



# India: Reset to USD5 trillion

**Indo-U.S. partnership for supporting  
India's growth objectives**

September 2021

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# Foreword KPMG in India

The India-U.S. relationship is founded on shared values and strong people-to-people connections. In the recent years, the two countries have been working closely on areas of mutual strategic concern, from the Indo-Pacific to climate change. Alongside, U.S.-India trade has grown steadily, covering multiple sectors such as aerospace, defence and security, clean energy, and healthcare.

India presents enormous opportunities for U.S. companies to invest, trade and grow, and create jobs in the country to add to its economic value. U.S. companies are also seeking strategic locations to diversify and de-risk their supply chains, and India is well placed to support them in reconfiguring their supply sources. According to Cushman & Wakefield's 2021 Global Manufacturing Risk Index<sup>1</sup>, India has emerged as the second-most sought-after manufacturing destination globally, proving its ability and a reflection of the scale possible in India.

The dynamics of the India-U.S. relationship are also seeing a shift towards stronger ties in defence and homeland security. Faced with similar security issues, the two countries are expanding the scope of their defence partnership, covering equipment and component trade, technology transfer and military-to-military cooperation across bilateral and multilateral formats.

Over the last few years, India has made remarkable progress in improving its investment climate and becoming an attractive destination for global investors, including the U.S. In fact, with foreign direct investment (FDI) of nearly USD14 billion in FY21<sup>2</sup>, the U.S. emerged as the second-largest investor in India, setting the course for increasingly stronger U.S.-India business engagement.



**Arun M. Kumar**  
Chairman and CEO  
KPMG in India

The Government of India (GOI) has launched ambitious plans to upgrade the infrastructure sector, creating opportunities for international investment and collaboration. Policy interventions in the form of asset monetisation and capital injections, and strong governance should help create a conducive landscape in this sector for U.S. investors and financial institutions.

The burgeoning middle class, availability of robust technical expertise and the Indian population's high fluency in speaking English, continue to be appealing for U.S. investors. India has seen significant improvement in ease of doing business and its economic growth trajectory. Alongside, certain targeted GOI initiatives such as the Atmanirbhar Bharat Abhiyaan, Production Linked Incentive (PLI) schemes and National Infrastructure Pipeline (NIP) hold promise and can enhance India's competitiveness as a manufacturing and/or investment location if appropriately executed.

The Indo-U.S. relationship has received additional stimulus from the Quadrilateral Security Dialogue. Going forward, the two countries need to skilfully recalibrate the current relationship to broaden its reach and ensure continuous meaningful engagement, at both political and industry levels, to sustain their ambitious mutual agenda. As India prepares to meet an ambitious target of becoming a USD5 trillion economy, the U.S. is powerfully positioned as an even stronger partner in this inevitable and important growth story.

<sup>1</sup> 2021 Global Manufacturing Risk Index, Cushman & Wakefield, accessed on 25 August  
<sup>2</sup> Department for Promotion of Industry and Internal Trade

# Foreword AMCHAM

U.S.-India bilateral relations have developed into a global strategic partnership, based on shared values and a commitment to a free and open Indo-Pacific region. Our joint activities range from trade, defence, energy, health, education, space and so much more. In fact, it is often said that our cooperation spans the full scope of human endeavours. The relationship has slowly deepened and broadened over time into a comprehensive partnership.

The U.S.-India partnership seeks to harness the full scope of our advanced scientific and technical capabilities, and the talents of our people to further global development and prosperity. Our mutual ambition flows from our shared identities as Indo-Pacific nations, a region which promises to be the centre of power and economic growth in the 21<sup>st</sup> century.

At the inaugural Quad Leaders' Summit in March, President Biden and Prime Minister Modi joined their Japanese and Australian counterparts in pledging to respond to the economic and health impacts of COVID-19, combat the climate crisis and address shared challenges, including cyber space, critical technologies, counterterrorism, quality infrastructure investment, humanitarian assistance and disaster relief, and maritime security.

Trade and investment have long been at the heart of the U.S.-India relationship. In the last two decades, bilateral trade in goods and services has surged from USD20.7 billion in 2001 to over USD146.1 billion in 2019. This makes the U.S. the largest trading partner of India, and India the 9<sup>th</sup> largest trading partner of the U.S.

In recent years, many U.S. firms have made significant investments or expanded existing operations in India. U.S. companies have become India's largest source of FDI. According to the U.S. Bureau of Economic Analysis, cumulative FDI from the U.S. reached nearly USD46 billion in 2019, though the actual amount is significantly higher, as this figure reflects only investments coming directly from the U.S. and does not capture all forms of U.S. investments. U.S. industry in India has been the key driver, harnessing cutting edge technologies, global skill sets, best practices and corporate responsibility for inclusive growth.

While the stated ambition is to reach USD500 billion in bilateral trade, we feel that the potential is far greater. If Mexico, which is the 15<sup>th</sup> largest economy in the world, did USD677 billion in bilateral trade with the U.S. in 2019, then India being the 5<sup>th</sup> largest global economy can certainly up the ante to USD1 trillion with the world's largest economy — the United States of America.

To achieve this ambitious target and boost India's desire to become a USD5 trillion economy, we believe it is critical for the two countries to address business irritants proactively, and relentlessly pursue the boundless opportunities for collaboration across the various sectors covered in this report.



**Ranjana Khanna**  
Director General CEO  
AMCHAM



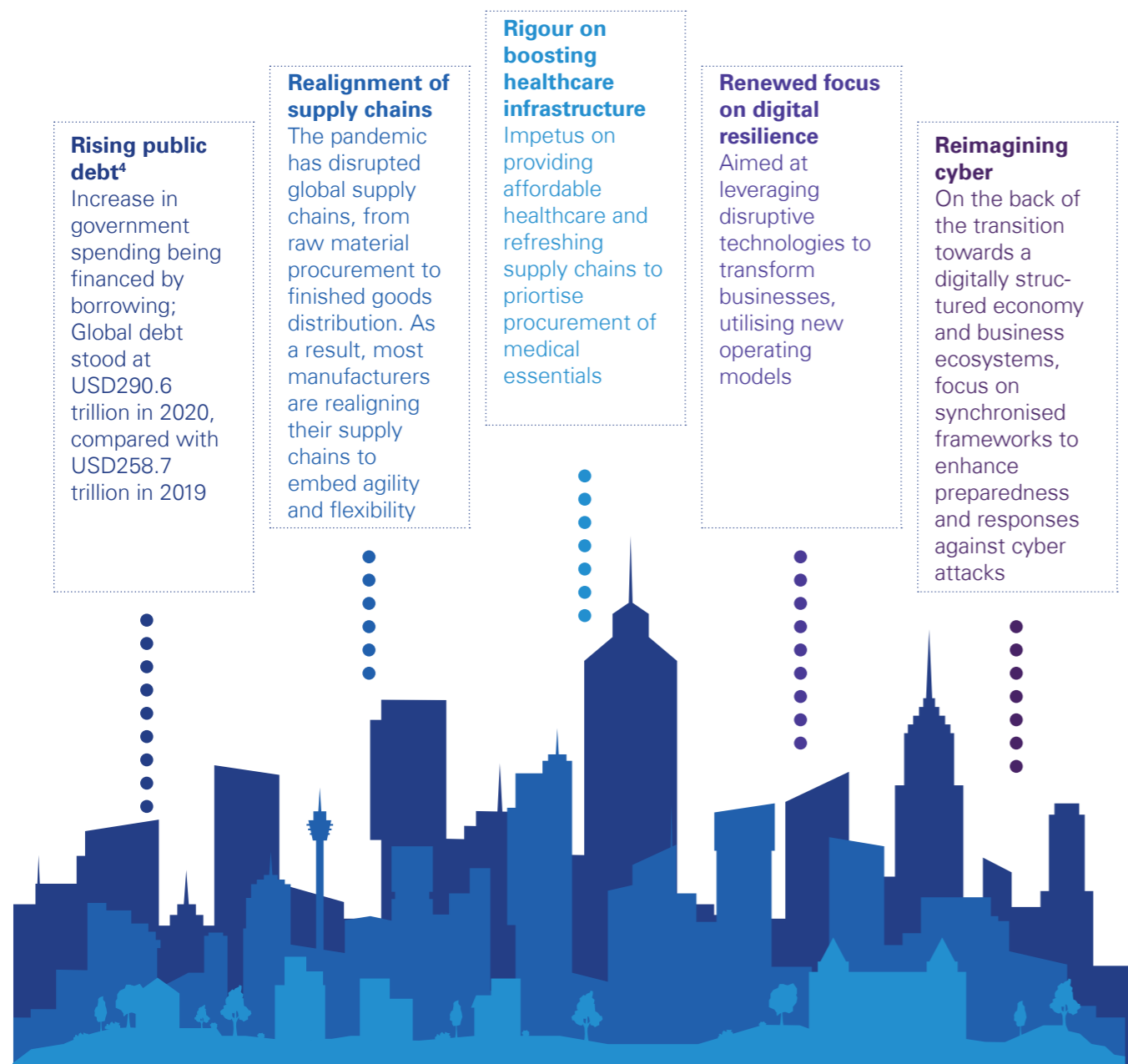
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# Transcending the pandemic: emerging trends

While the COVID-19 pandemic has had a significant adverse impact on lifestyles and livelihoods, it looks set to bequeath significant changes in a manner in which humanity transacts in the economic and social domains. We are hopefully seeing the beginnings of the end-game of the pandemic, and an undercurrent of optimism is now palpable across nations, as vaccination programmes roll out and gain traction.

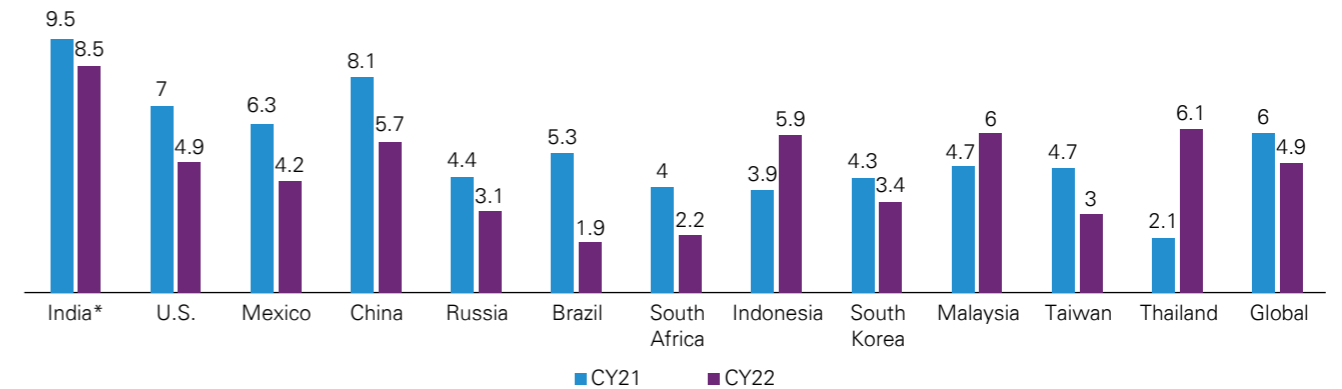
The World Bank estimates growth of the global economy to touch 5.6 per cent in 2021<sup>3</sup>. While the growth trajectory is expected to be uneven across different countries, certain common secular trends emerging in the post-pandemic world are becoming visible.



<sup>3</sup> Global Economic Prospects, The World Bank  
<sup>4</sup> Global debt rises \$32 trillion in 2020 amid Covid pandemic: Moody's

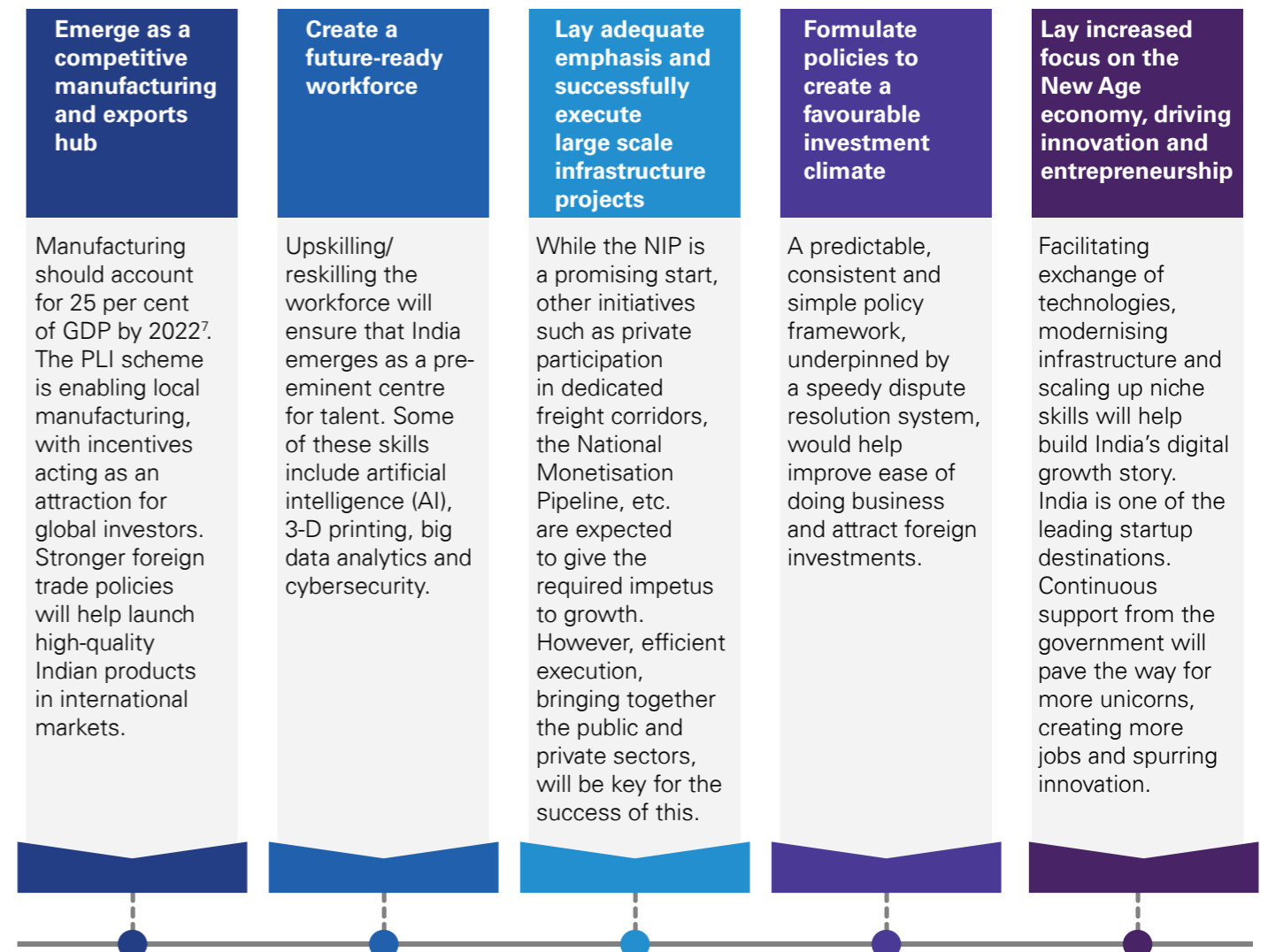
India's GDP contracted by 7.3 per cent in 2020–21. However, with adequate government support and gradual opening-up of the economy, India registered a 1.6 per cent GDP growth in 4Q21<sup>5</sup>. Further, the International Monetary Fund (IMF)<sup>6</sup> expects India to grow the fastest at the rate of 9.5 per cent against a global average of 6 per cent.

## Real GDP growth (in per cent); IMF projection



Note: For India, data and forecasts are presented on a fiscal year basis, with FY 2020-21 starting on April 2020, and FY 2021-22 starting on April 2021  
Source: <sup>6</sup> IMF World Economic Outlook, Database, July 2021

## Long-term, sustainable growth would depend on India's ability to...



<sup>5</sup> Quarterly estimates of GDP, MOSPI  
<sup>7</sup> Manufacturing sector would contribute 25 per cent of the GDP by the end of 2022: Mahendra Nath Pandey, Minister of Heavy Industries and Public Enterprises

## Indo-U.S. partnership — An evolving journey driven by mutual trust and benefit

The Indo-U.S. relationship has progressively become multi-layered, spanning government, industry, academia and civil society organisations, also at sub-national levels.

USD7.6 billion<sup>8</sup>

Indian students' contribution to the U.S. economy in the 2019–20 academic session

USD13.82 billion<sup>9</sup>

FDI inflows by the U.S. in India in 2020–21; second-largest source of FDI for India after Singapore

10.7 million tonnes<sup>10</sup>

tonnes crude oil supplied by US to India in 2020, becoming the 4<sup>th</sup> largest crude oil supplier to India

Note: List is indicative

Source:

<sup>8</sup> Indian students contributed \$76 billion to US economy last year, *Open Doors Report 2020*

<sup>9</sup> U.S. pips Mauritius as 2nd largest source of FDI in India in 2020-21: *DPIIT*

<sup>10</sup> *Statistical Review of World Energy*,

<sup>11</sup> *India-U.S. defence and security ties stronger than ever before: Ambassador Sandhu, 11 February 2021, The Hindu*

### Quadrilateral Security Dialogue:

- The Quadrilateral Security Dialogue, or Quad, is a critical partnership bringing together India, the U.S., Australia and Japan in a strategic informal dialogue to discuss opportunities of collaboration across military exercises and support a free and open Indo-Pacific region.

### Defence and security

- Pegged at approximately USD21 billion<sup>11</sup>, the partnership encompasses co-production and co-development of defence equipment, charting out reliable and resilient supply chains, undertaking joint research and development (R&D), manufacturing, etc.
- The Logistics Exchange Memorandum of Agreement (LEMOA), Communications Compatibility and Security Agreement (COMCASA), Industrial Security Annex and the Basic Exchange and Cooperation Agreement (BECA) are some of the agreements to facilitate military-to-military cooperation.

### Healthcare infrastructure

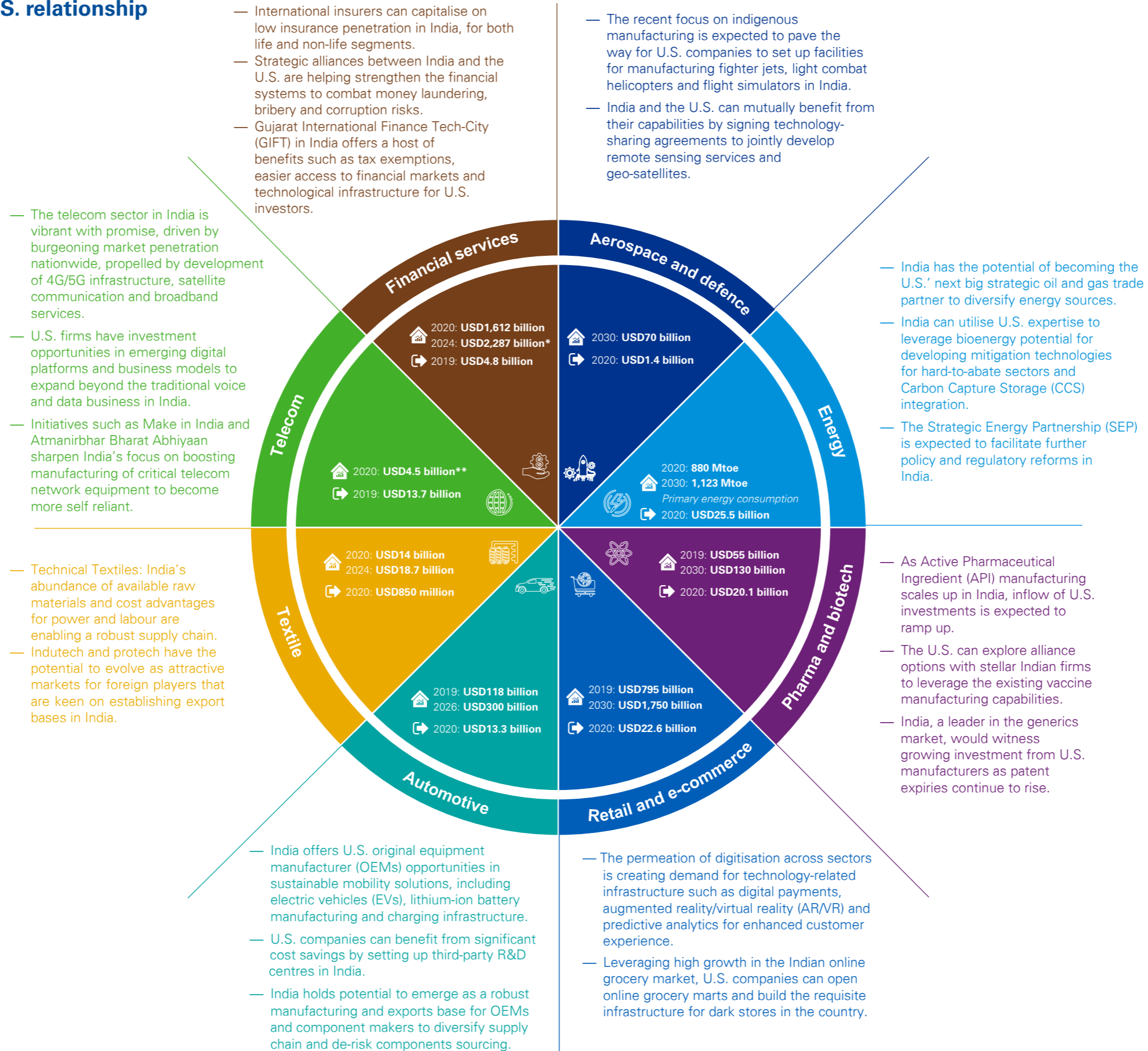
- Digital health technologies provide a significant opportunity for U.S.-India cooperation — this includes remote healthcare, remote diagnostic tools, data warehousing, patient management platforms, etc.
- While India could benefit from more intensive use of technology in healthcare, U.S. companies could benefit from India's highly skilled technical medical personnel as well as knowledge about healthcare services in emerging markets.

### Climate change

- One of the key tenets of cooperation between the U.S. and India is the "U.S.-India Climate and Clean Energy Agenda 2030 Partnership" that seeks to mobilise finance and speed up clean energy deployment:
  - Scale up deployment of innovative clean technologies needed to decarbonise sectors including industry, transportation and power.
  - Build capacity to measure, manage, and adapt to the risks of climate-related impacts.



## Game changers in the Indo-U.S. relationship



**Market size**  
 **Export**

Note: \*Numbers represent total deposits for the financial services sector (banking). This includes current account deposits and time & savings deposits  
\*\*Revised revenue expectations published in Union Budget 2021 Exports for technical textiles include HS Code 7019(glass wool, and articles thereof), 5911(Textile products and articles, for technical uses) and 5407(Woven fabrics of synthetic filament yarn, including woven fabrics obtained from materials of heading 5404 (Synthetic monofilament of 67 decitex or more)

<sup>12</sup> Export Import Data Bank, Department of Commerce, accessed on 14 August 2021  
<sup>13</sup> Financial services exports in current prices, Knoema, accessed on 14 August 2021  
KPMG analysis

# Key enablers for India's growth towards the USD5 trillion mark



**Empowering startups for growth** — India's vibrant startup ecosystem that combines state-of-the-art technical talent with specialised infrastructure, and focused policy and regulatory architecture, is turning into a perfect breeding ground for startups. The startup landscape in the country is entering a phase of sustained and robust growth, largely driven by top talent, innovation in business models, and the permeation of digital infrastructure.



**Transforming the education and skilling landscape: Digital transformation and innovative pedagogy** — The education and skilling market in India has been undergoing a radical transformation, given the need to align talent with emerging industry dynamics and new ways of working. Digital transformation in this sphere has also evidently been spurred by the consequences of the pandemic, and these consequences are expected to be lasting.



**Research and development catalysing innovation** — Demand-led innovation and an increasingly strong focus on R&D to drive productivity and growth is remoulding the Indian business landscape and helping the country grow in sectors such as aerospace, defence, energy, infrastructure and automotive.



**A cohesive approach to driving digital penetration** — India is at the advanced stages of developing a strong and all-pervasive digital infrastructure, which will backstop growth of almost all other sectors, and provide a conducive environment for the induction of digital business models.



**Infrastructure: A key pillar of the economy** — Recent changes in the government's policies aimed at incentivising the creation of much-needed infrastructure are expected not only to spur inward investment, but also improve the competitiveness of the economy by reducing process friction.



**Private capital supporting new-age businesses** — The PE/VC landscape in India is increasingly maturing and becoming more attractive for foreign investors, thanks to its potential for scalability and the emergence of innovative themes and trends, such as the blossoming of startups, and cross-cutting digitisation.

# Empowering startups for growth

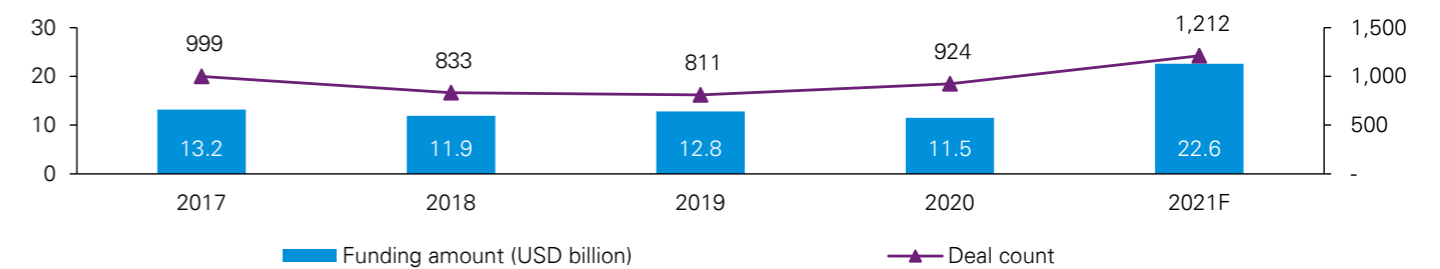
U.S. companies can leverage unique solutions offered by Indian startups, by shortlisting them through competitive pitching.

U.S. academic institutes, in collaboration with the GOI and institutes, can organise technical training programmes for Indian startups.

The U.S. can join hands with the GOI to institutionalise the mentorship programme as well as enable participation of Indian startups in U.S.-based events.

India, with its startup base of more than 53,000 home-grown entities<sup>14</sup>, has emerged as one of the largest startup ecosystems globally<sup>15</sup>. Rapid digitalisation, increase in tech adoption and development of robust business models that can be calibrated to meet overseas market requirements, have fostered a flourishing startup ecosystem, thus attracting investors from across the globe.

## Growth in the deal count and funding likely to continue in 2021



Source: Indian Startup Ecosystem Poised To Make History With \$22.6 Bn In Total Funding In 2021, Inc42, 3 July 2021

52

unicorns (as of 25 July 2021); 18 added in 2021, highest in a calendar year



5.5 lakh

jobs created under Startup India (as of June 2021)



USD10.8 billion

funding received across 614 deals in 1H21



~50 per cent

of investments in Fintech, Edtech and Enterprisetech startups in 1H21



Source: Startup India, Government of India, accessed on 7 April 2021, Unicorns of 2021: Of Business becomes the latest entrant to \$1B club; total number rises to 18; Indian Startups on Track to Record Historical Peak With \$13.7 Bn Funding In 2021, INC42, 13 January 2021

Despite the second wave of COVID-19, the total funding surged 2.1x in 1H21, compared with 1H20<sup>16</sup>, owing to strong fundamentals and bullish investors. This strong

traction can be attributed, in part, to a slew of initiatives taken by the government under its 'Startup India' programme<sup>17,18</sup>.

<sup>14</sup> Startup India, Government of India, accessed on 3 August 2021

<sup>15</sup> India 3rd largest start-up ecosystem; home to 21 unicorns: Ambassador to U.S., Business Today, 6 January 2021

<sup>16</sup> Indian Startup Ecosystem Poised To Make History With \$22.6 Bn In Total Funding In 2021, Inc42, 3 July 2021

<sup>17</sup> Promotion of Start-ups, Ministry of Commerce and Industry, 19 March 2021

<sup>18</sup> Startup India – The Way Ahead, Ministry of Commerce and Industry, accessed on 9 April 2021

## Government initiatives to ACE-IT (domestic startups)

### Access to government tenders and funds

- Startups can apply for public procurement with an exemption provided apropos from the 'previous experience/turnover' criteria.
- To mentor startups, the GOI has set up a USD1.4 billion fund of funds and established the 'Startup India Seed Fund Scheme' with a total budget of USD128.7 million to support startups during the inception phase. Also, it initiated a Credit Guarantee Fund of USD280 million to provide credit guarantee to the lending institution, up to a specified limit.

### Cost reduction

- Startups can avail 80 per cent and 50 per cent rebate on patent and trademark filing fees, respectively, through patent and trademark facilitators.

### Easy exit

- Startups are categorised as 'Fast Track Firms', thus helping them to wrap up operations in 90 days as opposed to 180 days for other companies.

### Incentives & Tax exemption

- Startups certified by the Inter-Ministerial Board can avail tax holiday for three years. In addition, tax exemption is allowed for recognised startups on receiving any consideration for issue of shares exceeding the fair market value.

The government has taken various other initiatives such as the National Startup Awards, Ministry of Electronics and Information Technology (MeitY) Startup Hub — a collaborative platform for tech startups, incubators and mentors — and established more than 7,200 Atal Tinkering Labs<sup>19</sup> in schools to promote industry-academia collaboration and foster innovation. The Atmanirbhar Bharat Abhiyaan scheme provides USD42 billion in free loans to Micro, Small and Medium Enterprises (MSMEs) (which include startups post revising the MSME definition<sup>20</sup>). Also, the government allocated USD2.2 billion in the Union Budget 2021 to uplift MSMEs<sup>21</sup>. In addition, the Securities and Exchange Board of India made it easier for startups to get listed under its Innovators Growth Platform framework, while the Ministry of Corporate Affairs eased rules for overseas listing<sup>22</sup>.

The persistent efforts of the government, coupled with innovative business models and a huge domestic customer base, position India as an attractive startup destination to ally with the U.S.

### Opportunities of collaboration with the U.S

- U.S. companies in India can explore inducting innovation by Indian startups. They can undertake corporate pitching to competitively identify solutions from Indian startups, which in turn can be leveraged by them. For instance, Indian startups are doing

notable work in space. Thus, NASA can consider opening up opportunities for these Indian startups to pitch their products/solutions. Corporate can explore providing access to world class technologies/labs in their offices in India, accessible to Indian startups for testing and fabrication purposes.

- U.S. academic institutes can partner with Indian institutes and central and state governments to run joint technical programmes (sector specific and agnostic) for building capabilities of Indian startups. U.S. institutes can create short programmes (exchange or non-exchange) specifically for Indian entrepreneurs to go onsite to the U.S., and test and refine their products or undergo bootcamps.
- In collaboration with the central government, the U.S. may contribute to creating a large pool of mentors (professionals, corporates, small to medium enterprises (SMEs), etc.) for Indian startups. The GOI is institutionalising a mentorship programme and U.S. can become the first global partner providing access to U.S. mentors.
- The U.S. hosts some of the world's top tech and non-tech exhibitions/events such as the Consumer Electronics Show (CES). Support (financial/non-financial) may be extended to select Indian startups (through competitive process or nomination by central government) to participate in these events.

<sup>19</sup> About AIM, Atal Innovation Mission, accessed on 15 April 2021

<sup>20</sup> Most startups eligible for relief under Atmanirbhar Bharat: Piyush Goyal, CNBC, 5 June 2020

<sup>21</sup> YourStory's 2020 Annual Funding Report: State of the Indian Startup Ecosystem, Your Story, 1 March 2021

<sup>22</sup> Overseas listing just got a lot easier for Indian tech companies, startups, Economic Times, 22 February 2021

## Transforming the education and skilling landscape: Digital transformation and innovative pedagogy

Digital learning has seen a spurt in growth after the onset of the pandemic, with increasing internet and smartphone penetration providing a boost to the edtech sector.

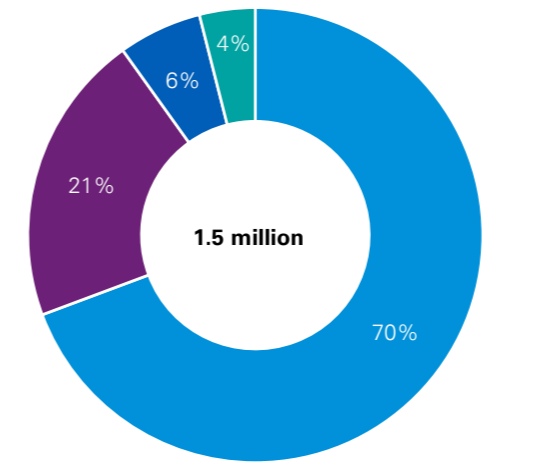
The burgeoning of the online education market and the need to augment digital infrastructure provide new opportunities for inward investments.

The National Education Policy (NEP) is expected to catalyse fresh overseas investment particularly around universities and in the domain of digital learning.

India, with 500 million of its people in the 5–24 year age group<sup>23</sup> and one of the largest English-speaking populations in the world (ranking 50 out of 100 in the English Proficiency Index 2020)<sup>24</sup>, features among the most lucrative markets for international education providers. Further, supportive government reforms, such as the proposed Higher Education Commission of India, which is likely to revive the Foreign Educational Institutional Bill and contains provisions to allow foreign varsities in India, will liberalise and augment external participation in the sector<sup>25</sup>.

The Indian education sector is poised for significant growth, with the public and private sector accounting for 91 per cent of the 1.5 million<sup>26</sup> schools and about 86 per cent of the 264 million student enrolment. In terms of higher education, India had more than 38.5 million<sup>27</sup> students enrolled in nearly 52,000 institutions<sup>28</sup> during 2019–20.

Number of schools, 2019–20



■ Government ■ Private ■ Aided ■ Others

Source: Report on UDISE+ 2019-20

India enjoys a strong relationship with the U.S. in the higher education sector, owing to the fact that Indian students contributed USD7.6 billion to the U.S. economy in the 2019–20 academic session, the second highest after China<sup>29</sup>. India also accounted for 19 per cent of

<sup>23</sup> Education, CCI India

<sup>24</sup> EF English Proficiency Index

<sup>25</sup> Green Light for Foreign Varsities to Set up Campuses in India, 2 October 2019, The Wire

<sup>26</sup> Ministry of Education, Department of School Education & Literacy

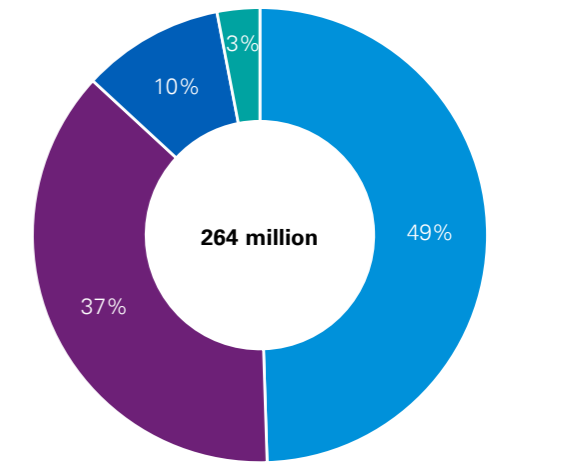
<sup>27</sup> All India Survey on Higher Education 2019-20, Ministry of Education

<sup>28</sup> Can India achieve its enrolment target post-pandemic, University world news

<sup>29</sup> Open Doors Report 2020, IIE Open Doors

<sup>30</sup> US-India Higher Education Partnership A Win-Win Opportunity 2021, US-India Strategic Partnership Forum

Student enrolment, 2019–20



■ Government ■ Private ■ Aided ■ Others

Source: Report on UDISE+ 2019-20

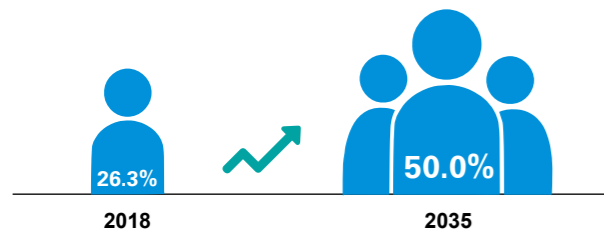
the total international students in the U.S. in 2019<sup>30</sup>. This relationship is expected to strengthen further, with the National Education Policy (NEP) simplifying the regulatory structure and opening up domestic higher education to foreign universities.



### Target to provide at least 50 per cent students with vocational education opportunities

According to the new NEP, the government is focused on increasing the Gross Enrolment Ratio (GER) in higher education, including vocational education, from 26.3 per cent in 2018 to 50 per cent in 2035<sup>31</sup>. From a vocational skill development perspective, there is constant demand for specialised skills, such as medical, and maintenance, repair and operations (MRO). Alongside, India is significantly lagging in terms of the professional to population ratio, and critical strides can be taken by

### Gross enrolment ratio



focusing on specialised skill development.

The U.S., which had more than 950 community colleges providing two-year vocational courses to nearly 8 million students in 2018, compared with just 200 institutes in India<sup>32</sup>, offers an opportunity for top U.S. institutes to collaborate with Indian institutes and scale up the availability of vocational courses in India.

### Edtech putting India on the global map

The pandemic has disrupted the way education is traditionally imparted, thereby creating a huge market for online learning and platforms. Some of the traditionally offline channels have switched to online learning, which is likely to result in an increased user base of 37 million by 2025<sup>33</sup>. This has positioned online learning as a sustainable learning solution, with large money chasing the market.

### Indian online education market (USD billion)



Source: Indian Online Education Market Analysis and Forecasts, Research and Markets

<sup>31</sup> NEP 2020: Modi's Ministry of Education ambitiously aims to achieve 50 per cent Gross Enrolment Ratio by 2035

<sup>32</sup> The Best Community Colleges in the United States, The Best Schools

<sup>33</sup> The Future Of Education: Indian Startups Chase \$10 Bn Edtech Opportunity

<sup>34</sup> The Future Of Education, Datalabs

<sup>35</sup> EdTech's Growth Fueled by Coronavirus, EOS Intelligence

<sup>36</sup> Top universities, colleges may get flexibility for foreign tie-ups, Livemint

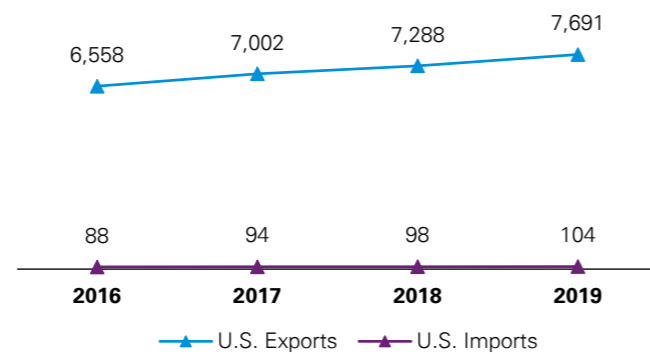
Indian edtech startups have leveraged this opportunity, attracting venture capital investments worth USD1.4 billion<sup>34</sup> in 2020. The Indian edtech market also presents an investment opportunity for the U.S.-based edtech companies, given that 43 per cent of the world's edtech companies are based out of the U.S.<sup>35</sup>

### International collaboration critical to drive scale expansion

Under the NEP, the government has permitted 100 per cent FDI in the education sector to encourage top global institutes to enter India and establish their bases. Support has also been provided to top 100 institutes in the national ranking to collaborate with top 500 institutes globally via the automatic route<sup>36</sup>, helping strengthen academic ties between India and the U.S. institutes.

This will enable universities such as Harvard, Massachusetts Institute of Technology and Stanford to collaborate with some of the premium institutes in the Indian education sector, and create a common platform with mutual benefits.

### U.S.-India bilateral trade in education services (USD million)



Source: UNCTAD

With promising synergies in the sector, the U.S. can look towards easing visa and entry restrictions for Indian students, since they are a major source of revenue for the U.S. universities and significantly contribute to the U.S. Science, Technology, Engineering and Mathematics (STEM) pool. India needs to adopt global standards for testing and admission to enhance the employability of Indian graduates. Initiatives taken by both countries are likely to be mutually beneficial and increase bilateral investment and drive expansion in the higher education sector.

## Research and development catalysing innovation

India and the U.S. can build complementary, innovation-centered partnerships to leverage the inherent R&D expertise of the U.S. and frugal creativity of India.

Products developed for the price-sensitive market of India would allow organizations to design and create offerings that can be globally competitive.

India might need to continue its efforts to simplify and enhance IP protection, for incentivising investments on R&D.

### High potential in defence, space, aerospace, energy and construction R&D

As India embarks on an ambitious growth trajectory, it requires greater emphasis on innovation and increased contribution to the gross domestic expenditure (GERD). It has taken strides in this area, having improved its ranking in the Global Innovation Index to 48 among 131 countries in 2020. India also spearheaded the research on COVID-19 vaccines, with INR900 crore (USD121.2 million<sup>37</sup>) infused into the Department of Biotechnology in November 2020, thereby stimulating domestic manufacturing and positioning India as a global hub for vaccine development<sup>38</sup>.

### Significant room for private investment in R&D<sup>39</sup>

R&D investment in India is dominated by the government (56 per cent of total GERD in 2018<sup>40</sup>) compared with the top 10 economies in the world where the private sector plays a critical role. However, the country is taking measures to boost private investment:

- Improvement in IP filling and granting process, resulting in increased patents being granted
- Increase in patents filed vs. granted from 14 per cent in FY15 to 30 per cent in FY19

### Two-way synergistic collaboration to strengthen capabilities

The U.S., with the highest R&D spending of USD476 billion, accounting for about 2.7 per cent of its GDP<sup>41</sup>, provides an avenue to India for collaboration. Efforts in innovation can be bolstered by building on existing initiatives, such as the United States-India Science & Technology Endowment Fund (USISTEF). The Forum launched the U.S.-India Artificial Intelligence (USIAI)<sup>42</sup> initiative in March 2021, to focus on AI R&D collaboration

<sup>37</sup> Figures converted from INR using exchange rate 1INR=0.01347USD, as on 30 July 2021, Oanda.com

<sup>38</sup> Govt to give biotech department ₹900 crore for covid vaccine R&D, 12 November 2020, Mint

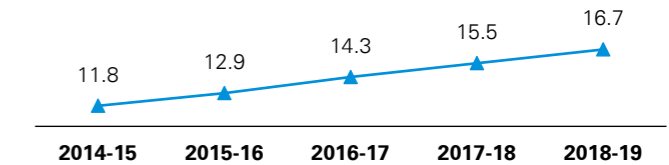
<sup>39</sup> S&T Indicators tables, Department of Science and technology

<sup>40</sup> Economic Survey 2020-21

<sup>41</sup> R&D Spending by Country, UNESCO

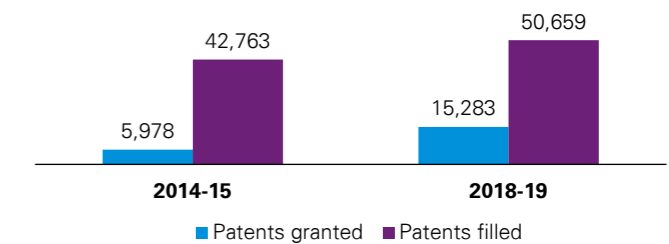
<sup>42</sup> U.S. India Artificial Intelligence (USIAI) Initiative launched, Department of Science and Technology

### R&D expenditure in India on a constant high (USD billion)



Source: S&T Indicators Tables, Department of Science and Technology

### Significant rise in patents granted to patents filed ratio



Source: Annual Report-19, Office of Controller General of Patents

Initiatives need to be taken to encourage residential filing of patents, which is currently lower than the filings by non-residents. Also, there is a need to enhance IP protection and ensure implementation, as it is critical that innovators receive and maintain patents in the country.

and cooperation in critical areas such healthcare, smart cities, materials, agriculture and manufacturing. The U.S. can also help India commercialise the knowledge developed in research institutions and universities, thereby nudging the R&D value chain towards the proof of concept and go-to-market stages faster. The two countries have also formed extensive partnerships in energy R&D across segments, including advanced coal technologies, smart grids, energy storage, clean technologies (including hydrogen) and carbon capture. Further, the U.S. companies that have R&D operations in India can learn the Indian way of cost-efficient innovation (frugal innovation).

# A cohesive approach to driving digital penetration

Driven by the impact of COVID-19, CEOs in India, as in the rest of world, have placed higher emphasis on accelerated digital transformation and are likely to prioritise investments in new technologies (such as AI and ML) and in upskilling and reskilling their workforce to make them future ready<sup>43</sup>.

In India, digitally-enabled startups witnessed remarkable growth, with 11 startups claiming the unicorn tag in 2020 (up from nine in 2019)<sup>46</sup>. It is on track to have a 50-plus strong unicorn club by 2021–22<sup>47</sup>. This has been driven by a surge in M&A deals worth about USD3.8 billion in 2021 (YTD) compared with USD1.3 billion in 2020<sup>48</sup>.

The U.S. is the second-highest contributor to FDI inflows in India, after Singapore<sup>44</sup>, and has the potential to rank among the major markets for Indian IT services. This is primarily due to the government's active role in facilitating growth and investments for the digital economy by focusing on a robust and expansive digital communication infrastructure across the country<sup>45</sup>.

The accelerated pace of the Indian SaaS market (~1.5 times higher than the global market<sup>49</sup>), potential of IoT technologies, and relevant talent pool in India will open up collaboration avenues for the U.S. firms to make strategic investments across key industries such as healthcare, energy and automotive.

## Assessing India's digital landscape and the road ahead<sup>50</sup>

Current market scenario	Expectations
In FY20, the digital economy accounted for nearly 7–8 per cent of India's GDP.	The Ministry of Electronics and Information Technology (MeitY) plans to scale this up to 20 per cent of the GDP in the next five years.
The PLI Scheme announced in 2020 for electronics manufacturing aims to boost domestic manufacturing of mobile phones and specified electronic components and attract investments in these sectors.	Banking on this PLI scheme, the Electronics System Design and Manufacturing (ESDM) sector in India is projected to touch USD220 billion in FY25.
India's digital economy has more than 750 million internet subscribers (second to China).	India is projected to touch 900 million active internet users by 2025.
In FY21, India's IT and BPM industry revenue was estimated at USD194 billion (up by 2.3 per cent y-o-y), domestic revenue was at USD45 billion and export revenue at USD150 billion.	New-age technologies such as artificial intelligence (AI) and machine learning (ML) are expected to bolster India's annual growth rate by at least 1.3 per cent by 2035.

<sup>43</sup> KPMG in India CEO Outlook 2020- COVID-19 Special Edition

<sup>44</sup> Department for Promotion of Industry and Internal Trade

<sup>45</sup> Digital Infrastructure: Backbone of a Digital Economy, KPMG and CII

<sup>46</sup> 2020 In Review: 11 Indian Startups that defied the pandemic to enter the Unicorn Club, Inc42, December 2020

<sup>47</sup> Deep tech adoption driving growth for India's tech startups in 2021, January 2021

<sup>48</sup> Yourstory research, August 2021

<sup>49</sup> NASSCOM report overview

<sup>50</sup> MeitY

## The Indian tech landscape is rife with opportunities for inward investments in areas such as SaaS and IoT

— North America accounts for 30 per cent of the global Software as a Service (SaaS)-based solutions market share<sup>51</sup>, offering good demand potential for India's SaaS market revenue, which has grown 1.5 times faster than the global market during the COVID-19 crisis<sup>52</sup>.

— With more than 971 active IoT start-ups in India<sup>53</sup>, the rapid adoption of Industry 4.0 along with rising consumer expectations have been driving the U.S. investments in India's IoT space.

The highly-skilled Indian diaspora in the U.S., comprising of ~4.8 million individuals<sup>54</sup> has been a critical bridge to accelerate growth, and share digital knowledge and technology. With the GOI taking swift steps to leverage growth of the Indian IT sector and the abundance of sufficient technical skills and resources, India's rapidly evolving digital landscape looks well poised for global-scale collaboration opportunities, especially with the U.S.

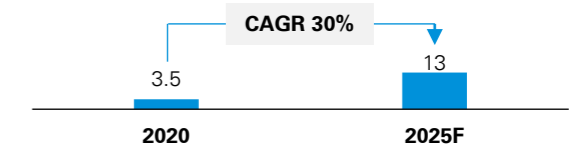
<sup>51</sup> Market estimates, PR Newswire

<sup>52</sup> NASSCOM report overview

<sup>53</sup> IoT Industry Outlook Report, Goldstein Research

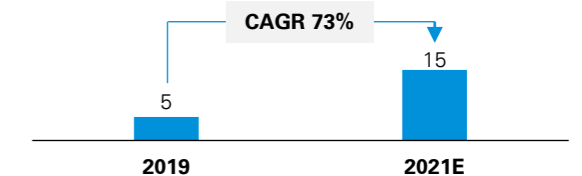
<sup>54</sup> Migration Policy Institute

Increasing SaaS market revenue in India (USD billion)



Source: Riding the Storm: Towards the Giant India SaaS Opportunity, NASSCOM, SaaSBOOM! and Zinnov, July 2020

Expected rise in IoT investment in India (USD billion)



Source: India - Emerging Hotbed of IoT Opportunities, Zinnov, June 2020



# Infrastructure: a key pillar of the economy

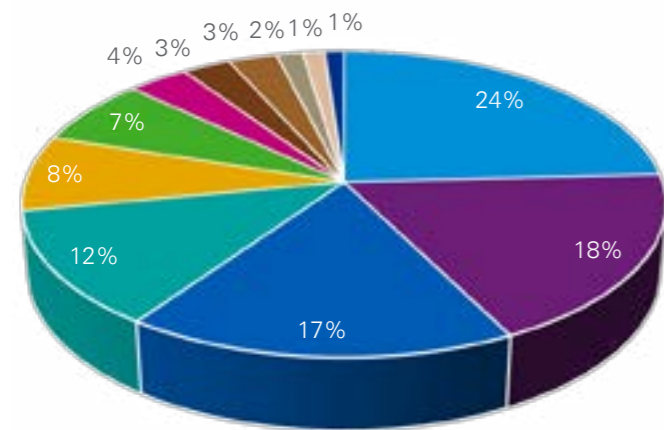
India's extensive plans to overhaul its infrastructure, including development of smart cities, transport and logistics, and asset monetisation programmes, offer strong partnership opportunities for U.S. investors, developers and operators.

India is seeking additional liquidity to fund the NIP and other infrastructure, paving the way for the U.S. institutional investors, pension funds and InvITs.

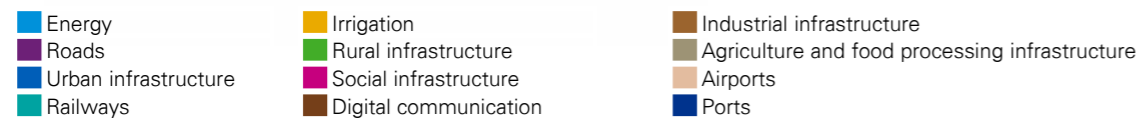
It offers opportunities to induct mature U.S. players as partners for technology integration in infrastructure, a pre-requisite for project management, workflow digitisation, meeting sustainability standards, and making infrastructure development effective.

In the FY21–22 Union Budget, the GOI raised infrastructure spending from USD58 billion to USD78 billion, underscoring that the infrastructure sector has played a critical role in driving economic growth. The post-pandemic India will, in fact, see infrastructure play a bigger role in providing the much-needed thrust in the long term, with majority growth pivoting on the USD1.5 trillion NIP. The proposed growth roadmap under NIP — that spans from FY19 to FY25 and covers more than 8,200 projects — would require extensive funding. To accumulate the needed investments, the country is looking to create institutional structure, provide an impetus to monetise assets, and increase the share of capex in central and state budgets. Additionally, the GOI has announced a four-year, USD80,940 million (INR6 lakh crore) asset monetisation plan for the brownfield assets under the National Monetisation Pipeline.

## NIP to augment India's infrastructure growth



- Total capital outlay of USD1,538.61 billion
- 8,157 projects across 34 sub-sectors, with 1,869 projects under development stage



Source: NIP opportunities, India Investment Grid

## Drivers propelling investment in India's infrastructure

INR100 trillion (USD1.3 trillion) integrated infrastructure scheme, PM Gati Shakti Master Plan, to speed up the access to domestic and international markets	National Rail Plan to create a future ready railway system by 2030	Infrastructure investment trusts (InvITs) and real estate investment trusts (REITs) opening up the sector to new investors
World-class airports through PPP model	35 Multi-Modal Logistics Parks (MMLP) to be developed in PPP mode	Institutionalisation and efficiency of dispute resolution
		Monetisation of assets to unlock value

### Residential

- Introduction of Real Estate Regulatory Authority (RERA) and Goods and Services Tax (GST).
- The pandemic triggered housing demand and the need for larger residential spaces due to remote working.
- Broad-based demand with tier-2 cities witnessing relatively better gains.
- Adoption of the National standards of urban infrastructure
- NIP investment opportunity of USD285 billion for water and sanitation, and USD245 billion for social infrastructure<sup>55</sup>
- Average length of national highways has gone up by ~50 per cent in the past five years from 91,287 km (as of April 2014) to 1,37,625 km (as on 20 March 2021)<sup>56</sup>. Such infrastructure growth is opening up peripheral areas, while also creating satellite cities, the new growth hubs of real estate.
- Global innovative housing technology is being used to create mass urban housing.
- There is a revised restructuring policy for the real estate sector, which focuses on providing solutions to stressed projects for ensuring project completion, cleaning up of books for lenders and homes for buyers.

### Office

- COVID-19 brought activity in commercial office space to a halt and compelled corporate to rethink their expansion plans.
- However, market sentiment is improving and participants anticipate leasing demand to return in the next six to nine months. We expect the trend to stabilise over the next 12 to 18 months and its full impact would be realised 2023 onwards.
- Overall, remote working is likely to chip away 15–20 percent of office space demand in the mid- to long-term, but demand for larger floor area accounting for social distancing might balance the dip to an extent.
- Facility management will play an influential role in shaping consumers' perception/confidence regarding office spaces. Developers are likely to launch offerings that provide a sanitised environment along with an array of wellness amenities catering to health-conscious customers.
- Technology is being adopted within commercial real estate where interactions could be aided by use of AI-based chatbots and contactless technologies, which will be key to ensure sanitisation and hygiene in office spaces. Moreover, transparency, and a safe employee and customer experience will be key parameters for occupiers to assess properties rather than the earlier metrics of affordability.

### Retail

- Big box or A-grade stores, e.g., mega malls and supermarkets (where consumers need to feel and see things) will continue to grow.
- A difficult operating environment would alter the way retailers work with landlords, thus creating new innovative business models, such as revenue-sharing structures.
- The pandemic has led to faster adoption of digital channels by the consumers, even in non-metro cities. Going forward, retailers would also have to focus on online platform, delivery and cancellations, considering the change in consumer preferences and behaviour in an era of great uncertainty and consumer nervousness about the economy and their own future.
- With change in the buying pattern of consumers, brands would also have to review their core markets and operating models.

Propelled by reforms and organic growth in demand, infrastructure sector has attracted significant FDI over the years. Though the sector comes with its inherent challenges of land acquisition, bureaucratic snags, time and budget overruns, and lacks digital collaboration and field mobility solutions, the progressive policy mechanism is helping craft a conducive environment for stakeholders across the spectrum and opening up unique growth opportunities in both greenfield and brownfield projects. The country also needs to improve the logistics infrastructure and lower import duties on raw materials/intermediaries to integrate India into global supply chains.

### Possible areas of opportunities and collaboration

- Monetisation of highways by the National Highways Authority of India (NHAI) through infrastructure investment trusts (InvITs), could offer investment avenues for foreign players
- Facilitate and mobilise private capital flow to meet the gap in infrastructure finance

<sup>55</sup> NIP opportunities, India Investment Grid

<sup>56</sup> MoRTH Achieves Record-breaking Milestone of Constructing 37 kilometres per day of Highways in FY 2020-21: Ministry of Road Transport & Highways

# Private capital supporting new-age businesses

The global dry powder with private equity and venture capital firms (PE/VC) was estimated at USD2.9 trillion<sup>57</sup> as of 2020, with a major chunk expected to originate from the U.S.

Indian primary market witnessed a significant rise in the number of IPOs. In 2021, Indian companies raised USD2.2 billion, a 13-year high<sup>58</sup>, driven by foreign investors and strong corporate earnings.

The startup landscape in India continues to attract PE/VC investors. New technology in the realm of online gaming, fintech, edtech and e-commerce are some sectors that are expected to drive future investments.

## India – A favourable investment landscape for private investment

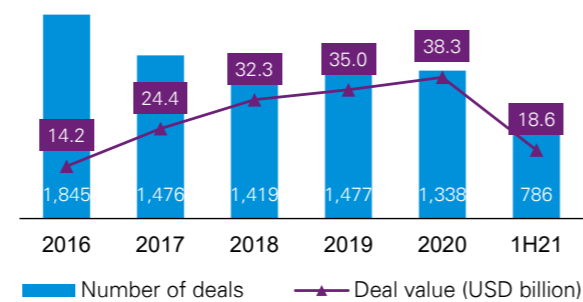
With developed economies such as the U.S. entering into a phase of low-interest rates and major PE/VC firms making the required adjustments to their portfolios, a dynamic asset re-allocation is underway. This presents a strategic opportunity for the U.S. firms to channel investments towards high-growth economies such as India.

## A peek into India's existing investment landscape

### The present scenario

- India witnessed an increase in investments from the U.S. PE/VC investors, rising nearly two-fold to USD18.4 billion in 2020, compared with USD9.3 billion<sup>59</sup> in 2019.
- There has been a significant inflow of PE investments in recent years, with an estimated dry powder for investment in India worth USD55 billion, as of 2021.
- PE/VC investors continued to show interest in the Indian startup landscape, recording 1,388 deals valued at USD38.34 billion in 2020, compared with the deal value of USD34.96 billion<sup>60</sup> in 2019. During 1H21, India recorded 786 deals valued at USD18.61 billion.

### PE/VC investment growth



Source: VCC Edge

## Recent Indo-U.S. deals<sup>61,62,63,64</sup>

<b>July 2021</b> EdTech company, BYJU, raised USD1.5 billion during the Series F funding round, including investors such as B Capital Group, Baron Funds and XN.	<b>April 2021</b> U.S.-based PE firm, TPG Growth, led a USD350 million investment in parent company of online pharmacy platform, Pharmeasy.	<b>April 2021</b> Fintech company, CRED, raised USD215 million led by investors such as Falcon Edge Capital and Coatue Management LLP.	<b>October 2020</b> Reliance Jio received USD5.9 billion investments from Qualcomm Ventures, Intel Capital and others.	<b>July 2020</b> Jio received USD4 billion of development capital, led by L Catterton and Saudi Arabia's Public Investment Fund, amongst others.
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<sup>57</sup> Private Equity Deal Volume Rising Following a Turbulent Year, ESCP Finance Society, 17 March 2021

<sup>58</sup> Fundraising via IPO at 13-year peak, Refinitiv

<sup>59</sup> Venture Intelligence data

<sup>60</sup> VCC Edge

<sup>61</sup> BYJU Investor Summary, Crunchbase, June 2021

<sup>62</sup> PharmEasy parent rises to unicorn status as TPG Growth, others invest, VCCircle, April 2021

<sup>63</sup> India's CRED valued at \$2.2 billion in new \$215 million fundraise, Techcrunch, April 2021

<sup>64</sup> Reliance's Jio gets \$97 mn from Qualcomm Ventures for 5G push, VCCircle, July 2020

## Unlocking the potential – Building an investor-friendly environment



**Supportive government initiatives:** With promising growth prospects, India is evolving as an attractive market for foreign investors. To foster a conducive ecosystem and modify it to suit foreign investors, the GOI has introduced several measures such as Startup India, Digital India, amendments in FDI regulations, and setting up of innovation centres.



**Advent of new-age startups:** With more than 41,000<sup>65</sup> startups registered with the GOI, India ranks third globally, illustrating significant market potential for investors.

### Prospective areas for future VC investments in India



EdTech



Ecommerce



Gaming



Logistics



Insurance



Food delivery



**Favourable exit channels:** Investments in India are driven by the strategic intent to boost revenue, rationalise cost, and enhance enterprise valuation prior to exit. Consequently, SPACs (Special Purpose Acquisition Company) are expected to be a favourable exit channel for PE investors to generate value.

2021: Renewable energy producer, ReNew Power, agreed to merge with RMG Acquisition Corp II<sup>66</sup>, a Nasdaq-listed SPAC, resulting in ReNew Power's listing on the Nasdaq with cash proceeds of ~USD1.2 billion.



**Positive initial public offering (IPO) trend:** India's potential is further evident from the slew of successful IPOs over the years. A couple of noteworthy IPOs are Nazara Technologies in 1Q21, which was subscribed 176 times<sup>67</sup>, and a major Indian multinational restaurant aggregator and food delivery company in 3Q21<sup>68</sup>, subscribed 38 times.

The pandemic has brought about a dynamic shift in ways of investing and propelled digital trends such as higher online touchpoints. Also, India is gaining momentum rapidly with these trends, as evident from the robust growth in PE/VC investments and exit activity from 1H21 and early 3Q21. An increasing number of technology-driven companies in the country have been seen raising funds from capital markets, opening a new avenue for early, mid- and late-stage financial sponsors to generate value from their investments. This marks a major shift from an exit route available to financial investors previously, making these businesses more attractive. Given that India continues with its solid growth story, 2021 could emerge as a defining year for the PE/VC landscape in the country.

<sup>65</sup> Press Information Bureau, Government of India

<sup>66</sup> RMG Acquisition Corporation II Announces Stockholder Approval of Business Combination with ReNew Power, RMG Capital News Release

<sup>67</sup> After stellar listing gains, Nazara Tech's IPO investors rush to cash in, The Economic Times, 30 March 2021

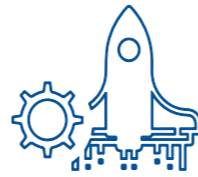
<sup>68</sup> Zomato: First India unicorn IPO subscribed 38.2 times; retail portion booked 7.45 times, VCCircle, July 2021

# Sectors driving economic growth

- **Aerospace, defence and space**
- **Energy**
- **Pharma and biotech**
- **Retail and e-commerce**
- **Automotive**
- **Textiles**
- **Telecom**
- **Financial services**

# Aerospace, defence and space

Investments and innovations charting path for a strategically promising Indo-U.S. relationship



Indigenous manufacturing of defence equipment in India is at full throttle, offering more opportunities to open facilities for manufacturing fighter jets, light combat helicopters and flight simulators in the country.

MRO services (a relatively untapped segment of civil aviation) is poised to register significant growth in the medium term. Indian and U.S. companies can collaborate to jointly develop airframe and engine repair facilities in India.

The skill gap in the Indian A&D industry is creating more opportunities for U.S. companies to collaborate with Indian institutes and set up A&D training centres across the country.

Both U.S. (a pioneer in space technology) and India (which has amended its transfer of technology policy to provide foreign companies access to its technologies) can benefit by jointly developing remote sensing services and geo-satellites.

## A glance at India's sunrise sector — Defence<sup>69,70,71,72</sup>

### Assessing the current position of the industry

- During 2019–20, India recorded defence exports worth USD1.2 billion.
- Strengthening defence infrastructure, India recently inaugurated its first defence park in Kerala. In 2019, it developed two defence corridors in Tamil Nadu and Uttar Pradesh.

### Initiatives to boost industry growth

- By 2025, India aims to achieve defence manufacturing turnover of USD25 billion, export defence equipment worth USD5 billion and indigenise about 5,000 imported components such as alloys and sub-assemblies for defence equipment manufactured locally.
- By 2022, it aims to trim defence imports by a minimum of USD2 billion.

## Investment opportunities — Favourable government policies<sup>73,74</sup>

To underscore the critical need for indigenisation, the Defence Acquisition Procedure, 2020 was released. A new category of acquisition Buy (Global- Manufacture in India) was introduced, wherein the purchase of equipment will be made from a foreign vendor obligated to meet minimum 50 per cent indigenous content.

In 2020, India placed 101 defence equipment under import embargo. Subsequently, in May 2021, restrictions on 108 new military weapons were approved to augment indigenous manufacturing.

A budget of USD66.95 billion for the defence sector has been allocated for FY21–22. Of this, capital expenditure accounts for USD18.9 billion.

In 2020, the FDI limit (via automatic route) was increased to 74 per cent from the previous 49 per cent.

## Unlocking future potential — Efforts underway

With the GOI chalking out a plan to invest about USD130 billion<sup>75</sup> in its defence capabilities and fleet, in the next 5–7 years, the potential for U.S. participation in the sector is immense. Additionally, the two countries have a history of strong ties in this area. The U.S. has

conferred India with the title of 'major defence partner'. The two nations have signed a defence technologies and trade initiative to strengthen cooperation in building defence capabilities. To leverage on these developments, U.S. players can build synergies in areas related to joint manufacturing of fighter jets and parts, flight simulators, UAVs (unmanned aerial vehicle) and others.

<sup>69</sup> 201 MoUs, product launches and technology transfers concluded at Aero India 2021, Press Information Bureau, Government of India

<sup>70</sup> India's Defence Budget 2020-21, IDSA, Feb 2020

<sup>71</sup> Defence exports: Untapped potential, KPMG India, Jun 2020

<sup>72</sup> Raksha Mantri Shri Rajnath Singh chairs Ambassadors' Round-table Virtual Conference on Aero India 2021, Press Information Bureau, Government of India

<sup>73</sup> India's Defence Budget 2020-21, IDSA, Feb 2020

<sup>74</sup> India Announces Import Curbs On 101 Defence Items, Bloomberg Quint, Aug 2020

<sup>75</sup> President Shri Ram Nath Kovind graces valedictory function of Aero India 2021, Press Information Bureau, Government of India

## A glance at the civil aviation sector — A major growth driver<sup>76,77</sup>

### Current state

Currently, it is the third-largest domestic aviation market, contributing nearly USD72 billion to India's GDP.

It has access to about 125 operational airports.

MRO services are valued at USD900 million.

### Desired state

The Indian civil aviation is aiming to emerge as the third-largest air passenger market by 2024. Further, demand for MRO services is expected to grow rapidly and the sector is estimated to reach a size of USD4.3 billion by 2025.

To support the rising demand, the country aims to have an aircraft fleet of about 2,359 by March 2040 (from 622 in March 2018) and develop 100 new airports by 2026.

## Progressive policies driving investments in the sector

- Tax reliefs**
  - There is 100 per cent tax exemption for airport projects for a 10-year period.
  - Custom and countervailing duties are not levied on Indian aircraft manufacturers, repair and overhaul service (MRO) providers. Also, GST on MRO services has been cut from 18 per cent to 5 per cent<sup>78</sup>.
  - In the 2021–22 Union Budget, the GOI proposed a tax holiday and tax concessions for aircraft leasing companies.
- Non-tax reliefs**
  - 100 per cent FDI is permitted via the automatic route in greenfield projects, air transport service, regional air transport service, domestic scheduled passenger airline and MRO services.
  - For brownfield projects, 74 per cent FDI is approved under the automatic route. In aviation, for foreign carriers, 49 per cent FDI is approved.
- Rising investments**
  - According to the NIP, an investment of about USD20–50 billion<sup>79</sup> is required over the next 5–20 years to develop airport assets.

The Indian aerospace and defence (A&D) industry offers U.S. companies opportunities to open training centres, localise services and ink technology share agreements with Indian companies.

airline demand, which was showing signs of recovery. With mounting debt and poor liquidity, the near-term plans of airline manufacturers to build new aircraft have been deferred. However, in the medium term, we are optimistic that once the industry starts recovering, manufacturing of aircraft, wide bodies and narrow bodies of aircraft and ancillary equipment, and localisation of services will emerge as areas with immense potential for international collaboration. Some other areas with high potential include:

## Opportunities that look promising in the future — Lease, Cooperate, Grow

The second COVID-19 wave significantly impeded

### Lease operations

The GOI's efforts to establish its own leasing industry and provide an array of tax incentives to attract foreign players offer U.S. companies the opportunity to set up their leasing operations in the country.

### Cooperate with Quad

As Quad gains prominence, Indo-U.S. collaboration with other Quad members can help leverage cost efficiencies in the procurement of aviation equipment.

### Grow MRO services

Growing aviation demand is creating opportunities for the U.S. MRO service providers to develop in-house MRO service capabilities in India. However, post the second wave, the industry has suffered a significant downturn. Hence, investing in this area would reap better outputs in the medium term, when the industry is expected to start witnessing growth.

<sup>76</sup> Barriers in the growth of MRO, CRIDP, May 2020

<sup>77</sup> Global Aviation Summit 2019, KPMG, 2019

<sup>78</sup> Recommendations of GST council related to changes in GST rates on supply of goods and services, Press Information Bureau, Government of India

<sup>79</sup> India Needs USD50 Billion Investment To Build Airport Assets: KPMG in India Report, India Infrahub, Aug 2020

## Space industry – Opportunities in a relatively nascent sector<sup>80</sup>

India's space industry accounts for about 3 per cent share in the USD400 billion global space industry.

The country has two operational launchers: PSLV and GSLV.

As of Feb 2021, 328 satellites from 33 countries have been launched.

India's space sector is relatively untapped, with minimum involvement of private players. However, going forward, it aims to increase the sector's competitiveness and make it more robust. To meet this aim, the government is introducing several reforms to engage more private players and attract investments.

### How is the space sector an attractive proposition?<sup>80,81,82,83</sup>

- 01 | During 2020–21, four new policies were drafted by the government — Draft Space Based Communication Policy, Draft Space Based Remote Sensing Policy of India, Draft National Space Transportation Policy and Draft Indian Satellite Navigation Policy. The primary focus of the policies is to encourage participation of private players and innovation in the sector.
- 02 | In 2020, the government approved development of the Indian National Space Promotion and Authorisation Centre (IN-SPACe) for encouraging private-sector involvement.
- 03 | In 2019, the commercial arm of ISRO, NewSpace India Limited (NSIL), was established to manufacture, with the help of private players, polar satellite and small satellite launch vehicles.
- 04 | Up to 100 per cent FDI is allowed for the establishment and operation of satellites via the government route.

### The way forward

In the short term, the second COVID-19 wave has brought various space projects (launch of Chandrayaan 3 has been deferred to 2022) to a halt in India. However, this impact is expected to be short-lived. With the Indian space industry opening up to private players, we believe that in the medium term there will be a plethora of opportunities for joint development of space equipment and technology sharing for equipment manufacturing.

With the U.S. being the undisputed leader in space technology, there is huge potential for the two countries to leverage the expertise of U.S. companies and boost remote sensing services, develop geo-satellites among others.

India has successfully and cost-effectively launched customer satellites from its launch vehicle for several countries, including the U.S., thus laying the ground for the two nations to collectively explore synergies in this domain.



<sup>80</sup> Volume: 45, DRDO news, DRDO

<sup>81</sup> Space, Make in India

<sup>82</sup> Space, Make in India

<sup>83</sup> NSIL, ISRO

# Energy



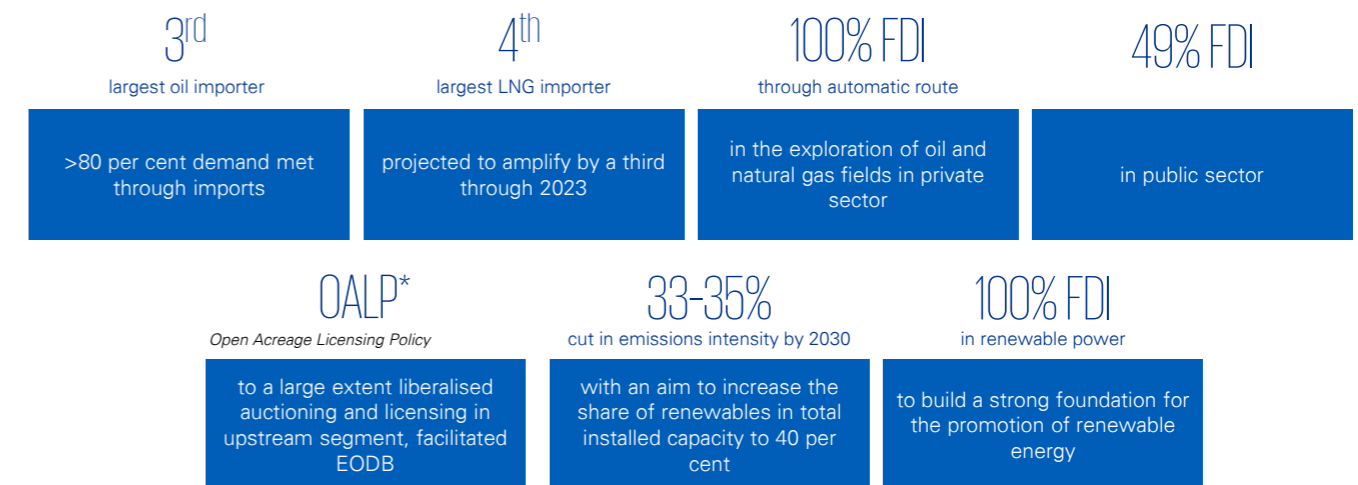
## A bilateral strategic collaboration to foster transition towards a sustainable future

India is looking at the U.S. as its next big strategic oil and gas trade partner to diversify its energy sources away from the Middle East.

India can collaborate with the U.S., the pioneer in carbon capture technology implementation, to develop mitigation technologies for hard-to-abate sectors and integrate CCS with bioenergy.

India is seeing high interest in green funds but requires policy action and regulatory nudge to create an enabling framework. SEP can prove effective in achieving this outcome.

### India's energy landscape



### SEP to help India become a high-performing, low emission economy

India and the U.S. have long been strong energy trading partners. The two countries, driven by the complementary leadership, have been pushing ahead the agenda of energy cooperation hinged on common goals and synergistic relationships. To facilitate seamless cooperation, the two nations have taken multiple initiatives, the SEP<sup>84</sup> being key. Launched in 2020, the SEP is the flagship programme that works around four major areas, oil and gas, renewable energy, sustainable growth, and power and energy efficiency.

— The partnership also supports the U.S. government's Asia EDGE initiative that works to expand

sustainable and secure energy markets in the Indo-Pacific region.

- India and the U.S. are collaboratively leading R&D through the U.S.-India Partnership to Advance Clean Energy-Research (PACE-R) on energy storage and smart grids to make the grids resilient and reliable.
- India and the U.S. launched the 'India-U.S. Climate and Clean Energy Agenda 2030 Partnership' in 2021 to help mobilise funds, speed clean energy deployment, demonstrate and scale up innovative decarbonisation technologies, and boost capacity to measure, manage and adapt to the risks of climate-related impacts.

### Strategic Energy Partnership

Enhance and upgrade power grid and distribution utilities for access to clean, affordable, and reliable energy	Ramp up efficiency, flexibility, and environmental performance in the power sector	Drive inclusive and sustainable economic growth via long-term energy development	Tighten energy security through energy trade and infrastructure investments	Propel development, deployment, and integration of renewables and access to finance for renewable projects	Lower market barriers to energy trade and investment
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<sup>84</sup> Ministry of Petroleum & Natural Gas, Press Information Bureau

### India-U.S. redefining oil trade

India imports majority of its oil from the Middle East, with Iraq and Saudi Arabia keeping a tight grip on top spots for a long time. However, in early 2021, the U.S. became the second-largest oil exporter to India and acquired a 14 per cent<sup>85</sup> share in the total Indian oil imports. The U.S. accounted for nearly 7 per cent of India oil imports during 2020-21 against 4.5 per cent last year, while the overall bilateral hydrocarbon trade surged 93 per cent<sup>86</sup> during 2017-19.

The Indian government has been trying to diversify its crude sources away from the Middle East, its largest and longstanding energy partner. And the U.S. seems the right fit to become a key strategic supplier to the country, thanks to its high output, favourable prices and terms, and already established trade relations with India.

### U.S. support to make India a gas-based economy

The GOI has established a target of raising the share of gas in energy mix from the current 6.2 per cent to 15 per cent<sup>87</sup> by 2030. While it is looking to spur domestic production by 40 million standard cubic metres per day (mmscmd) from the current 80 mmscmd, the majority demand will be met through imports.

To meet the 2030 target, natural gas consumption has to rise by more than 10 per cent annually in this decade, exceeding its growth rate of less than 5 per cent in the last decade. It would also require an investment of USD66 billion in the gas infrastructure.



India, as of 2019, imported 8 per cent of its LNG from the U.S., underscoring the critical role it plays in the former's energy market. The countries have formed the U.S.-India Gas Task Force (GTF) that focuses on three areas of U.S. expertise — driving gas demand, markets and regulations, and bolstering gas grid.

The two countries also have the potential to expand in petrochemicals (e.g., ethane and downstream derivatives) and allied technology (e.g., crude-to-chemicals) to truly span across the value chain. While the U.S. can bring its technical expertise, India has an edge in building cost-effective, integrated petrochemical operations.

### India Energy 2.0 — An overhaul of the industry ecosystem

The power sector in India has been undergoing a transformation to meet the Paris Agreement and reduce its reliance on energy imports by bolstering the share of renewables in the total installed capacity to 40 per cent by 2030. Despite COVID-19, it continues to strongly move on its renewable path, with solar leading the way.

— India is the fifth-largest solar market by installed capacity in the world and is amongst the top five solar panel manufacturers in terms of capacity. Wind ambitions are also steady, with speed of new installations estimated to double by 2024-25, thanks to new tenders for wind and hybrid projects.

— India is also bolstering its manufacturing capability to integrate itself into the global supply chain. The renewable equipment manufacturing industry has traditionally been concentrated in one country, but COVID-19 induced supply chain disruptions pushed importing nations to rethink their sourcing strategies and diversify their procurement options. India, due to its inherent advantage of low cost, technical know-how and ability to rapidly scale up, is well-placed to capitalise on this opportunity and become a manufacturing hub, both to meet local as well as export demands.

### India renewable capacity target<sup>87</sup>

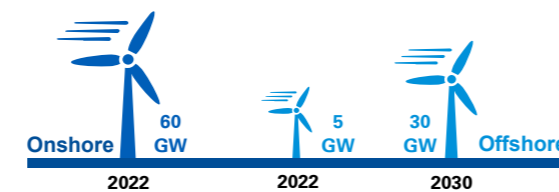


GOI established a Renewable Energy Investment Promotion and Facilitation Board portal to facilitate project development and attract investment in renewables sector

### Targeted solar capacity installation target



### Wind capacity projection



Source: Ministry of New & Renewable Energy - Government of India

— Moving towards the next-generation energy sources, India has started its hydrogen energy journey and is aggressively exploring ways to make the super fuel mainstream. Currently, it produces most of its hydrogen (grey) through methane.

<sup>85</sup> U.S. overtakes Saudi Arabia to become India's second biggest oil supplier

<sup>86</sup> Joint Statement on U.S.-India Strategy Energy Partnership, Ministry of Petroleum & Natural Gas

<sup>87</sup> NITI Aayog

### Targeted policies and reforms energising the industry evolution

- The Indian solar market is gaining from falling project costs and consistent decline in tariffs due to technological advances and growing competition. While India imports 80 to 90 per cent of its solar modules from China, the growth in the industry is translating into a strong domestic supply chain. The country's solar cells modules export jumped 175 per cent in volume terms during 2019-20 to 6.9 million units, establishing a solid trend and signalling the ability of Indian manufacturers to compete in international markets.
- India is also planning to develop its semiconductor manufacturing, bringing an opportunity for the U.S. to join hands with it and share technical know-how to help the latter evolve into an independent supply chain, and reduce geographic dominance.
- India's project and grid development and maintenance practices in the renewable space are amongst the best, presenting opportunities for renewable services exports. India can share learnings with the U.S. on policy wireframe and integrating infrastructure at the federal level.

- Aligned with the Atmanirbhar Bharat Abhiyaan, the GOI approved an outlay of USD630 million for the PLI scheme over a period of five years to boost domestic production capacity of high efficiency solar photovoltaic (PV) modules by incentivising manufacturing and attract global firms that are looking to expand their manufacturing bases and spur exports.
- India is launching schemes and tenders that offer viability gap funding (VGF) to propel domestic manufacturers for boosting wafer and ingot capacity.
- The GOI announced plans to provide land to solar equipment manufacturers near ports to build solar equipment factories for facilitating exports. Ministry of New & Renewable Energy (MNRE) introduced ultra-mega renewable energy power plants (UMREPPs) in 2019 as an extension to the solar park scheme of 2014. UMREPP sets up gigawatt-scale renewable capacities in a single location and works on a plug-and-play model.



- India is projected to add 60 GW<sup>88</sup> of onshore wind capacity and 5 GW of offshore capacity in 2022, and 30 GW of offshore capacity in 2030.
- The country is witnessing a shift in demand for wind turbines. Developers now favour high-yield turbines as they are better suited for the country's wind profile. The country primarily has 2.X MW turbines but is expected to move to 3.X MW models. The entry of foreign players has also made new technologies easily accessible to local developers. This, along with the requirement to contain costs and boost yield, is pushing the market towards bigger, site-specific turbines.
- Hybrid projects are expected to become increasingly critical for the 'round-the-clock' power initiative of the country.

- The Ministry of Power waived off interstate transmission charges and losses for wind projects in 2020, which will be commissioned before June 2023.
- To promote domestic manufacturing of wind turbines and its components, the MNRE issues concessional custom duty exemption certificate (CCDC) to eligible manufacturers. To expedite and enhance the transparency of the process, the government also launched an online portal in 2019. The country has a strong foothold in domestic manufacturing of wind turbines as indigenisation of 70 to 80 per cent has been achieved in the sector.
- The GOI introduced viability gap finance alternatives for offshore generation.



- According to The Energy and Resources Institute (TERI), hydrogen demand in India is projected to surge from 6 MTPA by up to five times by 2050, with its cost dropping by 50 per cent by 2030.
- India is likely to witness an increased switch towards green hydrogen as it aligns with the country's long-term vision of increasing the share of renewables. Declining cost of solar and wind power would also percolate to green hydrogen costs, bringing it down by more than 50 per cent by 2030 and putting it against fossil fuels. Costs and efficiencies of technologies such as electrolyser would be critical in driving green hydrogen adoption.

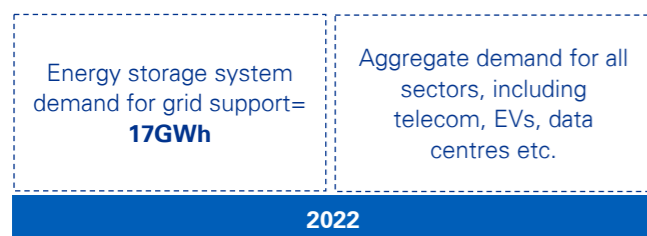
- In the 2021-22 Union Budget proposal, the GOI launched the Hydrogen Energy Mission to reduce petroleum usage and greenhouse gas emissions. Taking it a step further, the Prime Minister announced the National Hydrogen Mission in August 2021 to advance the green hydrogen roadmap. Aligned with the plan, Ohmium International, a U.S.-based renewables company, initiated the first green hydrogen electrolyser manufacturing unit in the country through its Indian subsidiary.
- India, under the SEP, launched a public-private Hydrogen Task Force with the U.S. in July 2020. The Task Force will facilitate scaling up technologies of hydrogen production from both conventional and renewable sources, and reduce the deployment costs for increased energy security and resilience.



<sup>88</sup> Ministry of Petroleum & Natural Gas, Press Information Bureau



**Energy storage:** India's aggressive energy transition plan not only requires strong focus on increasing renewable capacity, but also on energy storage<sup>89</sup> systems to support smooth integration of variable generation in the energy mix and ensure uninterrupted power supply. Grid-level energy storage systems also carry the potential to manage the issues of reliability and shift towards real-time electricity market.



**New frontiers of Indo-U.S. energy relationship**

The aggressively growing energy landscape of India represents extensive growth opportunities for the U.S. public and private stakeholders, and knowledge institutions to collaborate and develop joint capabilities in sustainability, decarbonisation technologies and sustainable finance.

- **Carbon capture:** India has a strong base of hard-to-abate sectors — it generates 53 per cent of its power from coal (1.1 Gt of CO<sub>2</sub> every year), and is the second-largest producer of steel (emitting 242 million tons CO<sub>2</sub>) and cement (CO<sub>2</sub> intensity at 576 kg CO<sub>2</sub>/ton) — indicating the massive need for emission reduction. As a result, the industry is exploring different decarbonisation pathways, including improving fleet efficiency, technology upgrades (ultra-super-critical or advance ultra-super-critical power plants), and carbon capture and storage (CCS). CCS not only captures CO<sub>2</sub> from the flue gas, but also offers flexibility to plants during times of increasing renewable installation. While CCS' commercial uptake has been slow, its role in abating emissions is proven, attracting significant investment in the U.S.
- According to the 2020 Global Status Report on CCS by the Global CCS Institute, the U.S. has 38 facilities in different stages of development, and accounts for nearly 50 per cent of the global total.
- India, on the other hand, is a highly under-penetrated CCS market, with only four facilities at a miniscule yearly capacity of 0.003 Mt CO<sub>2</sub>. It lacks the requisite storage capacity and research commitment at a commercial scale that has restrained CCS growth so far. Though it shows huge potential to convert waste into energy, its current biomass availability is estimated at 500 MMT, per year and annual surplus availability at 120 to 150 MMT, equating to an estimated potential of 18 GW. It can integrate CCS with bioenergy (BECCS) to capture emissions. The U.S. has experience in integrating CCS with ethanol production, such as the Arkalon CO<sub>2</sub> compression facility and Bonanza BioEnergy CCUS EOR, that India can leverage from.

<sup>89</sup> A study by NITI Aayog and RMI pegs India's EV batteries market potential at US\$300 billion in this decade  
<sup>90</sup> Gaining exposure to large cap companies with superior ESG risk management, NIFTY100 ESG Sector Leaders

- According to the Energy Storage System – Roadmap for India 2019-2032, a study by India Smart Grid Forum and India Energy Storage Alliance, a large part of energy storage demand through 2022 would be imported. Demand is projected to cross 2,700 GWh by 2032, creating exciting growth opportunities for manufacturers of giga-scale batteries.
- India's energy storage plans also bode well for its transportation strategy. NITI Aayog's EV target would pitch the market at about USD206 billion, requiring an investment of more than USD180 billion in vehicle production and charging infrastructure, and battery capacity of 158 GWh a year by 2030.
- As part of the PLI scheme, the GOI would allocate USD2.44 billion for advanced chemistry cell (ACC) batteries over the next five years to incentivise both domestic and foreign players to set up ACC battery facilities in the country.
- The GOI created the National Mission on Transformative Mobility and Battery Storage in 2019. Steered by the NITI Aayog, the Mission would lay out a unified policy framework for accelerating electric mobility and battery storage. It has proposed an integrated programme to promote manufacturing of advance chemistry cells and battery storage.

- **Sustainable finance:** India's Paris Agreement commitments require it to channel USD2.5 trillion in investments during 2016–30, or USD170 billion a year. However, the funding it is receiving is trailing significantly lower, with power generation, energy efficiency and power transmission, and sustainable mobility acquiring majority share. However, India has seen a rising demand for sustainable, or environmental, social and governance (ESG) financing in recent times, especially during COVID-19. From January to mid-May 2021, nearly 12 companies issued sustainable bonds in India and raised USD4.96 billion, almost double of USD2.33 billion raised in CY20. Of the issued bonds, seven were green, one was social and one was a sustainability-linked bond.
- The NIFTY100 ESG Sector Leaders has also surpassed the NIFTY100 index since its inception, offering a 12 per cent CAGR<sup>90</sup> return against 10.8 per cent by NIFTY100. Mutual fund houses are also showing an active interest in ESG integration, though ESG exchange-traded funds (ETFs) still remain untapped.
- Energy companies are also setting up their green funds, which they can dip into to invest either in their own projects or fund external projects.
- The country is also making progress in providing enablers for sustainable finance growth. For instance, it launched the Sustainable Development Goals Finance Facility (SFF) in 2019 and formed a technical committee on the Social Stock Exchange (SSE) under SEBI to deliberate on performance, social impact and social audits. Backed by the concrete efforts, green funds are expected to become mainstream in the next 5 to 10 years in the country.

# Pharma and biotech



**Robust manufacturing ecosystem — A catalyst for India's ascension to become 'pharmacy of the world'**

Managing ~62 per cent of global vaccine demand, India's scientifically-advanced and cost-efficient vaccine manufacturing capabilities provide lucrative investment opportunities for U.S. companies.	India being the largest market for generics, provides massive opportunities for U.S. companies, as the growing number of patents expire in the coming years.	The pharma landscape in India continues to attract investments from the U.S. market as the government works towards creating an attractive ecosystem for APIs and generics through various initiatives.	With a robust technology infrastructure and GCC capabilities, India is the go-to market for outsourcing corporate functions (R&D and IT) by U.S. pharma companies.
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**Indian pharma at the global forefront with renewed opportunities in vaccine, generics and API manufacturing**

In FY20, the pharma sector contributed about 1.7 per cent to India's GDP, a large share of which was attributed to FDI inflow. Between April and December 2020, the sector attracted FDI of nearly USD1.3 billion, up from USD0.5 billion in FY20<sup>91</sup>. Despite the pandemic, India is diligently building a strong pharma infrastructure as it plans to spend nearly USD200 billion<sup>92</sup> in the coming decade. We believe if the country continues to expand its healthcare budget while strengthening its policy framework and investment landscape, it would be well poised to become the largest pharmaceuticals hub globally.

**Key highlights of the Indian pharmaceutical industry<sup>93,94,95</sup>**

Current scenario	Outlook	Key opportunities
<ul style="list-style-type: none"> <li>— Largest producer and exporter of generic medicines</li> <li>— Ranks third in terms of volume and 14<sup>th</sup> largest in terms of value</li> <li>— Accounts for 62 per cent of the global vaccine demand</li> <li>— Third-largest market for APIs globally</li> <li>— Domestic network of 10,500 manufacturing units and 3,000 pharma companies</li> </ul>	<ul style="list-style-type: none"> <li>— Indian pharma sector is expected to reach USD65 billion by 2024 and USD120-130 billion by 2030</li> <li>— India's share in the U.S.' Abbreviated New Drug Application (ANDA) approvals is expected to further grow to ~43–45 per cent over the next few years</li> <li>— Adopting measures such as 'China Plus One' is aiding India to reduce reliance on one market, and drive its domestic API and intermediate manufacturing</li> </ul>	<ul style="list-style-type: none"> <li>— Significant investments through PLIs and drug parks incentivise foreign API and generic drug companies to invest in the country</li> <li>— Robust manufacturing capabilities and substantial cost efficiencies make India the global vaccine frontrunner</li> <li>— Besides manufacturing, India's rapidly advancing technology infrastructure make it the global choice for outsourcing various pharma corporate functions</li> </ul>

**Indian vaccine manufacturing, an epicentre of growth**

Over the years, India has secured its position as a vaccine manufacturing hub. Every year, it exports USD410 million worth of vaccines to more than 150 nations and covers about 70 per cent of WHO's vaccine

requirement<sup>96</sup>. As of 15 March 2021, India had supplied a total of 58.6 million COVID-19 vaccines to 71 countries with 16.6 million vaccines under the COVAX platform<sup>97</sup>. Foreign companies are also partnering with Indian

<sup>91</sup> FDI Factsheet, DIPP, December 2020  
<sup>92</sup> India Healthcare Sector, Invest India  
<sup>93</sup> India Pharmaceuticals, Invest India, March 2021  
<sup>94</sup> India Pharmaceuticals, Invest India, March 2021  
<sup>95</sup> U.S. Generics market: Market evolution of Indian players, IQVIA, 2017  
<sup>96</sup> Investment opportunities in India's Healthcare Sector, NITI Aayog, 2021  
<sup>97</sup> RBI annual report 2020-21, RBI, May 2021

biotech firms to expand their vaccine manufacturing portfolio. Russian Direct Investment Fund (RDIF) has signed production contracts with three Indian companies for more than 300 million Sputnik V COVID-19 vaccine doses per year. It would be apt to say that such alliances would accelerate and add new growth avenues for Indian biotech firms as well as amplify the private sector's role in the national vaccination drive<sup>98</sup>.

**Quad alliance is adding a new dimension to India's vaccine manufacturing business**

As part of the vaccine partnership, the U.S. and Japan would finance the expansion of India's vaccine manufacturing capacity. The partnership aims to manufacture at least 1 billion doses of the vaccine for COVID-19 by 2022 end. Australia would assist with logistics to help ship the vaccines to Southeast Asia and Pacific countries<sup>99</sup>. This initiative brings forth an added opportunity to capitalise on the increased capacity for other vaccines in the post-COVID era.

**Leading the generics market by a sweep**

India has evolved as the largest producer of generic drugs globally, attributed to low labour costs, robust government support, and low R&D and manufacturing costs.

8 out of the top 20 global generic companies are from India that export generics across the world, with the U.S. being a key market<sup>100</sup>.

The country accounts for 20 per cent of the global generic drug production and more than 40 per cent of the U.S. drugs market by volume<sup>101</sup>.

High rate of patent expiration, especially in the U.S., is a key growth factor. During 2018–22, small molecule drug patents worth USD72 billion are expected to expire<sup>102</sup>.

**Indian government's support provided in the form of expanded budgets and support schemes**

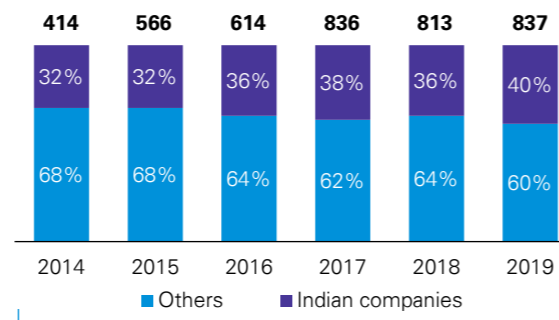
- A USD1.3 billion fund to encourage domestic pharma production by 2023<sup>103</sup>
- A USD2.1 billion PLI scheme to promote large-scale manufacturing of complex generics, biosimilars and high value-add medicines<sup>104</sup>

The U.S. government is deliberating upon expanding its purview of Medicare to include generics and limit prescription drug prices<sup>105</sup>. This bodes well for the Indian generic drug companies that can help the U.S. reach its goal.



Source: The Biden effect on India Pharma Inc, Express Pharma, March 2021

**Growing share of Indian ANDA approvals over the years<sup>106,107,108</sup>**



— In India, the cost of developing an FDA-inspected plant is roughly half of that in developed nations, a key reason why India houses nearly 12 per cent of all global manufacturing sites catering to the U.S.

<sup>98</sup> RDIF and Serum Institute of India, the world's largest vaccine manufacturer by volume, to start production of Sputnik vaccine at Company's facilities in September, RDIF, August 2021  
<sup>99</sup> Japan and Vaccine Diplomacy, CSIS, August 2021  
<sup>100</sup> Investment opportunities in India's healthcare sector, Niti Aayog, 2021  
<sup>101</sup> India Pharmaceuticals, Invest India, March 2021  
<sup>102</sup> U.S. Generics market: market evolution of Indian players, IQVIA, 2017  
<sup>103</sup> India to spend \$1.3 billion to boost pharmaceutical production, Economic Times, March 2020  
<sup>104</sup> Government issues Operational guidelines for Production Linked Incentive Scheme of Pharmaceuticals, Press Information Bureau, Government of India, June 2021  
<sup>105</sup> The Biden effect on Indian Pharma, Express Pharma, March 2021  
<sup>106</sup> U.S. Generics market: Market evolution of Indian players, IQVIA, 2017  
<sup>107</sup> India Pharmaceuticals, Invest India, March 2021  
<sup>108</sup> Indian pharma companies secure 336 ANDA approvals from U.S. FDA during 2019, PharmaBiz, April 2020

**Favourable policies and measures boosting pharma ecosystem<sup>109,110</sup>**



An incentive of USD420 million for construction of common infrastructure facilities in three bulk drug parks with a maximum limit of USD140 million per park during FY21–25



'China Plus One' policy adopted by companies looking for incentives to move production facilities to more lucrative markets. API manufacturing in India has the potential to trim costs for both U.S. and European companies by 30 to 40 per cent



Introduction of PLI for drug intermediaries and APIs. The government outlaid USD972 million to boost manufacturing of 53 bulk drugs and USD2.1 billion for promoting exports of biopharmaceuticals, orphan drugs, APIs etc.



In the private sector, pharma companies have been focusing on backward integration of APIs to enable local production and domestic sourcing

**A strong alternative for API manufacturing**

India ranks amongst the largest markets for APIs globally, manufacturing more than 500 different APIs<sup>111</sup>. However, the pandemic has brought to light the high reliance and competition that India faces from China. Nearly 65 per cent of APIs, worth USD3.5 billion, required by Indian pharma companies are sourced from China<sup>112</sup>. With nearly 20 per cent rise in API costs during the COVID-19 lockdown<sup>113</sup>, India's plans to diversify risk and boost domestic API production are growing rapidly.

Most of India's API plants have a much larger capacity than at which they currently operate, with certain states such as Telangana providing high incentives and strong infrastructure to cater to the global demand. The pandemic, combined with government response to infuse growth into the industry, would encourage manufacturers to fully leverage their capacity and serve as a strong alternative to countries looking to diversify supply out of China.

**India — The go-to destination for outsourcing pharma R&D and GCCs**

With robust technological infrastructure and trained professionals, a quantum of pharma R&D and other functions can be outsourced to India. Global pharma

companies are capitalising on advanced Indian IT infrastructure to reduce the clinical trial timeline and ensure quality control. Additionally, Global Capability Centres (GCCs) in India are managing complicated procedures at all levels of drug production, including drug research and development, and clinical trials. It is estimated that GCCs could help with cost savings of up to 45 per cent over an average time of three to five years, making India a preferred choice.<sup>114,115,116</sup>

**Way forward — A land of opportunities in the post-pandemic era**

The pandemic has put India's ability to scale up at the forefront. By leveraging bulk drug parks and PLIs, it can achieve greater economies of scale for generic drugs and vaccines, and improve its API manufacturing. Hence, an amalgamation of public and private initiatives, along with stronger ties with international markets, could significantly help India enhance its operations and emerge as a pharmaceuticals hub in the world.

<sup>109</sup> India Pharmaceuticals, Invest India, March 2021  
<sup>110</sup> Pharma API imports from China: India moving towards self-reliance, The Hindu Business Line, June 2020  
<sup>111</sup> Pharma API imports from China: India moving towards self-reliance, The Hindu Business Line, June 2020  
<sup>112</sup> Investment opportunities in India's healthcare sector, Niti Aayog  
<sup>113</sup> COVID-19 exposed dependence of world, India on China for active pharma ingredients, Down to Earth  
<sup>114</sup> GCCs based in India can provide cost savings up to 45 per cent over 3 to 5 years, as per Nexdigm, PRNewsWire, September 2020  
<sup>115</sup> Powering productivity through innovation, data, and process expertise, Company website  
<sup>116</sup> Annual report 2020, Company website

# Retail and e-commerce

Blurring boundaries between physical and digital worlds — Creating a winning story for Indian retail industry



With digital payments achieving record growth in India, the U.S. fintech and retail giants can witness immense growth by helping with the penetration of e-payments in India's unorganised retail sector.

Spurred by the pandemic, the online grocery segment is witnessing heavy traction. The U.S. companies can leverage this opportunity to help strengthen grocery e-tailing infrastructure such as cold storage facilities and fulfilment centres in India.

India — the fifth largest food processing market — lacks adequate infrastructure such as proper storage and quality assurance facilities. The U.S. companies can bridge this gap by sharing the necessary capability and know-how with Indian retailers.

## Current state

Valued at about USD793 billion, India's retail sector contributes nearly 10 per cent and 8 per cent to the country's GDP and employment, respectively.

Currently, India is the sixth-largest consumer market.

## Desired state

The sector is expected to reach a size of USD1,750 billion by 2026.

It is projected to emerge as the third-largest consumer market globally by 2030.

## Favourable policies paving the way for future growth

- **FDI:** Up to 51 per cent FDI is allowed in multi-brand retail, up to 100 per cent FDI is allowed in both single brand retail and wholesale cash and carry trading.
- **Proposed national retail policy:** The policy aims to address the industry's challenges in ease of doing business, rationalisation of licensing process, digitalisation of retail and introducing an open network for digital commerce.

## Hotspots of growth in Indian retail

The Indian retail industry, which achieved nearly 93 per cent of pre-COVID sales in February 2021<sup>117</sup>, has been severely impacted by the second COVID-19 wave. With retailers still grappling with low footfalls, poor revenue generation and waning demand, the industry is expecting signs of recuperation only from 2Q22. However, the pandemic has driven some irreversible changes in the value chain and shopping preferences of consumers, creating several promising opportunities in the segment.

- **Digital payments driving rise of the neighbourhood store:** With e-payments surging across the country, its adoption is still limited in the vast and unorganised retail market, which accounts for roughly 88 per cent of the total retail industry.

However, accelerated by the pandemic, customers have shown high willingness to use digital payments.

- Many leading fintech companies have introduced an online ledger for kirana stores. Alongside, several technology players are helping SMBs digitise their payment systems.

- **Rising sourcing potential of India:** With India taking strides towards become a global manufacturing hub, foreign retailers have announced plans to boost exports from the country. For instance:

- A retailer from the U.S. announced plans to triple the value of goods exported from India to about USD10 billion by 2027.

- **Making India a footwear manufacturing destination:** With India ranking as the second-largest consumer and producer of footwear, it serves as an attractive market for setting up footwear manufacturing.

- The presence of favourable government policies (such as permitting 100 per cent FDI in footwear sector, delicensing, and de-reservation of the sector) and abundant availability of cheap labour are piquing the interest of foreign footwear manufacturers.

## An insight into the future of retailing—India's e-commerce sector<sup>118,119,120</sup>

### Key highlights of a growing sector

In 2019, the Indian e-commerce retail market was valued at USD30 billion.

Online retail market accounts for nearly 25 per cent of the total organised retail market.

In 2020, the sector was ranked 9th globally in cross-border growth.

### A look into a promising future

Propelled by the pandemic, the Indian e-retail industry is expected to reach USD200 billion (in gross merchandise value) by 2026.

By 2030, it is expected to occupy about 37 per cent of the total organised retail market.

By 2034, India is expected to be positioned as the second-largest e-commerce market globally.

## Policies propelling investments in the sector

- **National e-commerce draft policy:** The GOI is aiming to roll out benefits to e-commerce companies, including promoting FDI in the e-commerce marketplace model and boosting the number of online sellers.
- **FDI policy:** Up to 100 per cent FDI is allowed in the B2B e-commerce industry. Also, 100 per cent FDI is allowed for food retail companies selling retail products manufactured in India in e-commerce.
- **Open Network for Digital Commerce (ONDC):** The government is devising a policy to limit the formation of monopolies in the online space, and e-commerce remains an open platform that provides equal opportunities to all online retailers.

## A world of possibilities shaping the future of e-commerce

- **Expanding into the online grocery market:** Valued at about USD2.9 billion<sup>121</sup> in 2020, the online grocery market in India is expected to post a CAGR of 37 per cent during 2021–28. The growth was triggered by the pandemic and received further impetus following the second wave, when many new households were onboarded onto the online grocery segment. Factors such as contactless delivery, easy payment, convenience, and enhanced safety emerged as key drivers.
  - Consequently, many offline and online retailers are investing in the segment. For instance, in 2019, a U.S. e-tailer operating in India bolstered its online grocery market presence by launching an online grocery super-mart.
  - Going forward, the rise in grocery delivery is expected to witness a logistical transformation, with 'dark' grocery stores popping up in optimal

locations to support on-demand delivery. This will create the need for developing local fulfilment centres or mini warehouses to meet the increased delivery demand<sup>122</sup>.

- **Leveraging B2B e-commerce market:** B2B e-commerce, a largely unexplored market, is emerging as a sunrise sector of the Indian e-commerce industry.
  - Several e-commerce players are onboarding suppliers, such as MSMEs and farmers, as the unorganised sector and to some extent rural India are showing increasing preference for online shopping.
  - Many e-commerce players are looking to partner with technology providers who can help them penetrate the rural market, and logistics and delivery companies to strengthen their supply-chain operations.
- **Adopting omnichannel retailing strategy:** COVID-19 induced lockdowns have proved to be an inflection point for the e-commerce industry. With online shoppers expected to reach 300–350 million by 2025 from 100 million in 2020, several retailers and e-tailers are collaborating to sell products by leveraging the distribution channels of others. Many technology giants are either acquiring or investing in online platforms to foray into the e-commerce market.
  - This strategy is also contributing to the emergence of a new concept – 'phygital retailing' where retailers, apart from enhancing their presence on e-commerce platforms, focus on enriching in-store experience. Strategies such as virtual reality-enabled trial room experience, live display of stocks, and click and collect are followed.

<sup>118</sup> Retail and e-commerce, Invest India

<sup>119</sup> E-commerce, Invest India

<sup>120</sup> India's e-commerce sector is now ninth globally in cross border growth, Economic Times

<sup>121</sup> India Online Grocery Market Size, Share & Trends Analysis Report, Grand view research

<sup>122</sup> Me, my life, my wallet, KPMG International, Feb 2021

— **Rising opportunities in private labels:** Private labels provide higher margins compared with external brands by gaining supply-chain efficiencies. As a result, the private label market is positioned to grow faster than the e-commerce platform.

— Many brands are entering this space by plugging in price-point gaps, providing quality assurance, creating new categories, and focusing on design and assortment.

— **Investing in quality assurance and storage in food processing market:** The Indian food processing market is the fifth-largest in terms of production, consumption and exports.

— However, despite high-growth potential, the industry lacks the requisite storage and quality assurance infrastructure. The U.S. companies can support in bridging this gap with the required knowledge sharing and capability.

— **Paramount focus on digital technologies:**

Technology is serving as the backbone of the e-commerce industry and has led to the creation of promising opportunities in the online space. The U.S. retailers, with their advanced technology experience, can provide technological know-how in the areas of predictive analysis, augmented and virtual reality, and data analytics to provide customer-centric services and superior customer experience.

— Further, areas such as video commerce are gaining popularity as several new players are looking to disrupt the e-commerce sector with video shopping applications.

— **Surge in usage of digital wallets:** With about 39.7 per cent<sup>123</sup> of e-commerce payments being made via digital wallets in 2020, these have become the most common online payment method in the country. The growth in digital payments/wallets is likely to be fuelled by the emphasis on store digitisation, acquisition of new infrastructure such as QR codes and last but not least, the advent of instant real-time Unified Payments Interface (UPI) systems<sup>124</sup>. There exists immense opportunity for U.S. companies to collaborate with Indian companies to increase the penetration of digital wallets even in the unbanked population of the country.



<sup>123</sup>The Global Payments Report, Worldpay and FIS, Feb 2021

<sup>124</sup>Digital wallets emerge second-most popular in-store payment method, Financial Express

## Automotive

**Integrated technical and manufacturing capabilities forging the next global automotive hub**



The 'China Plus One' strategy positions India as a promising base for global manufacturing and export for both cars and components.

Establishment of IPOs to de-risk sourcing of auto components will reduce the reliance on a single economy.

The setting up of third-party R&D centres is expected to generate significant cost savings by leveraging local high-tech companies, and engineering and IT talent.

There is significant headroom for growth of sustainable mobility solutions, attributed to India's EV penetration and charging infrastructure goals.

India, the fourth-largest vehicle market in the world, has undergone fundamental changes in the past couple of years. Industry sales have shown resilience in weathering the pandemic and despite a devastating second wave, demand is expected to recover due to resilient buyer sentiment and long-term economic recovery<sup>125</sup>.

**Indian automotive industry — a key pillar of the economy (2020)**



Source: Automobile Snapshot – Invest India, Automobile Sector – Make in India

India's automotive industry could become the world's third-largest by volume, reaching ~USD300 billion by 2026<sup>126</sup>. The Automotive Mission Plan 2016–26 (AMP 2026) envisions creating 65 million more jobs and increasing the GDP share from 7 to 12 per cent by 2026<sup>127</sup>. To realise this vision for the industry, and make it 'Atmanirbhar', several measures have been introduced including digitisation, localisation, scrappage policies and sustainable mobility solutions. The GOI also introduced a PLI scheme to encourage manufacturing, with vehicle makers and parts suppliers receiving the biggest share of subsidies worth ~USD8 billion<sup>128</sup>.

**India — An emerging manufacturing hub:** Global OEMs have leveraged India as an export base. However, with the industry undergoing paradigm shifts, India stands tall as a global sourcing and manufacturing base for both cars and auto components. The 'China Plus One' model — a game plan for geographic diversification — is gaining ground among OEMs and suppliers. While China is known as the world's vehicle factory and leads by production volume<sup>129</sup>, in the post-pandemic scenario, several OEMs are considering reducing dependency

for component sourcing operations (or parts of it) on a single economy. This opens India up to massive potential and it can position itself as a formidable force in the global automotive and components industry. However, clarity over differential taxation and additional Favourable Trade Agreement (FTAs) are areas of development for India to emerge as a favourable export base<sup>130</sup>.

**Emergence of India-based IPOs to de-risk component sourcing:** The number of offshore component sourcing offices in India has recently increased significantly from 10 to 30<sup>131</sup>. Two U.S.-based tier 1 automotive suppliers reallocated 35–40 per cent of their sourcing to India. Consequently, international procurement offices (IPOs) of major U.S. and European-based OEMs and auto component suppliers aim to source a higher number of components from India as part of their de-risking strategy. With rapid advancements in automotive software, there will arise the need to source complementary hardware components to realise their full potential. Therefore, we expect the integration of both R&D and production of such end-to-end mobility solutions to realise huge cost savings for U.S.-based OEMs and suppliers.

<sup>125</sup> India's Auto Demand to Recover Despite Covid-19 Second Wave, June 2021, Fitch Ratings

<sup>126</sup> Automobile Sector Snapshot, accessed August 2021, Invest India

<sup>127</sup> Final Draft Automotive Mission Plan 2016-26, accessed August 2021, Society of Indian Automobile Manufacturers

<sup>128</sup> Auto firms welcome PLI scheme as sector gets lion's share of incentives, November 2020, Business Standard

<sup>129</sup> 6 Countries That Produce the Most Cars, accessed August 2021, Investopedia

<sup>130</sup> Differential taxation is a stumbling block in making India an export hub, April 2021, The Week

<sup>131</sup> How China's loss is turning out to be India's gain as major auto OEMs shift base, January 2021, The Economic Times

### Recent examples of OEMs setting up export hubs in India

- March 2021** ▶ Czech automobile manufacturer announced plans to build an exports hub in India as part of its parent company's strategy to market the brand globally
- January 2021** ▶ European OEM announced plans to utilise its manufacturing base in India to boost exports to right-hand drive markets such as Japan, Australia and New Zealand
- January 2021** ▶ South Korean and Japanese vehicle manufacturers were exploring new ways to position India as a key global hub for sourcing components and significantly boost vehicle exports from India

**Preferred location for setting up third-party R&D centres:** With the advent of autonomous vehicles, connected cars, electrification and shared mobility (ACES), OEMs and traditional suppliers have been unable to accurately define the technological requirements of these modern vehicles. Thus, it will be imperative for OEMs to engage pure-play software and IT experts to develop advanced vehicle software systems. With India's strong focus on digitalisation, presence of local high-tech companies and a vast pool of IT talent, it is emerging as a preferred choice for setting up R&D development centres.

December 2020: European OEM announced **investment of USD150 million to establish a global digital hub in Hyderabad** to drive its technology strategy and focus on niche areas such as data sciences and cloud services

April 2020: Bengaluru-based technology and service provider witnessed an **increase in business from the U.S., Europe, Japan and Indian OEMs** to source component designs and R&D with respect to body electronics, ADAS (Advanced Driving Assist System), infotainment and telematics

January 2020: Czech vehicle manufacturer **established dedicated Software Development Centres in Gurugram and Pune** and aims to leverage IT potential and co-innovate with local start-ups

**Significant growth opportunity in a dynamic EV environment:** With a CAGR of 44 per cent during 2020–27 and expected to reach 6.3 million units in annual sales<sup>132</sup>, the support for the EV industry has been robust, owing to demand and supply-side initiatives.

The expected growth of EVs could act as a game changer for U.S. OEMs. While presently EVs represent less than 1 per cent of the market<sup>133</sup>, there is significant

headroom for growth due to the focus on increasing EV penetration, the government's aggressive policy push and emergence of innovative business models such as battery swapping. The industry, as a result, presents a USD2 billion opportunity by 2023<sup>134</sup>, driven by a large market and increased demand for two and three-wheeler EVs.

The rise of sophisticated technology to drive down costs and a huge market for small and affordable EVs, present unique opportunities for U.S. OEMs to evaluate entry and market share in this space. Also, government incentives and availability of extensive IT talent provides an impetus in setting up R&D and production facilities. Lastly, with the charging and lithium-ion battery/cell manufacturing infrastructure at its nascent stages, the time might be ideal for U.S. OEMs to establish production facilities and provide charging solutions.

Hence, there is significant opportunity for OEMs and component makers (tier 1/2 suppliers) to invest in the Indian automotive market and reap the benefits that come along with it.

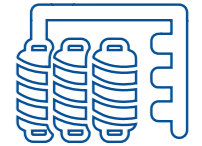
Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME II) policy provides investment of USD1.4 billion during FY20–22 to promote EVs and develop charging infrastructure<sup>135</sup>.

National Mission on Transformative Mobility and Battery Storage launched a Phased Manufacturing Programme (PMP) to develop production skills across the entire EV value chain.

State governments are offering tax, custom duty and registration fee exemptions, capital interest subsidy, interest free loans, etc. for EVs.

<sup>132</sup> EV market in India expected to hit 63 lakh units per annum mark by 2027, December 2020, The Economic Times  
<sup>133</sup> The autonomous and electric vehicle future: What it will take for India to be ready, March 2021, Financial Express  
<sup>134</sup> Electric Mobility, accessed August 2021, Invest India  
<sup>135</sup> Shifting gear: the evolving electric vehicle landscape in India, October 2020, KPMG in India

## Textiles



### High value segment building India's presence as an export hub

India is boosting its capability for capacity scale-up and infrastructure calibration to support meditech demand during COVID-19 and forge ahead in the industry lifecycle.	With its anticipated shift to high-value technical textiles in the near to medium term, India is garnering the interest of foreign players to establish an export base, especially for indutech, meditech and protech.	It can leverage international relationships to ensure availability of relevant technology, machinery manufacturing capabilities, application research and R&D ecosystem.
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India holds 4–5 per cent share<sup>136</sup> in the global technical textiles market, with domestic consumption standing at just 5–10 per cent, compared to 30–70 per cent in some developed countries. Also, the sector relies heavily on imports. To quell this disparity, the GOI has taken various measures to boost this sunrise sector:

#### Government initiatives to foster sector growth<sup>137,138</sup>

- The GOI is considering introduction of the 'Focus Product Incentive Scheme (FPIS)' as part of the PLI Scheme. FPIS will be applicable to manmade fibre apparel and technical textiles and provide incentives for brownfield and greenfield investments.
- The GOI released 207 Harmonized System of Nomenclature (HSN) codes for technical textiles in 2019 to help monitor imports and exports, and simplify the process of giving incentives to authentic products.

- The government rolled out the 'National Technical Textiles Mission' (NTTM) in 2020 with a budget of USD207 million over four years to reduce imports and boost the domestic technical textiles market to USD40–50 billion by 2024.
- Government production and research initiatives have helped popularise the trend towards domestic production. Eight Centres of Excellences (CoEs) have been established for research and innovation in technical textiles and new product development.

#### High value segment emerging as a potential growth domain

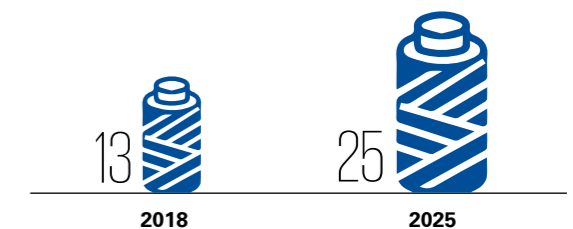
The Indian technical textiles industry, which has traditionally been dominated by low-value products, resulting in a lower share in the international market, is transitioning towards the high-value segment and taking rapid strides, given the demand from industries such as healthcare, automobile, construction and defence.

Abundant raw material availability (such as wood, cotton, silk and jute), cost advantage for power and labour, a strong value chain, and shifting consumer trends are also providing an impetus to the sector.

As a result, India has been presenting promising opportunities for new players to invest via joint ventures in the high-end segment of technical textiles. Such collaborations can foster technology transfer and enable foreign investors to view India as a manufacturing and export base. It also provides opportunities for collaboration with foreign research labs and manufacturers to establish development hubs and testing facilities, and enable global patent applications.

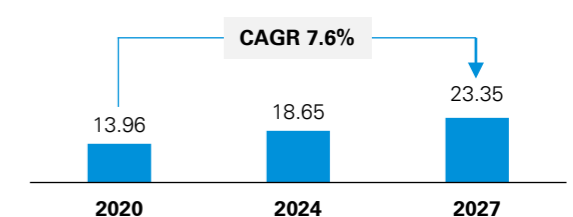
<sup>136</sup> Technical Textiles, A Sun Rising Sector for Indian Textile Industry, NITI Aayog  
<sup>137</sup> National Technical Textiles Mission, Invest India accessed on 26 April 2021  
<sup>138</sup> India releases 207 HSN Codes for technical textiles, Technical Textile as accessed on 26 April 2021

#### Share of technical textiles in Indian textile market (%)



Source: Technical textiles: Growth engine of Indian textiles sector, KPMG in India

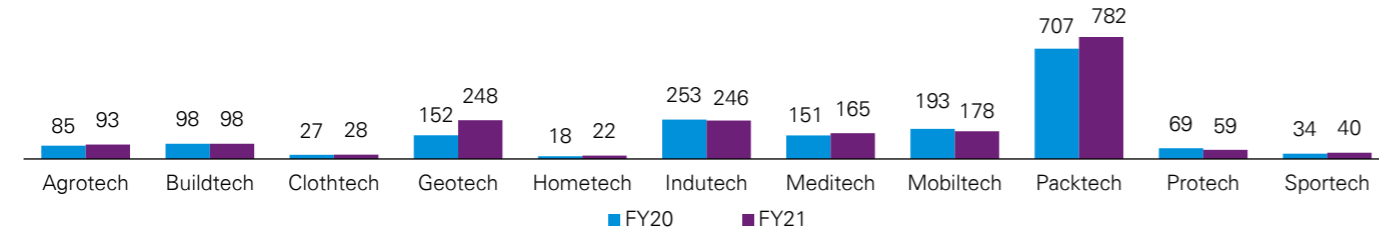
#### Indian technical textiles market (USD billion)



Source: Technical textiles: Emerging opportunities and investments, KPMG in India

## Segmental growth to drive manufacturing of technical textiles<sup>139,140</sup>

### Export performance of technical textiles products (USD million)



Source: Indian Technical Textiles Association analysis on Ministry of Commerce and Industry Data



#### Meditech

- Increasing meditech demand from medical and pharmaceutical industry
- Key growth segments are PPE kits, non-implantable materials, textiles in extracorporeal devices and implantable materials



#### Mobiltech

- Market to reach USD3.7 billion at a CAGR of 6.4 per cent during 2020–27
- Demand led by rising public awareness and stricter regulations for seatbelts, helmets and airbags



#### Indutech

- Market to grow from USD2 billion in 2020 to USD3.3 billion in 2021
- Evolving global manufacturing landscape to propel growth



#### Protech

- Flame-resistant protective clothing market to reach USD183.5 million by 2025, up from ~USD72 million in 2020
- Strict safety standards in the chemicals industry and focus on enhancing defence safety equipment are key growth drivers



#### Hometech

- Constitutes 10.4 per cent of the total technical textiles market
- Evolving customer preferences, rising usage of fire-resistant textiles and regulatory norms driving demand



#### Agrotech

- Market to double from USD0.1 billion in 2020 to USD0.2 billion in 2027 at a CAGR of 4.5 per cent
- Government support and rising awareness through Krishi Vigyan Kendra (KVKs) driving growth



#### Geotech

- Increasing use of Geotech products for infrastructural upgrade and growing awareness of products to drive demand

Source: Technical textiles: Emerging opportunities and investments, KPMG in India

Machine manufacturing and skill development are promising domains that India can leverage. Dependent on imports for machinery, the industry requires indigenous production and upgrade of machinery to match international standards through incentives, sponsoring research and leveraging international relationships to facilitate technology transfer. It is also critical for India to hone in-house skills in technical textiles for building a robust ecosystem and position it as a globally competitive industry.



<sup>139</sup> Figures converted from INR crore using exchange rate 1INR=0.01347USD, as on 30 July 2021, Oanda.com

<sup>140</sup> Indian Technical Textile Association E-bulletin, May-June 2021

## Telecom



### Potential investment opportunities being driven by higher market penetration, digital business models, and 5G deployment

With rural teledensity at 60.27 per cent as of March 2021<sup>141</sup>, rural India presents enormous opportunity for growth, especially for satellite communication and broadband service providers. By 2025, the number of rural internet users is estimated to surpass that in urban areas<sup>142</sup>.

The Department of Telecommunications (DoT) has directed major telecom players to conduct trials and test 5G deployment in both urban and rural areas.

Expansion of services beyond traditional voice and data can offer new business avenues for U.S. firms to invest in digital platforms and business models as well as drive investments from private equity players and chip manufacturers.

India has sharpened its focus on boosting manufacturing of critical telecom network equipment to improve self-reliance and tap into the USD100 billion telecom equipment export market<sup>143</sup>.

The telecom sector posted gross revenue of about USD9.35 billion in 3Q21, with a 6.5 per cent contribution to the GDP in 2020 and expected to touch 8 per cent in 2022<sup>144</sup>. During the 2020 lockdown, the telecom sector helped generate 30–35 per cent of the nation's GDP by assisting multiple industries to function seamlessly while people worked remotely or from home<sup>145</sup>.

- **Robust demand in rural areas:** India has about 65 per cent of its population living in rural areas<sup>146</sup>, while rural teledensity stood at 60.27 per cent as of March 2021, up from 58.79 per cent in March 2020<sup>147</sup>, indicating strong untapped telecom demand. This opens up opportunities for increasing internet penetration in rural areas, especially for satellite communication, broadband service providers and 4G operators, along with the DoT focusing on testing of 5G in rural areas as well.
- **4G and 5G infrastructure development:** India has one of the highest usages of mobile data per smartphone per month (second only to Gulf Cooperation Council (GCC) countries)<sup>148</sup>. Comparatively lower prices of mobile broadband and smartphones, higher number of people working remotely, and rapidly changing viewing habits are triggering the surge in monthly data usage<sup>149</sup>. Thus, India offers immense potential to tap into the rising demand for data and 5G technology with major telecom players focusing on 5G field deployment.
- **Collaborations with technology industry:** Changing customer behaviour in the 'new normal' is pushing telecom players to develop innovative products and services through tactical partnerships with solution providers and system integrators to strengthen peripheral businesses, such as cloud, IoT and analytics.
- **Increase in investments from tech giants in the U.S.:** U.S. tech majors have sharpened their investment focus on the Indian telecom industry to explore new products and services, thus encouraging private equity players as well as chip manufacturers to mull upon investment opportunities in India.
- **Ramping up telecom equipment manufacturing:** In line with the Make in India and Atmanirbhar Bharat Abhiyaan policies, the GOI's PLI scheme for telecom equipment manufacturers will help the industry self-sustain and tap into the export market (worth USD100 billion<sup>150</sup>). Through this, it aims to achieve incremental production worth ~USD27 billion over the next five years and is expected to bring in investments worth ~USD408 million<sup>151</sup>.
- **Enhanced focus on digital platforms and digital business models:** Telecom players in India are focused on moving beyond the traditional voice and data services. Growth in the adoption of digital business models is driven by the need for services such as industrial and private IoT, cloud, interactive media and entertainment, Over-the-Top (OTT) and Mobile Virtual Network Operators (MVNOs).

<sup>141</sup> IBEF

<sup>142</sup> IAMA Kantar ICUBE 2020

<sup>143</sup> Press Information Bureau, GOI

<sup>144</sup> Invest India

<sup>145</sup> Tech ARC

<sup>146</sup> India demographics, Worldometers

<sup>147</sup> IBEF

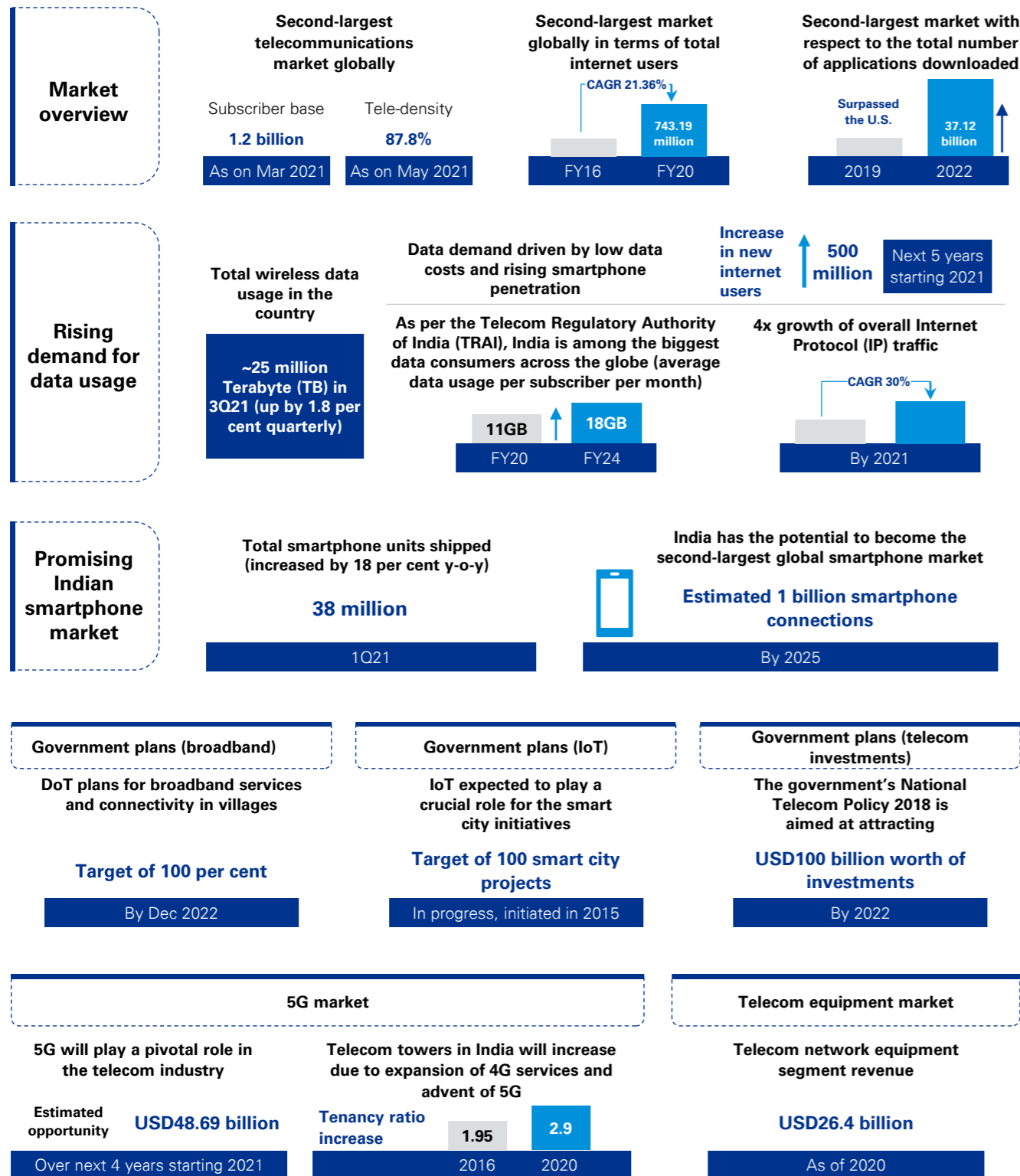
<sup>148</sup> Ericsson Mobility Report, June 2021

<sup>149</sup> Ericsson Mobility Report, 2021

<sup>150</sup> Press Information Bureau, GOI

<sup>151</sup> Ministry of Communications, GOI

## India's booming telecom market<sup>152,153,154,155</sup>



An expanding subscriber base and the increasing role of connectivity in enterprise applications are major factors driving the investment potential for India's telecom sector. The government's approval of 100 per cent FDI and push for introducing market conducive 5G policies provide a significant opportunity for global players to pursue telecom sector investments and partnerships and leverage India's promising telecom market.

<sup>152</sup> Invest India  
<sup>153</sup> GSMA report  
<sup>154</sup> TRAI  
<sup>155</sup> IDC

## Financial services



### Accelerating digitisation to create a dynamic financial hub

India's low insurance penetration depicts a huge demand gap to be capitalised.	Tax benefits and exemptions offered in Gujarat's GIFT City put it on the global map as a potential investment destination.	With the rationalisation of regulatory and favourable tax environment, the GOI is focused on raising foreign investment in corporate debts.
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### Insurance in India – bridging the low penetration gap with increasing investments

The recent increase in FDI to 74 per cent<sup>156</sup> is expected to propel investments and subsequently sectoral growth to new highs



#### Life insurance

While life insurance contributes about 2.8 per cent of GDP in 2019<sup>157</sup>, we believe that it does not reveal an important metric — 'protection'. In India, life insurance predominantly contains an investment component and the protection component in the premium is miniscule. A July 2020 Swiss Re report titled 'Closing Asia's mortality protection gap', puts the level of under-insurance in India at 83 per cent<sup>158</sup>, which is concerning.

The government has launched schemes such as the Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), which provide easy and affordable access to life insurance. While this is a great start, USD2,800 cover is too minimal for an average per capita income of USD2,000.

Looking at the current scenario, we see immense growth potential for the sector. Private insurers have put in place innovative structures (combining protection with loans, bundling protection with mobile recharge, etc.), which improve awareness and accessibility of life insurance.



#### Health insurance

India's healthcare expenditure has increased to USD100 billion<sup>159</sup>. However, health insurance is just about USD5 billion<sup>160</sup>. This implies that for the balance, people reach into their savings to pay for health expenditures, emphasizing on the growth potential of this market. We have observed standalone health insurers and general insurers expressing interest in this market, which has grown at a CAGR of 20 per cent for several years now<sup>161</sup> and is expected to continue at this pace.

The government, also launched Ayushman Bharat, a flagship scheme based on the recommendations of the National Health Policy 2017, to successfully deliver on the Universal Health Coverage (UHC) vision.

### Unlocking the potential – Extending the horizon of opportunities

- We have observed that while most European and Asian insurance groups are present in India, several players from the U.S. are yet to foray into India even after two decades of the sector being opened for private/foreign participation. On the non-life side, almost none of top 10 U.S. insurers have presence in India, subject to some notable exceptions.
- The other area of opportunity is setting up GCC/CoEs in India. Several banking giants in the U.S. have set up their GCCs in India — a strategic area of growth for insurers by consolidating and offshoring their technology and operations functions under one umbrella.

<sup>156</sup> FDI in Defence Sector under Automatic Route, Ministry of Defence, September 2020  
<sup>157</sup> India, Insurance penetration steadily increased to 3.76 per cent in 2019, Economic Survey 2020-21, GOI and Ministry of Finance  
<sup>158</sup> Closing Asia's mortality protection gap, Swiss Re, July 2020  
<sup>159</sup> Partners' Forum on maternal, newborn, and child health, World Health Organization  
<sup>160</sup> BFSI – Insurance, Invest India  
<sup>161</sup> Health insurance segment posts growth of 20% for third time in a row, IRDAI annual report 2016-17

## Tackling financial crime: a collaborative approach

Financial crime can be broadly divided into money laundering, bribery and corruption risk and fraud and conduct risk. Though India is deemed a compliant geography as per The Financial Action Task Force (FATF), India is expected to focus on managing shortfall in the implementation of anti-money laundering initiatives and combating terrorism, bribery and corruption risk.

### India looking to improve its risk rating and attract U.S. investments

To improve India's competitiveness as a global investment destination, successive governments have taken various initiatives.

- In 2018, the Prevention of Corruption Act was amended to widen its purview to tackle commercial bribery and ensure that the supply side of bribery is effectively handled. Significant work is required in this area including guidance on adequate procedures that the private sector is expected to follow. Also, the act does not cover extraterritorial jurisdiction, which prevents bribery by Indian companies in overseas jurisdictions.

The Prevention of Bribery of Foreign Public Officials and Officials of Public International Organisations Bill, 2011 was formulated but lapsed with the dissolution of the 15th Lok Sabha (Indian equivalent of US FCPA, 1977). Given that Indian companies are continuously increasing their global footprint and direct overseas listing by Indian companies (including in the U.S.) is now permitted, this legislation would be a robust element to reinforce India's commitment towards the United Nations Convention Against Corruption (UNCAC).

Another key aspect that we believe would continue to assist the growth of Indian economy is a framework to manage fraud risks arising from misappropriation of funds by corporate lenders.

Bank frauds, in value terms involving an amount of USD1,400 and above, have more than doubled during the 2019–20 period to USD26 billion from USD10 billion in the 2018–19 period, rising 159 per cent<sup>162</sup>. A major chunk of this is related to bank advances and one common modus operandi noted has been diversion of funds outside the country.

India and the U.S. have signed agreements under the US FATCA (Foreign Account Tax Compliance Act) for automatic exchange of financial information between the countries about tax evaders. Similarly, cooperation between investigative agencies of India and the U.S. to trace, seize and ultimately confiscate criminally-derived assets could help the overall climate.

## Collaboration to drive the evolution in tax

The financial services sector in India has undergone rapid transformation over the past decade with the advent of blockchain technology cryptocurrency and digitisation. From an Indo-U.S. bilateral collaboration standpoint, we propose the following:

### Taxing digital economy – Fintech

- The US Trade Representative (USTR) opines that the Equalisation Levy (EL) to tax digital economy is challenging<sup>163</sup> and creates a significant tax burden for U.S. companies, forcing them to undertake costly compliances. This lack of clarity is a major hindrance for the fintech industry. This presents an opportunity for both policymakers and industry stakeholders to collaboratively adopt a systematic and transparent approach for creating a consumer-centric, investor-friendly and firmer tax structure in the digital space.

### Gujarat International Finance Tech-City (GIFT)

- Gujarat International Finance Tec-City (GIFT) SEZ is India's first International Financial Services Centre (IFSC). GIFT IFSC provides competitive cost of operations with a competitive, predictable and sustainable tax regime. It provides single window clearance, relaxed company law provisions, international arbitration centre with overall facilitation of doing business. All this has made the GIFT IFSC enhance its visibility and attractiveness as a potential investment destination globally.
- Gujarat plays a significant role in India's bilateral trade with the U.S., mostly on account of manufacturing sector-related investments.
- With the GIFT IFSC, it opens doors for the FS sector giants in the U.S. to explore Gujarat for a mutually rewarding trade relationship. Some of the areas include Global In-House Centres (GICs) in GIFT IFSC, and aircraft leasing and financing. It is widely believed that a developed airline leasing and financing industry in India would pave the way for (i) development of airline industry; (ii) boost to maintenance, repair and operations industry; and (iii) employment generation.

With a number of tax benefits/exemptions (including a tax holiday for 10 years) now being available in GIFT IFSC, the US aircraft industry can now work towards solidifying its presence in India. Given the immense demand for aircraft from Indian airline companies and surge in passenger traffic, India presents a unique partnership opportunity for the US aircraft industry. The potential tax benefits also add to the cost advantages.

## Capital markets setting ground for a mutually beneficial relationship

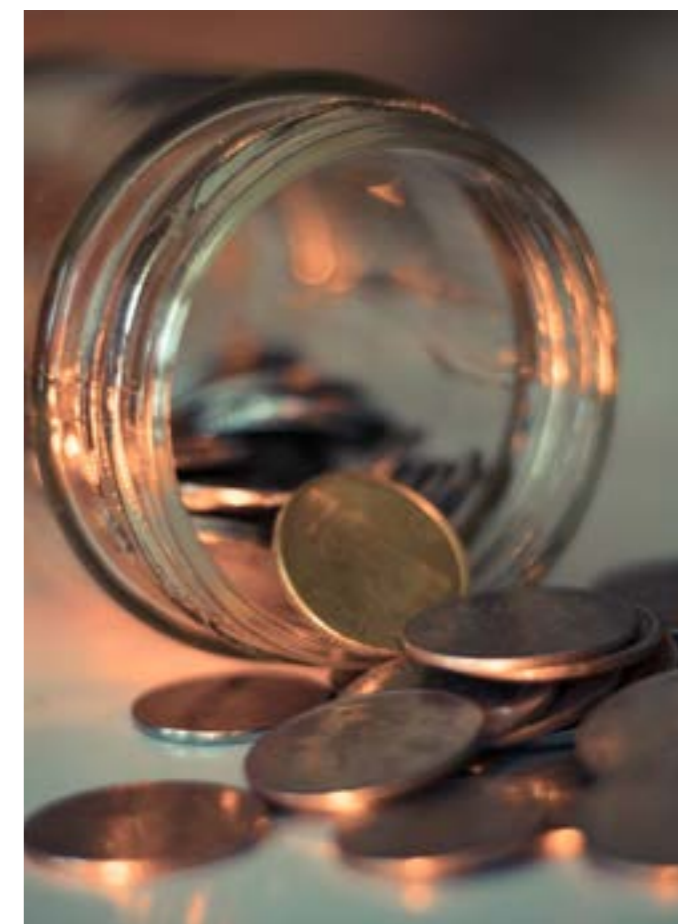
- **Corporate bond market:** With the U.S. being a major contributor to the debt segment, it would be imperative to collaborate for a mutually beneficial and globally competitive tax regime for investments from the U.S. into the Indian debt segment at this juncture. This may include necessary amendments to the tax treaties, amongst others, to bring them at par with some other nations.
- **Sovereign wealth funds and pension funds:** Sovereign Wealth Funds (SWF) and Pension Funds (PF) are providers of long-term stable capital, which is needed to achieve infrastructure development in the country. Having realised this, the Indian government has rolled out several tax concessions to make the investments by SWFs and PFs more attractive. The U.S. economy being one of the biggest pioneers of infrastructure lending including in India, should consider playing a major role and partnering in India's infra growth story, alongside taking advantage of the tax benefits, which will make the returns more attractive amongst competing developing nations.

## Increased collaboration through MAP and FATCA

- **Mutual Agreement Procedure (MAP):** It provides for a complete and determinative one-time cost-effective mechanism to resolve disputes. OECD, as part of its Action Plan 14 implementation, conducted a peer-review process and evaluated India's MAP programme. While the experiences of these peers (which included the U.S.) was generally positive, difficulties in terms of a longer time taken to finalise the position papers and other challenges were also highlighted. Consequently, India, now for the first time, has prescribed an indicative timeline of 24 months for MAP resolution. We could see a fast resolution of MAP cases and U.S. multinational enterprises (MNEs) should benefit from this. A continuous collaboration in this front would reduce double taxation, which creates uncertainties and

leads to cost for both taxpayers and jurisdictions.

- **Foreign Account Tax Compliance Act (FATCA):** As a concrete step towards collaboration to track and tackle tax evasion through offshore accounts, India and the U.S. have in place the Inter-Governmental Agreement for sharing of information towards the FATCA. India also has in place rules that obligate its financial institutions to report under both FATCA and CRS. At the 7th India-U.S. Economic and Financial Partnership meet held in November 2019, India and the U.S. were both cognizant of the progress made in sharing financial account information between them. Both sides highlighted the importance of tax information exchange and are determined to join hands and share experiences to deal with issues related to offshore tax evasion.
- Broadly, the future for Indo-U.S. collaboration looks bright. In order to reach even greater heights, it is important for regulators of both countries to create an ecosystem that is interoperable, providing a bouquet of affordable, beneficial, convenient and dependable solutions.



<sup>162</sup> RBI annual report 2019-20, RBI, August 2020

<sup>163</sup> USTR releases findings in DST investigations, USTR.gov, January 2021



# Looking ahead — Aligning actions towards shared outcomes

## Smoothing trade relations

- Given the new demands of the marketplace and new opportunities arising in emerging sectors, the India U.S. trade dynamic needs to transcend traditional areas such as banking and automotive sectors. There is a need to focus on emerging opportunities in domains such as data privacy, logistics, AI, cyber and space.
- Re-energising the relationship by fortifying the U.S.-India Trade Policy Forum and revising the existing architecture supporting energy cooperation, with greater emphasis on clean energy, are two key strategic imperatives.

## Enhancing regulatory oversight regarding IP policies

- While the enforcement of Indian copyright and patent infringement laws and regulations have improved, substantial challenges remain, particularly with respect to innovation in niche industries such as advanced manufacturing and biopharmaceuticals.
- The MoU on IP cooperation signed between India and the U.S. is expected to strengthen IP cooperation and facilitate knowledge and best practice sharing between the two nations.

## Easing U.S. visa policies for Indian professionals

- Given the strong expectations around easing the ban on H1-B visas, greater traction is expected for IT firms in the U.S. market.
- In this context, the decision to modify the H-1B cap selection process by prioritising core skills, as against the earlier lottery procedure, is expected to provide a fillip to the Indian IT industry, as well as U.S. businesses.

## Harmonising standards and easing process barriers

- India may also need to ensure greater harmonisation with the new voluntary standards and certifications that are becoming sine-qua-non in many developed countries.
- The recent nullification of retrospective amendments to improve the investment climate has come as a welcome step, and there might be a need to focus on further amendments to the policy and regulatory architecture to incentivise inward investments.

## Sustainability, climate financing, and an ESG approach across domains

- There is a compelling need to imbricate Environmental, Social and Governance (ESG) approaches across sectors and firms. The need to focus on containing climate change, calibrating social impact, and incentivising good governance has become an existential question that the pandemic has brought to the forefront of our thinking. The two countries could build on existing alliances as well as create a new architecture to drive the climate change agenda, catalyse decarbonisation technologies, and manage the much-needed energy transition.



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