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Business Today

August 23, 2020 ₹100

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HOW CEOs SEE THE FUTURE



**AN INSIDE TRACK BY 16 GLOBAL AND INDIAN EXPERTS
ON WHAT THE FUTURE HAS IN STORE IN AGRICULTURE,
TRAVEL, EDUCATION, MANUFACTURING, DRUGS,
TECHNOLOGY AND OTHER KEY AREAS**



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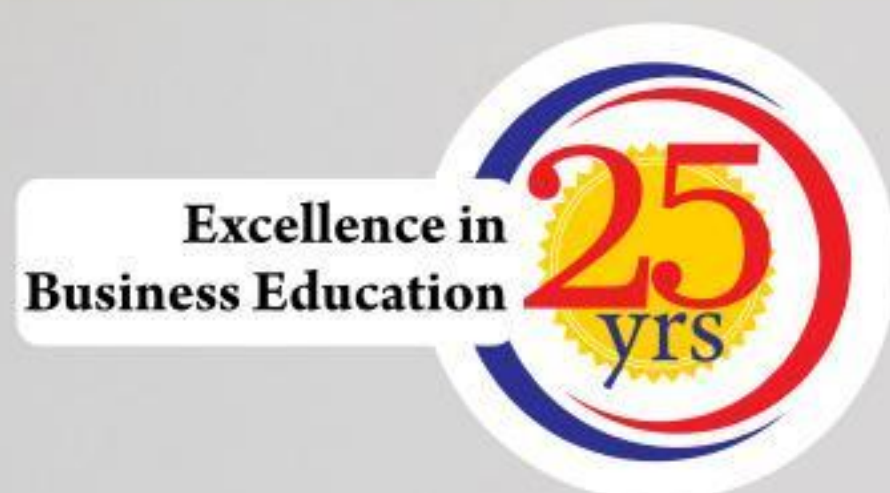
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COVER BY NILANJAN DAS; IMAGING BY AMARJEET SINGH NAGI



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From the Editor

Re-invigorate the Mind

It's never more important to gaze into the future than when the world is clutching at straws of hope. When nothing seems to be going right. And when nature and fate both seem to have loads of surprises in store. Each one punkier than the other.

So just as humanity turns to the divine for direction, we turned to some of the best names in their fields to crystal-gaze for *Business Today*. For deep insights in areas as vital as agriculture and food to economy and manufacturing, even top of the mind concerns such as drug discovery and disaster management.

The galaxy of global and Indian CEOs and specialists who have graced this issue with their foresight includes Charles V. Bergh, CEO, Levi Strauss, who writes about the Future of Apparel; Liam Condon, Member of the Board of Management, Bayer AG and President, Crop Science Division, on the Future of Agriculture; Borje Ekholm, President and CEO, Ericsson, on the Future of Communications; Dr Viral Acharya, former Deputy Governor, RBI, on the Future of the Economy; Suresh Narayanan, CMD, Nestle India, on the Future of Food; Kiran Mazumdar Shaw, Chairperson, Biocon, on the Future of Drug Discovery, and Mahesh Palashikar, President & CEO, GE South Asia and Chairman of the Board, GE Power India, on the Future of Manufacturing, just to name a few. Here are some of their gems:

A deglobalising world can keep itself in sync only via communication. So, what is the future of communication? Ericsson's Ekholm writes 5G will unlock the potential of the Fourth Industrial Revolution — Industry 4.0 — on which competitiveness will be built. Traditional business processes will be re-engineered based on intuitive human-machine interactivity and machines will network, operate and transfer vast amounts of data in milliseconds on highly secure networks.

GE's Palashikar projects that manufacturing will be more data intelligence-driven than ever. Vast amounts of data will translate into insights which will then be applied to optimise operations, cut down time and slash manufacturing costs. Internet of Things, Cloud Computing, 5G, Artificial Intelligence, Additive Manufacturing, Blockchain and Robotics will be at the heart of this vast change.

Data science will transform the Future of Agriculture too, says Bayer's Condon. It will generate opportunities in farming by delivering insights on land, weather, soil, seeds and even markets.

Biocon's Mazumdar-Shaw predicts that drug discovery will not be as prolonged as the current timelines of 10-14 years for a drug and 9-12 years for a vaccine. Ready availability of genetic information coupled with data mining will increase the probability of discovering new drugs faster than ever. Such data models and AI will accelerate vaccine development through 'virtual testing', which will be able to even predict which vaccines will work across what genetic types.

But eventually everything rests on the Future of the Economy. Former RBI Deputy Governor Viral Acharya reminds us that an inter-dependent, inter-connected world is vital to the growth of the global economy. But that is under threat from de-coupling of global economies via trade wars, economic nationalism and growing disruption in supply chains. He says this will not just delay economic recovery but whether these trends are temporary setbacks to global economy or permanent won't be known until the outcome of US presidential elections later this year.

My gratitude to these star CEOs for agreeing to share their insights in the following pages. Re-invigorate your mind.



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Vol. 29, No. 17, for the fortnight August 10 to August 23, 2020.
Released on August 10, 2020.

- Editorial Office: India Today Mediaplex, FC 8, Sector 16/A, Film City, Noida-201301; Tel: 0120-4807100; Fax: 0120-4807150 ● Advertising Office (Gurgaon): A1-A2, Enkay Centre, Ground Floor, V.N. Commercial Complex, Udyog Vihar, Phase 5, Gurgaon-122001; Tel: 0124-4948400; Fax: 0124-4030919; Mumbai: 1201, 12th Floor, Tower 2 A, One Indiabulls Centre (Jupiter Mills), S.B. Marg, Lower Parel (West), Mumbai-400013; Tel: 022-66063355; Fax: 022-66063226; Chennai: 5th Floor, Main Building No. 443, Guna Complex, Anna Salai, Teynampet, Chennai-600018; Tel: 044-28478525; Fax: 044-24361942; Bangalore: 202-204 Richmond Towers, 2nd Floor, 12, Richmond Road, Bangalore-560025; Tel: 080-22212448, 080-30374106; Fax: 080-22218335; Kolkata: 52, J.L. Road, 4th floor, Kolkata-700071; Tel: 033-22825398, 033-22827726, 033-22821922; Fax: 033-22827254; Hyderabad: 6-3-885/7/B, Raj Bhawan Road, Somajiguda, Hyderabad-500082; Tel: 040-23401657, 040-23400479; Ahmedabad: 2nd Floor, 2C, Surya Rath Building, Behind White House, Panchwati, Off: C.G. Road, Ahmedabad-380006; Tel: 079-6560393, 079-6560929; Fax: 079-6565293; Kochi: Karakkatt Road, Kochi-682016; Tel: 0484-2377057, 0484-2377058; Fax: 0484-370962 ● Subscriptions: For assistance contact Customer Care, India Today Group, C-9, Sector 10, Noida (U.P.) - 201301; Tel: 0120-2479900 from Delhi & Faridabad; 0120-2479900 (Monday-Friday, 10 am-6 pm) from Rest of India; Toll free no: 1800 1800 100 (from BSNL/ MTNL lines); Fax: 0120-4078080; E-mail: wecarebg@intoday.com
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 - Printed & published by Manoj Sharma on behalf of Living Media India Limited. Printed at Thomson Press India Limited, 18-35, Milestone, Delhi-Mathura Road, Faridabad-121007, (Haryana). Published at K-9, Connaught Circus, New Delhi-110 001. Editor: Rajeev Dubey
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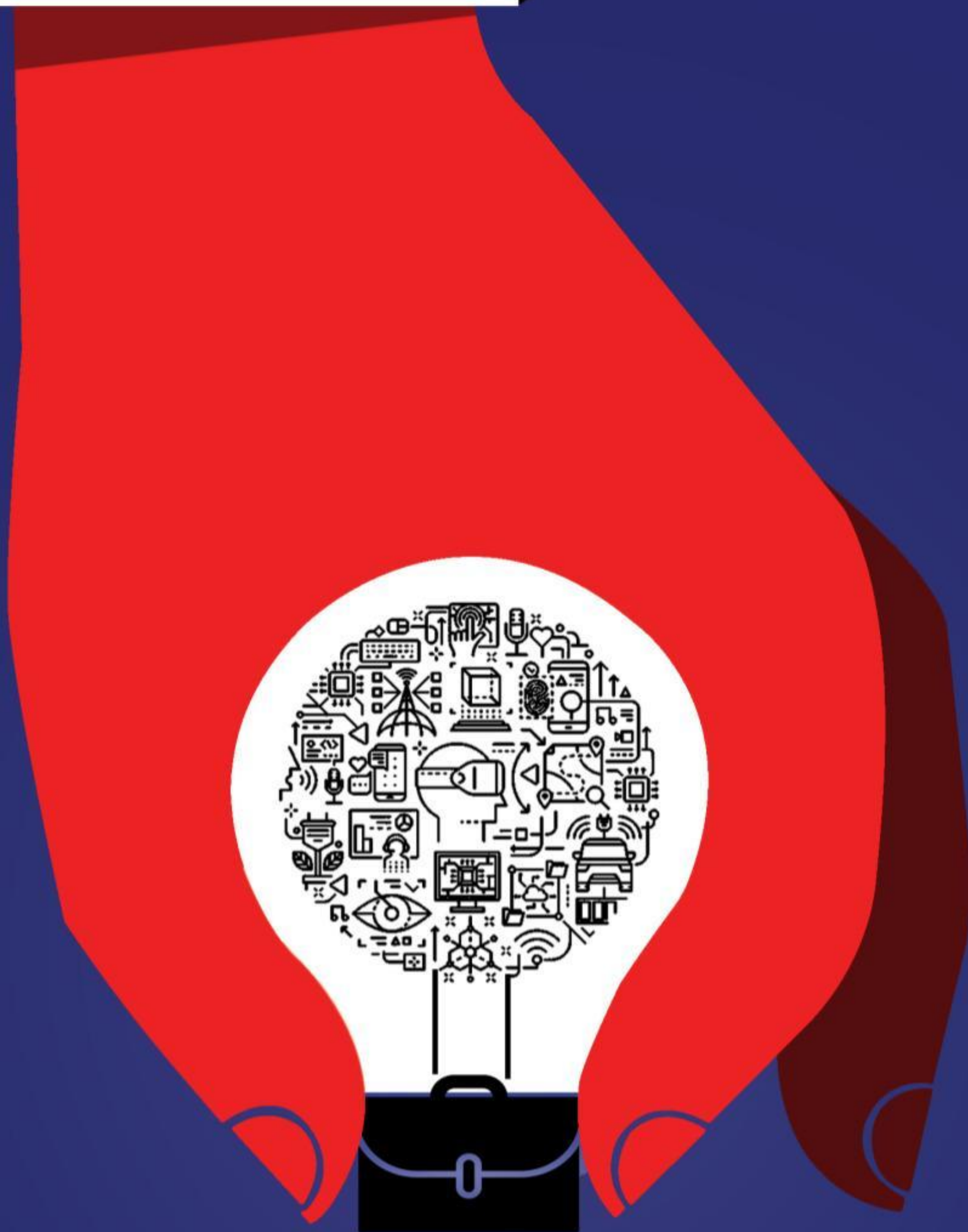
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Contents

August 23, 2020
Volume 29, Number 17

Cover by
NILANJAN DAS



22

HOW CEOs SEE THE FUTURE

AN INSIDE TRACK BY 16 GLOBAL AND INDIAN EXPERTS
ON WHAT THE FUTURE HAS IN STORE IN AGRICULTURE,
TRAVEL, EDUCATION, MANUFACTURING, DRUGS,
TECHNOLOGY AND OTHER KEY AREAS

ILLUSTRATION BY NILANJAN DAS

Free Trade to Decide Future of World Economy

By **Viral Acharya**
Former Deputy Governor, RBI
Pg. 26

Firming Up Farms With Science

By **Liam Condon**
Member, Board of Management, Bayer AG, and President, Crop Science Division
Pg. 32

Phygital Learning

By **Jeff Maggioncalda**
CEO Coursera
Pg. 38

5G Will Unlock Industry 4.0

By **Börje Ekholm**,
President and CEO, Ericsson
Pg. 44

Immunity Foods Will Drive Demand

By **Suresh Narayanan**,
Chairman and Managing Director, Nestlé India
Pg. 47

Mass Transit at Airliner Speeds

By **Jay Walder**
CEO, Virgin Hyperloop One
Pg. 52

Inclusive Tech to Power Businesses

By **Anant Maheshwari**,
President, Microsoft India
Pg. 55

Money Will Move to Risky Assets

By **Nilesh Shah**
Group President and MD, Kotak Mahindra Asset Management Company
Pg. 58



Data Will Help Find New Cures

By **Kiran Mazumdar Shaw**
Executive Chairperson, Biocon
Pg. 62

Get Ready For Social Business Banks

By **Professor Muhammad Yunus**,
Nobel Laureate and Founder, Grameen Bank
Pg. 66

Leveraging Global Supply Chains

By **Mahesh Palashikar**,
President & CEO, General Electric, South Asia
Pg. 70

Bank On, Powered by Tech

By **Amitabh Chaudhry**,
MD & CEO, Axis Bank
Pg. 74

Sustainability on The Sleeves

By **Chip Bergh**
President and CEO, Levi Strauss & Co
Pg. 78

Number Crunching to Drive Consumer Insights

By **C.K. Venkataraman**,
MD, The Titan company
Pg. 81

Renewables To Power 'Green' Recovery

By **Sumant Sinha**
Chairman & MD, ReNew Power
Pg. 84

Drones, Robots To Take Over Disaster Response

By **Muralee Thummarukudy**
Chief, Disaster Risk Reduction, UN Environment Programme
Pg. 88



12

The Point

On Road To Recovery

A number of indicators hint that the worst is over for India's economy



92

Network

Sajan Jindal's Heavy Lifting

JSW Group Chairman Sajan Jindal is a fitness freak. He does not miss his morning workout session even for a single day at his residential gym in Walkeshwar, Mumbai

94

Best Advice I Ever Got

"In times of crisis, follow your experiences"

Devesh Srivastava

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The Point

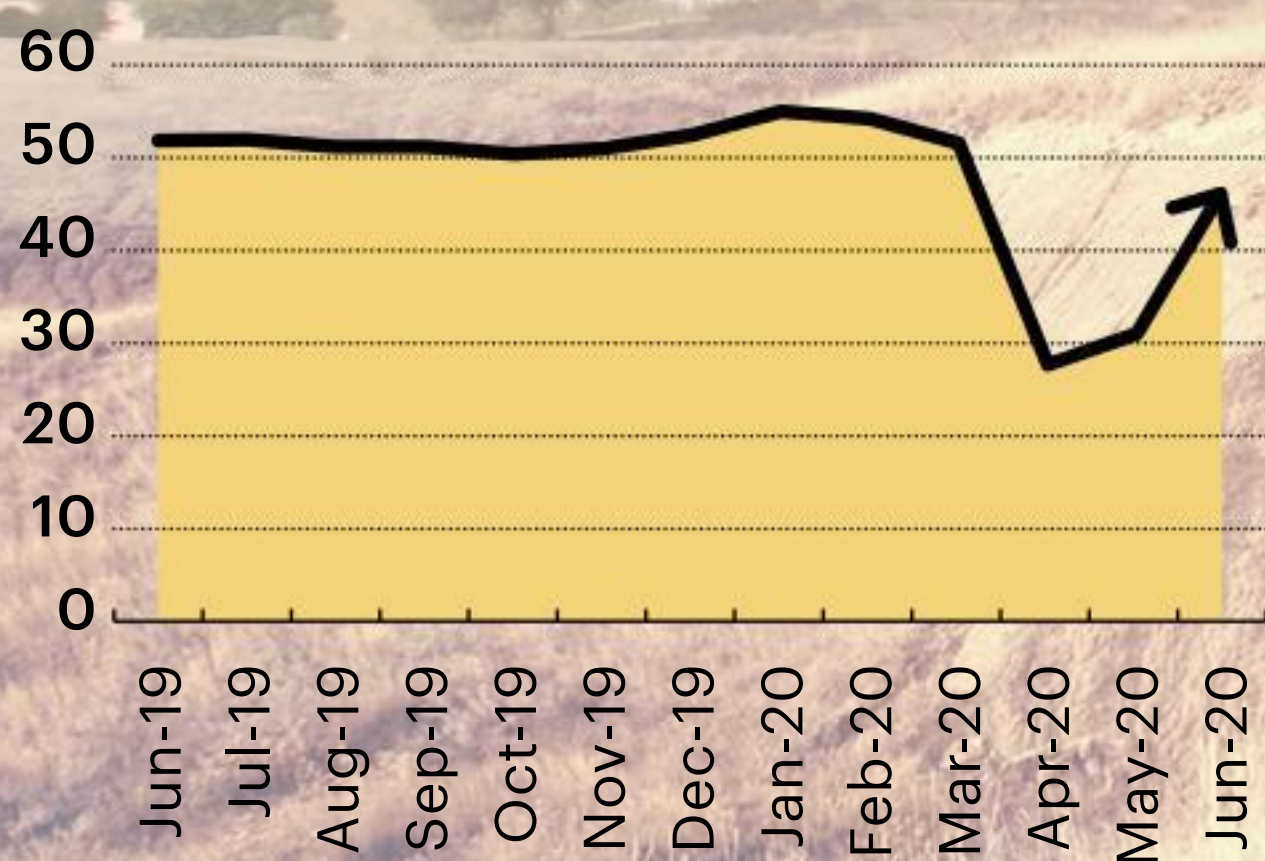
ON ROAD TO RECOVERY

A number of indicators hint that the worst is over for India's economy

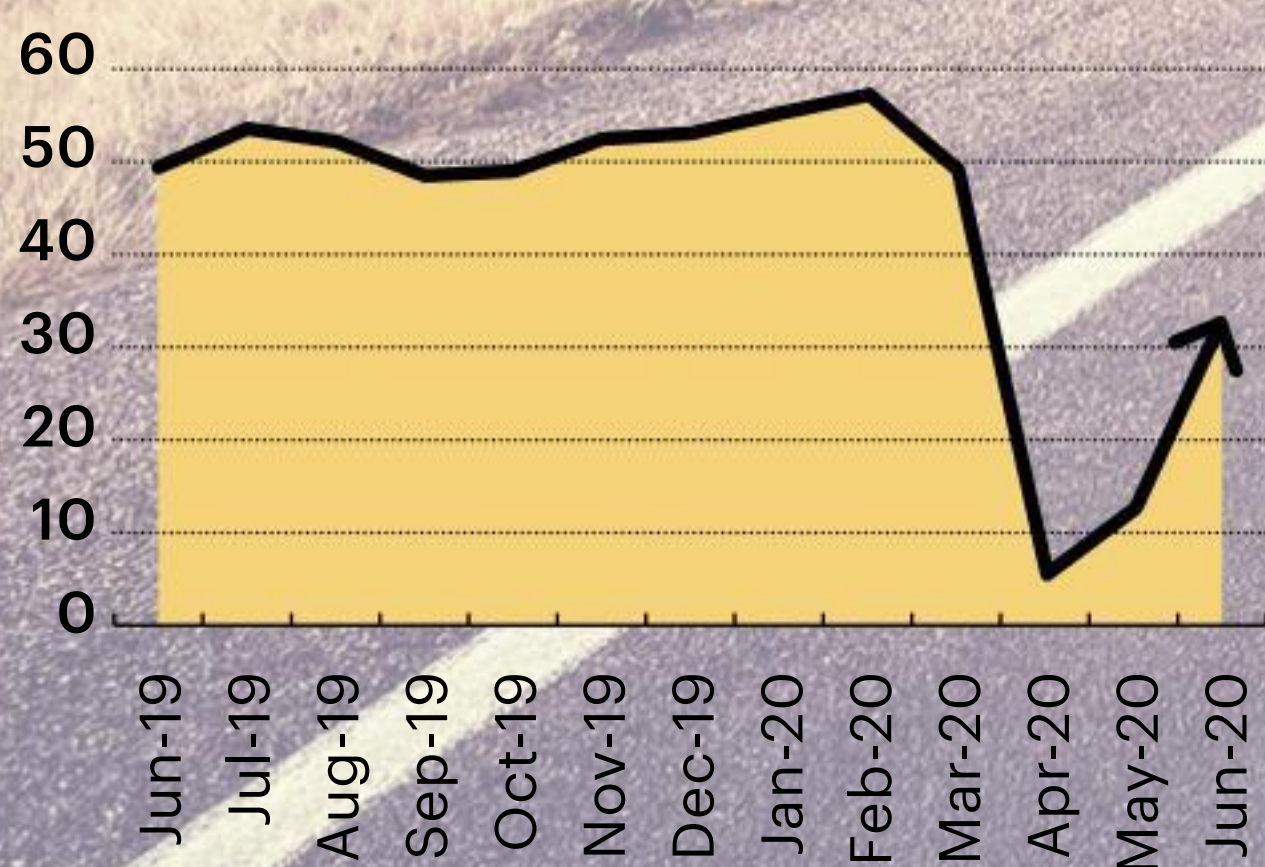
By **Shivani Sharma** | Graphics by **Tanmoy Chakraborty**



MANUFACTURING PMI SHOWS SHARP RECOVERY..

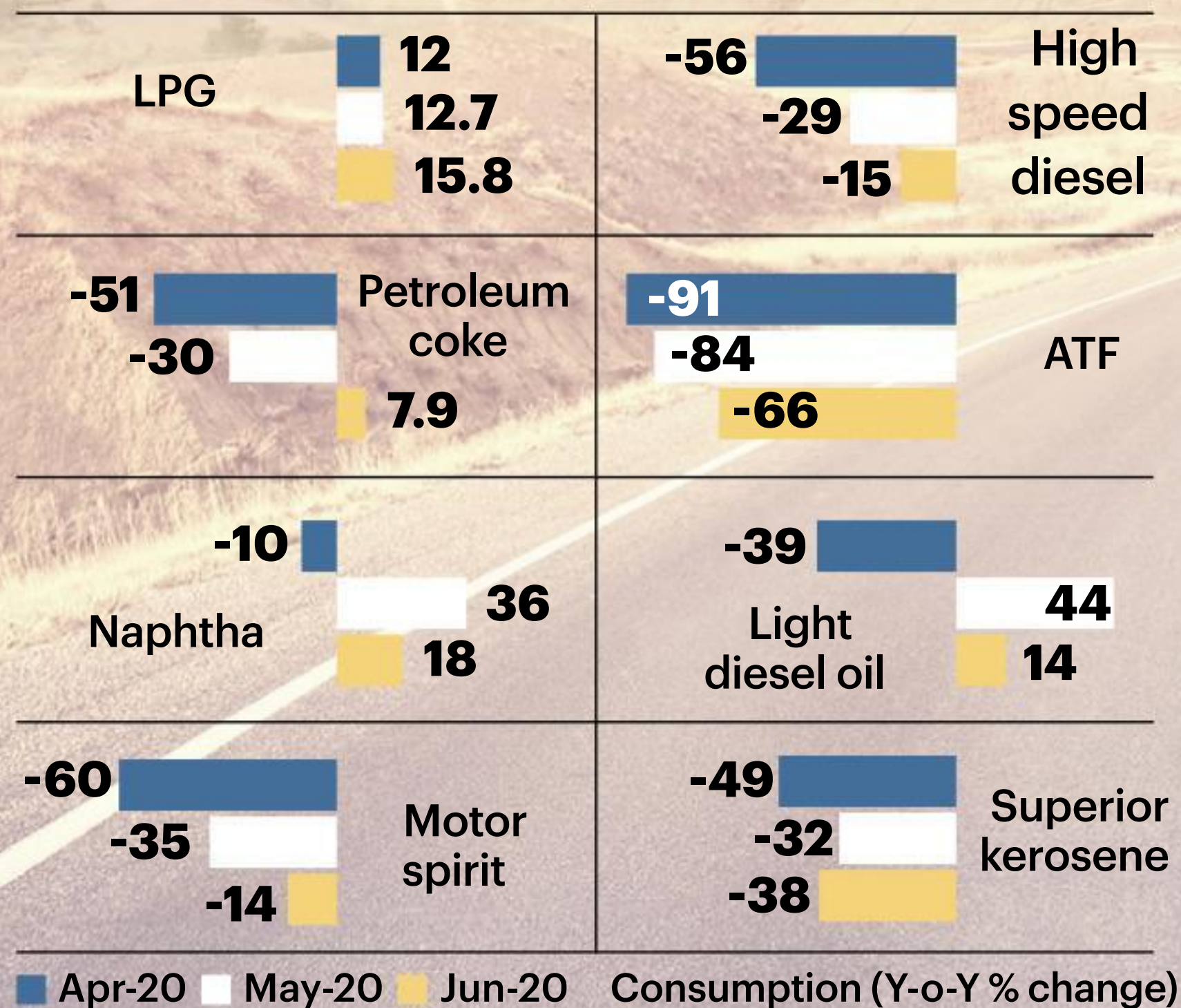


...SO DOES SERVICES PMI



Source: IHS Markit

PETROLEUM GOODS DEMAND RISING



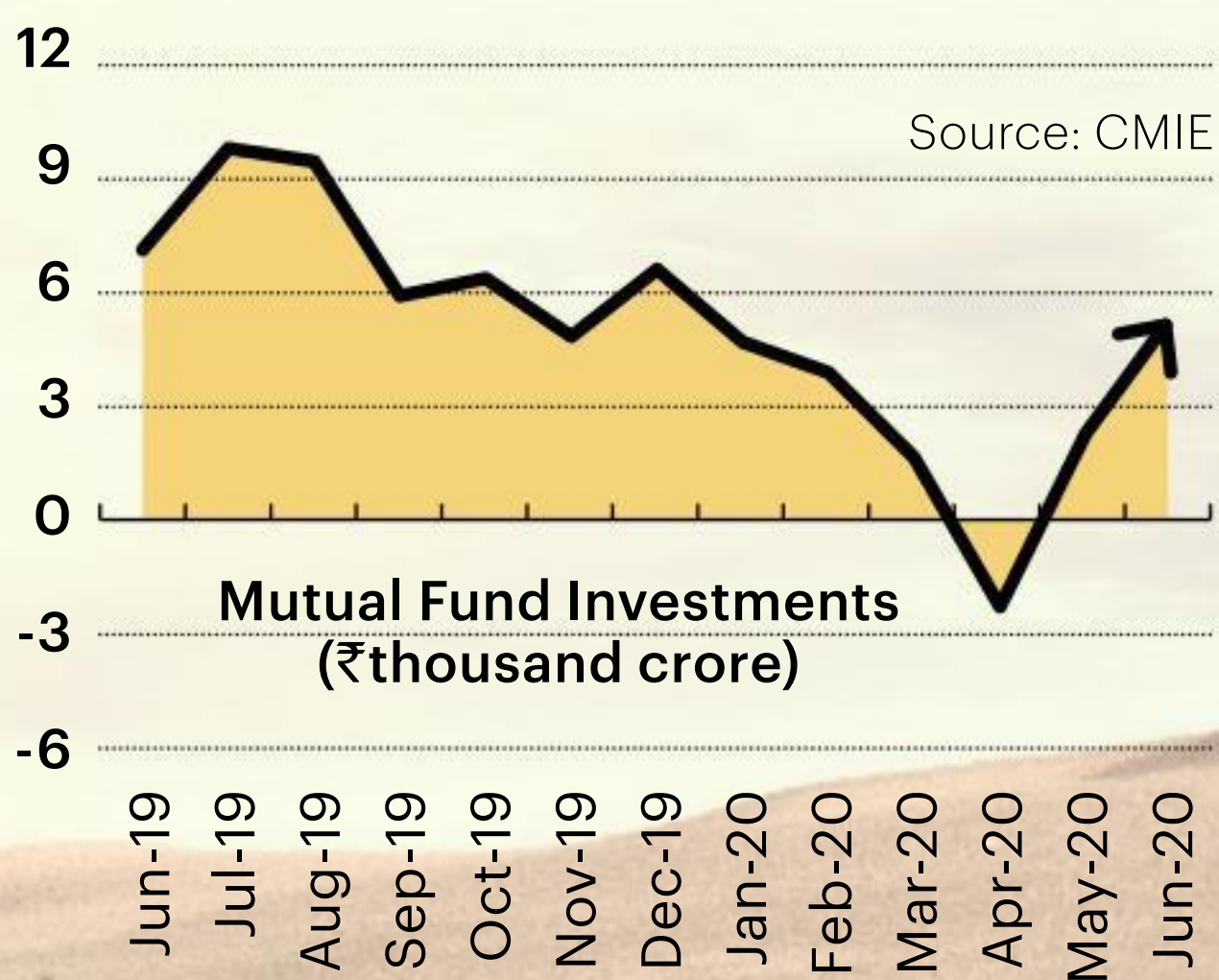
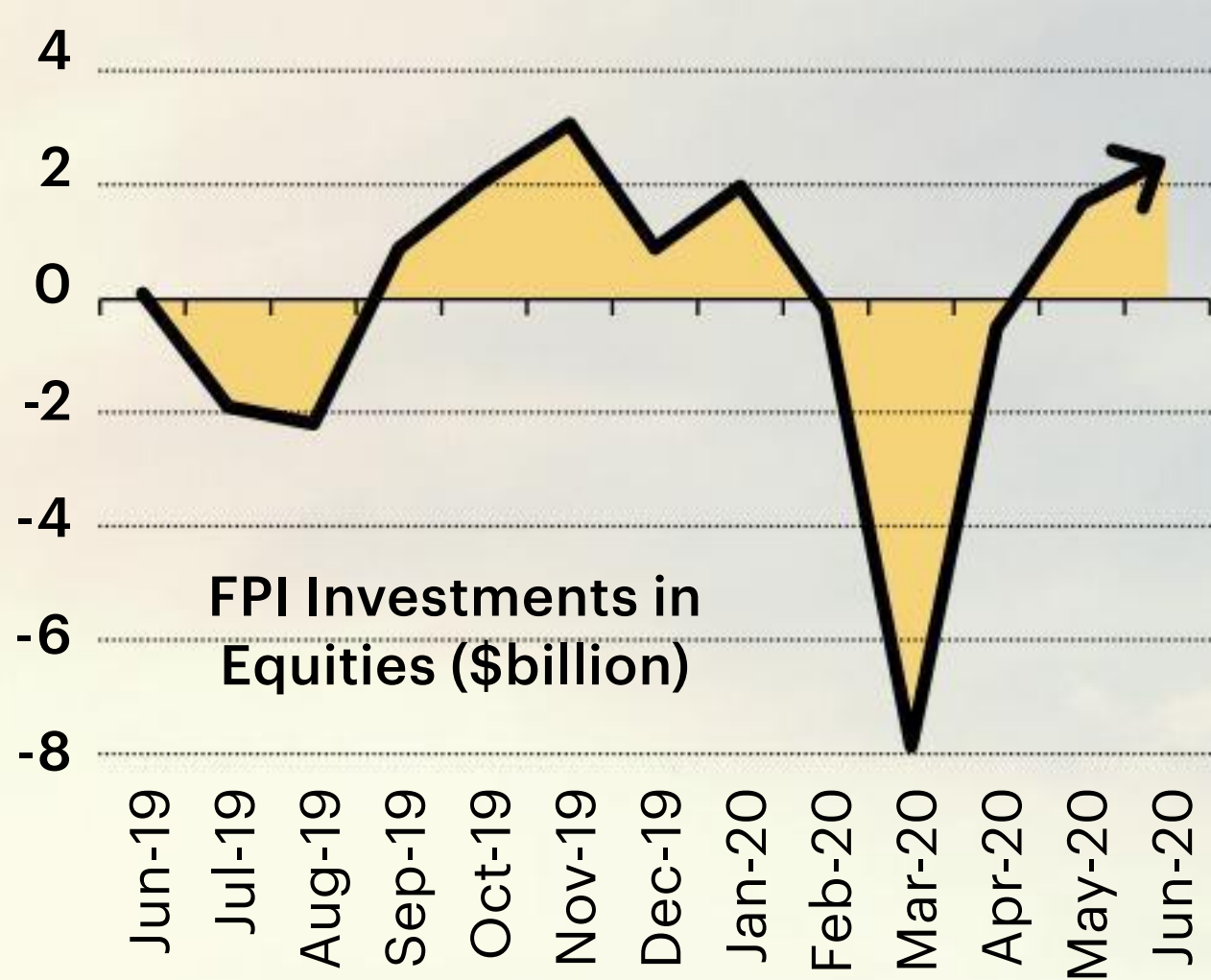
Source: PPAC

E-TOLL COLLECTIONS AT 80% OF PRE-LOCKDOWN LEVEL

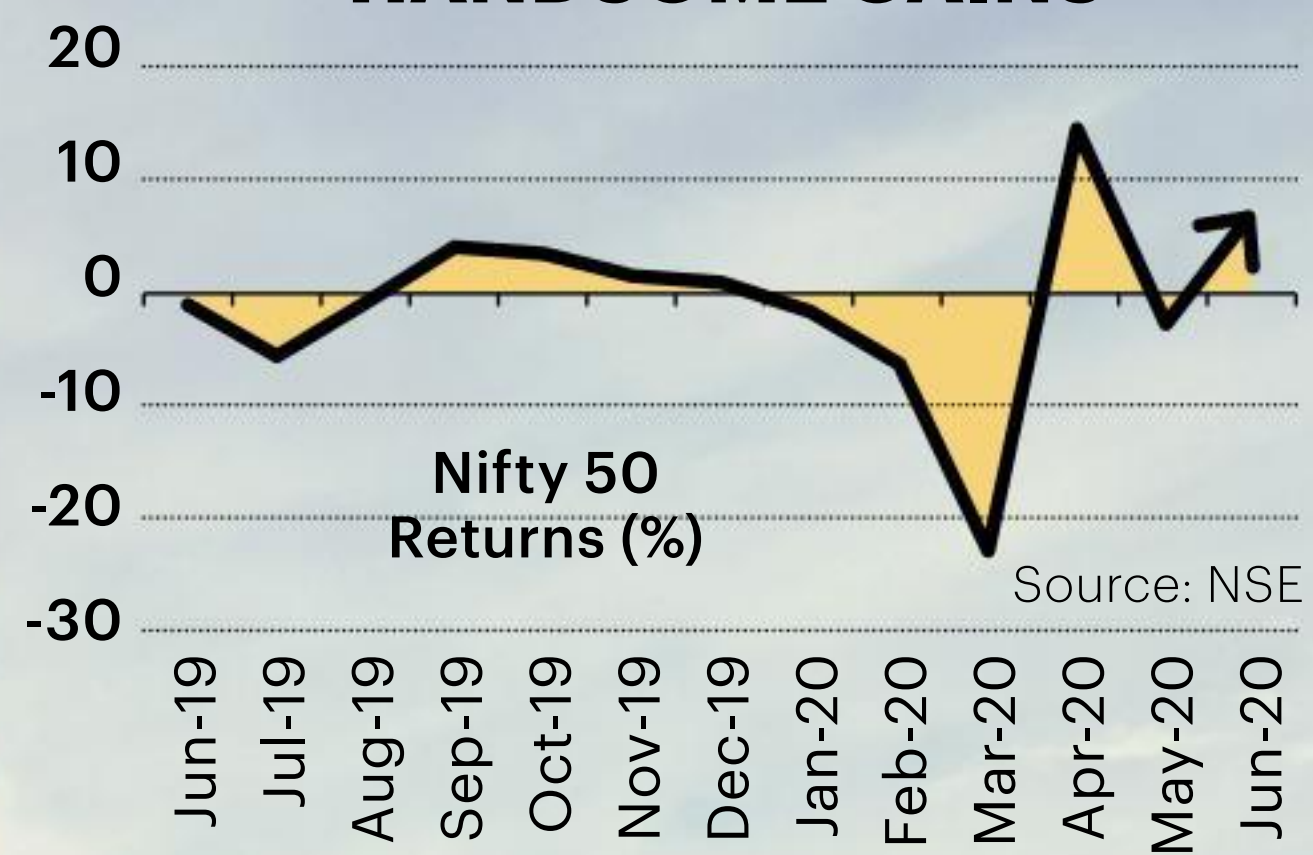


Source: NPCI

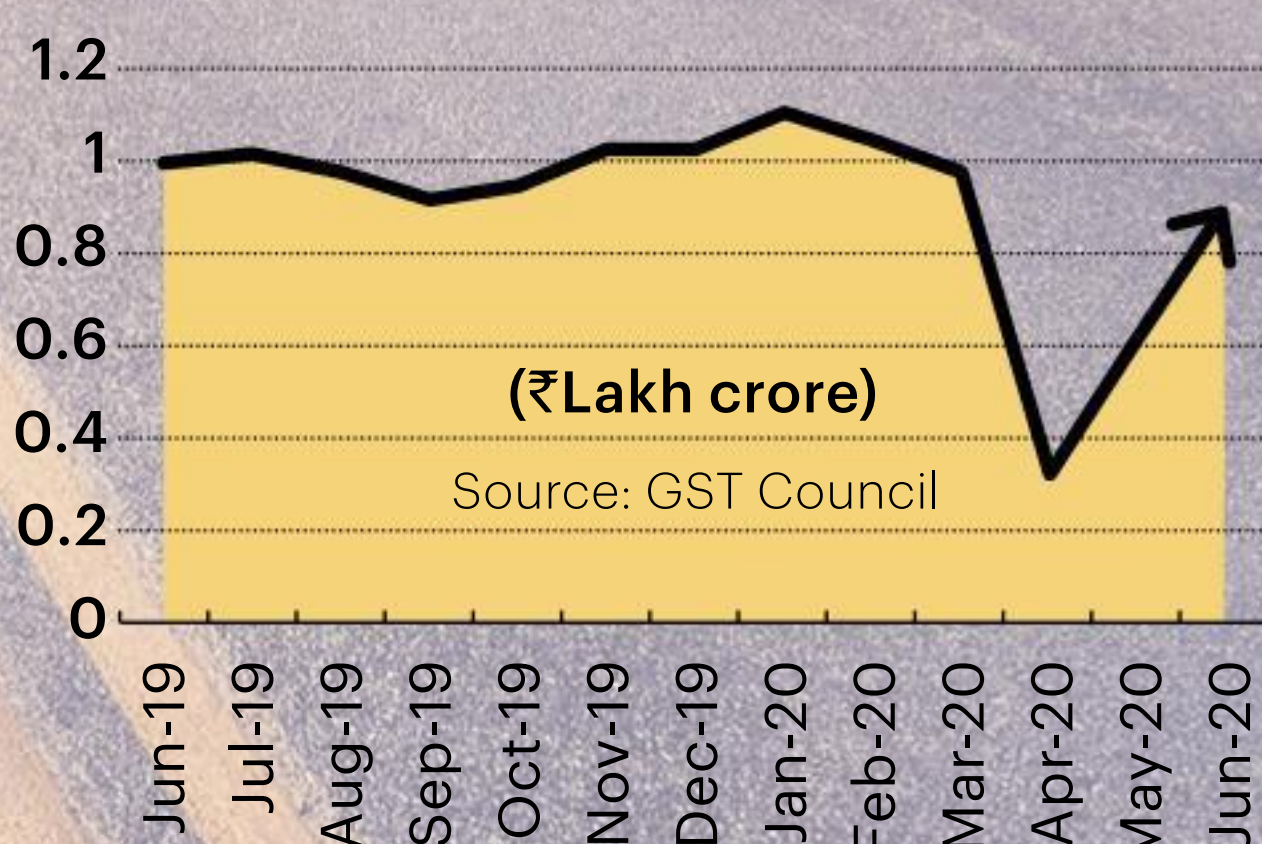
FPIs/MFs REVERSE SELLING STREAK IN EQUITIES



EQUITY MARKETS REPORT HANDSOME GAINS



GST COLLECTIONS CLOSE IN ON PRE-COVID LEVELS

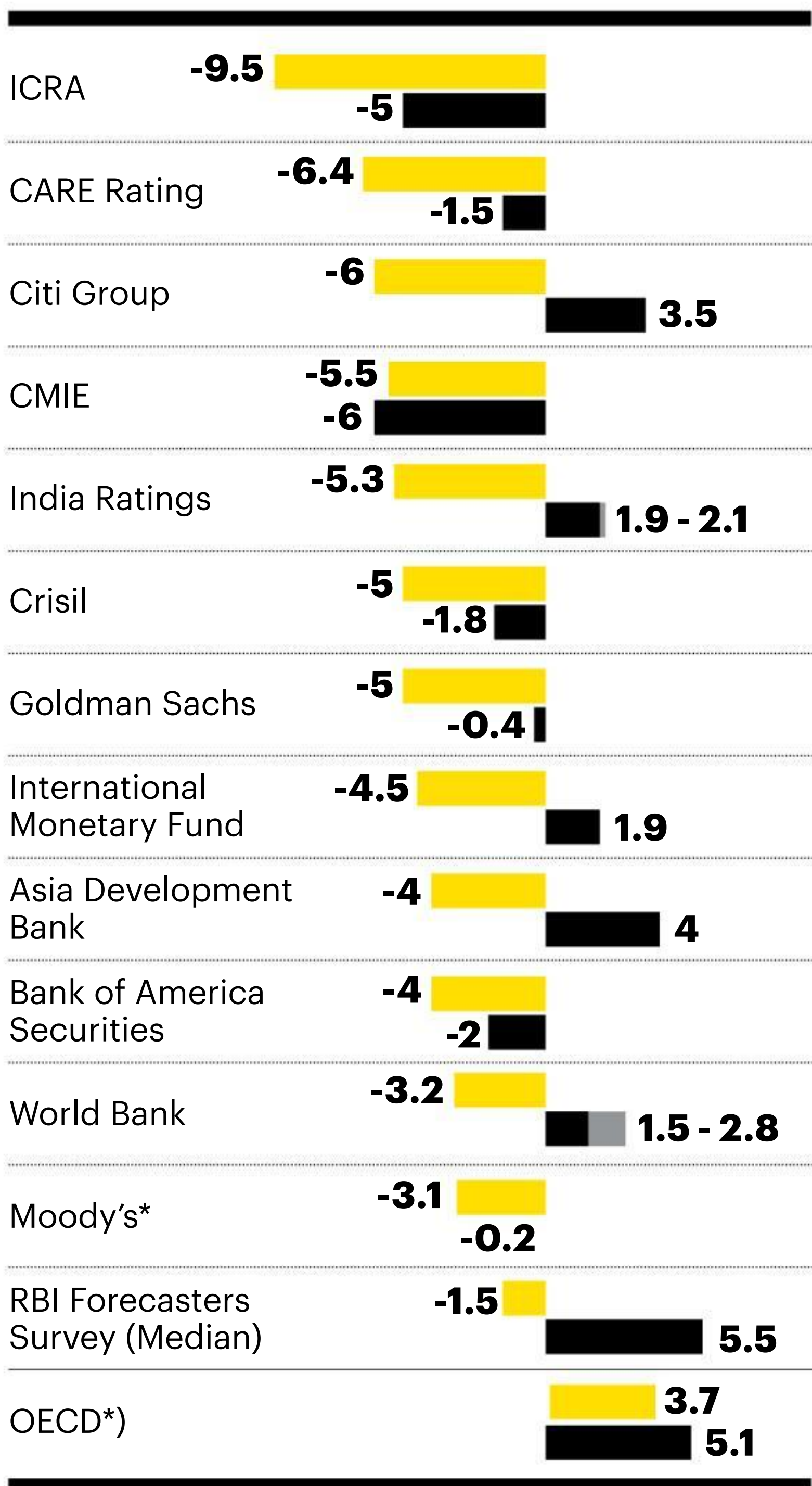


No End to GDP Growth Projection Downgrades

➤ A number of rating and other agencies have come out with another round of FY21 GDP growth estimates. A majority of these estimates – released after April-end – are more pessimistic than the projections made in March and April

➤ This is despite high-frequency indicators such as FMCG and fuel sales showing signs of returning to pre-Covid levels

➤ CARE Ratings, for instance, revised its forecast from -1.5 per cent to -6.4 per cent as economic activity continues to be hit due to lockdowns in several parts of the country



■ Latest Forecast ■ Previous Forecast

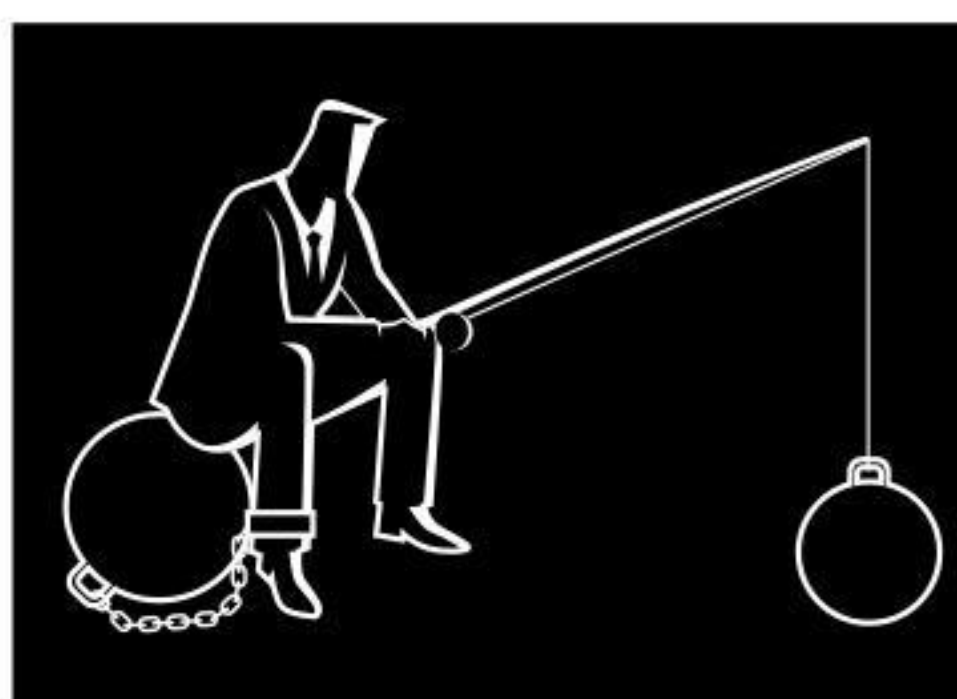
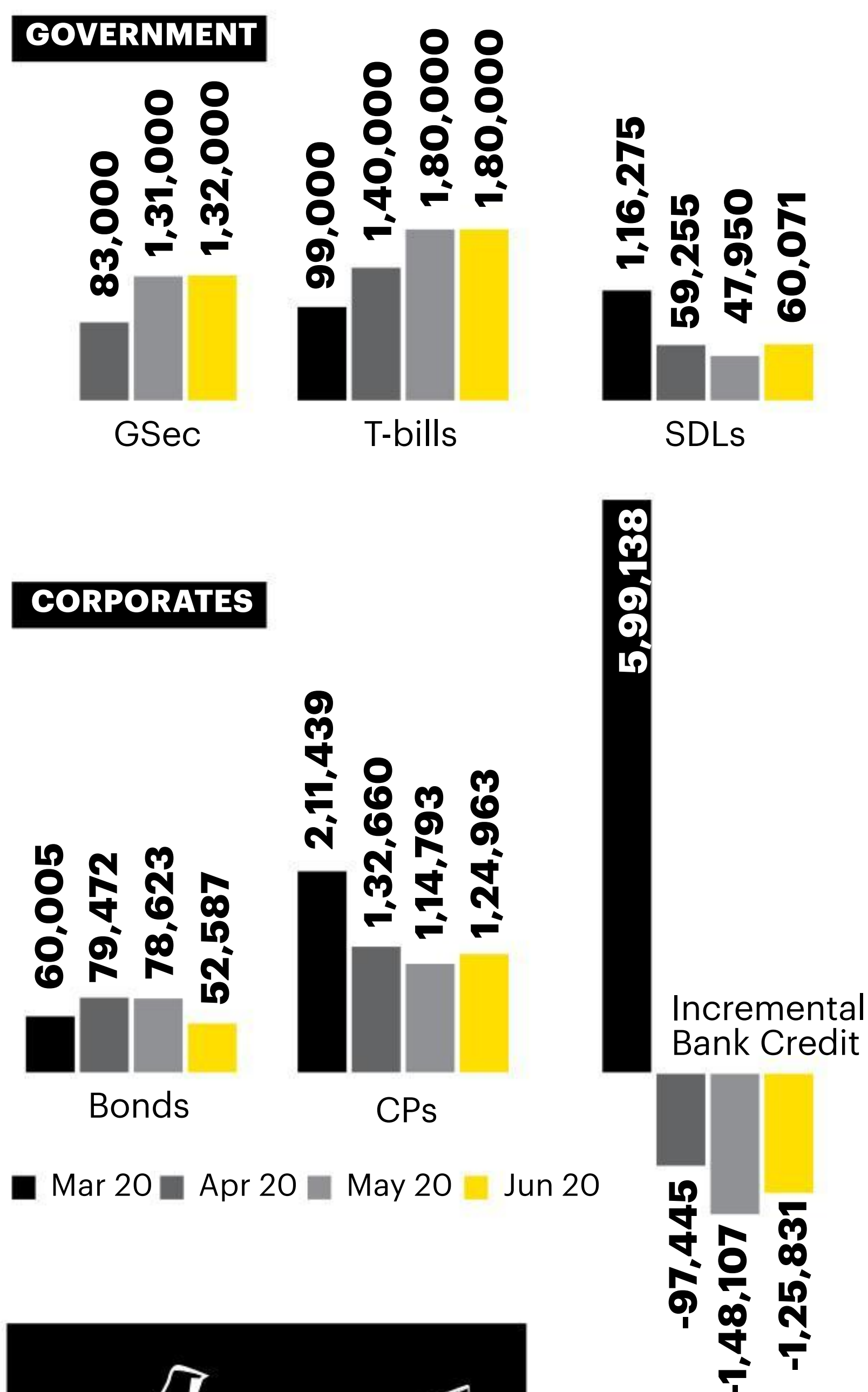
*For calendar year 2020; rest for FY21

Governments Borrow More, Companies Pull Back a Bit

➤ Central and state governments borrowed 94 per cent more in June this year as compared to the same month last year

➤ In June 2019, they had borrowed ₹1,98,606 crore, compared with ₹3,72,071 crore in June 2020

➤ However, corporate bond issuances moderated, after a sharp rise in April-May



GSec is government securities; T-bills are treasury bills; SDL are state development loans; CP is commercial paper; Figures in ₹crore

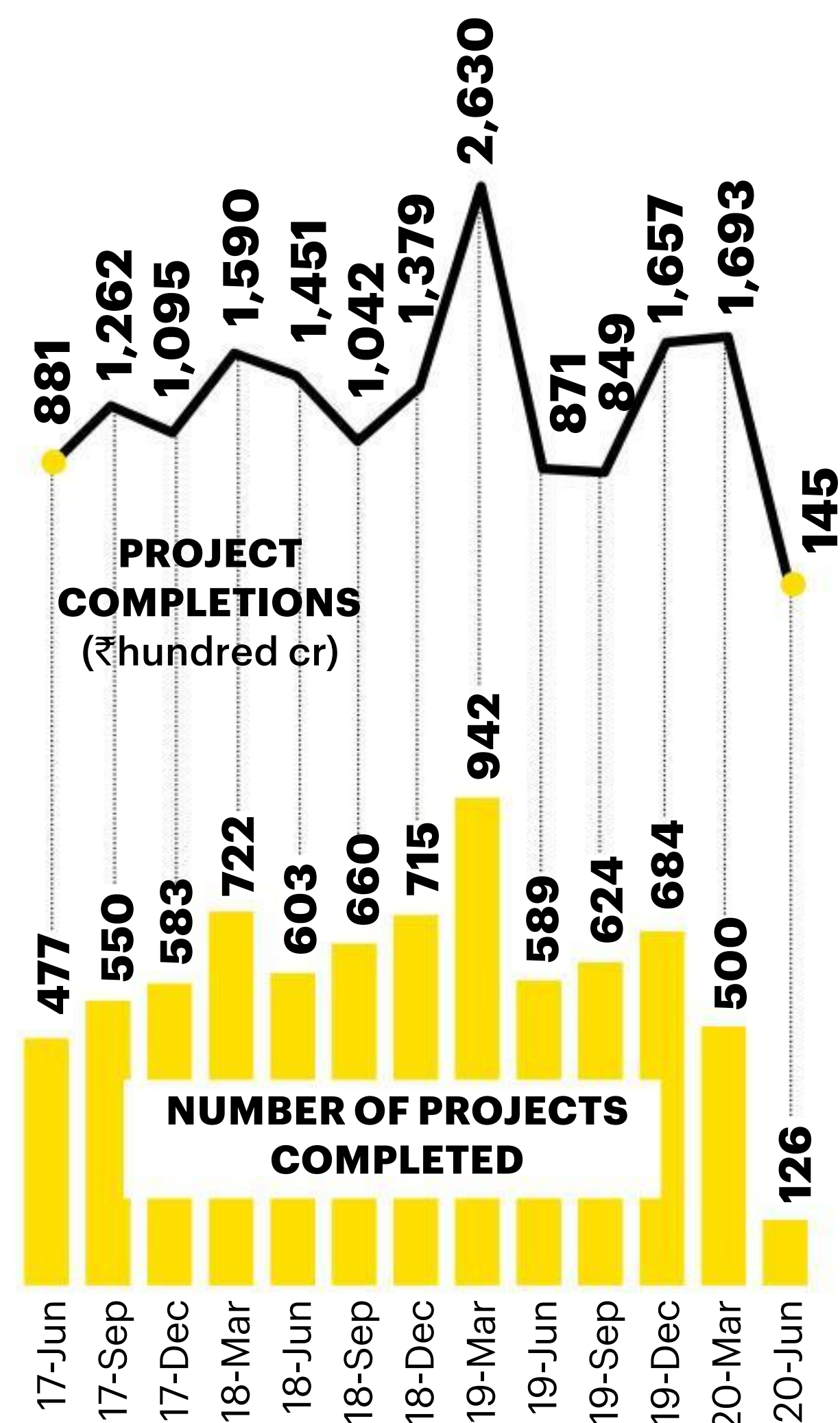
Source: Motilal Oswal

PROJECT COMPLETION GRINDS TO A NEAR HALT

➤ Projects worth ₹14,500 crore were completed in quarter ended June

➤ This is almost one-tenth of the average of ₹1.3 lakh crore in the preceding four quarters

➤ In FY20, projects worth ₹5 lakh crore were completed, way below the ₹6.5 lakh crore in FY19



Source: CMIE

Informal Sector Leads Jobs Recovery

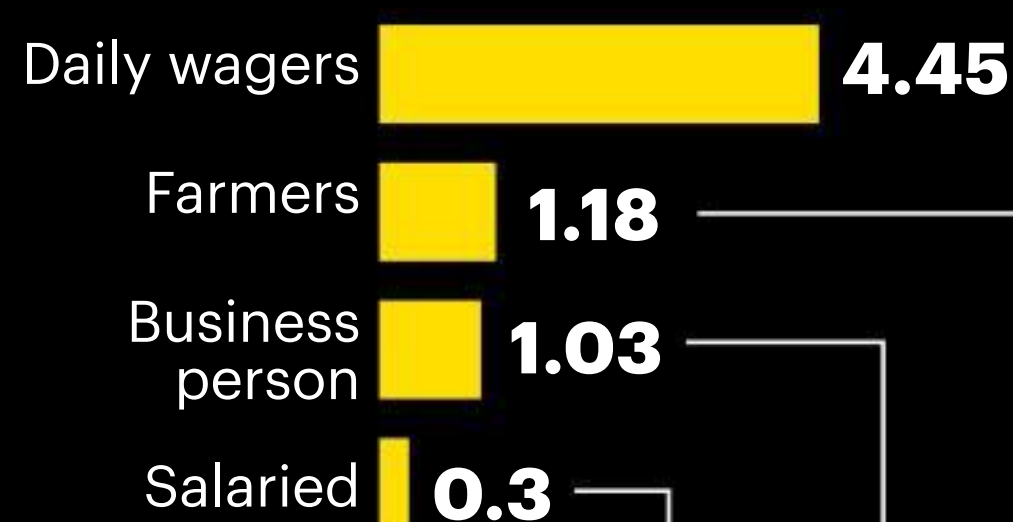
➤ Of the 12.2 crore jobs that were lost in April, 2.1 crore were added in May. In June, a further seven crore jobs were added, according to CMIE

➤ Of these seven crore, 4.45 crore were small traders and wage labourers

➤ In June, the number of jobs was just 30 million less than the FY20 average

Source: CMIE

NUMBER OF JOBS ADDED IN JUNE (cr)



India Reports Trade Surplus in Q1

India reported a trade surplus of \$11.70 billion in first quarter of FY20 as imports fell much more than exports

Exports (merchandise and services) were \$101 billion, 25.92 per cent less than in the first quarter of FY19

Imports were \$89.1 billion, 45.10 per cent less than the same period last year

■ Export ■ Import ■ Surplus/deficit

Source: Ministry of Commerce

OVERALL TRADE (April - June 2020-21; \$ bn)

Y-o-Y %

MERCHANDISE



SERVICES



TOTAL



TRADE WITH US CONTINUED TO GROW IN FY20

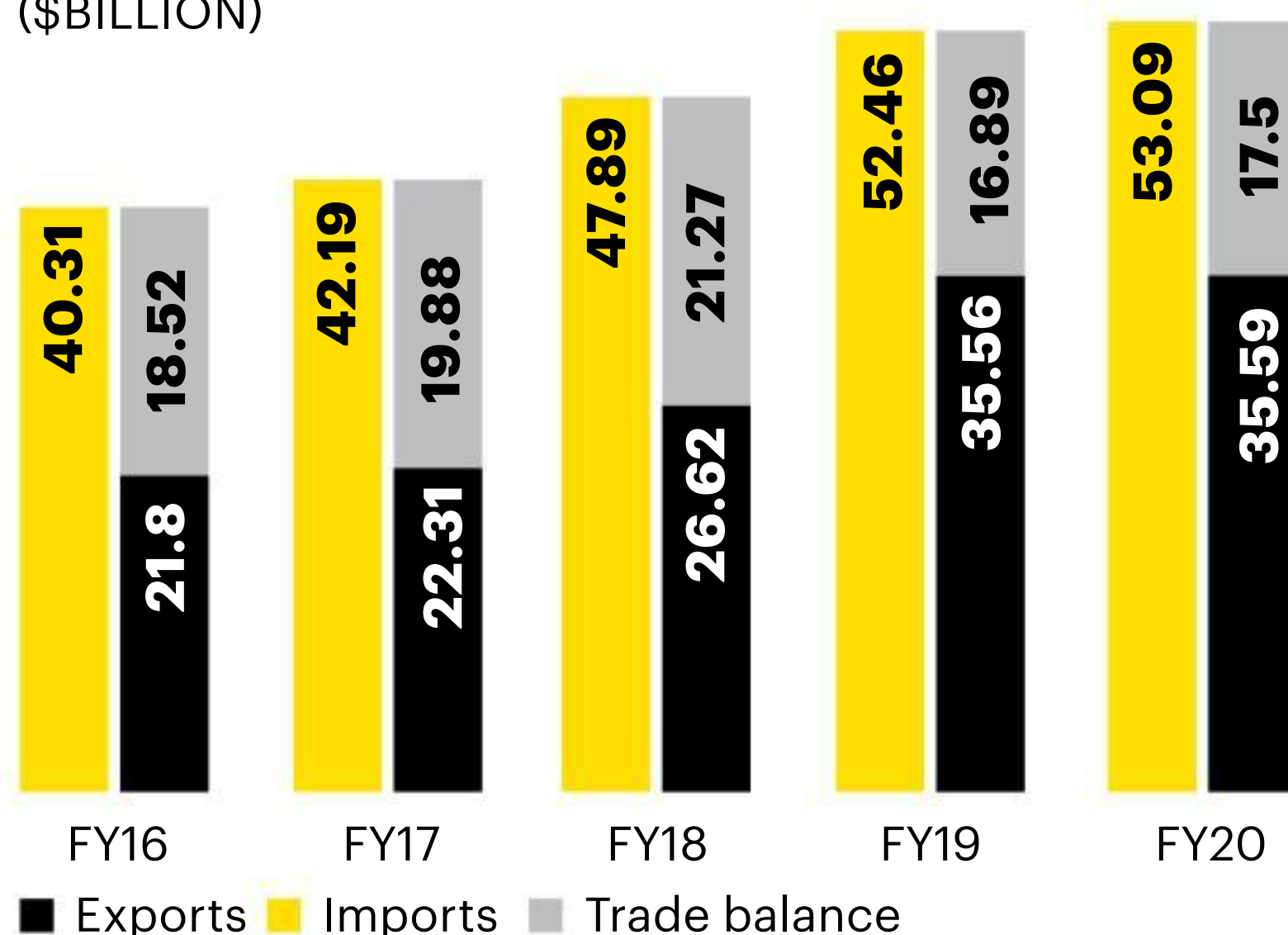
In spite of a global slowdown, India's trade with the US grew in FY20 as well

Trade surplus in India's favour, a big reason for friction between the two nations, continued to remain high

The US remained India's top trading partner for the second year in a row

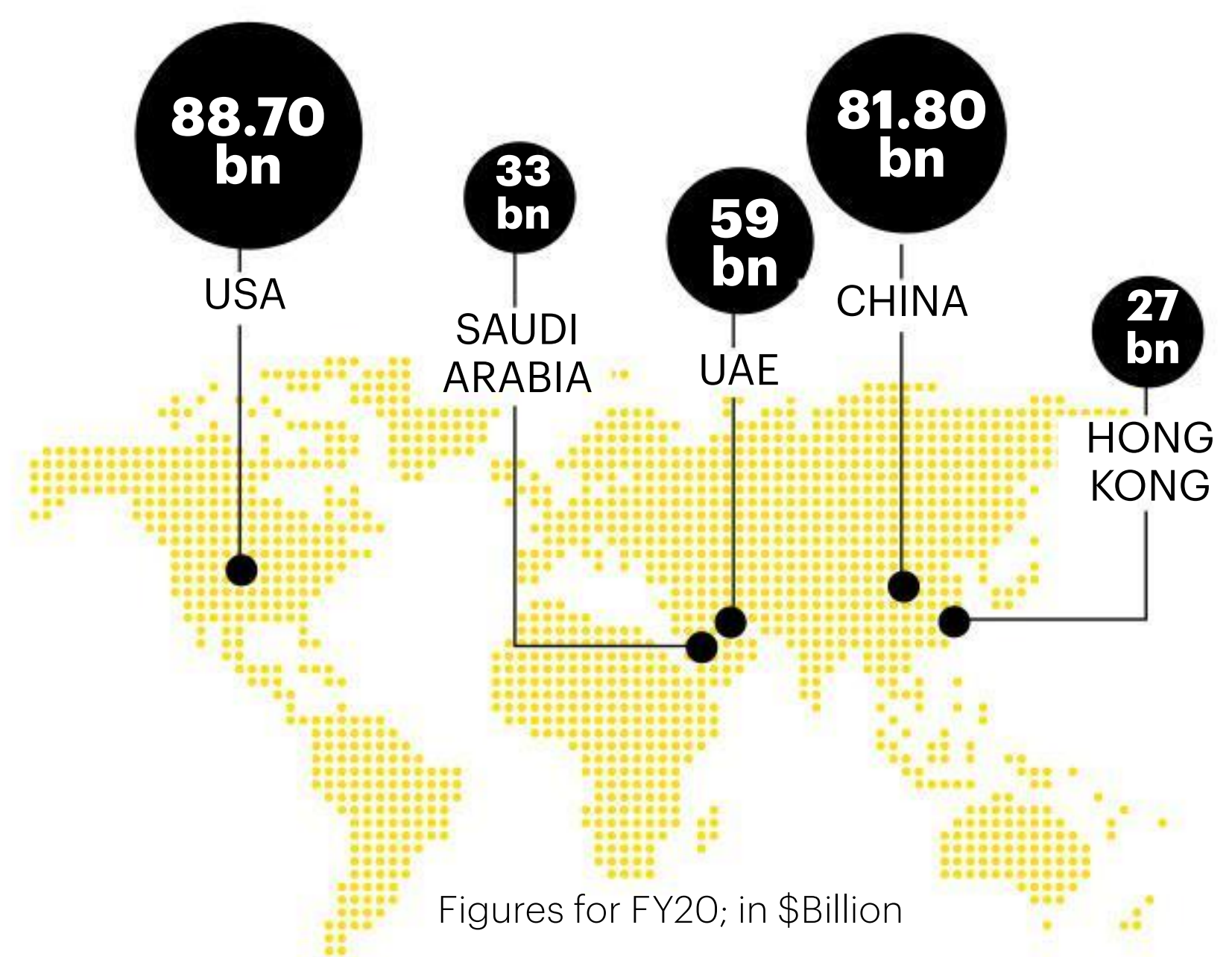


INDIA'S TRADE WITH US (\$BILLION)



Source: Ministry of Commerce

INDIA'S TRADE WITH THE WORLD

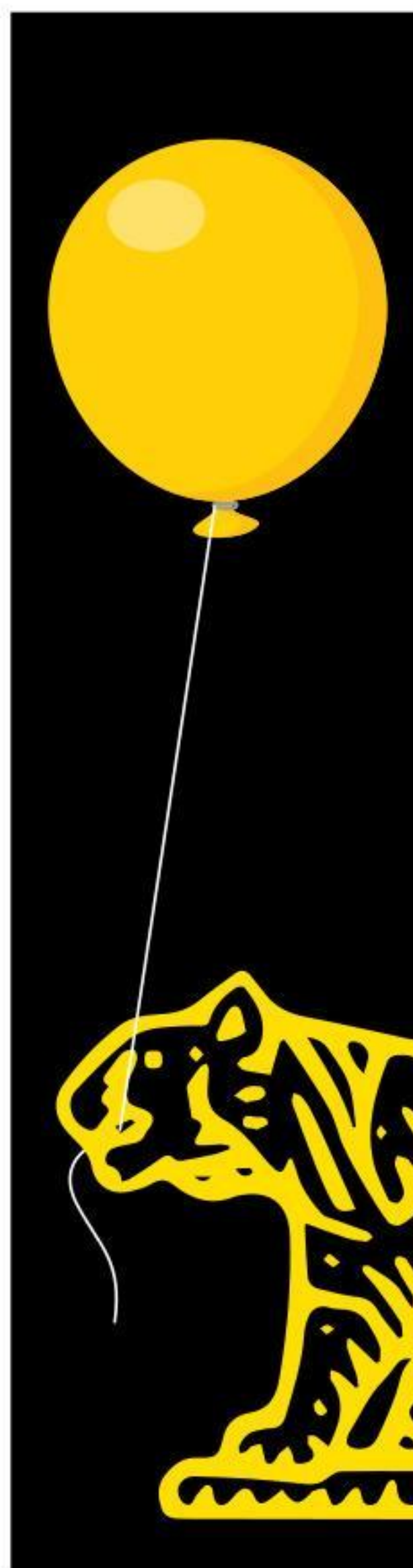
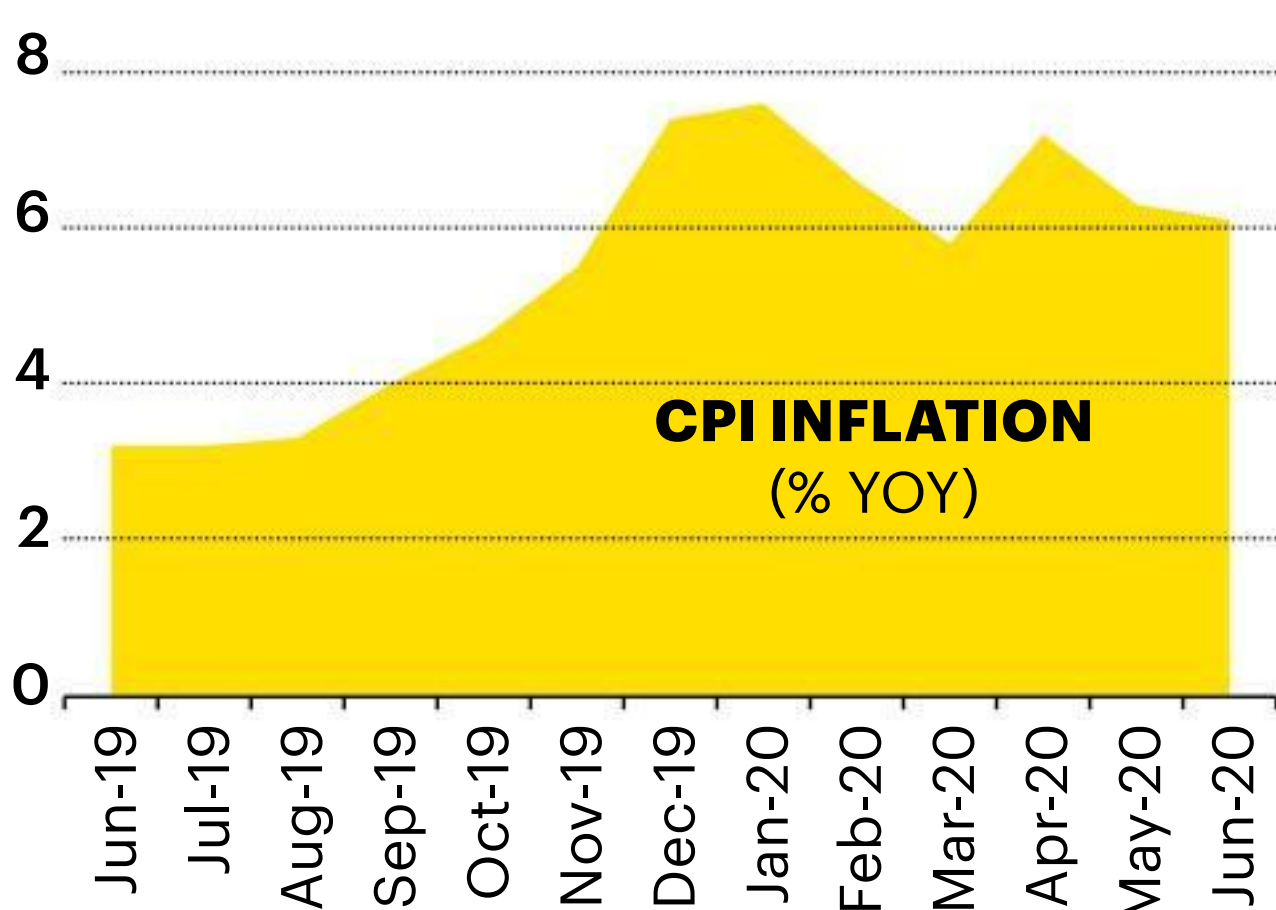


Figures for FY20; in \$Billion

Retail inflation Stays Above RBI Red Line...

➤ Consumer price inflation in June was at 6.1 per cent, above the RBI's inflation target of 4 per cent plus/minus 2 per cent. This was also way higher than the 3.2 per cent in June 2019

➤ Core inflation rose successively for 4th month in June to 5.1 per cent, 1 per cent higher than the 4.1 per cent in June 2019

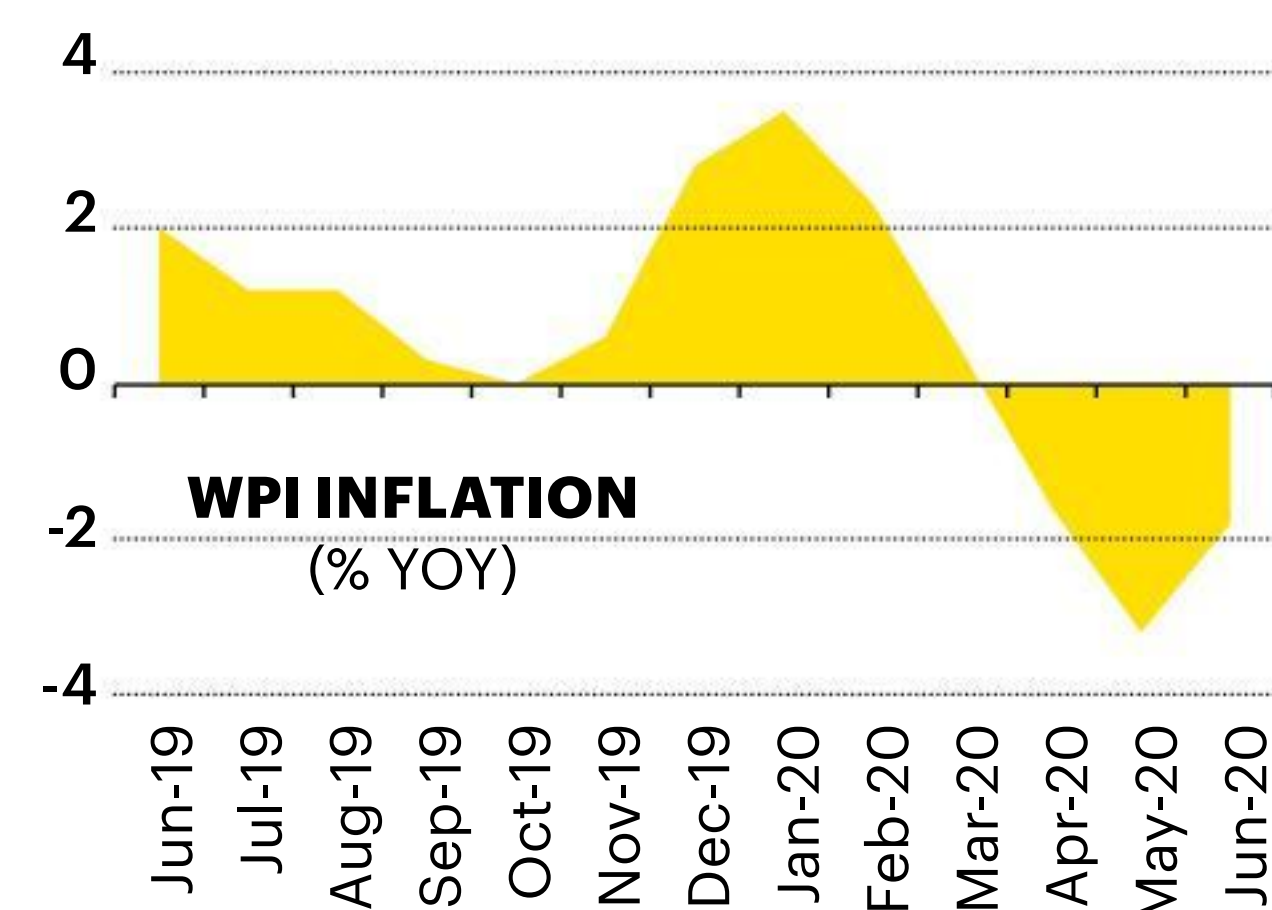


Source: MOSPI

...Though Wholesale Inflation Remains Low

➤ The deflationary trajectory of the wholesale price index inflation continued for the third consecutive month in June

➤ The WPI-based inflation declined by 1.8% (provisional, with 70% response rate) compared with 2.02 per cent rise in June 2019



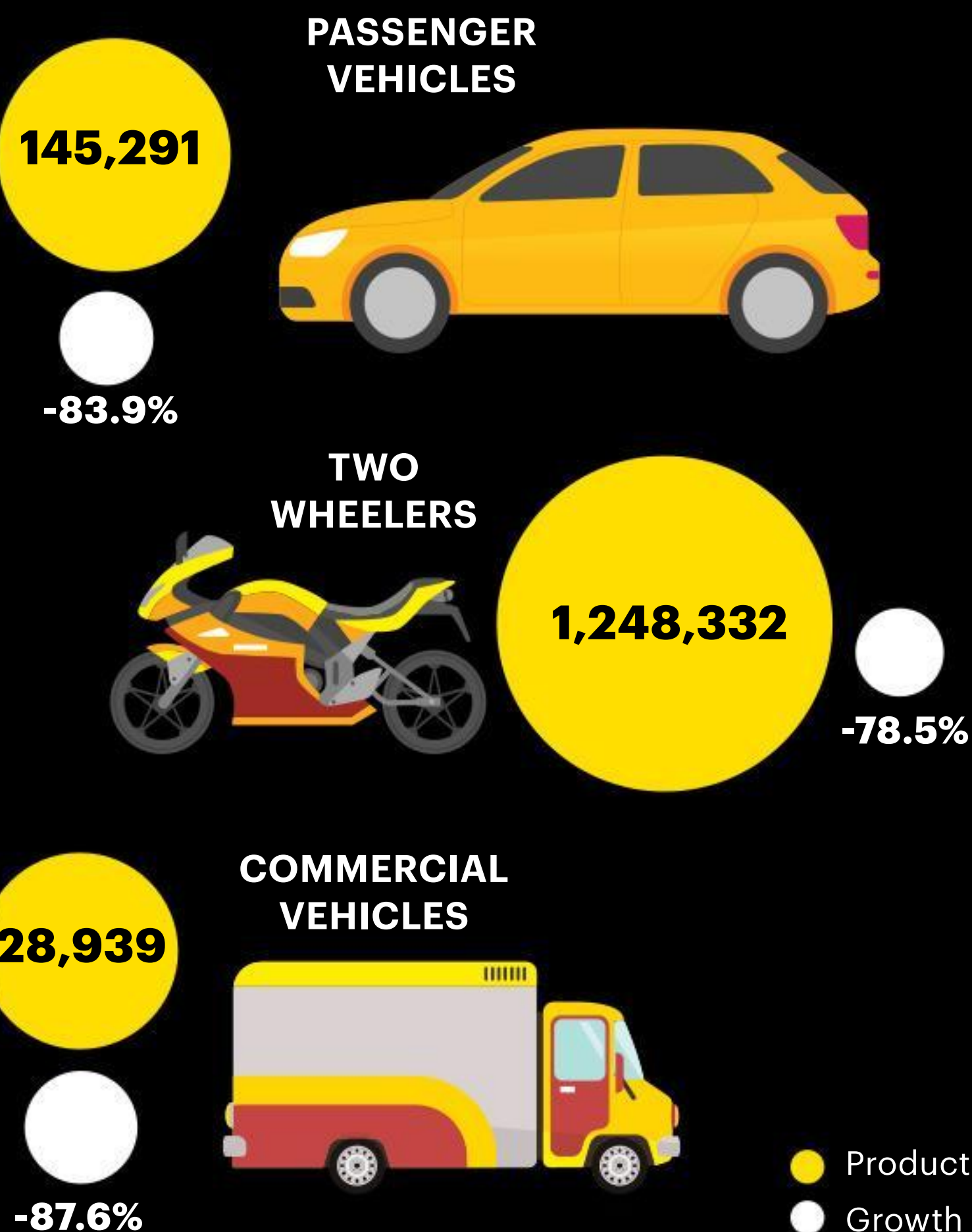
Q1 is a Washout for Automobile Sector

➤ Passenger vehicles: The industry made 1,45,291 vehicles (down 83.9% YoY), while domestic sales declined 79.3 per cent to 1,39,136. Exports fell 74.7 per cent to 44,130

➤ Two wheelers: Production fell 78.5 per cent to 1,248,332 units while domestic sales fell 74.2 per cent to 1,291,845 and exports 61.8 per cent to 337,728 units

➤ Commercial vehicles: Production was 28,939 units (down 87.6 per cent YoY) while domestic sales fell to 31,636 units (down 84.8 per cent). Exports declined 66.7 per cent to 3,870 units

Source: CARE Ratings





Steering Luxembourg's Economy Back to Recovery



In line with large parts of the world, the coronavirus epidemic and the related lockdown measures put in place in Luxembourg have considerably impacted the country's economy. The government has mobilised massive resources to support business, and the national statistics institute forecasts that the 2020 recession will be followed by substantial growth in 2021.

The Luxembourg government reacted quickly at the outbreak of the COVID-19 epidemic and imposed travel restrictions in the country as early as 15 March to prevent the infection from spreading further. Therefore, some parts of the economy were closed down.

However, with infection rates quickly decreasing, the government launched its "Unlock strategy" on 20 April. Construction sites, shops and restaurants were subsequently allowed to reopen, while the number of COVID-19 cases detected have remained at very low levels. In order to monitor the evolution of the disease, Luxembourg has launched a large-scale testing programme aimed at testing the whole population and all cross-border workers. It is among the countries that have tested the most people per capita.

Government support to the economy

On 25 March, the government launched an unprecedented economic stabilisation programme, which has been called one of the most generous in the world. It is focused on helping companies maintain employment and cash flow and facilitate bank loans.

Several initiatives were also launched to support local start-ups – a highly relevant sector for more cooperation with India, in particular in the fields of fintech, healthtech, artificial intelligence and cleantech.

The Ministry of the Economy presented additional support measures on 20 May, aimed at encouraging employment, supporting companies in the most impacted sectors and promoting a sustainable economic relaunch. One of the key measures in the programme called "Neistart Lëtzebuerg" ("New Start Luxembourg") is short-term employment. A new programme called "Fit 4 Resilience" also helps local companies to manage their way out of the crisis and to develop long-term strategies. "We have never paid out as much financial aid as during this time of crisis," stated Minister for Small and Medium-Sized Enterprises Lex Delles. "Government measures have helped mitigate the social and economic consequences of the crisis in the short term," continued Minister of the Economy Franz Fayot. "Other, more recent support measures decided in the context of the 'Neistart Lëtzebuerg' package will only have positive effects in the medium or even long term."

Economic outlook

The world economy has been severely hit by the coronavirus pandemic, and a global recession is expected for the rest of the year. The same is true for the Luxembourg economy.

"Economic activity in Luxembourg was relatively steady

over the first two months of the year but declined sharply from March onwards after the lockdown measures were implemented," says national statistics institute STATEC in a press release. "The sectors most impacted were those directly affected by a total or partial shut-down of activity (construction, hotel and catering, retail) and/or where the options for teleworking were limited. A gradual emergence from lockdown should allow activity to recover from Q3 onwards."

The STATEC expects Luxembourg's GDP to decline by 6% this year. This figure is on par with the global recession predicted by the OECD in a single-hit COVID-19 scenario, and far lower than the predictions for countries such as the UK (-11.5%), France (-11.4%), the US (-7.3%) and Germany (-6.6%).

However, STATEC predicts that the Luxembourg economy will catch up again with a 7% growth in 2021, provided the health situation returns to normal and activity can gradually resume. Although the severity of the situation should not be denied, there is reason for optimism.

Luxembourg's economy is expected to catch up again with a 7% growth in 2021, provided the health situation returns to normal.

(Re-)Construction work ahead



Mr. Philipp Von Restorff, Deputy CEO of Luxembourg for Finance

Covid-19 and the related lockdowns have plunged the world's countries into a crisis of unprecedented magnitude. Aside from the health crisis, the sharp slump in economic activity, falling earnings, higher debts and rising unemployment are the consequences to be addressed in the coming years. The revival of the global economy calls for investments of colossal proportions that go far beyond the financial capacities of governments, international communities or international organizations such as the International Monetary Fund. To bring us back on track and rebuild our economies, a massive leverage of private capital will be required. The financial industry has always played a significant role as a fundraiser for economic activities. Especially capital markets play a key part in supporting economic growth by allocating money to projects that help create jobs, provide public services, build infrastructure and drive innovation. Whether it is an individual buying a home or saving for a pension, a business raising finance to expand or a government seeking to invest in public services, each benefit from well-functioning capital markets. During and in the aftermath of this sanitary crisis their role is all the more important.

That brings to the front international financial centres like Luxembourg. By collecting, standardizing and managing investments from around the world they

connect international investors and savers with projects and ideas. Its capital market infrastructure, the legal and economic stability and international focus make Luxembourg attractive for financial institutions and service providers. In addition, to the established connections to other financial centers, the Luxembourg financial centre provides solutions and vehicles that enable investments flow all around the world. Moreover, clients find financial professionals in Luxembourg that have the multi-jurisdictional expertise required for complex cross-border investment activities.

Asset managers and asset owners play an indispensable role in capital markets. By raising capital and investing it in equities and corporate debt, asset managers help finance economic development. Particularly investment vehicles such as mutual funds are a very popular tool among institutional and individual investors, which can be sold and invested in on a cross border basis. Luxembourg investment funds for instance are distributed in over 70 countries and invest into projects throughout the world. The UCITS funds, since their European wide inception in 1988, have become the global standard in well-regulated investment products, extensively sold both to the public and to institutional investors. Pension funds and insurance companies in particular rely on UCITS to diversify their portfolios with

this well-regulated product. In recent years, alternative funds such as private equity, hedge and real estate funds, broaden the investment landscape and are gaining interest of investors as solutions to invest into a broader range of assets.

Another way to raise capital is through the issuance of bonds, which is actually the most widely used debt instrument globally for governments and corporations. The Luxembourg Stock Exchange (LuxSE), a global leader in debt securities listing, lists over 37,000 securities denominated in 17 currencies from around 2,040 issuers of which 117 are sovereign issuers, underlining again Luxembourg international orientation.

Like many other financial actors, the LuxSE has committed to contribute to the ambitious goals set by the COP21 agreement in Paris to limit global warming as well as the UN Sustainable Development Goals. Today, by listing around 50% of the world's sustainable bonds in terms of volumes, LuxSE has become a pacesetter in green finance. The expertise acquired by its dedicated listing platform launched in 2016, the Luxembourg Green Exchange (LGX), has earned it the trust of green finance trendsetters such as the European Investment Bank and the World Bank, as well as of major corporate issuers.

While sustainable finance still remains a small part of the overall financial services market, the growth in green financial products has been remarkable. Importantly, clear market trends show that this is not a fad: the transition towards environmentally sustainable activities, and the integration of ESG more broadly, will continue and increase in intensity, driven by a generational shift as well as by institutional client demand. Increased regulatory scrutiny will further contribute to accelerating this trend. Capital markets in particular have seen volumes of green bonds grow by double digits annually. Recent findings have shown that sustainable finance products have during the crisis outperformed their traditional counterparts.

Combating the Covid-19 pandemic and mitigating its consequences for the economy and society is a global task. Just like the efforts to protect our climate. The two tasks do not contradict each other. It is not an "either or" or "one after the other". Because neither one nor the other tolerates postponement. Economic reconstruction, the cushioning of impending social consequences and the green transformation can be reconciled if we all set the right course. The Luxembourg Government as well as the Luxembourg financial centre will therefore continue to strongly support the financing of a sustainable future.

Sustainable finance in the wake of COVID-19

By Julie Becker, Deputy CEO of the Luxembourg Stock Exchange and Founder of LGX



Mrs. Julie Becker, Deputy CEO of the Luxembourg Stock Exchange and Founder of LGX

Sustainable finance is about reorienting capital flows towards sustainable investment projects and ensuring that investors can make a positive social or environmental impact through their financial investments. In the midst of a global crisis that has led to unprecedented financing needs, sustainable capital has been brought centre stage. Exchanges play a crucial role in directing capital in the right direction and facilitating sustainable investments, and the Luxembourg Stock Exchange is a front-runner in this field.

Promoting the sustainable finance agenda

The Luxembourg Stock Exchange is one of the world's leading listing venues for international debt securities. With more than 37,000 securities and 80 years of capital market experience, the Luxembourg Stock Exchange has steadily and successfully increased its international footprint and contributed to the development of international capital markets. Its long-standing relationship with India, notably in the field of Global Depositary Receipts, is one example of this.

As a preferred listing venue for a wide array of issuers covering more than 120 sovereigns and quasi-sovereigns, supranational institutions such as multilateral development banks, but also municipalities, financial entities and corporates—and even exchanges—the Luxembourg Stock Exchange has a global focus and an

international reach. Over the past years, the exchange has taken a leading role in promoting the sustainable finance agenda. Curbing climate change and ensuring sustainable development are global challenges that require a global response. Capital markets play a crucial role in accelerating the transition to a low-carbon and more inclusive economy, and the Luxembourg Stock Exchange is committed to contributing to this transformation.

Driving positive change

The Luxembourg Stock Exchange established the Luxembourg Green Exchange (LGX) in 2016 as a contribution to the United Nations Sustainable Development Goals and the Paris Climate Agreement. LGX is the world's leading platform for sustainable securities and now counts around 730 green, social, sustainability or ESG-focused securities representing a total value of more than USD 300 billion. LGX has been chosen as the reference platform by the European Investment Bank, the World Bank and the International Finance Corporation for all their thematic bonds.

The current crisis has left governments, as well as public and private companies, in need of significant financing. Institutions from the public and private sector alike are turning to capital markets to raise the funding they need to mitigate the impact of the COVID-19 pandemic. It is

of paramount importance that companies can get access to financing when they need it the most. In this context, we welcome the simplification process initiated by the Indian authorities to allow Indian companies easier access to international markets.

A shift to social bonds

As the novel coronavirus swept across the world, there was an almost immediate uptick in social bond issuance, the so-called COVID-19 response bonds that are issued to address the significant social and economic consequences of the pandemic. Social bonds finance projects linked to healthcare, education, social housing and food security, all areas heavily impacted by the current crisis.

From April to June 2020 alone, social or sustainability COVID-19 response bonds totalling USD 20 billion were listed on the Luxembourg Stock Exchange. As a direct contribution to the global financing efforts, the Luxembourg Stock Exchange decided to waive the entire listing fee for COVID-19 response bonds.

Sustainable finance starts with education

The global pandemic has brought the social aspects, or the “S” of ESG, to the fore and reinforced the awareness that finance needs to be part of the solution. Investors want to contribute to a positive societal change in addition to bringing a market-rate financial return. Nevertheless, a significant number of market players lack the crucial knowledge they need to be part of the change.

This is what led the Luxembourg Stock Exchange to establish the LGX Academy in May 2020. The LGX Academy provides tailor-made courses in sustainable finance and allows participants to enrich their knowledge of related products, standards and market practices. The overall goal is to help direct future capital flows towards sustainable investment projects. More than 250 participants registered for the inaugural LGX Academy webinar dedicated to “Green, Social and Sustainability bonds in the context of COVID-19”. The LGX Academy has also worked with internationally recognised institutions such as the International Finance Corporation to provide sustainable finance trainings on an international level.

We have a crucial time ahead of us, and we should not lose sight of the important objectives laid out in the Sustainable Development Goals and the Paris Climate Agreement. The momentum is there. The recovery from the coronavirus pandemic must be green and we all need to contribute to a sustainable renovation of our economies and societies: this is our chance, our responsibility and our duty!

Opportunities for start-ups in Luxembourg



After having been put on hold in spring 2020 by the coronavirus pandemic, Luxembourg's renowned acceleration programme "Fit 4 Start" is back on track. The next edition will offer attractive coaching and funding to 20 start-ups active in ICT, healthtech and space technology.

The Fit 4 Start concept is simple: participants get four months of high-quality coaching, access to a collaborative workspace, a grant of up to €150,000 and a unique opportunity to connect with the entire Luxembourg start-up ecosystem in order to find the right partners for future development and growth. In just a few short years, the programme has grown from a pilot to a flagship accelerator that brings start-ups to Luxembourg from all over the world.

Boosting business knowledge

Since its creation in 2015, Fit 4 start has coached over 70 start-ups and helped them get off to a flying start. The possibility of securing an attractive non-equity grant is of course interesting, but participants quickly realise that it is the coaching that makes the real difference. "The money is of course helpful, but what was really

important was to develop our business knowledge," says Caner Dolas, co-founder of Gamma AR, a German start-up that moved to Luxembourg to join the programme in 2019. "In our team we are all engineers, and Fit 4 Start definitely helped us improve our business skills."

Start-ups come to Luxembourg not only for the programme itself, but to find a solid basis from which they can operate their European business. "Luxembourg's multicultural and multilingual environment attracts start-ups wishing to expand on the European market – and Fit 4 Start provides a unique gateway," confirms Stefan Berend, Head of Start-up Acceleration at Luxinnovation, Luxembourg's national innovation agency.

Two editions are normally organised every year. The spring edition 2020 had to be cancelled due to COVID-19, but the next Fit 4 Start Pitching Days, where the most promising start-ups compete for a place in the programme, have been confirmed for this autumn. With one main difference from the past: this time, the pitching sessions will be completely digital. 10 ICT and 5 space start-ups will be selected among the shortlisted candidates from this spring's call for applications, while start-ups wishing to compete for the 5 places in the healthtech vertical will be invited to submit applications during the month of August. The coaching sessions, for which the participating start-ups are required to be

present physically in Luxembourg, will begin in January 2021.

ICT Spring: Creating a European network

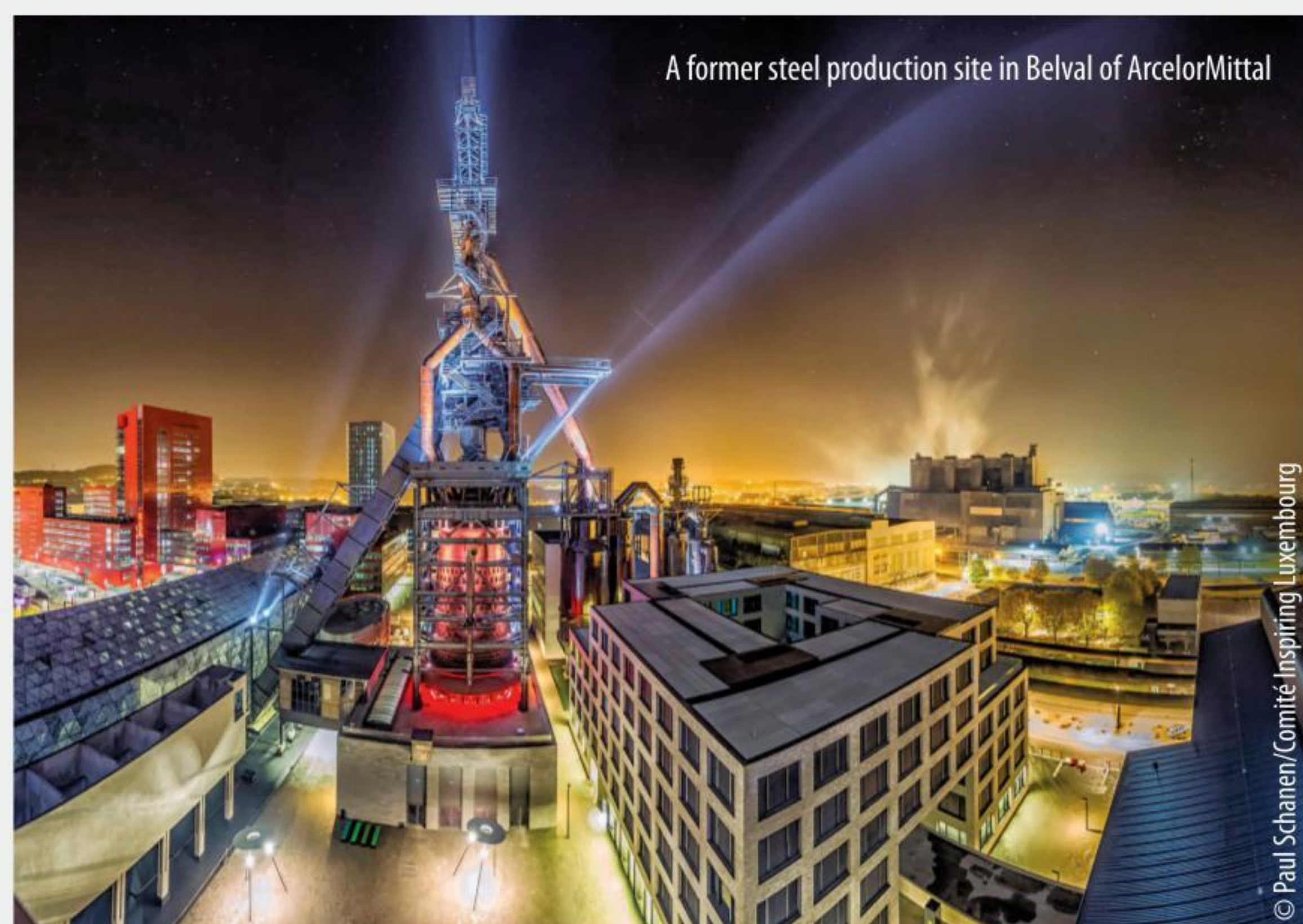
Another initiative that has had to find innovative solutions to the challenges brought by the coronavirus pandemic is ICT Spring, one of Luxembourg's major networking events that targets anyone involved in innovation and new technologies. Highly appreciated by international companies looking for contacts and partnerships in Europe, the forum will this year be a hybrid between a physical event in Luxembourg and a parallel digital programme with all sessions being livestreamed.

Five main themes will be covered during two intensive days on 15-16 September: artificial intelligence, fintech, space, cybersecurity and digital supply chains. International speakers including, for example, Marjan Delatinne, Global Head of Banking at Ripple, Laurent Ach, European Director at Rakuten Institute of Technology, and Diana Kelley, Cybersecurity CTO at Microsoft, will interact with all the main players of new technologies in Luxembourg.

ICT Spring attracts start-ups looking to increase their visibility and find new business opportunities, as well as investors interested in discovering new innovative companies and exchanging with financial institutions and incubators. It is therefore an interesting starting point for entrepreneurs who want to make contacts that could facilitate their break into the European market.

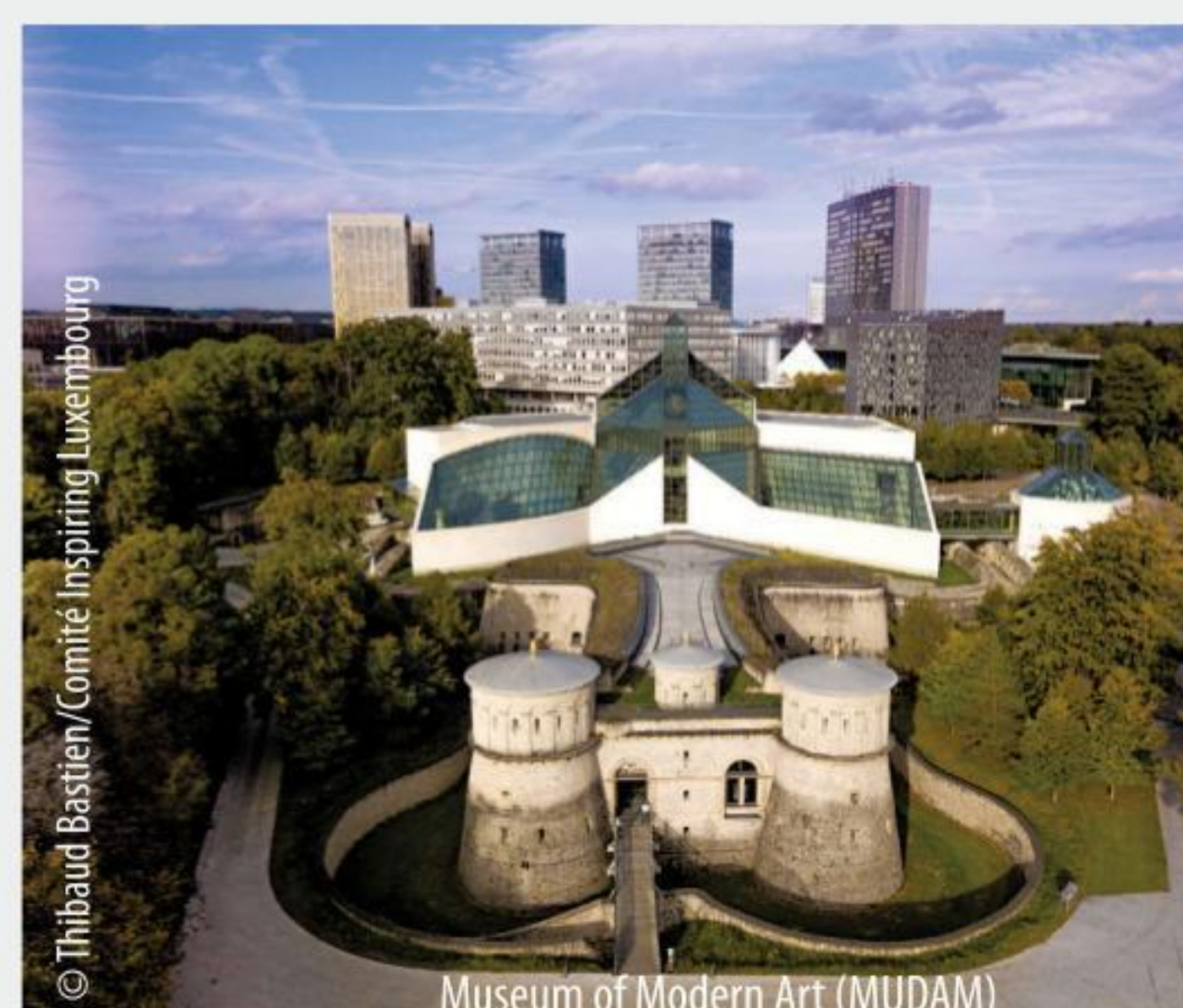
fit4start.lu

ictspring.com



A former steel production site in Belval of ArcelorMittal

© Paul Schanen/Comité Inspiring Luxembourg



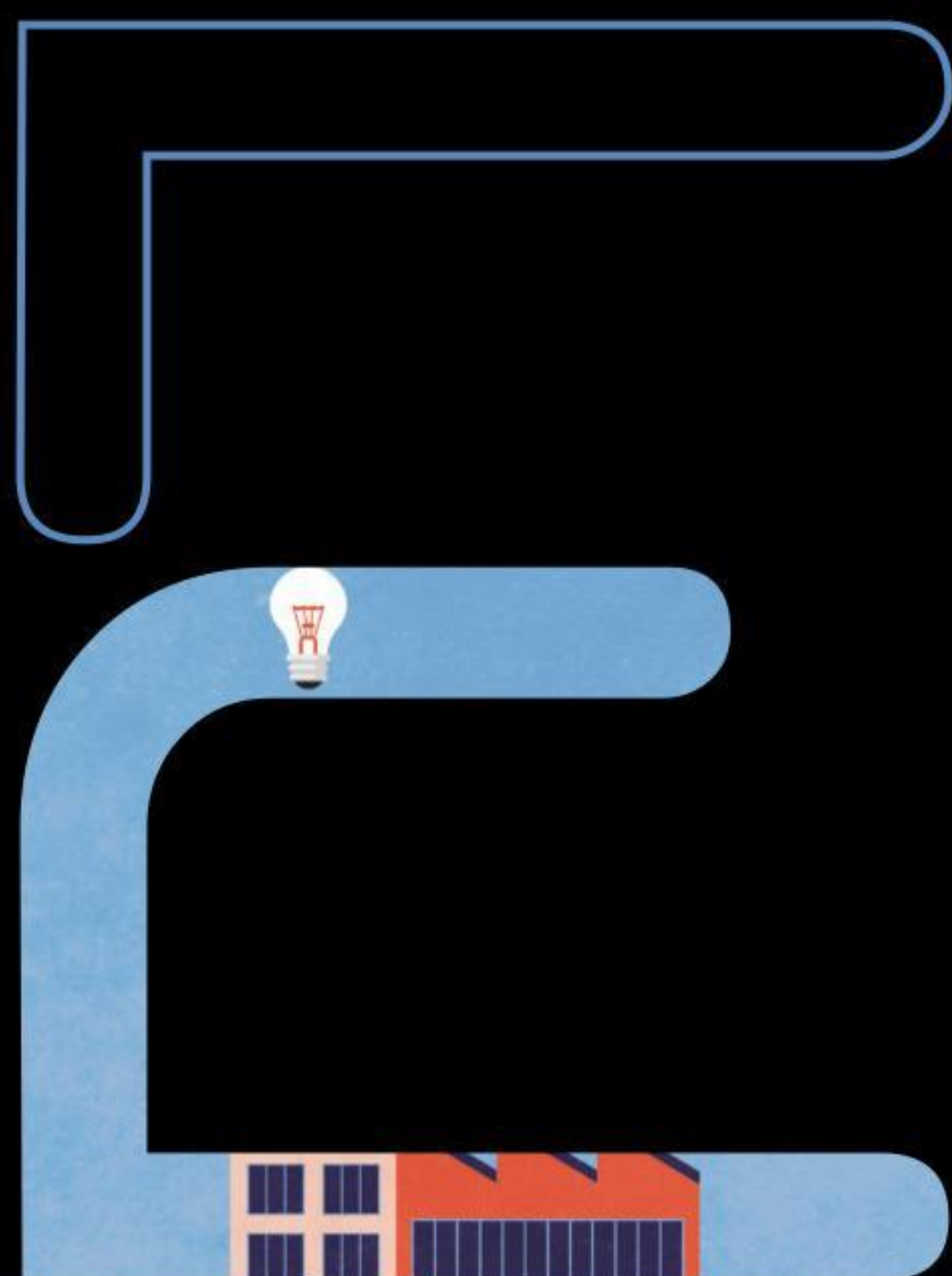
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Museum of Modern Art (MUDAM)

Simply Upbeat

TOP INDIAN AND GLOBAL CEOS AND EXPERTS
ON WHY THE FUTURE IS BRIGHT

BY RAJEEV DUBEY
ILLUSTRATION BY RAJ VERMA



Exuberance is a vital pre-requisite to gaze into the future. Entertainer George Burns looked at the future, “because that’s where I’m going to spend the rest of my life”. But TV diva Oprah Winfrey has been characteristically buoyant: “When I look into the future, it’s so bright it burns my eyes”. Equally upbeat is the outlook of a galaxy of global and Indian CEOs who agreed to write for *The Future Issue* on topics ranging from agriculture and apparel to food and pharmaceuticals.



Take the case of travel. A new mode of transport hasn't been invented in a 100 years. Yet, the Future of Travel requires moving at higher speeds, lowest costs and with least energy (forget fossil fuels). That's precisely what some of the newest modes of transport being tried out hope to achieve. The closest to commercialisation, of course, is the Hyperloop. It promises speeds three times that of high-speed trains, costs much lower and banks on renewables. Virgin Hyperloop One CEO Jay Walder reckons time for incremental improvements in transportation is over.

Or, take one of humanity's oldest occupation — farming. Just as modern agriculture chased higher productivity for decades on end, it pored over the anomaly that higher productivity came at the expense of greater resource intensiveness with even greater use of land, water and other agri inputs — and higher amounts of greenhouse gas emissions. That era will have to end if humanity has to transcend to a sustainable future. Liam Condon, Member of the Board of Management of Bayer AG, and President of the Crop Science Division, says agriculture and food production will have to be part of the solution, not the problem. The Future of Farming lies in business models that reward sustainability, innovative practices and tools focusing on small farm holders and advances in science — data science, particularly, will create new opportunities for farming with insights regarding land, weather, soil, seeds and finally markets.

Nestle India Chairman Suresh Narayanan adds that the Future of Food is in emerging dietary patterns around 'total wellbeing' and 'holistic health'. Food producers will have to create trustworthy, healthy and nutritious product lines with one challenge — no compromise on taste. Besides, ongoing changes in higher 'out of home' consumption may also lead to greater demand for 'single portions' instead of 'shared portions'.

Humanity's next other basic necessity is clothing. WFH has reduced the need for clothing. The longer lockdowns stay, the steeper will be the fall in demand for clothes. So where does the Future of Apparel lie? Levi Strauss's CEO Chip Bergh writes that companies will redouble efforts towards sustainable clothing: use lesser water, chemicals. Consumer demand will be forecast using AI while consumers will be tempted to shun use-and-throw clothing in search of sustainable clothing that is built to last.



TECHNOLOGY WILL IMPACT ALL ASPECTS OF OUR LIVES IN A BIG WAY



The pandemic has resulted in unprecedented pressure on the pharmaceutical industry to deliver a drug or a vaccine — in the shortest possible time. The latter is just what the industry isn't used to. New drugs take as long as 10-14 years to hit the market, vaccines as much as 9-11 years. So what's the Future of Drug Discovery? The timelines can't be crashed without AI and data science. Perhaps, virtual testing and AI-based predictions of which drugs may work across genetic types. Biocon's Kiran Mazumdar-Shaw writes that India can capitalise on the goodwill generated through supply of drugs during the pandemic to the world to position itself as a laboratory to the world. Especially, with its legacy of hosting the world's largest number of USFDA-approved pharma plants outside the US.

But no area in the future will remain unaffected by technology. Microsoft India President Anant Maheshwari sees the Future of Technology in 'Trust' as companies increasingly adopt WFH/WFO hybrid approach. Those who will be able to build additional layers of digital protection, including cybersecurity and privacy, may make the most of the opportunity as opposed to vanilla tech solutions. With India already brimming with some of the planet's best technology resources, it is perhaps most uniquely positioned to be the world's true technology engine, says Maheshwari.

The world is awash in liquidity but industry is chary of investing due to economic uncertainties. So what's the Future of Investments? Kotak Mahindra Asset Management's Nilesh Shah believes that investments will move towards emerging markets which will continue to grow faster than developed economies. Not just for equity opportunities but also because of higher interest rates in comparison with the developed world. The higher the governance standards, the more likely will be the investments. Thus, investments will eventually chase higher returns with lesser regard for risk.

And finally, the coronavirus pandemic has raised a spectre over the handling of natural disasters — even future pandemics. If and when they occur, Big Data will be at the heart of disaster management, as it is already beginning to. Satellites and drones will not just monitor but will also perhaps help detect any such situations. And specialists are already predicting that with the advent of distributed manufacturing, large factory accidents will hopefully be a thing of the past when gargantuan plants will cease to exist.

These are just a handful of CEOs in the following pages who crystal-gazed the Future for this Special Issue of Business Today. Stimulate your mind. **BT**

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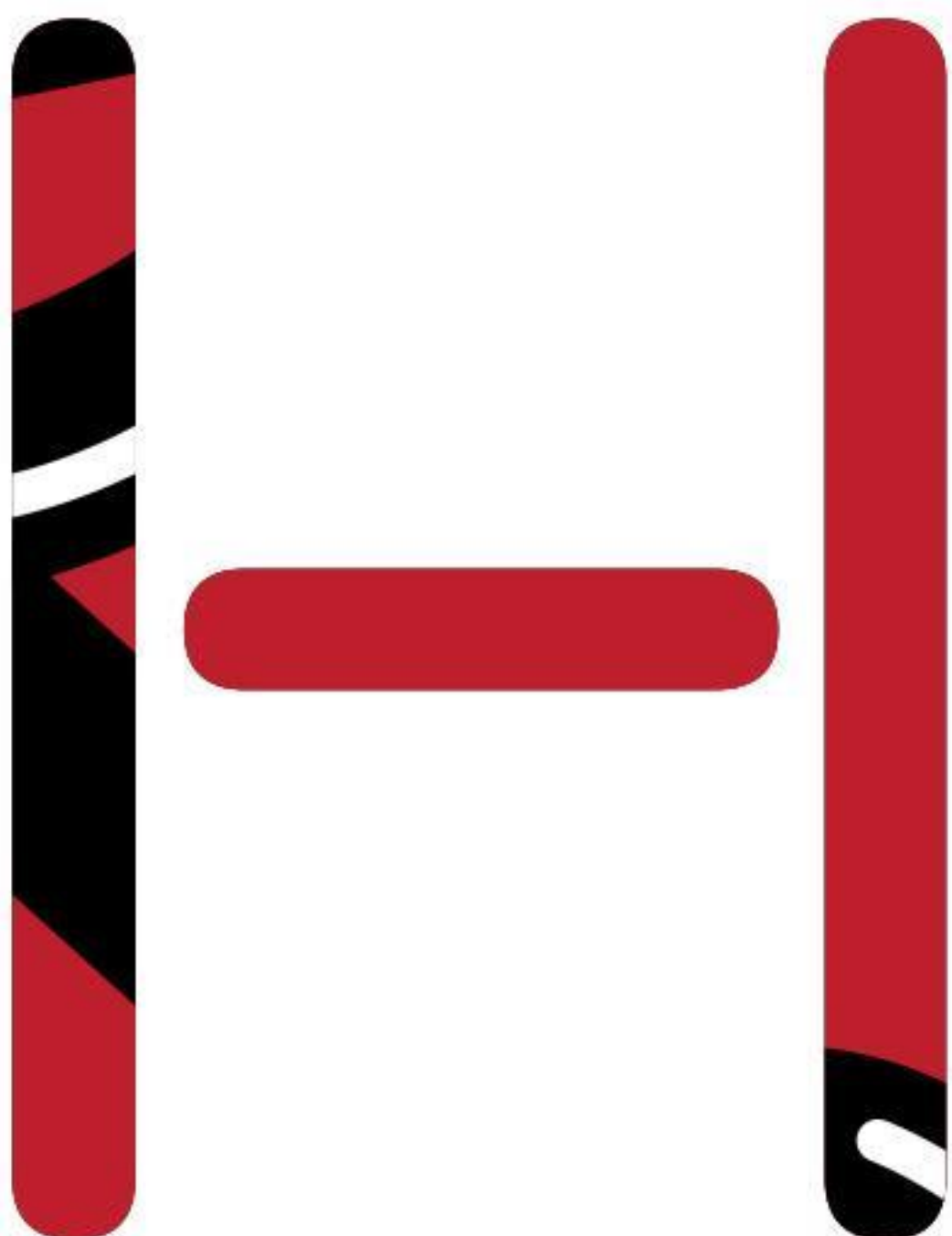
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BY VIRAL ACHARYA, FORMER
DEPUTY GOVERNOR, RBI

IN AN INTERDEPENDENT
WORLD, ALL COUNTRIES
NEED TO DO WELL

ILLUSTRATION BY RAJ VERMA



Free Trade to Decide Future of World Economy

Healthcare is the most important macroeconomic indicator across the world right now. A large-scale global delivery of Covid vaccine seems a bit too optimistic over the next 12 months. It means that a very sharp, quick global economic rebound is unlikely. In the first quarter of the pandemic, the GDP of the United States contracted 9-10 per cent, or about 33 per cent on an annualised basis. This is true even in Germany, though it is likely to have a swifter rebound because its health curve is under control. China, another bellwether, is in a much better shape. In fact, its economic recovery sounds best because they were able to contain the virus.



Both globally as well as domestically for India, growth is highly interdependent across regions. You can't have a small pocket of the world or a small pocket of India fine on the health curve and expect a huge revival of the economy. You need different parts of the growth engine to be in sync with each other as growth in modern economy is so much dependent on growth based on trade and services. And trade and services can grow in a healthy manner only if different parts of the world are all doing well.

China Factor

It's not just the emergence of the pandemic. The emergence of something close to what looks like a cold war with China is also on the horizon, potentially making it harder for the global economy to recover. China might be best positioned health curve wise, but the China-centric global supply chain can get disrupted by the cold war with huge implications for other countries. It can be damaging for the immediate to medium term prospects of countries that have the capacity to replace the supply chains, and the ones that do not have such abilities. The countries that do not have the capacity to replace the supply chains domestically will continue the imports irrespective of the rising costs. It will impact consumption due to the increase in the cost of imported goods, as well as inflation. For developed economies, the rising cost of goods that are replaced can add to debt problems since they have already embarked upon very heavy fiscal expansion programmes, like the Covid support, in the order of 10 to 20 per cent of their GDP.

The higher cost (due to supply chain disruptions) will lead to further debts and if their growth paths don't recover, some of them will start facing debt sustainability questions. Therefore, the growth headwinds coming from tariff wars are likely to make it difficult for these economies to deal with their fiscal excesses.

Two scenarios could emerge, both not so great. One, developed economies will take the route emerging markets often take and ask their financial sector — banks, insurance companies and others — to buy government debt. It will create difficulties for the private sector to grow, to get credit at low cost. It will result in financial depression and low growth and, thereby, lower productivity and deflationary pressure in the economy. The alternative, which cannot be ruled out, is that growth will rebound. Maybe, vaccines will be developed and delivered in 2021/22 and the private sector will want to grow fast. It will start competing with the government, which is trying to manage large quantities of debt. When it happens, there could actually be in some sense an overheating of the economy and central banks might be forced to get into what economists call 'fiscal dominance'. Thus, as far as developed economies go, both deflationary and

Key Takeaways



In every industrial revolution, there is displacement of labour, which has to be redeployed into productive parts of the economy



Only if different parts of the world are doing well will trade and services grow in a healthy manner

inflationary paths are associated with challenges. Deflation means more productivity, and in inflation, macroeconomic instability. The extreme outcomes, or stress outcomes have become more likely than before.

US Elections

Nations are slipping in the direction of beggar-thy-neighbour kind of trade policies. It is usually a sign that underlying growth and undercurrents are weak in developed economies and the political economy is looking for quick fixes as well as mechanisms to blame someone else for the problems. These geo-political tensions can see significant shifts around election outcomes. One needs to watch out for how US elections play out in November. The results may not entirely reverse (the US approach towards trade partners, including China), but there can be ways to work together. Also, firms are questioning whether over-reliance on one supplier or one country as a supplier is a great strategy, given the kind of shocks the world

COUNTRIES WILL HAVE TO FIND WAYS TO ALLOW CORPORATES TO RESTRUCTURE DEBTS ONE WAY OR THE OTHER



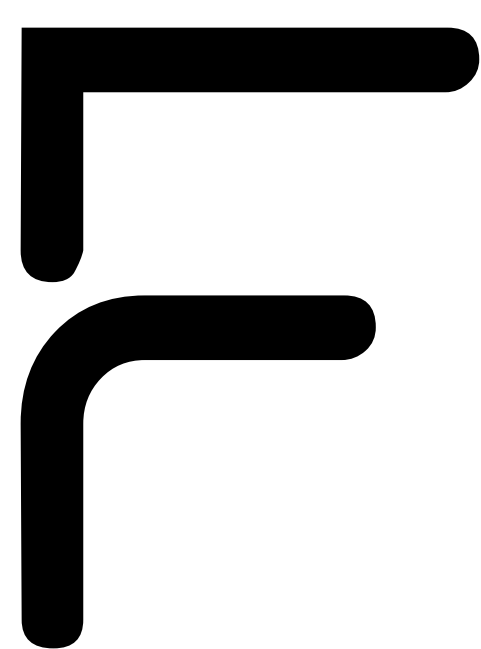


Nations are slipping in a beggar-thy-neighbour kind of trade policies



There could be 5-10 per cent GDP contraction in 2021

is witnessing. So, some movement to diversify global supply chains, which is desirable for the global economy, may happen on its own. It will perhaps make it more robust and stable. The world needs the US, China, Germany and India. All these countries need to do well as our growth is now heavily interdependent.



Financial Security

Uncertainty and political issues were not that important earlier for economic outcomes in developed economies than they are today. Hence, countries need to become resilient and have buffers against uncertainty. They do need to think about medium-term fiscal consolidation paths. They need to have fairly robust financial systems — banks and shadow banks or non-bank financial companies — in place. The Covid shock has accelerated the decline of some sectors like retail, malls, etc., which were anyway getting crowded out by ecommerce. Sectors such as travel and hospitality will remain heavily hit until economic activity comes to full rebound. Boeing, for example, has said air traffic may not revert back to pre-Covid levels until 2023. It's almost a mid-term horizon.

So, the financial sector needs to be in great shape because countries will have to find ways to allow corporates to restructure debts one way or the other. It's not just important to swing for growth every single time, we have to do it while also preparing for the outcomes.

Infrastructure, Health And Education Key

In the last 25 years, the quality of US infrastructure — bridges, railway tracks, roads — has deteriorated. It is very clear that there is under investment in infrastructure facilities. Harvard Economist Larry Summers, who has been talking about secular stagnation, has been saying repeatedly that infrastructure investments are required to improve potential growth levels of developed economies. It needs to be considered seriously.

Compare the outcomes of Germany and South Korea vs the United States on the health front. Health services are delivered in an extremely decentralised manner in the US. There is virtually no national health service other than for the elderly and very poor. This means it isn't possible to deliver health solutions at a community level during a pandemic. Partly health services have been ignored. Partly pharmaceutical industries, health industries, insurance companies have started charging phenomenally high prices for providing services. The result is that the quality of health services at the lowest income level in the US is right now a serious question mark. It almost looks like an emerging market problem. Countries hence need to spend on health services and see how to democratise it.

On education, Covid has accelerated the use of technology. Automation has also been put on fast-track by many companies, given the difficulties in supply chains and pipelines during Covid. It is time to rethink education and skilling. One cannot have traditional education without vocational training for new technologies that are coming about and expect to create jobs. Brick and mortar industries are getting displaced and if they are making way for newer sectors because of the ICT revolution, the youth needs to be trained differently. The displaced labour will have to be trained. This has been a feature of every industrial revolution. There is a displacement of labour and we have to find ways of redeploying labour into most productive parts of the economy.

All these — having buffers to deal with growth slowdown, investing in infrastructure, health and education and ensuring high-quality jobs for displaced labour and youth by way of vocational training are essential for future economic growth in the developed world and emerging markets. Perhaps it is even more important for India.

Some analysts are looking at anything between 5-10 per cent GDP contraction for 2021. What lies beyond is also a crucial question. One should remember that globally, growth momentum has been slowing down even prior to the Covid outbreak.

World over, controlling the health curve, getting on to a robust economic path and ensuring the financial sector is in good shape to allow debt restructuring and healthy credit origination in the recovery phase are crucial components for the future. **BT**



'DSSG BELIEVES IN ADDING VALUE TO THE COUNTRY, THE ECONOMY, & MOST IMPORTANTLY, THE SOCIETY'

Adel Singh, CEO, Datar Security Services Group, talks about the changing face of the security industry in India, how DSSG has evolved over time, and how the company is gearing up to be in sync with the PM's vision of a self-reliant India.

A journey of more than 16 years for the company now... Though you came on board later, how would you describe the journey so far?

The journey has been quite adventurous so far. I came into the organisation just as a young resource with the hunger to prove myself to the leadership and the entire workforce. I spent majority of my time on the ground, working with our people. I did whatever that was asked of me by the organisation, even if it meant going out on a field audit at 3 am in the morning. I understood that I needed to get an approval from our people, only then would I have been fit and ready to take on the responsibility of the CEO and being looked upon as a leader who has the capability to take this organisation to greater heights. Today, when I look back at those days, I realise that I was blessed for being trained by the best leadership; the opportunity to learn from some of the most hardworking people on the field too was a blessing in itself.

Professionally, what would you say have been some of the highpoints of the journey/key achievements of the company you are proud of today...

The one thing I feel proud about is the fact that the leadership has placed all their faith and trust in me and respects my vision for the organisation. Let me expand on that. Last year, DSSG ventured into a new service line of operating and maintaining tolls plazas of our National Highways. I independently took the decision of doing proper research about the industry because I had to be doubly sure about the numbers before I could take it to the Chairman. The moment he approved it, I communicated the vision to the whole organisation and we started working on it almost immediately. We got the right people on board, we spent countless days and nights planning, and then we moved forward with the execution. The whole organisation was in sync. As of today, DSSG operates more than 8 tolls plazas, but that is not the achievement. The real achievement was winning the first tender. I feel proud of the fact that the whole organisation was aligned and focussed on that one goal.

The competition in the security services arena is tough. What would you say has set DSSG apart over the years?

Our people. We have some of the hardest working people in the organisation. Every single person gives their 100 per cent. DSSG focuses on acquiring the best talent from all over the country. We have acquired people from Big 4s, Start-ups, MNCs, and from anywhere else where we could find people who understands our vision and mission. We make sure that we compensate better than what rest of the companies do in this industry. It's a manpower-driven industry, and we take good care of our manpower.

Tell our readers about the kind of services DSSG is known to offer... Give us an idea about the kind of clients you cater to.

Our Chairman founded this organisation with one goal in mind, to keep this society safe. He is an army veteran and he conducts the responsibility of the Chairman with the same values as he served with in the Indian Armed Forces. For him, every member of the society is his client. The organisation works with the same values and caters to anyone who is looking for a dependable and reliable security service. The Government of India has entrusted us greatly with keeping few major institutions safe and secure.

What sort of challenges can the business of security services be faced with; when faced with crises, how did you overcome it successfully? What kind of challenges has the COVID-19 brought to the business and how did you deal with it?

There are endless challenges in this industry. In fact, every industry has its own set of challenges. But if we talk about the security and the manpower industry, then our resources sometimes act as a challenge. I am talking about getting the right people for the job, and then grooming them in our training centre in Patiala, Punjab. Only after that are they ready for deployment. When they reach their respective sites, the challenges start right there. We need to make sure they are vigilant on their duty, they must be in proper uniform, the right etiquettes are followed, and most importantly, they don't fall asleep during the night shift. Earlier we would do regular physical site audits to record and prevent such challenges, now we have implemented proper technology to make sure we have proper reporting at any time of the day.

If we talk about Covid-19, then again the major challenge was to keep our on-ground people safe. We conducted proper trainings for their knowledge and awareness. In the first 10 days itself, we acquired and distributed masks, sanitizers, thermal scanners, PPE suits and whatever that was required to keep them safe. DSSG has reported only 40 positive cases so far, and they all have recovered and are now completely healthy.

A very unfortunate part of this pandemic has been the huge amount of job losses in every sector. How did you cope with the economic pressure to retain the work force and give them security?

Our research team had been following the situation since December 2019 and the management was consistently notified with all the developments which were happening all over the world. We made sure that our finances were in order. We did consistent risk analysis of our business and started preparing for the worst possible scenarios. When the nation went into the state of lockdown, we started executing those plans and made sure we bring safety to our people first and then the organisation was ready to help anyone in need. We also collaborated with IVillage for the distribution of cotton masks. We make sure that in whatever we do, we get to add value to the country, the economy and most importantly the society.

What sort of changes in business module do you envisage in the near to long-term future?

I am inspired by our honourable Prime Minister Shri Narendra Modi's vision for Make in India and Digital India. So, I have always tried to create our business strategies in alignment with those campaigns. We are working on few major projects based on Cyber Security and Drone Surveillance which will be completely manufactured in India, and we have some of the best minds working on it over the past one year. We are very close to launching these solutions in the country and we hope that with this we could bring about some changes in the security industry and help us contribute to achieving the vision of a self-reliant India.

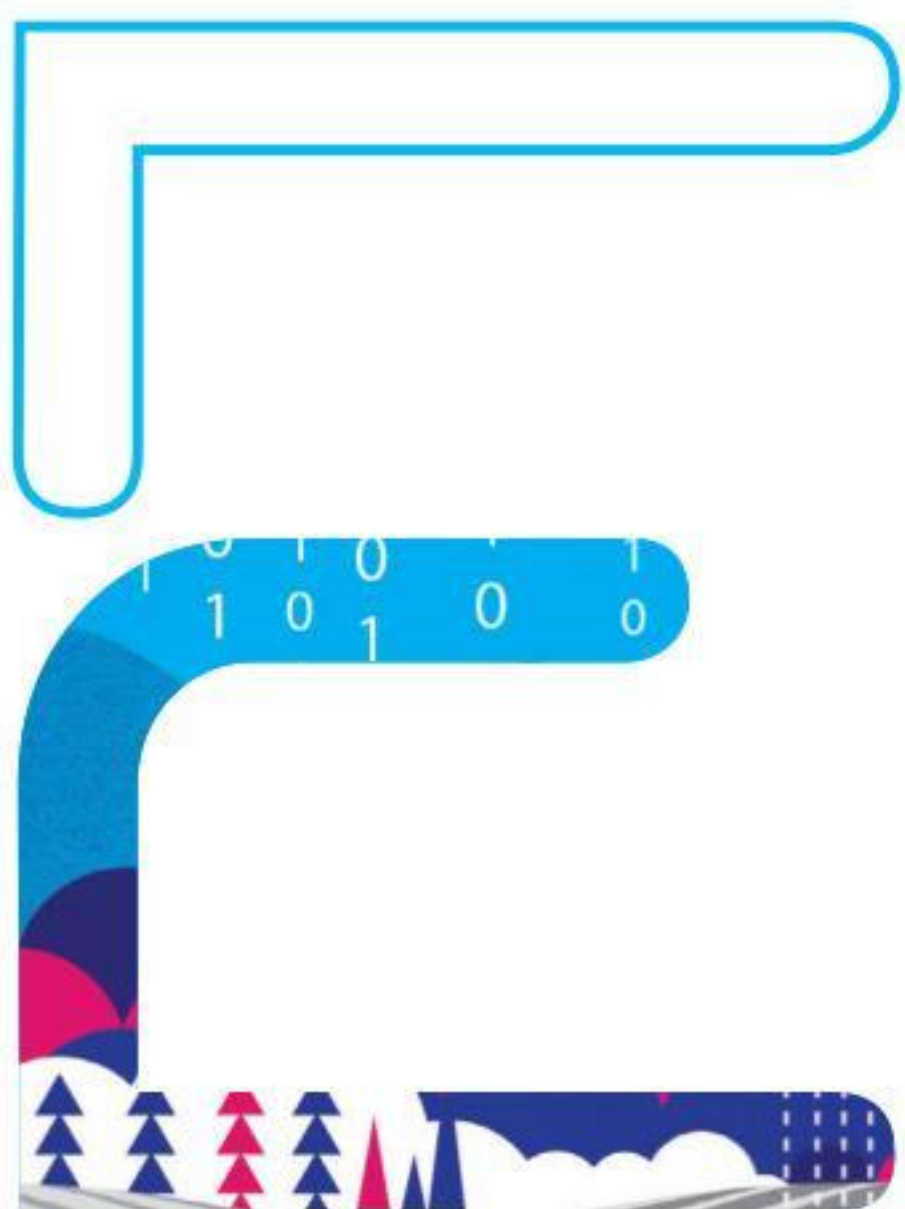
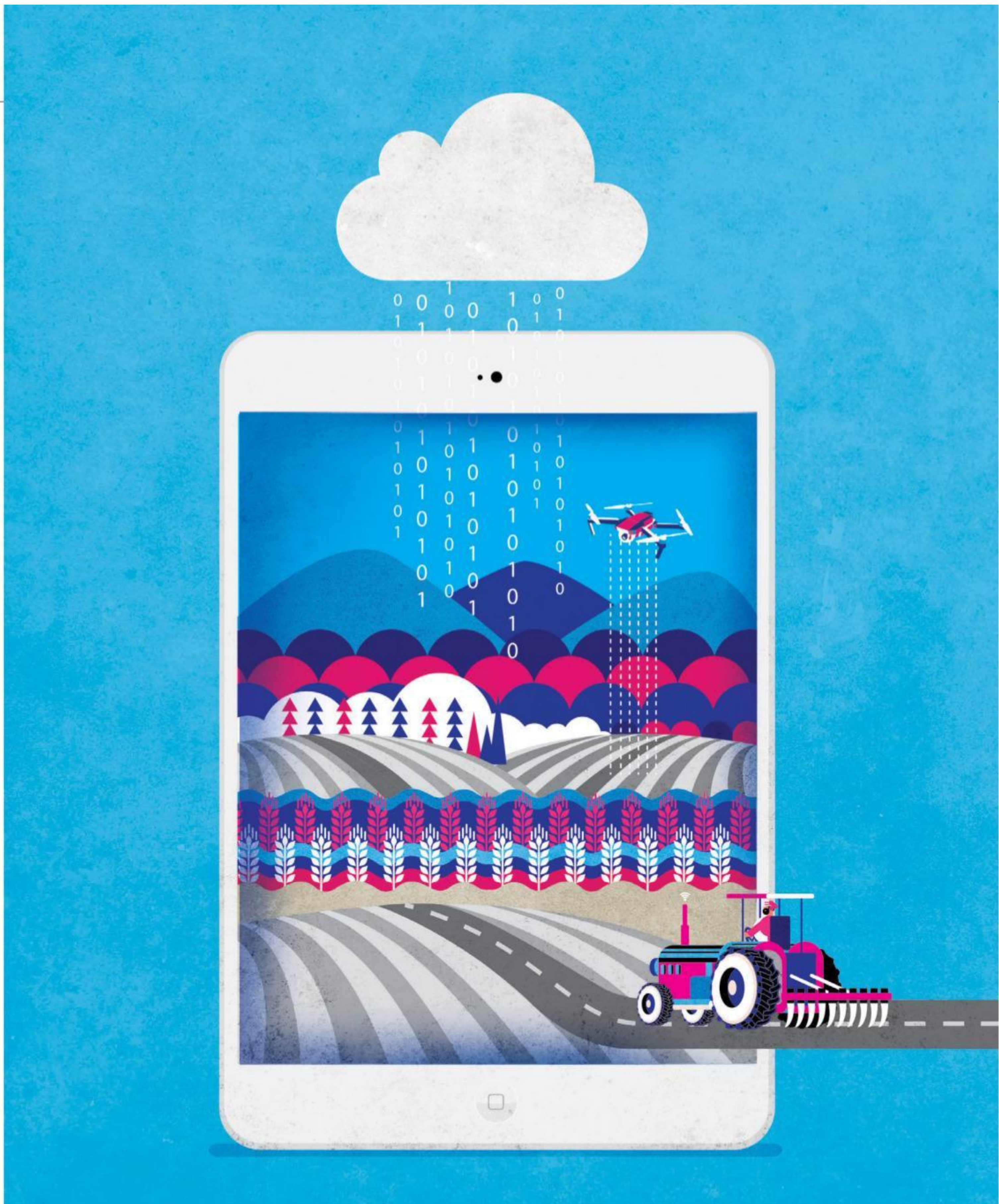


BY LIAM CONDON, MEMBER, BOARD OF
MANAGEMENT, BAYER AG, AND PRESIDENT,
CROP SCIENCE DIVISION

Firming Up Farms With Science

COMBINING BILLIONS OF DATA POINTS WITH THEIR OWN INTUITION,
FARMERS WILL BE ABLE TO PRODUCE HIGH-QUALITY HARVESTS USING
LESS LAND, ENERGY, WATER AND SYNTHETIC FERTILISERS

ILLUSTRATION BY RAJ VERMA



Everybody in the world depends on farmers for good food, but not everybody realises how intricately our planetary health is connected to farming. Ensuring a healthy food system will help ensure a healthy environment, and thanks to advances in science and innovation, productivity and sustainability need no longer be in conflict with one another.

Food Security and Sustainability

By most measures, the history of food production has been a success, as advances in farming practices and innovative technologies have kept up with global population growth. Yet food shortages still exist in too many places. According to the United Nations, almost one-fifth of the global population has irregular access to a sufficient amount of healthy food.

Our current food production system is overall too resource intensive, with excessive consumption of land, water and other inputs and high amounts of greenhouse gas (GHG) emissions. A report from the United Na-



Key Takeaways

New crop production models to use soil microbes (fungi etc)

Sustainability to be a core part of farmers' operations going ahead

Less use of tillage (digging, stirring etc) to reduce emission

Data science to address farmers' local situation and concerns

More use of new tech like advanced hybrid seeds, digital apps for small farmers

tions found that agriculture, forestry and other land uses account for 23 per cent of human GHG emissions. However, there's a positive side to this equation: The report also notes that these same uses have the capacity to absorb almost a third of the total carbon emissions from fossil fuels and industrial activities. By using science and our knowledge of nature responsibly, we can make agriculture part of the solution to global climate change.

The technologies of tomorrow will make farming more productive, but they also must meet strict environmental benchmarks to ensure our food supply is not only sufficient, but sustainable. I would like to highlight three themes that will help agriculture change the world:

1 Introduce Sustainable Business Models

Good soil leads to good crops. Healthy soils not only produce more food, they also retain water during droughts, filter pollutants, absorb greenhouse gases and preserve biodiversity. Learning how to improve crop production models by using soil microbes can reduce our reliance on synthetic fertilisers, while enabling new naturally-derived plant protection mechanisms to manage crop pests.

Today, farmers get paid to grow crops, not for improving the environment. If we are serious about protecting biodiversity or sequestering carbon in the soil, our goal should be to incentivise farmers through climate-smart models that recognise their contributions to the ecosystem by making sustainability a core part of their operations. Many farmers are already contributing through the use of reduced tillage and cover crops, which protects soil, preserves water and captures carbon. Such practices, along with new technologies, could lead to a more regenerative farming approach.

2 Focus on Smallholders

Because more than 500 million small farms provide 80 per cent of the food for communities in much of the world, it is impossible to address global food security without including smallholder farmers. To be effective, we must meet these farmers where they are, creating innovative business practices using tools and systems that fit their local situation. For example, nearly 70 per cent of all smallholders have cellphones, which opens up huge opportunities to conduct business transactions and deliver agronomic information directly to them. The technology underlying

these opportunities is based on digital applications, which use data science. A focus on smallholders isn't about corporate altruism, but rather a purposeful business opportunity with positive implications for all parties — and for sustainable agriculture. We know that sustainable practices won't be implemented if it doesn't make commercial sense from a farmer's perspective. Bringing access to new technologies, such as advanced hybrid seeds or the use of digital applications on small farms creates new markets for agricultural growth, strengthens livelihoods and communities, and improves the quality of the environment.

3 No One-Size-Fits-All Approach

The answers to farming's future needs will be found in a variety of solutions that ensure diversity on the farm. Advances in science, especially in data sciences, will help transform the lives of farmers.

Digitally connecting farmers with relevant data sets can provide insights about field history, weather, soil conditions, seed varieties, markets, and much more. By combining billions of data points with their own intuition, farmers will be able to produce high-quality harvests using less land, energy and water. Access to "Big Data" will allow them to make prescriptive, real-time decisions. Together with advances in plant genetics, crop protection and agronomic practices, digital tools will help farmers tailor solutions to meet local needs, regardless of the size of their farms.

With increased digitalisation also comes the future opportunity for more advanced business transactions, like outcome-based pricing. This deviates from traditional linear transactions, in which a farmer must decide if purchasing a particular crop input is worth the additional investment. Outcome-based models allow farmers to manage their risks more effectively and improve their profitability, as they pay for inputs based on the outcome of using those products as opposed to just paying for seeds or crop protection products, regardless of the harvest quantity and quality.

A Better Tomorrow

Science and innovation will not only help big farmers, but will possibly have a much bigger positive effect on smallholders, who hold the key to ensuring a more resilient food system. Enabling smallholders will help make agriculture part of the solution to climate change.**BT**

GERMAN PRECISION FOR INDIAN HOUSEHOLDS

THE GERMAN BRAND HAS BIG PLANS FOR INDIA. WITH A COMPLETE RANGE OF PRODUCTS STRADDLING 3 HUGE BRAND NAMES, THE GERMAN CONGLOMERATE DEMONSTRATES ITS DESIRE TO SATISFY DISCERNING INDIAN CONSUMERS, ACROSS DEMOGRAPHIES. WE LEARN MORE FROM **MR. NEERAJ BAHL – MD & CEO, BSH HOUSEHOLD APPLIANCES, INDIA.**

Q Bosch has been a big name in India since time immemorial. What was the real motivation to bring in these appliances recently?

BSH stepped in the Indian market in the year 2010 with the brand Siemens. At that time, our major focus was on premium built-in and freestanding products like washing machines, dryers, dishwashers, refrigerators. In 2011, we launched Bosch, with mass-premium products like washing machine, dryers, refrigerators and dishwashers. In the beginning of 2015, Siemens sold its shares to Bosch and we are now a 100% Bosch-owned company.

After studying the Indian market closely, we launched our washing machines that were manufactured from our state-of-the-art Indian Manufacturing plant at Chennai, followed by many local for local products like dishwashers and refrigerators as well as cooking appliances like hob, hood, ovens and microwaves. Recently, we have fortified our presence in the small appliance category with the launch of mixer grinder and other kitchen appliances including hand blenders, slow juicers, hand mixers etc.

In the past nine years, BSH has experienced huge success in India and today we are experiencing about 35 - 40% Y-O-Y growth in the country. I think that the constant support from our customers has kept us motivated throughout our journey. Also, growing prospects for household appliance market with elevating living standards across towns in the country has encouraged us to introduce new appliances to our customers and tap the aspiring buyers. We aim to keep this momentum going and introduce more offerings fit for the Indian consumer by localising offerings and innovating products fit for the evolving social class.

Q How does a brand that is strongly associated with the Auto Industry in India, make its presence felt in the appliance industry? Is this the reason behind the 3-brand strategy? What distinct roles do each of these brands play in the overall communication?

Given the growth opportunities in the country, in 2018, BSH introduced its triple brand strategy in India to target different audiences via its three brands – Bosch, Siemens and Gaggenau and became the first triple brand player in India. After witnessing the success of our premium brands under Bosch and Siemens

in India over the past couple of years, we are confident that BSH Household Appliances will redefine the luxury kitchen category with Gaggenau. Our brand Bosch's core philosophy is to harness useful progress to create a better quality of life. Values that typify Bosch domestic appliances and make them unique are quality, technological competence, quality of life and responsibility. It is an India for India product and developed with local insights.

Siemens home appliances is synonymous with German ingenuity world class technological innovation and luxury. It combines the latest technology with improved functionality that results in pioneering innovative products and solutions that benefits customers

Gaggenau is the world's first and leading brand of luxury built-in appliances in India. The brand has gained a global recognition for its ongoing commitment to providing extraordinary excellence in the kitchen. During their entire lifespan, Gaggenau appliances maintain their consistent appearance, which is based on the highest standards of German design and on materials of premium quality. Gaggenau was ranked as the 6th most luxury brand by German Luxury Ranking by Manager Magazin and is the world's top 10 luxury kitchen appliance brand.

Q BSH started off with in-built appliances and then showcased the various products individually. What was the strategy behind this approach?

Back then, our major focus was on built-in appliances and washing machines with the premium brand – Siemens. However, after closely studying the Indian market, we launched Bosch appliances across categories and targeted the mass premium market. With Bosch, we entered the Washing machines, Dryers, Refrigerators and Dishwashers categories as well as cooking appliances like hob, hood, ovens and microwaves. Recently, we have fortified our presence in the small appliance category with the launch of mixer grinder and other kitchen appliances including hand blenders, slow juicers, hand mixers etc and developed India-specific appliances based on local insights. Our strategy was to localise our products especially for the Indian market and innovate them to cater to our evolving customers.



Bosch. The German Home Appliances Brand.



Customer Care Number: **1-800-266-1880** | To Know More visit: **www.bosch-home.in**

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INFRASTRUCTURALLY, WE ARE READY TO EMBRACE THE 'NEW' NORMAL'



Committed to creating relevant and affordable technology solutions to improve clinical outcomes, GenWorks Health was formed to achieve a healthier India, and is now present in more than 120 locations across India. **S Ganeshprasad, Founder, MD, and CEO**, reveals how in the light of the changing times, the company is completely invested in digital platforms, connected devices and a connected infra for facilitating greater access to the 'new normal' of healthcare delivery in India.

GenWorks Health is a shining example of a health-tech start-up that has carved a distinguished place for itself... it would be interesting for our readers to know about the high points of the journey so far.

We have built a strong healthcare infrastructure for diagnostics and screening for early health and thereby, affordable care. We have built remote specialist access for interpretation of ECG, X-ray, CT, cervical screening, pathology tests, audiology tests and remote tele consulting. We have reached 120-plus locations and within 300 km of any location in the country with over 400 employees. We are thus all set and clearly invested and have built our delivery capabilities for the new normal.

GenWorks was primarily set up to take healthcare solutions beyond the metros to various Tier 2 & 3 cities & towns.

Has the current pandemic further reiterated the need for a strong & robust healthcare in our Tier 2 & 3 cities as well as rural areas?

Yes, very much. The pandemic has thankfully brought about a huge awareness of early health. Healthcare delivery was always choked by the late stage rush for treatment and in T-2 and beyond, it was overwhelming the limited infrastructure availability and specialists.

Now, with more awareness, a robust primary healthcare system will soon be needed to screen and diagnose early, and we have the technology to enable this change digitally. More treatment facilities will come up to cater to the local population that will no longer want to go to nearby towns or cities. Ayushmann Bharat has empanelled more than 1500 hospitals in the last three months which will be a big help for those who cannot

afford healthcare expenses.

Affordable healthcare is now the need of the hour more than ever. How has the Covid-19 situation affected GenWorks Health? And what has been the way forward as a company?

Affordable healthcare has always been the need. Covid-19 has brought about awareness of early health with a focus on comorbidity that was earlier ignored. As a result, primary healthcare will become the focus and has to be supported with telemedicine platforms. The Government has given guidelines for telemedicine as the 'new normal' and we have technology that can be installed almost immediately and have collaborated with specialist groups to support this remotely. All our screening and diagnostic portfolio is digitally connected to experts through our platform. Clearly, adoption of this solution and a

focus on early health is going to bring down cost of healthcare and save preventable loss of lives.

Providing affordable healthcare products and solutions that are high on technology and innovation has been a key focus of GenWorks. How do you plan to further take it across every part of India?

With our focus on improving access, we have invested in digital platforms, connected devices and a connected infra for our care cycle approach to healthcare delivery. To build awareness, and to meet the needs of our customers, we have developed agile and flexible digital marketing and education platforms. We can completely customise to our customer needs. We have entered into partnerships with financial institutions to support our customers in adopting this and have also introduced repaying through flexible payment options.

Give us a brief overview into the kind of services GenWorks Health has been championing through the years?

We are in healthcare and our focus is to improve technology adoption and to enable solutions for early health. We have a very holistic portfolio that addresses the needs of our customers in the 4 care areas:

- Mother & Child
- Cardiology & Critical Care
- Imaging and Diagnostics
- Invitro diagnosis

A lot of focus of the Government has been on Atmanirbhar Bharat. What sort of a role do you envisage for GenWorks if India is to become self-sufficient in the healthcare sector?

Atmanirbhar will encourage a lot of medical devices technologies to be homegrown and will be a big positive move away from Chinese products that are low-cost and of poor quality. We are seeing a big expose of these low-quality and unreliable products. We have to quickly build on this intent of the government to be self-reliant and bring in quality products that are affordable. In healthcare, we cannot afford to have poor quality.

The company has certainly come a long way since its inception. What's

the growth plan for the next 5 years? Are there any specific areas where you would be focussing upon?

We are strongly focused on Tier-2 cities and beyond Geo. In metro cities, our focus has been targeted at the gaps in technology for early screening. The new normal has opened up huge opportunities as the Metro Geo are resetting to be more productive. Our early health and digital solutions will have a significant role to play, so we are ramping up our enabling and support for this opportunity. Clearly, digitalisation of healthcare will remain a big focus.

If there is something that you are really excited about in the Indian healthcare sector in perspective of looking ahead to the future, what would that be?

We are excited about the awareness on early health and in safe access. This will be a major change and we are looking forward to playing a big role here. Every life is precious and we have to make sure that we leverage the tech infrastructure and decongest the ecosystem for safe and affordable care.

This start-up was set up with active support from GE's healthcare arm... How closely involved is GE in the daily operations?

GE built Genworks for taking healthcare

to the last mile as part of its vision for a Healthier India. As an invested partner, they continue to play a significant role in all our initiatives and provide guidance to ensure we achieve our goal of saving lives.

Finally, what would you say has been behind the phenomenal success of GenWorks Health so far?

Two fundamental factors: First, our customers and employees; and second, the key support of our investors and bankers. Customers were the first to adopt to the change when we started in 2015. Their overwhelming support for this initiative of GE to democratise healthcare was all that we needed when we started and now when we are changing gears for the bigger challenges, it is their support and guidance that continues to be the backbone of our success.

On the other hand, when we started Genworks, over 60 employees of GE and 100 dealers gave up their jobs / business and joined Genworks, as they clearly could vision a big Opportunity to transform healthcare in our country. They continue to be the compelling success factors..

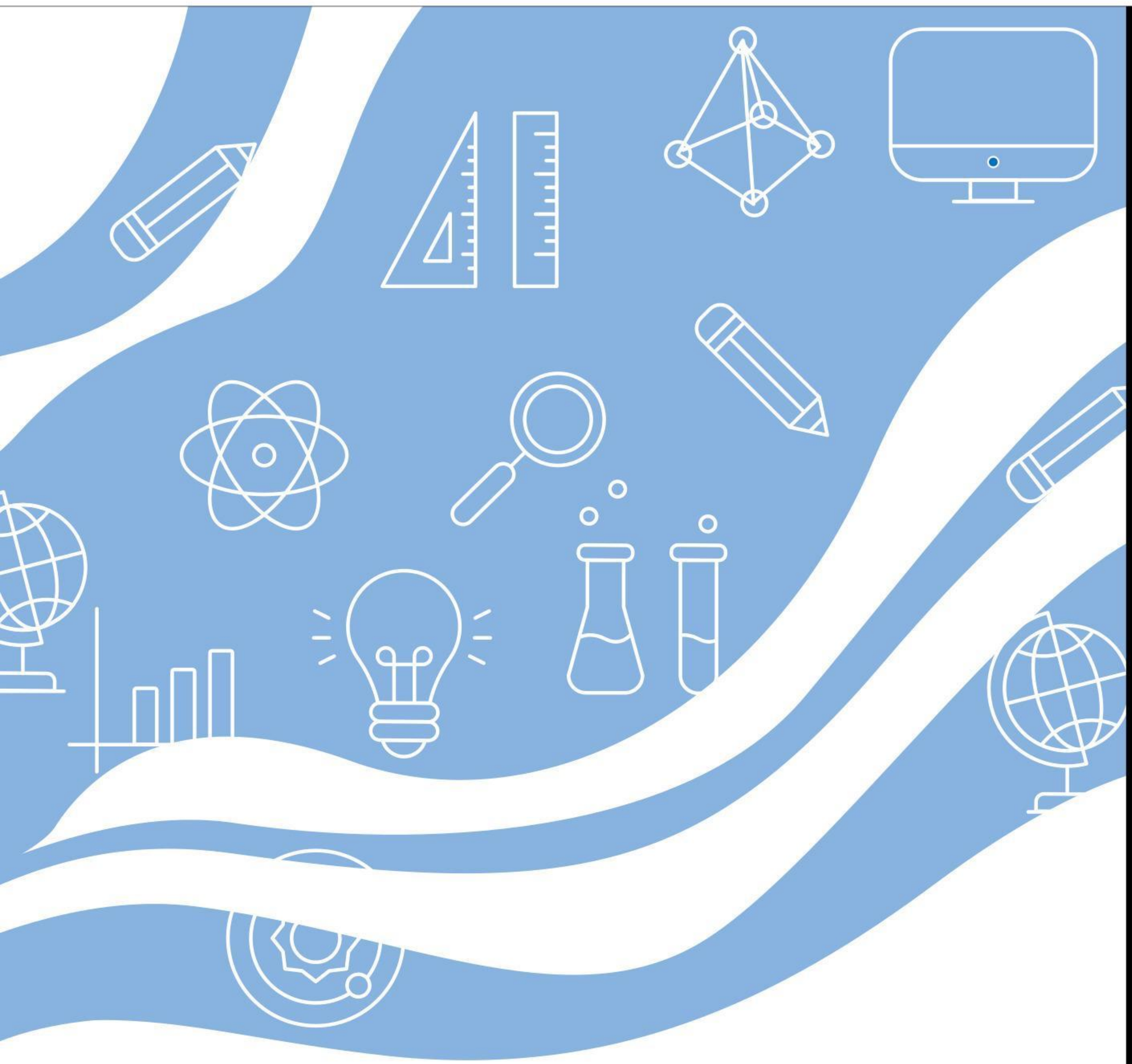
A large enterprise as this needs a strong support system for stability, and for growth stimulus, GE and our Investors Somerset ind, Morgan Stanley and evolvence provide us with the stability along with our bankers HDFC.





BY JEFF MAGGIONCALDA,
CEO, COURSERA

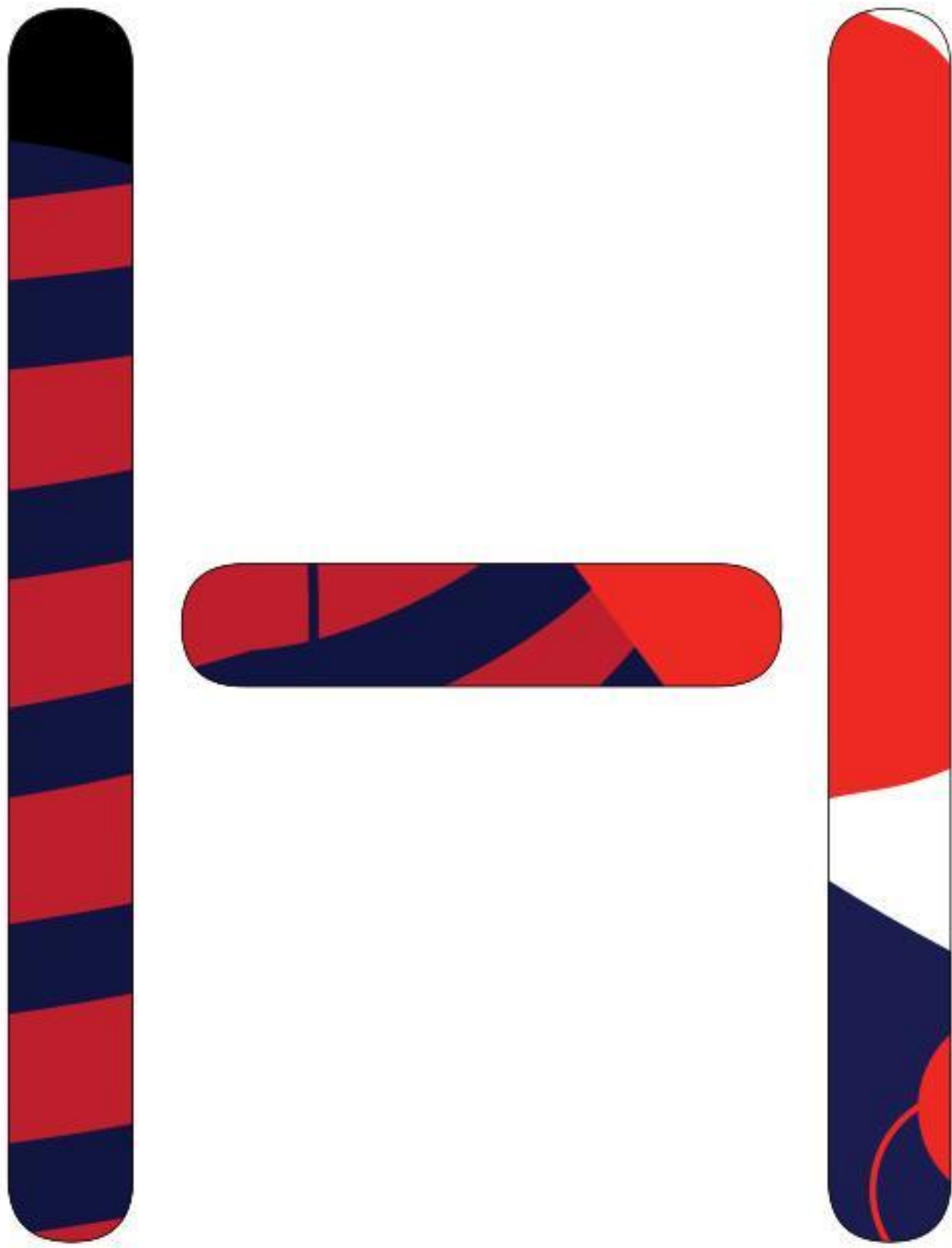




Phygital Learning

DIGITAL TECHNOLOGIES WILL FILL THE GAPS IN OUR EDUCATION SYSTEM, BE IT VIRTUAL FIELD TRIPS, USE OF AR/VR IN EXPERIMENTS OR ONLINE LESSONS ON-THE-GO

ILLUSTRATION BY RAJ VERMA



Higher education systems around the world

have been crippled by Covid-19. In India alone, over 37 million students in the country's higher education system have been affected by campus closures. The demand for online learning continues to surge as colleges in India ensure academic continuity for students through remote teaching. Three months down the line, institutions have, in some form, adapted to virtual learning despite being largely unprepared for an abrupt shift.

Now that the near-term response is implemented, universities in India, much like their global counterparts, will have to make enduring changes in the medium and long-term. The strategic nature of their response will determine how well they adapt to the rapidly-changing future of higher education.

Medium-term: Blended Classrooms

As this crisis has shown, universities will need to future-proof their role with dynamic, resilient approaches that can empower faculty to quickly switch from on-campus to fully online on demand. For most colleges, developing high-quality online content from scratch remains a formidable challenge. But with technology, any college or university in India can integrate online courseware taught by experts from renowned institutions into their curricula, widely available through online platforms.

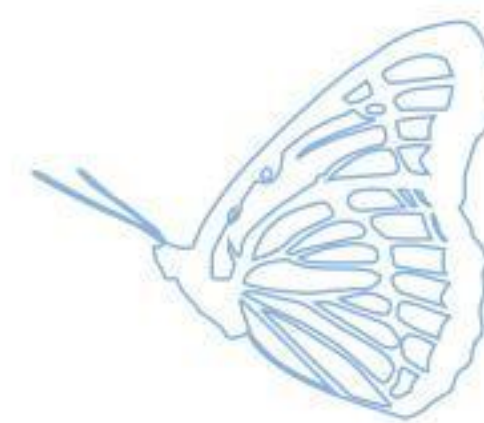
The 'forced experimentation' colleges have come through with this crisis could lead to lasting changes, fundamentally transforming how students learn in the future. The new normal will eventually make way for 'blended' classrooms that combine online and traditional

in-person classroom learning.

As they become entrenched and mainstream, blended classrooms could serve a greater purpose, paving the way for colleges to deliver an upgraded online education that supplements learning on campus. A student in Lucknow, for instance, could move seamlessly from an economics class on campus to a data science class taught online by a global expert, learning with students from around the world. Building in-demand skills online could give millions of students in India a job-relevant education, boosting their employability. This could also create an opportunity for India's best institutions to deliver a far more significant impact across the country, and in fact, the world. By launching courses for critical skills online, India's top institutions would beat capacity and scale constraints, while delivering relevant education and expanding reach to a global audience. Last year, IIM-Calcutta took a bold step in this direction when it decided to launch two online MasterTrack certificate programmes, its first offerings to be delivered entirely online.

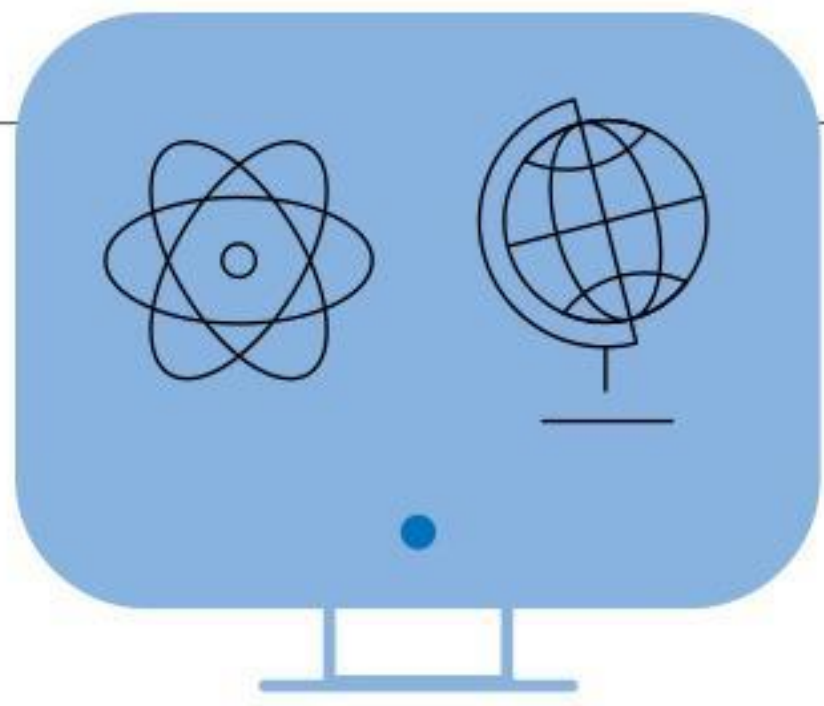
As institutions increasingly rely on a mix of online and traditional instruction, universities across the world and in India will be responsible for making such learning more inclusive in the future, bridging the digital divide that could leave the most vulnerable students behind. Institutions must lead by teaching with the integration of low bandwidth components (e.g., discussion boards, email, collaborative documents and downloadable video content) with high bandwidth programming (e.g., live video conferencing).

As virtual and blended classrooms evolve, colleges will have to re-imagine how they engage students. The online classroom experience has the potential for significant interactivity — group discussions, webinars, live discussion boards for example — which can lead to an engaging learning experience. Learners would also benefit



**BUILDING IN-DEMAND
SKILLS ONLINE COULD GIVE
MILLIONS OF STUDENTS
IN INDIA A JOB-RELEVANT
EDUCATION, BOOSTING
THEIR EMPLOYABILITY**





Key Takeaways

Use of immersive technologies like AR and VR for experiments in fields like medicine and engineering will grow

By launching courses for critical skills online, India's top institutions will beat capacity and scale constraints

The online classroom has the potential for significant interactivity — group discussions, webinars, live discussion boards

Faculty will need to be able to quickly switch from on-campus to fully online on demand

Online courses will lead to classrooms that are far diverse than what we have seen till date

from a learning community without borders — the most diverse study groups will be found online.

How colleges innovate and leverage technology online has taken a leap with this crisis, and this will continue to shape the future of higher education. It could not only change how students get an education, but also how they are assessed in the future. Medical students at Imperial College London recently sat for open timed exams held online, with very encouraging results. This could open alternative paths to online proctored exams and ongoing assessments moving forward.

Similarly, the use of immersive technologies like Aug-

mented Reality (AR) and Virtual Reality (VR) for education experiments in fields like medicine and engineering will only grow as colleges explore their potential across new use cases — from holographic displays to study engineering, to augmented reality for medical training and even research-driven VR field trips. Virtual lab simulations could remain a useful tool for students to continue experimenting in tandem with hands-on labs work long after this crisis. Recent advances in digitally-enabled labs offer promising possibilities, even in fields like life sciences.

Globally, we are already seeing universities boosting their digital infrastructure in response to this crisis. The adoption of cutting-edge technology will result in more immersive learning experiences online. With the UGC considering blended learning with up to 40 per cent classes in online mode, Indian institutions will now be able to explore the full potential of technology, to create blended and virtual classrooms of the future.

Long-term: Embracing Digital Transformation

Before Covid-19, colleges around the world had begun ramping up digital transformation as a way to achieve a range of benefits. They were looking to improve global reach, provide greater access to quality education, make learning more personalised, and bring significant improvements in pedagogical practices. After Covid-19, universities have added risk mitigation as a key driver of digital transformation. Institutions will increasingly look to protect their academic portfolios through advanced digital learning designed from the ground up to be delivered online. That's a trend I see coming to India too. As universities develop their digital competencies, what started as a short-term response to a crisis could well become an enduring digital transformation of higher education, across all aspects of on and off-campus learning.

In a crisis that has led to collapse of borders and brought communities closer to collaborate and reach out to those in need, top colleges in India and the world have the opportunity to fulfill a higher purpose by democratising access to top-quality education. At a time when the pandemic has caused widespread unemployment, people desperately need access to job-relevant learning. Though painful, Covid-19 has given us a glimpse of the future. The only way institutions can scale and serve the millions impacted by this crisis is by investing in digital, starting now. If acted on with urgency, the educational system will be able to serve as an engine of economic revival and a transformative force that empowers Indians to seize the opportunity presented by the Fourth Industrial Revolution. **BT**



SPEED, PRECISION AND POWER

It would be interesting if you would share your trajectory in life that eventually brought you to this highly sensitive R&D department of rocket and missile technology for the armed forces?

Defence technology had always fascinated me while I was pursuing my engineering degree in Mechanical Engineering at the Jabalpur University in Madhya Pradesh. It is because of their superior military technological power that countries such as the US and Russia could dominate the entire world post the two World Wars in the 20th century. So, in order to build a strong, powerful nation, it is highly imperative to strengthen its military by equipping it with advanced technology.

When I joined DRDO in 1984, India had initiated work on one of its most ambitious militarily-technological programme – the IGMDP. The Integrated Guided Missile Development Programme (IGMDP) was being spearheaded by India's iconic missile scientist Dr. APJ Abdul Kalam. The great scientist, with his visionary leadership, had inspired one and all to bring out the best for the Nation. And I happened to be one of those lucky young scientists to receive Dr. Kalam's blessings and goodwill to embark on an aspiring journey which led me to newer trajectories, including my association with India's most prestigious militarily-technical project BrahMos.

Dr. Sudhir Kumar Mishra

DG (BrahMos), DRDO and CEO & MD BrahMos



What is it about missiles that fascinated you to focus on this particular stream of science?

The evolution of rocket science, or missile science (as we call it in modern times), actually dates back to ancient times. Such weaponry have been closely associated with military operations since centuries. Today, missiles constitute the most crucial and lethal part of a country's overall military arsenal. The ever-evolving missile technology has led to a revolution in the design and development of a wide range of sophisticated, modern missile systems, be it strategic or tactical. In fact, the two Gulf Wars towards the end of the 20th century and early 21st century made the entire world realise the importance of missiles as a critical war-winning weaponry which could decisively influence the outcome of a military conflict.

While the world's two most powerful countries had leapfrogged in developing advanced missile technology, India had started work to catch up in the race. Getting a chance to work in the flagship IGMDP project at that juncture brought a golden opportunity for me to realise my long-cherished dream to work in missile science and related technology.

The making of BRAHMOS must have been a very interesting experience for a scientist like you. How did the BrahMos project begin and the journey till its successful launch?

Indeed, my association with the BrahMos JV has been the most incredible part of my professional journey so far. While the broad contours for the India-Russia Defence JV was conceived in the early 1990s involving the Governments of both sides along with all top-most defence scientists including Dr. Kalam from India and Dr. H. Yefremov from Russia, my appointment as the Technical Adviser (Defence Technology) at the Embassy of India in Moscow in the year 2003 brought me further closer to this JV programme during which I coordinated many activities related to BRAHMOS and initiated several R&D projects. Prior to that, my tenure as Programme Manager at Defence Research and Development Laboratory (DRDL), Hyderabad for BrahMos in the initial days of the JV resulted in timely realisation of flight hardware and other support systems for the supersonic cruise missile.

Thus, working in tandem with both the DRDO and Russia's NPOM in addition to close interactions with major defence industry partners from Russia vastly enriched my work experience, harnessed my skills and widened my knowledge base. The BRAHMOS programme achieved its first landmark feat in June 2001 with the maiden successful test firing of the weapon's anti-ship

variant from an Indian naval warship. India was now moving forward to further develop and deploy this formidable weapon in its Armed Forces. In 2005, Indian Navy became the first to deploy the deadly BRAHMOS.

The BrahMos project is a joint venture between India and Russia. Could you tell us something about the synergy between the scientists of the two countries and mutual learning?

The BrahMos JV bears the finest testimony of India-Russia strategic partnership. In fact, it is this uninterrupted flow of energy and brilliant synergy between the two sides that has made BRAHMOS truly world-class. The JV, since its inception, has been a "technology sharing" programme wherein both the partner nations have brought in their respective technological expertise and knowledge base to design, develop and field such a powerful weapon which is unparalleled in the world. This has definitely led to mutual learning and understanding and further widened the scope to work together on newer, more advanced BRAHMOS versions and achieve new technological breakthroughs.



What makes BRAHMOS a one-of-its kind missile in the world and how enthusiastic has the Indian government been to see it happen?

Unique, Unparalleled, Un-interceptable...that is how I would like to describe BRAHMOS — India's ultimate weapon of choice. It is a unique combination of supersonic speed with deadly firepower and impeccable precision that makes BRAHMOS unparalleled in the world. It is a stealthy weapon which can not be intercepted by any modern air defence system, however powerful that maybe. Add to that the weapon's high versatility. The missile can be launched from land, sea, underwater and air, thus having the capability to

operate from across the spectrum of war and decisively influence its outcome. With the successful induction of BRAHMOS in its Armed Forces, India has gained an invincible tactical advantage over its potential adversaries. The Indian Government has always been forthcoming in strongly supporting the JV project which has elevated the country's military stature at the world stage.

How much strength has BrahMos added to India's defence preparedness?

To be precise, BRAHMOS has become a powerful strategic deterrent weapon for India. The precision attack missile, initially developed for the Navy, has been successfully inducted in all three wings of India's defence forces. After successfully developing, testing and delivering the weapon for land and naval platforms, we have also successfully tested the formidable missile from the Indian Air Force's Su-30MKI air combat platform. With this, India has become the first and only country in the world in possession of a supersonic cruise missile which can be launched from land, sea and air. So, BRAHMOS has become a highly effective system to fight modern net-centric warfare missions. The powerful tactical weapon has immensely bolstered India's defence preparedness.

How elated do you feel to be a part of this unique project? Personally, what is your opinion about war and peace?

I feel truly blessed and humbled when I associate myself with such a highly coveted military project of India and be a part of the spectacular journey of BRAHMOS. As regards to war and peace, then they are two sides of the same coin. In order to achieve peace, one has to prepare for war, as the old saying goes. The same is true for India too, which since centuries, has propagated peace to the world, but to maintain that peace, it needs to be well-prepared for war at the same time.

What's your message to the youth of India about the importance of national defence. And the core values and character necessary they should develop for taking India forward

In a highly volatile and conflict-ridden world, national defence has become top-most priority for any country in 21st century. The complex geopolitics and strategic equations of South Asia makes it imperative for India to fortify its military posture and strengthen its defence preparedness. India's youth can play a pro-active role in defending and protecting the motherland from any kind of enemy aggression. Integrity of character, complete dedication and competitiveness in every youth would go a long way in building a strong nation and take India forward in the path of growth and progress.



BY BÖRJE EKHOLM,
PRESIDENT AND CEO, ERICSSON

5G

Will Unlock Industry 4.0

ILLUSTRATION BY RAJ VERMA



WITH NETWORK SPEED WHICH ARE 10
TO 100 TIMES FASTER THAN 4G, ROBOTS
CAN BE CONTROLLED, MONITORED AND
RECONFIGURED REMOTELY

Mobile technology is one of the fastest-scaling technologies the world has ever seen. There are already 9 billion devices globally and that number is growing fast. It is also one of the greatest drivers of economic growth and human equality in history. In research with Imperial College London, we proved that the deployment of mobile broadband networks spurs economic development. The results show, on an average, that a 10 per cent increase in mobile broadband adoption ratio leads to a 0.8 per cent increase in gross domestic product.

Connectivity has also proven to be even more critical since the Covid-19 pandemic gathered speed. At Ericsson, more than 85 per cent of employees have been working from home since early March.

Key Takeaways



Traditional business processes will be re-engineered based on intuitive human-machine interactivity



Machines will network, operate and transfer large amounts of data in milliseconds on secure networks

2.8 billion 5G subscriptions by 2025

In the latest edition of the Ericsson Mobility Report, the total mobile data traffic is projected to grow by a factor close to five to reach 164 Exabyte (EB) per month in 2025, consumed by more than 6 billion people using a multitude of devices.

The Covid-19 pandemic has resulted in 5G subscription growth slowing in some markets. However, this is outweighed by other markets where it is accelerating. Overall, 5G is currently scaling faster than previous technologies. We forecast 190 million 5G subscriptions globally by the end of 2020 and 2.8 billion by the end of 2025. We expect that 45 per cent of total mobile data traffic will be carried by 5G networks by the end of 2025.

I caution against looking for a killer app for 5G. By the time we identify the killer app, it will be too late. Investments in 4G were delayed as many people looked for the killer 4G app. They fell behind as the early movers created an ecosystem for innovation that entrepreneurs and start-ups could innovate on to build the app economy.

Early movers in deploying new generations of mobile technology have historically been rewarded through higher growth. We are already seeing early signs of service providers monetising the 5G opportunity, with positive average revenues per user (ARPU) trends and growing revenues, in pioneering 5G markets. Put simply, the next three years will determine the 5G business landscape.

5G as the platform for innovation

Honestly, if we knew the killer app for 5G, we would be making that instead of network technology. However, we can make some guesses. For consumers, exciting use cases will include immersive entertainment based on virtual reality or augmented reality, to different kinds of gaming — such as cloud-gaming or multiplayer gaming — and 3D-shopping. Or maybe using haptic gloves to feel the quality of fabric for 4D-shopping.

As with most past crises, the pandemic will accelerate ongoing structural changes. The adoption of e-commerce will most likely go faster, as will greater flexibility in remote

working. But I am convinced that other areas, such as remote health care, where we are just at the beginning of a disruption, will also benefit. Connectivity can, for example, provide quality health care to remote villages with much higher efficiency. Traditional business processes will be re-engineered based on intuitive human-machine interactivity and realised through real-time and secure platforms.

5G for enterprises

We believe that industry digitalisation will generate an estimated \$700 billion addressable market opportunity for service providers by 2030, corresponding to 35 per cent of current industry revenues.

In the 5G era, production systems and machines will network, operate and transfer large amounts of data in milliseconds on secure 5G networks. Connected cameras and sensing devices can provide feedback to remotely situated control centres and enable skilled staff to monitor and steer manufacturing remotely. With a large network of sensors, manufacturers can enable predictive maintenance of robots on the factory floor.

For robots to be able to interact with their environment in real-time, massive amounts of information will have to be transferred instantly.

With an enhanced network speed that is 10 to 100 times faster than 4G and latency of one-to-two milliseconds, robots can be controlled, monitored and reconfigured remotely. Connected automated guided vehicles can dispatch components from warehouses to production lines.

5G and society

We believe it is critical for a country to be an early mover in 5G technology. The early movers will, as with 4G, capture applications running on top of the network that, from the start, can benefit from a global market. Therefore, it is imperative that countries create a good investment climate for mobile operators to quickly build out 5G networks.

Imagine the potential in India with hundreds of millions of subscribers with 5G in their hands, or the transformation of the Fourth Industrial Revolution in areas such as health-care, education and public safety.**BT**

**IT IS CRITICAL
FOR A COUNTRY
TO BE AN EARLY
MOVER IN 5G
TECHNOLOGY**



Immunity Foods Will Drive Demand



BY SURESH NARAYANAN,
CHAIRMAN AND MANAGING
DIRECTOR, NESTLÉ INDIA

FUTURE OF FOOD

GRANDMA'S RECIPES WILL
FORM AN INTEGRAL PART OF
THE PLATTER; COOKING TO
GET MORE EXPERIMENTAL

ILLUSTRATION
BY RAJ VERMA





Our lives have changed due to the current crisis. Like everything else, the mindset of consumers and their food consumption are set to undergo changes as well. As food becomes an integral part of stay-at-home life, health and wellness will take centre stage in eating habits. A look at some clear trends.

Good Food, Good Habit

Even before, we were witnessing a change in how consumers perceive the value of food. There was a steady evolution in terms of different dietary patterns emerging. Innovation centred around nutrition, health and wellness was gaining prominence. This trend is likely to accelerate with people now rethinking even more how they eat, what they eat and socialise over food experiences. Not only that, offering affordable nutrition for consumers would be very important in the ‘new normal’. In times like these, people tend to try and cling to familiar spots that one has experienced. Clearly, companies that can offer trustworthy, healthy and nutritious products in today’s time without compromising on the taste are better placed and will be preferred more by consumers. With one mega food consumption trend being the interest in ‘total wellbeing’ and ‘holistic health’, the biggest oppor-

tunity for companies is to be innovative on the platform of nutrition, better quality, greater trustworthiness and greater safety, as these continue to become important vectors of consumer choice. Companies will have to launch products with innovation and renovation, which should not just be single-season products, but ones that can sustain themselves with the changing scenario. In today’s time, it has become imperative to understand who your target audience is and what their needs are. ‘Innovation and renovation’ will only be successful now when brands know what consumers want and why.

The future of food consumption will rely heavily on ensuring that ‘nutrition’ and ‘taste’ go hand in hand, with ingredients that are most likely to succeed are those that have well-established connections with immunity. In order to ensure that products satisfy consumers’ needs, companies need to respond to the new demand, reset their defining relationships with users and reconsider their product portfolio in the post-Covid era to make products healthier, while also allowing consumers to make a pleasurable indulgent choice.

In-Home Consumption

Another important trend that the industry has witnessed is the clear shift in favour of in-home consumption. As the pandemic made us homebound, we began buying, cooking and eating very differently. Consumers are now cooking from scratch using local produce, with a focus on healthy nutrition. Different platforms of engagements are being explored, whether it is the convenience of getting brands that they would have otherwise not consumed, or experimenting with new forms of cuisine and cooking. In-home consumption has shown us a lot of trends, including the Dalgona coffee trend, which inspired many consumers in creating different coffees. In-home consumption is directly related to seeking small

**COMPANIES WILL
NOW HAVE TO
LAUNCH FOOD
PRODUCTS WITH
INNOVATION AND
RENOVATION**

• • •

pleasures and essential products on the tables. With ‘out of home’ eating experience getting redefined, there will be a natural spurt towards ‘in-home consumption moments’. In times like these, consumers are also returning to recipes of the past — ‘grandmother’s recipes’ that are believed to boost immunity along with comfort and nostalgia.

Digital Engagement
Pre- pandemic, the ever-increasing growth in social media was dynamically changing the way in which food is marketed. There was a strong focus and the need to innovate for novel and diverse offerings. Food bloggers and influencers who constantly share images of food products were gaining more prominence, with the architecture

old kirana stores will continue to be relevant due to the convenience in localities, consumers are expected to be much more active digitally compared to earlier times.

The Way Forward

To summarise, organisations will need to ensure that branding of products reflect quality, hygiene and safety. Consumer focus on product value chain will go up, and organisations that are more transparent will have an edge. Further, there will be an increasing interest towards products that offer value. Changes in ‘out of home’ consumption, may also lead to rise in demand for ‘single portions’ instead of ‘sharing portions’, lower instance of large gatherings around food and an increasing focus on takeaways/deliveries. All these would be changes companies should brace for.



Key Takeaways

Affordable nutrition to be most important going ahead

More demand for ‘single’ portions instead of ‘sharing’ portions

Less experimentation will test brand loyalties

Deliveries to increase more as consumers opt for in-home consumption

Firms need to stress on quality, hygiene and safety

and colour of food playing a crucial role in the absence of the ability to taste or smell it. Consumers going forward are expected to be digitally far more active than they were earlier, and food companies with a strong digital-first capability, in terms of engagement, creation and sustainability are the ones that are going to hold the consumer’s interest for a long time.

Digital engagement will continue to be three pronged – first, recipe and information dissemination; second, good nutrition since that’s a hunger spot for consumers, and third, a lot of the earlier in-store activations that would now become digital activations. While good-

These last few months have also been an acid test for brands as far as brand loyalty is concerned. Consumers at large have shown low interest in experimenting, especially with food. It would be a cardinal rule for brands to invest in building trust among consumers.

In a post-Covid world, the space for brands who do not command much trust from their consumers, will shrink. With Covid-19 being a health and economic crisis that has a significant impact on consumer consumption, food companies now need to leverage their in-depth knowledge of food habits, nutrition and public health challenges in order to innovate and renovate.**BT**



DHRUV GALGOTIA

CEO, GALGOTIAS UNIVERSITY

BIRTHDAY : 12 September 1986

ZODIAC : Virgo

MY FAVOURITE FOOD:

I am fond of Indian cuisine and prefer to have Indian food cooked at home most of the time. Quiet often I cook myself when I get time, specially the first and last meal of the day.

MY FAVOURITE TELEVISION PROGRAMS:

I prefer to watch fast paced thrillers such as Narcos, Money Heist, Mirzapur on Netflix.

I LOVE TO PLAY:

I always prefer a good workout session with my online trainer but I have also started playing badminton since last 2-3 months and I'm getting pretty good at it but my wife mostly wins when we are playing a game together. You see, you just can't win from your wife !!

MY FITNESS MANTRA:

Challenging myself everyday keeps me motivated and rejuvenated. Each day gives you a new opportunity to improve yourself physically and mentally. One should make the most of it. A healthy and fit body keeps the mind active and alert.

ARE YOU FOND OF PETS?

I am a die hard dog lover and have 2 dogs at home. Ozzy is a beagle and Max is a german shepard. I am extremely close to both of them. I have also made a dog shelter for around 20-30 dogs at the campus where regular vaccinations and food is provided to them.

“I am passionate about keeping myself abreast with the changing trends in the tech world and always stay ahead in adapting the latest and emerging technologies at my workplace. Being in the field of education, I always encourage my students and faculties to move their learning curve upwards and keep themselves updated on the new technologies as well as adapt to the constant changes and keep pace with the developments happening globally.”

FEELING OF SUCCESS:

I believe that our success lies in our student's success in their careers. There is no better feeling of success when I meet our Alumni students at the various places such as Airports, Hotels, Hospitals, Courts, Government offices, Corporate events and hear their success stories and achievements after they graduate from our Colleges & Institutions. I measure success not only in terms of money but also by the value system that our students have imbibed during their time spent while pursuing the different value-added courses and programs.

BIGGEST STRENGTH OF YOUR INSTITUTION

I strongly feel that the biggest strength of our Institution are our brilliant and highly innovative students who are excelling in their chosen career path. It is because of the students and faculties that any educational institution gets a name and fame. Based on the feedback received from the top corporates and recruiters in the country, we are proud to say that our students have been making accomplishments which are truly commendable and they have made their presence felt in the respective fields.

ADAPTATION OF TECHNOLOGY BY GALGOTIA'S IN THE COVID19 ERA

The Covid-19 pandemic has given a big and renewed push for the online education especially at Galgotia's. In view of the prevailing situation, the Leading universities in India are opting for advanced technologies to engage the students and facilitate

their learning. According to the World Economic Forum, "Global EdTech investments had reached US\$18.66 billion in 2019 and the overall market for online education is projected to reach \$350 billion by 2025."

Students at the Galgotia's University can take their pick from 50,000+ online lectures, 9,000+ e-learning resources, 3,000+ virtual classroom instances, 4,000+ online assignments, 10,000+ virtual videos, and 500+ virtual programming labs. They also have access to over 4,000 courses on industry-ready skills on the multiple MOOC platforms (for credit transfer). E-resources such as NPTEL, SWAYAM, UDEMY, COURSERA and MIT Open Course Ware links are being shared with all the students to enhance their learning curve.

CHANGE LIKELY TO BE MADE IN YOUR INSTITUTION

I feel that Change should be the only constant in any company today. I really believe in this statement and always motivate our team at Galgotia's to embrace and adapt themselves for any change as quickly as possible. We are living in an era, where in the next 5-7 years, we will be using the technologies that haven't been invented yet therefore we will have to ensure that we are always staying ahead of the curve.

BEGINNING OF THE DAY

I have always been an early riser and start my day usually at 5 am with one hour of exercise and one hour of reading. I am a voracious reader and fond of reading books on current affairs and technology.

Post the workout and reading session, I make sure that I am updated with all the emails and whatsapp notifications. I am also active on social media as I stay connected to my students.

THINGS WHICH MAKE YOU PROUD ABOUT THE INSTITUTION

Erudite Scholars and Alumni from our University are being acknowledged amongst the Thought Leaders in the Country and they have carved a niche for themselves in the different walks of life. The pivotal role being played by our University in the Student's overall development and their accomplishments are making me feel proud about the Esteemed Institution.

YOUR PASSION FOR READING GOOD BOOKS

There is no better feeling in this world than reading a good book. I have just finished reading a book called "bad money", written by Mr. Vivek Kaul. The book throws some light on the Indian banking system and gives a deeper insight into the issues pertaining to the banking sector. I have just started reading a new book titled "the future is faster than you think", written by Diamandis and Kotler.

INVOLVEMENT WITH THE SPORTS

I have been a state level swimmer and have won over 150+ medals as well as trophies during the School, College and State level swimming competitions. I have played tennis and squash as well for over six years. I would say, I have always been a sports enthusiast as it keeps the body and the mind fit.



BY JAY WALDER, CEO,
VIRGIN HYPERLOOP ONE

MASS TRANSIT AT AIRLINER SPEEDS

ILLUSTRATION BY RAJ VERMA

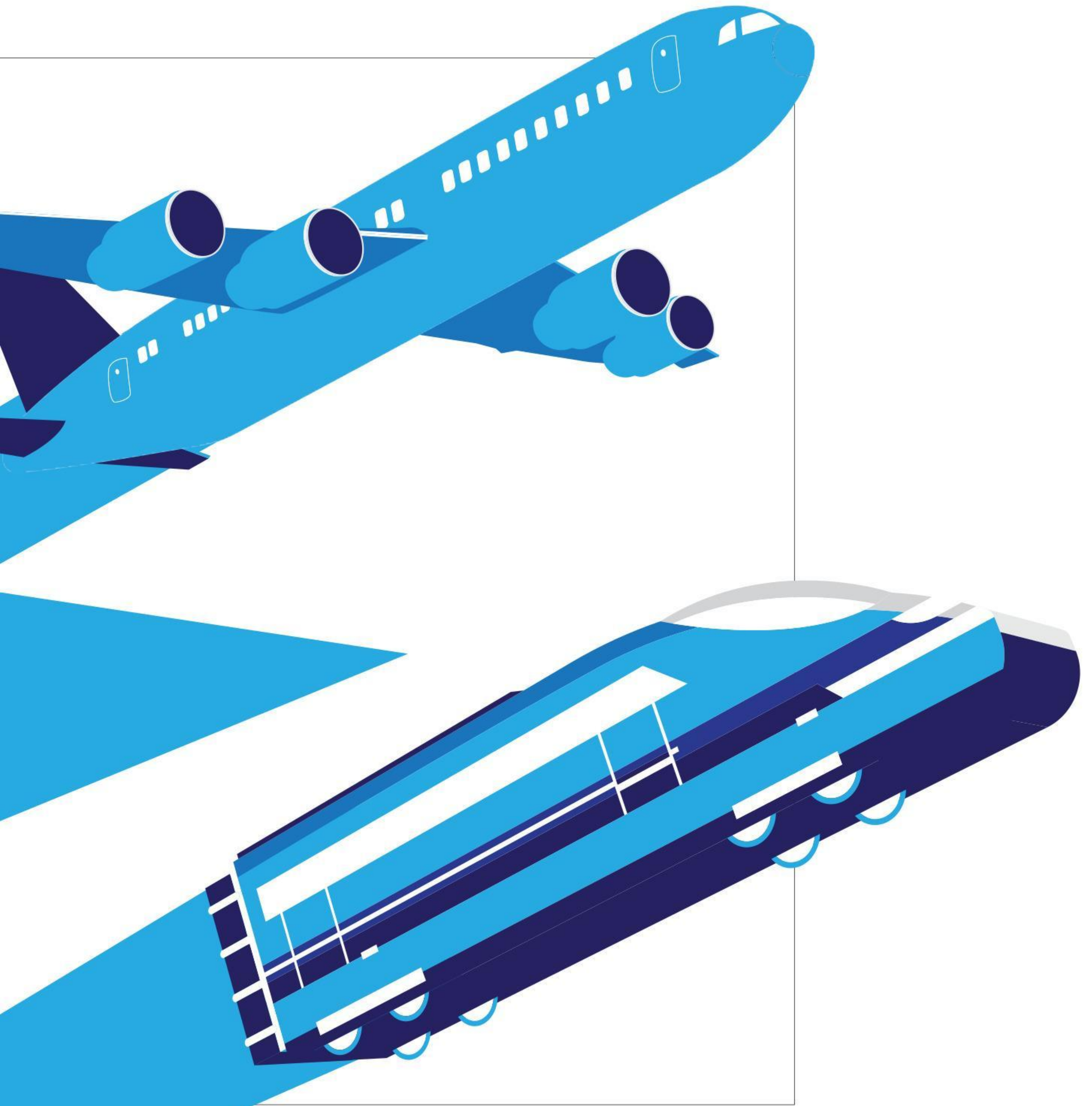
THE FIRST PARADIGM SHIFT IN
TRANSPORTATION IN OVER 100
YEARS SINCE THE AIRPLANE COULD
CONNECT MUMBAI AND PUNE IN
THIS DECADE, REVOLUTIONISING
TRAVEL ACROSS THE GLOBE



As the world struggles to emerge from an unprecedented lockdown that shut down most of its transportation, the choices we make about our ability to move may change the world.

Sadly, major innovation is often paired with moments of crisis. In these moments, where we are shaken from the status quo, we must think differently. After decades of working in transportation, I can tell you that the plans we make now about the way we move will dramatically change the face of our planet and our people. We cannot afford to just rebuild, we must evolve.

When I was a kid, I used to ride the New York subway



with my father. We would try to get in the first car and I would stand by the window at the front. My father would lift me up so that I could see outside and we would pretend I was driving the train.

Nearly 50 years later, I didn't just find myself driving the train, but I was running the entire New York transit system. Was this my dream job? You better believe it. This was my hometown.

However, the nature of being the CEO of the New York Subway is that you are limited by a system built decades ago (120 years, in the case of New York). So, incremental improvement is the best you can do. And that shouldn't sur-

**LET'S BUILD A
100 PER CENT
RENEWABLES-
POWERED ELECTRIC
SYSTEM THAT
IS ON-DEMAND**

• • •

prise us. Most change in life is incremental.

But people now want, and need, more. Transportation has just not kept up over the past few decades. Maybe we've forgotten how significant the invention of the train or plane was for society. The train turned a trek that took months into days, and when the plane was invented, journeys that took weeks started taking hours. It has been too long since we've seen a massive breakthrough, a paradigm shift. It's time we planned the next one.

This type of paradigm shift is easier said than done. Currently, even our high-speed transit runs on tech invented

decades ago. We haven't seen a new mode of mass transportation in 100 years. Think about how crazy that is! From the computer to the mobile phone, in no other part of our lives do we put up with technology that hasn't evolved dramatically.

21st century problems deserve 21st century solutions. We need to invest in transport to meet our needs and values in an ever-growing urban environment — one that bolsters sustainability, increases accessibility and promotes manageable growth.

For Hyperloop, we had to think about all of these things. Embedded in our technology is a new way of thinking about mass transportation, one that meets not only energy demands but also consumer demands of the coming century. For less cost than high-speed rail, let's go three times as fast. For the same speed as an airliner, let's use 10 times less energy. Let's build a 100 per cent renewables-powered electric system that is on-demand and goes direct to your destination.

Imagine, in India, we can transport a couple of hundred million people a year completely off the grid using solar panels alone. This isn't science fiction — it is a reality that can happen in the next decade. It's the giant leap forward that we desperately need.

To put it in perspective, let's look at an opportunity right here in India between Mumbai and Pune. The Virgin Hyperloop system can meet this growing demand by supporting 200 million passengers annually. We can move the masses, and we can do it fast. Instead of 3.5 hours to get between these two cities, the Hyperloop will do it in less than half an hour. As a side effect, the implementation of a regional Hyperloop could reduce local greenhouse gas emissions by up to 1,50,000 tons annually. Now, imagine this at scale all around the world.

But it isn't just about Hyperloop. Our giant leap forward in infrastructure will induce demand for other forms of shared transport and build economic growth around mobility hubs. In case of the Mumbai-Pune project, we would create an estimated 1.8 million jobs.

How do we know that? By looking at our recent past. The cities that have risen in the 20th century have been connected to ports, rail, airports — and we have no reason to doubt that an investment in Hyperloop can do the same.

For a transportation nerd, this is exciting and energising. Having the opportunity to start from scratch on the first new form of transportation in over 100 years has been one of the most challenging things I've taken on in my career...and one of the most important things I think I'll ever do.

What we need to accomplish isn't easy — it requires innovation, time, money, but the returns are massive. We only have to look at our history to see that. For this isn't just transportation, it's transformation. **BT**

Virgin Hyperloop plans to build the world's first Hyperloop system, between Mumbai and Pune

Key Takeaways

There hasn't been a new mode of mass transportation in 100 years

Hyperloop is less costlier than high-speed rail, and three times faster

Around 200 million people can be transported per year off the grid using solar panels alone

Hyperloop will cover the distance between Mumbai and Pune in less than half an hour, instead of the normal 3.5 hours

This will induce demand for other forms of shared transport and build economic growth around mobility hubs. An estimated 1.8 million jobs could be created in case of the Mumbai-Pune project



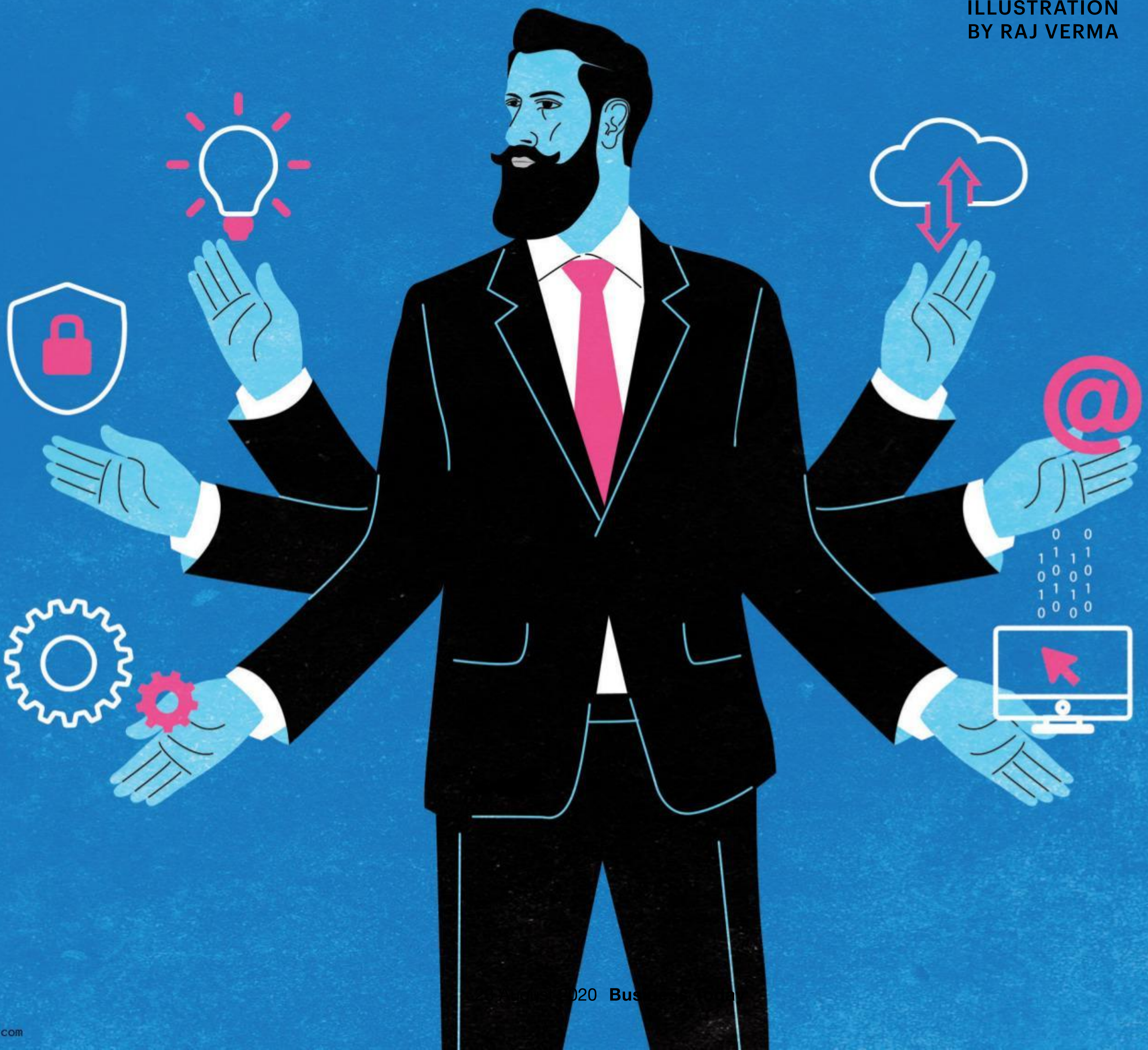


BY ANANT MAHESHWARI,
PRESIDENT, MICROSOFT INDIA

Inclusive Tech to Power Businesses

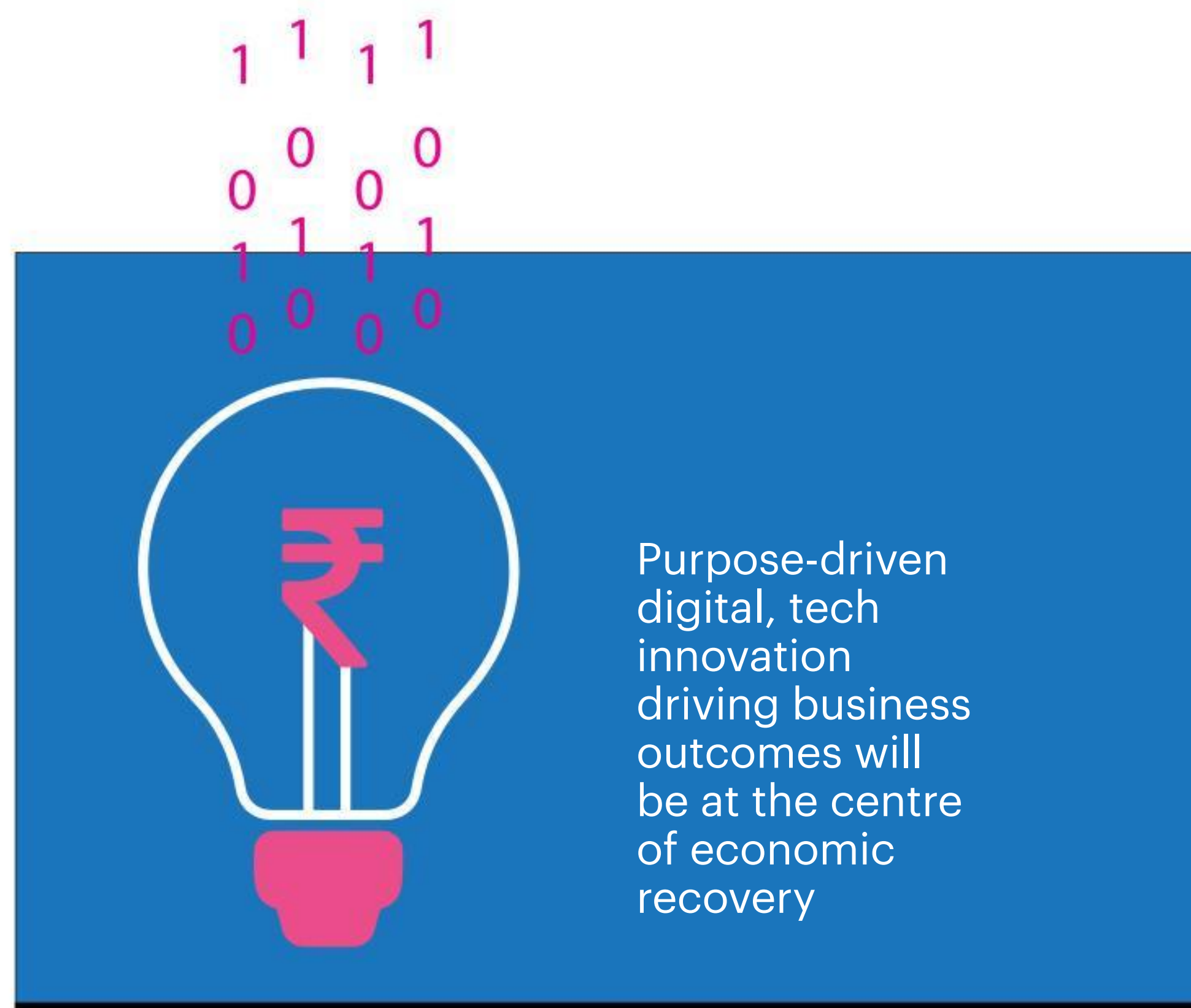
MORE DEMAND FOR TECH-ENABLED JOBS ACROSS INDUSTRIES; CYBERSECURITY, PRIVACY MEASURES TO BE BEEFED UP FOR PROTECTING CRITICAL DATA

ILLUSTRATION
BY RAJ VERMA





FUTURE OF TECHNOLOGY



In the last few months, we have seen the possibility of extremes — the shock and suffering brought on by the pandemic, and inspirational stories, of fight-back and transformation. It's been a crash course in change management. People and organisations across the world have met the challenge with resilience and innovation, using tech to respond, rebound, and reimagine a new world order.

We saw many years' worth of digital transformation happen in a few months. In this world of remote everything, organisations are using technology to stay open for business, accelerate their recovery and reimagine business success.

The pace of tech adoption and innovation is already fuelling economic recovery and will have a big role to play in reshaping education, health, public services, retail, IT services, MSME and agriculture in the country. Computing power in the Cloud and the edge are changing how hospitals will look with integrated telehealth, how contactless commerce will help the retail industry, how virtual classrooms will redefine education, how work-from-anywhere will become a norm for local and global collaboration, how data and AI-based decision making will empower governments, farmers, migrant workers and businesses. There are transformations happening today at scale that were just pilot thoughts a few months ago. We are in the midst of a tech revolution.

Inclusive Economic Recovery

Accelerating tech intensity will help us leapfrog into the future. Democratising digital and making sure that everyone has the opportunity, and that everyone is enabled,

to participate in the digital economy, are more important now than ever before.

In the post Covid world, purpose-driven digital, the art and science of leveraging tech innovation to drive business and societal outcomes will be the centre-piece of economic recovery. In these times of change, finding purpose and understanding our personal mission is a question that many organisations are thinking about. It has become essential to understand why organisations exist in the first place.

For economic recovery to be inclusive, there needs to be a sustained effort and partnership between private and public sectors, to bring the benefits of tech to every part of India — from small and micro businesses, migrant workers and farmers, to non-profits and vulnerable communities. We need deep collective commitment to drive purpose-driven digital outcomes to bring in societal change, to embrace inclusiveness, to be trusted partners for all, to engage in activities that support fundamental human rights, to address inequalities in the world, and finally, to get back to the goals of sustaining the planet for the future.

Digital Skilling

Covid-19 has intensified the focus on the skills gap. A teacher today is rapidly learning the new skills and norms of an effective virtual classroom that brings every student along the learning curve. A doctor today is transforming himself to provide comfort and care virtually. A small business owner today is rapidly learning to use new digital tools that connect networks and accelerate business velocity.

Key Takeaways



More strong measures will be in place to protect cybersecurity, privacy, and digital safety



Tools such as Artificial Intelligence will be key to building a tech-enabled environment

This digital transformation is driving demand for tech-enabled jobs across every industry, and with it the need for digital skills. One of the keys to a genuinely inclusive recovery are programmes to provide easier access to digital skills, especially for people hit hardest by job losses, including those with lower incomes and under-represented minorities.

The impact of the pandemic, especially on vulnerable communities, has been immense. With move to a hybrid work environment, organisations need to reskill their workforce, preparing them for an increasingly digital, contactless business environment. This needs a systemic transformation of the skilling ecosystem to prepare India's workforce for jobs of the future. Sustained progress will require a strong partnership between various stakeholders. Many in the tech ecosystem are already working closely with public, private, and non-profit sectors to create a vibrant digital skilling ecosystem in the country,

**THERE NEEDS TO
BE A SYSTEMIC
TRANSFORMATION
OF THE SKILLING
ECOSYSTEM FOR
FUTURE JOBS**



providing learners with the tools and resources required to thrive in a digital economy.

Ecosystem Of Trust

With tech-intensity at the core of economic rebound, trust in tech has never been more critical. Trust will be a key currency in this changed world as organisations look at hybrid operating models. Trusted digital platforms have been a huge enabler, helping organisations bring everything together. Building measures to protect cybersecurity, privacy and digital safety through this crisis and beyond will be crucial to safeguarding the interests of millions of users across India who are increasingly relying on digital platforms for their daily needs.

In this evolving scenario, trust needs to be at the heart of how organisations and governments build and deliver products and services. Responsible and ethical use of tech such as Artificial Intelligence will be key. This will need cybersecurity agencies, technology firms, critical businesses and organisations to collaborate closely with the government to put in place strong capabilities to protect India's critical data.

In summary, the economic recovery and the natural flywheel of responding, rebounding and reimagining a new world order will be accelerated by greater skills, tech intensity and trusted tech. India is blessed with a growing share of the planet's overall tech intensity, and has a unique opportunity to become an important tech engine of the world. The time is now to empower every person and every organisation in India to achieve more. This is our calling. **BT**



BY NILESH SHAH, GROUP PRESIDENT
& MD, KOTAK MAHINDRA ASSET
MANAGEMENT COMPANY

Money Will Move to Risky Assets

LOW INTEREST RATES AND RETURN ON INVESTMENT MEANS PEOPLE WILL CHASE YIELD, GO FOR COMPLEX, LEVERAGED PRODUCTS

ILLUSTRATION BY RAJ VERMA



An unprecedented crisis has gripped the world. The global economy is struggling with medical crisis, economic crisis and financial crisis at the same time. While the best brains in the medical fraternity have stepped forward to fight the medical crisis, governments and central banks are stepping in to manage the economic and financial crisis.

The Street is estimating that Covid-19 will reduce global GDP from \$85 trillion to \$73 trillion. Governments and central banks have announced stimulus packages of almost equal magnitude to support global growth. Globally, we are seeing highest liquidity and lowest interest rates. Investors are learning to live with low to negative interest rates and savers are learning to live with negative real interest rates in most parts of the world.

Governments and central banks have learned from the 1929 experience when inadequate support, lack of urgency and early withdrawal of monetary and fiscal support re-



Key Takeaways



Extremely high liquidity and low interest rates

Funds should move from developed world to emerging markets

Global investors will put India ahead of China



Investment flows will search for returns with less regard for risk.

Innovation will be rewarded through high capital flows.

Global investment flows will move away from active funds



sulted in the Great Depression. They would like to avoid the same at all costs.

The world seems to be following Japan, where liquidity has been kept surplus, interest rates have been cut to near zero levels and equity has been bought in droves without worrying about the debt to GDP ratio. These measures have failed to put the Japanese economy on the growth path but the world seems to be copying the model.

Global investment flows will be impacted in a meaningful manner with extremely high liquidity and low interest rates. Based on the available data, it will be fair to conclude the following:

- Investment flows will search for returns with less regard for risk. Return generation will take priority in a world where money is in excess supply and interest rates are low. Stocks will be bought on price to vision ratio rather than price to earnings ratio. Lending will happen looking at the yield offered. Pension funds will end up raising the bar on risk in order to generate returns that are necessary for servicing their obligations.

- Investment flows should move from developed world to emerging markets where growth will be higher and governance will be better. Growth and governance will be buzz words for attracting capital flows. Innovation will be rewarded through high capital flows.

- China, sitting on \$3 trillion of forex reserves, will have to think of innovative ways to deploy that surplus as the One Belt One Road initiative seems to be receiving setback across the world for the high cost it is imposing on recipient countries. China can't deploy its surplus flows with 'heads I win and tails you lose' strategy. Investment flows from China will face serious reservations from countries around the world.

- Two of the oldest civilisations of the world have come out vastly different from the Covid-19 crisis. China is being viewed suspiciously by the world due to export of Wuhan virus and increasingly belligerent attitude. India became a pharmacy to the world and supplied medicines to combat Covid-19. China's goodwill has come down by a few notches and India's goodwill has gone up several notches in this crisis. Global investment flows, both foreign direct investment as well as foreign portfolio investment, will increasingly put India above China in days to come.

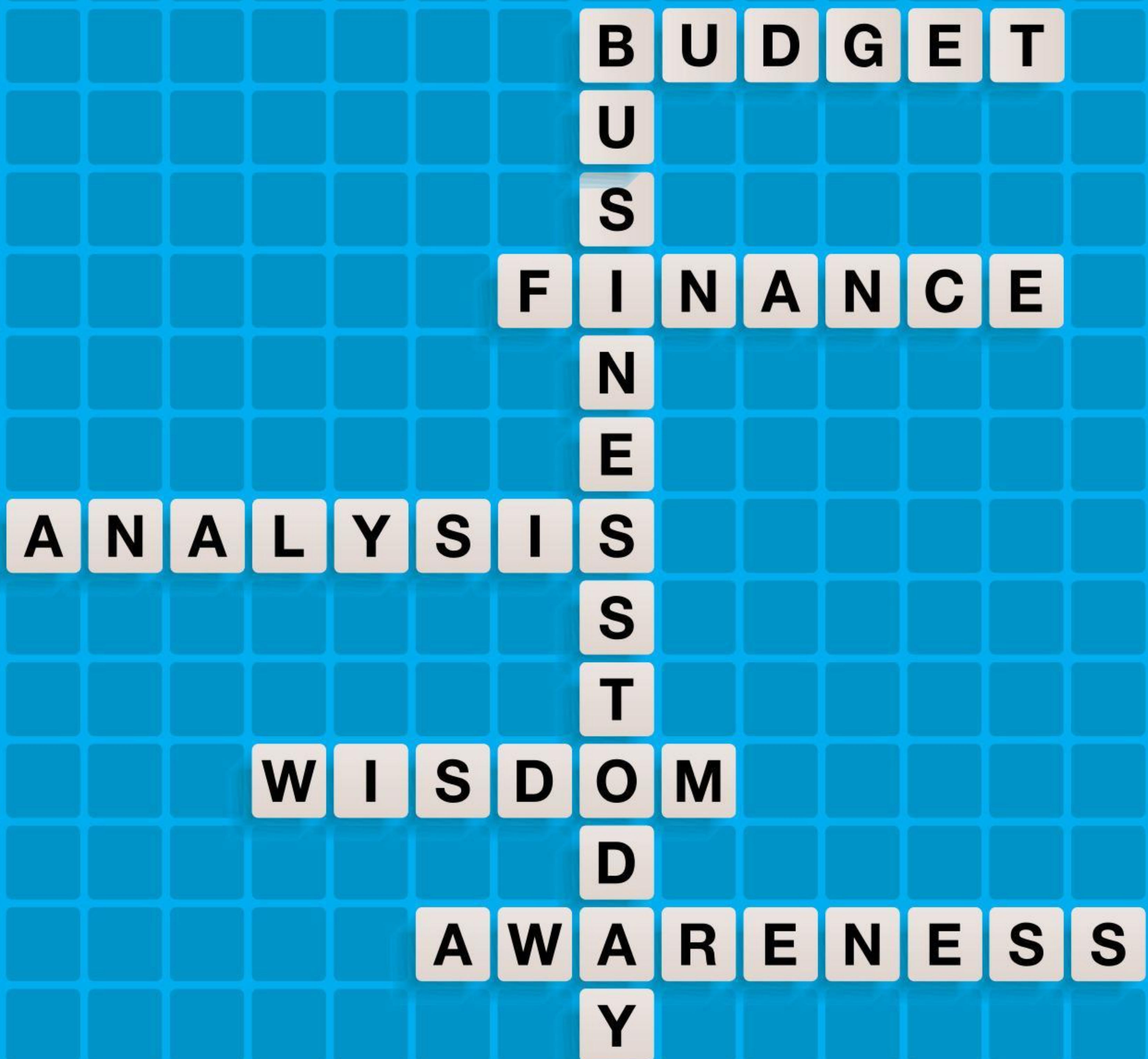
- Global investment flows will move from active funds to low-cost passive funds as active funds aren't able to generate alpha on a consistent basis. Global flows will also move from pure asset classes to alternative asset classes as structuring capabilities enhance return potential of alternative asset classes. Investment flows will shift from simple assets like long only equities, debt, hybrid to complex products like leveraged funds, long-short products, concentrated products and global investments. In a world where returns are

going to be extremely difficult to generate, search for higher returns will cross national boundaries.

- India is in an advantageous position. The world, full of liquidity and low interest rates, will be looking forward to invest in India. It will be up to India how much money it wants to accept. India must focus on leveraging domestic savings to generate higher growth. Global capital should be used if it is adding value from a non-monetary point of view. With more than \$500 billion of forex reserves, our need for foreign exchange is low. What we need is technology connect to be part of global supply chain management and multiplier effect of enhanced productivity along with capital. **BT**

**INVESTMENT
FLOWS WILL MOVE
TO PASSIVE FUNDS
AS ACTIVE FUNDS
AREN'T ABLE TO
GENERATE ALPHA
ON A CONSISTENT
BASIS**





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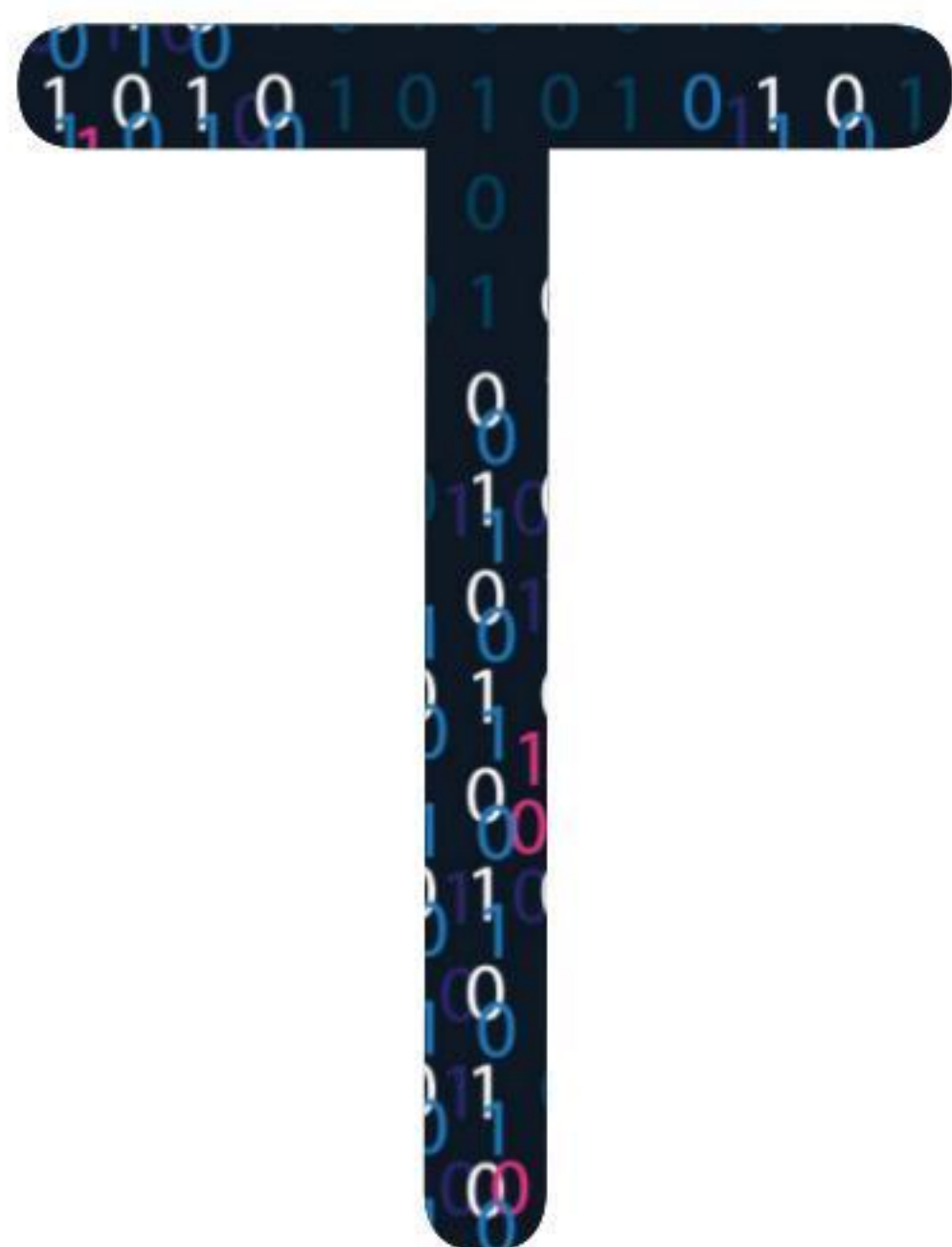
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BY KIRAN MAZUMDAR SHAW,
EXECUTIVE CHAIRPERSON,
BIOCON

Data Will Help Find New Cures



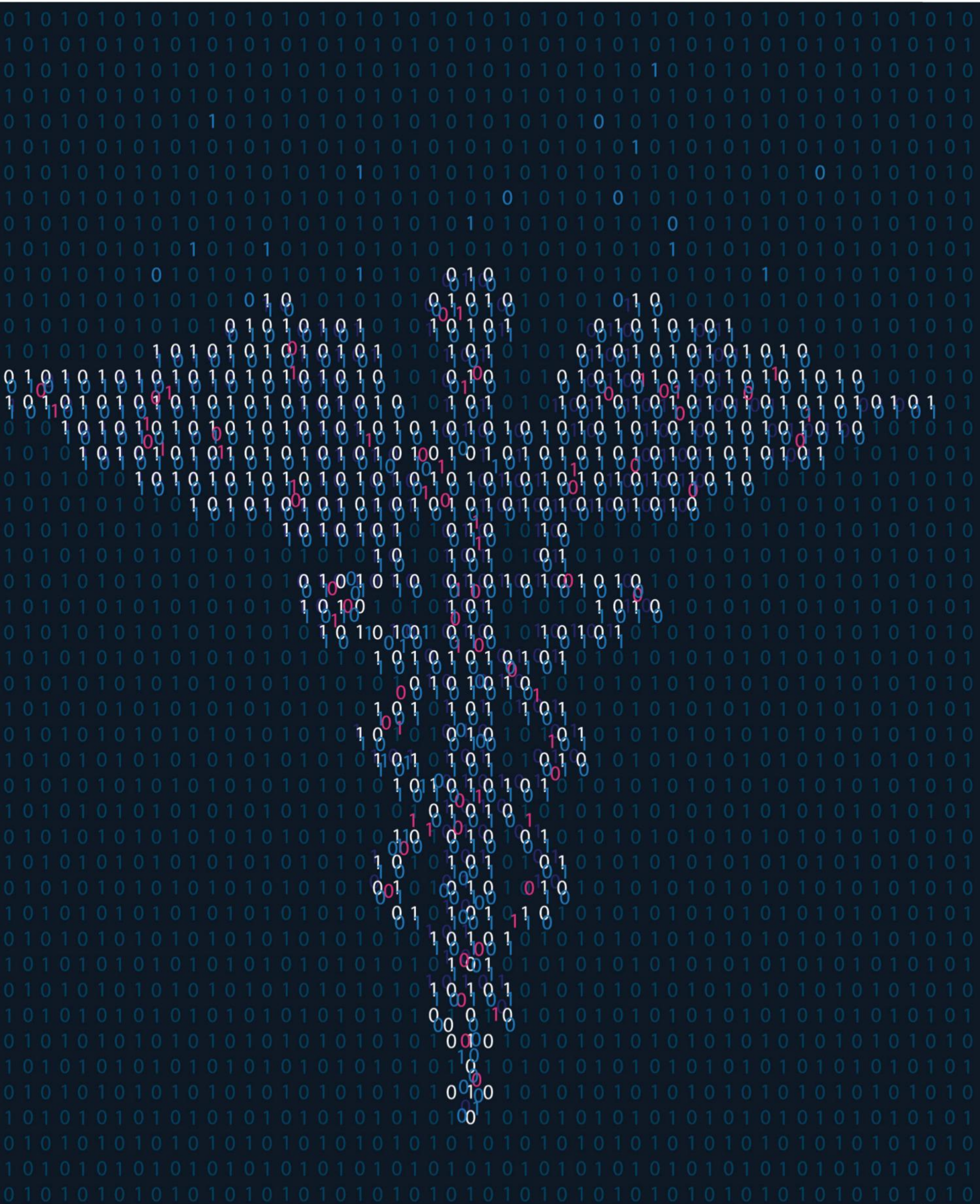
The Covid-19 pandemic is shaking up well-established business models and dispelling long-held assumptions, holding out an opportunity to reshape and democratise healthcare around the planet.

The future will call for a new approach to prevention, screening, diagnosis, therapy, monitoring and management of diseases. We are likely to see convergence of translational research in biomedicine with disciplines such as public health, epidemiology, infectious disease modelling and data science. The multi-disciplinary approach will demand a reimagining of biomedical innovation.

The availability of genetic information, together with other phenotypic as well as medical information,

MINING OF HUGE DATA
WILL ENHANCE THE
PROBABILITY OF FINDING
NEW DRUGS, MAKING
INDIA THE LABORATORY
OF THE WORLD

ILLUSTRATION BY RAJ VERMA



Key Takeaways

AI and data models will accelerate vaccine development by virtually testing potential vaccines

They will also predict which ones may work best across populations

Electronic health records and other patient data are establishing real-world evidence for effectiveness of a particular medicine

India has a huge opportunity to create and mine its rich genomic information

is helping identify new drug targets by linking particular genes and their products to individual diseases. In addition to genomic data, other data have also moved into the spotlight. Proteomics and metabolomics, as well as epigenetics and an integrated view of all of these disciplines, are gaining traction. Also, the impact of lifestyle choices is starting to be factored in.

On the other end of the spectrum, electronic health records and other patient-related information in registries and hospital administration databases are helping establish real-world evidence for effectiveness of a particular medicine.

Researchers today are relying on multiplexed data sets to make drug discovery and development more innovative, cheaper and faster.

Data Science For Affordable Innovation

Drug discovery is capital intensive, research-intensive and intellectual property-intensive with inherently long time lines.

First, researchers must identify a potential therapeutic target. Then, a drug that acts on that target must be developed, purified and tested, both on cells in a petri dish and in living animals. In order to be approved, this new drug must meet rigorous safety specifications and pass through highly controlled phases of human testing.

It could take up to a decade for a new drug to complete the 'lab to market' journey, and cost over \$2.5 billion.

With a '1 in 10' success rate, the global pharmaceutical industry is looking at data science for enhancing the probability of success and shortening timelines.

Data science is today enabling the pharmaceutical in-

dustry to throw off the shackles of the conventional one-drug-one-target-one-disease model of healthcare innovation, which is inefficient, expensive and time-consuming.

In the wake of the novel coronavirus pandemic, scientists are extensively using Artificial Intelligence (AI) and data analytics tools to find treatments for Covid-19 quickly.

The Harvard T.H. Chan School of Public Health and the Human Vaccines Project launched the Human Immunomics Initiative in April. This initiative is leveraging AI models to accelerate vaccine development by virtually testing potential vaccines and predicting which therapies might work best across populations.

Data Science Accelerates Innovation

Data science is, therefore, ushering in the next wave of drug innovation, by promising to transform every stage of the new drug discovery and development process.

Bioinformatics, a specialised branch of data science, is helping incorporate knowledge derived from genomics, proteomics and other biological disciplines into drug discovery and drug design in order to come up with revolutionary ideas for new molecules.

Data analytics is helping predict clinical outcomes, inform clinical trial designs, support evidence of effectiveness, optimise dosing, predict product safety and evaluate potential adverse event mechanisms.

Drug discovery research today is bringing together cross-disciplinary teams comprising biologists, chemists, clinicians and data scientists. Data scientists draw on their expertise in computer science and statistics to sift through gargantuan virtual databases of molecular and clinical data to zoom in on likely drug candidates that treat key mutations.



INDIA CAN POSITION ITSELF AS A 'LABORATORY FOR THE WORLD' BY LEVERAGING ITS HUGE REPOSITORY OF BIOMEDICAL AND DATA SCIENCE TALENT

• • •

Drug Discovery – Huge Prospects For India

Serendipitously, the Covid-19 crisis has led to the discovery of a deep reservoir of scientific and engineering competencies within India. The emergency has galvanised the Indian scientific community to collaborate like never before in finding interdisciplinary solutions to give the country an edge in this high-stakes battle against the deadly virus.

India's 100-plus research centres are leading the way in development of vaccines, anti-virals, diagnostic kits and novel therapies. Prestigious institutes established by the government and supported by national agencies such as the Council of Scientific & Industrial Research, the Indian Council of Medical Research and the Department of Biotechnology have been in the forefront of the battle against Covid-19, researching and developing vaccines, diagnostics, therapies, etc. This is despite historically low public expenditure on R&D at just under 1 per cent of GDP.

The hunt for effective treatments and vaccines for

Covid-19 has demonstrated the importance of having a strong clinical trials industry. India's clinical trials industry, which was projected to reach a size of \$1 billion in 2016, had suffered a setback due to regulatory uncertainties between 2013 and 2015. With regulations streamlined and clinical trial approval timelines reducing, the future is again starting to look up. Re-establishing India as a clinical trials hub can generate a million potential clinical research associate jobs.

The exponential growth in fields of AI and machine learning is leading to a huge demand for highly skilled professionals. As more data analytics projects are outsourced to India, due to dearth of such skills across the world, we are likely to see a boom in this field in the years ahead.

India has an opportunity to create integrated databases that cut across genomic, molecular, chemical, clinical and even medical administrative and insurance data. Plant genomics and plant chemistries can provide another powerful multiplexed database.

India is home to 1.3 billion people with more than 4,500 anthropologically well-defined populations. India, thus, offers wide genetic variance —

studies have shown that genetic diversity in India is up to four times greater than among Europeans. This offers a huge opportunity for India to create and mine a rich source of genomic information. In fact, smart mining of genetic data can help India transform the disadvantage of a huge disease burden into a competitive advantage by capturing and analysing this information.

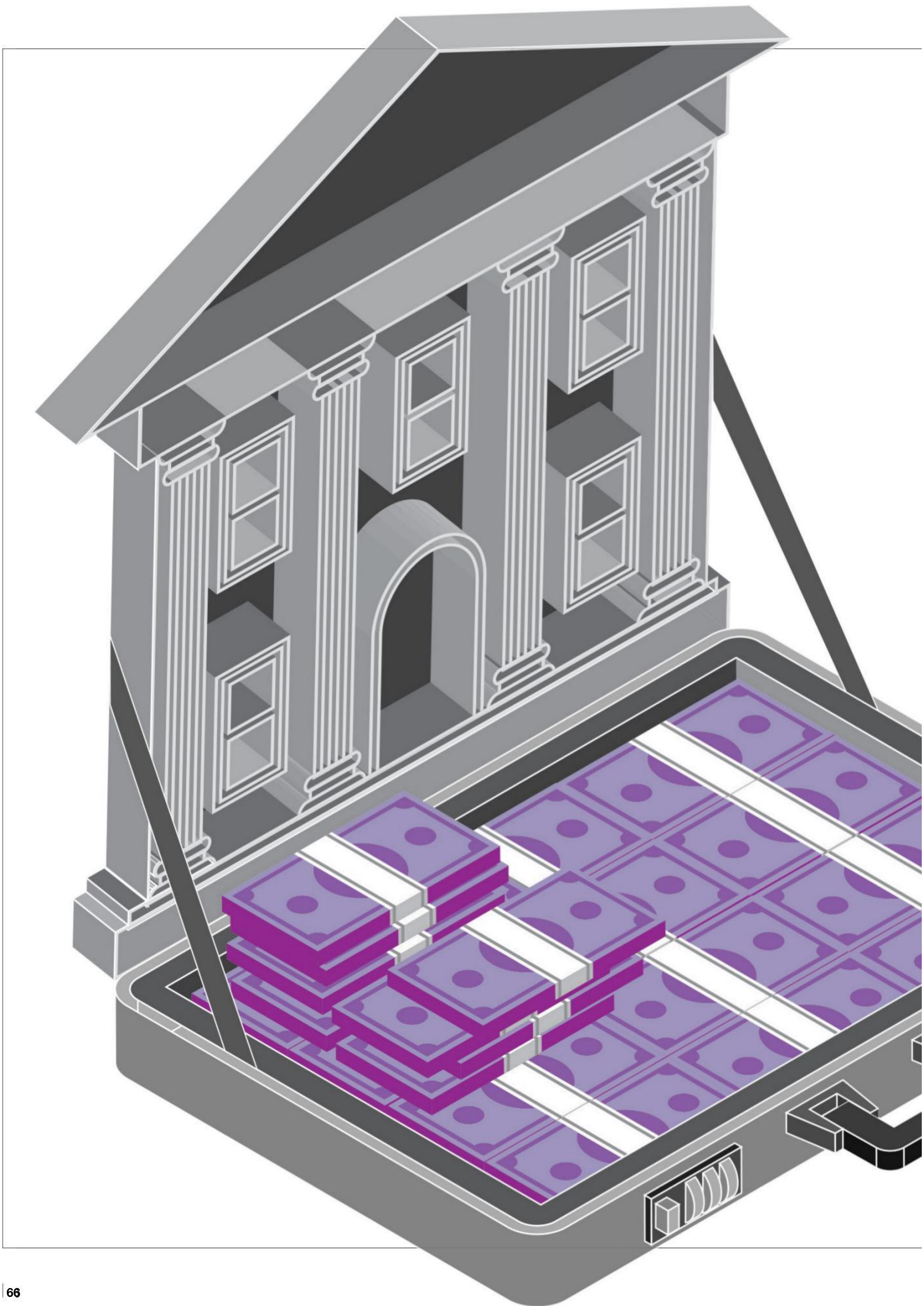
Conclusion

The Indian government needs to increase funding to research institutes, establish new research parks, support more incubators and cooperate closely with academia and industry to leverage the country's latent R&D prowess.

It can play an enabling role in incentivising the creation and mining of databases by giving tax breaks to companies involved in such activities. Such a move will give a fillip to the Digital India story as it will allow Indian companies to intelligently leverage data to come up with high value products, including innovative therapies, for global markets.

The pandemic was a moment of awakening for India because its scientific community demonstrated that it could very quickly respond to the war effort against Covid-19.

Protecting a billion-plus population from a pandemic in a country that traditionally spends insufficiently on science was never going to be easy. Yet, Indian science proved itself resilient, resourceful and proactive. In addition to being the 'Pharmacy for the World,' India can position itself as a 'Laboratory for the World' by leveraging its huge repository of biomedical and data science talent to develop affordable drugs, vaccines and diagnostics for use globally.**BT**



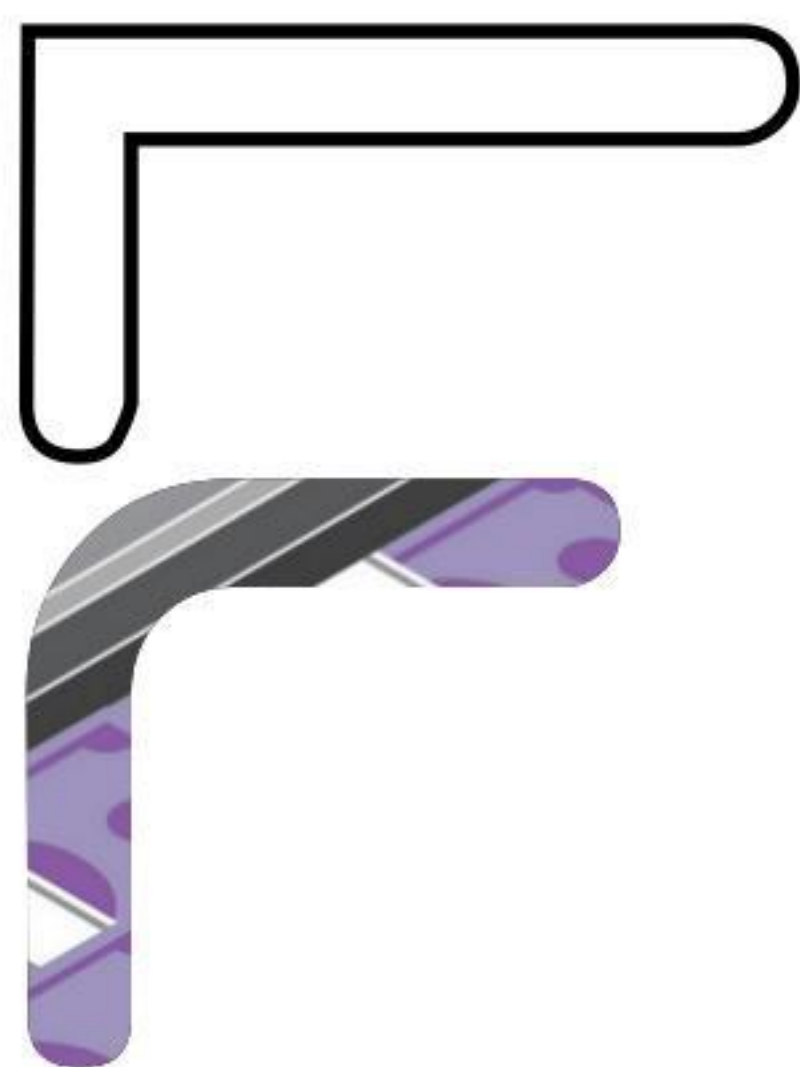
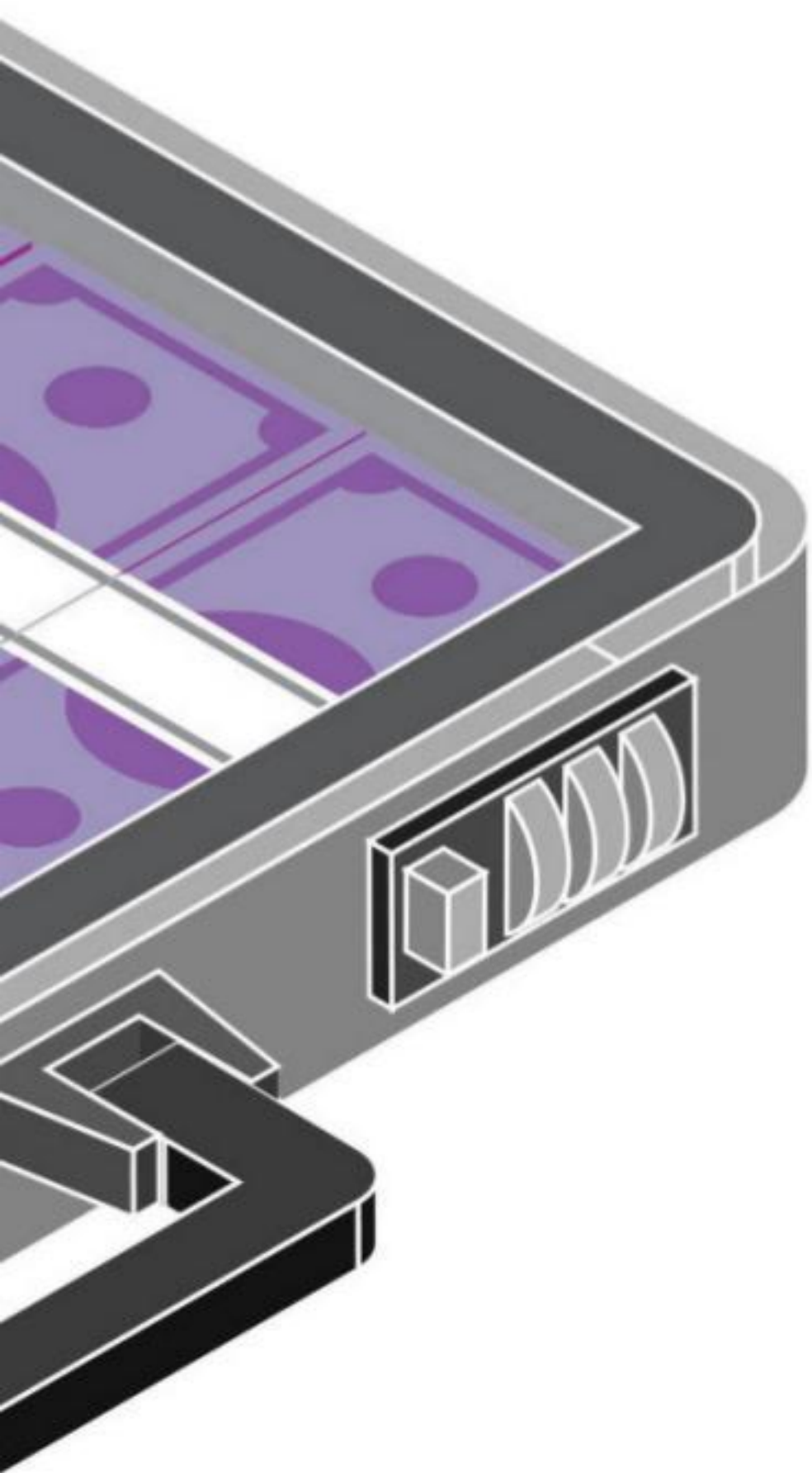


PROFESSOR MUHAMMAD YUNUS,
NOBEL LAUREATE AND FOUNDER,
GRAMEEN BANK

Get Ready For Social Business Banks

ALLOWING MFIs
TO TAKE DEPOSITS
AND RUN LIKE A
SOCIAL BUSINESS
WILL UNLEASH THE
POWER OF THE MICRO
ENTREPRENEUR SECTOR

ILLUSTRATION BY RAJ VERMA



Future of microcredit is part of the broader question of the future of financial system itself. Microcredit in India is still at an early stage of expansion, yet to overcome doubts and hesitations. Ultimately, the entire informal sector has to be addressed by microcredit, because there is no other financial service available for it. It should expand itself to formal labour, too, offering housing, education and insurance.

Access to financial services can dramatically change people's lives.

The mainstream financial system has turned into a vehicle for wealth concentration. It provides financial facilities to those who are already financially fortunate. It doesn't intend to get involved

with financially unreached people.

Grameen Bank in Bangladesh challenged the system. It pointed out that the problem is not in the credit-worthiness of the people, as is usually explained. It is because of the absence of people-worthiness of banks. It developed a daring concept of banking — banking without collateral, defying existing banking norms. This came to be known as microcredit or microfinance. India adopted it and expanded to make it the largest microcredit programme in the world. Two basic features of microcredit were skipped in India, a) taking deposits, b) running it as a social business (i.e. a business without any intention to make personal profit out of it.) Now is a good time to integrate these two features in the Indian microcredit world.

The coronavirus crisis gave rise to a new question. Can microcredit in India survive this massive crisis? Given our experience in Bangladesh, the answer is a firm 'yes'. Bangladesh goes routinely through floods and cyclones, which destroy houses, possessions, animals, businesses, even takes lives. But microcredit always bounces back. Poor people's lives are woven with endless disasters. Coping with disasters is an integral part of microcredit. Grameen Bank made sure its staff understood that microcredit is about people, not about money. Money is a tool to give the people a chance to fight for their lives.

The coronavirus crisis revealed another aspect — helplessness of people in the so-called 'informal sector'. They constitute majority of the work force of India. With the attack of Covid-19, income of daily earners disappeared, millions of migrant workers had to head home, thousands of miles away, on foot.

Economic theory has nothing to offer to people in the informal sector. Grameen Bank gave me the realisation that economic theory went completely wrong in understanding the people outside the formal sector. It saw them as people in the waiting room. I see this 'waiting room' as the powerhouse of the economy. I see the 'informal sector' as the 'micro entrepreneur sector'. This sector, consisting of both active micro entrepreneurs and potential micro entrepreneurs, is a hub of throbbing energy of human beings. It is the seed-bed of natural entrepreneurship.

Since micro entrepreneurs have never got recognition from academics, they remain unrecognised by political leaders, legislators and policymakers. On the other hand, labour got full attention from all sides.

They got their legal and political rights established long back. They even have the Ministry of Labour headed by a full minister. Nearest that micro entrepreneurs got was to have some limited recognition as 'self-employed'.

Key Takeaways



Micro entrepreneur versions of all regulations are necessary

MICRO ENTREPRENEURS NEED FULL ACADEMIC, AND POLITICAL RECOGNITION

Covid-19 revealed how vulnerable micro entrepreneurs become in a disaster situation. It is very urgent to give full academic and political recognition to micro entrepreneurs. This is the base of the entrepreneurship pyramid of the economy. It should be seen as a part of the continuum of entrepreneurship, not a random piece. If we recognise it as such, then we have to extend all the legal, financial, institutional and policy support that is given to the rest of entrepreneurs in various layers of the same pyramid, by creating an appropriate delivery structure.



Micro entrepreneur sector will dramatically change if RBI starts giving licences for social business small finance banks



Micro entrepreneurs will have to be brought under a very friendly regulatory system step by step

Lives of the most micro entrepreneurs start with loan sharks, since they cannot bring their own capital into the business. Once you get your business started with capital from loan sharks, you can hardly grow out of it. It turns out that under the cover of business, you become a slave of the loan shark. No matter how big the microcredit sector has grown in India, it is still touching the tip of the iceberg.

The entire micro entrepreneur sector will dramatically change if the RBI starts giving licences to set up social business small finance banks. In addition, the RBI may encourage all banks to create social business small finance banks as subsidiaries in each state.

In addition to social business small finance banks for micro entrepreneurs, there should be exclusively designed social business venture capital funds, social business investment funds, social business insurance companies, and so on, all dedicated to serving the micro entrepreneurs.

Micro entrepreneurs will have to be brought under a very friendly regulatory system step by step. Many micro entrepreneurs disappear from the market because they cannot cope with the existing legal and regulatory system designed for formal businesses. The government may come up with micro entrepreneur versions of all regulations so that they become appropriate for their levels of business. Parallel to creating a new regulatory system for micro entrepreneurs, there should be a separate government agency dedicated to helping micro entrepreneurs cope with all government agencies. This newly created government agency, which may be designed as the 'Agency for Assisting and Promoting Micro Entrepreneurs', will be dedicated to protecting the rights of micro entrepreneurs. If any micro entrepreneur or group of micro entrepreneurs have any problem in dealing with any regulation or any government office or agency, they will bring the problem to this office. This office will interact with all government offices on behalf of micro entrepreneurs. The staff of this agency should establish themselves as friends of micro entrepreneurs. They'll be two-way interpreters, so that communication between the government and micro entrepreneurs never becomes a problem.

Following the business practices, micro entrepreneurs will create their own 'Chambers of Commerce and Industry' for the micro entrepreneur sector to promote the interest of the sector, to negotiate with the government and other sectors of the economy, and propose appropriate policies for all tiers of the government.

The Ministry of Labour was created as a political and economic commitment for labour. It is very important to create a Ministry of Micro Entrepreneurs for exactly the same reasons. After all, they constitute more than half of the workforce of the country.

A Ministry of Micro Entrepreneurs will be responsible for bringing social and economic transformation of the sector. This ministry will also remain responsible for making sure that gradually all members of this sector graduate out of receiving any kind of traditional welfare payments for the poor.

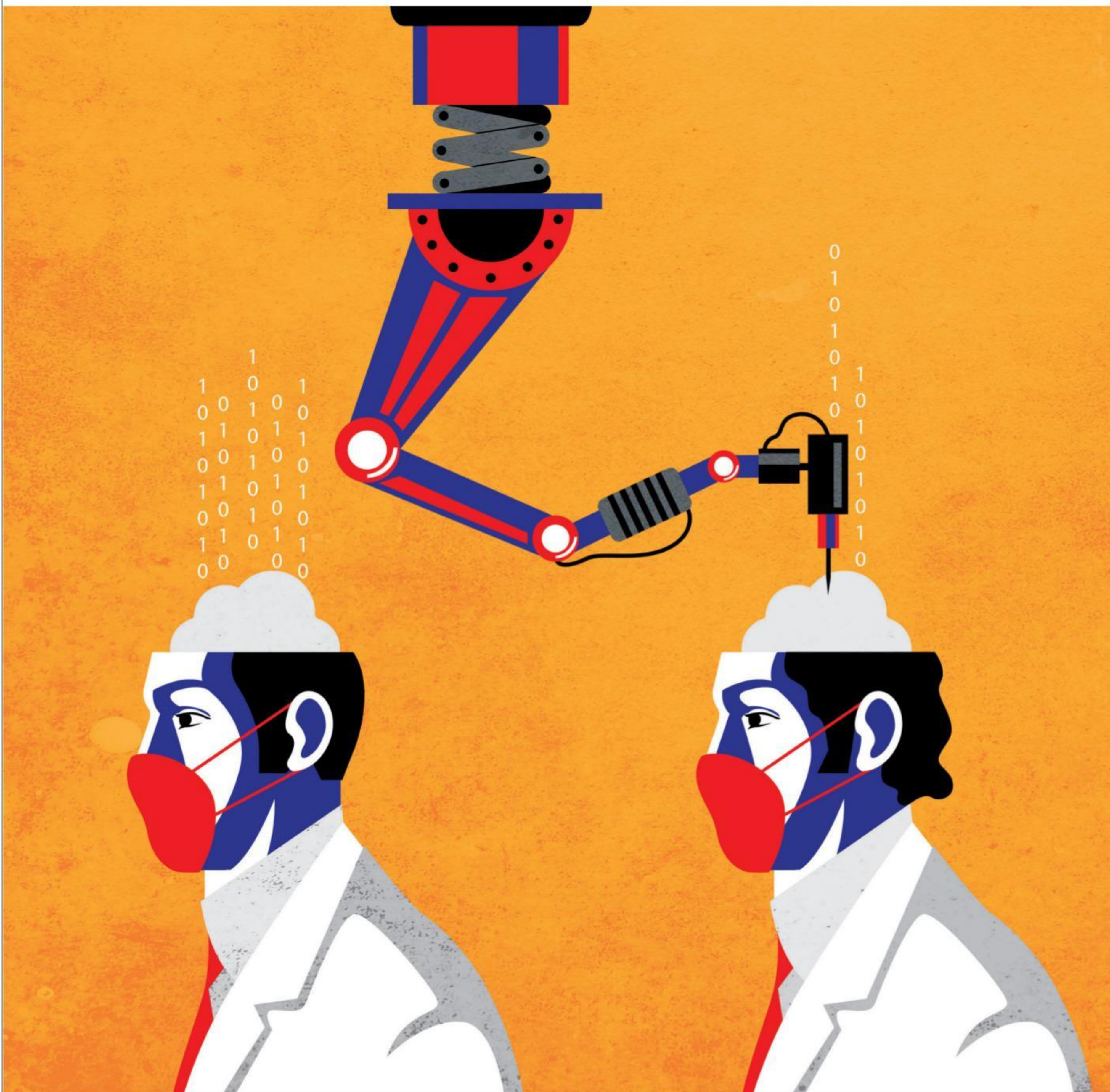
Creation of the Ministry of Micro Entrepreneurs will be a strategic step in building the rural economy as a parallel economy.

It will help create an environment in the rural economy to slow down the migration of people and integrate women and neglected segments of the society into the mainstream economy.

This ministry will give a very important message to the nation about the commitment of the government towards bottom-most people — men, women, and particularly the youth.

Microcredit has a much bigger role to play in building a people-friendly economy. Now is the time to get it ready by sorting out all institutional issues.**BT**

Leveraging Global Supply Chains



USING BIG DATA
AND ANALYTICS,
FACTORIES OF THE
FUTURE WILL MARRY
THE PHYSICAL AND
DIGITAL WORLDS



BY MAHESH PALASHIKAR,
PRESIDENT & CEO, GENERAL
ELECTRIC, SOUTH ASIA

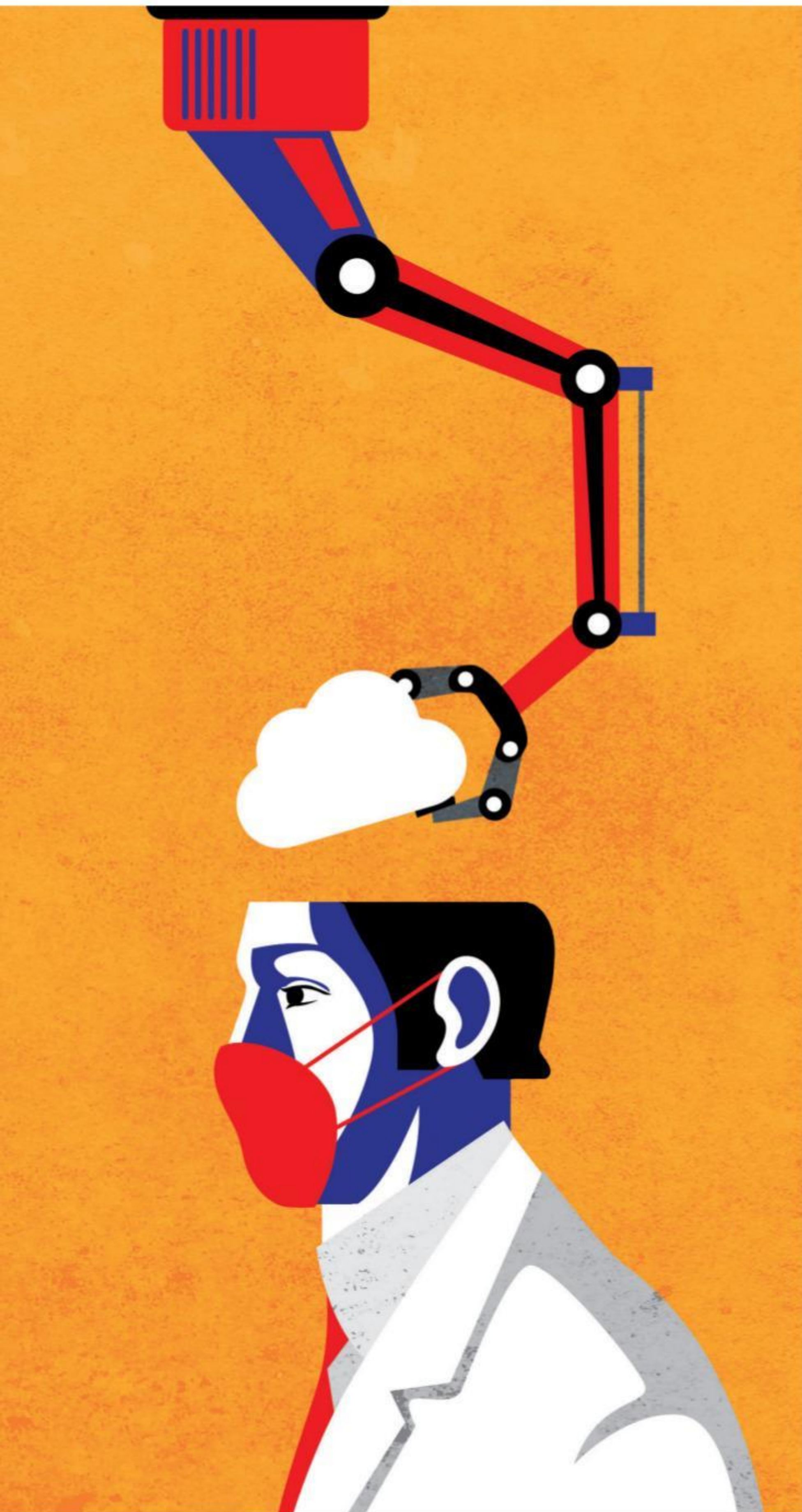
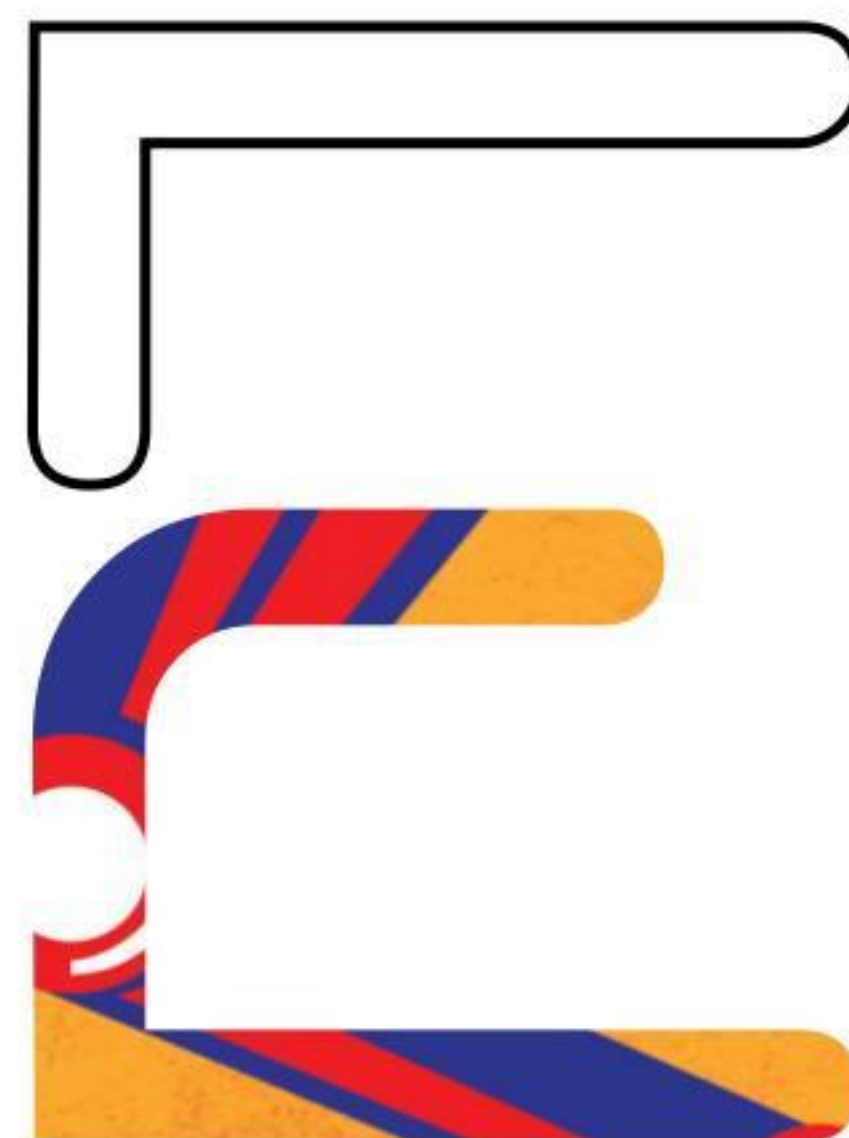


ILLUSTRATION BY RAJ VERMA



Every crisis brings an opportunity. The recent disruptions to the global supply chain have accelerated the shift towards shorter development times, shorter product life cycles and frequent adjustments to customer demands. And the entire value chain is reacting to these changes.

The challenges on labour, sourcing, distribution and delivery logistics have made companies rethink ways to keep supply chains globally competitive, with regard to safety, quality, delivery, cash and cost. As manufacturers put a premium on health and safety of their people, they also have to make short-term and long-term decisions to ensure business continuity.

India is uniquely positioned to benefit from this transition.

Capital goods manufacturing in India is around \$40-50 billion. There is potential to double that amount in the next 5-10 years. India imports capital goods worth \$40-45 billion which presents a huge import substitution opportunity. With 25 per cent share of global science and engineering graduates, India's engineering and R&D talent is sought globally.

If the right policy reforms, infrastructure and logistics support is provided, India has every reason to take advantage of the current wave of advanced manufacturing. This is indeed the time to think big and leverage the support being provided by the Indian government under Aatma Nirbhar Bharat and other initiatives.

Data intelligence-driven manufacturing

Technologies such as Internet of Things (IoT), Cloud computing, 5G, Artificial Intelligence, Additive Manufacturing, Digital Twin, Blockchain and Robotics are impacting almost every aspect of manufacturing. The true value from implementation of these advanced technologies can only be derived when enormous volumes of data is translated into insights, which can then be applied to optimise operations, including reducing downtime and manufacturing costs.

Using predictive algorithms, Big Data management and Analytics engines, the factories of the future will be able to marry the digital and the physical world. The concept of Digital Twin is increasingly finding use cases in manufacturing.

The role of R&D centres in developing and implementing advanced manufacturing techniques cannot be overstated. India's rank on the Global Innovation Index improved from 81 in 2014 to 52 in 2019. Can India move to top 20 in the next five years? Of course we can, provided we continue on this path by attracting higher investments in research & development (R&D) in the private sector, including those to support advanced manufacturing.

These technology interventions have to go hand-in-hand with reskilling human resources and strategic workforce planning. It is important to bear in mind that a learning culture is key to competitiveness.

Data by itself is no good if it doesn't get translated into timely smarter decisions. One has to retrain the workforce to embrace technology, innovation and democratise data.

To make all this work together, human capital is a critical asset. The creation of High-Performance Teams or self-governing teams is crucial where empowerment, ownership and data is provided to each person for driving customer outcomes and value through a process of continuous improvements and learning at the shop-floor.



Key Takeaways

More high-performance teams, or self-governing teams, will be created to manage shopfloors

Artificial Intelligence and Augmented Reality will be used as virtual means to train people

Data usage to increase, lean methods of production to help companies derive more value

Interoperable marketplace for end-to-end logistics needs to be in place

Artificial Intelligence (AI) and Augmented Reality (AR) are useful as virtual means of training and skill development. They enable shorter learning curves for the machine operators and robust processes due to quicker feedback to product and process development teams. Remote monitoring of the processes through AR and IoT hardware enables simultaneous launches of products in different markets.

Driving convergence of digital, lean and sustainability

Manufacturers globally are continuously striving to make their operations more efficient, more productive, which can show up to stakeholders in various ways, including an improved bottomline. Manufacturing, powered by data

TECH INTERVENTIONS HAVE TO GO HAND-IN- HAND WITH RESKILLING HUMAN RESOURCES

and streamlined by lean methods of production, allows enterprises to derive even more value, including accelerating their competitiveness, greater productivity, uncovering root causes of wastage before they become problems as well as lower costs. All of these matter to stakeholders.

Development of new materials and processes has a significant role to play in allowing use of recycled and recyclable material, thereby reducing environmental impact, disposal cost and reduction of waste. One of GE's group companies that has done significant work in the areas of material development as well as implementing lean practices and has seen extraordinary results is LM Wind Power, a leading global manufacturer of wind blades. The agility in adapting lean practices on an ongoing basis is key to empowering the machine operators to do continuous improvement to derive greater value and enhance flow. Lean best practices are very effective in simplification and subsequent digitisation of processes.

Another key aspect to take into account is sustainability and carbon footprint. In this area, LM Wind Power — a carbon neutral business since 2018 — is known for its experience and investment in blade design and manufacturing, while at the same time considering environmental impacts throughout the product life cycle. A wind turbine blade creates clean energy for more than 20 years. However, manufacturing, assembling and transporting the blades requires resources and energy and produces waste. LM Wind Power works to reduce environmental impact in all aspects of a blade's life cycle — continuously introducing efficiencies and innovative solutions in the blade manufacturing processes to reduce emissions, while also conceiving materials with a view of being able to enter into a circular economy.

Maintaining globally competitive supply chain

Supply chains can be a make or break opportunity. Leading manufacturers have highly sophisticated supply chains, critical to their competitiveness. Recent developments have been threatening global supply chains of almost all manufacturers. This has led companies to evaluate their traditional supply chain for a more flexible and even digital network. Flexible sourcing and digitisation will be important for manufacturers to building a smarter supply chain — one that stands the test of disruptions. By improving their abil-

ity to receive real-time information and analyse internal and external data, business leaders can act based on early indications of possible supply chain disruptions.

To fully understand and manage their operations, manufacturers must be able to visualise, analyse and optimise every aspect of their processes, equipment and resources. When all of these aspects come together, companies can boost production line uptime and asset performance, as well as the safety and reliability of valuable equipment. An efficient global supply chain must be enabled by seamless digital flow of knowledge, approvals, permits, licenses to reduce cycle times and costs.

Setting up these supply chains requires a lot of financing, policy and infrastructure support. Schemes such as Production Linked Incentive (PLI) for manufacturing of medical devices and Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPICES) will go a long way in promoting electronic manufacturing in the country.

It is very important to make logistics more efficient — establish deeper connectivity to and from industrial clusters and build interoperable marketplace for end-to-end logistics need. An efficient multi-modal ecosystem of transport needs to be created to lower logistics cost. The government is clearly moving in this direction. An increase in pace would help.

The government needs to continue its thrust on infrastructure building by attracting private investment and making land availability simpler. Labour reforms that make it easier to recalibrate labour contracts as well as a predictable and stable tax regime are cornerstones of an effective industrial policy.

Another area is collaboration. To deal with the unprecedented demands on health equipment posed by the Covid-19 pandemic, companies responded through unique partnerships. For instance, Ford provided technical and production expertise to manufacture a simplified design of GE Healthcare's existing ventilator to meet the sudden spurt in demand.

A lesson to learn is how the world needs to build more partnerships which leverage agile manufacturing enabled by advanced technology and improved resilience of supply systems for the future.

In conclusion, while the long-term impact of Covid-19 induced changes is yet to be understood, drawing from the lessons so far, it can be seen to be fast accelerating what manufacturers across the world are already focussed on — launching strategic initiatives to build greater resilience and flexibility in supply chains and manufacturing capabilities. It is more than ever evident that new ways of working and manufacturing will have to be rapidly adopted, digitisation of supply chains be accelerated, new partnerships and collaborations forged while delivering value to all stakeholders including to society and environment. **BT**

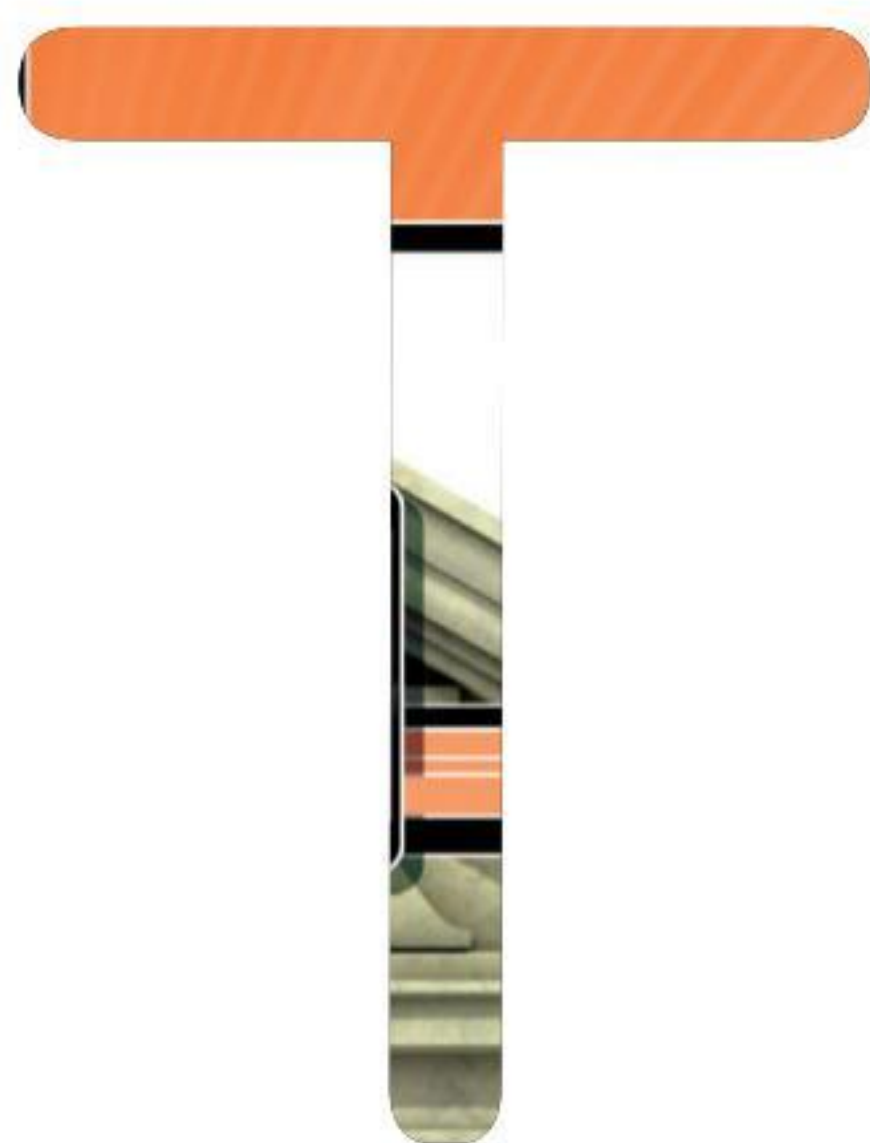


BY AMITABH CHAUDHRY,
MD & CEO, AXIS BANK

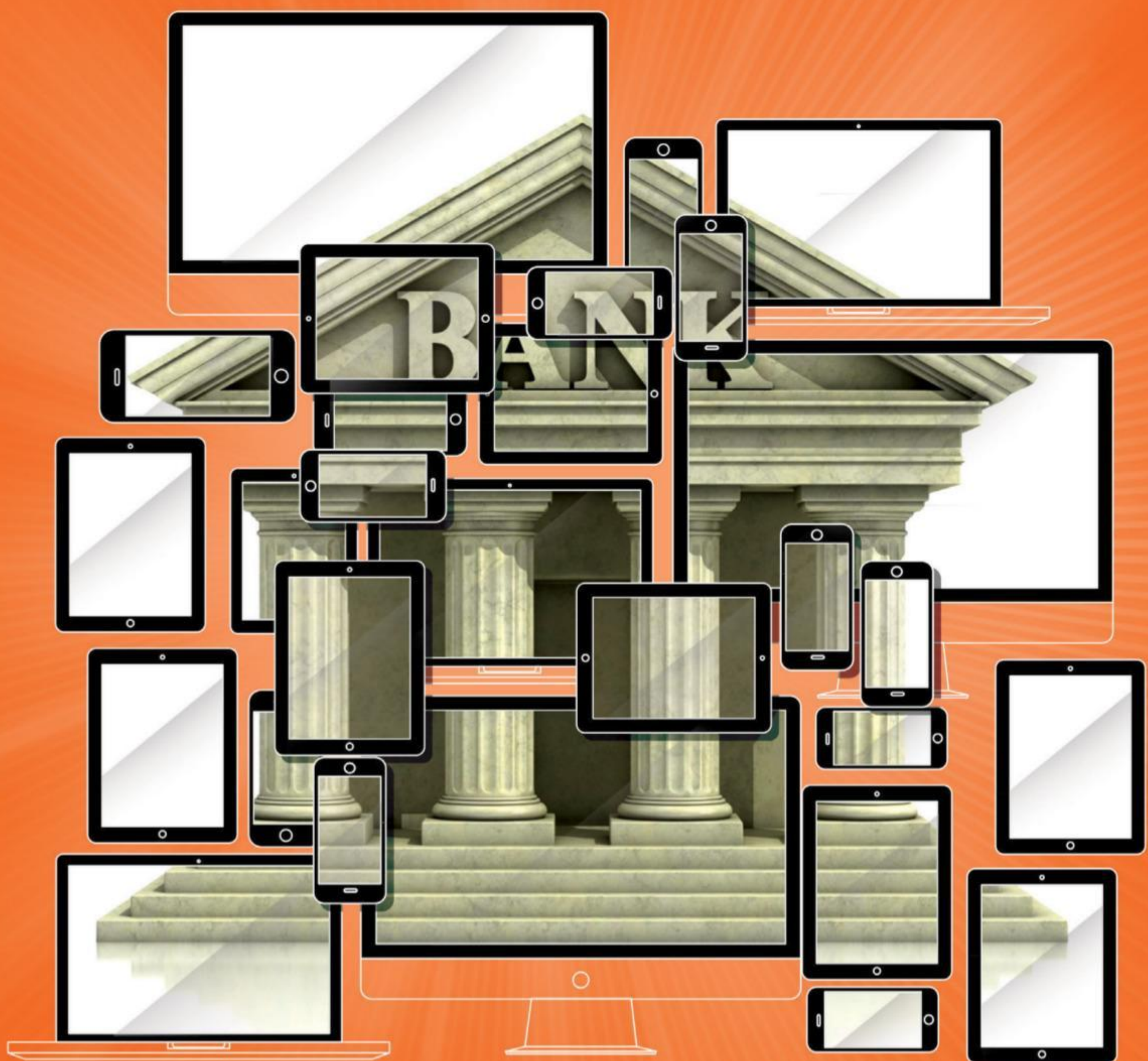
FROM USING TECHNOLOGY TO SELL FINANCIAL PRODUCTS TO BEING TECH COMPANIES THAT USE AI, BIG DATA AND ANALYTICS FOR OFFERING CUSTOMISED SERVICES, THE BANKING INDUSTRY WILL SEE A MAJOR SHIFT

Bank On, Powered by Tech

ILLUSTRATION BY RAJ VERMA



The IMF recently projected a deep (-4.9 per cent) contraction of the global economy in 2020, with advanced economies likely to be particularly vulnerable. The agency expects the Indian economy to contract by 4.5 per cent, a historic low. The downturn, stress in corporate loans in severely affected sectors, including travel, hospitality, aviation and retail, are set to impact banks' earnings across the board. But, beyond this short-term stress, the crisis will also serve as a 'tipping point' to drive long-term positive changes in the sector. In his 2007 eponymous bestseller, Malcolm Gladwell defined 'tipping point' as the "magic moment when an idea, trend, or social behaviour crosses a threshold, tips, and spreads like wildfire." Over the last few years, banks



had already started re-imagining their operations and business models. Covid-19 has only accelerated it.

Digitisation In Focus

If banks were able to function seamlessly during the lockdown, it's because most banks have been digitising their operations in the last few years. Digital banking — be it Netbanking or use of mobile apps — has already become the norm for over 70 per cent of customers. Whether it is monitoring account balances, fund transfers, ordering cheque books or getting statements, most of the routine transactions were already digital. Social distancing and reluctance to visit branches only added to the shift.

Digital payments have also surged. The transfer of

**DIGITAL BANKING
HAS ALREADY
BECOME THE
NORM FOR OVER
70 PER CENT OF
CUSTOMERS
IN INDIA**



money between people or from people to merchants contribute to the country's GDP. The volume of retail digital payments (credit/debit spends, UPI, IMPS and Netbanking) as a ratio of GDP has moved from 25 per cent in 2015 to 67 per cent in 2020. The growth rate of digital payments has averaged 31 per cent in the last five years.

United Payments Interface (UPI) was launched in 2016 and has since then been a game-changing method of payment in terms of ease, experience and security. UPI payments are contactless — whether online or offline through QR scan — and has led to around 1.34 billion transactions in June 2020, the highest ever. The next 12 months will see this number dwarfed.

Similarly, contactless transactions on cards have now crossed 17 per cent of offline transactions in the country, and is growing rapidly — from 15 per cent in January 2020 to 17 per cent in June 2020. Another trend has been the movement of commerce from offline to online in the last four months. Online spends have moved up from 38 per cent in January 2020 to 47 per cent in June 2020.

Today, you don't even have to visit a bank branch to open an account. All major banks offer 'digital' accounts, with online Know-Your-Customer (KYC) norms. The Reserve Bank of India (RBI) has now allowed video KYCs. A customer can open an account in minutes, get a virtual debit card and start using it right away. Interestingly, this trend towards digital banking is not just increasing in the retail segment. Today, almost half of commercial loan transactions happen over digital channels.

Big Data And Analytics

Having digitised their operations, banks have access to massive amount of data on customers, ranging from income and spending patterns to preferences and channels of transactions (online, mobile apps, ATMs, credit/debit cards, etc). They are using this data smartly, to analyse and segment customers, and offer them specific products. Such analytics also help in risk assessment, compliance and fraud prevention, as well as in receiving customer feedback.

Evangelists of Big Data & Analytics talk about how performance over three key matrices — V's in their jargon — can give you an edge. These include: Variety in types of data that you can process, velocity of how new data is added to the system and processed, and volume of data. The idea is that if an enterprise performs well on these three V's, then it adds a fourth V — Value.

There is, however, another less talked about element — use of public data. India has over 1.25 billion people enrolled on Aadhaar. The government's Digilocker initiative has over 30 million users, who have uploaded over 3.5 million documents. The Goods and Services Tax (GST)



NEW WORK MODELS THAT PROMISE GREATER FLEXIBILITY TO EMPLOYEES WILL BE IN DEMAND

• • •

network has 380-million returns filed and over 1.42-billion transactions carried out using UPI. Add to this the Sahamati Account Aggregators and the proposed Public Credit Registry, and you have an ecosystem rich with data. Banks can use this public data — only with permission from individuals — to tailor financial offerings, be it loans, invoice financing or personal finance solutions, thereby providing the much-needed customisation. I see this as the next big game-changer post-Covid.

AI and Blockchain

Most banks have already started using Artificial Intelligence (AI). As a retail customer, you may have experienced this in case you have encountered a Robo-adviser for investments. In the years to come, AI is going to change, not just banking fundamentally, but all financial services.

So far, the key to becoming an industry leader was to have a large asset base and massive distribution networks through bank branches that could push standardised products. AI will change this to a considerable extent. Asset size, though important, will not be sufficient. What



Key Takeaways

Big Data analysis to be used to examine, segment customers

More Robo-advisers will provide investment advice

Customised products, not asset base, to increasingly drive banks' revenues

Blockchain technology to be critical for reduction of fraud, faster payment settlements

Software engineers to form a large chunk of banks' staff strength

will also be critical is the volume and scale of data flow. Revenues will come not from standardisation, but highly customised products. This is because customers will be able to shift between providers with ease, and banks will have to create a moat around their clients by providing better and more tailored benefits with a suite of customised products.

Blockchains, or distributed ledger technologies, would be critical for banks in areas ranging from reduction of fraud, disintermediation and hence faster and cheaper payments processing, clearance and settlement systems, as well as products such as trade finance.

New Talent Stream

In popular imagination, a banker is 'boring', and a software programmer is 'cool'. That is set to change with the talent profile undergoing a metamorphosis, thanks to the digital wave. Today, banks are hiring more software engineers than ever before as they look at insourcing a lot of software development, especially when it comes to areas such as products. I remember, some years ago, the head of technology at Goldman Sachs said the bank employed more engineers than Facebook. This might soon be the case with Indian banks too.

With work pivoting around digital, workplaces and workforce must also evolve. For talent management, having addressed some of the challenges that were 'here and now', the focus will be on the 'next and beyond'. New models that promise greater flexibility and choices to employees, while delivering operational resilience, cost conservatism, innovation through technology and talent flexibility for organisations, would be in demand.

Challenges Ahead

There will, of course, be challenges along the way. The

first and foremost is the digital divide in India, where a large section of our population still does not have any, or even poor-quality digital connectivity. But all this is changing rapidly. Over the last few years, as data speeds increased and prices dropped, Internet usage surged. According to a 2019 survey, Internet penetration in rural areas was growing at 35 per cent annually. I believe over the next few years India's so-called digital divide will be history.

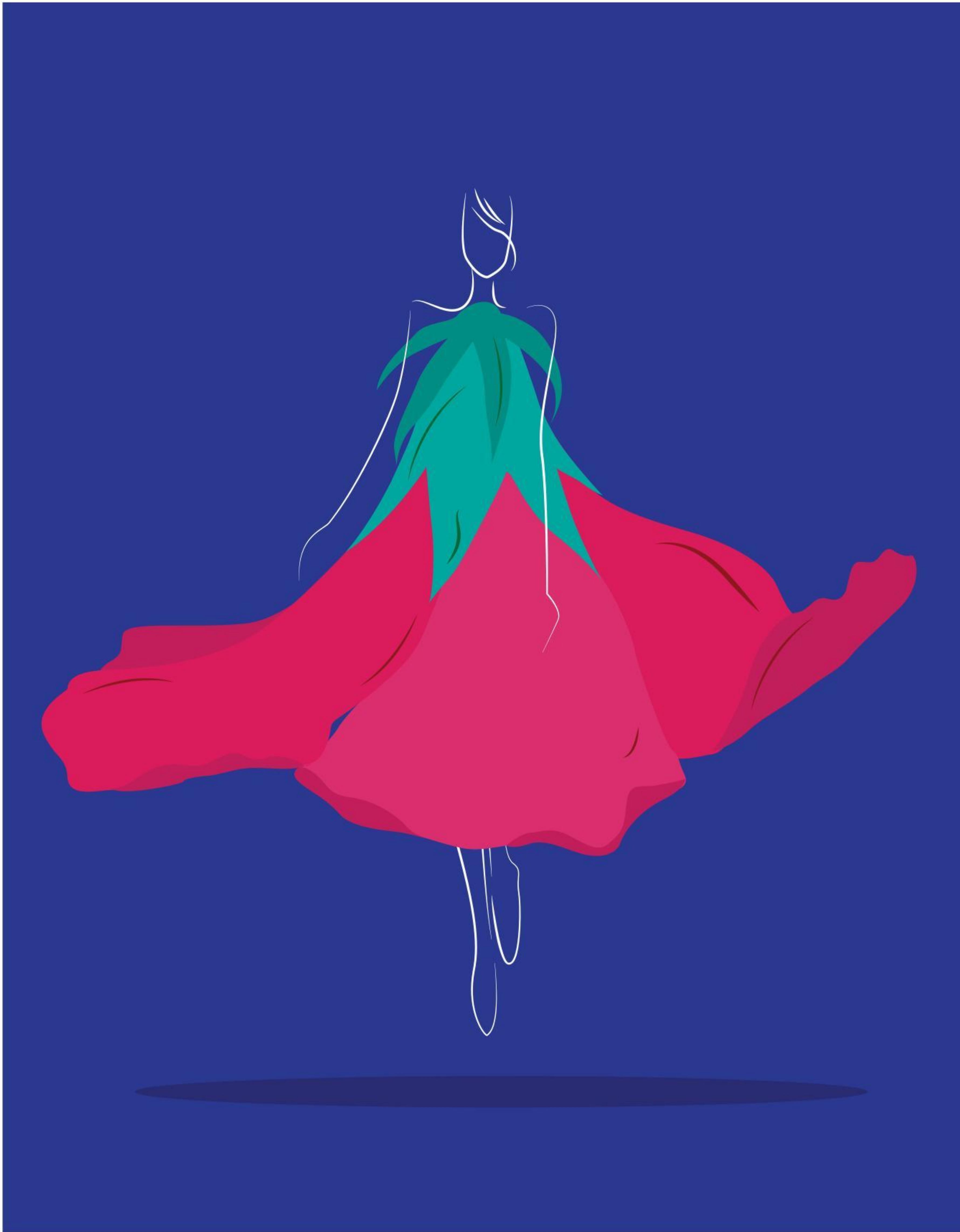
The other challenge is how different sections of the population take to technology usage in banking. One fear was that senior citizens might be left out. This is now proving to be unfounded. For most major banks, mobile app penetration among this segment of customers is around 50 per cent and rising.

India's multiplicity of languages provides a challenge while designing user interfaces for digital banking platforms, but this is hardly an insurmountable problem. As demand for regional language interfaces grows, banks will learn to adapt and change.

The big challenge is about the existing talent pool. How will banks use this talent pool in an increasingly digital environment? I truly believe this challenge is also an opportunity. Today, a significant percentage of a bank's total number of employees is focused on operations, often in repetitive tasks that are unproductive. With proper training and automation, this talent and its time can actually be redeployed to serve customer needs, offer them advice and financial products. This is already a key focus area for learning and development teams across banks.

So, what will banks of the future look like?

I look at Amazon for inspiration. It started as an online bookstore. Today, it is a tech giant that also sells books. Similarly, I see banks morphing from enterprises that use technology for selling financial products to tech companies that also meet customers' needs for financial services and advice.**BT**



Sustainability On The Sleeves

AI WILL FORECAST DEMAND TRENDS, COMPANIES WILL STRIVE TO USE FAR LESS WATER/CHEMICALS WHILE THE NEW-AGE ENVIRONMENTALLY AWARE CONSUMER WILL BUY CLOTHES THAT DO NOT HAVE TO BE DUMPED AFTER A SHORT PERIOD

ILLUSTRATION BY RAJ VERMA



FUTURE OF APPAREL



BY CHIP BERGH, PRESIDENT AND
CEO, LEVI STRAUSS & CO

Our industry is being forced to adopt to a new reality because of coronavirus. We're already seeing consumers think, act and buy differently, while holding greater expectations – and demanding more from – the brands they patronise. That's something we have to respond to. We know we will get through this and emerge stronger. But we also know that we have to earn the right to be the brand consumers turn to in this moment, because of our products, our history, our sustainability programmes and our values.

Conscious Consumption

In many elements of our business, and our world, the pandemic is speeding up transformations that were already under way. That applies to consumption habits as well. People are recognising the true cost of “fast fashion,” which encourages people to buy a \$4 tee shirt or dress, wear it a few times, then toss it onto the growing piles of discarded garments in landfills.

The pandemic is convincing more and more people – especially the young – that it's better to buy fewer, more versatile, higher quality products, items the consumers can imagine wearing for years before handing down to their children.

That plays to our strengths, and we'll be talking directly to con-

sumers more about this in the coming months. Our products have always been built to last, and we have every intention of continuing to make great jeans and trucker jackets and other garments that people will hold on to for a long, long time. That's part of heritage. It's also how we meet consumers where they are today.

Looking to the Future, Together

You see an organisation's character in times of crisis. I've been so impressed by how our teams have responded to the coronavirus crisis. We are meeting the moment by coming together, focusing on the things we can control and playing to our strengths. At the same time, I've been thinking a lot about what matters beyond this crisis. Our fans in India — where we opened our first store 25 years ago — have given us permission to continue advocating for our values of equality and inclusivity. We see that as a privilege and will continue to use our voice and impact the more pressing issues of the day, whether it's supporting the Supreme Court decriminalising homosexuality or honouring women change-makers on International Women's Day.

We're also trying to help our communities. In April, we committed an initial \$3 million to relief efforts, with focus on employees, community partners and supply chain workers, building on programmes already in place. In India, for instance, the Levi Strauss Foundation provided a grant to Swasti's relief work. In addition, we have shared, and will continue to update, augmented health and safety guidelines with our suppliers to help them keep their people safe through the pandemic.

The way forward is clear. We have to make great products as sustainably as possible. We have to drive innovation and respond to changing consumer behaviour. And we must continue to support those who need assistance. This is an opportunity to reimagine the world that could be.

Health, Safety and Sustainability

Consumers are going beyond shopping, though, and looking ever more closely at brands' sustainability practices. The toll of the pandemic cannot be understated, but at the same time, the images of blue skies over Delhi, dolphins swimming in the Venice canals and less crowded roads across the globe have highlighted the impact of the choices we make on



Key Takeaways

Companies will double efforts to use less water, chemicals

Use of AI for forecasting demand

Digital and physical retail will come together

Consumers are realising the environmental cost of use-and-throw products

THE WAY FORWARD IS CLEAR. WE HAVE TO MAKE GREAT PRODUCTS AS SUSTAINABLY AS POSSIBLE



the health of the planet and its people.

This for us is an opportunity to double down on our programmes on climate, water, workers, chemicals, and more. What we've found is that our pursuit of more sustainable products and processes has unlocked game-changing innovations, including our waterless finishing techniques, which have helped us save more than 3.5 billion litres of water over the past decade, and introduction of the world of "cottonised hemp," rainfed hemp fiber that is treated to look and feel just like cotton.

Even Project F.L.X., the operating model developed in our Eureka Innovation Lab that utilises laser technology to finish jeans, was born of an effort to use fewer chemicals in the finishing process. It does, in fact, reduce the number of chemicals needed from more than one thousand to about a dozen. It has also provided us with an agility model and digital sampling capabilities that can, we believe, reduce the time and materials needed for physical sampling. This will help us move from the industry's predominant sell-what-you-make business model to a make-what-you-sell model that brings us closer to the consumer, closer to trends, and makes a shorter go-to-market calendar possible — all with the same built-to-last quality Levi's is known for. Our "local for local" product engine in India, where we source 95 per cent of our products for the market and the Middle East, provides an ideal opportunity for us to build on this model.

Digital Transformation

Over the past decade, we have invested heavily to strengthen our position as an omni-channel retailer. As we've grown our direct-to-consumer channel, we've built our e-commerce and loyalty programmes, deepening our connection

with our fans. We're also accelerating our overall digital transformation and maximising the use of artificial intelligence for forecasting.

And we've seen a tremendous response to our e-commerce offerings, such as our recent Levi's® x Super Mario collaboration. We're not forgetting brick-and-mortar, however. Our stores remain a central focus, the upheaval of the pandemic notwithstanding. We're working to bring the digital and physical realms together to deliver a unique experience for consumers, wherever they interact with us. That is, after all, what they expect of us. **BT**



C.K. VENKATARAMAN,
MD, THE TITAN COMPANY

Number Crunching to Drive Consumer Insights

COMPANIES WILL HAVE TO DEAL WITH SHIFT IN DEMAND DUE TO WFH, FALL IN CONSPICUOUS CONSUMPTION, RISE OF A MORE SOCIALLY AWARE CONSUMER

ILLUSTRATION BY RAJ VERMA





It's 17th Jan 2021. Niraj Bajaj is working from his home in Navi Mumbai. He is VP, Corporate Banking, at one of India's large private sector banks. During the Covid crisis, his bank understood the power of work from home (WFH) and significantly reduced its office infrastructure in view of the obvious multiple benefits: lower rental and opex, increased employee work-life balance and less exposure to pollution and traffic for employees. The result is that Niraj now gets to work two days a week from home. This is one impact of Covid that is here to stay. So, he now dresses down on at least one of those two days, aligned to internal meetings. As it is, even in a formal environment like a bank, people have become used to seeing colleagues in tees, also acknowledging that what really matters is the work that all of us do, leading to fall in need for formal clothes and accessories. This is, at the aggregate level, a big challenge for companies that are in that business.

In Gurgaon, Sheela Biswas is reflecting on how long it's been since she has been to a casual dinner or party. The hot-shot lawyer at one of India's marquee firms vaguely remembers her hectic social life not too long back, but the memories are not sharp. The worries about

Key Takeaways

Fall in need for formal clothes/ accessories due to more work from home and less socialising

Mindless consumption to be a thing of the past

Companies will focus on creating "formal" WFH wear

Companies need to step efforts in data collection, analytics and CRM so that they can tap into consumer psyche



large gatherings continue to keep socialising intimate, restricted to close friends and relatives. Events have simply dried up. Sheela misses all this to some extent and also realises that she does not need so many clothes and accessories that she used to buy to dress up for all those occasions. But she is glad that this situation will go away soon, for people are social animals and get their energy from being together. But till then, all those people will perhaps spend less on those things. This is again a challenge for

INVESTMENT FLOWS WILL MOVE TO PASSIVE FUNDS AS ACTIVE FUNDS AREN'T ABLE TO GENERATE ALPHA ON A CONSISTENT BASIS

• • •

those companies, but fortunately, not for too long.

Down South, in Bangalore, Aarti and Arun Rao are discussing what they should buy for their 5th anniversary. They met in 2014 in the same IT firm they work now and got married two years later. Unlike earlier times, the discussion this year is intense, going beyond products and brands. They wrestle with conspicuous consumption, sustainable living and the inequality around them. After two hours of deep conversation, they decide not to buy anything. We have enough, they say to each other. Reflections during the long lock-down in India, combined with the very visible misfortunes of millions all around, have made us all ask what really matters in life and perhaps slowed down materialism as we know it.

These are three forces that are going to have an impact on demand for fashion and lifestyle products. The WFO/WFH hybrid model is certain to sweep the world and will have a permanent impact on the need for formal products. The reduced socialising is surely a temporary phase and will hopefully disappear in a year from now. The slowing down of materialism is honestly an imponderable at the moment and is mostly anecdotal. But we need to dig deeper to understand that better.

There is a lot of action happening on the delivery side

(try@home, video demo, endless aisle, VR/AR, assisted chats....) to overcome the fear of shopping. However, the bigger sales challenge perhaps lies on the demand side, and not the delivery side.

So how can individual companies fight these challenges?

Work from home is a reality, yes, but can we create “formal” WFH wear? People are now comfortable not only wearing but also seeing others in semi-formal, even casual, clothes. Can companies start designing apparel and accessories for the “above the keyboard” view? (On a lighter note, may be Raymond can create a new suit option with slim shorts made out of the same fabric as the jacket for Niraj Bajaj to wear for a virtual client meeting without worrying about his shorts being caught on camera!)

W

hile Sheela may be cutting down on her special occasion products on account of lower socialising, we can surely persuade her husband or brother or mother to gift her a stunning pendant for her 40th birthday. Sheela may be hesitant to buy, but would love to receive! Which means that companies need to step up their efforts in data collection, analytics and CRM, so that they are able to not only reach her husband directly, but do that a month ahead of her birthday and suggest a style of jewellery that has been determined from her previous purchases. Yes, gifting is a big flanking opportunity.

While there may be some kind of “slowing down of materialism” that Aarti and Arun are exhibiting, companies with a demonstrated conscience will win their hearts and minds and fight more effectively for a higher share of a reducing pie. The manner in which a company is dealing with environmental issues within its operations and outside, the extent to which a company is supporting communities within its operations and outside, will have a significant bearing on the trust and respect it generates from the new segment that Aarti and Arun represent and will directly flow as additional business. It is time for companies who have already had a head-start in these areas to step on the gas.

To sum up, three large forces will have an impact on demand for fashion and lifestyle products over the next few years. Their life may be just a year, somewhat longer, or for good. Companies need to strengthen their consumer understanding processes, dig deeper than they have done before and glean insights about what all is below the surface, what all likely changes in behaviour need to be inferred, predicted. And accordingly innovate for this new world. **BT**





BY SUMANT SINHA,
CHAIRMAN & MD, RENEW POWER

Renewables To Power 'Green' Recovery

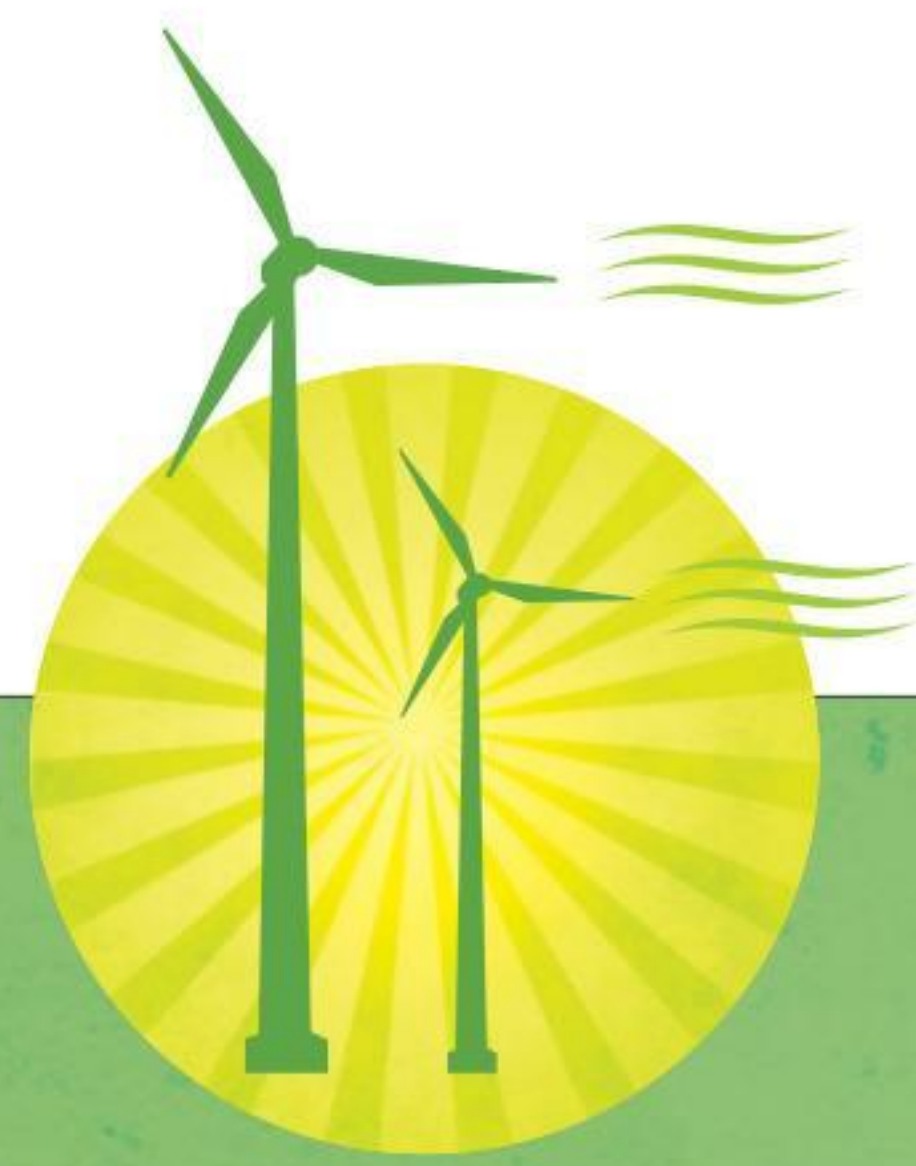
ILLUSTRATION BY RAJ VERMA

SHIFT FROM FOSSIL-BASED ENERGY
SOURCES, DECARBONISATION OF
INDUSTRIAL SECTORS WILL DRIVE CHANGE



Renewables are the future of the energy sector. We are in the middle of a great energy transition where we are moving from polluting to clean sources of energy. The world's total renewable energy (RE) capacity is currently around 2,500 gigawatt (GW), of which solar and wind account for nearly 50 per cent each. Last year, we added 180GW of renewable capacity — an increase from just 20GW of annual addition nearly 10 years back. What makes this growth even more special is the increasing affordability of renewables — which are now cheaper in terms of levelised cost

Key Takeaways



Solar and wind energy to be hybridised, resulting in higher capacity utilisation factors



Disruptive innovations in technology will propel RE's growth

of energy, or in other words lifetime operations cost, than thermal-based power.

Technology Gains

The cost reductions have been largely driven by efficiency gains through technologies. Consider this — the price of PV modules has declined by nearly 90 per cent in the last 10 years. This has led to a steady flow of investments in the sector — last year, over \$300 billion was invested globally in clean energy, a 33 per cent increase since 2010. In fact, according to Bloomberg New Energy Finance, the global investment in RE actually increased by 5 per cent in the first half of 2020, compared to last year. The investment has gone up despite the setback due to Covid-19, showcasing the resilience of the sector and the its importance among the global community.

India As a RE Hub

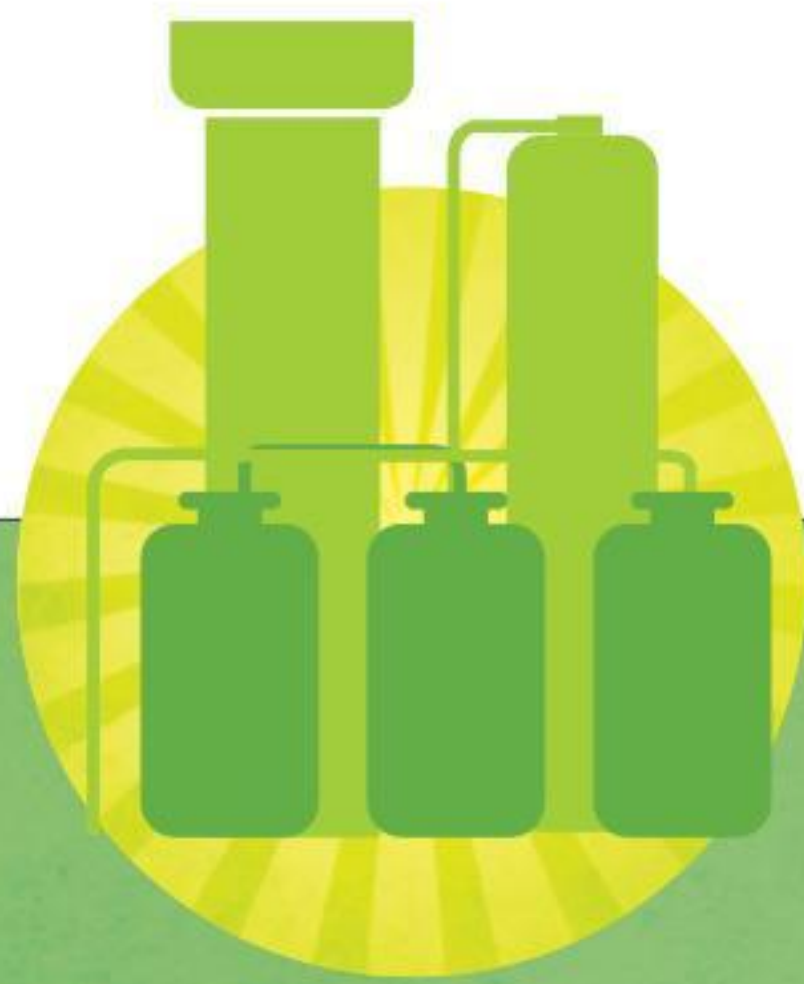
India is at the centre of this global energy transition and is now a major renewables hub, after carrying out an aggressive expansion in capacity. We are the world's fifth-largest producer of clean energy with an installed capacity of 87GW, the sector having grown at over 20 per cent since 2015. There is much more to come. Today, we produce 1.2 trillion units of electricity from our existing power capacity. Now, even though India is one of the heavily populated countries, per-capita electricity consumption is only one-third of the global average. In comparison, China's per-capita electricity consumption is four times, and in some of the developed economies, the number is nearly 10 times. Therefore, there is enough latent demand for electricity in India, which should be ideally met using clean sources of energy. If our electricity demand continues to grow at the historical rate of 6 per cent, then we would double our electricity consumption over the next 10 years and would

require at least 350 GW of additional RE capacity. This is, of course, based on the assumption that we wouldn't want to deploy any large thermal capacities since it will only impede our journey to meet our climate change commitments. This number also triangulates well with our target of 450GW of RE capacity by 2030. Incidentally, 350GW is also equal to India's total power capacity today. Therefore, we are targeting to add as much RE capacity, as we have built from all sources till date in the history of our country. This statistic perhaps best summarises the sector's tremendous potential. However, this is only the tip of the iceberg. As we look to decarbonise many industrial sectors in India, we will shift from our existing use of fossil-based energy to renewables — for example, charging electric vehicles with clean energy will replace the use of petrol and diesel, thus further spurring the demand for RE in the country.

Overcoming the Intermittency Barrier

While renewables have become the preferred choice of electricity generation everywhere, it does have one drawback — the issue of intermittency. Due to the unpredictable nature of its fuel, wind and solar energy do not inject consistent or on-demand power into the grid. Innovative storage solutions are one way to solve this problem. We can use batteries to store power when the demand is low and feed it back into the grid when the demand is high. This will ensure that we maintain grid stability and also enhance competitiveness of renewables by making it a firmer source of power that can better match varying demand patterns. The good news is that batteries are becoming increasingly affordable — prices have dropped by over 80 per cent in the last decade and are expected to drop further in the coming years.

Apart from storage, the other way to make renewables firmer is to hybridise solar and wind energy — basically



Pilots in new areas such as hydrogen, carbon capture and offshore wind



Collaborations with global research centres to aid such pilot projects



Innovative storage solutions such as batteries to store power for later use

BATTERIES CAN BE USED TO STORE POWER WHEN DEMAND IS LOW AND FEED IT BACK INTO THE GRID LATER



a combination of solar and wind projects which would result in higher capacity utilisation factors (CUFs) and, therefore, a smoother flow of power into the grid. Disruptive innovations in technology will be critical to propel RE's growth in this decade. India should take the lead in driving these technological advancements by encouraging pilots in new areas such as hydrogen, carbon capture, energy services, offshore wind, usage of digital and analytics, etc. These efforts can be further strengthened by adopting a collaborative approach with global research centres and universities.

The Road Ahead

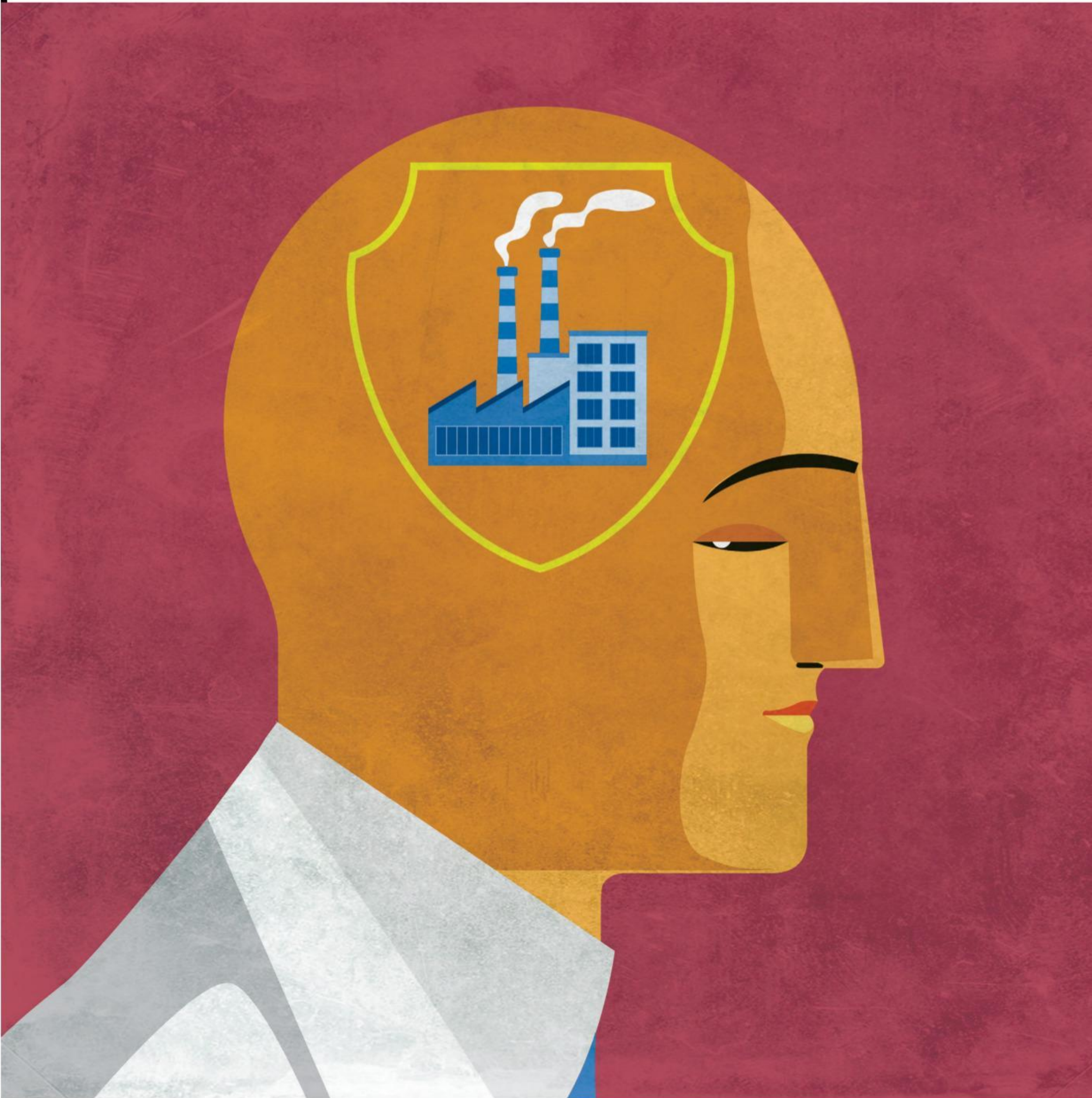
Even in these unprecedented and challenging times like Covid, the renewables sector has escaped relatively unhurt due to swift action taken by governments around the world. In India, it was no different. The government sprang into action almost immediately after the nationwide lockdown was announced. The "must-run" status accorded to renewables insulated the industry from compression in demand due to the lockdown, while generators were also granted extra time to commission under-development projects. As part of the national fiscal relief package, ₹90,000-crore liquidity injection into distribution companies was announced, which is almost equiva-

lent to 5 per cent of the total package. This has helped generators get their long-pending dues that can be utilised to service debts and fund new projects. Many other revolutionary and long-term reforms were also proposed by the government during the lockdown, including privatisation of discoms in Union Territories, changes in the National Tariff Policy, amendments in the Electricity Act, etc.

For long, the solar power industry has been largely dependent on Chinese imports. The Prime Minister's call for Atma Nirbhar Bharat provides an excellent opportunity to boost domestic manufacturing capability of solar panels and ancillary parts, creating a strong end-to-end ecosystem for solar energy in India. The right policy framework, tax relief and subsidies, and affordable finance will help our domestic manufacturers match their Chinese counterparts in scale, quality and price. This will not only help them cater to local demand, but also wrest a share of the global supply chain. While pushing local manufacturing of solar modules is definitely a step in the right direction, we should expand these plans to other parts of the power sector value-chain such as batteries and components.

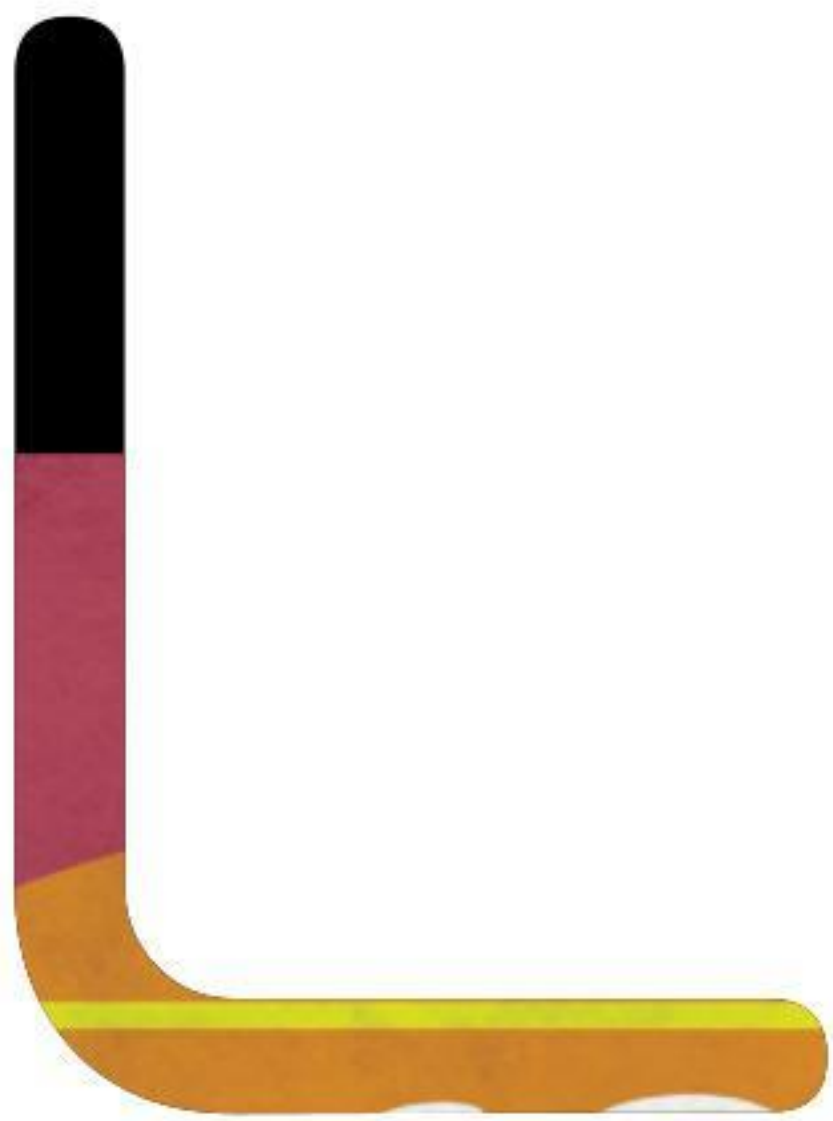
The future for renewables looks bright and secure, as countries target low carbon economies and a sustainable and resilient recovery post Covid-19. Public policies, investment decisions and innovations will all align to ensure that the transition to green energy stays on track. The world today needs renewables to be at the heart of post-pandemic recovery plans, as increased RE penetration can ensure better health via reduced pollution, generate more employment, reduce import dependence and improve quality of life at the bottom of the pyramid. At the moment, the winds are favourable for the renewable energy sector and in everybody's interests, we hope the sun continues to shine on it. **BT**

Drones, Robots To Take Over Disaster Response



AI AND SOCIAL MEDIA WILL FAST-TRACK DISASTER MANAGEMENT SYSTEMS; 3D PRINTING, INTERNET OF THINGS TO MINIMISE HUMAN INTERVENTION, ACCIDENTS

ILLUSTRATION BY RAJ VERMA



Leakage of methyl isocyanate (MIC) from the chemical plant of the Union Carbide India (Ltd), in Bhopal in 1984, was one of the worst industrial disasters of the world. According to estimates, 8,000 people died within two weeks of the accident, and 8,000 or more have since died from other gas-leak-related diseases.

Industrial accidents happen every year all over the world. There are ways in which countries and organisations can prepare themselves to minimise these occurrences, and respond to them effectively, should they occur.

Accidents, Emergencies And Disasters

While the terms accidents, emergencies and disasters are often used interchangeably, they are not the same. An accident (industrial) is a sudden and unexpected occurrence (in the industry), which interrupts the orderly progress of the work and has the potential to cause harm to people, assets, the environment or reputation. An emergency is an accident which, if not addressed rapidly, can deteriorate and become a disaster. A disaster is an event that disrupts the functioning



MURALEE THUMMARUKUDY,
CHIEF, DISASTER RISK REDUCTION,
UN ENVIRONMENT PROGRAMME

of a system (be it an industry or a community) and causes human, material and economic or environmental losses that exceed the community's or society's ability to cope with using its own resources. So, while the most critical aspect of emergency is the "time" element, the most important criterion in a disaster is "local capacity".

Types Of Industrial Accidents

Industrial accidents range from accidents in chemical factories to shipwrecks causing oil spills in oceans. They can happen in all segments of industry like petroleum, petrochemicals, mining, nuclear, construction, shipping or transport. Their nature varies based on the type of industry, nature of the disaster and the type of environment where the disaster happens. Oil and chemical spills occurring during transport of hydrocarbons and other chemicals form a particular stream of chemical accidents. Natural disaster-induced industrial accidents or NATECHs, such as the Fukushima nuclear power plant accident after the 2011 tsunami in Japan, is also gaining increased attention these days. Similarly, cyclones often cause shipwrecks and oil spills across the world. Earthquakes have impacted industries from chemicals to refineries. The changing climate is expected to increase hydro-climatic extreme events further, which may, in turn, cause significant increase in industrial accidents, unless addressed proactively.

Responding To Emergencies

Thousands of people die every year from completely preventable incidents inside industrial premises. A few trends that have the potential to impact the number and the gravity of industrial accidents that could occur in the future:

Increased automation: Some experts say the Fourth Industrial Revolution has already set in, and the future belongs to automation. Human beings will be increasingly displaced from workplaces and instead be replaced by Artificial Intelligence (AI) and intelligent robots. 'An Oxford Martin

School Study in 2013' predicted that 47 per cent of jobs will be replaced by automation by 2030. The explosive growth of AI, improved performance of robots and the arrival of Covid-19 have accelerated the trend, and the predicted changes may now happen as early as 2025.

Increased automation will have its impact on industrial accidents. The No. 1 cause of industrial accidents is human error. So, when the number of activities undertaken by human beings reduces, so will the chances of having such incidents. Secondly, when there are lesser number of people on the premises, any accident will cause fewer casualties or fatalities.

3D printing and distributed manufacturing: Three-dimensional printing (or 3D printing), wherein objects, such as machine parts or building components, can be printed is a relatively new technology, which is becoming immensely popular. It is expected that one day we will no longer need massive assembly lines for manufacturing of goods and the logistics supply chain to distribute them around the world. Instead, many things can be printed and assembled inside the convenience of your home or most things that you wanted could be printed at a location closest to your home. For example, having a 3D car-printing facility in every car showroom where one could work with an engineer and sales person to design and customise the vehicle and then have it printed locally is very much conceivable. Such distributed manufacturing will significantly reduce the scope and scale of industrial accidents in the future.

Internet of Things and Big Data analyses: Two other technologies driving the fourth industrial revolution are Internet of things (IoT) and Big Data analyses. In IoT, virtually every piece of hardware in the world, from a household fridge to a car to a commercial crane to a petrol station, are all linked to the Internet and is sending real-time data into it, like what cellphones are doing now.

Big Data analysis, in contrast, is the approach of harnessing the massive amount of data available, currently facilitated by the digital revolution. Trends and patterns, which can be used to make useful conclusions are derived out this massive amount of data. For example, by analysing the number of times the word "flood" appeared in tweet feeds in a region, data analysts are able to forecast the timing, trend and location of impending floods. So, when every piece of machinery in every vehicle, ship, airplane and industry is connected to the Internet and is constantly sending information to it, Big Data analyses can often predict the possibility of failure much ahead of even the most skilled supervisor on the ground.

When IoT links every piece of equipment, new lessons are learned and efficient practices can be sent back to these machines within microseconds.

Updating current practices and training thousands of technicians around the world could take a year to complete and, in the meanwhile, similar accidents may re-occur in multiple places.



THERE HAS BEEN A TREND OF SHIFTING LARGE-SCALE MANUFACTURING TO DEVELOPING COUNTRIES

...

Better trained workforce: While automation will take over a majority of jobs, especially on the shop-floors, changes will also happen in the work of personnel who are left behind. The previous practice of people having a life-time of jobs will change and instead every employed person will be "super skilled" to do the task he or she is hired to do. This will be the norm. People, therefore, will have multiple jobs within their working lives and will be forced to continuously seek and update themselves with new knowledge so that they can remain useful at the workplace. When you translate this concept to the industrial jobs that have a potential for accidents, the situation where the employee is better trained and is up-to-date on modern developments will clearly have an edge in reducing such accidents.

Globalisation of manufacturing: A trend that has been going on for the past few decades is the shifting of large-scale manufacturing to developing countries, even when the consumer base remains global. While the primary objective of such shifts is to take advantage of the lower costs of workforce, they may also lead to industries operating at lower safety standards than what was possible in developed countries. There are other industries, such as mining, which by their very nature, are set up wherever raw materials are found. As significant quantities of petroleum and other natural resources are found in developing countries, there are

Key Takeaways

Distributed manufacturing will reduce the scope and scale of industrial accidents

Satellites, drones to detect and monitor emergency situations

Big Data can be used to predict the possibility of failure

Every employee will be “super skilled” to do his/her job

many mining and upstream hydrocarbon industries in these countries. Not all industries in the developing countries have identical standards; the organised sector typically has better standards.

Emergency response systems: Industries had developed their own internal systems for dealing with industrial accidents. A typical emergency response system had a documented plan outlining the key risk elements, an outline of the command hierarchy and the listing of local, national and international resources available to deal with the specific emergency. Every major multinational corporation has its own emergency response systems and resources. However, unfortunately, as of now there are no global conventions, protocols or standards on how to respond to industrial accidents. The only regional convention on industrial accidents (Convention on the Transboundary Effects of Industrial Accidents, signed in Helsinki, Finland, on 17 March 1992, under the United Nations Economic Commission for Europe) was designed to protect people and the environment from industrial accidents. However, the example was not followed up in other regions or scaled up globally.

This may be changed in the future and industrial accidents may get increased attention in global conventions in the coming decades. The Sendai Framework on Disaster Risk Reduction (SFDRR, 2015) already factors in technological hazards in addition to natural hazards in its framework.

A

Artificial Intelligence (AI) and Robotics: As the field of AI matures and robots become more robust, one should expect that a significant proportion of emergency response at corporate offices will shift to AI and at the frontline will shift to robotic operations. A human manager may

be highly stressed if a number of people die in an accident and (particularly) when the manager may have direct or indirect responsibility for such occurrences. The judgement of the manager may be impacted during such situations. Also, human managers will need to stop working after 12 or 18 hours to ensure they receive sufficient rest and recuperation, the absence of which may also lead to errors in judgement. AI systems are able to process large quantities of data, coming through multiple media in real time, without any stress.

Satellite and Drones: AI and Robotics are not the only new technologies which will be deployed during disasters. Satellites are already being used to track oil spills and slicks on both onshore and offshore facilities and locations. Drones would play a very important role not only in detection and monitoring of emergency situations, but also in the emergency response undertaken of deploying the equipment closer to the field and the actual firefighting or dispersant-spraying acts.

Social media and communication: When the Bhopal incident happened in December 1984, there were no social media, smartphones or even cable TV networks with 24/7 newscasts. So, the news of the disaster took days to reach the rest of the world, and the gravity of the full tragedy was never recognised for weeks. Today, a similar incident would be in social media within minutes, and the whole world will know of the scope and spread of the situation in real time. This brings in many positive elements of local accountability and global response to any kind of disaster.

Collaborative emergency response faculties: There are international systems, such as United Nations Disaster Assessment and Coordination, for providing global response for natural disaster management. Most countries have their own systems, including trained personnel and equipment to respond to a natural disaster such as floods or earthquakes. However, there are no such global systems for industrial disasters. While oil industries have come together and formed collective systems such as “Oil Spill Response Limited” in Southampton, UK, where equipment and expertise for fighting oil spills is always available as a stand-by, such systems are not available for other industries.

In future, one should expect that global systems for industrial emergency response, with expertise, equipment and protocols for responding to natural disasters, will emerge. This will ensure that industrial disasters, wherever they happen, are dealt with using similar procedures and technological prowess.**BT**

Network



Sajjan Jindal's Heavy Lifting

JSW Group Chairman **Sajjan Jindal** is a fitness freak. He does not miss his morning workout session even for a single day at his residential gym in Walkeshwar, Mumbai. At the company's headquarters in Bandra Kurla Complex, the 60-year-old steel baron ensures he burns more fat by climbing stairs up to one or

two levels from the lobby. Till about 10 years ago, he was also a regular squash player.

No surprise then that his son **Parth Jindal**, Managing Director of JSW Cement, idolises his father in his choice of sports. Parth is a trained squash professional who attends court every morning, especially when he is not sweating it out in

the gym. He has represented Mumbai teams in squash and table tennis. During weekends, he takes time out to play football and cricket with friends. The one funny story that Parth shares with his friends is that the father-son duo used to play squash together regularly, until the junior picked up his game and started beating the senior

since the age of 17. The senior Jindal quit regular squash after that. The young Jindal, now 30, also pursues the business of sports through JSW Sports — it owns Bengaluru FC (ISL team), IPL cricket team Delhi Capitals (50:50 joint ownership with GMR) and Haryana Steelers (Pro Kabaddi League team).

— NEVIN JOHN

Closer To The Roots

Stock markets have been on a roller-coaster ride since the corona-virus outbreak, but for **Dhiraj Relli**, Managing Director and Chief Executive Officer, HDFC Securities, the situation is all about opportunities and learning new things. Relli has been trying out different dishes while keeping an eye on markets.

Relli picked up an interest in cooking in his teens while making, as he says, an improvised version of Maggi with some vegetables. "Over a period of time, the dish became so popular among my acquaintances that I remember cooking it at many places. It was great fun," says Relli, who studied chartered accountancy and has an MBA degree.

His love for cooking intensified later when he started watching MasterChef Australia with his daughter. Relli cooks on weekends, but it also depends on his mood. "Sometimes, I cook during weekdays, as it helps me unwind after an extremely demanding day in office," he says. He initially started making simple dishes such as salmon and chicken curry, and later developed expertise in many non-vegetarian and even exotic vegetarian dishes. "It is almost an event when I cook," says Relli, whose firm provides an online platform for buying stocks, mutual funds and other instruments. Cooking is therapeutic for him. "It is a great



creative way of getting away from the daily grind, refocusing and getting back to work with a fresh perspective," he says, while adding that cooking, just like management, is about trying out the

winning combinations. "You have to keep using your brains to figure out what works and what does not," says Relli, who also faces a similar challenge while picking stocks for clients.

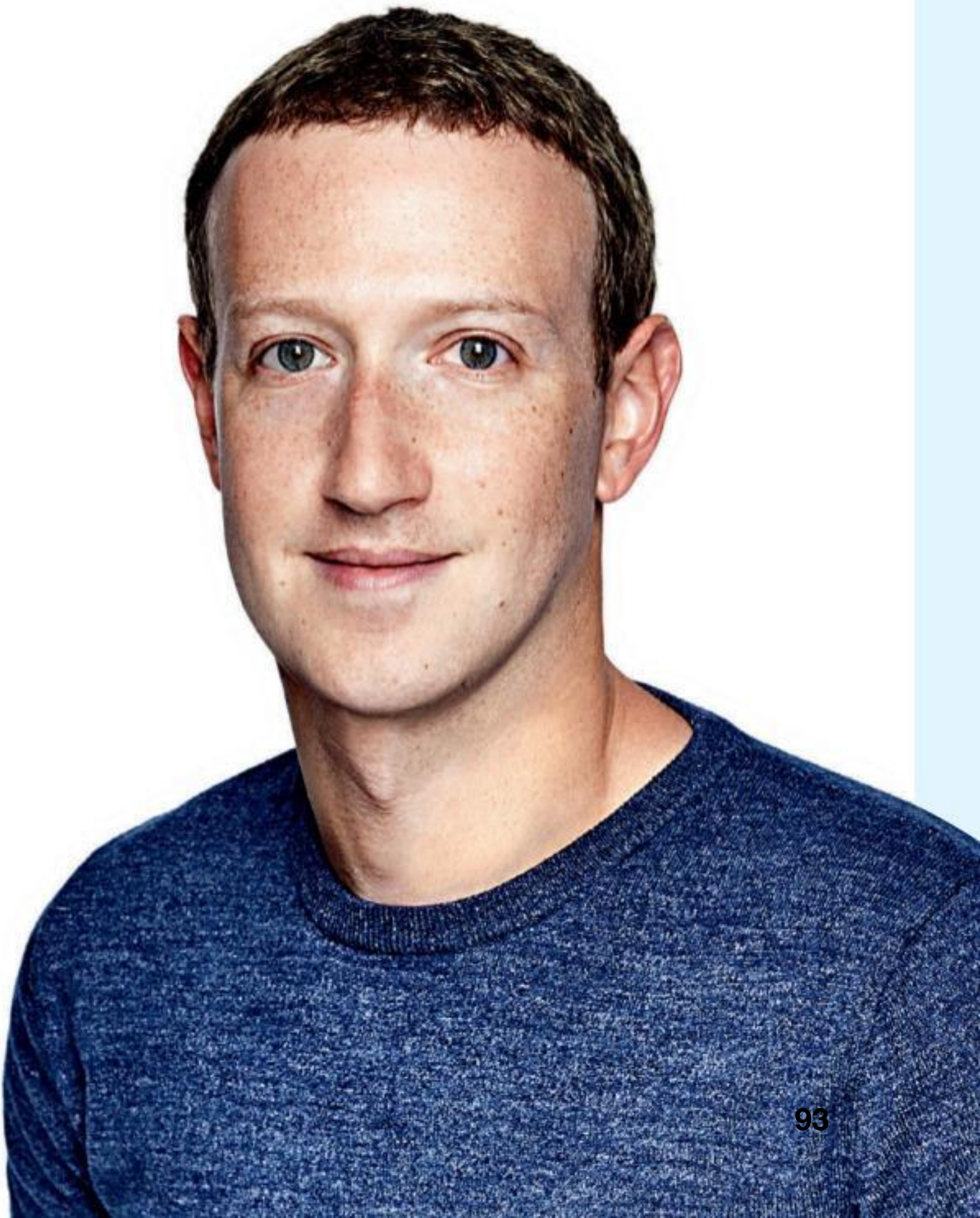
—ANAND ADHIKARI



On The Hunt

Over the past few years, Facebook CEO **Mark Zuckerberg** has been setting unconventional annual challenges every New Year. This included learning Mandarin, building an AI-powered robot assistant, getting more comfortable with public speaking and reading more books. In 2011, he said he would eat meat of animals that he killed himself. In his 2020 New Year resolutions post, while replying to a comment, he mentioned: "That was a crazy challenge. I still go hunting. These days, mostly with a bow and arrow, though." And the animal that he hunted

was wild boar. Wild boars are abundant across the US east coast and parts of California. According to the US Department of Agriculture, wild boar is an invasive species. But, in 2020, he has set a decadal target for himself. This includes focusing more on funding and giving a platform to younger entrepreneurs, scientists and leaders to enable change; helping small businesses; and see if you could live anywhere and access any job anywhere else. The last bit has become a reality much before the 2030 target that Zuckerberg had set, thanks to coronavirus.



Best Advice I Ever Got

“IN TIMES OF CRISIS, FOLLOW YOUR EXPERIENCES”

DEVESH SRIVASTAVA, CHAIRMAN & MD, GIC RE

• • • • •



Q: What was the problem you were grappling with?

A: It was 2017. We had applied for a Syndicate at Lloyds of London and were waiting for the outcome. Lloyds is the world's leading insurance market providing services to businesses worldwide. Though GIC Re had been a Corporate Member at Lloyds since 2013, setting up our own capital-backed syndicate was the next goal. After serving for four years in GIC Re's London office, time was running out due to my imminent return to India. I had pinned my hopes on this one initiative. The waiting period before the final verdict was very trying.

Q: Who did you approach and why?

A: In such circumstances, one is often guided by one's own approach to life. During this unsettled time, when one tends to think more of the worst-case scenario than be optimistic, a quote from 'The Count of Monte Cristo', kept coming back to me again and again.

Q: What was the advice?

A: “...Never forget that until the day when God shall deign to reveal the future to man, all human wisdom is summed up in these two words, -- Wait and hope.” In times of crisis, one needs to follow his/her experiences to tide over a particular situation.

Q: How effective was it in resolving the problem?

A: There are times in our lives when despite putting all ingredients correctly, the cake does not rise. Alexandre Dumas' work, 'The Count of Monte Cristo', helped me approach not only this waiting period with a great degree of equanimity, but in many similar testing times in my life. On a cold winter day in December, the phone call came announcing “The eagle has landed”. We received Lloyd's final verdict, and our syndicate, christened GIC Re Syndicate 1947, became a reality.**BT**

—ANAND ADHIKARI



Government of Haryana

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Sh. Manohar Lal
Chief Minister, Haryana

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Use AYUSH Kwath, Guduchi Ghan Vati/Samshmani Vati and Anu Tail with Doctor's Advice



Stay Alert, Stay Safe



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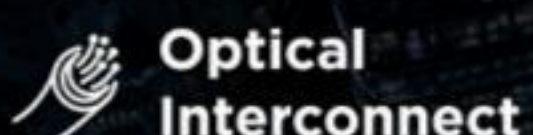
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