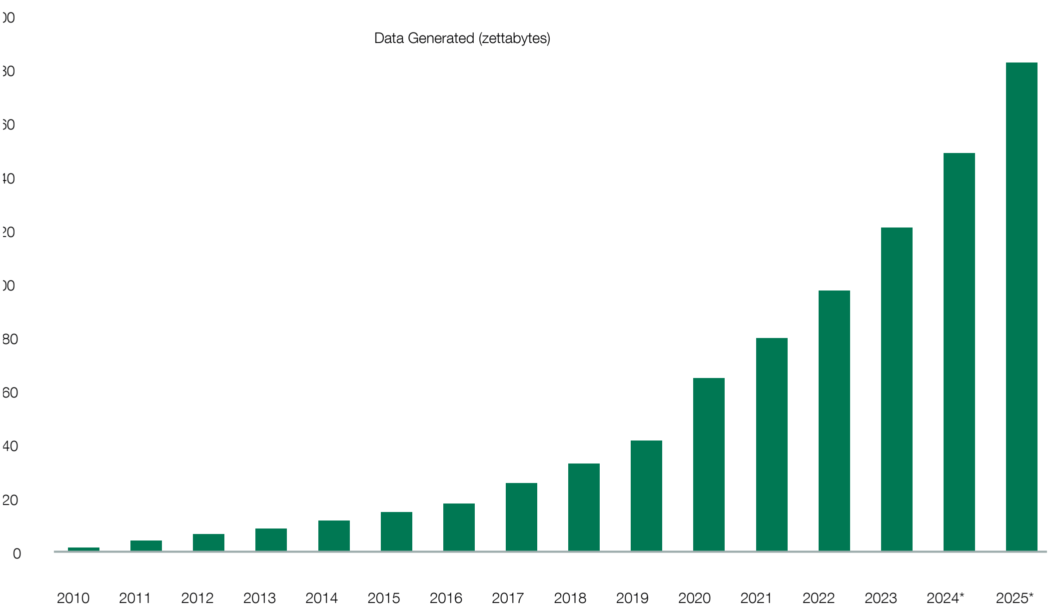


What is the ‘digital transition’?

Technology is, and will continue to be, an enabler of economic and societal growth and sustainable development. While is it clear how digitalisation can help economies in terms of connectivity, communication and data facilitation, it is perhaps less clear how the sector can commit to sustainability. Data has been the fastest-growing commodity ever: according to the IDC[2], data created, consumed and stored increased by almost 50x between 2010 and 2022. The Covid-19 pandemic not only reinforced this growth but it also proved that **connectivity** is an essential service and enhanced the inequalities in terms of access.

Data-creation growth projections

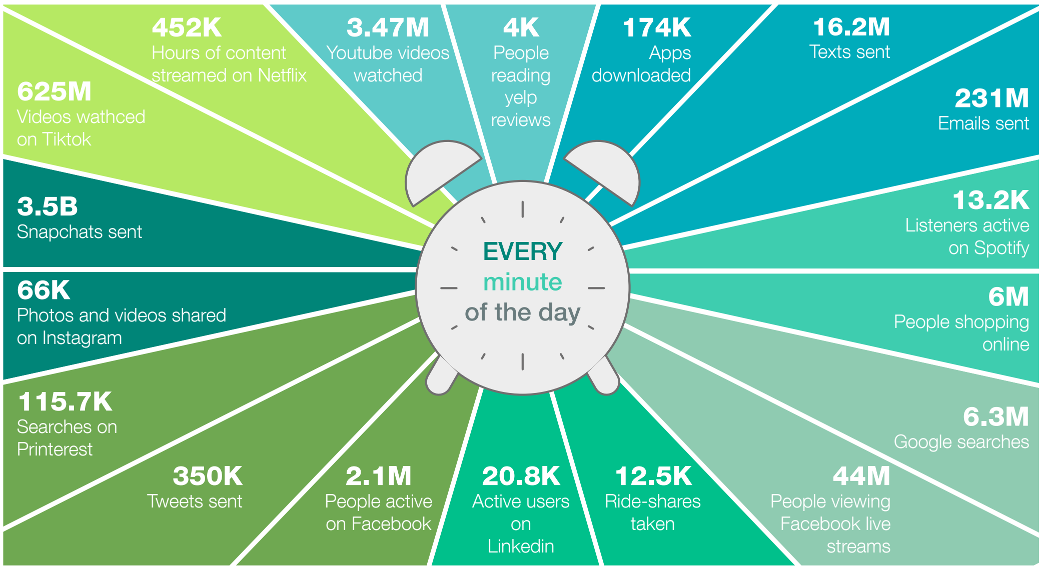
The 120 zettabytes of data generated in 2023 is expected to increase by over 150% in 2025, hitting 181 zettabytes.



Sources: Statista, Bernard Marr & Co via explodingtopics.com
*Estimated totals for 2024 and 2025

[2] International Data Corporation 2022.

WHAT HAPPENS IN AN INTERNET MINUTE?[3]



Source: localiq.com 2023.

[3] The use of company names and logos does not constitute any affiliation with them.

First, let us explore what we consider digital infrastructure assets to be and how these fit into the transition framework. New ways of working, the growing importance of data, the 'Internet of Things' (IoT), cloud migration, capacity demand for videos, reliable networks, high-speed broadband, wireless solutions, the adoption of artificial intelligence and developments in living such as smart cities have all increased the need for greater connectivity and data consumption. This, in turn, has accelerated the need for governments and big business to implement new technologies and increase digitalisation.

Digital infrastructure assets have a critical mission to improve all aspects of modern life. These assets encompass the key characteristics of infrastructure: essential services, high barriers to entry, resilient and long-term assets, elements of regulation, stable and long-term cash flows with price escalators (long-term contracts and/or sticky customers) and uncorrelated asset classes, and thus offer some downside protection. At the same time, they benefit from secular growth trends driving demand as well as capacity for positive ESG implications that create value-add potential.

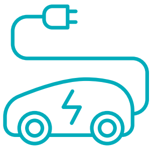
With all of this in scope, digitalisation will be needed in the following ways:

Telecommunications

5G roll-out: The next generation of wireless connectivity with 10x higher performance than 4G will require more antennas and strong fibre networks.

Fibre to the Home (FttH): As more people choose to work from home, use more mobile devices and therefore increase their data consumption, there comes a need to roll out fibre networks to more households.

Data centers: As the use of online services increases, so will the requirement of big business, such as Google, Amazon and Netflix, for additional data storage and processing facilities. This will also be the case for smaller businesses as they continue to grow.



Transportation

New mobility: New technologies will support new mobility solutions, such as electric vehicles, green logistics, sustainable supply chains, traffic/pollution management and autonomous vehicles.

Society

Smart cities: The integration of digital technologies into the running of society underpins the move towards smart cities and 'better' ways of living. With the use of developing technologies, cities can better manage how resources are distributed and used, and indeed manage how everyday processes such a waste collection, water systems and mobility work.

The question remains how the digital transition can therefore help with sustainability issues, such as climate change, decarbonisation and beneficial societal change. Infrastructure has an inherent link to sustainability by providing basic essential services to society, such as power, heat, water and sanitation services. Digital infrastructure is no different: not only does it support all of the aforementioned services, it can actively improve them, and therefore the lives of the people using them. The next generation of digital infrastructure has the power to significantly reduce the use of resources, and indeed overall consumption and pollution by making processes more efficient, or, in some cases, replacing physical processes altogether. Digital technologies such as 5G, the IoT and artificial intelligence will accelerate the effects of environmental improvements.

As well as improvements in telecommunications, mobility and energy, digitalisation can also support the energy and environment transition in the following ways:

Smart grids	By managing and monitoring the distribution of power from different sources of generation, smart grids will aid the integration of renewable energy into the power network.
Smart meters	Collecting and analysing data on energy consumption will allow power providers to make the supply more efficient and therefore save energy.
Electrification of mobility	The rise in electric vehicles requires charging and payment technology to be developed and expanded. The more electric vehicle infrastructure available, the faster the transition to electric mobility.
Latency solutions	One of the key issues facing the integration of renewable energy solutions is how to transport that energy to the end user quickly enough. The same is also true of data efficiency. Digital solutions can help manage the supply and demand of both, which will vastly improve latency.
Circular economies	Implementing digital solutions within assets will allow economies to become circular in how resources are used, recycled and reused. By digitalising, businesses will also have a complete overview of the supply chain, helping to reduce wastage and environmental harm.

The challenges of the digital transition

The digital transition will be essential to the future of infrastructure and will bring tremendous benefits, but this will not come without challenges. First, with heightened data transparency and increased connectivity, the question of cybersecurity arises and whether personal and business data is fully protected. In this case, it is essential that highly sophisticated security measures are put in place to protect sensitive data. Second is the matter of the regulatory frameworks in which data and connectivity exists: government spending and strong regulatory frameworks support the digital transition while also offering some protection as regards cybersecurity. Third, when rolling out new digital infrastructure, it is often the case that existing infrastructure needs to be upgraded or additional infrastructure needs to be developed. This, of course, comes with added resource usage, extensive capex and challenges linked to innovation; however, on the one hand, infrastructure will always need to be upgraded over time, whether the asset is part of the transition sector or otherwise, and, on the other hand, without these necessary digital upgrades, economies and societies will be left behind in an age of increased technological advancements, which would potentially have much more harmful effects. Over time, infrastructure managers have proved their capacity to upgrade assets and to adapt to the emergent needs of society while keeping the infrastructure characteristics in mind. Digital infrastructures which are being developed need to remain relevant over the long term.

The opportunities for investors

The recent macro environment has been particularly challenging for investors when making their asset allocations. Ever-increasing interest rates in 2023 have in turn had an impact on valuations across most asset classes, and inflationary pressures have been felt across the board. What this has highlighted again and again, however, is the resilient nature of the infrastructure asset class and how investors can incorporate the asset class as a stabilising force within a diversified portfolio.

Investing in the infrastructure transition in particular provides many opportunities for investors to gain attractive returns with a much more conservative level of risk. At the same time, the scope of the opportunity set has expanded significantly, offering investors much more choice of which strategies, sectors and regions they can choose to invest in. Whereas investors may have had to tie up their capital for 20 years or more in Core infrastructure assets such as roads, rail and utilities, there now exists the opportunity to deploy capital across exciting new sectors, such as digitalisation, with much shorter lifespans and with an element of potentially higher value creation. Demand for digital infrastructure still far exceeds supply, and attractive investment opportunities are available. Transition infrastructure offers just that: investors can access new types of infrastructure assets which may have previously been inaccessible, and by having this access, value creation, along with sustainability and ESG investment goals, can be aligned. By partnering with the companies which drive this transition, investors can play a huge role in the transformation of businesses which find themselves in a position where the demand and the technology is there, but they need the capital and expert partnerships of infrastructure managers to drive growth and be fully integrated into society.

Kayte Hodgson

Senior Investment Specialist, Private Markets Group

Charlotte Dewynter

Head of Private Infrastructure, Private Markets Group

Disclaimer

Union Bancaire Privée, UBP SA | Head Office
Rue du Rhône 96-98 | P.O. Box 1320 | 1211 Geneva 1 | Switzerland
ubp@ubp.com | www.ubp.com