For Modi’s government, technology offers a way to propel the country out of poverty

Narendra Modi will stand up in front of a packed house at New Delhi’s imposing Vigyan Bhavan conference hall on Saturday and declare India on the cusp of a digital revolution. The prime minister will be watched by a host of global internet bigwigs, including Uber founder Travis Kalanick and Japanese telecoms tycoon Masayoshi Son of SoftBank, alongside many of India’s most prominent technology entrepreneurs.

The “Start Up India” gathering marks the latest in a series of events designed to highlight both Mr Modi’s pulling power and tech-savvy reputation. But it also embodies his belief that the elixir of technology can help India overcome many of its most pressing economic and development challenges.

“It [the internet] is an enterprise for India’s transformation on a scale that is, perhaps, unmatched in human history,” he told an audience in Silicon Valley.
in September.

It is easy to understand the enthusiasm. The country’s online population soared past 400m in 2015, according to industry figures, surpassing the US and leaving India second only to China as the world’s most wired nation. Powered by a population of youthful smartphone addicts, this should top 600m by 2020. Official data last month showed mobile phone subscriptions passing 1bn.

Excitement over such numbers helped to stoke a start-up boom last year, bringing in record flows of venture capital funding and attracting increasing attention from Silicon Valley giants like Google and Twitter. Yet Mr Modi hopes that rocketing online use can have an even more profound impact: bolstering growth at a time when India already stands out as a rare bright spot among struggling emerging markets, while also helping to overcome some of its intractable social problems.

“This is a once-in-a-lifetime moment,” says software billionaire Nandan Nilekani, the founder of IT group Infosys, and a figure intimately associated with the outsourcing industry that first put India on the global technology map. “If India is to lick problems like growth, health, education, or jobs, there is no other way but with a dramatic use of technology . . . It is make or break.”

The success of what Mr Nilekani dubs India’s second technology revolution — the first being the rise of its software sector during the 1990s — is far from assured. Despite the impressive numbers, most Indians have never used the internet. Those who do often suffer slow, unreliable connections. Mr Modi’s government has made scant progress delivering schemes to wire up the country’s rural hinterland. And over recent months, doubts have begun to creep in about the lofty valuations of some of its prominent local start-ups.

### Boom town’s shortcomings

Those landing in India’s technology capital of Bangalore might be forgiven for asking whether its internet boom exists at all. It is often impossible to get a 3G mobile signal on the highway from the airport. Calls drop frequently, adding to the frustration of the city’s interminable traffic. Business owners complain about decrepit office buildings and lethargic broadband connections.

For the past year, however, Bangalore has been a boom town. Global venture capital groups poured more than $5bn into Indian start-ups in 2015, according to data group VCCEdge, more than double the amount the year before. Previously scrappy local businesses like taxi-app service Ola and online retailer Flipkart won unheard-of valuations, and global
attention. Flipkart’s last funding round put its worth at $15bn. “It’s been a wild ride,” says Nikesh Arora, president of SoftBank, one of the most prominent backers of Indian tech groups. “Everybody is out there making these bets that the ones they’ve invested in are going to be better than everybody else.”

The biggest US technology companies have also begun turning towards India. All of the so-called Fangs — Facebook, Amazon, Netflix and Google — are investing heavily. Netflix was the most recent, launching its streaming service this month in a country that in time could become its largest market by users. Facebook expects to reach that milestone as soon as next year.

These groups talk about the significance of the “next billion” of internet users coming online in emerging markets. A substantial proportion of those will be Indian; 100m came online last year alone, driven by rapid declines in smartphone costs. That surge left the internet population roughly at the level seen in China in 2010. Those ploughing money into Indian technology businesses now hope the country will go on to mimic China in other ways, in particular by the creation of a generation of fast-growing internet businesses in the vein of Alibaba and Baidu.

Since sweeping to power in 2014, Mr Modi has emphasised India’s digital possibilities. In July last year, he launched a “Digital India” push, to build a national broadband network and bring public services online. Similar announcements are likely this weekend, including measures to tempt local internet groups to list in India, rather than New York or Singapore.

For Mr Modi it is what the technology can do to propel India out of poverty and towards middle income status over the next decade that matters. Growth, which hit 7.4 per cent in the most recent quarter, is the obvious example.

India is in the early stages of a technology spending splurge, as consumers and businesses stock up on everything from smartphones to robots and software systems. Technology investment will jump more than threefold to $238bn by 2023, especially in sectors like telecoms and financial services.

The result will boost productivity, pushing annual growth up 2 percentage points, according
to Goldman Sachs. “It is a very, very significant moment,” says Tushar Poddar, India economist at the US investment bank. “We have technology costs falling and rapid increases in adoption by a young population that is willing to use this in a big way.”

New routes

The roughly 500m smartphones that Indians are expected to own by 2018 will also have important implications for public services. For example, Mr Modi’s government soon hopes to begin paying kerosene subsidies directly into bank accounts created for poorer Indians. Nearly 200m have been opened since he came to power, with many users accessing them via mobile devices. Similar direct benefit transfer schemes could, in theory, save billions of dollars by replacing old-fashioned welfare programmes marred by waste and fraud.

Elsewhere, entrepreneurs and policymakers alike hope mass smartphone ownership can help fix social problems ranging from rural healthcare delivery to child literacy — an area where Mr Nilekani is building an app via his latest start-up, called EkStep. In turn, some of Mr Modi’s backers believe that ideas developed in India can provide a model for the rest of the developing world.

“India’s economic destiny is to provide the entrepreneurial engine and business models for the next 6bn who come online, just as America has been the entrepreneurial engine for the first 1bn,” says Jayant Sinha, minister of state for finance in the Modi government.

Before such grand visions can have any hope of coming to pass, however, India must grapple with the most obvious contradiction in its flourishing technology scene — the gap between the possibilities presented by its increasingly wired population, and the crumbling infrastructure that underpins it.
Those lofty internet statistics are less impressive than they appear. Only about one-quarter of India’s 400m internet users have broadband connections, of which just 20m are fast, fixed-wire connections. Instead most online Indians dawdle along on patchy lines via rudimentary mobile phones.

The number who buy things online is also tiny, at roughly 15 per cent of the total users in the country, according to India Infoline, a broker — limiting the market for online retailers. Internet entrepreneurs complain of other problems. India has bad roads, expensive air freight and a barely functioning postal service, requiring the development of expensive in-house logistics systems. Bureaucratic regulations and aggressive tax rules do not help. “It is just much harder to do e-commerce here than China,” says Vijay Sharma, founder of online marketplace Paytm, which last year raised $680m from Alibaba.

Telecoms groups tend to blame the government for handing over far too little of the mobile spectrum they need to beef up their networks, an area where Mr Modi’s administration has made little progress. Complex planning rules are partly to blame: India laid only 15m kilometres of internet fibre last year, roughly a tenth of the amount in China.

**Upgrading networks**

Some of that may be about to change, according to Ankit Agarwal of Sterlite Technologies, one of India’s largest providers of broadband fibre. Sterlite’s factory in Aurangabad, a manufacturing hub 300km from Mumbai, is working overtime. Inside, gleaming machines turn silicon into glass, which is then spun through scorching furnaces to create the fibre-optic broadband wires — thinner than a strand of human hair — through which internet signals travel.

Stacks of these wires stand at the factory’s exit, ready to be shipped to local telecoms
companies, many of whom are upgrading their networks.

This spending will largely go into urban areas, however, leaving plenty of unanswered questions about the way to connect the countryside, still home to 850m people. Here barely half the population owns mobile phones and internet use remains a rarity. Mr Modi launched a $9bn programme to connect 250,000 villages last year, although India’s record on delivering such projects is patchy, and industry figures say the effort is behind schedule.

India’s online market will be worth $137bn by 2020, according to Morgan Stanley, from $11bn in 2013. But if attempts to spread technology access more broadly fail, the country risks becoming a two-speed internet giant, with one half enjoying internet speeds and services on a par with industrial economies, and the other largely left behind. Even if they succeed, India will remain a far poorer and less urbanised country than China, in effect putting a ceiling on the rate at which businesses like ecommerce can expect to grow.

Money is still flowing into start-ups, but recently a sense of realism has set in as investors become aware that the digital rise of Asia’s second-largest emerging economy is unlikely to be as rapid as its first. This week, Zomato, a food delivery service, began closing operations it had opened recently in some second-tier cities, describing them as too small to sustain its business. Other start-ups are starting to lay off staff, and being asked to cut costs before requesting more money. “[Financial backers] are going to get more discerning,” says Softbank’s Mr Arora.

Yet even if India’s internet economy remains smaller and creakier than China’s, Mr Nilekani is staying firm about the profound changes that the spread of technology will bring.

“India is very much a demand-driven society, and the fact that 1bn people are demanding the kind of changes technology can bring is a hugely powerful thing,” he says. “The digital
transformation might not happen as a straight line. But it will happen, even if we go two steps forward, one step back.”

Infrastructure: Connection plans face hurdles beyond big cities

Commuters waiting on the packed platforms of Mumbai Central railway station will find it a little easier to get online this month, when US technology group Google kicks off a plan to bring free WiFi to 400 Indian train stations over the next few years.

The Silicon Valley group’s effort is the latest in a rush of digital inclusion schemes from big technology groups aiming to expand in India’s booming internet market, many targeting rural areas, where barely 10 per cent of people are online.

Google is also backing a plan to send volunteers on bicycles around 300,000 villages, allowing rural women to experiment with smartphones. Facebook announced last year that it was developing a solar-powered drone to beam internet access into remote rural areas, while Google plans a similar scheme using weather balloons.

Yet most analysts say such charitable plans are unlikely to provide a sustainable means of wiring up the country’s furthest corners, while telecoms groups balk at the costs of extending internet networks into remote areas. This puts more pressure on India’s government to deliver on its “Digital India” plan, notably an ambitious $9bn plan known as BharatNet to install broadband connections across rural India.

A similar grand plan under India’s previous government failed to deliver, while BharatNet is already behind schedule.

“Digital India is a nice slogan, but it isn’t clear what it amounts to,” says Dhruva Jaishankar, a fellow at the Asia programme of the German Marshall Fund. “Implementation is always the toughest part in India, and for the government to deliver this kind of infrastructure will be hard.”