



Greensill

FINANCING THE FUTURE OF 5G

Rolling out the fifth generation of cellular mobile technology – 5G – is a multi-trillion dollar communications revolution that will profoundly change every aspect of our lives.

And the cost of this transformation just keeps increasing. Initial estimates put the financial outlay required for 5G at somewhere between \$500 billion and \$1 trillion, but this number was attributed only to the cost expected to be incurred by telecoms carriers as they upgrade vital infrastructure.

But 5G is about much more than that. This latest technological upgrade, dubbed the fourth industrial revolution, is actually about upgrading everything from our cars, refrigerators and ovens to our buildings, factories and hospitals. Everything will be 5G once this generational project is complete.

The most recent analysis of 5G spending by Greensill, the world's biggest non-bank provider of working capital solutions, estimates the total bill for the 5G roll out throughout the global supply chain is likely to top \$2.7 trillion by the end of 2020 alone.

Tony Wonfor, Greensill managing director and telecom industry veteran, believes this number will keep on rising as the 5G project has exponential growth prospects across every sector of the global economy.

“Spending on 5G roll out is just the thin end of the wedge,” Wonfor says. “This project is actually about funding the growth of the internet of things and industrial connection to that.”

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out in global
supply chain



Greensill forecasts show around \$1.7 trillion of business and consumer investment in the so-called internet of things by the end of 2020. Meanwhile, Greensill data show the telecoms industry requires an estimated \$1 trillion of investment for infrastructure upgrades to accommodate 5G, particularly in Asia and the Americas.

“So, we are looking at a total worldwide spend associated with 5G and IoT of at least \$2.7 trillion by the end of 2020,” Wonfor says, “with the assumption that this will continue to rise for the foreseeable future.”

With 5G, consumers will benefit from faster download speeds and always-on internet connections with fewer network black spots.

The 5G business model is much more about industry access to connected mobile devices in manufacturing processes across industries such as automobiles, transport and logistics, power generation and efficiency monitoring, however.

“In the automotive industry, for instance, 5G will be important for tracking components through the supply chain and in to the manufacturing process, then right through to an end product that has connectivity beyond anything we have seen so far.”

Tony Wonfor, managing director for EMEA origination, Greensill



“Then, we will also see different mobile services emerging on the back of that, anything from automated traffic systems to power management and the ability to improve transport logistics in our ever-busier cities,” says Wonfor.

These new services will deliver hundreds of billions of dollars in new business. In a research note in October 2018, Morgan Stanley predicted \$156 billion of incremental revenue attributable to 5G in just seven market sectors. Manufacturing automation accounted for \$64 billion, while automated healthcare services were expected to add \$32 billion of new revenue streams.

At the same time as the bills to build this new infrastructure are rising, network operators are having to put aside substantial sums to bid for slices of the higher frequency spectrum that is required to offer 5G services. An auction in Italy in autumn 2018 raised €6.55 billion as opposed to the €2.5 billion many commentators had expected.

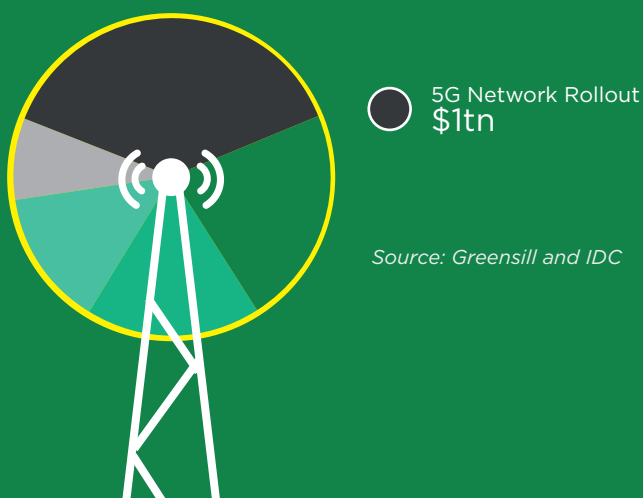
With spectrum auctions coming up in two of the main markets, Germany and UK, investors are nervous. “We note that operators are ready to pay more than we anticipated for 3.4-3.8GHz spectrum [suitable for 5G],” said a research note from Barclays. “Generally, we see potential risk in the upcoming UK and Germany auctions that are expected in 2019.”

Securing a bigger slice of the spectrum to build bandwidth and capture ever-growing numbers of subscribers with the promise of unlimited data is the traditional route to success in telecoms. In that model, the graph of new consumers being acquired and, thus, providing steadily increasing levels of monthly rental income was always ahead of the amounts required to cover the debt repayment schedule.

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\$2.7tn TO BE SPENT ON 5G ROLL OUT BY 2020

GLOBAL NETWORK UPGRADES



“THE INTERNET OF THINGS”



That business model has now been called into question as new subscriber numbers appear to have reached a plateau.

According to an analysis by Citi Research: “3G and 4G cycles showed how hard it is to monetise bandwidth growth or new technology-driven quality differentiation under the traditional wireless business model”.

The result is that the roll out faces a cashflow squeeze from both sides. Operators cannot tap banks to build the infrastructure they need to offer 5G as easily as before because Basel III rules on capital adequacy mean this level of funding would suck too much capital out of them. Meanwhile, investors are wary of ploughing money into a revenue generation model with questionable growth prospects.

To add to this air of uncertainty, it is anticipated that the arrival of full-blown 5G will see non-telecoms companies entering the market such as big data companies, car manufacturers, healthcare providers, construction companies and logistics specialists putting a further squeeze on already stretched telecoms balance sheets.

There is a growing belief that the only sustainable way forward is for all parties who stand to gain from 5G to form strategic partnerships for the roll out and subsequent development.

“The natural direction for this to go is shared infrastructure and shared networks which is very difficult to achieve given entrenched competitor and investor positions,” says Wonfor.

“Operators want to provide their services but don’t want to make a huge infrastructure investment spend only for it to be repeated by other players in their market, because that results in over-building network.”

Strategic partnerships that might see an equipment manufacturer, a network operator, a car firm and a data company link up will inevitably create requirements for new supply chain models that both ease cashflow pressure and, potentially, impact on end-user prices.

“We cannot make an iPhone or the 5G roll out cheaper, or change the price of what consumers want to pay, but once there is a model we can optimise the finance in that ecosystem,” says Bart Ras, UK managing director of Greensill. “That leaves more money on the table and, quite often, that money ends up in reduction in contract prices for consumers.”





“Ultimately, we provide working capital in supply chains and the way we do that is see where that liquidity makes most sense and also where it is economically best structured to reduce the cost of it.”

Bart Ras, UK managing director of Greensill

Greensill already has a pioneering financing scheme for mobile phone handsets. It has set up off-balance sheet purchase facilities, which ease debt levels in businesses that are often highly leveraged, by creating bonds sold to investors secured on the handset receivables.

Now Greensill is looking to apply similar thinking in the 5G roll out. “There is a lot of liquidity in the financial system and money is looking for returns,” says Ras. “The absolute amounts out there are way more than sufficient to fund the roll out.”

As it has shown with its innovative solutions for funding handsets, Greensill is working to find a better way to finance the development of what will be the most expensive and exciting technological change of the past 40 years.

Australian Telecoms giant Telstra is one example of a carrier that has reaped the benefits of deploying supply chain finance solutions with Greensill.

George Papanikolopoulos, General Manager, Procurement, at Telstra, said: “Banks have been willing to offer vanilla supply chain finance, but only Greensill has helped take that service to the next level, partnering with Telstra to develop the innovative SCF tools we have deployed.”

By June 2019, Telstra has publicly said it will have invested \$8 billion in its mobile network over the last five years. That effort has laid the groundwork for a massive nationwide 5G mobile launch in 2019, when the first commercial 5G devices will become available.

In anticipation of that the company conducted the world's first connection of a 5G mobile device in December 2018. Its high-speed network enabled Australia's first commercial 5G-to-5G video call, and it has also powered the nation's first 5G-connected car.

Currently, 5G connectivity is live in all major Australian cities, at a total of 200 sites. In the first half of 2019, Telstra will launch 5G-connected smartphones for consumers, allowing Australians to experience blisteringly fast connectivity from their fingertips for the first time ever.

Greensill's Wonfor says fundamental changes are required in the telecoms sector, and more should follow Telstra's lead. "Operators either haven't got, or don't want to have, an investment model similar to the one they used for previous generations," Wonfor said. "Traditionally, it came down to operators taking the build risk and leaving it to sales and marketing to make it pay, or you had manufacturers of equipment having to step into financing to support their sales.

"We see an industry that has gone ex-growth from a consumer point of view at a time when operators still have significant amount of debt that has been used to build their existing networks. They also have investors that expect dividend flow and that is putting pressure on their balance sheets and working capital. In short, they don't want debt or an asset on their balance sheet that is going to be used by someone else with an uncertain payback."



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5G adoption in Europe, which held the lead in mobile technology in the 3G era, is expected to be curtailed by tightening regulation by the European Union and the traditionally fragmented nature of all the main continental economies. In Asia and the US there are three or four main players in each market, in Europe there are around 75 key players.

However, industry watchers point out that the spending – and, therefore, the potential return – will be spread over 10-12 years, as opposed to 6-8 years for 4G. This reflects the higher levels of expenditure and the fact that 5G requires more physical infrastructure to be installed.

One thing is certain, spending related to the 5G revolution requires an entirely new approach to finance.

“Solutions such as supply chain finance, accounts receivable finance and other working capital innovations such as those developed by Greensill are absolutely necessary to fill the inevitable funding gaps we expect to appear as 5G infrastructure spending and related industrial investment materialises,” says Wonfor.

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ACTION POINTS



Greensill calculates the true cost of financing the 5G revolution — which includes the internet of things — will exceed \$2.7 trillion by the end of 2020.



The return on that investment is likely to take 10-12 years, almost double the time it took for the upgrade to 4G.



New partnerships between telcos, equipment manufacturers and business users of the new networks will be required to share costs and spread the risk.



Greensill is developing new working capital models to fund the global roll out while easing the strain on cashflow and balance sheets of those involved.



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