

India- Europe Knowledge Report Reimagining Technological Innovation

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INTRODUCTION

The emergence of technologies has led to transformational changes in our way of doing business and inevitably brought changes in our lifestyles and everyday activities. New and unconventional ways to enhance our businesses witnessed the rise of advanced manufacturing and the Industry 4.0. Breakthrough innovations in seamless connectivity, urban mobility, end-to-end value chains, data analytics, artificial intelligence, automation, augmented reality, and various digital tools for workforce management undergo technological advancements, as change remains a constant.

This fundamental drive to advancement is increasingly pushing the limits of natural resources and planetary boundaries. While most of these technological innovations have enhanced productivity in businesses, their impacts on the environment have been greatly disruptive. From depletion of natural resources, environmental pollution, deforestation to chemical pollution from electronic waste disposal and heat inducing machines/data centers in order to meet the increasing demands of a rapidly growing industrialised population.

Our human actions call for the need to shift gears to a more inclusive, equitable and sustainable future. Many economies have been making headway in producing various technological breakthroughs of innovation backed by government led policies and industry initiatives with an entrepreneurial zeal to transform our ways to build better and sustain future economic growth. India and Europe, both have made tremendous progress to reduce their carbon footprints in the pursuit of a sustainable planet.



INDIA-EUROPE RELATIONS

India and Europe are natural partners, with mutually beneficial economic partnerships. The recent India EU Virtual Summit witnessed a shared vision for reviving the world economy following a path of sustainable and inclusive growth. Coordinated action is the key to tackle the generational challenge of climate change and environmental degradation. The Leaders reaffirmed their commitment to the implementation of the Paris Agreement including their nationally determined contributions in line with the agreement. Some of the joint collaborations between India and EU that were reiterated at the India EU Virtual Summit include –

- Clean Energy and Climate Partnership that aims to reinforce cooperation between India and EU on clean energy with key focus areas on energy efficiency, renewable energy, climate change.
- Cooperation in the International Solar Alliance (ISA) which focuses to promote the deployment of solar energy
- International Platform on Sustainable Finance (IPSF) that seeks to mobilise private capital towards environmentally sustainable investments.
- Cooperation in India's Coalition for Disaster Resilient Infrastructure (CDRI), an initiative to ensure that infrastructures are resilient to climate change
- Joint efforts in developing an ambitious post-2020 global framework to protect biodiversity, to be adopted at the 2021 UN Biodiversity Conference
- The leaders supported an ambitious mandate for an international chemical and waste management framework beyond 2020, for consideration at the fifth International Conference on Chemical Management in Bonn in 2021.



- The summit also witnessed joint cooperation to support clean energy transition, resource efficiency and circular economy, and the necessary technological leaps, while opening new business opportunities.
- The EU and India will further develop cooperation on smart and sustainable urbanisation, information and communication technology, transport, space, and health security. They agreed to jointly tackle water issues, air pollution, plastic, and marine litter. Exchanges on research and innovation will be increased to further underpin progress in these areas.

EUROPE - PIONEERS OF TECHNOLOGICAL INNOVATION

Europe - Western, Central and Eastern regions, have seen the emergence of technological innovations across various sectors for more than a decade in smart infrastructure, smart cities, urban mobility, healthcare, clean technologies and harnessing the Blue Economy in a sustainable manner. Their technological innovations driven by its competitiveness, economic progress and market demand in many ways serve as an excellent example for other countries to follow.

The region has an increasingly vibrant start up ecosystem and its tech workforce is growing faster than ever at 2.6% a year. Europe's entrepreneurial talent is key to the region's innovation economy. Sectors range from fintech, e-commerce, artificial intelligence, cleantech, healthcare, blockchain as well as creative industries. The Startup Europe Partnership, an initiative by the European Commission helps connect high-tech startups, scaleups, investors, accelerators, corporate networks, universities, and media. It is supported by a portfolio of EU funded projects and policy actions such as the EU Startup Nation Standard, Innovation Radar and the Digital Innovation and Scale Up Initiative.



Europe also has a long history of industrial excellence and a strong hub of small and medium sized enterprises (SMEs) that serve as the backbone of the European economy. According to the European Commission, SMEs employ around 100 million people that account for more than half of Europe's GDP and contribute by adding value in every sector of the economy. They have been essential in providing innovative breakthroughs in Europe to address climate change, resource efficiency and economic resilience to external shocks.

INDIA ADVANTAGE

With a demographic window of opportunity, India is considered to be the world's youngest nation with an average age of 29. According to the UNFPA projections, India will continue to have one of the youngest populations in the world till 2030, while major economies like US, China, Japan, Europe are likely to witness aging population.

India has also been at its forefront in upskilling and reskilling its young labour force. The Government of India's initiative, Skill India Programme aims to train over 40 crore Indians in market relevant skills by 2022 with the help of various training programmes and schemes. Its broadly divided into five main categories including management, trainer/trainee program, entrepreneurship development, skill development and other skills related to promotion of micro-enterprises, lending strategies of SMEs.

As one of the major contributors to India's economic development, the services sector provides exceptional services and global competitiveness across international borders. Presence of Indian professionals abroad have multiplied over the last decade in services related to IT, financial services, banking, education etc.

The Indian IT Industry itself has more than 17,000 firms with over 1000 large firms which have 50 delivery locations in India. The country's cost competitiveness in providing IT



services, which is approximately 3-4 times more cost-effective than the US, continues to be its unique selling proposition in the global sourcing market.

AREAS OF FUTURE COLLABORATION

Smart Cities and Urban Mobility

According to the United Nations, the world's urban population is projected to grow from 4.2 billion in 2018 to 7.7 billion by 2050 - 68% of the world population. The future increases in the size of the world's urban population are expected to be highly concentrated in just a few countries including India, China, Nigeria that will account for 35% of the projected growth of the world's urban population between 2018 and 2050. By 2050, it is projected that India will have added 416 million urban dwellers. Today, Europe is one of the most urbanised regions with 75% of urban population. Smart cities can help in ways to cope with the demographic changes through the use of technology and data, and the Europe region offers many of the most promising smart cities across the world.

London, in 2019 launched its SMART IoT Initiative enabled with IoT street lighting deployed across the city.

Smart City **Berlin** as announced in 2015, to focus on the development of user-friendly market solutions in smart living, smart mobility, smart infrastructure and smart urban communities

Dublin's smart city programmes are centered around smart government, mobility, and economic development with a recent walking-cycling centric mobility due to limited public transport in these challenging times.

In **Finland**, a joint development strategy of the six largest Finnish cities called 'The Six City Strategy' open Innovation platform aims to develop and pilot various environments for innovation.

Barcelona has invested heavily in Wi-Fi infrastructure and the Internet of things (IoT) to become one of the world's most connected cities. It is also home to the Smart Cities Expo



World Congress, the premier global event for smart cities. Amongst other cities in Europe include Vienna, Stockholm, Berlin, Copenhagen.

India launched its Smart Cities Mission in 2015 to promote sustainable and inclusive cities to improve the quality of life of its citizens and harnessing technology for 'smart' solutions.

Healthcare and pharmaceuticals

Breakthroughs in technological innovation play a major role in contemporary healthcare systems as it contributes directly to the quality of patient care. From technological innovations in prevention and diagnosis to monitoring and management of healthcare, Europe has been at the forefront to utilize its full potential of technologically driven innovative solutions for healthcare.

Developing digital solutions to tackle real-time monitoring of patient data, better diagnosis of patients using Big Data and Artificial Intelligence; biotech innovations in regenerative medicine and tissue engineering, and advance therapy of diseases continue to make progress towards technological innovations in the healthcare and pharma sector. India's rising entrepreneurial zeal in technological innovations combined with Europe's expertise in leading technological innovations is the new future towards sustainable development.

Aerospace and Defence

India with the 3rd largest armed forces in the world is undertaking various measures in the aerospace and defence industry to establish a nationally driven manufacturing hub for defence production, research & development ecosystems and defence tech startups to develop solutions using automated robotics, individual protection systems, drones amongst many other under the AtmaNirbhar Bharat flagship programme. Joint collaboration to foster development in the defence sector has been an ongoing initiative with Europe. However, industries must now look at advancing in technologies to reduce the carbon footprint by sustainable production and consumption of defence products.



Travel, Tourism and Hospitality

Europe continues to be a global leader in tourism and hospitality. Every year, hundreds of millions of international tourists visit the region. In this digital era, travel, tourism, and hospitality sectors have also seen several technological developments. The industry is constantly innovating and evolving to make travel and tourism easier and more enjoyable for the customers. Emerging technologies such as the IOT, artificial intelligence, and big data are being adopted by companies in every aspect including marketing, personalized services, customer care, and business expansion, among others.

These advancements have particularly facilitated the rise of several small and medium-sized enterprises (SME), that are able to use the digital space to compete with the more established names in the industry. One of the most exciting outcomes of this digital revolution is the sheer range of choices that is now accessible to the consumers. The amount of data that is freely and easily available has afforded new possibilities to the consumer. Another recent promising development has been the advent of eco-tourism which involves traveling to natural areas while following sustainable practices that conserve the environment and are mindful of the well-being of the local people. India and Europe can jointly collaborate various initiatives towards an environmentally conscious tourist destination.



Key takeaways of FICCI LEADS Session: Reimagining Technological Innovation

The FICCI LEADS 2020: Session on Reimagining Technological Innovation was organised on 13th October, 2020 at 1345 hrs on the FICCI Bike virtual platform. The theme of the session included deliberations of the 'New Age approach' between India and Europe based on new technologies and affordable innovations leading to business excellence and adaptability to change. Diversity and sustainability remained the cornerstone for engagements of the future. The session focused on technological innovations in key areas of future collaboration including Information Technology, Healthcare, Smart Cities and Infrastructure, Travel, Tourism & hospitality amongst a few others. Some of the key takeaways of the session include -

- Technological innovation is a quintessential component of any organisation. As new technologies emerge, they get adapted and adopted across the value chain, help drive stronger business impact. Technology driven transformation (AI and ML) has become an integral part for processing data, assessing needs and deploying the right measures both through predictive and prescriptive business models.
- Technological advances are driving transformation in the healthcare industry aligned to the future needs of our customers.
- Digital innovation is the key enabler to managing the shift towards value-based services and push into new frontiers of understanding customer experience, trust and transparency.

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 LEADERSHIP EXCELLENCE ADAPTABILITY INNOVATION SUSTAINABILITY
REIMAGINE THE WORLD
 12th -15th October 2020 (Monday-Thursday)
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Mr. Sandip Somany, Immediate Past President, FICCI & CMD, HSIL, "AI is already fostering major breakthrough in high tech manufacturing and defense sector."

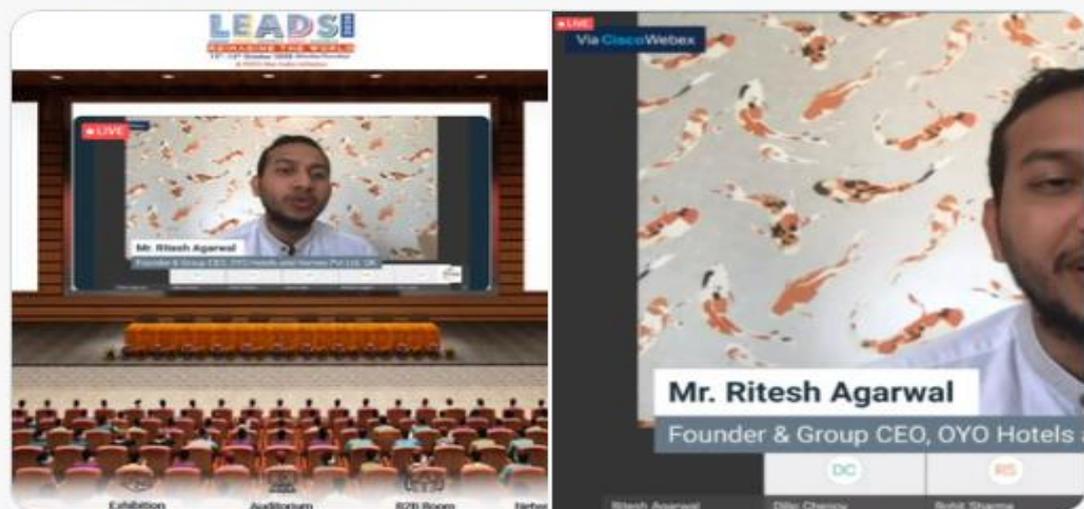


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Encouraging words from Mr. @riteshagar, Founder & Group CEO, OYO Hotels and Homes Pvt Ltd. UK, "In Europe, "Vacation Home" business has grown at 140-150% and is not growing but being resurgent."

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"India needs to leverage on technological innovation that are pockets of innovation in Europe." Mr. K S Kumar, Group Chief Commercial Officer, Sutherland Global India

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Collaboration with India is exciting as Indian healthcare is run in a holistic manner for making it affordable - Dr. @bernd_montag, CEO, Siemens Healthineers

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"Manufacturing technology upgradation in cars and tractors have changed significantly with the use of AI" - Dr. Anish Shah, Dy. Managing Director & Group CFO, Mahindra Group India

@anishshah21



Established in 1927, FICCI is the largest and oldest apex business organization in India. Its history is closely interwoven with India's struggle for independence, its industrialization, and its emergence as one of the most rapidly growing global economies.

A non-government, not-for-profit organization, FICCI is the voice of India's business and industry. From influencing policy to encouraging debate, engaging with policy makers and civil society, FICCI

articulates the views and concerns of industry. It serves its members from the Indian private and public corporate sectors and multinational companies, drawing its strength from diverse regional chambers of commerce and industry across states, reaching out to over 2,50,000 companies.

FICCI provides a platform for networking and consensus building within and across sectors and is the first port of call for Indian industry, policy makers and the international business community.