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Letter from the Editor

Indian Economy Continues to Forge Ahead in 2022

The global economy is still beset by uncertainty, and Omicron has prompted further containment measures. In Q2:2021-22, the Indian economy rebounded rapidly, with GDP exceeding pre-pandemic levels and inflation largely aligned with the objective. Consumer confidence is steadily returning, as evidenced by a slew of new high-frequency indicators. Demand circumstances in aggregate indicate a long-term recovery, albeit with some signals of sequential slowing. On the supply side, the agriculture sector is doing well, with remarkable Rabi sowing progress, while manufacturing and services are doing well because of improving demand conditions and a boom in new business.

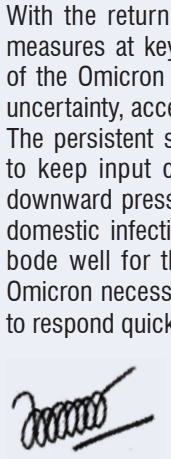
Despite increasing pandemic-related expenditures, government finances remained remarkably resilient to the second wave, with tax receipts exceeding projections and government expenditure keeping substantially in line with budget estimates. There has also been a significant increase in the quality of expenditure at both the federal and state levels, which speaks well for long-term recovery in GDP. Going forward, the general government budget deficit, which remained low in H1:2021-22, provides room for increased spending in the second half of the current fiscal year to support and sustain growth.

Following a major increase of the general government fiscal deficit in 2020-21 as a result of the pandemic, both the Centre and the States committed to credible budgetary consolidation in their 2021-22 budgets, while maintaining vital financial support for growth. During H1:2021-22, while fostering a stimulus-driven recovery that returned GDP to pre-pandemic levels in Q2:2021-22, the planned budget consolidation was undertaken. Tax revenue increase that reflects enhanced tax governance and administration, as well as the focus on CAPEX, bode well for achieving both long-term growth and fiscal reduction.

However, both the Centre and the States must route capital expenditure to sectors that can attract private investment and maximise multiplier effects based on inter-temporal and intersectoral connections that can improve production, employment, and productivity. Going forward, despite renewed concerns about the virus's new omicron variant, the Centre and States should provide credible medium-term glide paths toward fiscal policy normalisation so that fiscal buffers can be replenished to deal with future economic shocks, if any, as the economy gains traction.

The Indian economy continues to grow, free of the effects of the epidemic. A confluence of variables, including the release of pent-up demand, the government's push for capital spending, healthy foreign demand, and a regular monsoon, are driving the current rebound. Faster restoration of customer trust and the reintroduction of contact-intensive services brighten near-term prospects.

With the return of travel restrictions and quarantine measures at key ports and airports, the introduction of the Omicron strain has increased global financial uncertainty, accelerating dangers to global commerce. The persistent supply-side limitations are anticipated to keep input costs and freight rates high, putting downward pressure on overall exports. While the low domestic infection rate and strong immunisation rate bode well for the economy, the impending threat of Omicron necessitates more prudence and preparedness to respond quickly.



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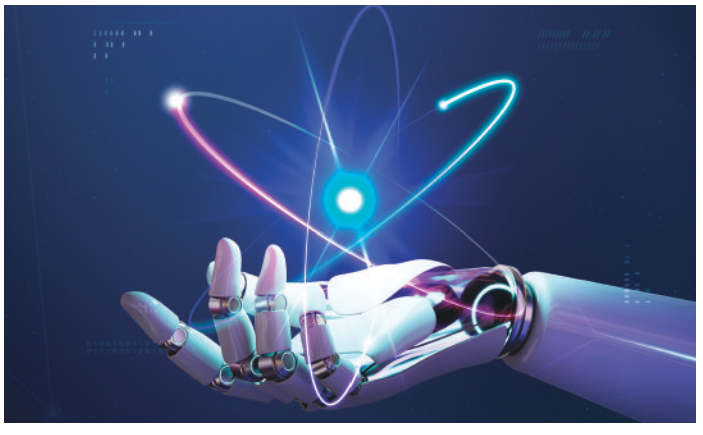

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NEWS LINE



ANIL KUMAR ADEPALLY (IFOS) APPOINTED AS PS TO ARJUNMUNDA



The government has approved the appointment of Anil Kumar Adepally (IFoS) as Private Secretary to the Union Minister for Tribal Affairs ArjunMunda in the Ministry of Tribal Affairs. According to an order from the Department of Personnel (DoPT), Adepally has been appointed to the post at the level of Director for a period up to May 20, 2023 (i.e. for the balance period of his five years central deputation tenure under the Central Staffing Scheme) with effect from the date of assumption of charge of the post or on co-terminus basis with the Minister or till he ceases to function as Private Secretary to the Minister or until further orders, whichever is the earlier.

Anil Kumar Adepally is an Indian Forest Service (IFoS) officer of the AGMUT cadre. He was previously serving as Director in the same Ministry. The appointment of Adepally has been cleared after the curtailment of his tenure as Director of the Ministry under the Central Staffing Scheme.

The Ministry of Tribal Affairs is the Nodal Ministry for overall policy planning and coordination of programmes for the development of Scheduled Tribes and other backward classes. The Ministry was set up in 1999 after the bifurcation of the Ministry of Social Justice and Empowerment with the objective of providing a more focused approach towards the integrated socio-economic development of the Scheduled Tribes (the most underprivileged section of the Indian Society) in a coordinated and planned manner.



DEFENCE MINISTER INAUGURATES HAL EXHIBITIONS; NOW OPEN TO PUBLIC

Union Defence Minister Rajnath Singh on 13 December 2021 virtually inaugurated week-long activities related to 'AzadiKaAmritMahotsav' (India @75) that included Hindustan Aeronautics Limited (HAL) focused events. The exhibition sites at Bengaluru (including the Museum and Heritage Center), Nashik, Kanpur, Hyderabad, Koraput and Lucknow are

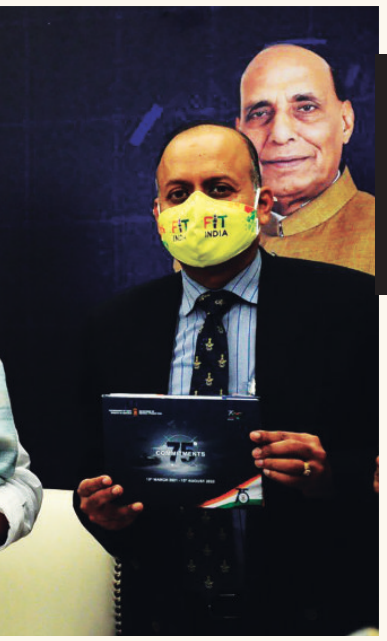
GRSE EXHIBITIONS BEGIN AT KOLKATA AND RANCHI; CELEBRATING AZADIKAAMRITMAHOTSAV

To commemorate India@75 as part of 'AzadiKaAmritMahotsav' celebrations, Garden Reach Shipbuilders and Engineers Limited (GRSE) commenced a seven-day public exhibition showcasing its decades of legacy in shipbuilding, current and futuristic products at Science City Kolkata, Indian Maritime University Kolkata & Diesel Engine Plant, Ranchi GRSE from December 13 to December 19. The exhibitions in all three locations were virtually inaugurated by the Union Defence Minister Rajnath Singh on 13 December 2021.

GRSE's Director (Personnel) Cmde PR Hari IN (Retd), Director (Finance) RK Dash and senior officials of GRSE were present at the inauguration ceremony.

The inaugural day of the India@75 public exhibition also witnessed the participation from students of local schools and the general public at large to have a first-hand glimpse of GRSE's shipbuilding operations, indigenous capabilities and various classes of ships delivered to the Indian Navy, Indian Coast Guard and friendly foreign countries. GRSE built Portable steel bridge models are also displayed at the exhibitions.





HAL is showcasing its 80 years of heritage, current and futuristic products during the week beginning 13 December

now open to the public with no entry fee till December 19 (9 AM to 5 PM).

Following the inauguration, Dr CG Krishnadas Nair, Honorary President, SIATI and former Chairman, HAL unveiled the exhibition at HAL Heritage Centre & Aerospace Museum, Bengaluru in the presence of senior HAL officials.

HAL is showcasing its 80 years of heritage, current and futuristic products during the week beginning 13 December. HAL-produced aircraft, helicopters, aero engines, avionics systems, components and LRUs are on display at different exhibitions.

Visitors can view CATS WARRIOR UAV Mockup model, model of LCA Tejas, MiG 21 and MiG 27, Do-228 and HS-748, avionics systems, operational model of ALH transmission system, LRUs and aerospace components at different exhibitions. Public entry to these exhibition/museums will be with valid ID cards and students with their school/college ID cards with COVID protocols.



GRSE's Director (Personnel) Cmde PR Hari IN (Retd), Director (Finance) RK Dash and senior officials of GRSE were present at the inauguration ceremony

With the digital and physical displays, visitors can catch a glimpse of GRSE's contributions to the nation's self-reliance capabilities in shipbuilding and allied areas and its engagement with the people of Kolkata. These exhibitions are open to the public from December 13 to December 19 (10:30 AM to 5:30 PM), with no entry fee.

The GRSE is currently executing four indigenous shipbuilding projects including three Advanced Frigates under Project 17A, four Survey Vessels (Large) &eight Anti-Submarine Warfare Shallow Water Crafts for the Indian Navy and one Fast Patrol Vessel for the Indian Coast Guard.

With a focus on exports, the shipyard is building ships for export to the Republic of Guyana and a government agency of Bangladesh.

OIL PSUS SPENT ₹5,582.34 CRORE UNDER CSR, RAMESWARTELI TELLS HOUSE

The Public Sector Undertakings (PSUs) that function under the Ministry of Petroleum & Natural Gas (MoPNG) have spent ₹5,582.34 crore under their corporate social responsibility (CSR) activities in various parts of the country during the last three years (2018-19 to 2020-21). This information has been given by the Minister of State for Petroleum and Natural Gas RameswarTeli in Parliament on 13 December 2021.

The Teli in a written reply to a question in the RajyaSabha on 13 December 2021 informed that Public Sector Oil Companies (Oil PSUs) have been earmarking 2 percent of their average net profits made during the three immediately preceding financial years as per Section 135 of the Companies Act and the CSR activities are undertaken under the heads identified under Schedule VII of the Companies Act 2013. "The state/project/activities wise details of CSR activities undertaken and funds spent thereon during the last 3 years are available on the respective websites of the public sector oil companies, he informed the house.

Public sector oil companies have been doing impact assessment exercises of some of their major CSR projects internally or through external agencies. However, as per changes made in CSR rules by the Ministry of Corporate Affairs in January 2021, it has been decided that impact assessment of CSR projects having outlays of one crore rupees or more, shall be undertaken through an independent agency. The impact assessment reports shall be annexed to the annual report on CSR.

BULLET TRAIN PROJECT: L&T EMERGES LOWEST BIDDER IN ANOTHER NHSRCL TENDER

Larsen & Toubro (L&T) has won another contract from National High-Speed Rail Corporation Limited (NHSRCL) for the development of the Mumbai Ahmedabad High-Speed Rail corridor, commonly known as the bullet train project. It has emerged as the lowest bidder for the design and construction of about 8 km length of the viaduct in the state of Gujarat including one HSR station at Vadodara for the Bullet Train corridor. NHSRCL, which is responsible for bullet train projects in India, has opened financial bids for the design and construction of about 8 km length of the viaduct in the state of Gujarat including one HSR station at Vadodara for Mumbai Ahmedabad High-Speed Rail corridor (under C5 package). L&T has emerged as the lowest bidder for the project. "The financial bids of 2 technically qualified bidders were opened and Larsen & Toubro Limited (L&T) is the lowest bidder. The technical bids of this tender were opened on 5th Oct 2021," the company said in an official statement.

BPCL COLLABORATES WITH BARC FOR GREEN HYDROGEN PRODUCTION

Bharat Petroleum Corporation Limited (BPCL) has collaborated with Bhabha Atomic Research Centre (BARC) to scale-up Alkaline Electrolyser technology for green hydrogen production. Presently, Electrolyser Plants are imported. This is a first of its kind initiative to support the country's commitment to achieve renewable energy targets and reduce greenhouse gas emissions.

Refineries use large quantities of Hydrogen for de-sulfurization to make petrol, diesel and other chemicals. Currently, Hydrogen is made at the Refinery via. Steam Reforming of Natural gas, but this results in high CO2 emission. Therefore, Refiners are setting up large scale electrolysers to produce Green Hydrogen from water and thereby decarbonize Hydrogen production. Speaking on the occasion, BPCL's Chairman & Managing Director (CMD) Arun Kumar Singh said, "BPCL is fully committed towards environment protection and ensuring a greener planet. We have been extensively leveraging technology in all our activities. Through collaboration with BARC, we intend to scale up Indigenous Alkaline Electrolyser Technology and look forward to commercializing it for large use especially in Refineries. This will be another step towards "Atmanirbhar Bharat" in our journey for achieving Net Zero Emissions by 2040."

BPCL has plans to expand its portfolio of renewable energy with solar, wind and biofuels thereby reaffirming its commitment towards sustainability and reduction of carbon footprint. Furthermore, the company intends to meet power requirements for new projects in its Refineries, primarily from renewable sources.

COAL SECRETARY LAYS FOUNDATION OF ₹280-CR, 20 MTPY CAPACITY FMC PROJECT IN MCL

Coal Secretary Dr Anil Kumar Jain (IAS) has laid the foundation stone of a 20 million tonne per year (MTPY) capacity First Mile Connectivity (FMC) project/rapid loading system at Mahanadi Coalfields Limited (MCL) on December 12, said an official statement released by MCL. Dr Jain, who was accompanied by Additional Coal Secretary M Nagaraju (IAS), PK Sinha, Chairman-cum-Managing Director, MCL, BinayDayal, Director (Technical), Coal India Limited, was on a two-day official visit to Odisha.



The Secretary laid the foundation stone of the ₹280 crore FMC project, having coal despatch capacity of 20 MTPY, at Ananta under Jagannath Area of the company. MCL is aggressively implementing first-mile connectivity projects with a capital outlay of ₹3,600 crore by 2024 for the rapid movement of coal to consumers.

Director (Technical) OP Singh, Director (Finance) KR Vasudevan, and Director (Personnel) KeshavRao were the senior officers of MCL present on the occasion. Coal India has placed increased focus on developing FMC and railway projects to facilitate evacuation of coal via rail mode. Transportation of coal via rail mode and conveyor belts causes less pollution in comparison to transport by road. The plan to develop rail projects for evacuation of coal is part of Coal India's efforts to ensure clean transportation of coal at its end. The coal PSU has earmarked ₹14,000 crore for development of FMC projects in two phases by 2025 and ₹19,650 crore for railway projects by 2024. The FMC projects are being developed in tandem with the goal to achieve 1 Billion Tonne (BT) of coal production by 2024-25.

NTPC HAS ENHANCED IMPORTED COAL ORDER BY 1.42 MMT UNDER RUNNING CONTRACTS: SINGH

State-run NTPC Ltd has enhanced the order quantity for imported coal by 1.42 Million Metric Tonnes (MMT) under running contracts in FY22 to ensure adequate coal stock at thermal power plants, said Power Minister RK Singh recently. On being asked if NTPC was compelled to import coal to overcome the coal shortage in power plants, the minister said in the LokSabha, "To ensure adequate coal stock during the current FY i.e., 2021-22, NTPC has enhanced package quantity of running contracts by 1.42 Million Metric Tonnes (MMT) for blending of domestic coal with imported coal." Singh also told the Lower House of Parliament in a written response that the company had not placed any fresh order for procurement of imported coal during FY21 and had also reduced package quantities of its various contracts for procuring imported coal.

India recently faced an acute crisis in the power sector between August and October due to low coal stock at thermal power plants amid a sudden surge in electricity demand. The situation, coupled with high international coal prices, depleted coals stock to record lows at thermal power plants. In order to tide over the crisis and build coal stock at thermal power plants, Coal India Ltd (CIL) had stepped up coal supplies to the power sector. In August, NTPC had imported close to 2.7 lakh tonne of coal, which it said was "leftover quantity from earlier contracts." In the aftermath of the crisis, the coal stock situation at thermal power plants has improved considerably. According to the latest Central Electricity Authority (CEA) data, the average coal stock at 135 coal-fired power plants monitored by it is sufficient for 10 days.

GOVT WORKING ON RESOURCE ADEQUACY GUIDELINES, BIGGER REFORMS FOR DISCOMS: JOINT SECRETARY

The Ministry of Power is working on resource adequacy guidelines for discoms and some bigger reforms for the power distribution sector, said Joint Secretary Ghanshyam Prasad. Speaking at the CII Energy Conclave, Prasad said, "A focus on 24x7power can be ensured if discoms properly have resource adequacy in place. There are a few private players who are working in this direction.

The government is working on resource adequacy plan guidelines so that discoms can be integrated at the state level and then more at national level. The advantage will be lesser resource requirement."

Resource adequacy is a power utility's ability to meet consumers' energy needs at all times. Having such a guideline in place will help discoms in providing 24x7power to consumers.The senior Power Ministry official also said that the government is discussing some bigger reforms to make discoms financially viable. Steps like de-regulation of the sector and making regulation adaptability more industry friendly are being discussed, said Prasad.



Prasad said that the target announced by Prime Minister Narendra Modi about non-fossil fuels meeting 50 percent of the energy requirements of the nation by 2030 and the target of 1-Billion-Tonne (BT) reduction in total projected carbon emissions by the same year will be achieved. He urged the industry to come forward and adopt off-river hydro pump storage to integrate renewables.

The Joint Secretary said that the government is in the process of drafting an Energy Storage Policy.

FINANCE MINISTER CONCLUDES PRE-BUDGET MEETINGS FOR UNION BUDGET 2022-23

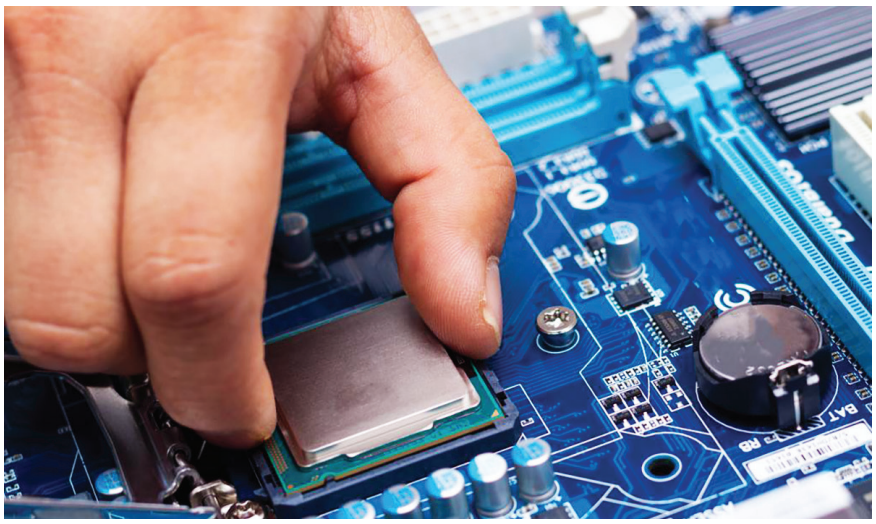
Union Minister for Finance & Corporate Affairs Nirmala Sitharaman has concluded the pre-budget consultation meetings for Budget 2022-23. The meetings were held in virtual mode from December 15 to December 22. More than 120 invitees representing seven stakeholder groups participated in eight meetings scheduled during this period. The stakeholder groups include representatives and experts from the agriculture and agro-processing industry, industry, infrastructure and climate change; financial sector and capital markets; services and trade; social sector; trade union and labourorganisation and economists. Union Ministers of State for Finance Pankaj Chaudhary and Dr Bhagwat Kishanrao Karad, Finance Secretary TV Somanathan, Secretary, DEA, Ajay Seth; Secretary, DIPAM, TuhinKanta Pandey; Secretary, Financial Services, Debashish Panda; Secretary, Corporate Affairs, Rajesh Verma; Secretary, Revenue Tarun Bajaj and senior officers from Ministry of Finance were also present during the meetings. Secretaries of other Ministries and Departments concerned participated through online mode.



The stakeholder groups made several suggestions on various issues that included increased R&D spending, infrastructure status for digital services, incentives to hydrogen storage and fuel cell development, rationalisation of income tax slabs, investments in online safety measures etc., among others. The participants lauded the government's efforts for inefficient handling of the economy during the pandemic and retaining India's status as the fastest-growing major economy.

Sitharaman thanked the participants for sharing their valuable suggestions and assured them that suggestions will be carefully considered while preparing the Budget 2022-23.

GOVT INVITES APPLICATIONS FROM DOMESTIC SEMI-CONDUCTOR CHIP DESIGN FIRMS



With an overall vision to create a vibrant ecosystem for Semiconductor Chip Design in the country, the Ministry of Electronics and Information (MeitY) is seeking applications from 100 domestic companies, start-ups, and MSMEs under its Design Linked Incentive (DLI) Scheme. Under the DLI Scheme, which was announced by MeitY in December, financial incentives and design infrastructure support will be extended to domestic companies, startups, and MSMEs across various stages of development and deployment of semiconductor design for Integrated Circuits (ICs), Chipsets, System on Chips (SoCs), Systems & IP Cores and semiconductor linked design for over a period of 5 years. The scheme, which was a part of ₹76,000 crore ($10 billion) package that the government announced in December, aims to nurture at least 20 domestic companies involved in semiconductor design and facilitating them to achieve turnover of more than ₹1500 Crore in the next 5 years.

C-DAC (Centre for Development of Advanced Computing), a scientific society operating under MeitY, will serve as the nodal agency for implementation of the DLI scheme. The scheme has three components – Chip Design infrastructure support, Product Design Linked Incentive and Deployment Linked Incentive. Under the Chip Design infrastructure support, C-DAC will setup the India Chip Centre to host the state-of-the-art design infrastructure (viz. EDA Tools, IP Cores and support for MPW (Multi Project Wafer fabrication) & post-silicon validation) and facilitate its access to supported companies. Under the Product Design Linked Incentive component, a reimbursement of up to 50% of the eligible expenditure subject to a ceiling of ₹15 Crore per application will be provided as fiscal support to the approved applicants who are engaged in semiconductor design.

Under the Deployment Linked Incentive component, an incentive of 6 per cent to 4 per cent of net sales turnover over 5 years subject to a ceiling of ₹30 Crore per application will be provided to approved applicants whose semiconductor design for Integrated Circuits (ICs), Chipsets, System on Chips (SoCs), Systems & IP Cores and semiconductor linked design are deployed in electronic products. The approved applicants that claim incentives under the scheme will be encouraged to retain their domestic status (i.e., more than 50 per cent of the capital in it is beneficially owned by resident Indian citizens and/ or Indian companies, which are ultimately owned and controlled by resident Indian citizens) for a period of three years after claiming incentives under the scheme.

An applicant must meet the Threshold and Ceiling Limits to be eligible for disbursement of incentives under the Scheme. A dedicated portal has been made available – www.chips-dli.gov.in - for inviting Online applications from January 1, 2022 to December 31, 2024. The applicants can find the guidelines of the DLI Scheme on the portal and register themselves for availing support under the scheme. The DLI Scheme will also take a graded and pre-emptive approach to Identify the Products of national priorities and implement strategies for their complete or near complete indigenisation & deployment thereby taking steps towards the import substitution & value addition in strategic & societal sectors.

INDIAN OIL PLANS TO INVEST OVER ₹7,000 CR IN NEW CGD PROJECTS

IndianOil (Indian Oil Corporation Limited), the country's largest downstream energy major, secured nearly 33 per cent of the demand potential in the recently concluded 11th round of CGD bidding by PNGRB (Petroleum & Natural Gas Regulatory Board). The nearest competing bidder was left with less than 20% of the demand potential in the bidding round in which Indian Oil bagged 9 out of the 15 high potential GAs (Geographical Areas).

With this substantial win in the 11th bidding round, Indian Oil and its associates would service almost 28 per cent of the combined CGD potential in the 3 rounds of bidding till now, which is far ahead of the next major



TATA PROJECTS ERECTED 1ST COKE DRUM STRUCTURE AT HPCL RAJASTHAN REFINERY

Tata Projects Limited, one of the fastest-growing industrial infrastructure companies in India successfully erected the 1st Coke Drum structure at HPCL Rajasthan Refinery Ltd in Barmer (Rajasthan). The total operation, which

player. Indian Oil's recently acquired GAs include major districts like Jammu, Pathankot, Sikar, Jalgaon, Guntur (Amravati), Tuticorin, Tirunelveli, Kanyakumari, Madurai, Dharmapuri and Haldia (East Mednipore). These districts contain high demand customers across the Industry-Commercial-Domestic spectrum for PNG (Piped Natural Gas) & CNG (Compressed Natural Gas). Indian Oil plans to invest over ₹ 7,000 Crore in these new CGD Projects, over and above the ₹20,000 Crore already planned for its CGD Vertical. Speaking on the occasion, Chairman Indian Oil Mrkant Madhav Vaidya remarked,

"Indian Oil has a proud legacy of always aligning its growth agenda with the national priorities. And our concerted efforts to expand the Gas business across the length and breadth of the country reflects our commitment to realise the Government's vision of raising the share of Natural Gas to 15 per cent. Gas will play a significant role in India's march towards a low carbon future as part of its Panchamrit pledge during COP-26 summit to reduce total carbon emissions by one billion tonnes from now till 2030."

Reflecting on the latest developments, Vaidya said, "With our intelligently aggressive approach in the latest CGD bidding process, we have been able to secure nine high market potential GAs that cover 26 districts spread across the country.

And with this, Indian Oil is poised to emerge as a dominant player in Indian CGD Market". After the 11th Round of CGD Bidding, Indian Oil along with its 2 JV Companies is now present in 49 GAs and 105 Districts spread across 21 States and UTs, making it one of the most significant CGD players in the country. On standalone basis, Indian Oil will now have presence in 26 GAs and 68 Districts spread across 11 states & UT covering nearly 20 per cent of the total CGD market potential in GAs announced recently in 3 bidding rounds.

CESL TO INSTALL 900 MORE EV CHARGING STATIONS IN 2022

State-run Convergence Energy Services Limited (CESL) plans to install at least 900 more electric vehicles (EV) charging stations in the country in 2022. CESL is a wholly-owned subsidiary of Energy Efficiency Services Limited (EESL) - an entity under the Ministry of Power. In a conversation with media, CESL's MD MahuaAcharya informed that 396 charging stations have already been installed across India.



"As on date, 396 charging stations have been installed across the country, out of which 166 are commissioned," she said. "When we see a projection for 2022, we are doing all we can to expand the number of charging stations in the country – including install or enable the installation of another 900 more."

At present, the state-run firm has tied up with various private and public companies to set up public charging infrastructure. It has also partnered with urban local bodies to create such infrastructure.

One of the main requirements to set up charging infrastructure is the availability of 'land', which in most cases, is provided free of cost by most municipal bodies or firms for public chargers to CESL.

Currently, many automobile companies and other private players, including standalone charging infrastructure developers, are also installing these facilities. Besides, the company intends to accelerate the adoption of e-vehicles in the country.

Recently, it launched the 'MyEV' app – a digital marketplace to enable the deployment of electric vehicles in the country. Notably, Kerala became the first state to launch the digital marketplace – 'MyEV' which will enable easy access to consumers for booking and buying electric two-wheelers.

In addition, the company runs, Gram Ujala, scheme under which it provides high quality 7-Watt and 12-Watt LED bulbs with 3 years guarantee at a cost of Rs 10 per bulb in exchange of working incandescent bulbs. This program is uniquely financed with carbon credits; achieving these low sale prices. The programme is being implemented in rural households in Bihar, Uttar Pradesh, Andhra Pradesh, Karnataka, and Telangana.

Currently, CESL focuses on energy solutions that are at the confluence of renewable energy, electric mobility, and climate change. It employs unique business models by utilising a blend of concessional and commercial capital, carbon finance and grants to enable commercialisation of these clean energy solutions at scale.

was completed yesterday morning, involved 3 Hrs& 30 Minutes.

Weight of Equipment 356 MT, Dia - 8.09 M, Height-38.0 M, Main Crane - 1250 T and Tailing Crane - 550 T. This was a herculean task, wherein the cranes were stretched to about 79 per cent of their capacity. HPCL Rajasthan Refinery Ltd. (HRRL) is a Joint Venture between Hindustan Petroleum Corporation Limited (HPCL) and the Government of Rajasthan (GOR) with an equity participation of 74 per cent and 26 per cent respectively. The project involves the setting up of a Greenfield 9 MMTPA refinery cum petrochemical complex at Pachpadra in the Barmer district of Rajasthan.

BHEL CELEBRATES 'AKAM ICONIC WEEK'

As part of the 'AKAM Iconic Week' being celebrated by Bharat heavy electricals limited under the aegis of the Ministry of Heavy Industries, GoI, BHEL's Jhansi unit has set up an AKAM Gallery - 'DHAROHARDIRGHA' dedicated to the 'Unsung Heroes of India's Freedom Struggle' and cultural heritage of Bundelkhand region. The gallery was inaugurated by Dr. BalvirTalwar, Executive Director (HR& CC), BHEL, through virtual mode.

Prize-winning entries of school children for poster making, slogan writing, and essay writing competitions along with documentaries on BHEL's Journey, Jhansi unit, cultural heritage of Bundelkhand, life of Rani Lakshmibai, etc. are being showcased in this gallery.

COVID BLUES: **BANKS FEAR CREDIT SLOWDOWN AS CASES SURGE**



Sustaining a pick-up in credit growth is turning into a challenge for banks not merely because of the disruptions to businesses and households but also because of fears of asset quality worsening. That top corporates continue to de-leverage and that banks remain risk averse are also reasons why loan growth could slow in the coming months. The fourth quarter, which is when banks book 35-40 per cent of their business for the full year, may be hurt in FY22 amidst dampening sentiment and fresh curbs on movement, bankers told media.

According to data released by the Reserve Bank of India (RBI), non-food credit grew 9.28% year-on-year (y-o-y) during the fortnight ended December 31, picking up sharply from the 7.51% growth seen in the previous fortnight. The value of corporate bond issuances stood at ₹73,145 crore in December 2021, down 17 per cent on a y-o-y basis, as per data from the Securities and Exchange Board of India (Sebi). Loan growth had perked up during the festival months of October and November, but the renewed jump in Covid cases, which many are already referring to as a third wave, may set back the growth figures.

Senior bank executives FE spoke to said that they are having to cut down on staff presence at branches and offices in some parts of the country due to the increased incidence of infections. "We saw cases increasing in our Delhi and Kolkata offices and therefore we had to reduce our staff strength to 50 per cent in those offices. Credit growth will take a hit as a result of this because Q4 is when we get almost 40 per cent of the full-year business," said a senior executive with a mid-sized private bank. While there has been no visible impact on repayments so far, if the caseload does not peak off soon, there could be a hit to asset quality as well.

"As always, the self-employed segment will be the one that gets hit the worst," the banker quoted above said. Many states have imposed mobility restrictions to slow down the spread of infections and some of these cover footfalls at bank branches as well. To be sure, the increased use of digital channels for sanction and disbursement of loans is helping to cushion the impact of lower staff strength. However, the hit to business sentiment is real, bankers said. AshutoshKhajuria, executive director, Federal Bank, said that the bank is not facing any operational challenges, but credit utilisation has slowed down.

"We have strong operational capabilities in terms of digital delivery of credit, including for gold loans, and there are no challenges on that front. But the sentiment today is not as upbeat as it was on January 1 as we are seeing drawdowns get affected. People are in a wait-and-watch mode and want to hold out for another three-four weeks before drawing down the money due to the Omicron wave," he said. Fintech lenders who rely to a lesser extent on a physical network of branches and staff say they are yet to see a major impact on lending.

Aditya Harkauli, chief business officer, Indifi Technologies, said, "Our initial reading from all the available data and the commentary from government and medical experts suggests that this could be an intense but short-lived wave. We don't expect it to disrupt the overall demand for credit from the SME segment beyond 30-35 days."

BANKING, FINANCIAL INSTITUTIONS STRUGGLING TO DEAL WITH INCREASING FRAUD INCIDENTS: **DELOITTE SURVEY**

In the wake of COVID-19 and new digital operations, banking and financial institutions have been struggling to deal with an increasing number of fraud incidents and the trend is expected to continue, a Deloitte India survey said on Monday. Key reasons identified for the increase in fraud incidents over the next two years include large-scale remote working models, increase in customers using non-branch banking channels and the limited/ ineffective use of forensic analytics tools to identify potential red flags, Deloitte Touche Tohmatsu India LLP (DTTL) said in a release.

About the survey, Deloitte said it gathered the views of 70 key C-suite stakeholders/ senior management responsible for compliance and fraud risk management, audit/ finance, asset recovery from varied financial institutions based in India.

Banks and financial institutions which participated in the survey included private, public, foreign, co-operative and regional rural banks in India. "In the wake of COVID-19 and new digital operations, banking and financial institutions have been struggling to deal with an increasing number of fraud incidents," the Deloitte India Banking Fraud Survey said, adding "this trend is expected to continue, with



78 per cent respondents stating that frauds could increase over the next two years". As per the survey findings, retail banking was identified as a major contributor to fraud incidents, with 53 per cent of respondents indicating that they had experienced more than 100 fraud incidents (over the last two years) – a 29 per cent rise since the previous edition.

Similarly, the non-retail segment saw an average of 20 fraud incidents, highlighted by 56 per cent of survey respondents – again, a 22 per cent rise. "Additionally, data theft, cybercrime, third-party-induced fraud, bribery and corruption, and fraudulent documentation have been identified as the top five concerns with over 42 per cent of respondents (cumulative) reporting to be victims of these," the release said.

Survey respondents indicated that the top three outcomes of COVID-19 on their Fraud Risk Management (FRM) function would be increased dependence on analytical tools for fraud monitoring and detection (25 per cent), the need to create awareness about fraud amongst customers and employees (23 per cent), and a change in the target operating model to enhance capabilities of the remote FRM function (21 per cent).

Speaking on the launch of the survey findings KV Karthik, Partner, Financial Advisory, Deloitte India, said the impact of the pandemic has resulted in institutions across the globe operating in an entirely new environment. "Increase in the use of digital channels for transactions by customers, on one hand, has contributed to the ease and speed of transactions.

On the other, with evolving and complex business models and increased use of technology, existing fraud risk management frameworks have been introduced to newer and more complex challenges," he said.

NishkamOjha, Partner, Deloitte India, opined that the pandemic has forced banks to enact significant organisational and operational changes within a short timeframe to avoid service interruptions. "With myriad changes being deployed at the front end but processes and systems possibly remaining untouched, it begets the question – have all such changes been assessed for their vulnerability to fraud," he added.

Only half of the survey respondents indicated that they conduct fraud risk assessments and update their fraud risk register once a year. With fraud risks such as loan frauds (24 per cent), mobile/internet banking frauds (14 per cent), identity/data theft (13 per cent), and phishing (9 per cent) being identified as the top four biggest concerns facing banks currently, the frequency of fraud risk assessment is severely wanting.

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee (DTTL), its network of member firms, and their related entities.



AXIS BANK CLOSING IN ON CITI INDIA'S CONSUMER BUSINESS: **REPORT**

Axis Bank has emerged as the frontrunner to buy Citi's consumer business in India, which is being valued at around USD 1.5 billion in a planned deal that's likely to happen this month, according to two sources with direct knowledge of the matter.Another Indian lender, Kotak Mahindra Bank is still in the race but has submitted a lower bid than Axis Bank so ranks second in Citi's order of preference, the sources told media. Axis Bank and Kotak Mahindra Bank did not immediately respond to requests for comment. "We continue to move forward with our process with respect to our India consumer business sale in accordance with our broader strategic refresh," said Citi India in response to an email query on the deal status. Wall Street giant Citi said last year that it would exit its consumer franchises in 13 markets, including India, as it refocuses on its more lucrative institutional and wealth management businesses. Its Indian consumer banking business comprises credit cards, home loans and retail banking.

Acquiring the assets would strengthen the high-end credit card and mortgage businesses of Axis Bank, India's third largest private lender, analysts at ICICI Direct said in a note. "The acquisition of Citi's India retail business would further help Axis Bank to expand their reach and create more opportunities," they added. Citi has been in India for decades and was among the first bank to introduce Indians to credit cards in 1987. It had a portfolio of 2.57 million credit cards in the country as of November, according to the Indian central bank, while Axis Bank's card portfolio exceeded 7.9 million. Even though Axis has more cards, Citi reported higher spend per card. Citi's total retail loan book in India stood at 216 billion rupees (USD2.91 billion) for 2021, Systematix Institutional Equities said in a report last month.

CITI IN TALKS WITH FUBON ON USD 1.5 BILLION CHINA ASSET SALE: **SOURCES**

Citigroup Inc., which has been shedding some of its retail operations as part of a global revamp, is in advanced talks with Taiwan's Fubon Financial Holding Co. for a sale of its mainland China consumer business, people familiar with the matter said. Taipei-based Fubon has emerged as the likeliest buyer after outbidding rivals, and the two lenders are negotiating the terms of a potential transaction, the people said, asking not to be identified as the information is private. They are aiming to sign an agreement in the coming weeks and the assets could be valued at about USD 1.5 billion, the people said. A deal would help Fubon strengthen its foothold in the mainland, where it acquired a controlling stake in Shanghai-based First Sino Bank in 2014 and later changed its name to Fubon Bank China, according to its website. Fubon is Taiwan's second-biggest financial holding company by assets.

Discussions are still ongoing and no final decision has been made, the people said, adding Citigroup could still decide to enter talks with other bidders if talks with Fubon don't lead to an agreement. Representatives for Citigroup and Fubon declined to comment. The China asset sale is part of Citigroup Chief Executive Officer Jane Fraser's business restructuring that has sought to dispose of retail banking operations in 13 countries across Asia and Europe. The lender is focusing on building out its burgeoning wealth management arm instead. Earlier this month, the firm announced it would exit its consumer, small business and middle market banking businesses in Mexico. Last week, Citigroup agreed to sell consumer-banking businesses in Indonesia, Malaysia, Thailand and Vietnam to United Overseas Bank Ltd. for about USD 4.9 billion (USD 3.6 billion). The disposal followed the sale of its assets in the Philippines to Union Bank of the Philippines for a cash consideration plus a premium of about USD 904 million in December.

DIXON, IMAGINE FORM JOINT VENTURE FOR DESIGNING WIRELESS AUDIO SOLUTIONS



Dixon, an indigenous design-focused company that manufactures consumer durables, lighting and mobile phones has entered into a joint venture (JV) with Imagine Marketing, popular for its flagship brand BoAt, in order to design and manufacture wireless audio solutions. The aforementioned JV company will see 50 percent stake held by Imagine and the rest 50 percen by Dixon. The JV also aims to co-invest in the burgeoning Indian mobile accessory market, encouraging 'Make In India' in this segment. Commenting on this occasion, Mr Atul B. Lall, Vice Chairman & Managing Director, stated that "Dixon has been manufacturing wearables for boAt since the previous fiscal year and it's a pleasure that our business relationship is getting cemented with this Joint Venture".

"Over the years, boAt has built strong brand equity, capitalizing on its early-mover advantage with strong growth momentum through its high-quality audio devices which are known for their style and efficiency. Through our partnership, we aim to provide boAt with a faster ability to scale up manufacturing in India with our low-cost structure, high quality and superior execution track record. We strive to develop innovative products with boAt for not only the discerning Indian consumers but also for global markets," he added.

The association will bolster high-quality and aspirational lifestyle-focused hearable solutions, given that Imagine's understanding of the audio industry combined with Dixon's manufacturing capabilities will facilitate a "vibrant platform for electronics accessories design and manufacturing in India", Dixon said in a BSE filing, Notably, the centre of attention for this joint venture will be on IP, product design, quality assurance and high-quality manufacturing.



GJEPC FOR CUT IN GOLD IMPORT DUTY TO 4 PER CENT, SPECIAL PACKAGE FOR SECTOR IN BUDGET

Gems and Jewellery Export Promotion Council (GJEPC) has urged the government to reduce import duty on gold to 4 per cent from 7.5 per cent and a special package for the sector in the forthcoming Budget to boost shipments. As part of its pre-Budget recommendations, the council has also suggested a reduction in the import duty on cut and polished diamonds; cut and polished precious and semi-precious

PIYUSH ARORA TO SUCCEED GURPRATAP BOPARAI AS ŠKODA AUTO VOLKSWAGEN INDIA MD

ŠKODA AUTO Volkswagen India has a new managing director after Gurpratap Boparai called it quits just two years into the group's ambitious India 2.0 project. Piyush Arora, the new MD, will now be responsible for expanding the Volkswagen Group's (VW) business in India.

The VW group in late 2019 announced the merger of their three Indian subsidiaries—Volkswagen India, Volkswagen Group Sales India and ŠKODA AUTO India—into a single entity called ŠKODA Auto Volkswagen India (SAVWIPL), headquartered at Pune.

The combined entity oversees the business operations of five brands – ŠKODA, Volkswagen, Audi, Porsche and Lamborghini. The group shelled out €1 billion for the project, one of the largest investments in the Indian automotive sector and also tried to solve one of its biggest problems: localisation.

Under its ambitious India 2.0 project, all VW and ŠKODA models designed and produced locally will be based on its global MQB platform helping it form better synergies and streamline decision-making at the management level.

"I would like to thank Gurpratap Boparai for his outstanding performance as Managing Director of ŠKODA AUTO Volkswagen India Private Limited. I wish him all the best for the future.

At the same time, I would like to extend a warm welcome to Piyush Arora. I am delighted that we have found a highly experienced professional to lead the India business. His task will be to advance and sustainably expand the Volkswagen Group's business in India. I am convinced that he will succeed in this endeavour and wish him every success," Thomas Schäfer, CEO of ŠKODA AUTO, said.

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ŠKODA AUTO Volkswagen India Private Limited

gemstones from 7.5 per cent to 2.5 per cent. "If (gold) imported at 4 per cent duty rate….working capital amounting to Rs 225 crore would be blocked instead of Rs 500 crore," the council said in a statement.

The other suggestions of the council include an amendment in taxation provisions to allow the sale of rough diamonds in Special Notified Zone in Mumbai; clarification on online equalisation levy for business to business international diamond auctions; and extension of the sunset clause for SEZ units, as it would allow the SEZ units to stay competitive in the international markets. GJEPC Chairman Colin Shah said India is the fifth largest exporter of gems and jewellery, contributing 5.8 per cent of the global gems and jewellery exports.

"We will achieve the target of USD 41 billion for this sector (for the current fiscal). We now target to achieve USD 100 billion exports when India will observe the centenary of its independence. To kickstart the same, we appeal to the government to announce a special package for the sector in the forthcoming Union Budget," Shah said. He added that the only way to further scale up this sector is through policy reforms, which will make us more competitive in the global market.

"We have requested to reduce import duty on cut and polished diamonds; permit the sale of rough diamonds in Special Notified Zone in Mumbai…This will not only help the Indian diamond industry to remain as the largest diamond producer of diamonds in the world but would also help us to become the largest diamond trading hub," Shah added. He said that the reduction in import duty on precious metals – gold, silver and platinum – would be a step towards making India "the number one" exporter of jewellery in the world.

The group saw two successful product launches under Boparai–the Škoda Kushaq and VW Taigun. The company said 2022 will see important events for all Volkswagen Group brands.

Volkswagen and ŠKODA will finalise the rollout of the India 2.0 project with the ŠKODA SLAVIA and a Notchback from Volkswagen, including commencing exports of the India 2.0 vehicles across the globe. “It is my pleasure to welcome Piyush Arora into the India leadership team. 2021 has been a year of growth for SAVWIPL.

Despite the challenges posed by the pandemic and the global chip shortage, we recorded a 76 per cent growth across our five brands. I am confident that Piyush Arora’s proven leadership will help us further build on this strong momentum and continue on a sustainable growth path in 2022 and the years ahead,” Christian Cahn von Seelen, Chairman, SAVWIPL, said.

Arora has been working in the automotive industry for more than 30 years and has extensive knowledge of the Indian market. He began his career at Tata Motors and later joined Mercedes-Benz India, where he held several senior positions, including the Supervisory Board positions at Mercedes-Benz Indonesia and Mercedes-Benz Vietnam, while overseeing their operations. His last held position was Executive Director and Head of Operations at Mercedes-Benz India.

NEUTRAL TECH MAHINDRA; TARGET OF RS 1910: MOTILAL OSWAL



TECHM has announced the acquisition of Com Tec Co IT (CTC), an East European IT Services company with a presence in the Digital engineering and outsourced product development space, for EUR310m. -CTC services clients in the Insurance vertical, which should strengthen TECHM’s capabilities in that space. It has development centers in Eastern Europe (Latvia and Belarus) and has a workforce of 720.

TECHM has also acquired a minority stake (25 per cent) in two group SaaS companies (SWFT and Surance) for EUR20m, along with an option to acquire an additional 20 per cent at current levels. CTC had a revenue of EUR36.6/EUR57.6/EUR71.3 in CY18/CY19/CY20, implying approximately 40 per cent CAGR, although the growth has progressively moderated. It posted a revenue of EUR 58.8m for the nine months ended Sep’21, implying a run-rate of ~EUR80m in CY21 (1.5 per cent of TECHM’s FY22 revenue).

As per the management, CTC has industry-leading EBIT margin and will be accretive on an EPS, RoE, and FCF basis. While TECHM has not shared additional details, our rough estimates suggest a PAT accretion of less than 1 per cent to our FY23 estimate.

TATA MOTORS' PASSENGER VEHICLES TO SEE 'MINIMAL' PRICE HIKE



Tata Motors today announced a marginal price hike for its passenger vehicles with effective from 19 January 2022 as the company passes on some input costs to customers. An average increase of 0.9 percent will be implemented, depending on the variant and model, the company said in a statement. The company has also reduced prices of some variants by up to ₹10,000, in response to feedback from customers, it said.

"While the company is absorbing a significant portion of the increased costs, the steep rise in overall input costs has compelled it to pass on some proportion through this minimal price hike," the firm added.

The company also clarified that there will be no impact of the price hike on bookings made on or before January 18. Recently on January 15, Maruti Suzuki India said it has increased prices of its models by up to 4.3 per cent to partially offset the impact of the rise in input costs. The company enhanced prices across its models in the range of 0.1 percent to 4.3 per cent owing to increase in various input costs.

A LOOK AT INDIA'S EVOLVING INFRASTRUCTURE TRENDS

Over the last few years, the urban transportation industry has achieved great strides. The pandemic's onset influenced the promoters and operators of the country's public transit networks. Ridership on city buses decreased, and metro rail operations came to a standstill for several months, resulting in a significant drop in income. Despite restarting operations gradually between September 2020 (after the first wave of Covid-19) and July 2021 (after the second wave of Covid-19), the low ridership pattern has been maintained.



During 2018-20, metro development in the country had the largest growth, with a metro network of almost 296 kilometres constructed in important cities

Sector outline

The urban rail section has seen an increase in activity, particularly after 2014. The operational metro network has grown from more than 200 kilometres in 2014 to roughly 740 kilometres in 2021 spanning 18 cities. During 2018-20, metro development in the country had the largest growth, with a metro network of almost 296 kilometres constructed in important cities. Chennai (17.9 km), Hyderabad (38.44 km), Delhi (130.54 km), Noida (29.71 km), Ahmedabad (6.5 km), Mumbai (11.28 km), Kochi (6.8 km), Nagpur (24.5 km), Jaipur (2.35 km), Kolkata (7 km), Lucknow (14.38 km), and Bengaluru (6.29 km) are among them.

In the last year, there have also been several changes to the bus rapid transit system (BRTS). Surat became the first city in India to have the longest BRTS network with the opening of the Kumbharia-Kadodora BRTS route. Many new BRTS networks are set to open in places like Jodhpur, Mumbai, Chennai, Hyderabad, and Raipur. However, with cities like Delhi, Pune, and Pimpri Chinchwad (who installed BRTS early) disbanding its BRTS, the segment's future does not appear promising.

Future tendencies in the new normal

The epidemic has opened up a multitude of new options. The application of technology and innovation in fare collecting and driverless coaches has enormous potential. Contactless ticketing in metro train systems is becoming more important in reducing Covid-19 transmission by surface touch. Innovative fare collecting techniques are also gaining steam, such as the use of bank cards and mobile wallets for payment, as well as QR code-based ticketing and biometric-based ticketing systems.

The National Common Mobility Card, India's first indigenous automatic fare collecting system, was inaugurated in March 2019. The NCMC service was launched in December 2020 for the Delhi Metro's Airport Express Line and is projected to span the whole Delhi metro network by 2022.

The operational metro network has grown from more than 200 kilometres in 2014 to roughly 740 kilometres in 2021 spanning 18 cities.

Emerging markets such as station branding, commercial development, and real estate development will also present substantial potential in the coming years. Meanwhile, certain governments, like Maharashtra, Madhya Pradesh, and Uttar Pradesh, have begun to collect land value using the value capture financing framework. Transit-oriented construction will help increase metro authorities' earnings.

With the adoption of regional rapid transit systems, multimodal integration is becoming more important. Metro officials are working in this region to provide commuters with a seamless commuting experience.

Elevated/at-grade constructions will continue to dominate the urban rail landscape in the future. To enhance urban transportation in smaller cities, the government intends to implement two new technologies – MetroLite and MetroNeo – to deliver metro rail systems at a lower cost while providing the same experience, convenience, and safety in Tier-II cities and Tier I city outskirts.

Mobility-as-a-service, the internet of trains,

big data, and predictive maintenance are among the new concepts and technologies being investigated. Other technology projects that are on the horizon include unattended train operations, CBTC, open-loop ticketing, environmental safety solutions, and enhanced mechanisation and remote monitoring in project execution. There has been a rising emphasis on the usage of green energy to lessen our reliance on traditional energy sources. The utilisation of energy created by waste-to-energy plants has also shown promise as a future alternative to conventional sources. Electric vehicles are also gaining popularity.

Budgetary allotments

The Union Budget 2020-21 allotted INR 200 billion for MRTS and metro projects, a nearly 6 per cent increase above the INR 189 billion allotted in 2019. However, the revised projection for 2020-21 has been drastically lowered to INR 90 billion. During the 2015-22 era, the year 2021-22 witnessed the biggest spending on metro projects, at INR 235 billion. The budget includes funding for four metro projects. Kochi metro railway project Phase II of 11.5 km at INR 19.57 billion, Chennai metro railway project Phase II of 118.9 km at INR 632.46 billion, Bengaluru metro railway project Phase 2A and 2B of 58.19 km at INR 147.88 billion, and Nagpur metro rail project Phase II and Nashik metro at INR 59.76 billion and INR 20.92 billion, respectively.

In addition, INR 180 billion has been allocated to a project to improve urban public transportation. Furthermore, unique PPP methods will be implemented to operate approximately 20,000 buses. The budget also included a new car scrappage policy for both personal and commercial automobiles. The suggested policy can contribute to the modernization of city bus fleets.

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The Covid-19 Scenario

The urban transportation industry, like all other infrastructure sectors, has been afflicted by the current epidemic. Metro operations throughout the country were halted on March 22, 2020, because of the Covid-19 epidemic.

Despite the restart of services across the nation after almost six months, patronage remained low in practically every metro system, owing to corporate social distancing efforts, as well as a widespread fear of viral transmission via public means of transportation. Furthermore, because of the pandemic, building work on metro projects in the majority of cities has been postponed. The bid timeframes were also extended, which harmed the projects that were up for bid.

The emergence of Covid-19 is projected to have an impact on project execution for at least the next six months. Construction activity has been hampered by following labour migration, inadequate liquidity, and a block on Chinese imports. When the sector began to heal, the second wave of Covid-19 returned it to where it had begun.



Points of contention

Financing issues and income deficits are two of the sector's primary concerns. Long gestation periods make it harder to finance urban rail systems. With little public money available, the sector's overall expansion is stopped. The economics of urban train networks are such that farebox revenues seldom cover expenditures.

Another concern afflicting the sector is the continued derailment of project completion due to delays in land acquisition. In the past, the lack of available land for project development has hampered the early completion of major metro rail projects in Delhi, Chennai, Kochi, Mumbai, and Ahmedabad.

Meanwhile, metro rail construction becomes difficult due to each city's unique geological and soil circumstances. In addition, the industry is dealing with a tough execution and operating environment. Furthermore, fare increases always include the risk of reducing ridership, which has ramifications for revenue production.

What is to come?

According to the Ministry of Housing and Urban Affairs, the urban rail network will be expanded to around 900 kilometres by 2022. According to government projections, the active urban rail network will cover 1,700 kilometres in the next five years. In the coming years, the government intends to expand metro services to 50 cities. New metro rail lines are being built in places like Kanpur, Indore, Surat, and Patna. Metro rail projects are in the early stages in some cities, while others are testing the waters with MetroLite and MetroNeo systems.

The adoption of the Make in India concept has also resulted in a higher level of indigenisation in metro projects. Given regulatory backing, a healthy project pipeline, and a growing emphasis on efficient means of mass transportation, the industry has a bright future, both for bus and metro rail expansion.

The sector's total expansion is based on several issues, including the formation of a Unified Metropolitan Transport Authority, the integration of multiple forms of transportation, and smart ticketing. Furthermore, the pandemic's emergence has assured that new and improved technologies for tracking, monitoring, and delivering information are being employed for safe travel and project implementation in the current circumstances.

INDIA'S BIG INFRASTRUCTURE DREAMS:

FDI GAP



Piyush Goyal, Union Commerce Minister, has lauded India's record FDI inflows over the previous seven years. While FDI has climbed from INR 2.6 lakh crore in FY15 to INR 4.4 lakh crore in FY21, it masks a significant gap—infrastructure accounts for a very modest percentage compared to services and IT. Services and technology received INR 2.4 lakh crore in FY21, while infrastructure and construction earned just INR 61,000 crore. Even though 100 per cent of FDI is permissible through the automatic route in sectors such as roads, railroads, ports, and construction.

This is a concerning issue, especially given that the Union and state governments are beginning large-scale infrastructure projects to reinvigorate the economy in the aftermath of Covid-19. The project pipeline is extensive: 80,000 kilometres of roads under Bharatmala, 100 per cent electrification of broad-gauge rail track by 2023, 1,000 kilometres of metro in cities, and 500 gigatonnes of renewable energy by 2030. These planned infrastructure projects, which have the potential to be transformative, will not be able to take off without enough financial backing. The Economic Survey 2018 predicted that India will require INR 450 lakh crore in infrastructure investment by 2040. Initiatives to mobilise funds have also been revealed, including the INR 6 lakh crore National Monetisation Pipeline, which will run for four years, and the INR 3 lakh crore National Bank for Financing Infrastructure and Development. However, recruiting foreign investment is mainly lacking from the infrastructure funding strategy. Because of the lukewarm reaction from international investors, the government has been obliged to turn inside and set an aggressive disinvestment target of INR 1.75 lakh crore for FY22. Foreign investors' hesitation to devote cash to infrastructure should be investigated further. Multiple variables, such as protracted gestation periods and delayed completion, lead to a lower rate of return for the foreign investor in greenfield projects. Consider the statistics ministry's 2020 report, which found that 442 infrastructure projects had a total cost overrun of INR 4 lakh crore and 536 projects had an average time overrun of 44 months.

The road and highways sector's status is instructive. In its assessment of the roads ministry's budget for this year, the Parliamentary Standing Committee on Transport observed that 888 road projects totalling 28,000 kilometres and costing INR 3 lakh crore have been postponed. The principal causes of the delays were, among other things, site acquisition, contractor payment delays, and inadequate utility design. These causes, however, are not exclusive to roads and afflict the majority of Greenfield infrastructure projects.

Many of these postponed projects are eventually designated as non-performing assets, and creditors file a claim with the National Companies Law Tribunal. They do not find a speedy conclusion in this case, either. The secretary of the corporate affairs ministry emphasised the need of eliminating the tribunal's delays in resolving bankruptcy cases. The Standing Committee on Finance reported in August that 71 per cent of cases in the NCLT had been languishing for more than 180 days, which is contrary to the Insolvency and Bankruptcy Code's goal. Furthermore, the recovery rate as of June 2021 was 36 per cent, which is poor when compared to the US's 59 per cent. Foreign investors' risk perception is heightened by high pendency, a significant backlog, and low recovery rates.

To increase FDI in Greenfield projects, two factors must be prioritised: lowering risk in project execution and offering a safe exit route in the event of failure. In terms of the latter, the Union government should fortify the NCLT by prohibiting post-hoc bids during resolution and introducing more flexible infrastructure resolution plans. In terms of the former, the PM Gati Shakti Master Plan can improve infrastructure project execution.

To synchronise growth, the initiative attempts to centralise all infrastructure projects from 16 different ministries under one platform. The use of unified GIS-based planning and centralised monitoring has the potential to accelerate infrastructure construction. However, because states are involved in matters like land acquisition and environmental and regulatory permits, this coordination cannot be limited to the Union level. For example, the Ahmedabad-Mumbai bullet train project has been postponed by three years to 2026 since just 30 per cent of the land required in Maharashtra has been obtained. The Union government will need to work with the states to make the master plan a success. Its success would also help to increase FDI in Greenfield projects.

Given the greater risk profile of Greenfield projects, international investors may be more interested in brownfield projects. Such initiatives have a substantially reduced risk because the major issues are operations and management. The National Monetisation Pipeline is intended to generate INR 6 lakh crores from brownfield assets and should be used to attract international investment. The NMP should also develop an Infrastructure Investment Trust (InvIT) pipeline, as international investors favour InvITs as a vehicle. There are already 15 registered InvITs, but infrastructure-related PSUs can create more to raise 8 lakh crore by FY27.

There are several examples of infrastructure funding reshaping whole economies throughout history. Following the Great Depression, US President Franklin D. Roosevelt implemented the New Deal, which produced 90 lakh employments and built 6 lakh kilometres of roads, 1 lakh buildings, and 75,000 bridges. India is in a similar situation; our GDP shrank by 8 per cent last year. Great infrastructure, on the other hand, cannot be created only with local funds, and the government would be wise to seek international investment. Finally, the 2.5–3.5x multiplier associated with infrastructure expenditure will restore demand and save lakhs of households that have fallen back into poverty as a result of the epidemic.

BIOTECHNOLOGY NEW DRIVING WHEEL OF INDIA'S ECONOMY

The Indian government aims to have 10,000 biotech start-ups by 2024 and a USD 150 billion bioeconomy by 2025



India is among the top 12 biotechnology destinations in the world and third largest in Asia-Pacific. The industry was valued at US$ 63 billion in 2019 and is expected to reach US$ 150 billion by 2025 with a CAGR of 16.4 per cent. By 2025, the contribution of the Indian biotechnology industry in the global biotechnology market is expected to grow to 19% from 3 per cent in 2017. The biotechnology sector is divided into five segments, which include biopharmaceuticals, bio-services, bio-agri, bio-industrial and bio-IT.

The Indian government aims to have 10,000 biotech start-ups by 2024 and a USD 150 billion bioeconomy by 2025. In the Indian biotechnology market, Biopharmaceutical, which is the largest segment, accounted for ~62 per cent in 2020 and ~58 per cent in 2019. The biotechnology industry in India comprises >600 core biotech companies, >100 biotech incubators and ~4,000 biotech start-ups, which are estimated to reach 10,000 by 2024. Under the Union Budget 2021-22, the government announced plans to set up nine biosafety level-3 (BSL-3) laboratories through PradhanMantriAatmanirbharSwasth Bharat Yojana. In August 2021, the Central Council for Research in Siddha (CCRS) introduced ARIVU, an initiative to motivate academia and industry to carry out research to advance value-chain in industries such as biotechnology and nanotechnology. Bharat Biotech and the Indian Council of Medical Research (ICMR) are exploring Covaxin clinical trials in Bangladesh, which is expected to boost its (Covaxin) international recognition. India has 665, the highest number, of FDA-approved plants outside of the US; 44 per cent global abbreviated new drug applications (ANDA) and >1400 manufacturing plants, which comply with WHO requirements. The Department of Biotechnology (DBT) has established 'Biotechnology Parks/ Incubators' across the country.

These biotechnology parks offer facilities to scientists and small & medium sized enterprises (SMEs) for technology incubation, technology demonstration and pilot plant studies to accelerate commercial development of biotechnology. The government, at present, supports nine biotechnology parks in various states & Union Territories (UT), with the bulk being in the southern region, which includes Uttar Pradesh, Telangana, Tamil Nadu (2 parks), Assam, Kerala, Jammu & Kashmir (UT) and Chhattisgarh. DBT has also initiated the 'National Biotechnology Parks Scheme' proposed to create an ecosystem to absorb start-ups and give them a platform to scale their R&D activities in collaboration with the state government and industry.

BIRAC (Biotechnology Industrial Research Assistance Council), a public sector undertaking of DBT, partnered with innovative foundations and universities to focus on the 'Make in India' and 'Start-up India' programmes. BIRAC established several industry-focussed schemes such as SBIRI, BIPP Biotechnology Ignition Grant, BioNEST, SITARE, PACE, SIIP, SEED, LEAP and Fund of Funds–AcE; supports 60 bio-incubators for potential entrepreneurs. Under Atmanirbhar Bharat 3.0, Mission COVIDSuraksha was announced by the Government of India to accelerate the development and production of indigenous COVID vaccines.

In May 2021, to augment the capacity of indigenous production of Covaxin under the mission, the Department of Biotechnology, Government of India provided financial support in the form of a grant to vaccine manufacturing facilities for enhanced production capacities, which is expected to reach >10 crore doses per month by September 2021. The Government of India and Karnataka government funded Biomoneta, a start-up that developed an air decontamination technology, which eliminates airborne



In the Indian biotechnology market, Biopharmaceutical, which is the largest segment, accounted for ~62 per cent in 2020 and ~58 per cent in 2019

In August 2021, Bharat Biotech received World Health Organisation's (WHO) prequalification approval for Rotavac5D for prevention of rotavirus diarrhoea

COVID-19 virus with 99.9999 per cent efficiency in any closed setting. The subject expert committee of India's Central Drugs Standard Control Organisation recommended Serum Institute of India to conduct phase II and III clinical trials of Covovax on children aged 7-11 years.

Atal Jai Anusandhan Biotech Mission is implemented by Department of Biotechnology (DBT), Ministry of Science and Technology. The purpose of this mission is to address the challenges of maternal and child health, antimicrobial resistance, vaccines for infectious disease, food and nutrition, and clean technologies.

In October 2021, the Department of Biotechnology launched a 'One Health' consortium that will survey important bacterial, viral and parasitic infections of zoonotic as well as transboundary pathogens in the country. The Consortium consists of 27 organisations and is led by the DBT-National Institute of Animal Biotechnology, Hyderabad. In October 2021, drug firm AstraZeneca, launched a clinical data and insights division in Bengaluru, India, for data-related management of its clinical trials. In October 2021, Biological E has sought permission from Drugs Controller General of India (DCGI), to conduct phase-III clinical trials for its COVID-19 vaccine. Corbevax is a single booster dose for people fully vaccinated with the Covishield or Covaxin vaccines.

In August 2021, Bharat Biotech received World Health Organisation's (WHO) prequalification approval for Rotavac5D for prevention of rotavirus diarrhoea.

In August 2021, Glenmark Pharmaceuticals collaborated with SaNOtize Research, Canadian biotech company, for manufacturing, marketing and distributing nitric oxide nasal spray (NONS) to treat COVID-19 in India and other Asian markets. In July 2021, Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoSPMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh launched 'Biotech-PRIDE' (Promotion of Research and Innovation through Data Exchange) guidelines to support information exchange and encourage research and innovation in various research groups in India.



In April 2021, The Department of Biotechnology (DBT), Ministry of Science & Technology, approved additional funding towards clinical studies for India's 'first-of-its-kind' mRNA-based COVID-19 vaccine, HGCO19, developed by Pune-based Gennova Biopharmaceuticals Ltd. In March 2021, Gland Pharma Ltd. announced that it will produce 252 million doses of the Sputnik V COVID-19 vaccine in the third quarter of 2021.

In January 2021, Bharat Biotech plans to produce 700 million doses of its COVID-19 vaccine in 2021. The company announced that it will be establishing four facilities and is planning to manufacture 200 million doses in Hyderabad and 500 million does in other cities.

In April 2021, MSD, a drug firm, entered voluntary licensing agreements for investigational oral antiviral drug candidate 'molnupiravir', which is being studied for the treatment of Covid-19, with Indian drug firms—Sun Pharma, Cipla, Dr Reddy's, EmcurePharma and Hetero Labs. The global life sciences industry is shifting from chemical-based drug to biologics and biosimilars. India approved its first biosimilar as early as 2000 and is an emerging hub for biologics and biosimilars.

Biologics economy in India was valued at USD 7 billion in 2019 and is forecast to reach USD12 billion by 2025. In India, the biologics segment is led by Biocon Ltd., which has commercialised the biosimilarsTrastuzumab and Pegfilgrastim in partnership with Mylan. Other players in this space include Dr Reddy's Laboratories, Intas Pharmaceuticals, ZydusCadila and Lupin.

India is among the preferred destinations for clinical trials owing to a large patient pool, transformation of the healthcare market, well-educated physicians and cost competitiveness The Indian Council of Medical Research (ICMR) has selected 12 institutes for clinical trial of the country's first indigenous COVID-19 vaccine. In 2020, the ICMR to develop indigenous COVID-19 vaccine (BBV152COVID) in partnership with Bharat Biotech International Limited. HempStreet became the first medicinal cannabis firm to win BIRAC grant in India, in July 2021.

INDIA SCORED PERFECT 10 IN PROTECTING SHAREHOLDER'S RIGHT

In 2019, investment in Indian equities by foreign portfolio investors (FPIs) touched five-year high of `101,122 crore (USD 14.47 billion).



The country's financial services sector consists of capital markets, insurance sector and non-banking financial companies (NBFCs). India's gross national savings (GDS) as a percentage of Gross Domestic Product (GDP) stood at 30.50% in 2019. In 2019, US$ 2.5 billion was raised across 17 initial public offerings (IPOs). The number of ultra-high net-worth individuals (UHNWIs), with wealth of US$ 30 million or more, is expected to rise 63% between 2020 and 2025 to 11,198; India has the second-fastest growth in the world.

India is expected to have 6.11 lakh HNWIs in 2025. India has scored a perfect 10 in protecting shareholders' rights on the back of reforms implemented by Securities and Exchange Board of India (SEBI) in the World Bank's Ease of Doing Business 2020 report. As of September 2021, AUM managed by the mutual funds industry stood at Rs. 36.73 trillion (USD 489.11 billion). As of August 2021, AUM managed by the mutual funds industry stood at ₹36.59 trillion (USD 492.77 billion) and the total number of accounts stood at 108.5 million.

In May 2021, the mutual fund industry crossed over 10 crore folios. Inflow in India's mutual fund schemes via systematic investment plan (SIP) were ₹96,080 crore (USD 13.12 billion) in FY21. Equity mutual funds registered a net inflow of ₹8.04 trillion (USD 114.06 billion) by end of December 2019. 16 per cent assets in the mutual fund industry were generated from B30 locations in March 2021. These assets decreased by 1.29 per cent, from ₹5.23 lakh crore (USD 71.72 billion) in March 2021 to ₹5.17 lakh crore (USD 70.90 billion) in April 2021. The Government of India has taken various steps to deepen reforms in the capital market, including simplification of the IPO process, which allows qualified foreign investors (QFIs) to access the Indian bond market.

In 2019, investment in Indian equities by foreign portfolio investors (FPIs) touched five-year high of ₹101,122 crore (USD 14.47 billion). Investment by FPIs in India's capital market reached a net ₹12.52 lakh crore (USD 177.73 billion) between FY02-21 (till August 10, 2020). Indian stock markets—S&P Sensex and Nifty50—rose 15.75 and 14.90 per cent, respectively, in 2020. For the decade ended 2020, the Sensex gained a whopping 173 per cent and Nifty surged by 169 per cent.

In September 2021, eight Indian banks announced that they are rolling out—or about to roll out—a system called 'Account Aggregator' to enable consumers to consolidate all their financial data in one place. On September 30, 2021, the Reserve Bank of India communicated that the applicable average base rate to be charged by non-banking financial company - micro finance institutions (NBFC-MFIs) to their borrowers for the quarter beginning October 1, 2021, will be 7.95 per cent.

In August 2021, Prime Minister Mr. Narendra Modi launched e-RUPI, a person and purpose-specific digital payment solution. e-RUPI is a QR code or SMS string-based e-voucher that is sent to the beneficiary's cell phone.

Users of this one-time payment mechanism will be able to redeem the voucher at the service provider without the usage of a card, digital payments app, or internet banking access.

In July 2021, Rajya Sabha approved the Factoring Regulation (Amendment) Bill in 2020, enabling ~9,000 NBFCs to participate in the factoring market. The bill also gives the central bank the authority to establish guidelines for improved oversight of the USD 6 billion factoring sector.

In July 2021, India's largest commodities derivatives exchange, Multi Commodity Exchange of India Ltd., and European Energy Exchange AG (EEX) signed a memorandum of understanding (MOU) with the goal of knowledge sharing and expertise exchange on electricity derivative products. This MoU will make it easier for the two exchanges to collaborate in areas including knowledge sharing, education and training, and event planning in the field of electricity derivatives. In January 2021, the National Stock Exchange (NSE) launched derivates on the Nifty Financial Service Index.

This service index is likely to provide institutions and retail investors more flexibility to manage their finances. In January 2021, the Central Board of Direct Taxes launched an automated e-portal on the e-filing website of the department to process and receive complaints of tax evasion, foreign undisclosed assets and register complaints against 'Benami' properties.

According to Goldman Sachs, investors have been pouring money into India's stock market, which is likely to reach >USD 5 trillion, surpassing the UK, and become the fifth-largest stock market worldwide by 2024. In FY21, USD 4.25 billion was raised across 55 initial public offerings (IPOs). The government has approved 100 per cent FDI for insurance intermediaries and increased FDI limit in the insurance sector to 74 per cent from 49 per cent under the Union Budget 2021-22. In FY22*, premiums from new businesses of life insurance companies in India stood at USD 17.6 billion.

INDIA'S TELECOMMUNICATION MARKET ROARING LOUD AND CLEAR

The total wireless or mobile telephone subscriber base increased to 1,186.72 million in August 2021, from 1,147.92 million in August 2020.



India is the world's second-largest telecommunications market. The telecom market can be split into three segments - wireless, wireline and internet services. The total subscriber base stood at 1,209.58 million in August 2021. Tele-density of rural subscribers reached 60.27 per cent in August 2021, from 59.06 per cent in August 2020, indicating potential demand growth from the rural sector. The total wireless or mobile telephone subscriber base increased to 1,186.72 million in August 2021, from 1,147.92 million in August 2020. The total number of internet subscribers stood at 813.5 million in August 2021.

Of this subscriber base, the number of wired internet subscribers was 24.29 million and wireless internet subscribers was 787.94 million. India is also the second-largest country in terms of internet subscribers. India is one of the biggest consumer of data worldwide. As per TRAI, average wireless data usage per wireless data subscriber was 11 GB per month in FY20. App downloads in the country increased from 12.07 billion in 2017 to 19 billion in 2019 and is expected to reach 37.21 billion by 2022F.

The total wireless data usage in India grew 16.54 per cent quarterly to reach 32,397 PB in the first quarter of FY22. The contribution of 3G and 4G data usage to the total volume of wireless data usage was 1.78 per cent and 97.74 per cent, respectively, in the third quarter of FY21. Share of 2G data usage stood at 0.48 per cent in the same quarter. In July 2021, tele-density stood at 88.51 per cent. The total number of internet subscribers increased to 808.60 million in July 2021.

The wireless subscriber base of Jio stood at 443.61 million, BhartiAirtel (198.23 million) and Vodafone Idea (119.63 million), as of July 2021. Gross revenue of the telecom sector stood at ₹64,801 crore (USD 8.74 billion) in the first quarter of FY22. Strong policy support from the Government has been crucial to the sector's development. Foreign Direct Investment (FDI) cap in the telecom sector has been increased to 100% from 74 per cent.

In October 2021, the government notified 100 per cent foreign direct investment (FDI) via the automatic route from previous 49 per cent in the telecommunications sector. FDI inflow in the telecom sector stood at USD 37.97 billion between April 2000 and June 2021. According to a Zenith Media survey, India is expected to become the fastest-growing telecom advertisement market, with an annual growth rate of 11 per cent between 2020 and 2023.

The Government of India, through its National Digital Communications Policy, foresee investment worth USD 100 billion in the telecommunications sector by 2022.

The government is encouraging global telecom network manufacturers such as Ericsson, Nokia, Samsung and Huawei to manufacture all their equipment in India with 100 per cent local products. The Rs. 12,195 crore (USD 1.65 billion) production-linked incentive (PLI) scheme has already triggered entry of several global players manufacturing mobile devices and components. European telecom gear vendors like Ericsson and Nokia are eager to expand their existing operation in India for global supply chain under the PLI scheme.

Similarly, other global vendors like Samsung, Cisco, Ciena, Jabil, Foxconn, Sanmina and Flex have shown interest to set up manufacturing in India for telecom and networking products under the newly announced PLI scheme.

In March 2021, TEPC (Telecom Equipment Export Promotion Council) organised India Telecom 2021—a platform for convergence of technologies and business exchange.

In July 2021, Bharat Broadband Network Limited (BBNL), on behalf of the Department of Telecommunication, invited global tender for the development of BharatNet through the Public-private Partnership model in 9 separate packages across 16 states for a concession period of 30 years. Under this project, the government will provide a maximum grant of ₹19,041 crore (USD 2.56 billion) as viability gap funding.

In August 2021, the Department of Telecommunications (DoT) officials stated that it is working on a package, which includes reducing the revenue share licence fee to 6 per cent of adjusted gross revenue (AGR) of the operators from the current 8 per cent. This would be done by reducing the 5 per cent universal service obligation levy by two percentage points and providing relief of about ₹3,000 crore (USD 403.63 million) annually to the operators.

In October 2021, Telecom Secretary Mr. K. Rajaraman inaugurated the Quantum Communication Lab at the Centre for Development of Telematics (C-DOT), Delhi, and unveiled the indigenously developed Quantum Key Distribution (QKD) solution by C-DOT. QKD can support a distance of >100 kms on standard optical fibre. The Union Cabinet approved ₹12,195 crore (USD 1.65 billion) production-linked incentive (PLI) scheme for telecom & networking products under the Department of Telecom.

THE GAME CHANGING TRENDS OF THE CONSUMER DURABLE SECTOR OF INDIA

The government anticipates that the Indian electronics manufacturing sector will reach approximately USD 300 billion (₹22.5 lakh crore) by 2024–25



With demand for premium and technologically advanced products on the rise, India's Rs 75,000 crore appliances and consumer electronics industry will be switching on to 2022 with hopes of double-digit growth despite anxiety over semiconductor shortage and the impact of the spreading Omicron variant on business. The industry is expecting double-digit growth on a year-on-year basis, helped by a possible price correction after softening of raw material inputs and factors such as positive sesentiments, pent up demand and improving economic conditions.

According to Retailers Association of India (RAI), sales of consumer electronics and appliances in the third quarter of FY21 increased by 23.5 per cent, as compared with same period in the last fiscal year.

Electronics hardware production in the country increased from ₹4.43 trillion (USD 72.38 billion) in FY19 to ₹5.47 trillion (USD 89.38 billion) in FY20. Demand for electronics hardware in India is expected to reach USD 400 billion by FY24.

The 'National Policy on Electronics 2019' is targeting production of one billion mobile handsets valued at USD190 billion by 2025, out of which 600 million handsets valued at USD 100 billion are likely to be exported. In 2020, the Indian government targeted China with new restrictions on colour television and mobile phones.

According to a report by Care Ratings, consumer electronics and appliances manufacturers are set to increase their production by 5-8 per cent in FY22, after witnessing a contraction in demand in FY21. India's consumer digital economy is projected to reach USD 800 billion by 2030, from USD 85-90 billion in CY20, driven by increase in online shopping. The headset market revenue in India is projected to reach >USD 77 million by 2027 at a CAGR of 4.7 per cent, driven by rising adoption of wireless headsets among consumers.

The dishwasher market in India is expected to surpass USD 90 million by 2025-26, driven by rising demand from metro cities such as Mumbai, Hyderabad, Delhi and Bangalore. In the second quarter of 2021, smart TV shipments from India climbed

Electronics hardware production in the country increased from Rs. 4.43 trillion (USD 72.38 billion) in FY19 to ₹5.47 trillion (USD 89.38 billion) in FY20



In India, number of individuals having access to TV and number of viewers per week reached 836 million and 762 million, respectively, in 2019

by 65 per centYoY, owing to increased expansion activities adopted by original equipment manufacturers (OEMs) for their smart TV portfolios. In FY20, TV penetration in India stood at 69 per cent, driven by the DTH market. The DTH industry is expected to witness a growth of up to 6 per cent to ₹22,000 crore (USD 2.9 billion) in FY21. The total active subscriber base has increased from 69.57 million in March 2021 to 69.86 million in June 2021.

In October 2020, television manufacturers such as Samsung, LG and Sony have been granted licences by the government to import finished TV sets into India. As of FY20, electronics, domestic appliances and air conditioner market in India were estimated to be around ₹5,976 crore (USD 0.86 billion), ₹17,873 crore (USD 1.80 billion) and ₹12,568 crore (USD 2.56 billion), respectively. The government anticipates that the Indian electronics manufacturing sector will reach approximately USD 300 billion (₹22.5 lakh crore) by 2024–25. In December 2020, DTH services provider Dish TV India Limited partnered with video-on-demand platform Hungama Play to expand its content portfolio. In India, number of individuals having access to TV and number of viewers per week reached 836 million and 762 million, respectively, in 2019. There is a lot of scope for growth from the rural market with consumption expected to grow in these areas as penetration of brands increases.

Demand for durables like refrigerators and consumer electronic goods are likely to witness an increased demand in the coming years, especially in the rural areas as the Government plans to invest significantly in rural electrification. Growing awareness, easier access, and changing lifestyle have been the key growth drivers for the consumer market.

The Government of India's policies and regulatory frameworks, such as relaxation of license rules and approval of 51 per cent Foreign Direct Investment (FDI) in multi-brand and 100 per cent in single-brand retail, are some of the major growth drivers for the consumer market. According to the Department for Promotion of Industry and Internal Trade (DPIIT), between April 2000 and June 2021, electronic goods attracted FDI inflows of USD 3.2 billion. In August 2021, the Quick Estimates of Index of Industrial Production (IIP), for consumer durables stood at 118.3 (under the use-based classification).

In September 2021, FICCI Electronics Manufacturing Committee Chairperson Mr. Manish Sharma said that approximately 52 companies have applied for availing PLIs for white goods makers, proposing an investment of approximately ₹6,000 crore (USD 813 million) in manufacturing components for air conditioners (ACs) and LED lights.

Most of these investments are expected to happen in the next 2-3 years; following this, local production for components for ACs and LED lights is expected to start. In July 2021, the government approved 14 companies under the production linked incentive (PLI) scheme for IT hardware. Over the next four years, these companies are expected to fuel total production of >USD 21.64 billion.

On November 11, 2020, Union Cabinet approved the Production-Linked Incentive (PLI) scheme in 10 key sectors (including electronics and white goods) to boost India's manufacturing capabilities, exports and promote the 'Atmanirbhar Bharat' initiative.

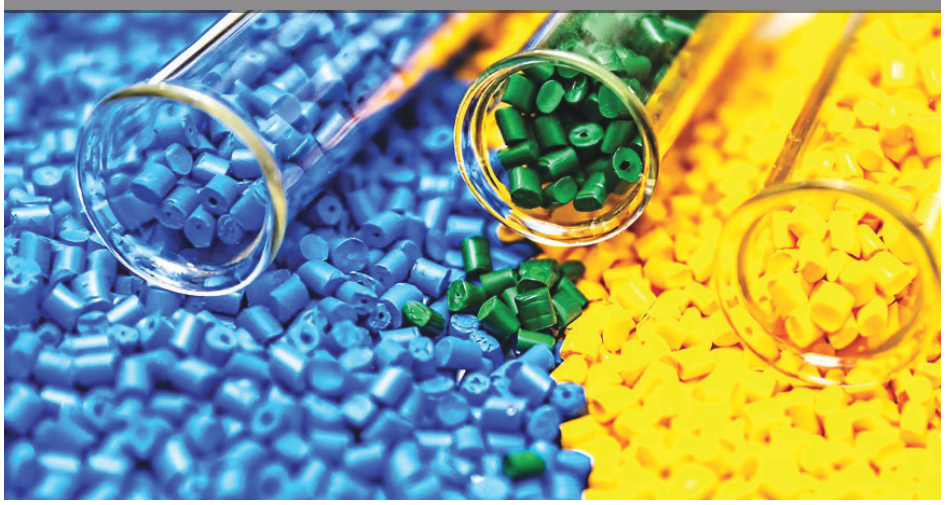
Mobile phone exports in India are expected to reach a record of USD 1.5 billion in 2020, of which 98 per cent are expected to be smartphones. The PLI scheme, which has been approved for 16 electronics firms, including 10 manufacturers of mobile handsets, would further improve India's role in the global mobile market and complement the goal of making the country a global mobile production hub for manufacturers.

Tech players such as Play (a tech brand) are focusing on tapping the Indian consumer electronics market, developing electronic components manufacturing base in India and encouraging export. Consumer electronics brands are focusing on the Indian smart wearables market.

For example, in July 2021, Omthing announced its target to capture 5 per cent of the smart wearables market in India in the next three years. In October 2021, consumer goods demand rose by 15 per cent in Navratri (from October 7 to October 14, 2021), due to an increased demand for smartphones, televisions, refrigerators and apparel during the festival.

COMMODITY PLASTICS MARKET SIZE ALL SET FOR MULTIFOLD GROWTH

The global Commodity Plastics is expected to grow at a significant rate due to the number of driving factors



Commodity Plastics Market Size was Worth of USD 394.3 billion in 2020 and is expected to reach USD 699.5 Billion in 2027, growing at a CAGR of 5.9 per cent from 2021 to 2027. The global Commodity Plastics is expected to grow at a significant rate due to the number of driving factors.

Top Commodity Plastics Companies

Exxon Mobil, Sumitomo Chemical, LG Chem, SABIC, The Dow Chemical Company, BASF SE, Sinopec, Ineos, LyondellBasell, Mitsubishi Chemical, Formosa Plastics, Borealis AG, Chevron Phillips Chemical, ENISpA, Reliance Industries, Braskem, Indian Oil, Lotte Chemical, Qenos Pty, Haldia Petrochemicals, Hanwha Chemical, Nova Chemicals, Qatar Petroleum, Westlake Chemical, and PTT Global Chemical. These are All the Important Key Players in Commodity Plastics Industry and Deeply Focused on Growing packaging industry as well as wide application in various in various industries drives the growth of Commodity Plastics Market.

Plastics are often employed in various applications like shopping bags and garments. Majority of plastic products manufactured across the world are made up of six sorts of plastic materials: polyethylene, polypropylene, polyvinylchloride, polystyrene, polyester, and polyurethane.

Commodity plastics are lighter, immune to abrasion, and structurally stable. These are recyclable and can be easily moulded into variety of shapes. They also have higher strength as compared to other substitutes. Commodity plastics are used in high volume and numerous ranges of applications such as photographic tape, magnetic tape, films for packaging, beverages, clothing, and trash containers. Commodity plastics also can be used in various household products where mechanical properties and repair environments aren't critical.

These include carrying trays, plates, cups, containers, printed materials, medical trays, and seeding trays. The key restraining factor for the development of the commodity plastics market is concerns over plastic waste. Plastic waste may be a major environmental concern associated to its low degradation rate. It is either recycled or dumped in landfills or within the ocean. Dumping plastics in landfills lowers the standard of the soil by releasing harmful chemicals into the soil. These harmful chemicals released can inherit contact with groundwater and may pose severe health hazards.

Plastics dumped into the sea adversely affects the marine life. Birds, fish, and other marine species can get tangled in it or may die from the consumption of those plastics. The spread of COVID-19 has generated a huge trouble in daily activities. The global commodity plastics market is projected to witness a modest decrease in its rate of growth as commodity plastics utilized in various sectors like automotive, construction, textiles, as well as electronics will witness a decline in demand. However, there will be a surge in the demand for commodity plastics used in the consumer goods, packaging, medical& pharmaceutical industries during COVID-19.

Demand for plastics expected to increase

The Indian plastics industry produce a wide array of plastics, including polypropylene (PP), polyethylene terephthalate (PET), polyvinyl chloride (PVC) and more. PP is the most produced polyolefin across India. ChemAnalyst's market research stated that the PP demand in India grew at a CAGR of around 8.51 per cent during 2015-2019 and is expected to achieve a healthy growth rate in 2022 - 2030.

Although the outbreak of COVID-19 has led to a decrease in demand for PP in India, the consumption of non-woven, fiber and transparent grades have increased due to more production of injection syringes and other personal protective equipment (PPE). Looking ahead, with government investments in manufacturing PPE and medical products, restart of automotive plants with ease in lockdown restrictions, and capacity expansions of polyolefin by producers like Reliance Industries Limited, Indian Oil Corporation Ltd. and ONGC Petro additions Limited, India's PP market will be bolstered.

PET is produced in India on massive capacity, and majority of the demand in the country is satisfied by domestic production. PET resin demand is projected to grow at a CAGR of 6.75 per cent in 2022-2030, according to the report of ChemAnalyst.

India's demand for PET in the packaging of food and beverages has witnessed a further increase during the pandemic, boosted by the higher awareness of hygiene and enhanced procurement of disposable and packaged items for reducing the chances of virus infection. As the healthcare and pharmaceutical sectors are expected to expand due to increasing demand for medical devices, PET medical packaging is forecast to surge in the near future.

For the prospect of Indian's PVC market, the demand for PVC in the country is estimated to achieve CAGR of over 6.81 per cent during 2015-2030. Pipe grade PVC accounts for over 40 per cent of the overall demand as it is used in the production of water-distribution and underground irrigation pipes. Government policies in the budget of FY 2020 for improvisation in facilities for piped water supply in rural areas will boost the domestic demand for PVC. As domestic supply of PVC is unable to meet the massive demand for the material, around 50 per cent of the domestic demand is being met through imports.

INDIA'S PHARMACEUTICAL SECTOR POISED FOR MULTIPLE GROWTH

India plans to set up a nearly ₹1 lakh crore fund to provide boost to companies to manufacture pharmaceutical ingredients domestically by 2023



Indian pharmaceutical sector supplies over 50 per cent of the global demand for various vaccines, 40 per cent of the generic demand for US and 25 per cent of all medicines for UK. India contributes the second-largest share of pharmaceutical and biotech workforce in the world. According to the Indian Economic Survey 2021, the domestic market is expected to grow 3x in the next decade. India's domestic pharmaceutical market is estimated at USD 42 billion in 2021 and likely to reach USD 65 billion by 2024 and further expand to reach approximately USD 120-130 billion by 2030. According to India Ratings & Research, the Indian pharmaceutical market revenue is expected to be over 12 per cent Y-o-Y in FY22. Globally, India ranks 3rd in terms of pharmaceutical production by volume and 14th by value.

The domestic pharmaceutical industry includes a network of 3,000 drug companies and approximately 10,500 manufacturing units. In the global pharmaceuticals sector, India is a significant and rising player. India is the world's largest supplier of generic medications, accounting for 20 per cent of the worldwide supply by volume and supplying about 60 per cent of the global vaccination demand. India is the 12th largest exporter of medical goods in the world.

The country's pharmaceutical sector contributes 6.6 per cent to the total merchandise exports. As of May 2021, India supplied a total of 586.4 lakh COVID-19 vaccines, comprising grants (81.3 lakh), commercial exports (339.7 lakh) and exports under the COVAX platform (165.5 lakh), to 71 countries. As of August 2021, CARE Ratings expect India's pharmaceutical business to develop at an annual rate of 11 per cent over the next two years, to reach more than USD 60 billion in value. Indian drugs are exported to more than 200 countries in the world, with US being the key market.

Generic drugs account for 20 per cent of the global export in terms of volume, making the country the largest provider of generic medicines globally. It is expected to expand even further in the coming years.

The Indian pharmaceutical exports, including bulk drugs, intermediates, drug formulations, biologicals, Ayush & herbal products and surgical, reached USD 24.44 billion in FY21. Indian drugs and pharmaceuticals exports reached USD 5.78 billion between April 2021 and June 2021.

India's medical devices market stood at USD 10.36 billion in FY20. The market is expected to increase at a CAGR of 37 per cent from 2020 to 2025 to reach USD 50 billion. 'Pharma Vision 2020' by the Government's Department of Pharmaceuticals aims to make India a major hub for end-to-end drug discovery. The Indian drugs and pharmaceuticals sector received cumulative FDIs worth US$ 18.12 billion between April 2000 and June 2021. The foreign direct investment (FDI) inflows in the Indian drugs and pharmaceuticals sector reached US$130 million between April 2021 and June 2021. In FY21, North America was the largest market for India's pharma exports with a 34 per cent share and exports to the U.S., Canada and Mexico recorded a growth of 12.6 per cent, 30 per cent and 21.4 per cent, respectively.

To achieve self-reliance and minimise import dependency in the country's essential bulk drugs, the Department of Pharmaceuticals initiated a PLI scheme to promote domestic manufacturing by setting up greenfield plants with minimum domestic value addition in four separate 'Target Segments' with a cumulative outlay of ₹6,940 crore (USD 951.27 million) from FY21 to FY30. In June 2021, Finance Minister Ms. Nirmala Sitharaman announced an additional outlay of ₹197,000 crore (USD26,578.3 million) that will be utilised over five years for the pharmaceutical PLI scheme in 13 key sectors such as active pharmaceutical ingredients, drug intermediaries and key starting materials.

Under Union Budget 2021-22, the Ministry of Health and Family Welfare has been allocated ₹73,932 crore (USD 10.35 billion) and the Department of Health Research has been allocated Rs. 2,663 crore (USD 365.68 billion). The government allocated Rs. 37,130 crore (USD 5.10 billion) to the 'National Health Mission'. PM Aatmanirbhar Swasth Bharat Yojana was allocated ₹64,180 crore (USD 8.80 billion) over six years. The Ministry of AYUSH was allocated ₹2,970 crore (USD 407.84 million), up from Rs. 2,122 crore (USD 291.39 million).

India plans to set up a nearly Rs. 1 lakh crore (US$ 1.3 billion) fund to provide boost to companies to manufacture pharmaceutical ingredients domestically by 2023. In August 2021, Union Health Minister, Mr. Mansukh Mandaviya announced that an additional number of pharmaceutical companies in India are expected to commence manufacturing of anti-coronavirus vaccines by October-November 2021.

This move is expected to further boost the vaccination drive across the country. In July 2021, Delhi Pharmaceutical Sciences and Research University (DPSRU) collaborated with All India Institute of Ayurveda (AIIA) to focus on assessment of application of ayurvedic and medicinal plant-based drugs in modern medicines. India is the largest producer of vaccines worldwide, accounting for approximately 60 per cent of the total vaccines, as of 2021.

THE FITNESS INDUSTRY IN INDIA
WHAT'S IN STORE FOR THE YEAR?

Virtual fitness services are predicted to thrive in the long term due to characteristics such as convenience, flexibility, and accessibility.



The necessity of maintaining one's physical and emotional well-being was brought home by the virus pandemic. As individuals throughout the country became more aware of their health and immunity, this increased awareness prompted them to regard exercise as an important component of living a better, healthier life.

During the prolonged lockdowns, they changed their ideas about exercising in favour of long-term fitness by adding any type of activity into their daily routine. Even individuals who did not commit to a strict exercise regimen stayed fit by doing mini-workouts, yoga, strolling, or running.

This shift in the Indian people's thinking and sensitivities is supported by market research. In comparison to the 2019 study, which found that just 26 per cent of Indians practised yoga, 11 per cent did aerobic workouts, and 10 per cent did body-weight exercises, the 2020 statistics revealed an almost 60 per cent rise in all three activities. Aside from the growing awareness of the need of maintaining one's health, the pandemic-induced surge of easy and on-demand virtual services has also aided this development.

As gym owners and fitness centres moved their operations online, it became easier for Indians to include fitness into their weekly routines. What's the result? During the first shutdown, 84 per cent of Indians attempted online fitness courses at least three times; before the epidemic, just 29 per cent of the population selected an online exercise module. According to recent surveys, Indian millennials spend around INR 4,000 per month on wellness services and goods.

Virtual fitness services are predicted to thrive in the long term due to characteristics such as convenience, flexibility, and accessibility. The future, on the other hand, is hybrid.

Modern fitness centres in India are intended to blend the finest of physical and digital modules to provide workout aficionados

Virtual fitness services are predicted to thrive in the long term due to characteristics such as convenience, flexibility, and accessibility

During the lengthy lockdowns, being indoors and working via screens has been a claustrophobic experience for everyone

with better and conveniently accessible experiences. Indians will take their fitness adventures to the next level as a result of this trend.

Here are some of the most important trends that will shape the business in the future years.

Mind and body training

During the lengthy lockdowns, being indoors and working via screens has been a claustrophobic experience for everyone. People began to include health and wellness activities into their schedules to focus on both physical and mental well-being to combat aggravation and tiredness. Advanced Fitness and health applications have enabled and encouraged this shift in focus.

These user-friendly AI-based applications assisted fitness lovers in creating and following individualised fitness regimens, which included dietary plans, HIIT training modules, sleep cycles, and meditation routines, among other things. According to market data, Indians downloaded the most such applications between Q1 and Q2 of 2020, resulting in a 156 per cent rise in downloads. This figure will only rise in the future as more individuals find time for exercise and wellbeing in their lives.

In-person training will resurface in a big way

In-person training is unlikely to be completely supplanted, despite the exponential expansion of virtual fitness. People need the experience of face-to-face engagement and coaching that no technology can replicate, even as their emphasis and attention shifts from physical fitness to online health.

Since June 2020, market research has seen a resurgence in sales growth at physical gyms.

The conclusion is unmistakable. People continue to prefer visiting fitness centres to achieve their fitness objectives. The availability of equipment in gyms, the ability to directly ask fitness specialists for advice, and the delight of working out with other fitness aficionados are some of the reasons for this choice.

Not only that, but at-home personal training may become a thing, as those who don't want to go to a gym for personal training may do so at home or a community gym.





Fitness that is virtual and immersive

People will use virtual reality (VR) and augmented reality (AR)-based technologies for more immersive fitness experiences in 2022, in addition to tech equipment to boost personal fitness. The debut of Metaverse, a shared virtual world established by Meta Platforms, will help to hasten this breakthrough.

Fitness aficionados will be able to engage in a variety of fitness activities such as boxing, dance, meditation, and sword fighting while listening to uplifting music and relaxing environments thanks to the interactive training games. Furthermore, users will be able to organise group fitness training, cycling events, and jogging sessions with pals from all around the globe while exercising in the Metaverse.

The fitness business in India is quickly evolving, with revenues estimated to exceed USD32 billion by the end of the year. With a new strain of the virus expected to reach 1.5 lakh cases by February 2022, the usage of digital and virtual fitness services is expected to rise again. These trends will inspire fitness lovers to pursue their objectives from the comfort of their own homes as well as when on the road, ushering in a more customised and immersive future for fitness.

EMERGING TRENDS SHAPING THE FUTURE OF FOOD SECTOR

The draft National Food Processing Policy lays down strategy for unhindered growth of the sector by addressing these challenges through Promotion of clusters



The Food Processing Sector has emerged as an important segment of the Indian economy and it constitutes as much as 9.9 percent and 11.4 percent share of GVA in Manufacturing and Agriculture sector respectively in 2019-20 at 2011-12 prices.

However, some of the key challenges facing the sector are- Supply chain infrastructure gaps Institutional gaps'Relatively low level of processing Technological gaps, Lack of seamless Linkage between Agri-Production and Processing, Credit availability gaps etc.

The draft National Food Processing Policy lays down strategy for unhindered growth of the sector by addressing these challenges through Promotion of clusters Convergence of services provided by different Ministries / Departments Focused interventions for improving competitiveness Promotion of India's Unique Selling Proposition (USP) Strengthening unorganized food processing units Increased access to institutional credit at affordable cost.

Some of the key objectives of the draft policy are-

- Attaining a higher growth trajectory through significant increase in investment for strengthening supply chain infrastructure and expansion of processing capacity particularly in perishables.

- Improving Competitiveness through technology upgradation, Research &Development, Branding and strengthening India's USP in food sector.

- Attaining long term sustainability in growth of the sector through efficient use of water, energy, adoption eco-friendly technology in processing, storage, packaging and use of waste from FPI industry.

The Indian food industry is poised for huge growth, increasing its contribution to world food trade every year

The draft policy had already been unveiled and circulated in November 2019 for comments of concerned Ministries/ Departments/State Governments and stakeholders at large (through ministry website). However, unforeseen economic challenges arising out of COVID Pandemic has necessitated substantial changes to it.

The Indian food industry is poised for huge growth, increasing its contribution to world food trade every year. In India, the food sector has emerged as a high-growth and high-profit sector due to its immense potential for value addition, particularly within the food processing industry. Accounting for about 32 per cent of the country's total food market,

The Government of India has been instrumental in the growth and development of the food processing industry. The government through the Ministry of Food Processing Industries (MoFPI) is making

TinyOwl and Swiggy building scale through partnerships, the organised food business has a huge potential and a promising future





all efforts to encourage investments in the business. It has approved proposals for joint ventures (JV), foreign collaborations, industrial licenses, and 100 per cent export oriented units.

The Indian food and grocery market is the world's sixth largest, with retail contributing 70 per cent of the sales. The Indian food processing industry accounts for 32 per cent of the country's total food market, one of the largest industries in India and is ranked fifth in terms of production, consumption, export and expected growth. It contributes around 8.80 and 8.39 per cent of Gross Value Added (GVA) in Manufacturing and Agriculture respectively, 13 per cent of India's exports and six per cent of total industrial investment.

The Indian gourmet food market is currently valued at USD 1.3 billion and is growing at a Compound Annual Growth Rate (CAGR) of 20 per cent. India's organic food market is expected to increase by three times by 2020.

The online food ordering business in India is in its nascent stage, but witnessing exponential growth. With online food delivery players like FoodPanda, Zomato, TinyOwl and Swiggy building scale through partnerships, the organised food business has a huge potential and a promising future. The online food delivery industry grew at 150 per cent year-on-year with an estimated Gross Merchandise Value (GMV) of US$ 300 million in 2016.

From Investment Point

According to the data provided by the Department of Industrial Policies and Promotion (DIPP), the food processing sector in India has received around USD 7.54 billion worth of Foreign Direct Investment (FDI) during the period April 2000-March 2017.

The Confederation of Indian Industry (CII) estimates that the food processing sectors have the potential to attract as much as USD 33 billion of investment over the next 10 years and also to generate employment of nine million person-days.

Some of the major investments in this sector in the recent past are:

- Global e-commerce giant, Amazon is planning to enter the Indian food retailing sector by investing USD 515 million in the next five years, as per MrHarsimratKaurBadal, Minister of Food Processing Industries, Government of India.

- Parle Agro Pvt Ltd is launching Frooti Fizz, a succession of the original Mango Frooti, which will be retailed across 1.2 million outlets in the country as it targets increasing its annual revenue from Rs 2800 crore (USD 0.42 billion) to Rs 5000 crore (US$ 0.75 billion) by 2018.

- US-based food company Cargill Inc, aims to double its branded consumer business in India by 2020, by doubling its retail reach to about 800,000 outlets and increase market share to become national leader in the sunflower oil category which will help the company be among the top three leading brands in India.

- Mad Over Donuts (MoD), outlined plans of expanding its operations in India by opening nine new MOD stores by March 2017.

- Danone SA plans to focus on nutrition business in India, its fastest growing market in South Asia, by launching 10 new products in 2017, and aiming to double its revenue in India by 2020.

- Uber Technologies Inc plans to launch UberEATS, its food delivery service to India, with investments made across multiple cities and regions.

TRENDS THAT WILL SHAPE THE FUTURE OF MINING AND METALS

In early 2020, India is likely to surpass Australia and the United States as the world's second-largest coal output.



The metals and mining business in India is growing due to increased infrastructural development and automobile manufacture. Mining leases for a period of 50 years have been awarded in India, which has tremendous mineral potential. The number of reporting mines in India was anticipated to be 1,229 in FY21, with 545 reporting mines for metallic minerals and 684 reporting mines for non-metallic minerals.

In early 2020, India is likely to surpass Australia and the United States as the world's second-largest coal output.

In terms of steel and alumina production costs and conversion costs, India has a significant edge. With 111.2 MT of crude steel produced in 2019, India overtook China as the world's second-largest crude steel producer. In FY20, crude steel output was 108.5 MT and finished steel production was 101.03 MT, respectively. India has a total of 914 steel factories manufacturing crude steel in FY20.

In FY21, India produced 102.49 million tonnes of crude steel. SAIL produced 1.371 MT of hot metal, 1.230 MT of crude steel, and 1.256 MT of saleable steel in April 2021, respectively.

According to worldsteel, India's crude steel output increased 46.9 per cent year on year to 9.2 million tonnes in May 2021, up from 5.8 million tonnes in May 2020. India's steel output is expected to expand by 18 per cent by FY22, reaching 120 million tonnes (MT).

As of 2021, India is the world's second-largest coal producer.

With a production of 99.6 MT in 2020, India would be the world's second-largest crude steel producer.

Zinc Conc. (18 per cent; 1,648.00 thousand tonnes), Lead Conc. (15 per cent; 405.47 thousand tonnes), Sillimanite (32 per cent; 17.52 thousand tonnes), and Garnet (abrasive) output all grew YoY in FY21 (107 per cent; 1.14 thousand tonnes).

Mica, coal, and other ores and minerals, including processed minerals, exports were USD 389.97 million in May 2021, up from USD 220.24 million in May 2020. In FY21, the country produced 715.95 million tonnes (MT) of coal.Coal India Ltd. (CIL) produced 249.8 MT of coal in FY22 (through September), up 13.8 MT from the previous year's same time.

According to worldsteel, India's crude steel output increased 46.9 per cent year on year to 9.2 million tonnes in May 2021, up from 5.8 million tonnes in May 2020

In September 2021, CIL, the Singareni Collieries Company Limited (SCCL), and captive mines produced 315.6 MT and 51.7 MT of coal, respectively, in FY22 (till September).

India transported its first coal export to Bangladesh's Rampal Power Plant in July 2021, boosting the country's coal exports.

According to official figures, iron ore exports in the first quarter of FY22 were USD 1.7 billion, up 168 per cent year on year.

In FY21, the country produced 189 million tonnes of iron ore. According to the Directorate General of Commercial Intelligence & Statistics, iron ore exports in FY22 (through August 2021) were USD 2.23 billion, up 21.8 per cent year on year.

In August 2021, NMDC produced 3.06 MT of iron ore, up from 15.02 MT in FY22 (until August).

To enhance iron ore supply in India, the government implemented reforms such as the 'Mining and Mineral Policy' to increase output and capacity utilisation by government mining corporations. SAIL, for example, hastened the selling of iron ore by approving the sale of 25 per cent new fines and 70 MT dumps and tailings.

Metal and metal products are in high demand in India, which is working on



Demand for iron and steel is expected to rise due to strong growth forecasts in the residential and commercial construction industries



expanding its local industry.Steel production in India is increasing rapidly as a result of companies (such as Tata Steel) launching new projects. In September 2021, the R&D Centre of the National Mineral Development Corporation Ltd. (NMDC) joined up with the CSIR-IMMT (Institute of Minerals and Materials Technology) to conduct joint iron ore mining research initiatives.



JSW Steel said in July 2021 that crude steel output increased by 62 per cent year over year to 4.93 million tonnes in the first quarter of FY22.

Central Coalfields Ltd. (CCL) awarded Power Mech Projects Ltd. a contract to develop and manage a mine costing INR9,294 crore (USD 1.25 billion) in July 2021.

ArcelorMittal Nippon Steel (AMNS) and Total (a French energy firm) inked a deal in May 2021 for the delivery of up to 500,000 tonnes of liquefied natural gas (LNG) each year until 2026.

In June 2021, the Union Cabinet, led by Prime Minister Mr Narendra Modi, authorised the signing of a memorandum of understanding (MoU) between the Ministry of Mines and the Secretariat of Mining Policy of the Argentine Republic's Ministry of Productive Development. The Memorandum of Understanding will serve as an institutional framework for cooperation in the sector of mineral resources.

Coal India Ltd. (CIL) authorised 32 new coal mining projects in March 2021, 24 of which are expansions of existing operations and the rest are Greenfield projects.

The project is expected to cost INR 47,000 crores (USD 6.47 billion). Two new iron ore mines were opened in Odisha in February 2021, with a monthly production capacity of 15 lakh tonnes and 275 million tonnes of combined iron ore reserves. These mines would provide yearly revenue of INR 5000 crore (USD 679.28 million) for the state and provide employment opportunities for locals.

Under the automatic method, the government of India has permitted 100 per cent Foreign Direct Investment (FDI) in the mining industry and exploration of metal and nonmetal ores, which would help the sector develop.

The metals and mining sectors are also benefiting from the rise of the power and cement industries. Demand for iron and steel is expected to rise due to strong growth forecasts in the residential and commercial construction industries.

India and Australia attended a joint working group (JWG) conference on 'coal and mines' in September 2021 to promote bilateral cooperation in the coal industry.

The Union Cabinet agreed on a memorandum of agreement in the field of geosciences between the Geological Survey of India (GSI) and the Joint Stock Company Rosgeologia, Russia, in September 2021.

The metallurgical industry received USD 16.01 billion in FDI from April 2000 to June 2021, followed by mining (USD 3.0 billion), diamond and gold jewellery (USD 1.19 billion), and coal production (USD 27.73 million) industries.

To help MSMEs, the government cut customs tax on semis, flat and long items made of non-alloy, alloy, and stainless steel to 7.5 per cent in the Union Budget 2021.

In the Union Budget 2021, the government proposed a drop in import tariff on copper scrap from 5 per cent to 2.5 per cent to encourage copper recycling in India.

Road Ahead

There is a lot of room for increased mining capacity in iron ore, bauxite, and coal, as well as a lot of room for future sub-surface deposit finds.

Steel, zinc, and aluminium manufacturers continue to benefit from infrastructure initiatives.

The real estate industry relies heavily on iron and steel. Given the excellent development prospects for the residential and commercial construction industries, demand these metals is expected to continue.

GREEN ENERGY PUSH FOR FUTURE SUSTAINABILITY IN INDIA

Renewable power generating capacity has grown at a rapid pace in recent years, with a CAGR of 17.33 per cent from FY16 to FY20.



The Indian renewable energy market is the world's fourth most attractive renewable energy market. India came in fourth place for wind power, fifth place for solar power, and fourth place for renewable energy installed capacity.

Renewable power generating capacity has grown at a rapid pace in recent years, with a CAGR of 17.33 per cent from FY16 to FY20. The sector has grown more appealing to investors as a result of increasing government assistance and improved economics.

Renewable energy will play an essential part as India attempts to fulfil its energy demand, which is anticipated to reach 15,820 TWh by 2040. By 2022, the government wants to install 227 GW of renewable energy capacity (including 114 GW of solar capacity and 67 GW of wind power capacity), surpassing the Paris Agreement's 175 GW objective. By 2030, the government wants to build 523 GW of renewable energy capacity.

India's renewable energy capacity was at 1.49 GW as of October 2021, accounting for 38.27 per cent of the country's total installed power capacity and creating a significant opportunity for the construction of green data centres. India's renewable energy capacity rose by 1,522.35 MW in October 2021.

India had 101.53 GW of renewable energy capacity as of September 2021, accounting for 38 per cent of total installed power capacity. By 2030, the government hopes to have installed a renewable energy capacity of around 450 gigawatts (GW), with solar accounting for roughly 280 GW (almost 60 per cent).

India had 101.53 GW of renewable energy capacity as of September 2021, accounting for 38 per cent of total installed power capacity. Wind power projects totalling 15,100 megawatts (MW) were issued by December 2019, with 12,162.50 MW of capacity already awarded. In FY20, India generated 127.01 billion units (BU) of electricity from renewable energy sources.

Northern India is predicted to become India's renewable energy powerhouse, with a potential capacity of 363 GW and policies focusing on the renewable energy industry.

Renewable energy will play an essential part as India attempts to fulfil its energy demand, which is anticipated to reach 15,820 TWh by 2040

Developments

Between April 2000 and June 2021, FDI inflow into India's non-conventional energy industry totalled USD 10.28 billion, according to figures supplied by the Department for Promotion of Industry and Internal Trade (DPIIT). Since 2014, more than 42 billion dollars has been invested in India's renewable energy sector. In 2018, the country's new renewable energy investment totalled USD 11.1 billion. India ranks third in the world in terms of renewable energy investments and intentions in 2020, according to the analytics firm British Business Energy.

The following are some important investments and advancements in India's renewable energy sector:

- Reliance New Energy Solar Ltd. (RNESL) announced two acquisitions in October 2021 to expand its capabilities.
- Both purchases – REC Solar Holdings AS (REC Group) of Norway and Sterling & Wilson Solar of India – totalled more than USD 1 billion and are anticipated to help Reliance achieve its goal of 100 GW of solar energy capacity in Jamnagar by 2030.
- Adani Green Energy Ltd. (AGEL) purchased SB Energy India for USD 3.5 billion in October 2021 to improve its position in India's renewable energy market.
- Copenhagen Infrastructure Partners (CIP) and Amp Energy India Private Limited inked an investment agreement in August 2021 to facilitate combined



Adani Green Energy Ltd. (AGEL) agreed to buy a 100 per cent share in SkyPower Global's 50 MW solar power project in Telangana in March 2021

equity investments of more than USD 200 million in Indian renewable energy projects.

- In July 2021, NTPC Renewable Energy Ltd. (NTPC REL), a wholly-owned subsidiary of NTPC, issued a tender to domestic manufacturers for the construction of India's first green hydrogen fuelling station in Leh, Ladakh.
- Reliance Industries said in June 2021 that it will invest USD 10.07 billion in the green energy sector.
- Suzlon was awarded a contract by CLP India for a 252 MW wind power project in June 2021. In 2022, the project is projected to be completed.
- The NTPC awarded Tata Power Solar a contract of INR 686 crore (USD 93.58 million) to develop 210 MW projects in Gujarat in June 2021.
- Adani Green Energy Ltd. (AGEL) inked share purchase agreements with SoftBank Group (SBG) and Bharti Group in May 2021 to acquire a 100 per cent stake in SB Energy India. The overall renewable portfolio in India is 4,954 MW, distributed among four states.
- In May 2021, Virescent Infrastructure, a renewable energy platform, purchased 76 per cent of Sindicatum Renewable Energy Company Pte Ltd.'s solar asset portfolio in India.
- The Central Electricity Authority authorised the JSW Energy Karcham Wangtoo hydropower plant's uprating to 1,091 megawatts (MW) from 1,000 MW in April 2021.
- GE Power India authorised the purchase of a 50 per cent share in NTPC GE Power Services Pvt. Ltd. for INR 7.2 crore (USD 0.96 million) in April 2021.
- By May-June 2022, the NTPC plans to open India's largest floating solar power plant at Ramagundam, Telangana. The overall installed capacity is projected to be 447MW.
- Edelweiss Infrastructure Yield Plus (EIYP), a hedge fund run by Edelweiss Alternative Asset Advisors, purchased a 74 per cent interest in Engie Group's solar assets in India in March 2021.
- The US Agency for International Development (USAID) and the US International Development Finance Corporation (DFC) announced a loan guarantee initiative of USD 41 million in March 2021 to boost Indian SME renewable energy development.
- Adani Green Energy announced plans to purchase a 250 MW solar power plant in Rajasthan's northern state in March 2021 (Commissioned by Hero Future Energies). The sale is believed to be for INR 10 billion (USD 136.20 million).
- Adani Green Energy Ltd. (AGEL) agreed to buy a 100 per cent share in SkyPower Global's 50 MW solar power project in Telangana in March 2021. With a total renewable portfolio of 14,865 MW, this would bring its operational renewable capacity to 3,395 MW.
- JICA (Japan International Cooperation Agency) signed a loan agreement with Tata Cleantech Capital Limited (TCCL) in March 2021 for JPY 10 billion (USD 90.31 million) to enable the company to provide loans to Indian companies for renewable energy production, e-mobility solutions, and energy conservation to help offset the effects of climate change by reducing greenhouse gas (GHG) emissions (in line with the Green Loan Principles).
- The European Union joined the Coalition for Disaster Resilient Infrastructure (CDRI), an India-led project aiming at assuring long-term growth while mitigating the negative consequences of climate change, in March 2021.
- India and the United States decided in March 2021 to revamp their strategic energy collaboration to focus on cleaner energy sectors such as biofuels and hydrogen generation.
- The Solar Energy Corporation of India (SECI) held large-scale central auctions for solar parks, awarding contracts for 47 parks with a total capacity of over 25 GW.



Road Ahead

The government is dedicated to increasing the usage of clean energy sources and is now working on several large-scale sustainable power projects as well as extensively promoting green energy. Furthermore, renewable energy has the potential to provide a large number of jobs at all levels, particularly in rural regions.

The Ministry of New and Renewable Energy (MNRE) has set a lofty goal of building 227 GW of renewable energy capacity by 2022, with around 114 GW planned for solar, 67 GW for wind, and the rest for hydro and bio, among other things. In the next four years, India's renewable energy sector is predicted to receive USD 80 billion in investment. By 2023, India will have over 5,000 compressed biogas plants.

By 2040, it is predicted that renewable energy would provide roughly 49 per cent of total power, thanks to the use of more effective batteries to store electricity, which will reduce the cost of solar energy by 66 per cent compared to today's cost.

Renewable energy instead of coal will save India INR 54,000 crore (USD 8.43 billion) per year. By 2030, renewable energy will account for 55 per cent of total installed power capacity.

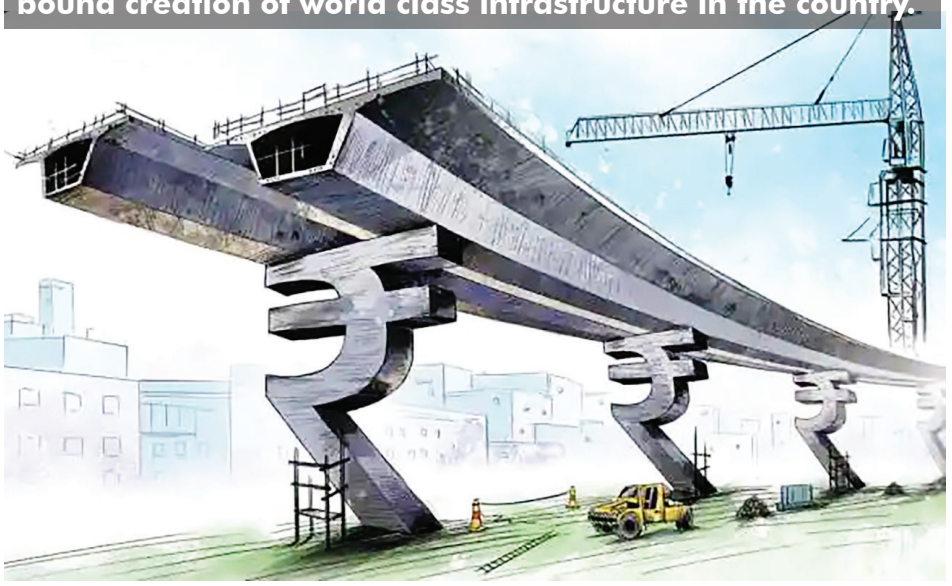
According to the Central Electricity Authority (CEA), renewable energy generation will climb from 18 per cent to 44 per cent by 2029-30, while thermal generation would decrease from 78 per cent to 52 per cent.

According to the year-end review (2020) by the Ministry of New and Renewable Energy, another 49.59 GW of renewable energy capacity is under installation and an additional 27.41 GW of capacity has been tendered. This puts the total capacity of renewable energy projects (already commissioned or in the pipeline) at ~167 GW.

The Government of India wants to develop a 'green city' in every state of the country, powered by renewable energy. The 'green city' will mainstream environment-friendly power through solar rooftop systems on all its houses, solar parks on the city's outskirts, waste to energy plants and electric mobility-enabled public transport systems.

INFRASTRUCTURE
A LOOK AT INDIA'S EVOLVING INFRASTRUCTURE TRENDS

The sector is highly responsible for propelling India's overall development and enjoys intense focus from Government for initiating policies that would ensure time-bound creation of world class infrastructure in the country.



Infrastructure sector is a key driver for the Indian economy. The sector is highly responsible for propelling India's overall development and enjoys intense focus from Government for initiating policies that would ensure time-bound creation of world class infrastructure in the country. Infrastructure sector includes power, bridges, dams, roads, and urban infrastructure development. According to the Department for Promotion of Industry and Internal Trade (DPIIT), FDIs in the construction development sector (townships, housing, built up infrastructure and construction development projects) and construction (infrastructure) activities stood at USD 26.14 billion and USD 25.38 billion, respectively, between April 2000 and June 2021. In FY21, infrastructure activities accounted for 13 per cent share of the total FDI inflows of USD 81.72 billion.

Production-Linked Incentive Scheme

To provide a major boost to manufacturing, the government has launched Production-Linked Incentive (PLI) Scheme for 13 sectors, 3 sectors in March 2020 and 10 sectors in November 2020 with an outlay of ₹1.97 lakh crore over the next five years.

The sectors are

(i) Automobiles and Auto Components, (ii) Pharmaceuticals Drugs, (iii) Specialty Steel, (iv) Telecom & Networking Products, (v) Electronic/Technology Products, (vi) White Goods (ACs and LEDs), (vii) Food Products, (viii) Textile Products: MMF segment and technical textiles, (ix) High efficiency solar PV modules, and (x) Advanced Chemistry

The PLI schemes will be implemented by the concerned ministries/ departments and will be within the overall financial limits prescribed





Cell (ACC) Battery (xi) Medical devices (xii) Large scale electronics manufacturing including mobile phones (xiii) Critical Key Starting materials /Drug intermediaries and APIs.

The PLI schemes will be implemented by the concerned ministries/departments and will be within the overall financial limits prescribed. The largest financial outlay has been given to the PLIs on Automobile and Auto Components and on Advanced Chemistry Cells (ACC).

Empowered Group of Secretaries and Project Development Cells

In the midst of COVID-19 pandemic, with a view to support, facilitate and provide investor friendly ecosystem to investors investing in India, an Empowered Group of Secretaries (EGoS), and Project Development Cells (PDCs) in Ministries/Departments have been set up. These institutions are meant to fast-track investments in coordination between the Central Government and State Governments and thereby grow the pipeline of investible projects in India to increase domestic investments and FDI inflow.

PDCs have now been established in 29 Ministries/Departments of the Government of India, headed by respective Joint Secretary-level nodal officers.

All PDCs have assumed a smooth functioning, executing clearly defined investor engagement strategies, which includes identification of prospective investors; multi-level engagements with investors that have shown interest; active engagement with a wide range of stakeholders to resolve existing investors' issues, to develop new projects/proposals and to promote existing investment opportunities.

Investment Clearance Cell

Following the FM's budget announcement, an Investment Clearance Cell (ICC) to provide facilitation and support to businesses through a one-stop digital platform – the central Single Window System (SWS) is being set up and the platform is planned for launch with select states by 15 April, 2021. This national portal will integrate the existing clearance systems of the various Ministries/Departments of Govt. of India and State Governments without disruption to the existing IT portals of Ministries.

PDCs have now been established in 29 Ministries/Departments of the Govt. of India, headed by respective Joint Secretary-level nodal officers.

Industrial Information System

DPIIT has developed an Industrial Information System (IIS) which provides a GIS-enabled database of industrial areas including clusters, parks, nodes, zones, etc. across the country to help investors identify their preferred location for investment. 3390 industrial parks/estates/SEZs in 4.76 lakh hectares have been mapped on Industrial Information System (IIS) along with net land area availability.

A national level land bank is being developed by integrating IIS with State industrial GIS systems. A GIS Land Bank was launched by Minister of Commerce & Industry on 27 August 2020 for 6 states [Gujarat, UP, Odisha, Telangana, Goa, Haryana]; and now 7 more states [Maharashtra, Karnataka, Punjab, Himachal Pradesh, Uttarakhand, Andhra Pradesh and Jharkhand] have been on-boarded, which brings total number of states on-boarded to 13. This will enable the investors to see plot level data and availability of updated land related information in real time. A mobile app is also available for easy viewing by users.

Industrial Park Rating System

Industrial Park Rating System (IPRS) is an exercise which recognizes best performing parks, identifying interventions and serving as a decision support system for investors and policy makers in being undertaken by DPIIT, under the technical guidance of ADB.

DPIIT now aims to develop the first annual 'Industrial Park Rating System 2.0' that shall widen its coverage and aim to bring in qualitative assessment further to the pilot phase. Under IPRS 2.0, the assessment of Industrial Parks including private industrial parkswith introduction of qualitative indicators for assessing these parks will be undertaken this year.

IPRS 2.0 will include the introduction of tenant feedback mechanism which will help in assessment of the developer's responses and also engage directly with the ultimate beneficiaries of this exercise. The exercise of assessment of the Industrial Park will conclude with releasing of report on Industrial Park Rating System 2.0 by March-2021.

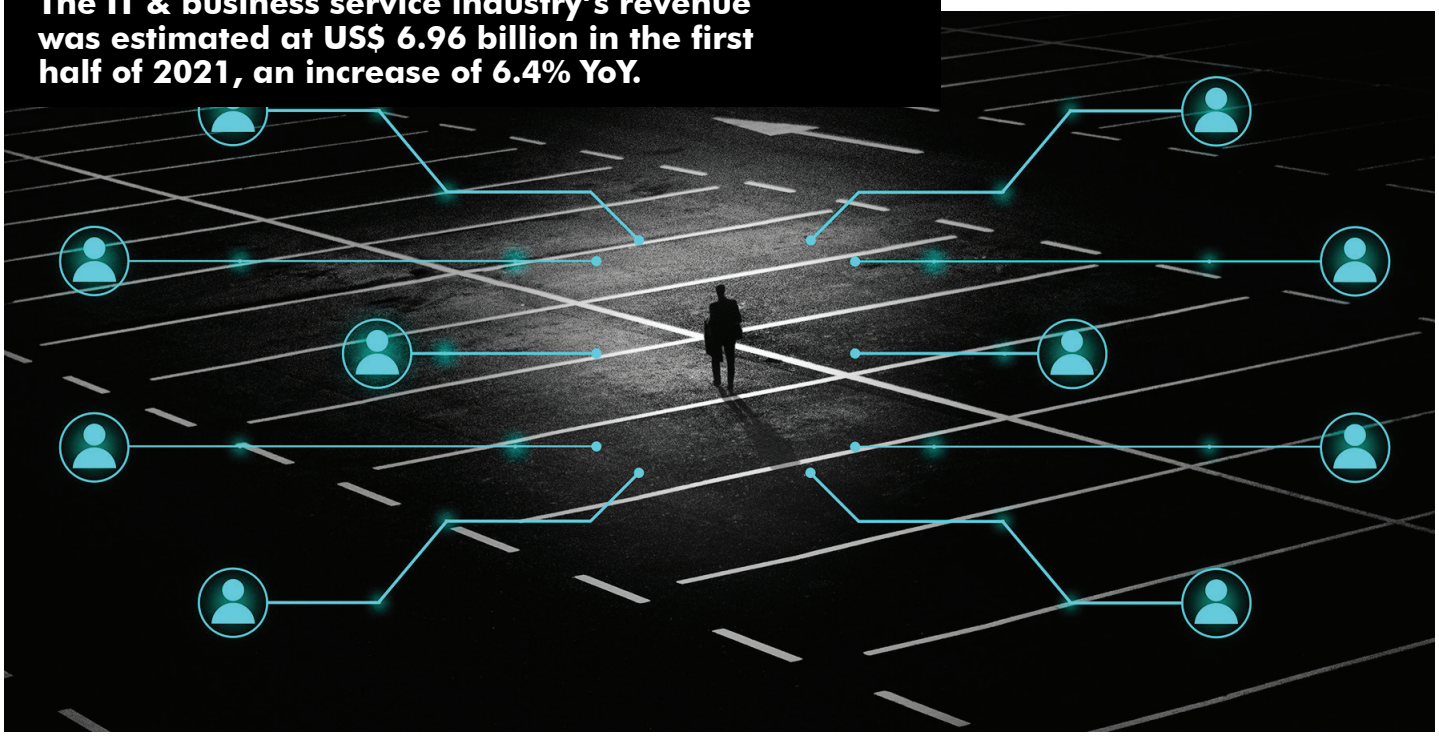
Focus Sub-Sectors

DPIIT is working closely with 24 sub-sectors which have been chosen keeping in mind the Indian industries strengths and competitive edge, need for import substitution, potential for export and increased employability. These 24 subsectors are – furniture, air-conditioners, leather and footwear, ready to eat, fisheries, agri-produce, auto components, aluminium, electronics, agrochemicals, steel, textiles, EV components and integrated circuits, ethanol, ceramics, set top boxes, robotics, televisions, close circuit cameras, toys, drones, medical devices, sporting goods, gym equipment.

Efforts are on to boost the growth of the sub-sectors in a holistic and coordinated manner

BRIGHT FUTURE OF IT SECTOR IN INDIA

The IT & business service industry's revenue was estimated at US$ 6.96 billion in the first half of 2021, an increase of 6.4% YoY.



The global sourcing market in India continues to grow at a higher pace compared to the IT-BPM industry. India is the leading sourcing destination across the world, accounting for approximately 55 per cent market share of the USD 200-250 billion global services sourcing business in 2019-20. The IT industry accounted for 8 per cent of India's GDP in 2020. According to STPI (Software Technology Park of India), software exports by the IT companies connected to it, stood at Rs. 1.20 lakh crore (USD 16.29 billion) in the first quarter of FY22.

The IT & business service industry's revenue was estimated at USD 6.96 billion in the first half of 2021, an increase of 6.4 per cent YoY. The export revenue of the IT industry is estimated at USD 150 billion in FY21.

According to Gartner estimates, IT spending in India is estimated to reach USD 93 billion in 2021 (7.3 per cent YoY growth) and further increase to USD 98.5 billion in 2022. The BPM sector in India currently employs >1.4 million people, while IT and BPM together have >4.5 million workers, as of FY21. India's software services exports (excluding exports through commercial presence) increased by 4 per cent in FY21 compared with FY20 and are estimated at USD 133.7 billion during 2020-21.

Indian software product industry is expected to reach USD 100 billion by 2025. Indian companies are focusing to invest internationally to expand global footprint and enhance their global delivery centres. In line with this, in February 2021, Tata Consultancy Services announced to recruit 1,500 technology employees across the UK over the next year. The development would build capabilities for TCS to deliver efficiently to the UK customers. As of FY21, the IT industry employed 4.5 million people. The data annotation market in India stood at USD 250 million in FY20, of which the US market contributed 60 per cent to the overall value. The market is expected to reach USD 7 billion by 2030 due to accelerated domestic demand for AI.

Regulatory Environment

India has a complex and often challenging regulatory environment, and new regulations and industry promotion schemes are announced frequently at the national level. India recently announced new bills and guidelines impacting data protection, privacy, cross-border data flows, and data localization. The GOI has introduced the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules in 2021; a draft Personal Data Protection Bill (PDPB), a Non-Personal Data Governance Framework, a National Cyber Security Strategy in 2020 (NCSS 2020); a draft National E-Commerce Policy, a National Digital Communication Policy in 2018 (NDCP-2018); a National Policy on Electronics and a National Policy on Software Products in 2019.

The draft PDPB is currently being reviewed by a Joint Parliamentary Committee, and stakeholders have had an opportunity to share their views. After consultations with the Ministry of Law and Justice, the final bill will be considered by the Parliament. India is expected to establish a new Data Protection Authority, as well as data privacy and protection regulations and guidelines by 2023.

The Bureau of Indian Standards recently published India's Data Privacy standard "Data Privacy Assurance – IS 17428 (Part 1: Engineering and Management Requirements, and Part 2: Engineering and Management Guidelines). In September

The IT & business service industry's revenue was estimated at USD 6.96 billion in the first half of 2021, an increase of 6.4 per cent YoY

The NCSS-2020 Task Force has held several consultations and collected inputs from stakeholders to formulate this new strategy document

2020, a committee of experts drafted the Non-Personal Data Governance Framework with stakeholder input, and the revised draft was again open for consultation through January 2021.

The NCSS-2020 is expected to be released this year. The NCSS-2020 Task Force has held several consultations and collected inputs from stakeholders to formulate this new strategy document. The document's purpose is to ensure a "safe, secure, trusted, resilient, and vibrant" cyberspace. Customs duties and tax regimes are also important factors in India's market.

Over the past eight years, India has applied customs duties ranging from 2.5 to 20 percent on imported ICT goods. India's status as a signatory to the WTO Information Technology Agreement notwithstanding, the scope of products subject to customs duties is likely to expand. In March 2021, India instituted a digital tax, known as the Equalisation Levy at the rate of two percent of the amount of consideration received or receivable by an E-Commerce operator from its supply of goods or services; the levy became effective on April 1, 2020. U.S. companies should consider consulting experts concerning tax issues, data localization, and compliance requirements in India.



Opportunities

According to Gartner, government IT spending is expected to grow by 9.4 percent annually to USD7.3 billion in 2021, up from USD6.6 billion in 2020. In the Union Budget 2021-22, the government of India allocated USD205 million to boost digital payments, and USD516 million for the digital census program.

In December 2019, the government rolled out the National Broadband Mission (NBM) to enhance digital communication infrastructure aiming to increase India's fiber footprint to 5 million route kilometers and increase the number of fiber-connected towers by 60 percent by 2022.

The mission estimates an investment of USD100 billion, including USD35 billion for telecom towers, USD30 billion for optical fiber infrastructure, and USD35 billion for spectrum and research and development.

India is banking upon its optical fiber infrastructure for the rollout of 5G services, which offers opportunities for U.S. companies to supply optical fiber cable, 4G/5G radio equipment, radio frequency frontends and antenna sub-systems, small and large 5G cells, wireline and radio access network solutions, and transmission links.

As part of the National Policy on Electronics 2019, the Indian government launched several schemes for the promotion of electronics manufacturing under the Make in India strategy. India aspires to become a global hub for Electronics System Design and Manufacturing (ESDM), and the country's demand for electronics hardware is expected to reach USD400 billion by 2025. India's production of electronics grew from USD29 billion to USD75.7 billion from 2014 to 2020, and the country's share of global electronics manufacturing grew from 1.3 percent in 2012 to 3.6 percent in 2019. The production of mobile handsets rose to 330 million units in 2020, up from just 60 million units in 2014.

The government wants suppliers to provide affordable 5G handsets/devices to further its Digital India mission, and this presents an opportunity for U.S. exporters to supply electronic components, semiconductor/display fabrication units, assembly/test/marking/packaging units, specialized sub-assemblies, and capital goods.

India has recently launched a draft data center policy, and aspires to become a global Data Center Hub with an investment of USD 4.9 billion by 2025. While India's leading companies have announced their plans to set up data centers, U.S. major cloud service providers have already done so in India to serve enterprises as the government pushes data localization requirements. Indian businesses are rapidly shifting their operations digitally and adopting cloud services to minimize costs. This opens the door for U.S. companies to supply data center hardware, computing resources, data storage systems, network infrastructure equipment, and submarine cable networks.



AN OPPORTUNITY TO FUNDAMENTALLY CHANGE MOBILITY

Interest, demand, and preferences are all important aspects that influence the car industry's trend.



The industrial revolution ushered in a new era of unstoppable growth. During that period, the automobile was one of the most important inventions. These marvels of mobility are already commonplace as assets in most commercial and personal areas. By 2030, it is anticipated that the global automobile sector will have grown by USD 9 trillion.

According to an Invest India estimate, the Indian vehicle sector would also exceed USD 300 million in revenue by 2026. This is a fast-paced industry that is at the pinnacle of commercialism. The game is all about investments and advances. The rapid shifts in this field are natural and result from several significant industrial factors.

Economic environment

The automobile sector is mostly driven by economic conditions in the surrounding area. More end-users will purchase autos if economic conditions are good. It will help to move the industry forward and offer good momentum. A slowdown, on the other hand, might lead to a loss of trust among stakeholders, resulting in lower consumption.

Customers' demands

Interest, demand, and preferences are all important aspects that influence the car industry's trend. End-users are provided with a wealth of options; buyers prefer unique designs in different segments, resulting in a developing market for niche automobiles.







Electric vehicles (EVs) will become a more widespread mode of transportation.

Globalization and competition

Car manufacturers can measure market demand and compete fiercely with other manufacturers in various vehicle sectors thanks to a free market. The basis for the different trends that have peaked throughout the years in the car industry has been globalisation and rivalry among vehicle production brands.

Technological developments

The fourth driving force behind this business is technological improvements. This aspect, if pioneered, can help carmakers dominate the market. They use technology to add value to their cars and to raise the stakes in the race.

Government instructions

Because government directions are typically indelible, they affect the norms of vehicle manufacture in a certain area. Manufacturers are kept on their toes by the ruling dispensation's norms. These are the forces that are propelling the automobile sector forward. And, as new trends develop faster and competition heats up, change cycles are becoming shorter and shorter.

THE FOLLOWING ARE SOME OF THE OTHER TRENDS I'M SEEING IN THE AUTOMOBILE INDUSTRY:

The rise of automobile leasing or subscription

The impacts of the lockdown-induced economic downturn, as well as rising consumer demand, will amplify this trend. Many people are attempting to break free from the traditional label of "auto owner" and are researching alternate modes of transportation. Renting or leasing automobiles, as well as subscribing to them, is becoming increasingly widespread. This section of shared transportation is rapidly expanding. This category has a market value of INR 1500 crores in India and is predicted to expand at a CAGR of 15-20 per cent.

Internet connectivity in automobiles

Every year, the Indian vehicle scene changes. Cars that can connect to the internet are the newest must-haves for auto lovers. This trend is bolstered by technological considerations. Mega corporations invest a lot of money in research and development to come up with cutting-edge features. MG and Kia were among the first to bring this shift to the market; now the rest of the industry is catching up. Many more "connected" automobiles will be on the road by 2022. The adoption of a standard industry-wide data structure will be the cherry on top.

The emergence of electric cars

As we prepare for 2022, electric vehicles (EVs) will become a more widespread mode of transportation. By 2030, it is predicted to have grown at a dizzying speed, with a CAGR of 90 per cent and a market valuation of USD 150 billion. Consumer demands, government incentives, and the fast-falling cost of electric vehicle batteries are all driving this trend.

Avoid the showroom and go digital

The traditional showroom visit is now at the bottom of a vehicle buyer's priority list. Both sides have found it simpler because of digitization and interactive websites from automotive manufacturers. Dealers can engage with potential purchasers in a more convenient manner using a web platform. The many customer touchpoints also improve the customer experience. The year 2022 has the potential to usher in a pure-play digital car-buying experience. The new lease and sales catalyst: Inadvertently, the year 2021 may have ushered in a new era in India's automobile industry. In the next year, the strategy of scrapping older vehicles will work as a stimulus to enhance sales. It will also encourage people to switch from owning automobiles to renting, leasing, or subscribing to cars because renting, leasing, or subscribing to cars is less expensive and offers a far greater selection of vehicles.

An alternate perspective

A variety of causes influence change in the automobile sector. It is a dynamic and complicated sector as a result of these various factors, and the trends that will deepen in 2022 promise to profoundly transform mobility as we know it now.

Every year, the Indian vehicle scene changes. Cars that can connect to the internet are the newest must-haves for auto lovers

THE FUTURE OF EDUCATION IS BLENDED LEARNING

Blended learning, or a well-balanced mix of physical and digital learning, has emerged as the "New Essential."



Over the last five years, a seismic movement toward digitalization has pushed the future closer. Furthermore, the combination of being homebound and socially isolated as a result of the epidemic forced us to rely on technology more than ever before. Many businesses have adapted quickly to the new normal, but education, which was already trending toward technology, had to speed up its digital adoption, paving the way for blended learning.

In these unpredictable times, tech-enhanced learning solutions will assist in future-proof education, making it more relevant to students of all ages.

Blended learning, or a well-balanced mix of physical and digital learning, has emerged as the "New Essential." It blends the benefits of digital interaction with the effectiveness of traditional teaching techniques to provide students with a stimulating learning environment. And, now that the phrase is widely used, it's time to understand the significance of integrated or blended learning, as well as the path forward.

Experiential learning is becoming increasingly important

Experiential learning has progressively supplanted rote learning, based on the underlying idea of 'Learning by Doing.' While rote learning is useful for simple ideas and situations where spaced repetition is possible, visual aids make learning complicated concepts relatively easy and eliminate the need to revise topics repeatedly.

According to research performed by Practically, students who used the immersive learning strategy increased their retention rate by 18% in less than one week. Parents and children are more aware of the limitations of rote or repetitive learning and are looking for scientifically sound



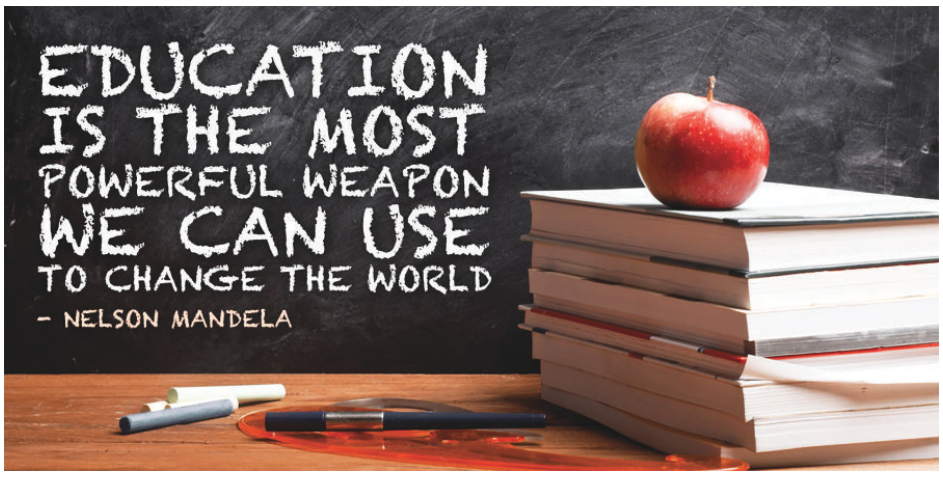
approaches to make learning enjoyable and valuable. The new-age technologies also provide an accurate evaluation of a student's strengths and limitations, allowing students and instructors to connect and interact more deeply.

Blended learning is something that everyone appreciates

Long periods spent studying the same subjects or looking blankly at a computer screen or a classroom study board may be exhausting for students and demotivating for teachers. Blended learning may help students and teachers break the ice and breathe life into classrooms more quickly. Math and science, for example, have a reputation for being difficult and dry topics, but blended learning may help all types of learners understand concepts more easily.

Schools and colleges must provide inclusive learning opportunities

Blended learning is cost-effective and helps students to develop self-learning abilities. Blended learning requires schools to invest in and train instructors to provide a comprehensive learning experience. In addition, rather than relying on the instructor to deliver learning, students should acquire a co-learner mentality. The National Education Policy (NEP 2020) aspires to attain 100 per cent literacy by



internationalising indigenous knowledge through digital course contents. Artificial Intelligence, Machine Learning, Gaming, and Robotics are examples of new-age courses that have opened up great chances for learners to further their careers while staying in line with worldwide standards.

Schools have swiftly turned to e-learning to take advantage of the growing number of online registrations as individuals spend more time at home. Because this shift is here to stay, the University Grants Commission (UGC) implemented blended learning at universities and colleges in May 2021 to make the learning experience more engaging and entertaining for students. The digital format will assist the younger generation in skilling, upskilling, and reskilling their talents per industry expectations to stay up with the ever-evolving technology.

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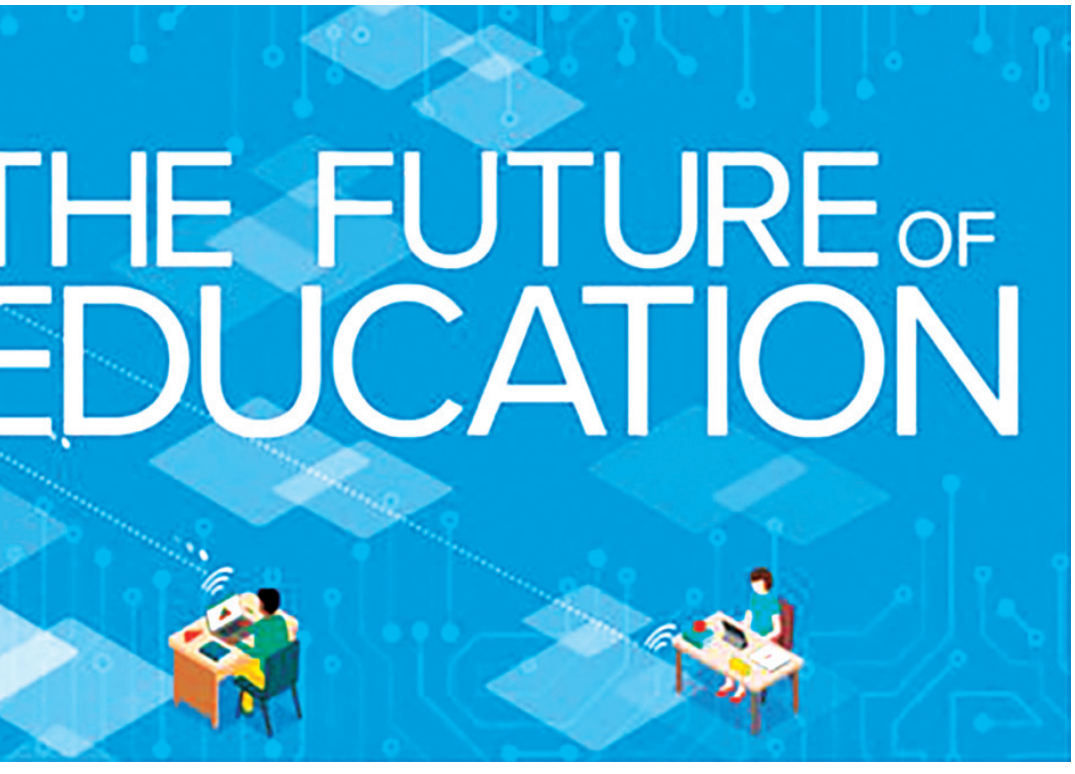

Investing in the Correct Tools and Products

While schools and educational institutions recognise the value of integrated learning, selecting the proper product and solution is critical. The goal of digitization is to supplement rather than completely replace the present educational method. It's critical to choose a cutting-edge solution that provides instructors with an end-to-end academic toolset to help them make their classes more interesting and dynamic. An experiential learning product featuring immersive material, games, simulations, and other features will improve teaching and learning efficiency while also improving learning results.

Future-Ready learning Environment

To drive innovation through a coherent learning system, blended learning is essential. Instead of seeking to eliminate the classroom culture, the EdTech area should focus on lessening the load on instructors while making classrooms more dynamic, replete with new challenges, quizzes, and simulations. It is critical to establish an atmosphere in which students feel free to participate actively. To be able to reflect on their learning and draw insights from it, students should be involved in their experience.

Participants would be able to work together and engage in debate as a result of their digital literacy, speeding forward the dream of a Digital India. 2022 will be an interesting year with its own set of problems, with the education landscape shifting more than ever to new generation learning and teaching solutions. Those who are unwilling to jump on board the blended learning bandwagon may find them well behind the curve.

TRENDS SHAPING THE E-COMMERCE INDUSTRY IN 2022

E-commerce, which began as an experimental and novel way of purchasing, has exploded into a massive sector in recent years, particularly during the pandemic



E-commerce, which began as an experimental and novel way of purchasing, has exploded into a massive sector in recent years, particularly during the pandemic. Huge prospects for novel company models are being generated as internet penetration and digitalization rise. India's e-commerce sector is predicted to reach USD 111 billion by 2021 and USD 200 billion by 2026, according to IBEF. Experts have predicted the following developments for the sector in 2022.

Kirana Tech

According to statistics, India's 14 million Kirana shops dominate over 90 per cent of the country's USD 600 billion food and grocery sector. "In India's food and grocery business, the Kirana reigns supreme. This was never more evident than during the Covid epidemic when customers and brands alike benefited from the local familiarity, unrivalled closeness, and tenacious spirit of Kirana businesses," said Ashish Jhina, COO and co-founder, Jumbotail.

Kiranas have been forced to accept technology by Covid. "By 2021, we expect to see Kiranas all across the country using e-commerce to source their items at a rate never seen before." The rapid expansion of B2B e-commerce platforms, which provide a significantly wider selection, faster and more reliable delivery, better fill rates, working capital financing, and the convenience of ordering online whenever needed, is a significant factor behind this accelerated transformation," he added.

Jhina believes that Kiranas are starting to change into digitally-enabled omnichannel food stores and that this trend will continue in the following year. What effect will the advent of rapid commerce have on Kirana shops, though?

Quick Transactions

Quick commerce is predicted to be a USD 30 million business in 2021, according to RedSeer management consultancy, and to increase 15 times to USD 5 billion in 2025. Quick or immediate commerce, like social commerce, has grown in popularity in the aftermath of the epidemic.

By 2021, we expect to see Kiranas all across the country using e-commerce to source their items at a rate never seen before.

Many Thrasio-based firms have finished their investment rounds and begun acquiring brands, and the acquisition pace might increase up in 2022.



Ola recently launched a 15-minute grocery delivery service in Bengaluru, Swiggy's InstaMart service delivers in 15-30 minutes, Grofers (now rebranded as Blinkit) has shifted to 10-minute grocery delivery, Dunzo's Xpress Mart promises to deliver in 19 minutes in Bengaluru, and BigBasket has the BB Express, which claims to deliver essentials in 60 minutes. We also have Amazon Fresh, which has extended to several cities this year and claims delivery in 2 hours, and Flipkart's Flipkart Quick service, which promises delivery in 90 minutes. Satvacart and Zepto both recently received money. Will this have an impact on Kirana stores?

"Traditional Kirana stores benefit from established ties with local customers as well as a wider range of product categories and SKUs. While Kirana shops' operating overheads remain relatively low, they provide a cushion of sustainability and a very long runway as a competitive armament," stated Padmaja Ruparel, co-founder of Indian Angel Network and founding partner of IAN Fund.

Supply Chain Tech

The usage of chatbots and other automated communication technologies in the supply chain is on the rise. "However, it is still a long way from being able to imitate real-life communication. This is where I believe huge language models such as GPT4 or other similar models may be quite useful. Many businesses, particularly those in the logistics industry, can instantly benefit from these models "Shantanu S. Bhattacharyya, the chief executive officer, remarked. The adoption of blockchain, according to Bhattacharyya, is another trend that is taking on in the e-commerce supply chain. As blockchain use becomes more widespread, a significant amount of regulatory overhead will be eliminated, particularly at cross-border supply chain touchpoints.

Commerce in Rollups

Another major development that caught people's attention this year was the growth of Thrasio-style firms, sometimes known as rollup commerce. Many firms in the industry have raised significant amounts of money in a short period. Mensa Brands became the quickest Indian unicorn last month. UpScalio, located in New Delhi, invested for the fourth time in Autofurnish this month, while GlobalBees is apparently in discussions to raise USD 100 million at a unicorn value. MissMalini Entertainment was acquired by the Good Glamm Company earlier this week, making it the firm's sixth addition.

"Many Thrasio-based firms have finished their investment rounds and begun acquiring brands, and the acquisition pace might increase up in 2022." The coming year might be a litmus test for investors in this field, as entrepreneurs verify their business concepts on which large sums of money have been raised," said Ankur Bansal, co-founder and director of BlackSoil. By early 2022, he predicts that some of these firms would seek a larger equity round or leverage up their balance sheet with a heavy debt to grow operations of acquired brands and take over new ones.

Alka Goel, a founding partner at Alkemi Growth Capital, feels that the pool of acquirable firms is restricted, which will have one of two effects: either corporation will be obliged to assign a higher valuation (due to increased competition) or acquisitions will be delayed. "Of course, it's a boon for younger firms because they have a lot more exit choices," she added.

Direct-to-Consumer (D2C)

Experts predict that 2022 will be a year of development and change for the direct-to-consumer (D2C) industry, resulting in a heated rivalry. "Over the coming year, the market rivalry is projected to intensify, with an increasing number of businesses choosing for the direct-to-consumer method, which has shifted client expectations." Consumers nowadays demand a seamless post-checkout experience that includes tech-first features like one-step check-out, pre-filled addresses, and RTO forecasts, among other areas of the customer journey," stated Saahil Goel, CEO and co-founder of Shiprocket.

According to Unicommerce's expanding e-commerce segment research, D2C businesses are likely to expand even further into tier-2 and tier-3 cities, necessitating the opening of numerous warehouses to meet demand.

"We anticipate to see a lot more innovation in customer interaction models to meet increasing consumer expectations, such as more evolved engagement on mass platforms like WhatsApp, VR/AR led models, live commerce, and so on." Similarly, D2C businesses will increasingly prioritise the post-purchase experience, ensuring that the majority of their goods arrive within 24 hours. According to Kapil Makhija, CEO of Unicommerce, "we anticipate seeing more investment in technology and operations to guarantee D2C businesses can retain the growing pace." He went on to say that D2C businesses would continue to establish niches in terms of product, service, positioning, and other factors to attract customers and compete.

India is the ninth-largest e-commerce industry in the world, with sales of USD 46 billion in 2020, and it is expected to expand at a rate of more than 30 per cent YoY, providing a great opportunity for diverse business models to thrive. Furthermore, technology will continue to be the backbone of current businesses and new startups driving the e-commerce revolution, particularly in Tier II, Tier III, and rural areas.



TECHNOLOGY COULD BE AN ACTUAL 'GAME-CHANGER' FOR AGRO SECTOR

The recent development in India certainly indicates that country has propelled itself in services and manufacturing sector to an extent that these two domains have become country's biggest value creators. But on the other hand, agriculture which not only contribute to 17 per cent of India's GDP, it provides a livelihood for 50 per cent of country's population and constitutes about 400B US$ of economic value, yet the agri economy remains under stress. While digital forces are reshaping industries ranging from retail to telecom to entertainment, the value chain in agriculture has remained rather untouched.

Despite government promoting farm mechanisation to boost the various aspect of agriculture such as production, cultivation, farmers' income, still the Indian cultivators lagging behind in the race as compared to their many international counterparts. However, despite of all the efforts, overall farm mechanisation in India has been lower at 40-45 per cent compared to other countries such as the USA 95 per cent, Brazil (75 per cent) and China 57 per cent .

The Indian agricultural machinery market was valued at INR 498.04 Bn in 2018 and is expected to reach INR 901.41 Bn by 2024, expanding at a CAGR of 10.70 per cent during the 2019-2024 period. Observer Dawn puts a telescopicgoblet on the recent scenario of 'Farm Mechanisation' and pens an article on the consolidated information and reports gathered from eminent institutions, organisations and from industry experts.

Though this concept of farm mechanisation is not new and it has been actively promoted through various other schemes and programmes of the Minsitry of Agriculture and Farmers Welfare such as RashtriyaKrishiVikasYojana (RKVY), National Food Security Mission (NFSM), National Horticulture Mission (NHM), National Mission on Oilseeds and Oil Palm (NMOOP) etc. but still this technological advancement is not incorporated by many farmers in their fields. Speaking on the concern, Mrityunjaya Singh - Managing Director at CLAAS Agricultural Machinery Private Limited, stated, "Indian farmers have a continuing lower earning per capita compared to the world average, mainly because of the low yield per hectare resulting in low farm operating efficiency. However, this can be addressed by encouraging mechanisation of the farming processes, which would in turn, would optimize the cost of inputs and improve productivity. This will be to farmers' benefit of improved profitability."

The Indian agricultural machinery market was valued at INR 498.04 Bn in 2018 and is expected to reach INR 901.41 Bn by 2024, expanding at a CAGR of 10.70 per cent during the 2019-2024 period

Emergence of Agritech

Agri-tech is clearly the next big thing in digital. As per NASSCOM, the global agri-tech investment in 2017 was 3.2B US$ and in the same period India got about 320M US$ funding for 50+ startups. India is among the top five countries globally in term of agritech deals. There are agritech startups across the entire farm to fork

value chain - agri inputs, remote sensing, agri advisory, market linkage, farming as a service and IoT enabled technologies.

For example, today one can buy seeds and fertilisers online, rent farm implements, get weather and disease forecasts, receive mobile based agri advisory, check prices at local and remote mandis and sell his produce online. All of this is happening and more, albeit the adoption is yet to reach critical mass in most cases.

"In terms of remote sensing, the cost of satellite imagery has plummeted - this is going to create a whole new set of use cases – for example, one could combine remote sensing with image analytics to identify farm diseases and advise the farmer to take necessary steps. Accurate weather advisory coupled with pest models can provide yield forecasts and early warning signals for diseases," stated HimanshuGoyal, Indian Business Leader-The Weather Company, an IBM Business.

Even the area of crop insurance will get disrupted through remote sensing as the need for manual inputs like crop cutting experiments will give rise to remote assessment of farm yields.

With ecommerce platform, farmers get directly connected to the buyers and hence omitting a chance for the middlemen to march away with their share.

Technology to enhance every layer of Agro Business

Agriculture has remained as a centrepiece of Indian economy. Though it is the main source of livelihood for a majority of the Indian population, it still stands as a technologically backward sector. Despite its importance to the economy, little has been done to revive the sector. We live in a world where technology is at the heart of our everyday lives. Similar to transformations in other sectors, technology should be used to shape farming practices. Technology can transform Indian agriculture by addressing challenges related to quality, quantity, skill and knowledge.

"Currently farmers choose crops on the basis of the trends of the last season. Technology can assist them in making right growing choices by carefully analysing demand, pricing and fluctuations in weather conditions. This will create a better balance between supply and demand. Technology enabled farming tools can be a boon for small farms. Large machinery used in developed countries has very little applicability in most of our small farms," said C. Aswath, principal scientist and head of the Floriculture and Medicinal Plants division of the Indian Institute of Horticultural Research.

Apart from the very nascent stage of farming from sowing the seeds, technology also strengthen famer to receive maximum profit at the time of distribution. With ecommerce platform, farmers get directly connected to the buyers and hence omitting a chance for the middlemen to march



away with their share. “In the traditional model, middlemen walk away with a large chunk of a farmer’s income. Origin of E-marketplaces that can connect buyers and farmers directly have dis-intermediate the chain and are currently offering better incomes to farmers. We have collection centres at the farm level, fulfilmentcentres for aggregation and distribution centres to deliver products to retail stores.

Overall, supply chain wastage due to our operations is 3%. Farmers gain 15-20% more at NinjaCart, than if they had sold to the mandi or through middlemen,” stated ThirukumaranNagarajan, co-founder and CEO, NinjaCart.

The new age Indian farmer is getting well versed with not only modern technology but with the new mode of communication systems as well, recent example of that could be easily seen on some social media platforms such as Facebook and Whatsapp. A Facebook group for organic farmers in India with a member strength of 22,000 has become an engaging platform for farmers to seek help or advice from other farmers. Whatsapp groups are now used extensively by farmers to exchange knowledge and collaborate with peers. From ordering seeds online to seeking inputs on social media, there is rapid adoption of information technology by Indian farmers.



Sub-Mission Agriculture Mechanisation

Realising the gap in the agro sector which can be filled by mechanisation, the government of India floated a sub mission called the ‘Agriculture Mechanisation’ with the sole purpose of promoting farm mechanisation on a massive scale across the country.

Under the scheme, assistance is provided to State governments to impart training and demonstration of agricultural machinery, provides assistance to farmers for procurement of various agricultural machineries and equipment and for setting up of Custom Hiring Centre. Under the scheme, total funds allocated during 2014-15 to 2018- 19 was Rs 3377.07 crore and during 2018-19 it was Rs 1027.46 crore.

During the last four years, Government has given massive thrust to promoting latest agricultural machineries, like laser leveller, happy seeder technology, combine harvesters and small equipment like power weeders.

Apart from government’s initiative, there are many companies who are stepping forward to impart adequate knowledge on farm equipment to young budding farmers who wantto make it large in this field. “Even outside the government supported programmes, the rural youth is showing interest in turning entrepreneurs.

Our concept of CLAAS DOST Center, a joint initiative of CLAAS and its dealers, is an initiative aimed at empowering such entrepreneurs by providing them with high quality machines combine harvesters, balers, rice transplanters, forage harvesters, etc. on soft commercial terms. This concept is gaining popularity as we keep on adding more CLAAS DOST Centers across the country,” said Mrityunjay Singh of CLAAS.

Startups- Reaping technologies to boost agro sector

Startups have become a one key that is fitting in every sector. Similarly, agro sector has also been moved by various startups who with their innovative and creative ideas are transmuting the game. Agritech startups are evolving to make agriculture attain better stance in the economy, and during this course, farmers hold a chance to come out of the existential crisis that is most prevalent among today's rural farmers. These startups are helping the farmers to earn better revenue in their existing business.

Such agritech startups are set to play a dominant role in disseminating information to farmers and maximising their profits in the near future, experts predict. However, growth in this sector will be spurred only with a strong financial inclusion policy, faster data penetration and more government support in terms of funding, industry officials said. Still, there is potential, as reflected in the mushrooming of agritech startups.

These startups are basically catching up on the issues which have become tough nuts to crack for the farmers. These emerging companies with their R&D unit are ultimately connecting the farmers with the solution to these problems with the help of technologies. For instance, as per the media report, Indian farmers usually suffer aroundRs 90,000 crorelosses in post-harvest annually, the primary causes of which are poor storage and transportation facilities.

This issue gave birth to an innovation that is amalgamation of technology and deep research, Whirlybird, a Maharashtra-based startup, works on curbing post-harvest losses. It provides farm management solutions and soil and meteorological



sensing as well as real-time and customised farmer advisory services.

Many startups in the remote agri -service business were perhaps inspired by the government's DigiGaon campaign launched by Prime Minister Narendra Modi, which aims to digitally connect every village and educate every rural citizen about the significance of Digital India.

Eyes from the Skies

India still new to the drone technology, does understand the importance of this and the state governments along with startups and private firms are collaborating with the farmers in helping them through various schemes such as the Agri-scheme put forth by the Maharashtra state government. The Tamil Nadu government also tracing similar steps has collaborated with students of Anna University to manufacture custom drones to spray pesticides to combat the fall army menace which will first try out in Peramblur district.

The use of agriculture drones can take care of a lot of problems that currently plagues the sector, including crop health monitoring, crop treatment and crop scouting, and the importance of these unmanned aerial vehicles (UAVs) has been recognised by both governments and startups. On the one hand, the central government has launched an online platform called Digital Sky Platform for the registration of drones and their operators and on the other, there are 35 drone startups in the country that are working to raise the technological capabilities and reduce the prices of agriculture drones, aka agri-drones.

"Imagine a drone that, in addition to mapping the cropping area, will also be able to process answers. For example: identify where the weeds are, which type they are, identify pests and diseases and localise the application of agrochemicals. Worldwide, drones are completely changing the entire process of cultivating and harvesting. As per industry estimates, the use of drones can provide a 15 to 20 percent increase in farm productivity in India," stated Dr. Chandan Kumar, scientist (Livestock Production and Management), RVSKVV, Gwalior.

Besides these, drones can also be helpful in determining the usage of sensors by monitoring the terrain and crop health of a specific area. Similarly, drones equipped with 3D mapping can provide useful and accurate data on soil fertility and its minerals to help the farmer decide the crop rotation and the type, quantity, and quality of fertilizer to be used in the farms. The accurate and adequate data obtained from these drones help farmers make better decisions, necessary investment and therefore obtaining a higher and better yield of crops resulting in higher investment returns.

Hurdles in implementing farm mechanisation across country

Implementation of farm mechanisation across the length and breadth of the country wouldn't going to be an easy task to perform because there are plenty of hurdles that are holding the running horses.

"The biggest roadblock we face is of the lower average farm size holding in India, which is just a hectare per farmer. This restricts the usage of new advanced technologies on account of less purchasing power. The return on investment is negatively affected as the output is limited," MrityunjaySingh stated.

A major challenge in the adoption of mechanisation in Indian farms is the small landholdings. Although, with change in perceptions, farmers are now willing to adopt mechanised farming processes but they are apprehensive of cost burden of low utilisation of machines due to small size of their land. The government has done well in aggressively promoting the spread of Custom Hiring Centers (CHC) that help small farmers by providing machinery on a pay-per-use basis. This eliminates the need for small farmers to invest in expensive machinery, make high technology accessible and, at the same time, enables the CHC operator to consolidate a number of small farmers' jobs so as to reach his own target of financial returns from the business.

Another prominent issue that put the mechanisation on the back foot is the over-dependence of Indian agriculture on monsoons due to just over 50 per cent of irrigated land is putting the livelihood of millions of farmers at risk. Just one year of insufficient rain can lead to a significant drop in agricultural production in the country.

Apart from that, the availability of finance for technologically advanced machines is not up to the mark. Financial institutions are reluctant to provide much-needed credit to deserving farmers just because they find it safer to finance low-cost equipment like Tractors, etc. Lastly, there is an ever-widening supply & demand gap of skilled manpower to operate and maintain high-efficiency machines with advanced technology. There is a stark deficiency of an ecosystem to create such skilled manpower.

Farm mechanisation is need of the hour to bolster the growth of the Indian agriculture sector. With the support of the government and agro companies, the current picture in this direction looks vibrant but there are still some hurdles to cross before achieving the success mark. The brighter side is the young farmers are showing keen interest in adopting new technologies into their work this means that India's future is strapping up to satisfy the requirement of country's growing population.

The accurate and adequate data obtained from these drones help farmers make better decisions, necessary investment and therefore obtaining a higher and better yield of crops

The Awardz

The Awardz is an independent award program it is an initiative by Observer Dawn magazine. The Awardz aims to recognize and reward excellence across private, public and charity sectors. Open to organizations of any size and individuals, based anywhere in the world, entries are encouraged from those who feel they are working smarter to create a business edge.

International Business Awards (IBA), The Indian Realty Awards (IRA), and Pride Awards (PA) bring together the most successful and influential visionaries, manufacturers, consumer and business experts and the industry's powerful decision-makers on one mega platform as a means to Indian Business enlightenment.

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Mr. Harsh Raj Diwedi and Mr. Anirudh Chandel on the behalf of Reliance Industries Ltd. receiving "Digital Innovation Company of the Year" award from film actor Mr. Rahul Roy and Mr. Hariom Tyagi, Chairman, IIBA Organizing committee & Editor at Observer Dawn Magazine, during International Indian Business Awards (IIBA)-2016.











Indian Organizing Committee Chairman, Mr. Hariom Tyagi, Bollywood Actor Aaftab Shivdasani and Shri K.C. Tyagi, MP giving "Female Face of Indian Realty " Award to Ms. Ananta Raghuvanshi, Executive Director, DLF Universal Ltd.







Most Trusted and Committed Developer of the Year

Mr. Vikas Pundir and Mr. Sidharth Pundir, Director at SKB Group, receiving "Most Trusted and committed Developer of the Year" award from Dr. Mahendra Nath Pandey, Member of Parliament, BJP, Mr. Hariom Tyagi, Chairman IRA, Ace Shooter Jaspal Rana, FTII, Chairman Mr. Gajendra Chauhan, National General Secretary, Bharatiya Janata Yuva Morcha, Mr. Rahul Kothari and The Great Khali, during Indian Realty Awards (IRA)-2015



Innovative Design Company of the Year

Mr. Kapil Dev, Concept Clinik, receiving "Innovative Design company of the Year" award from Dr. Mahendra Nath Pandey, Member of Parliament, BJP, Mr. Hariom Tyagi, Chairman IIBA, Ace Shooter Jaspal Rana, FTII, Chairman Mr. Gajendra Chauhan, National General Secretary, Bharatiya Janata Yuva Morcha, Mr. Rahul Kothari and The Great Khali, during International Indian Business Awards (IIBA)-2015

SEVEN NEW DEFENCE COMPANIES, CARVED **OUT OF OFB**

Seven new defence companies, carved out of Ordnance Factory Board (OFB), were dedicated to the Nation at a function organised by Ministry of Defence on the occasion of 'Vijayadashami' in New Delhi on October 15, 2021. Prime Minister Narendra Modi delivered a video address during the event. Raksha Mantri Rajnath Singh presided over the ceremony at Kothari Auditorium, DRDO Bhawan.

To enhance functional autonomy, efficiency and unleash new growth potential & innovation, Government had decided to convert OFB from a Government Department into seven 100 per cent Government-owned corporate entities as a measure to improve self-reliance in the defence preparedness of the country.

The seven new Defence companies are: Munitions India Limited (MIL); Armoured Vehicles Nigam Limited (AVANI); Advanced Weapons and Equipment India Limited (AWE India); Troop Comforts Limited (TCL) (Troop Comfort Items); Yantra India Limited (YIL); India Optel Limited (IOL) and Gliders India Limited (GIL). These companies have commenced business from October 01, 2021.

In his video address, Prime Minister NarendraModi noted the auspicious occasion of Vijayadashami today and the tradition of worshiping arms and ammunition on the day. He said, In India, we see power as a medium of creation. He remarked that with the same spirit, the nation is moving towards strength.



"New Defence companies are a part of the various resolutions which the nation is pursuing to build a new future for the country during this AmritKaal of India's independence"

NarendraModi also paid tributes to Dr APJ Abdul Kalam and said that Dr Kalam dedicated his life to the cause of a strong nation and said that Restructuring of Ordnance Factories and creation of seven companies will give strength to his dream of strong India.

New Defence companies are a part of the various resolutions which the nation is pursuing to build a new future for the country during this AmritKaal of India's independence, he added.

The Prime Minister said that the decision of creating these companies was stuck for a long time and expressed the belief these 7 new companies would form a strong base for the military strength of the country in the times to come.

Noting the glorious past of Indian ordnance factories, the Prime Minister commented that upgradation of these companies was ignored in the post-independence period, leading to the country's dependence on foreign suppliers for its needs. "These 7 defence companies will play a major role in changing this situation", he said.

IAF REVALIDATES HEAVY LIFT **FOR WINTER STOCKING**

A joint airlift exercise, 'Op Hercules' was undertaken by the Indian Air Force and Indian Army on 15 November 2021.

The aim of this high intensity airlift was to strengthen the logistics supply in the Northern sector and to augment winter stocking in the operational areas. The platforms utilised for the airlift were C-17, IL-76 and An-32 aircraft, which took off from one of the forward bases of Western Air Command. The effort was a real-time demonstration of the inherent heavy lift capability of the Indian Air Force, which has played a major role in ensuring the ability to quickly respond to any contingency during the past.



ABDUL KALAM MISSILE COMPLEX SCORES **A HAT-TRICK OF LAUNCHES**

The APJ Abdul Kalam Missile Complex, which houses the Research Centre Imarat (RCI), Defence Research & Development Laboratory (DRDL) and the Advanced Systems Laboratory (ASL) here, scored a hat-trick of sorts with three successful launches — vertical launch of Short Range Surface to Air Missile (SR-SAM), air version of BrahMos supersonic cruise missile and the Stand Off Anti-Tank (SANT) missile — this month.



The first two were test fired at Chandipur integrated test range off the coast of Odisha and the last one was flight tested from the Pokhran range in Rajasthan, all indigenously developed, with RCI and DRDL being the nodal labs, senior officials informed on Sunday and sought anonymity. Scientists involved in the making of these sophisticated missile systems were elated at these 'smooth' launches, but coming in the backdrop of the tragic helicopter crash that killed Chief of Defence Staff Bipin Rawat, his wife Madhulika and 11 other officers at Coonoor, it was a subdued affair. RCI equipped these missiles with onboard avionics, integrated software, tracking algorithms and computers while the DRDL was into advanced propulsion and guidance systems. The VL-SRSAM missile is for the Indian Navy to be fixed on the ships. It was launched against an electronic target at a very low altitude and all 'sub-systems' performed as per expectation, senior officials explained.

"RCI equipped these missiles with onboard avionics, integrated software, tracking algorithms and computers while the DRDL was into advanced propulsion and guidance systems"

The first trial was held in February this year and the latest one "is confirmatory trial" to prove the "consistent performance of the configuration and integrated operation", they said. BrahMos was being tested for advanced propulsions, engines, airframes, navigation and guidance systems. It was test-fired from the supersonic fighter aircraft Sukhoi Su-30MKI, paving the way for the serial production of air-version of the missiles. The first test was held in July. BrahMos is a joint venture between India (DRDO) and Russia (NPOM), already inducted into the Armed Forces. SANT is equipped with a state-of-the-art MMW seeker and propulsion technology providing high precision strike capability with 10 km range. It was designed and developed by RCI in coordination with other DRDO labs and participation from industries, the officials said.

INDIA TO LAUNCH DEEP OCEAN MISSION **BY 2024**

Minister of state for science and technology Jitendra Singh said on Saturday three scientists will be sent at a depth of 5,000 metres (5 kilometres) in the sea to find hidden mineral deposits. India will send its first-ever manned mission into the deep sea in 2024 after sending crewed missions into space in 2023. Minister of state for science and technology Jitendra Singh said on Saturday three scientists will be sent at a depth of 5,000 metres (5 kilometres) in the sea to find hidden mineral deposits, according to a report by HT's sister publication Live Hindustan on Sunday. The mission, which has been called Samudrayan, was launched by the Centre in October this year.



"With the launch of this Unique Ocean Mission, India joins the elite club of nations such as the USA, Russia, Japan, France and China to have such underwater vehicles for carrying out subsea activities," Singh said at the launch event in Chennai on October 30. Samudrayan has been undertaken by the National Institute of Ocean Technology (NIOT). It will be a part of the Deep Ocean Mission, which will be implemented at a total budget ₹4,077 crore for five years. The preliminary design of the manned submersible MATSYA-6000 under the Samudrayanproject, has already been completed. The MATSYA-6000 can carry three people in a titanium alloy personnel sphere of a 2.1-metre diameter enclosed space with an endurance of 12 hours and an additional 96 hours in case of an emergency situation. Union minister Singh said in October sea trials of 500 metre rated shallow water version of the manned submersible are expected to take place in the last quarter of 2022, adding, the MATSYA-6000 will be ready for trials by the second quarter of 2024. Besides working on the first manned mission to the ocean, India will also launch its maiden human space mission "Gaganyaan" in 2023. With Gaganyaan's launch, India will be the fourth country after the United States, Russia and China to launch a human space flight mission.

ARMY GETS 26 NEW CHOPPER PILOTS



An impressive valedictory function was held at Basic Flying Training School (BFTS) at Air Force Station, Bamrauli, to mark the successful completion of flying training of 26 army aviators of the 208 Army Pilots Course on Saturday. An impressive valedictory function was held at Basic Flying Training School (BFTS) at Air Force Station, Bamrauli, to mark the successful completion of flying training of 26 army aviators of the 208 Army Pilots Course on Saturday. These aviators went through rigorous flying and ground training during the past five months under the guidance of the Commanding Officer Group Captain Amit Hari Kulkarni, Indian Air Force (IAF) officials said. Air Commodore AK Chourasia, Air Officer Commanding, Air Force Station-Bamrauli was the reviewing officer for the valedictory function. He was received by Group Captain AmitHariKulkarni, Commanding Officer of Basic Flying Training School, IAF.

During the valedictory function, Air Commodore AK Chourasia presented certificates to the graduating officers and trophies to those who excelled during the course of training. Captain AtulTomar stood first in ground subjects, Captain AshishKataria was awarded the trophy for being first in flying and also won the trophy for "Best in Overall Order of Merit." Squadron Leader AnuragSaini and Squadron Leader R Karthik shared the trophy for the Best Instructor (QFI).

While addressing the gathering, Air Commodore AK Chourasia congratulated the officers, particularly those who excelled and won the trophies. He praised BFTS for its rich tradition of transforming young officers into skilled aviators.

While highlighting the role of these pilots in the time of transforming technology in aviation, Air Commodore Chourasia reminded them, "Military Aviators of Helicopters have no margin for error while saving lives and evacuating people." The Reviewing Officer also urged the officers to keep themselves updated on the requirement and nature of future battles. The Air Officer lauded BFTS for its rich tradition of instilling professionalism and excellence in the young aviators abiding by the institutions' motto "Setting Higher Standards." The reviewing officer also urged officers to keep themselves updated about the requirement and nature of future battles. BFTS was established on December 16, 1987, to impart training to pilots on HPT-32 aircraft.

On July 5, 1999, the school changed its role from training flight cadets of IAF to training officers of the Indian Army, Navy and Coast Guard. The school was re-equipped with Chetak helicopters on December 26, 2005, for imparting flying training to Army officers on helicopters.

WILL ELIMINATE PAK-PROMOTED TERRORISM FROM ROOT:
RAJNATH SINGH



Pakistan wants to break India by promoting terrorism and the Indian security forces foiled these plans in 1971 and now work is going on to eliminate terrorism from the root, said Defence Minister Rajnath Singh on Sunday. Addressing the Swarnim Vijay Parv celebrations today at India Gate to commemorate 50 years of India's historic victory in the 1971 war and Indo-Bangladesh friendship, Rajnath Singh said, "Pakistan wants to break India by promoting terrorism. Indian forces foiled these plans in 1971 and now work is going on to eliminate terrorism from the root. We have won in a direct war, victory will be ours in an indirect war also." Defence Minister pointed out that a neighbouring country is continuously fighting a proxy war with India. "This war also tells us that the partition of India on the basis of religion was a historical mistake. Pakistan was born in the name of one religion but it could not remain one. After the defeat of 1971, our neighbouring country is continuously fighting a proxy war in India," he said. "This Vijay Parv festival is not only of any particular operation, but the spirit of victory settled in the soul of the countrymen and our armies, which is present in all parts of our armies from Rani Laxmibai to Major Somnath Sharma, Veer Abdul Hamid and Captain VikramBatra today," Defence Minister said. Recalling the two world wars, he said, "In the twentieth century, there were two world wars which lasted for many years. After both the world wars, if the most decisive wars of the twentieth century are counted, then the 1971 war will be counted among the most decisive wars in the world." Singh highlighted that, unlike our country, Pakistan chooses to name its missiles after invaders who attacked India.

The Union Minister further said, "How strong is the feeling of anti-India in Pakistan...it can be seen from the fact that they name their missiles after the invaders who attacked India. Ghori, Ghaznavi, Abdali! They should be asked whether they even attacked today's Pakistani territory." He said, "Whereas India's missiles are named Akash, Prithvi, Agni. Now one of our missiles has also been named Sant. He had a successful test yesterday only. I congratulate the entire team of DRDO."

RUSSIA LEADS THE WORLD IN HYPERSONIC MISSILES TECH, PUTIN STATES

Russia is the global leader in hypersonic missiles and, by the time other countries catch up, is likely to have developed technology to counteract these new weapons, President Vladimir Putin said. Russia and the United States have an approximate parity when if comes to the number of warheads and their carriers, Putin said in comments aired on Sunday as part of a documentary film called "Russia.

New History". "But in our advanced developments, we are definitely the leaders," Putin said, adding that Russia is also No. 1 in the world by the scale of upgrades of its traditional weapons.

The president said that in the future, other world powers would possess similar hypersonic weapon technology. "When they get this weapon, it is highly likely will have means to fight this weapon."

Putin said last month that tests of Russia's Zircon hypersonic cruise missile are nearing completion and deliveries to the navy will begin in 2022. Some Western experts have questioned how advanced Russia's new generation of weapons is, while recognising that the combination of speed, manoeuvrability and altitude of hypersonic missiles makes them difficult to track and intercept.



They travel at more than five times the speed of sound in the upper atmosphere, or about 6,200 km per hour (3,850 mph). This is slower than an intercontinental ballistic missile, but the shape of a hypersonic glide vehicle allows it to manoeuvre toward a target or away from defences.

Moscow's military spending is much lower than that of Washington. Russia channelled $62 billion on military expenditures in 2020 versus $778 billion spent by the United States, according to the World Bank data. U.S. Air Force Secretary Frank Kendall told Reuters last month that the United States and China were engaged in an arms race to develop the most lethal hypersonic weapons.

In October, the top U.S. military officer, General Mark Milley, confirmed a Chinese hypersonic weapons test that military experts say appears to show Beijing's pursuit of an Earth-orbiting system designed to evade American missile defences.

Putin spoke about Russia's military power in the same documentary film where he lamented the collapse of the Soviet Union three decades ago as the demise of what he called "historical Russia".

INDIA CARRIES OUT SERIES OF SUCCESSFUL TEST FIRING OF EXTENDED RANGE PINAKAROCKET SYSTEM

A series of successful test-firing of the Extended Range Pinaka rocket system (Pinaka-ER) was carried in the last three days, the defence ministry said on Saturday. The rocket systems that were tested at Pokhran field firing ranges were manufactured by a private industry following transfer of technology by the Defence Research and Development Organisation (DRDO). "The DRDO, along with the Army, conducted series of performance evaluation trials of these industry produced rockets at field firing ranges during the last three days," the defence ministry said. "In these trials, enhanced range Pinaka rockets were test-fired at different ranges with various warhead capabilities. All the trial objectives were met satisfactorily," it said in a statement.



While the Pinaka MK-I rocket system has a range of around 40 km, the Pinaka II variant can hit targets at a distance of 60 km. The range of the Pinaka-ER (MK-I variant is not immediately known. The ministry said the Area Denial Munition (ADM) variants of the munition for Pinaka, produced under the technology transfer, were also tested successfully at Pokhran field firing ranges. It said 24 rockets were fired for different ranges and warhead capabilities. "With this, the initial phase of technology absorption of Pinaka-ER by the industry partner has successfully been completed making the industry partner ready for series production of the rocket system," the ministry said. The rocket system has been jointly designed by two Pune-based DRDO laboratories — the Armament Research and Development Establishment (ARDE) and the High Energy Materials Research Laboratory (HEMRL). The ministry said DRDO, after establishing the performance efficacy of the Pinaka-ER, transferred its technology to the industry. "The industry partner has manufactured enhanced Pinaka Mk-I rockets with DRDO's handholding during the production and quality assurance," it said.

INDIAN FINANCIAL SECTOR CHANGES TO WATCH BY 2022

The continuing epidemic has prompted the banking and financial services industry to adapt across the board. Digital change ushered in the ultimate potential. Every Indian now possesses a smartphone and can use it to apply for a loan, complete e-KYC, create a bank account, and place orders for food, groceries, and other necessities.

Commercial banks, new-age fintech firms, non-banking financial businesses (NBFCs), co-operatives, pension funds, mutual funds, small and medium financial enterprises, and recently founded payment banks make up the Indian financial industry. These various financial services cater to a wide spectrum of consumers according to their needs and accessibility. Individuals, governmental organisations, and private businesses can all be clients.

Here's a peek at what the Indian banking sector will be like in 2022.

Commercial Banks

The banking sector in India controls the lion's share of the Indian financial industry, accounting for more than 64 per cent of the total assets held by the financial system.

In India, the banking sector has evolved from a physical to a digital paradigm. With creative technology solutions, it has effectively overcome the hurdles posed by India's varied population. Banks are producing long-lasting products and have transformed themselves from traditional money-transfer businesses.

Previously, under-represented rural groups were denied access to financial services. Banks are currently increasing their reach into the country's rural core. In addition, the government of India's efforts to assist SMEs and MSMEs in dealing with the pandemic issue have influenced banks to focus on previously neglected populations and areas.

Banks are busily re-evaluating their operations and strategies in reaction to the epidemic so that they can better reach out to clients. These actions are bridging the gap in regional banking between urban and rural locations across the country.



Fintech Startups

According to a survey published earlier this year, India's fintech business is the world's fastest expanding. According to research performed by the Boston Consulting Group (BCG) and the Federation of Indian Chambers of Commerce and Business (FICCI), India's fintech industry would be worth USD 150-160 billion by 2025. In fact, in the quarter ended June 2020, 33 fintech investment agreements totalling USD 647.5 million were completed in India.

The most fascinating aspect about fintech is that it has thrived although every other industry has been hit by financial difficulties. This was mostly due to limits imposed by Covid and the government on physical movement.

Insurance Companies

According to a 2020 insurance report, India's worldwide share of the insurance business is at 1.7 per cent (expected to reach close to 2.3 per cent by 2030). The beginning of the worldwide pandemic threw the Indian insurance industry's established dynamics into disarray. The Insurance Regulatory and Development

THE BANKING SECTOR IN INDIA CONTROLS THE LION'S SHARE

> **Banks are busily re-evaluating their operations and strategies in reaction to the epidemic so that they can better reach out to clients**





OF THE INDIAN FINANCIAL INDUSTRY

Authority of India (IRDAI), on the other hand, has gone to great lengths to make the entire insurance procedure as easy and comfortable as possible for clients during these challenging times. Needless to say, digitization played a critical part in bolstering the insurance ecosystem's growth. People were fearful and anxious as the country reported a large number of deaths every day, unsure if deaths caused by Covid-19 would be covered under their life insurance policy. However, the IRDAI went out of its way to clarify that these deaths would be classed as general fatalities because the diagnosis was established after the policy was announced. The IRDAI also used e-KYC and video-KYC instead of physical documents to make client acceptance easier.

Non-Banking Financial Companies

Since January 31, 2021, 9,507 NBFCs have been registered with the Reserve Bank of India (RBI), according to Statista. NBFCs play a critical role in fostering financial inclusion, with their primary goal of providing financial help to anybody who needs it. These financial intermediaries have recently piqued the interest of the Indian public, particularly the economically disadvantaged, who find traditional banking institutions inaccessible and unaffordable.

Small and medium companies (SMEs), which are the backbone of the Indian economy, are also benefiting from NBFCs. NBFC loan growth is considerably more substantial than traditional banks and lending institutions due to their wide and bigger client base. Due to low credit ratings or missing documents, a huge portion of the Indian population finds it difficult to obtain bank loan approval. NBFCs have emerged as a crucial financial option for increasing access to financial services for more individuals. Apart from traditional lending institutions, NBFCs can continue to be major loan facilitators as we move into the next year.

Cooperatives

The Indian cooperative credit system has the world's largest network. Since the initial Cooperatives Society Act in 1904, the movement has grown to an estimated 230 million members across the country. Cooperative societies provide critical strategic inputs and value to help the agriculture industry flourish. India has an agrarian economy, with agriculture providing a living for 72 per cent of the country's people who reside in rural regions.

Consumer cooperative groups are attempting to address consumer needs at low costs. Finally, marketing associations assist farmers in obtaining reasonable prices. Furthermore, these organisations play an important function in supporting irrigation facilities, meeting electrical needs, and providing transportation mediums.

Pension Funds

The main goal of pension funds is to guarantee that people save a percentage of their salary systematically so that they can have a steady income once they retire. National Pension Scheme, delayed annuity, instant annuity, guaranteed period annuity, life annuity, and annuity certain are all examples of pension plans.

Pension plans enable customers to save for the future without exerting a great deal of work. They can also invest in secure government assets as well as non-government debt and stocks.

Conclusion

India is predicted to be the fourth-biggest private wealth market in the world by 2028, according to the India Brand Equity Foundation (IBEF). Furthermore, the Association of Mutual Funds in India (AMFI), the country's largest financial services organisation, aims to triple the number of investor accounts by 2025, to 130 million.

The government also took steps and devised strategies to simplify payments, banking, insurance, and other financial services to meet the ever-increasing demands of the steadily growing population. The industry has shown tenacity and adaptation, with extremely beneficial results.

In 2022, the Indian financial industry is predicted to swiftly advance, aided by financial innovation, and chances for people to invest, save, and build their wealth are expected to skyrocket.

WORKPLACE FLEXIBILITY

A SHIFT TO NEW RULES IN 2022



Much has been said about the dramatic changes in our working lives over the last two years, which have been guided by a primary concern for health and safety. As we enter the New Year, the pandemic remains a part of our lives; nevertheless, it's safe to assume that most of us have learned or adapted to behaviours that our workplaces or occupations now need. There is more freedom now in terms of selecting when and where to work, and this has given every one of us the option to strike a work-life balance.

While there has been plenty of conjecture about how work and offices will evolve in the next year, there is also ample evidence of a trend away from huge office spaces and toward more satellite, decentralised, or flexible workspaces. The transition to a "hybrid workplace" is not just a term, and it will have a greater influence on our everyday lives in the future. The relationship we have with our employers is slowly being changed as technology provides us with different ways of working. So, what does the future workplace look like in 2022?

Hybrid

Addressing the issue of "where we work" is perhaps one of the most difficult challenges businesses face. Most companies' attitudes toward centralised workspaces have

“The transition to a "hybrid workplace" is not just a term, and it will have a greater influence on our everyday lives in the future.”



shifted dramatically. While there may still be a central office that functions as the headquarters, workplaces have become location agnostic. Work near home has emerged as a prominent trend, partly propelled by flexible workplaces, by offering employees the freedom to work from locations closer to their homes. Flexible workplaces have developed as a partner of choice for small and large organisations alike, with a spread network spanning major sites in different cities.

Flexible workspaces are economically feasible because they provide long-term and short-term leasing options, hassle-free, ready-to-move-in arrangements, efficient solutions for legal, IT, and other requirements, high standards of sanitization, and social-distancing norms, allowing businesses to allocate their operational costs to research, development and addressing employee needs as needed. Furthermore, state-of-the-art and tech-integrated customizable workspaces, ergonomically designed workstations, and other recreational facilities make them an appealing offer for retaining existing talent, particularly for enterprises/MNCs that place a premium on business continuity and cash conservation. This has fostered the rise of so-called "corporate coworking." In fact, according to a recent Colliers analysis, flexible workspace stock in tier 1 and tier 2 cities is likely to exceed 60 million square feet by 2023, as firms emphasise development through flexibility in a time of great volatility.

“Traditional workplaces are typified by rigid areas and densely packed cubicles, where employees may devote up to 8 hours each day to their work.”

Employee-Driven

Traditional workplaces are typified by rigid areas and densely packed cubicles, where employees may devote up to 8 hours each day to their work. Employees have acknowledged the need for increased flexibility in 'when to work' and 'how to work' as a result of the epidemic. Maintaining a healthy work-life balance has become more important in order to minimise burnout, boost productivity, and improve general well-being. Flexi work hours rostered shifts and timings and providing a dynamic space that allows for an unrestricted exchange of ideas in the way it is designed and set up are all important in meeting the demands of the workforce that is ready to return to work. Flexible workplaces are designed to adapt to changing behaviours in a proactive manner. They are more adaptable and elastic in providing individuals and teams with a workspace that can be customised to suit their work styles, including a mix of flexible and fixed desks, comfortable conference rooms, sleek private offices, built-in day beds, art-filled lounges, cafes, pantries, and wellness rooms or crèches to meet parental needs. Furthermore, by working from locations close to home, employees may save time and money on community activities, helping them to achieve a better work-life balance.



Social

Collaboration, learning, and the need to be a part of a community and interact with others are more prevalent than ever before, particularly among the new generation of employees, which includes startups, entrepreneurs, freelancers, and millennials. The increasing isolation during pandemics and work-from-home has necessitated the necessity for the workplace to act as a centre that encourages an interchange of ideas and fosters creativity via learning, bonding, and culturally varied relationships. Flexible workspaces encourage possibilities for such persons to mingle and network with professionals from many industries, either in person or through virtual initiatives, to optimise their offer, through community-building activities.

Weekly learning and development activities, which take into account member health, safety, and social distance standards, promote a lively and appealing culture and encourage increased engagement between employees. As a consequence, companies and startups may make greater use of these spaces to boost employee satisfaction and productivity. The workplace of 2022 is dependent on the workforce's flexibility, health, and well-being, and is a critical component of company continuity. Flexible workplaces transform traditional office space into a more dynamic, cultural hub that aids firms in achieving these objectives in a cost-effective, efficient, and hassle-free manner. Furthermore, the rising gig economy and startup environment in tier 1 and tier 2 cities, as well as MNCs seeking hybrid solutions, have boosted the value and potential for flexible workplaces, positioning them as the most feasible partner for long-term growth plans.

What you need to know about

7 GREAT TRENDS IN 2022



The world is changing once again, and here is your chance to capitalise on the amazing trends in post-pandemic business. Just as at the start of the pandemic, every entrepreneur was focused on being resilient in order to adapt and survive the changes that were coming due to COVID, and we had to turn to see the trends and opportunities of the crisis, such as digitization and remote work, today we must recognise that we are at the start of a new cycle, and we have the opportunity to get on the wave early and thus take advantage of the changes that are coming.

To adopt the term "post-pandemic," we must first clarify one point: the COVID is far from over; yet, it is apparent that the globe is on the verge of transitioning to a new economic and social stage, for which governments and businesses must be prepared.

So, while you must not lose sight of the fact that there are still health concerns out there, you must not wait for everything to return to normal before taking action, because if you wait, it may be too late when you decide to act.

These are some of the major themes to keep in mind in a world where there is a growing desire to reclaim what was lost due to COVID, but where some of the consequences of the epidemic are still being felt:

1. Transitioning from remote to hybrid:

While some people are still afraid to leave the house, others need to be outside, the reality is that some face-to-face activities will inevitably return, and we will increasingly see that the world will demand that we resume activities at work, socially and economically.

Now, we must never forget what we've learnt, such as the efficiency of remote work or the worldwide reach of e-learning. Those who learn to navigate and adjust their endeavours to a hybrid environment that knows how to make use of the best of both online and offline will prevail in the next year.

> **“Plan your flows carefully, adjust your budgets & supply costs, consider your compensation approach, of course, change your prices”**

2. Economic recovery:

Economic recovery will probably be the most important topic in the next years. The crisis resulted in the closure of over one million businesses in Mexico, with 9.8 million people falling into poverty as a result of the epidemic. Mexico, and the Latin American continent as a whole, desperately requires economic reactivation. Not only rectify this but also assist us to enhance our past levels. Great business possibilities will be created by entrepreneurs who understand how to add value to a society in need of healing.

3. Sustainability and the climate catastrophe:

While the discourse about the climate issue

is not new, it has never been more critical than it is now, as the world transitions from pandemic to post-pandemic. With the quarantine in 2020, we saw that it was feasible to limit our carbon imprint on the world, but remaining at home is insufficient. Consumers are becoming increasingly aware of their role in the impact they have on the environment, and they will reward companies that provide products and services that not only mitigate their impact but also aid in the fight against this crisis, which poses a far greater challenge than the one we face due to COVID.

4. NFT, Metaverse, Cryptocurrencies, and New Technologies:

If you blink, you could miss it, but we are seeing a technical acceleration like never before in the epidemic; some claim that technological progress has advanced more than 40 years as a result of the crisis. The fact is that new technologies, some of which are not so new but have yet to burst, have now become mainstream and are here to stay. If you aren't thinking about how you can use these technologies to propel your business ahead, the world will most likely pass you by.

5. Work will never be the same:

If you believe that things will return to normal in the "post-pandemic" period, let me be the first to burst your bubble: many aspects of our lives will never be the same as they were before COVID, and perhaps the most important for entrepreneurs is the reality of work. The need for large offices, as well as the need to hire people who live in the city where the company is physically located, has been replaced by the realisation that the home office is not only possible but in many cases much more effective (aside from how comfortable it is to work in your pyjamas).

6. Workplace well-being as a priority:

Changes at work aren't only about remote work; there are a slew of other factors to consider in this trend, including the present state of attrition, stress, anxiety, and even terror that employees face in the workplace. If you haven't noticed, your crew has been through a lot in the previous two years, including family losses, financial hardships, and the worry and anxiety that comes with living in a dangerous scenario. Companies that do not prioritise health as part of their workforce strategy will have a difficult time retaining, recruiting, and empowering the greatest employees to build exceptional teams.

7. The Great Inflation:

Mexico is experiencing unprecedented levels of inflation. This will have far-reaching implications for all aspects of our life, including, of course, our endeavours. Plan your flows carefully, adjust your budgets and supply costs, consider your compensation approach, and, of course, change your prices. Otherwise, it will be quite difficult for you to deal with this transition, which, whether you like it or not, is inevitable. These are only a few of the exciting new trends in entrepreneurship that will emerge in this new "post-pandemic" period, but they are far from exhaustive. Tell me about any additional major trends, opportunities, or hazards you see for the coming year, and if you'd like me to write about them.

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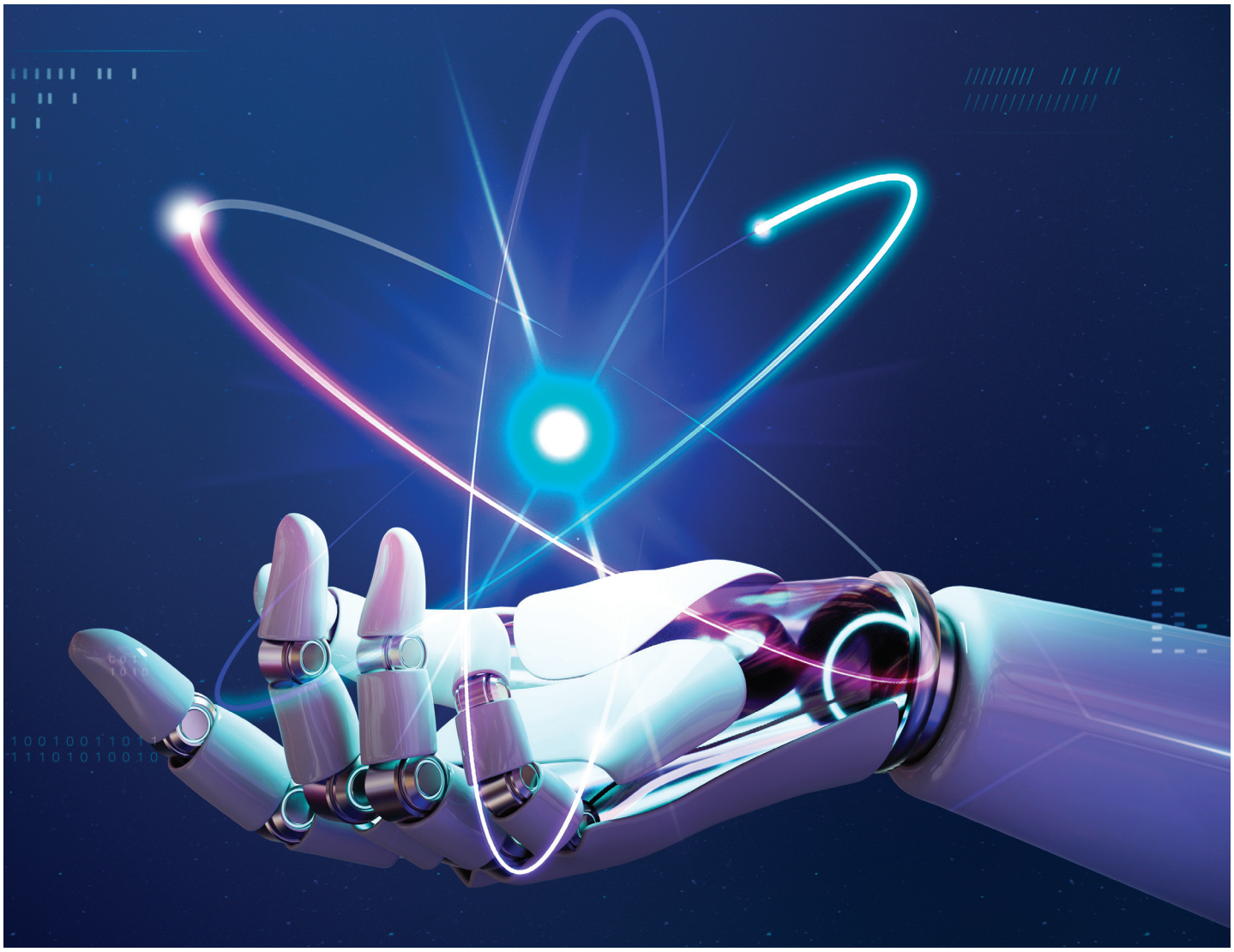

HOW THE DIGITAL REVOLUTION WILL CHANGE IN THE COMING YEAR

The coronavirus epidemic wreaked havoc on the corporate world. It would be an understatement to say that 2020 was not the ideal year to launch a recreational company like a yoga studio or a theme park. However, despite the overwhelming evidence in favour of the belief that the pandemic dealt a terrible hand to the business world, looking back over the last two years, we see that pent up consumer demand combined with a digital metamorphosis of both the business world and the household has led to a powerful comeback for the industries of the future, with many companies now reporting close to pre-COVID level revenues, even in industries that appeared to be stricken.

It's no wonder, therefore, that the market will continue to be significantly impacted by how the COVID-19 epidemic plays out, as well as how politicians and entrepreneurs respond to the resulting economic issues both worldwide and locally, in 2022. The epidemic may have shifted the trajectory of the continuing digital revolution.

> **In addition, there are indications that the damaging scarcity of semiconductor chips may begin to lessen by the second part of the year**

Digital technology and the internet of things

The digital industry's heightened speed is unlikely to abate anytime soon. In addition, there are indications that the damaging scarcity of semiconductor chips may begin to lessen by the second part of the year.

Over the course of the epidemic, the Internet-of-Things (IoT) has desegregated itself into its own identity, not merely as a distinct entity from the real world, but as an equal component of it that can be accessed at any time without limitation. The rising availability of 5G will also assist in this commercial shift. It aims to increase bandwidth while minimising latency. This will boost the rise of infrastructure-as-a-service (IaaS), platform-as-a-service (PaaS), and software-as-a-service (SaaS). Since 2020, the pandemic-fueled boom has permitted a tech explosion, with cloud, SaaS, collaboration, gadgets, and virtually any technology that enables commerce, communication, and productivity fueling expansion.

Remote Work

Despite the rising demand for unobstructed communication in the corporate sector and among management, just 8 per cent of conference rooms worldwide are prepared to handle video conferencing.

It is, however, erroneous to believe that collaborative firms are not filling this need. Intelligent cameras that can track the face movements of speakers, companion modes, and hybrid work developments will change telecommunications quicker than anyone can foresee because few understand the potential of innovative R&D paired with powerful manufacturing and distribution channels.

Distributed Enterprises

Even a few years ago, most organisations saw the notion of remote labour as untenable. We have begun to develop and experiment with the notion of a hybrid force, where working from home or office is a matter of choice, now that the limitations of the technology are being pushed further and farther by both necessity and desire.

Biotechnology and the healthcare business

The worldwide biotechnology business is now valued at USD 299 billion, with a projected growth rate of USD 2.44 trillion by 2028. As a result, it is important that biotechnology be employed to tackle the most complicated human problems.

Machine learning and AI, as well as the emergence of bots

Artificial intelligence (AI) has proven to be one of the most transformational and widespread technologies ever created, based on the predictions of the finest brains humanity has ever known. The human workforce's future is steadily proving to be



assisting and sustaining its AI counterparts, as well as filling any qualitative gaps in abilities they may have before progressing further. As time goes on, we find ourselves completing more and more jobs via technology that require less and less user interaction.

“The worldwide biotechnology business is now valued at USD 299 billion, with a projected growth rate of USD 2.44 trillion by 2028”



Renewable energy and environmental sustainability

The pressing requirement for sustainable energy generation methods is a prominent emphasis of the climatic anomalies in 2020. As more governments throughout the globe acknowledge the fight on climate change as true and critical, we are witnessing significant planning centred on the emergence of renewable energy sources such as biofuels, liquid hydrogen, and nuclear fission.

Bitcoin and cryptocurrency

Despite its reputation as a highly volatile investment, cryptocurrency has shown to be an important method of hedging when compared to equities and gold as a means of mitigating systemic risk. Amazon, Tesla, and the government of El Salvador have all tried to establish Bitcoin as legal tender.

Cybersecurity

Cybersecurity is a field that is only growing at an exponential rate as the cyber world expands and gets less careful. As more and more critical processes are done via the internet, leakers, hackers, and embezzlers tend to target the weakest of these networks, causing irreversible harm to these firms or sectors. As a result, there is always plenty of opportunity for software development in this field.

The present legacy technologies are insufficient for guaranteeing total protection, and investing in this area may no longer be an option, but a need for both the government and the business sector if they want to sustain their increased dependence on IoT. The CSMA test is now one of the most accurate ways for assessing software’sCybersecurity against traditional intrusions.

AGRITECH TRENDS TO WATCH IN 2022

Investors' interest in agritech businesses has skyrocketed nowadays, owing to the fact that agritech is one of the few industries that not only survived but grew throughout the pandemic. According to industry statistics, agritech firms in India garnered over USD 1 billion between 2017 and 2020, making India the world's third-largest recipient of agritech financing. According to a Bain and Company estimate, it represents a major untapped opportunity with a market value of USD 30-35 billion by 2025.

"Almost the last five years, over 3,000 agritech businesses have emerged." Their aggregate income, though, was less than USD 100 million. This demonstrates that there is an opportunity for more competitors in the market, as no single corporation can have a monopoly and adequately solve all of the difficulties. This is encouraging news for investors. "The agritech startup category has the potential for a 25-30 per cent increase by 2025," stated Nukul Upadhye, co-founder and CEO of Bijak.

During the peak of the epidemic, agritech not only outperformed other industries, but the speed of digitization in the industry also surged significantly. Will agritech's resiliency be a plus in the future as well?

"The introduction of new agri-trading platforms, more efficient market linkages, and the use of big data and IoT in driving farm input has aided and will continue to aid





the whole agricultural sector." According to Anjali Bansal, founder of Avaana Capital, "resilience will not only persist but will actually strengthen."

Agritech in 2022

Startups in the domain are aggressively adopting revolutionary technologies like artificial intelligence (AI), machine learning (ML), the internet of things (IoT), and so on to boost efficiency, productivity, and transparency. "These digital breakthroughs are gaining the trust of potential investors, putting the agritech sector on a growth trajectory." India's agriculture industry has gone a long way, and with the emergence of tech-driven agriculture firms, it has the potential to become "the world's food bowl." "We can certainly anticipate a slew of new advancements to enter the farm industry in FY22," said Ranjith Mukandan, CEO and co-founder of Stellapps. Agritech is also witnessing an infusion of entrepreneurs that understand deep tech and come from





> **Market connection businesses in India earned USD 305.2 million in investment between 2014 and 2021.**

farming backgrounds. This enables them to employ the appropriate technology at the grassroots level. "We can expect significant technology breakthroughs and acceptance of digital systems throughout agriculture value chains as the sector gets more flooded with investment," said Taranjeet Singh Bhamra, founder and CEO of AgNext Technologies.

Segments Expected to grow the Most, as well as Other Trends

Market connection businesses in India earned USD 305.2 million in investment between 2014 and 2021. Input and output market linkage activities, for the uninitiated, assist farmers in connecting with the right input providers (e.g. farm machinery rentals, field levelling equipment, pesticide spraying, etc.) and the right buyers without losing the majority of their working capital or profits to intermediaries. The category is likely to enjoy an increase in capital inflows. "There has never been a better moment to invest in the eyes of investors." Marketplaces and e-distributors, farm inputs such as smart farm equipment, AI/Image powered solutions for crop quality assessment, precision agriculture and farm management, Agri finance and insurance, farmer advisory services, and hydroponics are among the agri-tech segments with high growth potential, according to Upadhye.

IoT devices, next-gen internet connections, autonomous farm machinery, sustainable development and biodiversity, and satellite images are some of the important agritech themes that we may expect to see in 2022, according to him.

Experts predict that technology interventions would be in more demand at various points throughout the agricultural value chain. "Additionally, growing need for traceability is projected to spur digitalization of food systems, logistical operations, storage facilities, quality inspections, and financial transactions, among other things, with increased integration of real-time data to create key business insights," Bhamra added.

"Given India's high sensitivity to climate change, we expect more entrepreneurs to focus on climate mitigation and resilience initiatives in the agricultural sector. We also want to see additional advancements in agrifood life sciences, which are crucial for the development of economically viable, long-term agriculture "Omnivore partner Subhadeep Sanyal stated.

New food brands, nutritional supplements, and alternative protein will all experience development in the coming years. "While these are still niche areas, we are seeing an increase in customer demand for companies that are "better for the world." Agriculture will continue to focus on sustainability, mitigation, and resilience in the next years, as it is not only a major emitter but also a major consumer of resources. Agriculture must play a significant role as we go forward from COP 26 and India's Net Zero target. As a result, Bansal predicts that "the use of climate data, alternative energy, and better water and waste management will all be trends."

The quality and traceability category, according to Mukandan, is still completely unexplored. "As demand for premium quality products rises owing to rising buying power, the quality and traceability monitoring and management industry are expected to expand in the coming years."

Finally, areas like agri-fintech, quality, and traceability management have a lot of room to develop, while others like farm management, input delivery, and precision agriculture, which have already grown a lot, will continue to grow.

IS INDIA'S D2C MARKET POISED FOR GROWTH IN 2022?



India's direct-to-consumer business is booming, and it shows no signs of slowing down anytime soon. While the COVID-19 epidemic caused widespread economic disruptions, particularly for online companies and marketplaces, there has also been a long-term shift in customer behaviour. The pandemic fuelled the D2C sector's fast expansion, but it also changed client expectations. Consumers now demand a smooth post-checkout process that includes tech-first solutions like one-step check-out and pre-filled addresses, among other things, according to RTO. But that's the scenario right now; let's speak about the future, about the potential.

According to KPMG statistics, India presently has over 800 direct-to-consumer companies, with the market valued at USD 44.6 billion in 2021 and expected to reach USD 100 billion by 2025. Internet penetration and the pandemic, which has increased customers' reliance on online purchasing, are two reasons that have contributed to this explosive expansion. Despite the recent increase, the direct-to-consumer (D2C) sector is still in its infancy, giving companies plenty of possibilities to experiment with changing market and customer expectations to identify what works best for them and propels them to success. Let's take a closer look.

> **“Internet penetration and the pandemic, which has increased customers' reliance on online purchasing, are two reasons that have contributed to this explosive expansion”**

Untapped Market

Several factors are allowing the D2C market to grow. The greater player is the 700 million-strong internet population, which is expanding at a rate of 24 per cent each year. Second, the Covid-19 epidemic has hastened, voluntarily or unwillingly, internet dependency. Another important factor is that online spending in India is predicted to expand at a CAGR of over 35 per cent over the next five years, from USD 39 billion today to USD 200 billion (due to improvements in internet and payment infrastructure). Because D2C is still in its infancy, the scenarios outlined above will be ideal for D2C enterprises to investigate

and experiment with the market in order to discover the optimal formula. Despite the fact that macroeconomic variables are in their favour, D2C businesses must face a variety of hurdles in order to flourish in the category.

Personalization

To enhance the brand's relationship with the client and so create loyalty, speak to them in a way that they understand or incorporate distinctive components. With data trends and AI dictating customisation, marketers can now better understand their clients and then lure them with customised offers. D2C allows merchants to follow their consumers' activity and understand their motives, while tech solutions create many messages in a matter of seconds, saving both time and money, allowing D2C businesses to personalise their communications now.

The Benefits of Omnichannel

When you say omnichannel, a seller's face lights up. One platform that collects all of their orders makes inventory management easier, reduces stress and provides real-time forecasting trends. To make a brand effective, data-driven judgments are combined with manual experience. They can see all of their orders in one place, including those received by email, WhatsApp, SMS, Instagram, Facebook, and other channels. This helps them to expand their sales channels without having to worry about who will be in charge of them.

> **One platform that collects all of their orders makes inventory management easier, reduces stress and provides real-time forecasting trends**

Combination of data

Another trend that will be seen next year is the weaving of data together to address issues. Each online brand has gathered data, however, it is organised by department. For a brand's strategic directions, omnichannel will be revolutionary for all data acquired. One unified layer will portray what people desire in more powerful ways than current trend predictions. Companies will shift from product-first to user-first branding. This will also aid in the detection of cross-selling and up-selling possibilities.

Optimising Logistics

Although the D2C model is profitable, with many businesses embracing it, the sector is characterised by fierce rivalry and comes with its own set of obstacles. One of the most significant issues that D2C companies, particularly small and medium businesses, the face is effective logistics management. The COVID-19 epidemic has unmistakably demonstrated the need for efficient, flawless shipping operations and how they may benefit D2C/e-commerce businesses.



D2C firms are increasingly turning to third-party logistics platforms for services such as warehouse and inventory management, integrated payment choices, efficient last-mile delivery, and end-to-end fulfilment.

With their large pin code reach, an extensive network of professional courier partners, and technology-integrated operations, third-party logistics platforms can efficiently manage end-to-end product fulfilment. While this is not a new idea for D2C businesses, D2C brands will place a greater emphasis on logistics management to drive development potential in 2022, which is predicted to be the true post-pandemic year. After all, a D2C brand's reach and ability to interact with customers through hassle-free, rapid services is one of the keys to its success.

The path that lies ahead

The omnichannel and personalisation will be the main areas for the coming year, thanks to the D2C tsunami that is sweeping the country. Companies will concentrate on resolving the problem and improving it. With the epidemic disrupting practically every part of company operations, marketers have been experimenting with different tactics to improve the consumer experience. That said, we can confidently predict that 2022 will be a year of development, evolution, and advancement for D2C businesses in the country and that despite increased competition, a bright future lies ahead.

FASHION INDUSTRY IN 2022

EMERGING & SUSTAINABLE

Fashion sustainability is important. The recent Glasgow Climate Conference shone a bright light on today's most pressing environmental challenges. When it comes to climate change, the scientific consensus is that we need to do more and better. It's either that or we'll be stranded on a planet ravaged by climate change.



Our attempts to be sustainable in the fashion sector are present but gradual. We continue to be an industry that:

- **contributes around 10 per cent of global greenhouse gas emissions**
- **consumes more energy than the aviation and shipping industries combined**

It is a difficult undertaking to make the fashion sector more environmentally friendly. No designer, company, or government can overhaul the extensive fashion supply chains, energy-intensive manufacturing, or waste output on their own. Nonetheless, there is reason to be optimistic about the future. With that in mind, let's take a look at the fashion industry's upcoming sustainable trends in 2022.

The Internet of Things (IoT)

Keeping track of emissions generated during the manufacturing of clothing is a major challenge for the fashion industry. Our worldwide supply networks are complex and intertwined! Emissions tracking, let alone keeping them under control, is an onerous process that may overwhelm fashion businesses. This is where the Internet of Things (IoT) will be handy.

What if you could link every piece of clothes you make to the cloud? The whereabouts of such "smart products" throughout the supply chain might be traced. This might aid businesses in tracking inventory loss, energy use, and supply chain pollution, among other things. Smart clothing might potentially be utilised to improve customer-manufacturer interactions.

IoT has already been used in the fashion industry's wearables area (for example, sports shoes, fitness watches, etc.). We feel that IoT will have greater applicability in the future decade when it comes to sustainability. Indeed, Microsoft has teamed up with Eon, a New York-based firm, for this aim. By 2025, Eon hopes to link 400 million fashion goods to the cloud using its own IoT platform.

Fashion-tech IoT, according to CEOs like Natasha Franck, will help "digitise" the fashion supply chain. This will assist fashion businesses in developing a strategic approach that will both promote growth and track environmental obligations. IoT, according to Franck, will be critical in establishing a future circular fashion sector. In regards to the latter, we have our reservations. Smart fashion gear, on the other hand, has the potential to influence future sustainable trends.

The SEO Value of Sustainable Language

Since the epidemic, there has been a long-term trend that is gathering traction. Consumers are more interested in what fashion brands have to say about sustainability.

The SEO value of sustainable language (keywords like "sustainable," "eco-friendly," "green," and so on) is at an all-time high and

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will continue to rise. Consumers' increased eco-consciousness has prompted fashion brands and manufacturers to adapt. Studies show a 500-600 per cent rise in sustainable keywords used in product descriptions between 2019 and 2021. This is a positive development. But keep in mind that (SEO) chatter is always cheap. To put it another way, can your fashion brand live the talk when it comes to sustainability? If you don't have the evidence to back up your claims, be careful what you say.

Obtain Certification

Consumers like to do business with companies that are truly environmentally conscious. Many brands are unable to demonstrate their long-term viability when put to the test. This is why certificates for sustainability are so important. Better Cotton Initiative, OEKO-TEX, GOTS, and other certifications are examples. These "green certificates" serve as a stamp of approval for a company's environmental performance.

Greenwashing is growing increasingly popular among consumers. As a result, obtaining certification for your organisation and conveying this to customers will become increasingly vital in the future.



Consumers as Co-Creators in Personalized Fashion?

You create a piece of apparel, then make, promote, and sell it to a customer. The consumer is viewed as a passive consuming entity in this business model. In other words, during the design and manufacturing stages, the consumer has no say. But what if things were to turn out differently?

Can customers become co-creators with us? Or perhaps clothes co-manufacturers? This is the future that 3-D printing is assisting in the realisation of. Gisa Schosswohl, EU Project Manager, feels that the era of "personalised fashion" (i.e., consumers as co-creators) is approaching. This will aid in the development of "a direct link between the clothing and the wearer." In other words, customers will be more concerned about the garments they contributed to the design. The prospect of interacting with customers (even on a trial basis) excites me. We agree with Ms Schosswohl that customised fashion will boost regional production while also counteracting rapid fashion's negative consequences. Having said that, we wouldn't rush into customised fashion. According to the present market situation, it is too early to jump on the bandwagon.

Conclusion

Every journey begins with the first step. With a single step towards Dandi, Mahatma Gandhi took a great step for India. Similarly, when astronaut Neil Armstrong took his first steps on the moon, he made a great leap for humanity.

As members of the fashion sector, we may also take one step forward and then another. We can reduce our environmental effects and move toward a more sustainable fashion industry. What is the significance of this? We owe it to ourselves, not only to our financial line but also to our future generations.



HOW TO MAKE YOUR MORNING ROUTINE MORE PRODUCTIVE IN 2022

Mornings may be difficult. There will surely be roadblocks and setbacks if you are trying to move to a more effective morning routine. Keep in mind that incremental improvements over time are more feasible when adopting any new habit. Changes like this are more likely to persist.

Allow yourself to forgive yourself the first time(s) your morning doesn't go as planned. In order to establish a new morning habit, you must be consistent and persistent. As long as you wake up the following morning and begin again, you are on the right track.

Here are seven things you can do in the new year to help you be more productive in the mornings.

1. A strategy

One of the most crucial strategies to make your mornings more effective is to develop a morning plan the night before. This will help you really follow through the next day. Before going to bed, you can retain this note in your thoughts or scribble it down on your phone, planner, or even a piece of paper.

2. The use of natural light

Incorporating natural light into your daily routine is the greatest approach to trigger your body's natural alarm clock. Sunlight triggers your body's circadian rhythm, signalling that it's time to get up. It's difficult to reverse this biological process once it's begun, making it more likely that you'll really get out of bed and start your day.

3. D-vitamin

In the United States, almost 40 per cent of persons are vitamin D deficient. Although natural sunshine is the greatest approach to prevent deficiency, taking a vitamin D supplement can help, especially during the winter months or if you spend most of your day holed up in an office.

> **“The key to success is consistency. This is particularly true of your morning routine. Wake up at the same time every day to train your body to wake up naturally at that time”**

4. A stroll in the morning

Another technique to physically inform your body it's time to wake up is to get your blood circulating early in the morning. Physical activity should be incorporated into your morning routine to help you feel more alert.An early commute will be enough for some. Consider riding your bike to work or using the stairs instead of the elevator. These small adjustments will jumpstart your day and give you a rush of energy in the morning.

5. Reliability

The key to success is consistency. This is particularly true of your morning routine. Wake up at the same time every day to train your body to wake up naturally at that time. The longer you keep up the habit, the less uncomfortable it will become.

6. It's time to disconnect

Blue light has been shown to disrupt your sleep pattern. In most cases, social networking is detrimental to your productivity. When it comes to making the most of your morning, your phone is unproductive on all fronts. Unplugging should thus be at the top of your to-do list.

7. Get some rest

Getting a good night's sleep is maybe the most crucial thing you can do to make the most of your mornings. This is easier said than done, but including the above-mentioned elements, such as exercise, regularity, and time away from your phone, into your morning routine will assist.

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