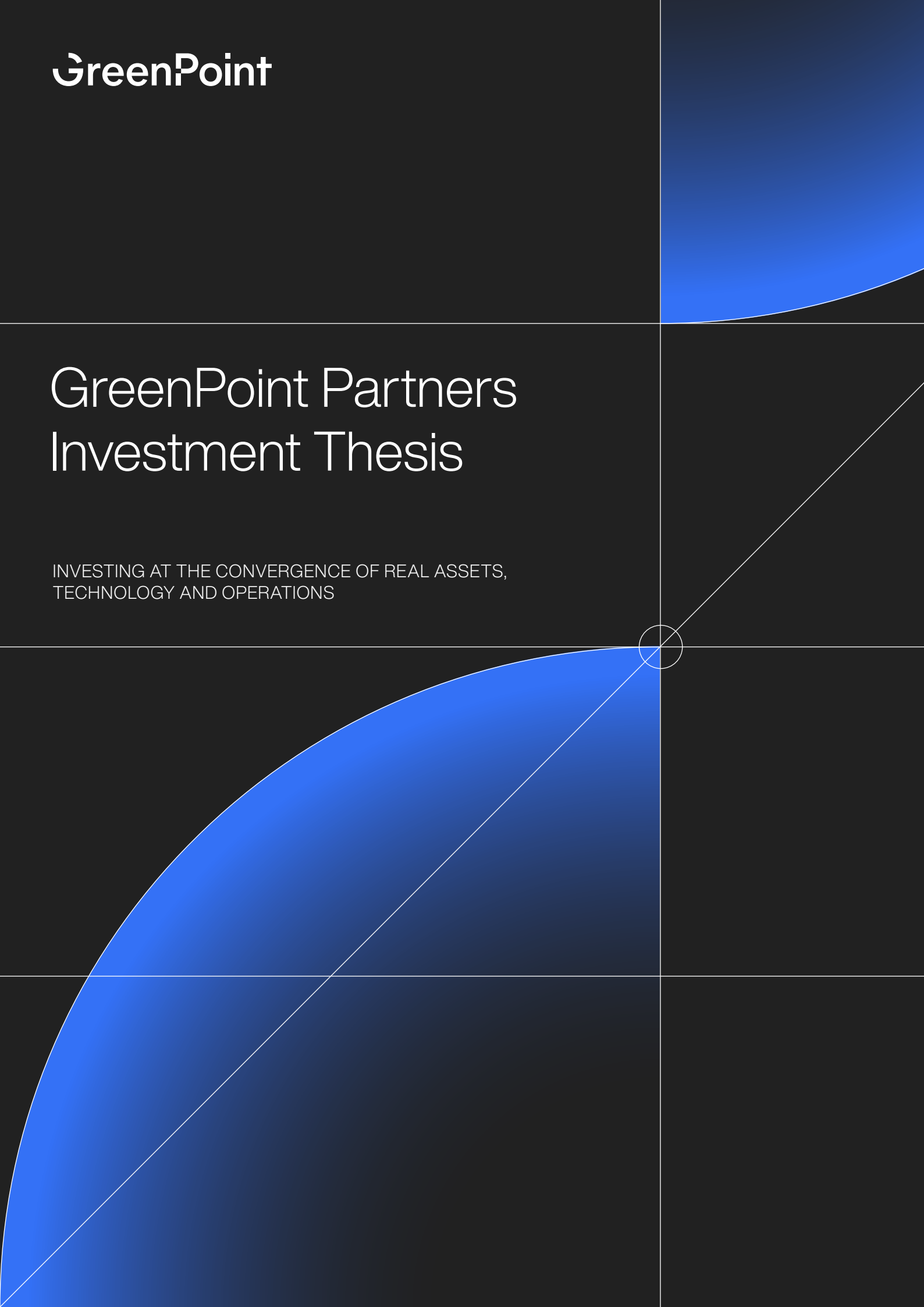# GreenPoint

GreenPoint Partners Investment Thesis

INVESTING AT THE CONVERGENCE OF REAL ASSETS,
TECHNOLOGY AND OPERATIONS

GreenPoint is a global real assets investment firm, established in 2019 to invest at the convergence of real assets, operations, and technology. As we approach our 5-year anniversary it is a good time to refine what we mean by this statement.

Technology continues to evolve at an ever-faster rate: change over the next 20 years will be orders of magnitude greater than what we experienced over the past 20 years. It is very hard (probably impossible) for humans to truly comprehend this compounding rate of change, but at GreenPoint we try as best we can to incorporate this backdrop as we lay out our 5- and 10-year projections for the world.

Change doesn't happen uniformly across industries, and physical assets have tended to be much slower to change. Borrowing from Stewart Brand's concept of Pace Layering, we have our own version that we use to navigate the different elements we engage with as a firm.

GreenPoint "Pace Layering"

The typical time spans of foundational change as you move down the layers are broadly: Technology (1-5 years), Business (5-10 years), Real Estate (10-30 years), Infrastructure (30-100 years), Natural Capital (100 – 1,000,000 years). The layer above tends to speed up the layer below while the layer below resists and slows down change from above.

The fastest moving layer is **Technology**, which has rapidly created "new" things, and in turn generated novel businesses, that have gone on to disrupt existing business models. Think of the profound change that has been unlocked by iPhones, Google search, social networks, cloud computing, digital payments, e-commerce, cryptocurrency and, more recently, Artificial Intelligence. Now, think of the adverse impacts felt by legacy businesses such as newspapers, cable networks, bookstores, record labels, commodity trading floors, and numerous others. The combined market capitalization of companies executing these new business models exceeds $10T[1], from technology that didn't exist at the turn of the century, while many of the latter legacy-linked companies are bankrupt.
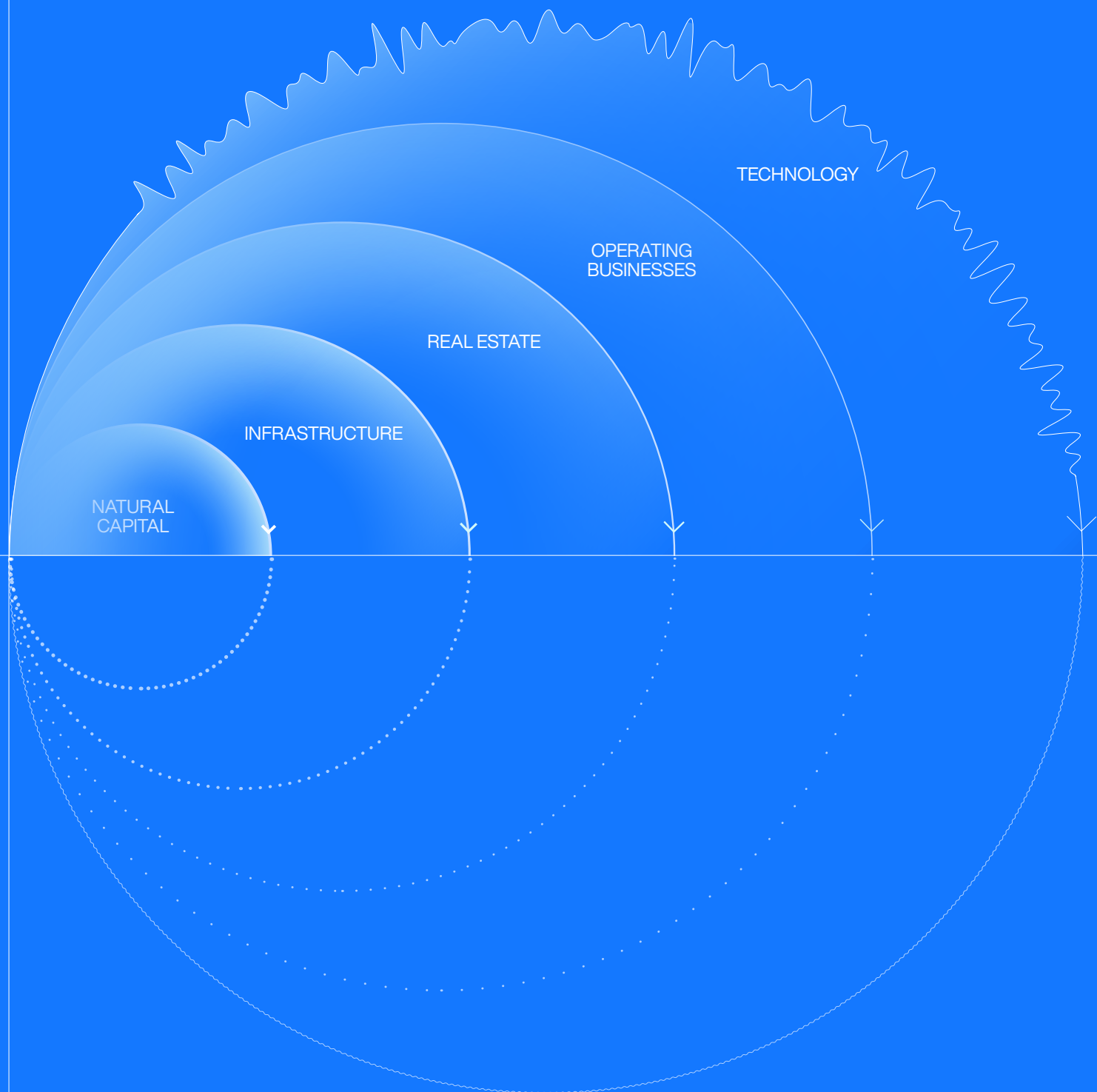
The rapid shift from the Blackberry to the iPhone is an example of the 1–5-year cycle of foundational change in technology and demonstrates the insecurity of market position without constant innovation.

Change has been much slower in the layers below: Real Estate, Infrastructure and Natural Capital, collectively known as **Real Assets**. Houses, offices, roads, airports, rail lines and farms haven't changed that much in the past 25 years. But change at these layers is also accelerating, and while the physical form changes at a slower pace, the utility and fungibility of these assets can be shifted by Technology cycles.

And from the bottom layer, Nature, which somewhat obviously underpins all Natural Capital investments, is increasingly exerting its resistance to change with the volatility in weather patterns and ecosystems driven by climate change, water shortages, and biodiversity loss. Investing **Sustainably** is now an important component of all layers to ensure that Nature will in turn support us for the next 1,000,000+ years.

This backdrop informs GreenPoint's core thesis to invest at the convergence of real assets, technology and sustainability. We believe that the most compelling investment opportunities and business models are going to be at the intersections of these historically disparate components. Our role as investors is to observe opportunities for accelerated change, and either invest actively or passively at the moment when that change is near and value creation imminent. And we aim to achieve this sustainably.

1   https://www.globaldata.com/companies/top-companies-by-sector/technology-media-and-telecom/global-it-software-companies-by-market-cap/#:~:text=Comprehensively%2C%20the%20top%2010%20IT,Inc%20is%20the%20lowest%20(%24

TECHNOLOGY

OPERATING
BUSINESSES

REAL ESTATE

INFRASTRUCTURE

NATURAL
CAPITAL

Thanks to Stewart Brand, The Clock of the Long Now (1999), for inspiration.

What are Real Assets?

Real Assets are the physical assets we all use and rely on in our everyday lives – Real Estate (e.g., offices, warehouses, and houses), Infrastructure (roads, ports and airports), Energy (generation, distribution and storage), and Natural Capital (Natural Resources, such as agriculture and forestry, along with more contemporary models associated with regeneration and carbon capture). However you measure it, real assets are an immense market: Real Estate alone globally is over $400T[2], with many more trillions in Infrastructure, Energy and Natural Resources. Given the sheer size of real assets, the investment opportunity is going to be colossal as these sectors evolve.

Where is the Convergence?

By seeking to invest at the "intersection" we are overtly stating that we want to invest where the layers actively impact each other. Like tectonic plates, you only notice them moving when they collide with another plate. Further, technology is not only speeding up the layers below, but is also blurring the lines between the layers (more on this below).

Our thesis is that investing in one or the other simply isn't sufficient anymore. In the last 10 years around real assets, we have observed that there has been a raft of new, emerging and ultimately made-up segments that merged words but focused on investing solely in technology: PropTech, InfraTech, AgTech, ClimateTech, etc. Real Asset owners and users have often dabbled with technology without any fundamental shift in their business model.

We don't seek to invest separately in Technology and Real Assets — we aim to identify the mega-themes that will drive change across both. Rather than treating bits and atoms separately, we look to combine them in new and novel ways. In so doing, we believe that we are creating new investible strategies where real assets, technology and operations become fully intertwined and indistinguishable, with each component compounding the critical characteristics of the other and driving outsized margins in large market cap industries.

Conventional thinking has spawned many competent but highly specific investment firms that stick to either a single asset class (e.g., Real Estate) or a single theme across a handful of asset classes (e.g., growth equity).

This concentration places investment managers on one ring of the Innovation/Change cycle and means that the opportunities to capitalize on a fundamental shift in their investment realm either need to happen by luck, or by being patient enough to await the large shifts on a 5-25-year cycle. GreenPoint can see across the top of these sectors, thereby allocating capital to strategies spanning the traditional segments, and driving value via enhanced cross sector collaboration. **Several large, sophisticated pension and sovereign wealth funds are seeking to pursue opportunities across their historical silos.[3]**

Reframing the concept of Infrastructure?

When people describe infrastructure, they tend to think of very large assets physically connected – airports, ports, energy grids, bridges, roads and rail lines.

The Oxford definition of infrastructure is: "the basic physical and organizational structures and facilities (e.g. buildings, roads, power supplies) needed for the operation of a society or enterprise."

But as we outlined above, technology has and will continue to shift this fundamental notion of what constitutes Infrastructure. Therefore, we have adopted a broader definition of Infrastructure:

"the physical, digital and organizational structures, facilities and networks (e.g. buildings, roads, power supplies, natural ecosystems, digital, social and payment networks) needed for the sustainable operation of a society or enterprise."

This can have various labels "Techno-Infrastructure", "Digital-Infrastructure" "Infrastructure 2.0" or simply "Infrastructure" (but with a broader definition).

For centuries, technology shifts have led to generational shifts in industry and infrastructure, aka Industrial Revolutions: Gutenberg's printing press, Watt's steam engine, Jacquard's loom, Henry Ford's mass manufactured car, are highlights of what are generally categorized as the first four historical revolutions. This time, the technology is not only physical, but also digital, making the breadth of change far broader, and the rate of change exponential.

2   https://www.costar.com/article/135327380/total-value-of-global-real-estate-hits-3977-trillion

3   https://www.hamiltonlane.com/en-us/insight/2023-real-assets-market-overview/environment

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REAL ASSETS | TECHNOLOGY | SUSTAINABILITY

Technological revolution Country of initial development	Techno-economic paradigm 'Common-sense' innovation principles
First The 'Industrial Revolution' Britain	Factory production
	Mechanization
	Productivity / time keeping and time saving
	Fluidity of movement (as ideal for water-power machines, and for transport through canals and other waterways)
	Local networks
Second Age of Steam and Railways In Britain and spreading to Continent and USA	Economies of agglomeration / Industrial cities / National markets
	Power centers with national networks
	Scale as progress
	Standard parts / machine-made machines
	Energy where needed (steam)
	Independent movement (of machines and transport)
Third Age of Steel, Electricity and Heavy Engineering USA and Germany overtaking Britain	Giant structures (steel)
	Economies of scale of plant / vertical integration
	Distributed power for industry (electricity)
	Science as a productive force
	Worldwide networks and empires (including cartels)
	Universal standardization
	Cost accounting for control and efficiency
	Great scale for world market power / 'small
	Is successful; if local
Fourth Age of Oil, the Automobile and Mass Production In USA and spreading to Europe	Mass production / mass markets
	Economies of scale (product and market volume) / horizontal integration
	Standardization of products
	Energy intensity (oil based)
	Synthetic materials
	Functional specialization / hierarchical pyramids
	Centralization / metropolitan centers-suburbanization
	National powers, world agreements and confrontations
Fifth Age of Information and Telecommunications In USA and spreading to Europe and Asia	Information-intensity (microelectronics-based ICT)
	Decentralized integration/ network structures
	Knowledge as capital / intangible value added
	Heterogeneity, diversity, adaptability
	Segmentation of markets / proliferation of niches
	Economies of scope and specialization combined with scale
	Globalization / interaction between the global and the local
	Inward and outward cooperation/ clusters
	Instant contact and action / instant global communications

Infrastructure 2.0

Many of the world's most successful organizations regarded as *"Tech Companies"* have achieved their success through creating *Infrastructure:*

amazon

Known for e-commerce, Amazon is a logistics company that owns / leases a global connected physical network of warehouses, data centers, planes and trucks. Amazon's business is the infrastructure of moving packages.

Apple has a wide array of physical products: laptops, iPhone and airpods. They are great products, but importantly, Apple was able to create the "rails" or infrastructure for two very valuable networks - The App Store and the digital wallet.

Microsoft

Originally a software company, Microsoft has transitioned to a business that makes 50% of its net income ($83 billion) from its data center infrastructure network, Azure.

TESLA

Tesla didn't invent the Electric Vehicle despite being widely regarded (and valued) as the global leader. At its core, it is a manufacturing business and its physical charging network (infrastructure) may end up being one of its most valuable businesses.

Meta

Created the idea of a social network, and by connecting the over 3 billion people that use their products daily, created a new form of social infrastructure.

Uber

Created a transportation infrastructure company without actually owning any vehicles.

This is all perhaps obvious in hindsight. Microsoft wasn't the first company to build a data center, but they took advantage of broader technology shifts to seamlessly integrate the technology (access) with the business (existing customers) and the real estate / infrastructure to facilitate cloud computing. This fusion of technology, business, energy and physical assets created essentially what we today call Infrastructure, becoming a compelling and valuable investment opportunity globally.

What all these companies have in common is a power law distribution (winner takes most), versus a typical Gausian bell curve (see oppsite). This is perhaps another lens to define Infrastructure – both physical and digital. Airports are physical assets obviously imbued with power law distribution. Most large cities have one, maybe three, airports but not 20. The companies above have carved out a similar position across the physical and digital layers: there are three large cloud providers (Amazon, Microsoft, Google), a handful of social networks, one Amazon, one AppStore per brand, two digital wallets (Apple Pay, Google Pay), a couple of dominant ride share companies, and two truly national US EV charging networks (Tesla, Electrify America).
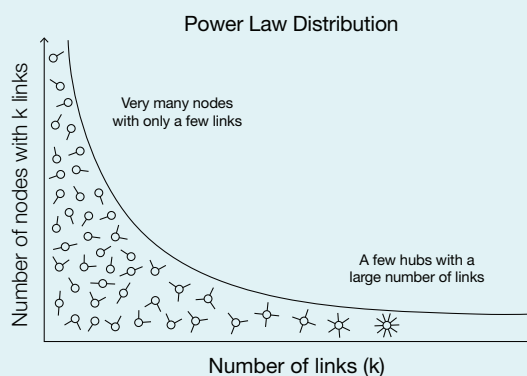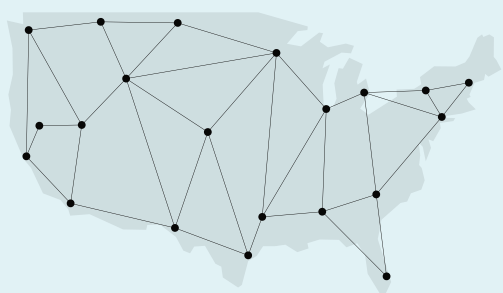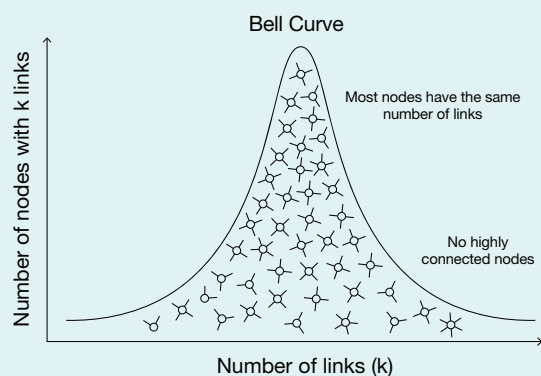
How does investing at the convergence deliver value?

The ultimate goal for investors is identifying businesses just as they are on the cusp of the shift to a power law / winner takes most market. This has been the playbook for venture investors over the past decade – think Airbnb, LinkedIn, Slack, Uber, etc.

But in the physical realm, the creation of Infrastructure assets was historically the purview of governments given the cost + risk of building, say, an airport[4]. These assets would then be sold to Infrastructure investors as a long-term investment. Occasionally these assets would be developed in a PPP or Public Private Partnership.

However, technology-enabled interconnectedness now allows companies to shift from individual nodes into Infrastructure (both physical and digital). This allows us to create new distributed Infrastructure portfolios that get the benefit of power law return distributions (winner takes most) without trying to go head-to-head with incumbents that already have an unassailable position.

4 https://origins.osu.edu/index.php/article/how-public-and-private-enterprise-have-built-american-infrastructure

Bell Curve

Power Law Distribution

Source Baillie Gifford Hyper-connected Networks: Seedbeds of Growth

Growth or Technology investing generally involves *relatively small* ($8m-$14m was the median deal size for later stage VC backed companies in 2022 and 2023, respectively)[5] investments that are high risk but deliver high returns, even after factoring in all the investments that fail – usually targeting 30+% returns. Real Estate and Infrastructure on the other hand involves *very large* investments (JFK's Terminal One redevelop cost an estimated $9.5bnm for example)[6] with low risk but lower returns, with very little to zero portfolio failures – usually targeting 8+% returns.

As the layers have blurred, some obvious failures have occurred. WeWork masqueraded as a technology company, receiving funding from venture investors like Softbank but, in fact, has the characteristics of a real estate company and turned out little to no technology[7]. It ended up in the worst possible quadrant, making very large investments with high risk and low (negative) return.

But what excites us is that the inverse is also true when investing in platforms that combine physical assets, operational expertise, and enabling technology to deliver infrastructure built for the next generation.

Integrating *relatively small* technology investments applied across a *very large* asset base allows for a significant increase in absolute dollar return. Further, using technology to connect a network of disparate assets allows a premium for the whole over the sum of the individual parts.

Achieving a 3x MOIC on a $10M venture investment delivers a $20M profit (a result above the median return for most venture funds). Making a $10M investment in a $2B portfolio of real assets requires just a 1% improvement in the overall value to achieve the same aggregate dollar return on investment.

Our vertically integrated platforms combine assets, operations, and technology, creating resilient businesses that can evolve over time. By embedding technology and operational expertise directly into these platforms, we enhance the performance of underlying assets and unlock new sources of value that standalone approaches cannot achieve.

5   https://www.statista.com/statistics/828788/venture-capital-median-deal-size-by-stage/

6   https://www.airport-technology.com/features/the-10-most-expensive-airport-construction-projects-in-2022/?cf-view

7   https://www.bloomberg.com/profile/company/0134620D:US

GreenPoint
REAL ASSETS | TECHNOLOGY | SUSTAINABILITY

What are some of the tectonic changes we are focused on that create investment opportunities?

1	**Energy Transition of Transport**	The fuel source for transportation has been relatively unchanged for the past 100 years: oil. This is unsustainable. Over the coming 10-20 years we anticipate that transport will no longer be primarily fueled by oil but by a mix of electricity and hydrogen. This is going to require a fundamental re-aligning of all the existing infrastructure supporting transport and fueling. This will put pressure on already strained electricity grids; access to power is itself becoming infrastructure.
2	**Distributed Infrastructure: Integrating Physical Assets & Digital Networks**	We are investing in multiple distributed infrastructure platforms including: Software-led integration of distributed energy generation sources and EV charging arrays into a single network. Truck & outdoor storage asset network that allows national carriers to connect a virtual network of physical spaces directly into their route planning software to increase the efficient flow of goods around the USA.
3	**Closed Loop Networks**	The shift from independent (e.g. credit cards) to an interdependent or closed-loop network across physical assets creates an ever-increasingly valuable asset. The more users / assets on the platform, the more valuable the network. This in turn provides significant compounding benefits to the users – lower costs, real time data, flexibility, and enhanced services. Toast and Square are great examples in hospitality and retail. We are pursuing closed loop networks across physical assets such as Relay Payments (US$800B US trucking industry) and Monta (EV charging).
4	**Natural Capital**	Viewing Nature as a form of Capital is a relatively new concept but Nature is a finite resource that not only stores value (like gold) but also supports life. Nature related projects have the capacity to deliver financial returns as well as sequester carbon, restore ecosystems, and enhance biodiversity. Technology will enable us to measure these historically hard to measure metrics. Key areas for investment include nature-based carbon removal projects and regenerative agriculture (which is also lower in carbon intensity), both of which also support enhanced nature health and biodiversity.
5	**Edge AI / Computer Vision**	Today's Machine Learning ("ML") stage of AI adoption precedes a much larger AI market in model deployment to the AI inference phase, followed by an even bigger market in endpoint or edge AI inference. Machines, vehicles, wearables, and edge sensors across the physical world will start providing an immense amount of data. But harnessing the data for real-time analytics requires a different approach from the cloud, requiring advancements in edge computing and AI. Computer vision will unlock significant value across real assets. For example, managing a much larger footprint/scope of real assets in real-time from a centralized location.

Conclusions

We are at the very beginning of the expanding convergence of real assets, technology and operations. We are excited to pursue the current identified opportunities with our partners, along with future ones just over the horizon at these important intersections.

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