



India and Europe 29: Synergising Economic Vision For Expanded Economic Relations

A Knowledge Report



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India and Europe 29: Synergising Economic Vision For Expanded Economic Relations

A Knowledge Report







Foreword

India today is part of the economies which are crafting the “Next Phase” of global economic order. The country's entrepreneurial zeal is actively reaching out to new technological, economic and business partners in its onward march for realising its true economic potential.

In the Europe 29 countries of today, we find a healthy mix of dependable investors as well as innovators and budding entrepreneurs. Both Indian and E29 businesses are therefore ideally placed to collectively gain immensely by tapping into each other's technical competencies and business acumen. This process is already underway, but would require a “Collective Conscious” on the part of both the economies for re-defining and re-energizing our trade and economic relations in the coming years. India's cooperation with the Europe 29 countries covers a broad spectrum across sectors, thus making the relationship truly multi-faceted. But the unexplored and uncharted opportunities remain in-numerable.

The aspiration of the Government of India to take the business and bilateral ties to the next level finds its echo in the holding of the 4th India-Europe 29 Business Forum in New Delhi on March 5-6, 2018 with the theme of 'Synergising Economic Vision for Expanded Relations'. The Forum, over the years, has been regularly organized by FICCI in partnership with Ministry of External Affairs, GoI as an avenue for the countries to meet on a common platform and work on enhancing existing partnerships.

It is a unique opportunity for all the stakeholders to not only leverage the existing trade and investment opportunities, but brainstorm to create and discover newer aspirations, especially in the areas of high-tech manufacturing, smart cities development, ICT in governance, digitalisation of healthcare industry, human capital formation, amongst others. The sharing of ideas and pooling of thoughts by eminent experts from India and Europe 29 countries during the Forum's various sectoral sessions would certainly set the stage for infusing greater vitality into our business engagement and for providing future direction in realizing higher trajectories of economic cooperation in the times ahead.

The FICCI report titled 'India and Europe 29: Synergising Economic Vision for Expanded Relations', being released at the 4th India-Europe 29 Business Forum, agglomerates the current status of India-E29 relations and provides a window to the growth opportunities going forward. We, at FICCI, hope that the report provides a base on which to build the deliberations at the Forum, and take ties between two critical regions of the global order to the next level through thought leadership and concrete investment proposals.

I wish all the delegates a very constructive and rewarding participation in the 4th India-Europe 29 Business Forum.

Rashesh Shah
President, FICCI



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Executive Summary

In this report titled “**India and Europe 29: Synergising Economic Vision For Expanded Economic Relations**”, India's economic and business ties with E29 countries have been assessed against the backdrop of the current global economic scenario. The chapter titled '**Global Economic Scenario – The Tide Is Changing**' underscores the global economic recovery achieved in 2017 following an extended period of economic slowdown. Some 120 economies, accounting for three quarters of world GDP, had seen a pickup in growth in YoY terms in 2017, the broadest synchronised global growth upsurge since 2010. India is expected to reclaim its position as the fastest growing major economy in 2018, according to the World Bank's *Global Economic Prospects* report.

The turnaround of the global economy is expected to have a positive bearing on bilateral India-E29 trade and investment flows. Currently, India-E29 bilateral trade and investment volumes constitute only a small part of the total external trade and FDI volumes of both the regions, but there is immense scope for multi-pronged bilateral trade and investment flows, as also collaborations for R&D, technology transfer, skills development, and indeed joint ventures in the agriculture, manufacturing and services sectors.

The chapter titled '**Bilateral Trade Relations – Making Haste Slowly**' highlights the myriad avenues for expanded bilateral India-E29 trade relations. Even as India seeks to progressively diversify its external trade, both geographically and with respect to the basket of goods and services, renewed efforts are underway to broadbase the country's bilateral trade relations with E29 economies. However, only five countries – Switzerland (ranked 7th), Turkey (34th), Poland (52nd), Sweden (53rd), Austria (60th) – figured among India's top 60 trade partners in 2016-17. The other E29 economies that figured in India's Top 100 external trade partners were Finland, Denmark, Czech Republic, Norway, Hungary, Romania, Greece, Bulgaria, Lithuania and Slovenia.

Although the global economy staged a recovery in 2017, global flows of foreign direct investment (FDI) fell by 16% in the year to an estimated \$1.52 trillion, down from a revised \$1.81 trillion in 2016. The chapter titled '**Bilateral investment Flows – Deeper, Broader Ties In The Offing**' cites India's rise to pre-eminence as a key investment destination. Prime Minister of India, Mr Narendra Modi said during his keynote address at the WEF 2018 that India has opened a "new door of FDI". He assured the CEOs and the leaders of world powers that India was ready to take on any challenge like protectionism. This augurs well for E29 investments in India. Currently, Cyprus and

Switzerland are the 8th and 11th highest investing (FDI) countries in India. Cyprus accounts for 2.62% of India's total FDI inflows, while Switzerland accounts for around 1.14% share. Rest of FDI from E29 countries add up to only a small fraction of India's total FDI inflows.

Accelerated manufacturing growth is central to productivity increase and large-scale employment generation. The chapter on '**Industry 4.0 – Transforming Manufacturing**' underlines that India is primed for ushering in a revolution in the manufacturing sector. With the flagship 'Make in India' programme gaining traction, India is in the quest to increase the GDP share of manufacturing from the current 16% to over 25% by the year 2020. However, India's thrust on the adoption of disruptive technologies needs close engagement with not only the world economy but also the national ecosystems, so that advanced technologies in one ecosystem can be adapted and transplanted to another. This is where closer cooperation with E-29 countries could make a big difference.

The chapter on '**ICT For Governance – Opportunities For Project Partnerships**' points out that the Indian government is in a mission mode to spread and deepen e-governance and digitisation of the Indian economy and society. Revolutionary and unprecedented reforms have been put in place to make India a digital community, largely through the use of ICT for governance. These ambitious initiatives of the Government of India have a synergy with the experience and expertise of E29 countries that have been pioneers in e-governance.

Further, in keeping with India's Smart Cities Mission that entails the development of 100 Smart Cities in the country, new avenues for India-E9 partnerships are being created. The chapter on '**Smart Cities – Redefining Urban Living**' highlights the partnership opportunities.

The chapter titled '**Digitisation of Healthcare Industry**' cites that the Indian healthcare sector is growing at a brisk pace with wider coverage, more robust services and increasing expenditure by public and private players. Considering the growth that Indian IT is expecting in 2025 (\$350 billion), the coming years will see greater adoption of telemedicine, tele radiology, hospital information systems (HIS)/hospital management information systems (HMIS), EMR, etc.

To drive improved efficiencies, more hospitals are likely to seek automation for their workforce management, administration, finance, billing, patient records and pharmacies. Along with the growing popularity of digitisation in hospitals, market penetration of picture archiving and communication systems (PACS) are likely to increase further in the coming years. Countries like Sweden, Denmark, Norway and Finland that have more advanced healthcare ICT infrastructure are beginning to deploy next-generation health informatics applications to improve patient-centric care.

The chapter on '**Human Capital Formation – Shared Learnings**' underlines the bilateral partnership opportunities in the realm of skill development and training, especially in the wake of the thrust on Industry 4.0.



Global Economic Scenario – The Tide Is Changing





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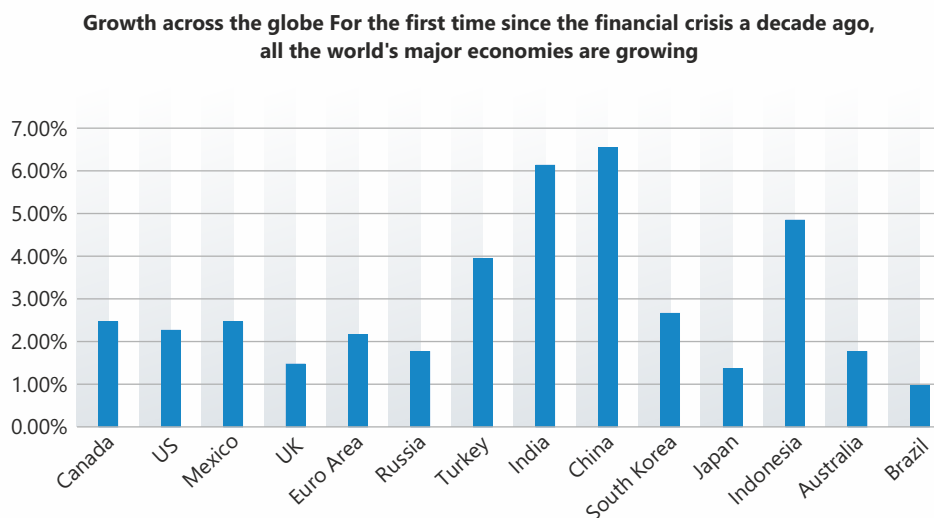
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GLOBAL ECONOMIC SCENARIO – THE TIDE IS CHANGING

World Economy – Building On The Gains

The green shoots of global economic recovery have gained deeper roots (see **Fig 1**), evidenced by a synchronous wave of growth across geographies. The recovery owes less to some newfound wellspring of wealth than the fact that many of the destructive forces that felled global economic growth have finally exhausted their potency.¹

Fig 1: Global economy – the tide has changed



Source: The Conference Board, Bureau of Labor Statistics; cited in New York Times

Some 120 economies, accounting for three quarters of world GDP, have seen a pickup in growth in YoY terms in 2017, the broadest synchronised global growth upsurge since 2010.²

¹ <http://www.worldbank.org/en/news/press-release/2018/01/09/global-economy-to-edge-up-to-3-1-percent-in-2018-but-future-potential-growth-a-concern>

² <https://www.imf.org/en/Publications/WEO/Issues/2018/01/11/world-economic-outlook-update-january-2018>

In 2017, global economic growth reached 3%—the highest growth rate since 2011—and growth is expected to remain steady in the current year. The improved global economic situation provides an opportunity for countries to focus policy towards longer-term issues such as low carbon economic growth, reducing inequalities, economic diversification and eliminating deep-rooted barriers that hinder development.³

The World Bank forecasts global economic growth to move up to 3.1% in 2018 after a stronger-than-expected 2017, as the recovery in investment, manufacturing, and trade continues, and as commodity-exporting developing economies benefit from firming commodity prices.⁴

Fig 2: Growth projections for world economies

Percentage point differences
from June 2017 projections

	2015	2016	2017e	2018f	2019f	2020f	2017e	2018f	2019f
World	2.8	2.4	3.0	3.1	3.0	2.9	0.3	0.2	0.1
Advanced economies	2.2	1.6	2.3	2.2	1.9	1.7	0.4	0.4	0.2
United States	2.9	1.5	2.3	2.2	2.2	2.0	0.2	0.3	0.3
Euro Area	2.1	1.8	2.4	2.1	1.7	1.5	0.7	0.6	0.2
Japan	1.4	0.9	1.7	1.3	0.8	0.5	0.2	0.3	0.2
Emerging market and developing economies (EMDEs)	3.6	3.7	4.3	4.5	4.7	4.7	0.2	0.0	0.0
Commodity-exporting EMDEs	0.4	0.8	1.8	2.7	3.1	3.1	0.0	0.0	0.2
Other EMDEs	6.1	5.9	6.0	5.7	5.7	5.7	0.3	0.0	-0.1
Other EMDEs excluding China	5.2	4.9	5.1	4.8	5.1	5.1	0.5	-0.1	0.0
East Asia and Pacific	6.5	6.3	6.4	6.2	6.1	6.0	0.2	0.1	0.0
China	6.9	6.7	6.8	6.4	6.3	6.2	0.3	0.1	0.0
Indonesia	4.9	5.0	5.1	5.3	5.3	5.3	-0.1	0.0	-0.1
Thailand	2.9	3.2	3.5	3.6	3.5	3.4	0.3	0.3	0.1
Europe and Central Asia	1.0	1.7	3.6	2.9	3.0	3.0	1.3	0.2	0.2
Russia	-2.6	-0.2	1.7	1.7	1.8	1.8	0.4	0.3	0.4
Turkey	6.1	3.2	6.7	3.5	4.0	4.0	3.2	-0.4	-0.1
Poland		3.8	2.9	4.5	4.0	3.5	3.1	1.2	0.8
Latin America and the Caribbean	-0.6	-1.5	0.9	2.0	2.6	2.7	0.1	-0.1	0.1
Brazil	3.3	2.9	1.9	2.1	2.6	2.6	0.1	-0.1	0.1
Mexico	3.3	2.9	1.9	2.1	2.6	2.6	0.1	-0.1	0.1
Argentina	2.6	-2.2	2.7	3.0	3.0	3.2	0.0	-0.2	-0.2
Middle East and North Africa	2.8	5.0	1.8	3.0	3.2	3.2	-0.3	0.1	0.1
Saudi Arabia	4.1	1.7	0.3	1.2	2.1	2.2	-0.3	-0.8	0.0
Iran, Islamic Rep.	-1.3	13.4	3.6	4.0	4.3	4.3	-0.4	-0.1	0.1
Egypt, Arab Rep. ²	4.4	4.3	4.2	4.5	5.3	5.8	0.3	-0.1	0.0
South Asia	7.1	7.5	6.5	6.9	7.2	7.2	-0.3	-0.2	-0.1
India ³	8.0	7.1	6.7	7.3	7.5	7.5	-0.5	-0.2	-0.2
Pakistan ²	4.1	4.5	5.3	5.5	6.8	6.0	0.1	0.0	0.0
Bangladesh ²	6.6	7.1	7.2	6.4	6.7	6.7	0.4	0.0	0.0

³ <https://www.un.org/development/desa/dpad/publication/world-economic-situation-and-prospects-2018/>

⁴ <http://www.worldbank.org/en/news/press-release/2018/01/09/global-economy-to-edge-up-to-3-1-percent-in-2018-but-future-potential-growth-a-concern>

Fig 2: Growth projections for world economies

Percentage point differences
from June 2017 projections

	2015	2016	2017e	2018f	2019f	2020f	2017e	2018f	2019f
Sub-Saharan Africa	3.1	1.3	2.4	3.2	3.5	3.6	-0.2	0.0	0.0
South Africa	1.3	0.3	0.8	1.1	1.7	1.7	0.2	0.0	-0.3
Nigeria	2.7	-1.6	1.0	2.5	2.8	2.8	-0.2	0.1	0.3
Angola	3.0	0.0	1.2	1.6	1.5	1.5	0.0	0.7	0.0
<i>Memorandum items:</i>									
Real GDP1									
High-income countries	2.3	1.7	2.2	2.2	1.9	1.8	0.3	0.3	0.2
Developing countries	3.6	3.8	4.5	4.7	4.8	4.9	0.2	0.0	-0.1
Low-income countries	4.7	4.5	5.1	5.4	5.5	5.7	-0.3	-0.4	-0.3
BRICS	4.0	4.4	5.2	5.3	5.4	5.4	0.2	0.1	0.0
World (2010 PPP weights)	3.3	3.2	3.7	3.7	3.7	3.7	0.3	0.1	0.1
World trade volume⁴	2.7	2.3	4.3	4.0	3.9	3.8	0.3	0.2	0.1
Commodity prices									
Oil price ⁵	-47.3	-15.6	23.8	9.4	1.7	1.7	0.0	3.7	-3.7
Non-energy commodity price index	-15.0	-2.6	4.9	0.6	0.8	1.2	0.9	-0.1	-0.2

Source: World Bank

Notes: PPP = purchasing power parity, e = estimate; f = forecast. World Bank forecasts are frequently updated based on new information.

Consequently, projections presented here may differ from those contained in other world bank documents, even if basic assessments of countries' prospects do not differ at any given moment in time. Country classifications and lists of emerging market and developing economies (EMDEs) are presented in Table 1.2. BRICS include: Brazil, Russia, India, China and South Africa.

1. Aggregate growth rates calculated using constant 2010 U.S. dollar GDP weights.

2. GDP growth values are on a fiscal year basis. Aggregates that include these countries are calculated using data compiled on a calendar year basis.

3. The column labeled 2016 refers to FY2016/17.

4. World trade volume of goods and non-factor services.

5. Simple average of Dubai, Brent and West Texas intermediate.

For additional information, please see www.worldbank.org/gep.

World trade has grown strongly in recent months, supported by increased manufacturing output in Asia. Purchasing managers' indices indicate firm manufacturing activity ahead, consistent with strong consumer confidence pointing to healthy final demand.⁵

The global economic upswing is nonetheless seen as a short-term phenomenon. Over the longer term, slowing potential growth—a measure of how fast an economy can expand when labour and capital are fully employed—puts at risk gains in improving living standards and reducing poverty around the world, the World Bank warns in its January 2018 *Global Economic Prospects*.

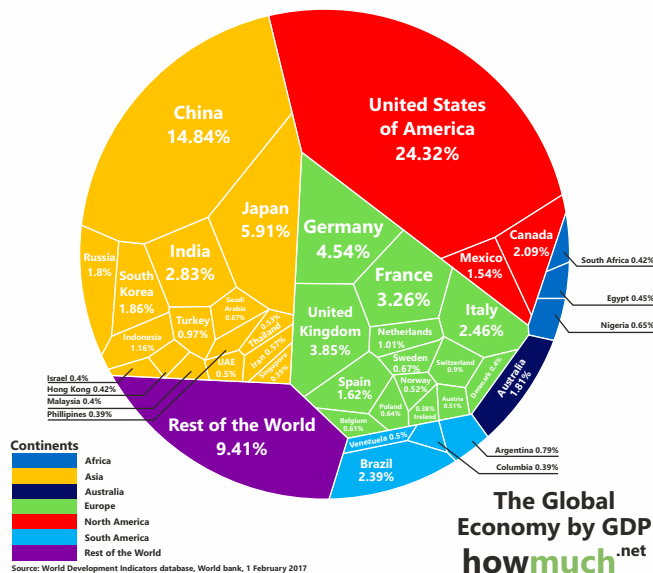
"The broad-based recovery in global growth is encouraging, but this is no time for complacency," World Bank Group President Jim Yong Kim has stated. "This is a great opportunity to invest in human and physical capital. If policy makers around the world focus on these key investments, they can increase their countries' productivity, boost workforce participation, and move closer to the goals of ending extreme poverty and boosting shared prosperity."

⁵ <https://www.imf.org/en/Publications/WEO/Issues/2018/01/11/world-economic-outlook-update-january-2018>

The World Bank maintains that 2018 is on track to be the first year since the financial crisis that the global economy will be operating at or near full capacity. "With slack in the economy expected to dissipate, policymakers will need to look beyond monetary and fiscal policy tools to stimulate short-term growth and consider initiatives more likely to boost long-term potential".⁶

Risks to the outlook remain tilted to the downside. An abrupt tightening of global financing conditions could derail the expansion. Escalating trade restrictions and rising geopolitical tensions could dampen confidence and activity. On the other hand, stronger-than-anticipated growth could also materialise in several large economies, further extending the global upturn.

Fig 3: Composition of Global GDP



Source: www.imf.org

Pertinent to note that key long-standing commercial agreements, such as NAFTA and the economic arrangements between the United Kingdom and rest of the European Union, are under renegotiation. An increase in trade barriers and regulatory realignments, in the context of these negotiations or elsewhere, would weigh on global investment and reduce production efficiency, exerting a drag on potential growth in advanced, emerging market, and developing economies. A failure to make growth more inclusive and the widening of external imbalances in some countries, including the US, could increase pressures for inward-looking policies.

⁶ <http://www.worldbank.org/en/news/press-release/2018/01/09/global-economy-to-edge-up-to-3-1-percent-in-2018-but-future-potential-growth-a-concern>

Further, medium-term global outlook is also clouded by geopolitical tensions, notably in East Asia and the Middle East. The IMF has observed that political uncertainty also gives rise to reform implementation risks or the possibility of reoriented policy agendas, including in the context of upcoming elections in countries such as Brazil, Colombia, Italy, and Mexico.⁷

Michael J Boskin, Professor, Stanford University, writes that the two most obvious risks to keep an eye on will be Europe, where a cyclical upturn could stall, and the oil-rich Middle East, where tensions could flare up once again.⁸

Recent extreme weather developments-hurricanes in the Atlantic, drought in sub-Saharan Africa and Australia-point to the risk of recurrent, potent climate events that impose devastating humanitarian costs and economic losses on the affected regions. They may also add to migration flows that could further destabilize already fragile recipient countries.

E29 Group - Recovery

In emerging and developing Europe, where growth in 2017 is now estimated to have exceeded 5%, activity in 2018 and 2019 is projected to remain stronger than previously anticipated, lifted by a higher growth forecast for Poland and Turkey. These revisions reflect a favourable external environment, and stronger export demand from the euro area.

Turkey's growth is projected to moderate to 3.5% this year from 6.7% the previous year.

Emerging Economies - Making The Difference

Key emerging market and developing economies, including Brazil, China, and South Africa, have posted third-quarter growth stronger than the fall forecasts. Growth in emerging market and developing economies as a whole is projected to strengthen to 4.5% in 2018, as activity in commodity exporters continues to recover.⁹

Risks to the outlook have become more balanced. Stronger-than-expected growth among advanced economies could lead to faster-than-anticipated growth in the region. On the downside, rising geopolitical tension, increased global protectionism, an

⁷ <https://www.imf.org/en/Publications/WEO/Issues/2018/01/11/world-economic-outlook-update-january-2018>

⁸ <https://www.weforum.org/agenda/2017/12/what-to-expect-for-the-global-economy-in-2018>

⁹ <http://www.worldbank.org/en/news/press-release/2018/01/09/global-economy-to-edge-up-to-3-1-percent-in-2018-but-future-potential-growth-a-concern>

unexpectedly abrupt tightening of global financial conditions, and steeper-than-expected slowdown in major economies, including China, pose downside risks to the regional outlook.

World Bank Senior Director for Development Economics, Shantayanan Devarajan, has said, "Reforms that promote quality education and health, as well as improve infrastructure services could substantially bolster potential growth, especially among emerging market and developing economies. Yet, some of these reforms will be resisted by politically powerful groups, which is why making this information about their development benefits transparent and publicly available is so important."¹⁰

India – Retracing High Growth Trajectory

Growth in the South Asia region is forecast to accelerate to 6.9% in 2018 from an estimated 6.5% in 2017. Consumption is expected to stay strong, exports are anticipated to recover, and investment is on track to revive as a result of policy reforms and infrastructure upgrades.¹¹

After conceding its position as the fastest growing major economy to China for a year in 2017, India is likely to reclaim the position in 2018, with growth expected to accelerate to 7.3% in the year, according to the World Bank's *Global Economic Prospects* report

The report projected China's economic growth to slow to 6.4% in 2018 from 6.8% in 2017. The World Bank also revised India's growth estimate for 2017 to 6.7% from 7% projected in October, blaming short-term disruptions caused by the Goods and Services Tax (GST) and a softer-than-envisioned recovery in private investment.¹²

The IMF is equally bullish on India's growth potential and has retained its GDP forecast for the country at 6.7% in 2017 and 7.4% in 2018. In its World Economic Outlook Update, the IMF has estimated that the Indian economy would grow by 7.8% in 2019 and make the country the world's fastest-growing economy in 2018 and 2019.¹³

¹⁰ <http://www.worldbank.org/en/news/press-release/2018/01/09/global-economy-to-edge-up-to-3-1-percent-in-2018-but-future-potential-growth-a-concern>

¹¹ <http://www.worldbank.org/en/news/press-release/2018/01/09/global-economy-to-edge-up-to-3-1-percent-in-2018-but-future-potential-growth-a-concern>

¹² <http://www.livemint.com/Politics/u4qe2jXFEdf8zldoR6GYO/India-to-be-fastest-growing-economy-again-in-2018-World-Ban.html>

¹³ <http://www.thehindubusinessline.com/economy/imf-sees-india-as-fastestgrowing-economy-in-2018-2019/article10046661.ece>



India & E29 Economies – Building New Partnerships

“The world is less reliant on a few star performers,” said Barret Kupelian, senior economist in the London office of PwC, the global accounting and consulting company. “If something bad happens in one economy, the fact that global growth is spread gives you more assurance that this is more sustainable.”¹⁴

Cooperative multilateral effort remains vital to safeguard recent momentum in global activity, strengthen medium-term prospects, and ensure the benefits from technological progress and global economic integration are shared more widely.

In a similar vein, India has consciously broad-based its external trade and investment relations, in tune with the forces of globalisation. In recent years, Indian Government and industry have taken calibrated steps to deepen the economic and business ties with E29 countries, most of which have significant commonalities with the Indian economy. Although historically India's links with the E29 countries – mostly Eastern and Central European countries – were limited in comparison with the country's links with Western Europe, in recent years India and the E29 countries have taken big steps to build long-term cross-border economic and business partnerships.

India-E29 bilateral trade and investment volumes constitute only a small part of the total external trade and FDI volumes of both regions, but there is immense scope for multi-pronged bilateral trade and investment flows, as also collaborations for R&D, technology transfer, skills development, and indeed joint ventures in the agriculture, manufacturing and services sectors.

And, even as the India-29 partnerships grow in scale and reach, the two regions could combine their strengths in democratising the multilateral institutions, and realigning the global economic order to bring more parity between the advanced, emerging and developing worlds.

¹⁴ <https://www.nytimes.com/2018/01/27/business/its-not-a-roar-but-the-global-economy-is-finally-making-noise.html>



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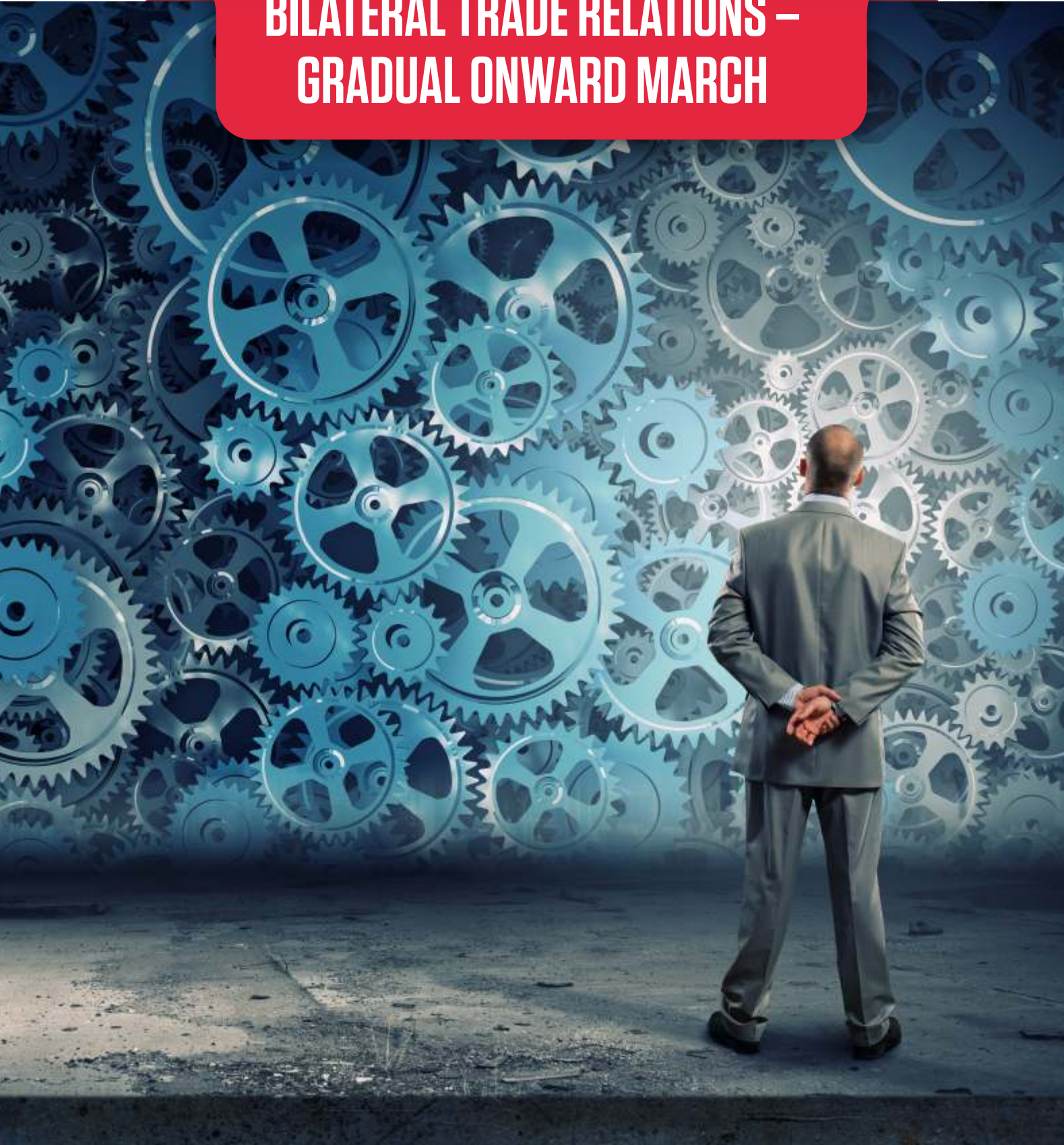
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BILATERAL TRADE RELATIONS – GRADUAL ONWARD MARCH



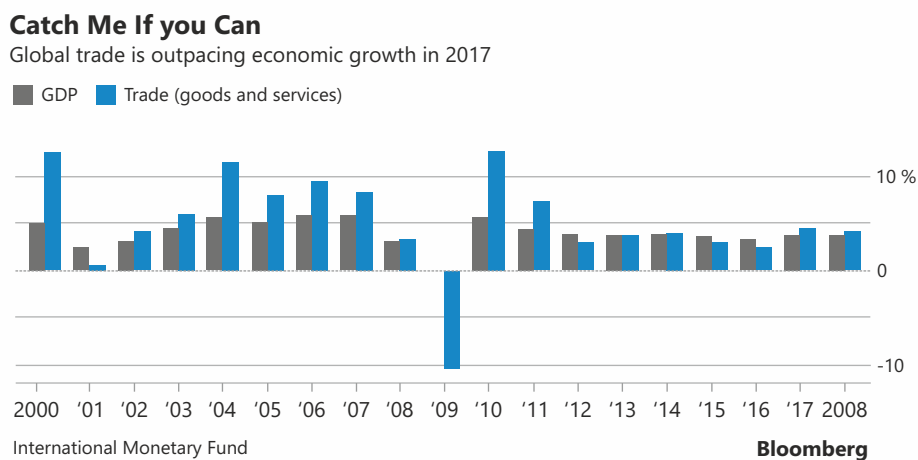


BILATERAL TRADE RELATIONS – GRADUAL ONWARD MARCH

Global Outlook

The India-E29 trade relations may be assessed in the context of the current global trade scenario. The International Monetary Fund (IMF) projections suggest that the volume of global trade in goods and services grew 4.25% in 2017, several notches higher than 2.4% growth recorded in 2016.¹⁵ It is the first time since 2014 that global trade growth has exceeded global output growth (See Fig 1).

Fig 1: Global trade growth via-a-vis output growth



The glad tidings notwithstanding, analysts have pointed out that the looming threat of protectionism has not passed. US President Donald Trump has resolved to crack down on countries that the US believes don't trade fairly, and negotiate deals more favourable to America. As a case in point, the US has joined the European Union in rejecting China's claim that under the terms of its accession to the WTO it should have graduated last year to market-economy status.¹⁶

¹⁵ <https://www.bloomberg.com/news/articles/2017-11-30/global-trade-boom-steam-into-2018-as-trump-threatens-barriers>

¹⁶ <https://www.bloomberg.com/news/articles/2017-11-30/global-trade-boom-steam-into-2018-as-trump-threatens-barriers>

A few months back, the US withdrew from the Trans-Pacific Partnership and started the renegotiation of another, the North American Free Trade Agreement (Nafta) with Canada and Mexico that took effect in 1994. Another proposed agreement that was under negotiation between the US and the European Union has gone into the deep freeze.¹⁷

It was reported that the US' lack of enthusiasm in multilateralism was evident at the WTO's conference in December 2017 that ended without new deals or even the usual agreed declaration of commitment to the system that the WTO manages.¹⁸

Brexit had also queered the pitch for global trade with the prospects of UK and EU erecting barriers to their bilateral trade.

The protectionist trends have been somewhat counterbalanced by stronger global trade forecasts. Goldman Sachs Group Inc. and Barclays Plc forecast "global trade growth will reach 4% this year."¹⁹ The trade recovery is also creating a positive environment for investments.

India's Foreign Trade

India's foreign trade has seen renewed buoyancy in recent months. Alluding this this, India's Finance Minister Arun Jaitley said during the Union Budget presentation in Parliament in February this year that the country's exports are likely to expand by about 15% during the current fiscal.²⁰

The trade growth will be powered by buoyancy in commodities and crude that will push value-wise exports. India's total exports in 2016-17 were \$274.64 billion up from \$262.29 billion in the preceding year.

With cumulative exports during April-December 2017-18 growing 12.05% to \$223.512 billion, the Government expects its total exports value to scale \$300 billion level. However, protectionist trends, along with Rupee appreciation and liquidity crunch, could be the possible spoilsport in the government's expectation of exports rising 15% in 2017-18.

¹⁷ <http://www.bbc.com/news/business-42571838>

¹⁸ <http://www.bbc.com/news/business-42571838>

¹⁹ <https://www.bloomberg.com/news/articles/2017-11-30/global-trade-boom-steam-into-2018-as-trump-threatens-barriers>

²⁰ //economictimes.indiatimes.com/articleshow/62737006.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst



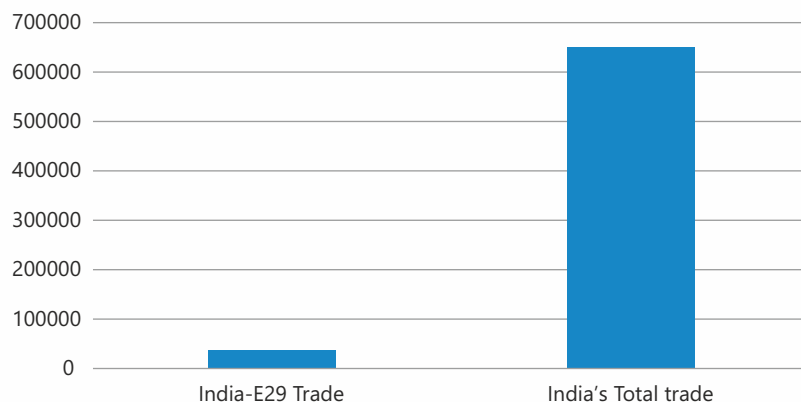
It may be recalled that keeping in view the slowdown in global trade flows, in April 2015 the Ministry of Commerce, Government of India had unveiled its first five-year Foreign Trade Policy (FTP) aiming to nearly double exports of goods and services to \$900 billion by 2020.

India-E29 Bilateral Trade

Even as India sought to progressively diversify its external trade, both geographically and with respect to the basket of goods and services, the country has stepped up the efforts to broadbase its bilateral trade relations with E29 economies. However, the India-E29 bilateral trade flows have not scaled the levels expected of economic engagements between the two dynamic regions.

As per trade data released by the Ministry of Commerce & Industry, Government of India, India's total trade with the E29 countries (**See Figs 2 & 3**) stood at \$37,557.03 million in 2016-17 (down from \$38,481 million in 2015-16), which was only 5.68% (5.98% in 2015-16) of India's total trade with all countries totalling \$660,207.28 million in 2016-17 (down from \$758,371.89 million in 2014-15).²¹

Fig 2: India's trade with E29 countries vis-a-vis India's total trade (FY2016-17) in \$mn



Source: Ministry of Commerce & Industry, Government of India

²¹ <http://www.commerce.nic.in/eidb/>

Fig 3: India's total trade with E29 countries (in \$mn) in 2016-17

Country	Indian exports	Indian imports	Total trade	%Growth in Bilateral Trade (YoY)
Albania	26.45	6.50	32.95	(-)20.11
Austria	383.16	908.34	1,291.50	10.67
Bosnia & Herzegovina	13.10	3.32	16.43	(-) 31.86
Bulgaria	239.53	182.22	421.75	76.28
Croatia	124.13	25.36	149.49	0.71
Cyprus	71.77	66.59	138.3	28.13
Czech Republic	533.14	539.25	1,072.39	7.62
Denmark	692.94	481.55	1,174.50	5.12
Estonia	97.50	102.47	199.96	(-) 2.80
Finland	269.74	1,011.67	1,281.42	2.44
Greece	381.07	121.95	503.02	12.61
Hungary	406.29	218.78	625.07	6.35
Iceland	16.72	4.68	21.40	(-) 6.10
Latvia	115.60	39.65	155.25	10.05
Liechtenstein	0.73	0.86	1.59	(-) 20.24
Lithuania	95.99	271.16	367.15	21.40
Macedonia	14.88	24.13	39.02	95.53
Malta	137.23	22.37	159.60	(-)54.59
Moldova	6.71	11.73	18.45	45.23
Montenegro	36.37	15.40	36.42	38.81
Norway	244.89	566.79	811.68	(-) 27.98
Poland	1,197.81	690.98	1,888.78	18.42
Romania	257.55	317.36	574.91	1.75
Serbia	50.07	27.24	77.30	17.69
Slovak Republic	146.15	68.53	214.68	6.20
Slovenia	251.61	101.68	353.28	(-) 0.09
Sweden	708.93	1,161.12	1,870.05	(-) 13.76
Switzerland	978.06	17,248.68	18,226.74	(-) 10.11
Turkey	4,626.59	1,207.31	5,833.90	18.65

Source: Ministry of Commerce & Industry, Government of India

The overall Balance of Trade was significantly tipped in favour of the E29 grouping, with India's total exports to the region adding up to \$12,124.71 million in 2016-17 (\$11,499.80 million in 2015-16), which was less than half of India's total imports from the region totalling \$25,447.67 million in (\$26,982.11 million in 2015-16) in the same fiscal year.²²

To a great extent, the skewed Balance of Trade may be attributed to the composition of the bilateral trade. Broadly, India's exports to the E29 region include electric machines, transport vehicles, agricultural products, tea, coffee, pharmaceuticals, garments, computer software, jewellery, leather products, etc., whereas the imports mainly constitute iron & steel, metal scrap, nuclear reactors, mineral fuels & products, fertilisers, Swiss watches, glass and crystal products.²³

In tandem with the current global trade scenario, India's annual bilateral trade volumes with several E29 economies grew at a higher rate YoY. Accelerated growth in bilateral trade volumes was evident in the case of India's trade with Macedonia (95.53%), Bulgaria (76.28%), Moldova (45.23%), Montenegro (38.81%), Cyprus (28.13%), Lithuania (21.40%), Poland (18.42%), and Serbia (17.69%), whereas the biggest YoY fall in India's bilateral trade with the region were with Malta (- 54.59%), Bosnia & Herzegovina (- 31.86%), Norway (- 27.98), Albania (- 20.11), Liechtenstein (- 20.24%), Albania (- 20.11%), and Sweden (- 13.76%).

The relatively limited size of India's external trade with E29 economies (**See Fig 4**) is evidenced by the fact that only five countries – Switzerland (ranked 7th), Turkey (34th), Poland (52nd), Sweden (53rd), Austria (60th) – figured among India's top 60 trade partners in 2016-17. The other E29 economies that figured in India's Top 100 external trade partners were Finland, Denmark, Czech Republic, Norway, Hungary, Romania, Greece, Bulgaria, Lithuania and Slovenia.

Fig 4: India's top trading partners in the E29 region

Country	India's trade partners in the E29 region that figure among India's top 200 trade partners in 2016-17 (ranking in 2015-16)
Switzerland	7 ^h (5 th)
Turkey	34 th (35 th)
Poland	52 nd (55 th)
Sweden	53 rd (49 th)
Austria	60 th (60 th)
Finland	61 st (59 th)

²² <http://www.commerce.nic.in/eidb/>

²³ <http://mea.gov.in/in-focus-article.htm?21946/India+and+Central+Europe+a+road+less+travelled>

Country	India's trade partners in the E29 region that figure among India's top 200 trade partners in 2016-17 (ranking in 2015-16)
Denmark	62 nd (62 nd)
Czech Republic	64 th (66 th)
Norway	75 th (61 st)
Hungary	84 th (85 th)
Romania	85 th (87 th)
Greece	90 th (91 st)
Bulgaria	95 th (108 th)
Lithuania	98 th
Slovenia	99 th (97 th)
Slovak Republic	114 th (116 th)
Estonia	120 th (115 th)
Malta	122 nd (98 th)
Latvia	126 th (132 nd)
Croatia	129 th (130 th)
Cyprus	133 rd (137 th)
Serbia	146 th (152 nd)
Macedonia	161 st (172 nd)
Montenegro	164 th (169 th)
Iceland	170 th (171 st)
Moldova	171 st
Bosnia & Herzegovina	172 nd (170 th)
Liechtenstein	198 th (198 th)

Source: Ministry of Commerce & Industry, Government of India

The comparatively low levels of India-E29 bilateral trade flows are in contrast to the economic complementarity that exists between the two regions – in all three sectors: agriculture, manufacturing and services. The depth and scope of the India-E29 bilateral trade relations may be better assessed by examining India's bilateral trade with E29 economies that figure among India's top 100 trade partners in 2016-17.

Switzerland: Switzerland is India's biggest trade partner among E29 economies and indeed the 7th largest trade partner globally. Bilateral trade volumes have steadily

increased in the last two decades. Total trade increased from \$10.37 billion in 2007-08 to \$35.85 billion in 2011-12, but dipped to \$22.30 billion in 2014-15, \$20.27 billion in 2015-16 and \$18.22 billion in 2016-17.

The balance of trade has been significantly in favour of Switzerland whereby India's exports stood at \$978.06 million in 2016-17, whereas India imported \$17.28 billion in the same fiscal. Items of Indian exports to Switzerland largely constitute textiles and garments, organic chemicals, precious stones and jewellery, dyestuffs, machinery and parts, leather products, shoes and shoe uppers, cotton, plastics, coffee, tea, and hand-knotted carpets, whereas Swiss exports to India mainly consist of machinery and equipment (electrical and mechanical), precision instruments, pharmaceutical products dyes and chemicals, fertilisers, watches, etc.²⁴

Almost 90% of items of India's imports from Switzerland constitute gold, precious stones and other jewellery items. Commerzbank has cited signs of improving physical gold demand in India, including increased shipments to India from Switzerland and a premium in Indian gold prices.²⁵

Switzerland has also supplied to India parts for nuclear reactors for the purpose of power generation. Given that nuclear power generation is poised for accelerated growth in India, Swiss suppliers of nuclear reactor equipment and parts have a good opportunity to do big business with India.²⁶ Also, Switzerland continues to support India's membership to the Nuclear Suppliers Group (NSG) – a 49 nation group that regulates nuclear exports.²⁷

Turkey: Turkey is India's second largest trade partner among E29 economies and the 34th largest trade partner globally. The economic dynamism of both countries had greatly contributed to the accelerated growth in bilateral trade flows. In 2014-15 alone total trade between the two countries grew by 31.35%, fuelled by growing Indian exports to Turkey, but 2015-16 saw the bilateral trade volume plummet by 27.93%, and 18.85% in 2016-17

As is evident from the data released by the Ministry of Commerce & Industry, Government of India, India's exports to Turkey totalled \$4.62 billion in 2016-17 (\$4.14 billion in 2015-16) whereas the total imports from Turkey were of \$1.20 billion (\$776.94 million in 2015-16).

²⁴ http://www.ficci.com/international/75131/Project_docs/FICCI-Switzerland.pdf
<http://news.metal.com/newscontent/100704542/switzerland-september-gold-exports-to-india-hit-best-since-january>

²⁵ http://www.ficci.com/international/75131/Project_docs/FICCI-Switzerland.pdf

²⁶ http://www.swissinfo.ch/eng/nuclear-suppliers-group_switzerland-backs-india-for-nuclear-exporting

²⁷ club/42257746

Main items of India's exports to Turkey include petroleum products, vaccines, cotton yarn, synthetic yarn, organic dyes, organic chemicals, denim, steel, granite, antibiotics, carpets, tobacco, cars, sesame seed, TV CRTs, mobile handsets, clothing and apparel, whereas items of Turkey's exports to India include poppy seeds, auto components, marble, textile machinery, denim, carpets, cumin seeds, copper ores and concentrates, flat rolled iron and steel and gold.²⁸

Turkey is keen that bilateral talks with India for a proposed FTA should begin. Turkish companies see India a gateway to South Asia. Indian companies could also use Turkey as a hub to expand their operations in the EU region (with which Turkey has a Customs Union), the Middle East and Africa.²⁹

Poland: Poland is India's 3rd largest trade partner in the E29 region and 52nd largest trade partner globally. In 2016-17, India's exports to Poland added up to \$1.19 billion, whereas India's imports from the country totalled \$690.98 million, with total trade being \$1.88 billion.

Currently, India's major exports to Poland include items like cotton, textiles, chemical products, electro-mechanical appliances, vehicles, airships and vessels, and major import items from Poland are electro-mechanical appliances, mineral products, and chemical products.³⁰

Poland expects its trade volume with India to grow to \$4 billion by 2020 and wants its companies to expand collaboration with local companies in a host of sectors. Polish companies are reportedly keen to collaborate with Indian firms in sectors like IT, coal, food processing, power, petrochemicals, defence, science and technology. Sectors like IT/ICT, coal, food processing, power and energy, petrochemicals, chemicals, defence, science and technology are high potential areas for bilateral cooperation.³¹

Sweden: Sweden is India's 4th largest trade partner among the E29 economies and 53rd largest trade partner globally. India's exports to Sweden have reduced from a peak of \$825 million in 2011-12 to \$740.47 million in 2014-15 and \$708.93 million in 2016-17. Likewise, India's imports from Sweden also reduced from \$1.94 billion in 2011-12 to \$1.16 billion in 2016-17.³²

²⁸ http://www.ficci.com/international/75130/Project_docs/FICCI-Turkey.pdf

²⁹ <http://www.thehindu.com/news/national/turkey-wants-india-to-start-fta-talks-soon/article9306162.ece>

³⁰ http://www.mea.gov.in/Portal/ForeignRelation/Poland_2015_07_16.pdf

³¹ <http://economictimes.indiatimes.com/news/economy/foreign-trade/poland-sees-trade-with-india-reaching-4-bn-by-2020/articleshow/49601880.cms>

³² <http://www.commerce.nic.in/eidb/iecnt.asp>

Main items of Swedish exports to India are pharmaceuticals, paper & pulp products, chemicals, engineering products and telecom equipment. Main items of India's exports to Sweden are chemical products, food products, and semi-manufactured and manufactured goods.³³

Prime Minister of India, Mr Narendra Modi and Prime Minister of Sweden, Mr Stefan Lofven, had said in a joint statement: "India's economic development and rise as a global power have created new opportunities to further deepen and extend this partnership to foster economic growth and inclusive development in both countries as well as to meet global challenges.". Both leaders welcomed the prospect of resumption of talks for the India-EU Broad-based Trade and Investment Agreement (BTIA).³⁴

Earlier, during then President of India, Mr Pranab Mukherjee's state visit to Sweden in June 2015, India and Sweden signed six agreements, including in the field of polar research. Among the agreements inked, both sides signed an MoU for cooperation in MSME development aimed at promoting partnership projects, institution to institution and enterprise to enterprise cooperation relating to MSMEs, exchange of information and experiences in policy setting and research on the development of MSMEs, feasibility studies to identify thrust areas and opportunities for development of MSMEs and facilitating exchange of business mission.³⁵

Likewise, an MoU was signed between India's Central Drugs Standard Control Organisation (CDSCO) and the Swedish Medical Products Agency (MPA). This agreement was for increasing bilateral cooperation in the fields of pharma-covigilance, electronic submissions in related matter, clinical trials, drugs, medical devices and diagnostic kits, cosmetic and hygiene products and for exchange of information and experiences regarding good manufacturing practice.³⁶ Several Swedish manufacturing companies have already established their Indian presence and are contributing to the 'Make in India' effort.³⁷

Austria: India's exports to Austria have tapered in the last 5-6 years, standing at \$341.82 million in 2011-12 and \$383.16 million in 2016-17. India's imports from Austria stood at

³³ http://www.mea.gov.in/Portal/ForeignRelation/Sweden_2015_08_04.pdf

³⁴ <http://economictimes.indiatimes.com/news/economy/foreign-trade/make-in-india-week-india-sweden-decide-to-step-up-ties/articleshow/50977439.cms>

³⁵ http://www.business-standard.com/article/news-ians/india-sweden-ink-six-agreements-on-pranab-visit-115060101688_1.html

³⁶ http://www.business-standard.com/article/news-ians/india-sweden-ink-six-agreements-on-pranab-visit-115060101688_1.html

³⁷ http://www.moneycontrol.com/news/business/see-trade-activities-between-india-sweden-rising-seb-grp_5488241.html

\$908.34 in 2016-17, growing by 9.82% YoY. The then Austrian Ambassador to India, Mr Bernhard Wrabetz had said in 2014 that in areas like public infrastructure, transport, energy, and waste management, Austria has developed technologies for specific situations that are fully applicable in India.³⁸

Currently, items of Indian exports to Austria include footwear, textiles, leather products, apparel and clothing accessories, vehicles, rolling stock (and parts and accessories thereof), machinery and mechanical appliances (and parts thereof), electrical machinery and equipment, organic chemicals and pharmaceutical products,³⁹ and the imports constitute different types of machinery, iron and steel, chemicals, machinery and equipment.

Finland: Trade is the cornerstone of India-Finland relations. Finland is India's 6th largest trade partner in the E29 region and 61st globally. Main export items from India to Finland are electronic goods, mineral fuels and mineral oils, readymade garments, cotton including accessories, pharmaceuticals & fine chemicals, articles of iron and steel, machinery and instrument, coffee, rubber, iron and steel, organic chemicals and nuclear reactors, boilers, machinery and mechanical appliances and their parts.

Major import items include electrical machinery and equipment, nuclear reactor equipment and parts, boilers, machinery and mechanical appliances, paper and paper board, iron and steel, pulp of wood or of other fibrous cellulosic material, pulp and waste paper, vehicles and transport equipment, etc.⁴⁰

Denmark: Trade in goods between India and Denmark had more than doubled reaching \$1.34 billion in 2013-14 but fell to \$1.17 billion in 2015-16. Indian exports to Denmark fell from \$757.5 million in 2011-12 to \$692.94. million in 2016-17.⁴¹ Danish exports to India stood at \$457.95 in 2014-15 and \$481.55 million in 2016-17.

Denmark is a key cooperation partner for India in the EU. The country has espoused a liberal trading system and is open to service trade liberalisation. All this augur well for the future of India-Denmark bilateral trade.

Czech Republic: India is one of Czech Republic's most important trade partners in Asia. India figures among the top 12 priority countries for Czech exports. Czech-Indian trade

³⁸ <http://www.thehindubusinessline.com/economy/big-potential-for-increased-trade-with-india-says-austrian-envoy/article6481922.ece>

³⁹ http://mea.gov.in/Portal/ForeignRelation/Austria_Dec_2014_eng_.pdf

⁴⁰ https://www.google.co.in/?gws_rd=ssl#q=india+finland+trade+relations+2015

⁴¹ <http://www.commerce.nic.in/eidb/iecnt.asp>

relations have a tradition dating back to pre-war Czechoslovakia, when the main export products were machine-tools. During the last fifty years, Czech companies have made approximately a hundred capital equipment deliveries to India which, in many cases, have led to the emergence of new Indian industries, such as the manufacture of tractors, steam turbines, industrial boilers and motorcycles, and the establishment of engineering metallurgy plants.

Traditionally, Czech companies have also supplied India with diesel generators, machine-tools, textile machinery, printing machinery, and food-processing technology.⁴² Czech Republic's auto major Škoda has made its mark in the Indian market.

Since 2012, India and Czech Republic have made continued efforts to strengthen the bilateral economic relations through frequent exchange of trade and business delegations. In 2016-17, Indian exports to Czech Republic stood at \$4533.14 million, 9.13% higher than the previous year, and imports from the country totalled \$539.25 million, about 6.18% higher than the previous year. The bilateral trade volumes are seen to be considerably lower in relation to the high potentials of India-Czech Republic bilateral economic cooperation and partnerships.

Czech Ambassador to India, Mr Milan Hovorka, had said at a conference in New Delhi in 2015⁴³ that "since India has also been trying to build new capacities in the nuclear sector and Czech has abundant thorium at its possession, it is imperative that India and Czech begin to cooperate on this front."

Norway: Norway is India's 10th largest trade partner among E29 economies. Exports from Norway to India include electronic goods, general industrial machinery, scientific control equipment, artificial resins, plastic materials, non-ferrous metals, whereas the main import items include transport equipment, apparels, cotton yarn and fabrics, miscellaneous manufactured articles, metals, non-metal mineral items, paper products, cashew, furniture, travel goods, leather items, coffee, tea, spices and footwear.⁴⁴

The bilateral engagements have grown significantly in areas like oil and gas, shipping and maritime industries, renewable energy, offshore projects and service sectors. Norway is the second largest seafood exporting country, whereas India is the second largest aquaculture producer in the world.

⁴² <https://www.vlada.cz/en/media-centrum/aktualne/india-open-for-business-with-czech-companies-100536/>

⁴³ <http://www.ndtv.com/india-news/czech-republic-makes-a-dash-for-nuclear-power-deal-with-india-1231866>

⁴⁴ http://www.mea.gov.in/Portal/ForeignRelation/Norway_July_2014-1.pdf

Hungary: India and Hungary have resolved to boost the bilateral trade across multiple sectors, including automobile industry, IT and pharmaceuticals. The two countries have discussed the prospects of BTIA in the wake of Britain's exit from the European Union (EU).⁴⁵

Prior to 1990, India was a major trade partner of Hungary in Asia. Over 25 joint ventures were established by Hungarian companies in India. However, the bilateral engagements failed to gather momentum after Hungary experienced major economic shifts in the 1990s.⁴⁶

India's exports to Hungary totalled \$406.29 million in 2016-17, and imports stood at \$218.78 million, which are still seemingly below potential.

Currently, major items of Indian exports to Hungary include machinery and mechanical appliances, electrical equipment, products of the chemical or allied industries, vehicles and associated transport equipment, footwear, headgear and accessories of fashion, textiles and textile articles, prepared foodstuffs, beverages, and tobacco products. Major imports items from Hungary are machinery and mechanical appliances, electrical equipment, vegetable products, products of the chemical or allied industries, base metals, materials and products of paper industry, optical, medical instruments, etc.⁴⁷

Romania: In 2011 India and Romania set a target of achieving \$2 billion annual bilateral trade by the year 2016.⁴⁸ However, six years down the line India-Romania total bilateral trade stood at just \$574.91 million.⁴⁹

Currently, principal Indian export items to Romania include electric machines, devices & equipment, common metals, chemical and allied industries products, plastic and rubber materials, textiles, food products, beverages and tobacco, vegetal products, wood paste, paper and cardboard and its scrap, articles made of stone, cement, ceramics, glass and optical photographic, cinematographic, medical instruments and devices. Main items of import from Romania are common metals, sound and image displays & recorders, chemical and connected industrial products, plastic, rubber materials, textiles, vegetal products, transport vehicles and mineral products.⁵⁰

⁴⁵ http://www.business-standard.com/article/news-ians/india-hungary-to-boost-bilateral-trade-116070501356_1.html

⁴⁶ http://www.mea.gov.in/Portal/ForeignRelation/Hungary_December_2014.pdf

⁴⁷ http://www.indianembassy.hu/?page_id=195

⁴⁸ <http://archive.financialexpress.com/news/Romania-eyes-2bn-trade-bond-with-India/745272>

⁴⁹ <http://www.commerce.nic.in/eidb/iecnt.asp>

⁵⁰ http://www.mea.gov.in/Portal/ForeignRelation/Romania_Jan_2015.pdf



Greece: India's total trade with Greece dipped from \$947.92 million in 2008-09⁵¹ to \$461.97 million in 2011-12 and \$446.71 million in 2015-16 but increased to \$503.02 million in 2016-17. The trade balance has been predominantly in favour of India, with main items of India's exports to Greece being machinery, automobiles and auto parts, iron and steel, aluminium, copper, dyes and chemicals, and textiles and garments. Main items of Greece's exports to India are machinery, rubber and plastic products, cotton, copper products, iron and steel products and chemicals.

Recent reports indicate that Greece is also opening up to pharma imports from India. Indian Government is drafting a new set of plans to offer Greece affordable 'Made in India' generics. India has inked a preliminary pact with Greece for bilateral Air Services Agreement that proposes to allow unlimited points of call for domestic airlines in the European nation. Seeking to improve international air connectivity for Indian carriers, the Indian Government has been entering into air services pacts with many countries besides making efforts to re-negotiate the existing agreements. Once inked, it would be the first such ASA with Greece, which is known for its tourist spots and scenic beauty.⁵²

Bulgaria: India's exports to Bulgaria stood at \$239.53 million (64.59% higher YoY) in 2016-17, whereas India's imports from the country added up to \$421.75 million in the same period (76.28% growth YoY).

Major items of Indian exports to Bulgaria included organic chemicals, unmanufactured tobacco, medicaments, electric parts, wool, paving blocks, slabs, bricks, polymers of propylene, and ferro-alloys. Major items of imports included laboratory instruments and apparatus, animal feeding preparations, kraft paper, radio broadcasting apparatus, aluminium waste and scrap, medicaments, machinery for working rubber and plastics, copper waste and scrap, engines and motors.

Lithuania: India's total trade with Lithuania stood at \$367.15 million in 2016-17, 21.40% higher than the previous year. Major Indian exports to Lithuania include vegetable saps and extracts, fish fillets and other fish meat, medicaments, footwear, extracts, essences and concentrates of coffee, tea or mate, ferro-alloys, carpets, rice. Major Lithuanian exports to India include mineral or chemical fertilizers, potassic, dried leguminous vegetables, shelled, wadding of textile materials, nickel waster and scrap, diagnostic or laboratory reagents on backing, machzono-therapy appliances.

⁵¹ <http://www.mea.gov.in/Portal/ForeignRelation/Greece-July-2012.pdf>

⁵² <http://www.hindustantimes.com/business-news/india-greece-sign-mou-for-air-services-agreement/story-xgbwl8jlw5IGaOjsNqJo1H.html>

Slovenia: With eased visa norms, Slovenia is looking for deepening trade ties with India to increase the bilateral trade between the two countries. Slovenia is looking for cooperation with Indian companies in sectors like logistics and transport, automobiles, green technology and renewable energy, pharmaceuticals, ICT and nanotechnology etc.

The Chamber of Commerce and Industry of Slovenia (CCIS) has suggested that India and Slovenia should set a bilateral trade target of \$500 million to be achieved by 2015. But by 2016-17, the total bilateral trade reached only the level of \$353.28 million.

Looking Ahead

As the global trade prospects brighten, India and the E29 countries will discover new avenues to forge strong trade ties, in the true spirit of multilateralism. Bilateral India-E29 trade had withstood the strong headwinds caused by a decade-long global economic slowdown, compounded by growing protectionism.

The bilateral trade flows may be bolstered through:

- Deeper and broader exchange of trade-related information flows between the two regions
- Participation of Indian manufacturing and technology firms in key trade shows and exhibitions in E29 countries, and participation of E29 companies in Indian trade shows and exhibitions
- Diversification of the bilateral trade baskets
- Improved transport connectivity and logistics support between the two regions
- Systematic reduction of trade barriers by all governments concerned
- Conclusion of the India-EFTA
- Deep economic engagement between India and the CEFTA (Central European Free Trade Agreement) member countries
- Collaborations between Indian and E29 startups.



**BILATERAL INVESTMENT FLOWS –
DEEPER, BROADER TIES IN THE OFFING**





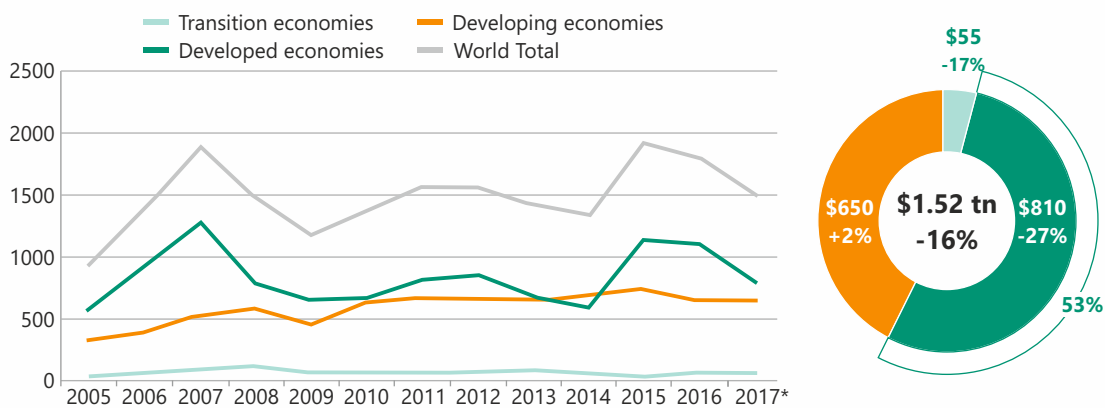
BILATERAL INVESTMENT FLOWS – DEEPER, BROADER TIES IN THE OFFING

Global FDI Outlook

Although the global economy staged a recovery in 2017, global flows of foreign direct investment (FDI) fell by 16% in the year to an estimated \$1.52 trillion, down from a revised \$1.81 trillion in 2016. UNCTAD Secretary-General Mukhisa Kituyi stated in the latest UNCTAD Global Investment Trends Monitor that "FDI recovery [from the 2008 financial crisis] continues to be on a bumpy road".⁵³

A slump in FDI flows to developed countries (-27%) was the principal factor behind the global decline. A strong decrease in flows was reported in Europe (-27%) as well as in North America (-33%), mainly due to a return to prior levels of inflows in the United Kingdom and the United States after spikes in 2016. This decline was tempered by an 11% growth in flows to other developed economies, principally Australia. FDI to developing economies remained stable, at an estimated \$653 billion, 2% more than the previous year.

Fig1: FDI inflows: global and by group of economies, 2005-2017(in \$Bn)



Source: UNCTAD

⁵³ <http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1659>

"The decline of global FDI flows is in stark contrast to other macro-economic variables, such as GDP and trade growth, which saw substantial improvements in 2017," said Mr James Zhan, Director of UNCTAD's Investment Division.

The UNCTAD Global Investment Trends Monitor shows that, after three years of growth, cross-border mergers and acquisitions (M&As) declined in 2017. M&A growth had already slowed in 2016, and went on to contract by 23% in 2017, to \$666 billion. However, this still represented the third-highest level since 2007.⁵⁴

The UNCTAD Global Investment Trends Monitor notes that preliminary data on the value of announced greenfield FDI projects show a decline of 32% to \$571 billion, or 17% in number of projects, their lowest level since 2003. If confirmed, the drop in greenfield project announcements would be a negative indicator for the longer term.

As such, higher economic growth projections, trade volumes and commodity prices would normally point to a potential increase in global FDI in 2018. However, elevated geopolitical risks and policy uncertainty could have an impact on the scale and contours of any FDI recovery in 2018. In addition, tax reforms in the US are likely to significantly affect investment decisions by US multinationals, with consequences for global investment patterns.⁵⁵

India – Key Investment Destination

In keeping with India's rise to pre-eminence as a key investment destination, Prime Minister Narendra Modi during his keynote address at the WEF 2018 delivered a strong message to the world by calling for unity against protectionism and invited global companies to invest in India. He said that India has opened a "new door of the FDI". He assured the CEOs and the leaders of world powers that India was ready to take on any challenges like protectionism.

At Davos, Prime Minister Modi pledged to world leaders that India is open for business. The key word is "open" – transparent tax policies, a helpful bureaucracy and a skilled workforce.⁵⁶

With globally recognised accounting standards and well-regarded regulators of the stock exchange (SEBI), banking (RBI) and telecom (TRAI), India has an edge over several other FDI destinations. India has several other core strengths. Its consumer class is big, young, growing fast, consuming ever-more, well-travelled and increasingly aware of global products and trends. Its purchasing power is rising.

⁵⁴ <http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1659>

⁵⁵ <http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1659>

⁵⁶ <http://businessworld.in/article/Why-FDI-Covets-India-/01-02-2018-138948/>

India's Railway Minister Piyush Goyal observed while at the WEF 2018 that the country has a key role in addressing the problems of a "fractured world".⁵⁷ Government of India has undertaken a slew of reforms to spur FDI inflows. As many as 25 sectors including services activities and covering 100 areas of FDI policy have undergone reforms. FDI policy provisions have been radically overhauled across sectors such as construction development, broadcasting, retail trading, air transport, insurance and pension. At present, more than 90% of FDI inflows are through automatic route. On January 10 this year, the Union Cabinet approved amendments in FDI policy allowing 100% FDI under automatic route for Single Brand Retail Trading. Foreign airlines also have been allowed to invest up to 49% in Air India.

Government of India's Economic Survey for 2016-17 states that though there is ambiguity in the classification of FDI in services, the combined FDI share of the top 10 service sectors such as financial and non-financial services falling under the Department of Industrial Policy & Promotion (DIPP)'s service sector definition; as well as telecommunications; trading; computer hardware & software; construction; hotels & tourism; hospital & diagnostic centres; consultancy services; sea transport; and information & broadcasting can be taken as the best estimate of services FDI.

The share of these services is 56.6% of the cumulative FDI equity inflows during the period April 2000-October 2017 and 65.8% of FDI equity inflows during 2017-18 (April-October). If the shares of another 5 services or service related sectors like retail trading, agriculture services, education, book, printing and air transport are included, then the total share of FDI equity inflows to the services sector would increase to 58.5% and 69.6% respectively for the above two periods.

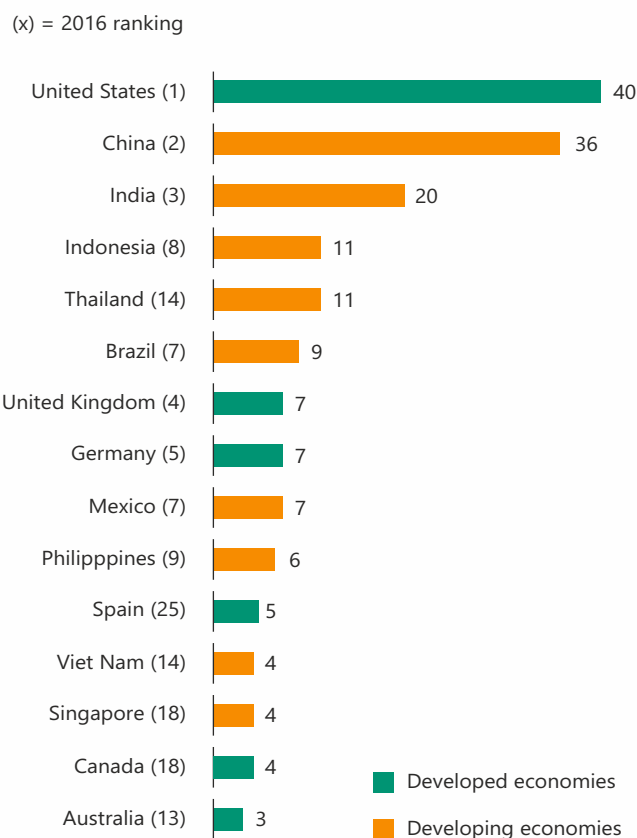
In 2016-17, FDI equity inflows to the services sector (top 10 sectors including construction) declined by 0.9% to \$ 26.4bn, though the overall FDI equity inflows grew by 8.7%. However, during 2017-18 (April-October), the FDI equity inflows to these services sector grew by 15.0%, as compared to 0.8% growth in total FDI equity inflows, mainly due to higher FDI in two sectors -- telecommunications and computer software and hardware.

India will remain among the top three investment destinations globally till 2019, according to UNCTAD's World Investment Report 2017 that ranked India 10th in terms of FDI inflows in 2016, with \$44 billion coming in, as in 2015. "In terms of projections for the future, the US, China and India are the top prospective destinations for FDI," the report said.⁵⁸ **(See Fig 2)**

⁵⁷ <https://www.ndtv.com/business/india-best-destination-for-foreign-investments-says-piyush-goyal-1803558>

⁵⁸ <http://www.thehindu.com/business/Industry/india-to-remain-among-top-3-investment-destinations-till-19/article18788302.ece>

Fig 2: Top prospective FDI host economies 2017-19



Source: ©UNCTAD, business

Fig 3: Top Sources of FDIs in India – By Country (in USD) in the period April 2000 – March 2016

Rank	Country	Cumulative FDI (April 2000 – September 2017)
1	Mauritius	123,104
2	Singapore	59,885
3	Japan	26,626
4	UK	24,889
5	Netherlands	22,627
6	US	21,650
7	Germany	10,633
8	Cyprus	9,379
9	France	6,030
10	UAE	4,950
	Total FDI inflows from all countries	288,634

Source: DIPP, Government of India



Fig 4: Top 10 Sectors attracting highest FDI inflows

Sector	Cumulative inflows (April 2000 – March 2016) in USD; % age of total Inflows (In terms of \$)
Services sector (includes financial, banking, insurance, non-financial / business, outsourcing, R&D, courier, tech. testing and analysis)	62,393; 17%
Telecommunications	30,030; 8%
Computer software & hardware	27,715; 8%
Construction development: townships, housing, built-up infrastructure	24,656; 7%
Automobiles	17,908; 5%
Trading	15,664; 4%
Drugs & pharmaceuticals	15,570; 4%
Chemicals (other than fertilisers)	14,190; 4%
Power	12,301; 3%
Construction (Infrastructure) Activities	10,701; 3%

Source: DIPP, Government of India

Outbound direct investments from India also grew in the last 10 years, but the growth has tapered to \$15 billion per annum. India's Finance Minister Arun Jaitley said the Government is mulling over introducing an integrated policy for the same. Pointing out that ODI from India was about \$15 billion per annum, Mr Jaitley said in his 2018-19 Budget speech that "the Government will review existing guidelines and processes and bring out a coherent and integrated ODI policy."

He also said that the Government would evolve a separate policy for hybrid instruments, adding that "hybrid instruments are suitable for attracting foreign investments in several niche areas, especially for the start-ups and venture capital firms. The basket of eligible FDI instruments will be expanded to include hybrid instruments subject to certain conditions."⁵⁹ According to India Brand Equity Foundation (IBEF), "Outbound investments from India have undergone a considerable change (in the) last decade or so. While in the first half, overseas investments were directed to resource rich countries such as Australia, UAE and Sudan, in the latter half, (they were) channelled into countries providing higher tax benefits such as Mauritius, Singapore, British Virgin Islands and the Netherlands."

⁵⁹ <http://www.thehindu.com/todays-paper/tp-miscellaneous/tp-others/separate-policies-soon-on-outward-direct-investment-hybrid-instruments/article22626854.ece>

Investment Opportunities in India

As the Indian and E29 economies entered a phase of sustained economic development, new avenues began to open up for deeper and broader bilateral investment flows. Today, as India directs focussed attention on manufacturing growth, supported by the high-decibel 'Make in India' Mission launched by the Government of India, many attractive investment opportunities have come up in India for global companies, such as, in the physical infrastructure sector.

The 'Make in India' Mission has opened up compelling FDI opportunities in India's manufacturing and service sectors. The Mission is aimed at making India a manufacturing hub while eliminating the unnecessary laws and regulations, making bureaucratic processes easier and shorter.

The 'Make in India' initiative directs focus on investments in the following sectors: automobiles, automobile components, aviation, biotechnology, chemicals, construction, defence manufacturing, electrical machinery, electronic systems, food processing, IT and BPM, leather, media and entertainment, mining, oil and gas, pharmaceuticals, ports, railways, renewable energy, roads and highways, space, textile garments, thermal power, tourism and hospitality and wellness.

However, while India has emerged as one of the most attractive emerging market investment destinations, volume of FDI from the E29 economies has not grown at any significant rate.

Cyprus and Switzerland are the 8th and 11th highest investing (FDI) countries in India. Cyprus accounts for 2.62% of India's total FDI inflows, while Switzerland accounts for around 1.14% share. Rest of FDI from Central and Eastern Europe add up to only a small fraction of India's total FDI inflows (See Fig 5).

Fig 5: Share of top 10 E29 investing countries in India in relation to India's total FDI inflows in the period April 2000 – September 2017

Ranking	Country	Amt of FDI inflows (in \$ million)	%age to total FDI inflows
8	Cyprus	9,376.61	2.62
11	Switzerland	4,080.12	1.14
19	Sweden	1,738.98	0.49
26	Poland	666.85	0.19
29	Denmark	475.40	0.13
32	Finland	419.69	0.12
34	Austria	359.59	0.10
39	Norway	211.75	0.06
44	Turkey	137.24	0.04
64	Liechtenstein	25.55	0.01

Source: DIPP, Government of India

It may be noted that the top investing countries in India by share are Mauritius (34.45%), Singapore (16.76%), Japan (7.45%), UK (6.97%) Netherlands (6.33%), USA (6.06%) and Germany (2.98%).⁶⁰

Top FDI sources for India from E29 grouping are as follows:

Cyprus: India and Cyprus have expressed hope that after the removal of Cyprus as a notified jurisdictional area and signing of the revised tax avoidance pact, bilateral investments between the two countries will increase. India and Cyprus had in November 2016 signed a revised treaty for the avoidance of Double Taxation and the Prevention of Fiscal evasion (DTAA) with respect to taxes on income that will allow source-based taxation of capital gains on shares for investments after April 1, 2017.

Cyprus FDI in India is focused on sectors such as financial leasing, stock exchange, auto manufacture, manufacturing industries, real estate, cargo handling, construction, shipping and logistics.

A joint statement made during Cyprus President Nicos Anastasiades's state visit to India in April 2017, along with Prime Minister Modi suggested that the revision of the DTTA "could be utilised to increase investments between the two countries, especially in Indian flagship programmes like 'Make in India' and various Cyprus investment projects."⁶¹ The two sides also discussed various possibilities of forging long-term joint collaboration in promoting innovative renewable energy applications and environment-friendly use of energy.

Switzerland: India and Switzerland are working towards concluding a bilateral investment treaty (BIT) even as both countries decided to resume the talks on the EFTA-India Trade and Economic Partnership Agreement. A joint statement issued after a bilateral meeting between Prime Minister Narendra Modi and Swiss President Doris Leuthard in August 2017 testified to this. The EFTA countries include Switzerland, Norway, Iceland and Liechtenstein.⁶²

Earlier, Prime Minister Narendra Modi had called for greater Swiss investments in India to upgrade the country's infrastructure like railways, build Metro train networks in 50 cities and build five crore affordable homes. At a roundtable with chief executives of leading Swiss firms, held in Geneva in June 2016, Prime Minister Modi spoke about the steps the Indian Government has taken to make it easier to do business in India.

⁶⁰ http://dipp.nic.in/sites/default/files/FDI_FactSheet_Updated_September2017.pdf

⁶¹ [//economictimes.indiatimes.com/articleshow/58433148.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst](http://economictimes.indiatimes.com/articleshow/58433148.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)

⁶² <https://www.thehindubusinessline.com/economy/policy/india-switzerland-vow-to-conclude-bilateral-investment-treaty-talks/article9838584.ece>

This year, at the World Economic Forum (WEF), India's Commerce and Industry Minister Suresh Prabhu invited global companies to come and invest in India. He also met Swiss Minister J N Schneider Ammann to discuss the ongoing negotiations for a free trade agreement between India and the European Free Trade Association (EFTA).⁶³

As the world's biggest arms importer, India is a big market for Swiss defence firms but it is not all one-way traffic. Private Indian players are helping the Swiss manufacture high-end products for the global market. In 2012, India placed a huge order of 75 Pilatus PC-7 MKII planes for the Indian Air Force that is still having a significant impact on Swiss defence export figures. In 2014, total arms exports from Western Europe fell by 7.4%. But Swiss exports increased by 11.2%, mainly due to the Pilatus PC-7 order from India, according to a recent report by the Stockholm International Peace Research Institute (SIPRI).⁶⁴

To give a push towards sustainable and organic shrimp farming in India, the country's Marine Products Export Development Authority (MPEDA) has partnered with COOP Cooperative, one of Switzerland's biggest retail and wholesale companies, to develop export-oriented organic aqua-farming in India. MPEDA and COOP inked a memorandum of understanding on January 28, at the 2018 India International Seafood Show in Goa. MPEDA Chairman A Jayathilak said, "There is increased awareness across Europe about organic produce and it constitutes a niche market which the Indian aquaculture industry can take advantage of."⁶⁵

The project will see MPEDA assist in identifying entrepreneurs and providing them with technical advice on the production of high-quality organic shrimp that meet national and international certification protocols. The project's pilot will take place in the state of Kerala, with an initial area of around 1,000 hectares dedicated to producing organic black tiger shrimp.

In the recent past, Swiss multinationals based in India had announced plans to create a centre to provide Swiss-style vocational education to young Indians. The apprentices were expected to help Swiss companies address the shortage of skilled workers in India.⁶⁶

The proposed plan for a Centre of Excellence for Manufacturing was presented at the Swiss Vocational Education Training (VET) day held in June 2015 in New Delhi.

⁶³ <https://economictimes.indiatimes.com/news/economy/foreign-trade/suresh-prabhu-meets-swiss-counterpart-global-ceos-to-narrate-india-story/articleshow/62641254.cms>

⁶⁴ http://www.swissinfo.ch/eng/business/pilatus-aircraft_swiss-defence-firms--make-in-india-/41934498

⁶⁵ <https://www.seafoodsource.com/news/aquaculture/switzerlands-coop-pursues-organic-shrimp-farming-project-in-india>

⁶⁶ http://www.swissinfo.ch/eng/skilled-workforce_swiss-companies-to-invest-in-indian-apprenticeships/41477634

Swiss companies such as Burckhardt Compression, Syngenta, Sulzer and Rieter are part of the training venture.

Besides manufacturing, there are also plans to develop a Swiss Centre of Excellence for Agriculture in the same centre to train rural youth to become agriculture entrepreneurs and technicians. This initiative will be supported by the Syngenta Foundation.

Sweden: Swedish Trade Minister Ann Linde, while in New Delhi to attend the India-Sweden joint commission meet in May 2017 said that Swedish businesses are confident about investment prospects in the Indian market. However, she expressed concern over the absence of a bilateral trade and investment pact as well as one at the European level which she said could dampen investor sentiment.

“I think there are great possibilities to do business in India and that is also something that the Swedish government will really like to promote and I think the fact that there was a joint meeting between Prime Minister of Sweden Stefan Lofven and Prime Minister Narendra Modi has emphasised how important this is,” she observed.⁶⁷

Swedish industry has always believed in India as a perfect trading partner -- right from the time Ericsson laid the first cables in 1903 to the current times when our companies are looking to raise their investments and their manufacturing units in India. There are about 150 big companies active in India, but there is huge potential in both directions. Swedish companies provide direct employment to 15,000 people in India, while the figures through subsidiary operations run into several lakhs. Some of the biggest Swedish firms operating in India include ABB, Atlas Copco, Camfil, Ericsson, Ikea, Saab, Sandvik, Scania, SKF, TetraPak and Volvo.⁶⁸

Swedish companies in India find the business climate favourable and they have kept their commitments regarding investments in India and in some cases exceeded it. The Business Climate Survey, conducted annually by the Swedish Chamber of Commerce in India (SCCI) along with the Embassy of Sweden in New Delhi, Consulate General of Sweden in Mumbai, and Business Sweden, captured inputs from 160 out of 170 Swedish companies present in India. Around 94 companies of those companies are based in Maharashtra which is a major hub for Swedish companies followed by Bengaluru, NCR and Tamil Nadu region. Of the 170 Swedish companies in India more than 100 companies have entered in the last one decade.⁶⁹

⁶⁷ <http://www.livemint.com/Politics/KAewpEr2cEBYQcgUR71XpK/Swedish-businesses-confident-about-investments-in-India-say.html>

⁶⁸ <http://www.ndtv.com/india-news/make-in-india-swedish-firms-keen-to-raise-india-investments-says-ambassador-1277065>

⁶⁹ <http://www.financialexpress.com/industry/swedish-cos-bet-on-india-up-investment/716933/>

The number of companies finding the business climate favourable has gone up to 65% in 2016 from only 15% in 2013. Similarly in 2013 nearly 40% of those surveyed found the business environment unfavourable but now only 3% finding the business climate unfavourable. On Goods and Services Tax matters 3 out of 4 companies said the reform contributed positively to the perception, the survey noted.

Ms Ulrika Sundberg, Consul General of Sweden, Mumbai, said, "We see a lot of potential in the areas of energy, environment, smart cities, ICT, digitalisation, healthcare and life sciences. The companies also tell us that they look positively at the reforms agenda that this government has set."

Poland: India's former Vice President M. Hamid Ansari while addressing the Business Summit at the Ministry of Economic Development, Poland in April 2017 had said that for Polish business looking for markets and business opportunities beyond Europe, India is a natural destination. He said that India's 29 states offer a climate of both cooperative and competitive federalism, with quantum improvements in investment conditions in different Indian states. The new policy initiatives taken by the Union government, such as 'Make in India', 'Skill India' and 'Digital India' schemes, present new business opportunities for Polish companies in areas such as defence, food processing, coal and mining, healthcare, pharmaceuticals, bio-technology and renewable energy.⁷⁰

Polish companies are keen to invest in clean mining technologies, food processing and green energy projects in India. "Both Indian and Polish governments are focusing on economic development and there are many areas of cooperation including green energy, water treatment among others. Among other areas for collaboration are aerospace and Polish companies are exploring investment opportunities in India," the then Poland's Ambassador to India, Mr Tomasz Lukaszuk told the Indian media. The country has also expressed interest to export apples to India after Russia banned imports of farm products from the European Union (EU). The country is one of largest exporters of apples.⁷¹

Currently, there are about 30 Polish companies operating in India and recent investments in India were in area of electric buses and waste to electricity generation projects.

Polish companies have deepened their footprints in India, with firms such Bella Premiere (Torunskie Zaklady Materialow Opatrunkowych (TZMO) in Dindigul (manufacturing hygiene sanitary products), Can-Pack Poland in Aurangabad (manufacturing metal

⁷⁰ The Business Summit at the Ministry of Economic Development, Poland

⁷¹ <http://www.ibef.org/news/poland-plans-investments-in-food-processing-green-energy-in-india>

packaging), Inplot (cosmetic products), Geofyzika (seismic surveys for oil companies), GT Torun, and Obram carving out a strong presence in the country.

Denmark: India and Denmark decided to ramp up cooperation in key sectors such as trade and investment, energy and shipping, during talks between India's External Affairs Minister Sushma Swaraj and Danish Minister Anders Samuelsen. The discussions between the two ministers focused on building of cooperation in the areas of trade and investment, science and technology, environment and renewable energy, shipping, food processing, healthcare, culture and tourism.

Over 125 Danish companies have invested significantly in the sectors of renewable energy, shipping, IT and food processing in India.⁷² Danish investments have also been made in sectors like harbour/port modernisation and expansion, beer breweries, wind turbine/rotor blade manufacturing, agro-intermediates /insecticides, and the engineering sector. There is scope for additional investments in pharmaceuticals, food processing, shipping, electronics and infrastructure sectors.⁷³

Finland: There are over 120 Finnish companies in India and some 25 Indian companies are in Finland. Many of the Finnish companies in India have manufacturing plants in the country and are truly 'Make in India' companies. Companies like Kone elevators, Wartsila, Ahlstron, Elcoteq, Metso, Fortum, and UPM have set up manufacturing facilities in India and Finnnode has opened its office in India.⁷⁴ Top sectors attracting Finnish FDI inflows are: industrial machinery, electrical equipment, textiles (including dyed, printed), power, and electronics.

Several Finnish companies are engaged in the renewable energy and clean-tech segments in India. Apart from a Finnish energy company that already owns two solar power plants in India and has won a bid to build a third one, a Finnish mobile phone network manufacturer has an R&D centre in India that employs 6,000 people and their equipment serves 280 million mobile phone subscribers.

Finland has significant capacities in the civil nuclear energy field with four reactors in operation in his country. Besides, Finnish companies and relevant government agencies can offer solutions related to safety and security ecosystems in nuclear power plants.⁷⁵

⁷² http://www.business-standard.com/article/pti-stories/india-denmark-vow-to-boost-trade-and-investment-ties-117112701216_1.html

⁷³ http://www.ficci.com/international/75127/Project_docs/Denmark_Profile.pdf

⁷⁴ http://www.ficci.com/international/75192/Project_docs/finland-ficci.pdf

⁷⁵ http://articles.economicstimes.indiatimes.com/2016-02-13/news/70592893_1_india-week-withholding-tax-norms-india-finland

Projects in the Indian infrastructure sector have provided opportunities for Finnish companies. For instance, Metso Minerals sells mining drills and road-building equipment.

Finnish firms Metso Automation, KCI Konecranes, Kalmar and Sandvik amongst several others are operating in this sector. Finnish paper products are being marketed in India by Finnish paper giants UPM, StoraEnso and M-real. Andritz Finland and Metso Paper are involved in upgrading paper machines and building new ones. Huhtamaki with its local joint venture partner is the largest Finnish employer in India in the packaging material sector. Eltete is another Finnish company in packaging business operating in India.

Twenty six companies from Finland are now exploring the possibility of working in the areas of clean technology in India. These include sectors such as mining, renewable energy, power plant, bio composts and even outdoor toilets.⁷⁶

Austria: Austria is known for high-end expertise in engineering and heavy manufacturing and India has a wealth of resources and a huge rail infrastructure to improve and maintain. As far back as the 1960s, Plasser & Theurer of Austria supplied to Indian Railways track laying machines and ballast cleaners. Several other Austrian companies have provided engineering expertise (rail laying and tunnelling) or equipment to Indian Railways.⁷⁷

Between 2006 and 2010, Strabag, along with its Indian partners (Larsen & Toubro and IRCON International Ltd.), completed a £61 million, 3.2 km tunnelling project in the phase 2 of Delhi Metro System.

The Indian arm of Austrian packaging technology and solutions major, Alpla, is planning to establish an end-to-end recycling plant for PET bottles in Hyderabad. This will be the first such facility in the country, Alpla India managing director Vagish Dixit said, pegging the investment required on the project to be in the Rs 20-30 crore range.⁷⁸

Norway: Prime Minister Narendra Modi has invited Norwegian pension funds to invest in the National Investment and Infrastructure Fund as he met Norway's Prime Minister Erna Solberg during the G20 Summit in 2017. Norwegian Ambassador to India Nils Ragnar Kamsvag said at a conference that India should look to Norway to see how solutions work in practice. "Right now, over one third of all new cars sold in Norway are

⁷⁶ <http://www.thehindu.com/business/Industry/finland-keen-to-invest-despite-nokias-tax-issues/article5244428.ece>

⁷⁷ <http://www.india-at-hannover.com/trains-planes-and-automobiles>

⁷⁸ <http://www.thehindu.com/business/Industry/austrias-alpla-plans-pet-recycling-plant/article17664213.ece>

electric vehicles. Valuable lessons for India and Indian companies may be drawn from understanding customer behaviour in such a market. We also have state of the art technology in green shipping with the world's first battery driven ferry in operation and the world's largest fleet of LNG ships. What we don't have, are the orders of magnitude. The numbers that may completely transform the market for solutions, and usher in a new age of zero emission transportation," he said.

Down the years, top sectors in India that attracted FDI equity inflows from Norway are: chemicals (other than fertilizers), electrical equipment and electronics.⁷⁹ "India is one of those markets where you should expect that we will continue to increase our investments over time, significantly," Mr Yngve Slyngstad, CEO of the Norwegian Government Pension Fund Global (GPF), said in an interview in the past. The Fund also held roughly \$4 billion worth of fixed income investments in India at the turn of the year, of which more than 96% were investments in government bonds.⁸⁰

Turkey: Prime Minister Narendra Modi has invited Turkish businesses to invest in sectors like energy, rail, road, ports and housing. Addressing business leaders present at the India-Turkey Business Summit in May 2017, which was also attended by visiting Turkish President Recep Tayyip Erdogan, Mr Modi stressed the need for a substantial increase in the economic engagement between the two countries. "India and Turkey enjoy good economic ties. While this (trade growth) is encouraging, the level of present economic and commercial relation is not enough against the real potential," Mr Modi said.

Observing that India and Turkey, which are among the top 20 economies of the world with strong fundamentals, can substantially increase bilateral cooperation in several areas, the Indian Prime Minister said, "The time has come to make aggressive effort to deepen relationship and enhance bilateral engagement." He said that Turkish construction companies can participate in India's infrastructure sector development. Other promising sectors are ports, rail, housing, energy, hydrocarbon, tourism, textiles and auto. He also highlighted India's low-cost manufacturing capabilities before the Turkish businessmen while seeking investment.⁸¹

Turkish companies find it attractive to invest in the infrastructure, renewable energy, textiles, agro food and other sectors in India. "India and Turkey can explore cooperation in the areas of auto components, pharmaceuticals, chemicals etc. Turkish firms are not

⁷⁹ http://www.ficci.com/international/75129/Project_docs/Norway_Profile.pdf

⁸⁰ http://www.norwayemb.org.in/News_and_events/News-and-Events/Norwegian-Pension-Fund-set-to-increase-USD-85-Billion-Investment-in-India/#.WB7_W_1942w

⁸¹ http://www.business-standard.com/article/economy-policy/india-is-the-best-investment-destination-pm-modi-to-turkey-s-erdogan-117050100307_1.html

only interested to export their goods to India but also establish manufacturing facilities in the country on the back of the Indian government's 'Make in India' campaign.”

Major Turkish companies operating in India are: LIMAK Construction, which has been in India since 2001. LIMAK has so far participated in collaboration with an Indian company Soma in construction, widening and strengthening of National Highway segments and is in collaboration with another Indian company Gammon India for laying cross-country pipeline and associated facilities on a 274 km stretch.

Sarkar, a high-end garment manufacturer entered the Indian market through its franchisee partners in 2003. Sokatas, a leading garment manufacturer in the European Customs Union, has started work on a proposed garment factory to be set up in Maharashtra. Izopoli-Kingspan, a leading manufacturer of fire retardants, has opened office in India in 2007 and is looking to invest for manufacturing fire retardants in India, while Hidromas, manufacturer of heavy earth movers is looking to set up a manufacturing unit in Chennai.

Indian Investments In E29 Economies

Down the years, several Indian companies have invested in E29 economies, more so as these economies offer significant incentives to investors, such as, tax exemptions, greater market access and a liberal investment regime. The incentives are principally offered in priority sectors such as R&D, infrastructure, construction, transport, greenfield projects, communication and energy.

Key Indian private investments in the region are as follows:

Austria: Key industries in Austria are agriculture and forestry, food and drink, mechanical and steel engineering, chemicals, automotive, electrical engineering and electronics, wood, pulp and paper. The Austrian government has directed sharper attention on manufacturing, infrastructure development, R&D and education, service industries, telecommunication, transportation, retail, banking, and tourism. All these sectors in turn offer attractive investment opportunities.

The Austrian government offers tax incentives and R&D subsidies for FDI involving substantial transfer of important technology and job opportunities. The government also offers grants for later-stage R&D activities by companies.

Czech Republic: Czech Republic has advanced manufacturing capabilities in areas like auto parts manufacturing, R&D, biotech, hi-tech engineering and wages are much lower than those in western Europe. Key business sectors in Czech Republic are agriculture, automotive industry, electrical and electronic industry, financial services, construction,



and retail. To spur investments, the government offers 10-year full corporate income tax relief for greenfield investments and 10-year partial tax relief for brownfield investments, provision of industrial property on discount, financial support for the creation of new jobs and financial support for the re-qualification of employees.

Indian companies have invested in Czech Republic in sectors like IT, vehicles, tea, textile, pharmaceutical, auto-components. Infosys, Ashok Leyland, Tata Tea, Alok Industries, Spentex Industries, Motherson Sumi Systems Limited, Glenmark Pharmaceuticals, Lloyd Group, Lloyd Electric and Engineering Ltd, PMP Components Ltd, are among the early movers.

Hungary: Indian companies have begun to explore Hungary as a perfect location for investment. The country has a strong skilled labour force which is needed for high-tech companies. The tax system favours those companies which employ more people.

Key Hungarian industries are automotive industry, information and communication technology, pharmaceuticals, chemicals, and financial services. To bring in FDI, the government offers development tax allowance, whereby, up to 80% of the corporate income tax payable every year can be foregone for a period of 10 years.

Indian investments in Hungary are witnessing an upswing in recent years. Investment flows are spread over sectors such as IT, pharmaceuticals, power equipment, auto-components and food processing. Indian companies in Hungary include Sun Pharma, Crompton Greaves, SMR, Bakony Wipers, Orion, Hema Engineering and Cosmos. Jet Air has opened an off-line office in Budapest. Several IT companies like TCS, Mahindra-Satyam, Genpact and Cognizant have established their operations in Budapest.

Indian IT companies have considerable expertise on e-governance issues and are keen to participate in Hungarian government projects for e-governance that are financed through EU funds. Indian IT companies in Hungary benefit from multiple language / computer skills and low wage rates of Hungarians as well as the geographical location of the country in the heart of Europe. Hungary itself is becoming a major source of export of ICT services and products, mainly to other European countries.

The Hungarian pharmaceutical sector offers significant opportunities for cross-border partnerships. As Hungary tries to reduce the burden of its public healthcare system and health subsidies on the Hungarian public exchequer, they are encouraging use of cheaper generic drugs, a sector where India has a significant advantage.

Poland: Key Polish industries are automotive, agricultural production, construction, and financial services. The Polish Government offers income tax & local tax exemption in its special economic zones (SEZ), and also cash grants for strategic investors. Indian

investments in Poland add up to \$3 billion and more. Leading Indian companies operating in Poland are ArcelorMittal, Videocon, Escorts, Strides Arcolab, Reliance Industries, Ranbaxy, Essel Propack, KPIT Cummins, Zensar Technologies Ltd, Infosys and Wipro, Jindal Stainless, Berger Paints India, UFLEX Glenmark Pharmaceuticals, Flemingo Duty Free, Rishabh Instruments, etc.

Looking ahead, India and Poland could explore synergies in the following sectors: agri and food processing, automobiles and engineering, coal and mining, defence and R&D, green technologies, ICT, pharmaceuticals and healthcare, nuclear energy, skill development, smart cities, and textiles and apparels.

Turkey: Turkey offers 'tailor-made' incentives for investments that help the company meet its economic development plans including reducing foreign dependency and bringing technological advancement".⁸² Such incentives include up to 100% discount in corporate tax, allocation of public property for up to 49 years without rent obligations and free ownership transfer of such property on meeting certain conditions, social security payment exemption for ten years and the government is helping out by taking a 49% stake in investment company on the condition that such holding will be offered to public in ten years.

Stating that Turkey is a world leader in PPP projects. The country has around 211 PPP projects worth \$122 billion including \$66.8 billion in airport sector and \$25 billion in the energy industry. Turkish authorities are seeking FDI in a big way with emphasis on investments that create new jobs and bring in know-how. Investments in information and communications technology, machine tools, machinery, metal processing, logistics and automotive industry, food processing, pharmaceuticals, energy, services and infrastructure are being particularly encouraged.

More than 150 Indian companies have registered businesses in Turkey in the form of joint ventures, trade and representative offices. They include Polyplex, GMR Infrastructure, TATA Motors, Mahindra & Mahindra, Reliance, Ispat, Aditya Birla Group, Tractors and Farm Equipment, Jain Irrigation, Wipro, Dabur, Kalpataru, Punj Lloyd, Indian Oil, etc.

Romania: Key Romanian industries are automotive manufacturing, pharmaceuticals, real estate and constructions, and financial services. The Romanian Government offers tax exemption on reinvested profit, special incentives for expenses related to R&D, dividend tax exemption for reinvestments, reduced VAT rate of 5% for the sale of buildings, local tax exemptions for businesses located in industrial parks or scientific and technological parks.

⁸² <http://www.thehindu.com/news/national/turkey-wants-india-to-start-fta-talks-soon/article9306162.ece?w=alauto>

The Romanian government is focusing upon restructuring their state-owned enterprises (SOEs) under private management, liberalisation of energy prices for commercial customers, and attracting greenfield investment, particularly in renewable energy, inclusion of reforms in the healthcare system, deregulation of energy prices and the sale of some government holdings in the energy sectors, expansion of the trans-European transport network (TEN-T), and prioritising the construction of a motorway from the Black Sea port of Constanta to Nadlac on the Hungarian border, as part of the Pan-European Corridor IV motorway.

Switzerland: Key Swiss industries are financial services, machinery, chemicals & pharmaceuticals, and tourism. The Swiss government offers investment incentives in the form of a Federal Tax holiday to companies boosting the economy in specific regions of Switzerland. Most cantons in the country also grant tax holidays to companies bringing economic value-added functions and creating significant new jobs.⁸³

Indian biotech and IT firms have opened offices in Switzerland. Switzerland is a favourite spot with Indian film makers. Leading European bourse SIX Swiss Exchange is courting Indian life sciences and specialty chemical firms to get listed on its platform and has reached out to over 200 firms in the country for their IPOs.⁸⁴

Slovenia: Key Slovenian industries are automotive, chemical and pharmaceuticals, electrical and electronics, information and communication technology, machining and metalworking. Slovenia has invited Indian investments in sectors such as mining, tourism and IT.

Croatia: Key Croatian industries are chemicals, food and beverages, and tourism. To draw investments, the Croatian government offers reduced taxable base for 10 years ranging from 50% to 100% depending on volume of investments and number of new employees hired during the year. The government also offers 10%-20% of the eligible costs of investments for construction of the new factory, production facility or tourist facility or buying of new machines depending on the amount of investment.

Bulgaria: Key industries in Bulgaria are mining and semi-processing, construction, tourism, and financial services. The Bulgarian government offers part or full reduction in amount of annual corporate income tax due by entities on their profits from manufacturing activities carried out in municipalities with high unemployment.

⁸³ <http://www.thehindu.com/news/national/karnataka/switzerland-can-be-the-gateway-to-europe-for-indian-companies/article6790918.ece>

⁸⁴ <http://www.dnaindia.com/money/report-european-bourse-reaches-out-to-200-indian-life-sciences-biotech-firms-for-ipos-2206330>

Looking ahead

Expansion of India-E29 investment relations is contingent on:

- Robust cross-border information flows on bilateral investment opportunities
- Improvement in Ease of Doing Business in India and E29 economies
- Joint R&D research initiatives and joint initiatives in value-added manufacturing
- Bilateral and multilateral partnerships for technology sharing, skill development
- New partnerships among Indian and E29 young entrepreneurs



INDUSTRY 4.0 – TRANSFORMING MANUFACTURING





INDUSTRY 4.0 – TRANSFORMING MANUFACTURING

The Context

India is primed for ushering in a revolution in the manufacturing sector. With the flagship 'Make in India' programme, the country is in the quest to increase the GDP share of manufacturing from the current 16% to over 25% by year 2020. To achieve this ambitious target the decks are being cleared to attain a 12-14% growth YoY and to become one of the top three global manufacturing destinations by year 2020.

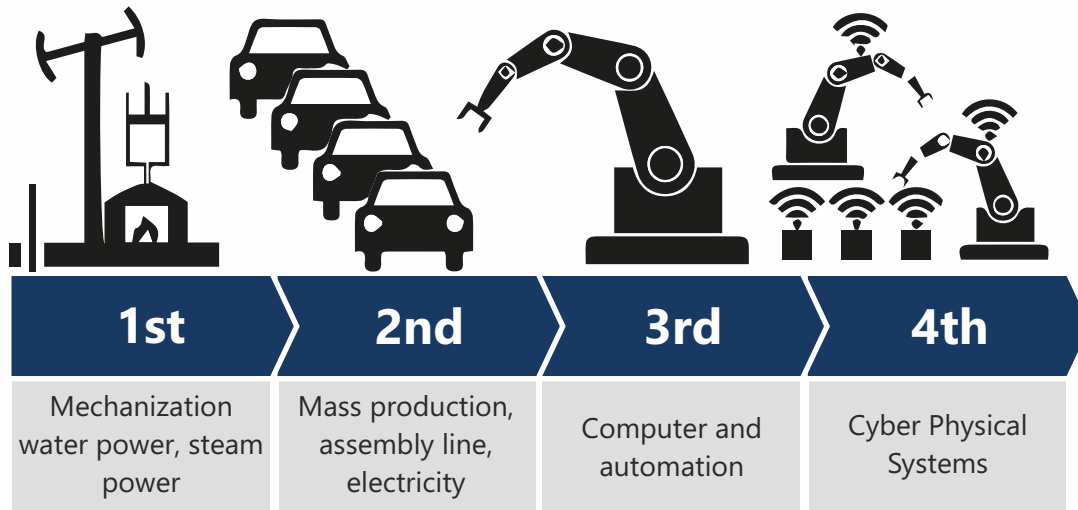
This is slated to add 100 million jobs by 2022 in the manufacturing sector, a critical objective of the 'Make in India' programme, as India churns out about 1.5 million engineering graduates a year.

Indian manufacturing, it is estimated, has the potential to touch and go beyond \$1 trillion by the year 2025 and take its position among the top three manufacturing destinations in the world. The Goods and Services Tax (GST), a common market in excess of \$4.2 trillion, will provide an added impetus to the manufacturing and logistics sectors with its one 'one nation, one tax' mantra which promises to not only add revenue to the economy in terms of better tax collection but also be a step-up to the rationalisation of logistics and distribution.⁸⁵

However, as much as the growth of manufacturing, what is also of criticality is the nature of the processes adapted for optimum production scale and 'total factor productivity'. That requires 'advanced manufacturing' techniques that call for nothing short of a new industrial revolution, or the adoption of 'Industry 4.0', broadly an incorporation of digitisation and Internet of Things (IoT) into processes and workflow in the businesses.

⁸⁵ <http://pib.nic.in/newsite/PrintRelease.aspx?relid=148240>

Fig 1: The pathway to Industry 4.0



Source: Christoph Roser at AllAboutLean.com

The Imperatives

On the basis of its IT strengths, both in terms of adoption of technologies and size of the professional IT workforce, India is on the cusp of a transformative revolution in advanced manufacturing. The concept of 'Industry 4.0' is going to change the way India, and indeed the world, manufactures, designs and redesigns its processes and products. Big data, high computing capacity (graduating to quantum computing in the near future), artificial intelligence and analytics are set to redefine the way businesses run their enterprises.⁸⁶

Studies across industries have it that Indian businesses can achieve a whopping 20% in profitability by boosting operational efficiency through advanced manufacturing processes by focussing on 'throughput and yield improvement, asset utilisation, manpower productivity, waste reduction, superior planning and optimal sourcing.

At present, it has been estimated that about 15% of value is sacrificed in the value chain because of the inability of the enterprises to optimise scale due to its arachnid logistics supply and distribution chain.⁸⁷

⁸⁶ <http://www.businesstoday.in/opinion/columns/indian-industry-warming-up-to-advanced-manufacturing/story/236731.html>

⁸⁷ <https://www2.deloitte.com/insights/us/en/focus/industry-4-0/smart-factory-connected-manufacturing.html>

Fig 2: A snapshot of the mechanics of Industry 4.0



Source: www.unido.org

An analysis also shows that the adoption of robotics alone by developed economies, one of the components of Industry 4.0, could slash India's comparative advantage in costs by 4-5% in the next 10 years.⁸⁸

Therefore, Indian industry needs to focus on four areas: Invest in advanced manufacturing; leverage technology to collaborate across companies and reduce the cost of operations collectively; agree on common standards of technology to allow for interoperability; and, "invest in reskilling manpower to obtain the social licence to operate in this new "science-fiction-like" world of industrial operations.

The good part of the story is that unlike the Industrial Revolution, the flattening of the world as a by-product of globalisation means that India has access to frontier, disruptive technologies and best practices, in near real-time, from across the globe.⁸⁹

India is already in the adaption mode. Industry 4.0 in India is being flag-shipped by the 'Smart Cities Mission', the quest for building 100 smart cities using the tools of advanced manufacturing.⁹⁰

⁸⁸ <http://www.livemint.com/Companies/hMYqWoXWVUwhLbClbv6kIJ/Connecting-the-dots-Increasing-operational-efficiency.html>

⁸⁹ <http://www.livemint.com/Companies/hMYqWoXWVUwhLbClbv6kIJ/Connecting-the-dots-Increasing-operational-efficiency.html>

⁹⁰ <https://www.ibef.org/industry/manufacturing-sector-india.aspx>

New Initiatives

Bosch, a German auto component manufacturer will begin implementation of smart manufacturing at its 15 centres in India by 2018. General Electric has invested \$200 million in the facility in its only multi-modal factory in India where digitally interlinked supply chains, distribution networks, and servicing units form part of this intelligent ecosystem.⁹¹



"It is a very big leap for India as the country has to move from electrified machinery, to automated machinery and then onto digitalised machinery. The fourth industrial revolution integrates digital and manufacturing worlds by using the latest IT tools. Sensors would have to be attached to the machines in the first phase," said Sunil Mathur, Managing Director and CEO, Siemens Ltd.⁹²

The Indian Institute of Science (IISc) is building India's first smart factory in Bengaluru with a seed funding from the Boeing Company - where machines speak with each other, are armed with data exchange in manufacturing and the IoT. Reports peg the smart factory industry to touch \$215 billion by 2025 and there has been no major economy in the world that is not embracing it.⁹³

Partnership Opportunities

India's plunge into disruptive technologies needs close engagement with not only the world economy but also into the national ecosystems, so that advanced technologies in

⁹¹ <http://intellicomponentsinc.com/our-services/services-for-clients/>

⁹² <https://www.thehindubusinessline.com/economy/india-should-leap-forward-to-achieve-makeinindia-target-experts/article9507573.ece>

⁹³ <https://timesofindia.indiatimes.com/city/bengaluru/Industry-4-0-IISc-building-Indias-1st-smart-factory-in-Bengaluru/articleshow/53441112.cms>



one ecosystem can be adapted and transplanted to another. This is where closer cooperation at the bilateral between E-29 and India can make the difference.

For instance, India's smart cities initiative and the thrust on infrastructure creation can be bolstered by Turkey's acknowledged expertise in advanced manufacturing prowess in the field of construction, as was pointed by the Prime Minister of Turkey, Mr Recep Tayyip Erdoğan, in May 2017 during his visit to New Delhi. There is also great potential in bilateral cooperation with Turkey in the fields of IT, pharmaceuticals, health and tourism. Bilateral trade between the two countries rose to \$6.4 billion in 2017 from \$2.8 billion in 2008 and the commitment has been made to raise it to \$10 billion by 2020.⁹⁴

Similarly, the Swiss Innovation Centres, from one of the top nations in innovation, presents a model for India to collaborate in the field of advanced manufacturing, even as Switzerland remains an attractive destination for Indian companies as a portal to enter the European markets. The country continues to attract investment from Indian companies looking for a bridgehead to enter the European markets.⁹⁵

Another exemplary adoption of advanced manufacturing techniques is the integration of the Swiss COREX steel-making process by the Indian industry. The Corex Process is a smelting reduction process created by Siemens VAI as a more environmentally friendly alternative to the blast furnace.⁹⁶

In the same vein, India's ambitious quest for 100% electric vehicles on its roads by 2030 and its general fight against the menace of pollution could find a willing and able partner in Norway. "Right now, over one third of all new cars sold in Norway are electric vehicles. Valuable lessons for India and Indian companies may be drawn from understanding customer behaviour in such a market. The switch from fossil fuels to electric power will be beneficial for India's energy security, Indian manufacturing, local air pollution and the reduction of greenhouse gases. Today, India has the opportunity to leapfrog transport infrastructure based on fossil fuels and choose to develop green transport solutions," the Norwegian Ambassador to India, Mr Nils Ragnar Kamsvåg observes.⁹⁷ But the fact of the less than optimum integration of industry is also the cause of the opportunity.

One of the biggest opportunities for India and E29 cooperation is in the five industrial corridors launched by India. These corridors are spread across India, with strategic focus

⁹⁴ http://smartinvestor.business-standard.com/market/story-455626-storydet-Highlights_of_Modi_Erdogan_talks_India_Turkey_disagree_on_Kashmir_issue.htm#.Wnq5MpP1XVo

⁹⁵ http://www.mea.gov.in/Portal/ForeignRelation/India-Switzerland_2018.pdf

⁹⁶ https://en.wikipedia.org/wiki/Corex_Process

⁹⁷ <https://www.norway.no/en/india/norway-india/news-and-events/new-delhi/news/how-to-develop-green-transport-in-india-experiences-from-the-norwegian-demonstration-project/>

on inclusive development to provide an impetus to industrialisation and planned urbanisation.

In each of these corridors, advanced manufacturing will be a key economic driver in these projects with Smart Industrial Cities being developed along the Corridors. Delhi Mumbai Industrial Corridor Project, the Shendra-Bidkin Industrial Park, Chennai-Bengaluru Industrial Corridor, Mumbai-Bengaluru Economic corridor, Amritsar Delhi Kolkata Industrial Corridor, VANPIC - Vadrevu and Nizampatnam Port Industrial Corridor and the Udhana-Palsana Industrial Corridor.

These cities are being developed to integrate Industry 4.0, advanced manufacturing manpower and, of course, planned and integrated urbanisation.⁹⁸

As one of the fastest growing economies, the potential India offers in manufacturing is beyond debate. And, that requires increasing and faster adoption of Industry 4.0. And, that requires connect and collaboration to integrate the latest and cutting edge technologies and practices around the world. Reason enough for India and the E-29, many of whom are incubators of innovation and technology, to cooperate and collaborate.

⁹⁸ <http://www.makeinindia.com/live-projects-industrial-corridor>



ICT FOR GOVERNANCE – OPPORTUNITIES FOR PROJECT PARTNERSHIPS





ICT FOR GOVERNANCE – OPPORTUNITIES FOR PROJECT PARTNERSHIPS

India To The Fore

The Indian government is in a mission mode to spread and deepen e-governance and digitisation of the Indian economy and society. Revolutionary and unprecedented reforms have been put in place to make India a digital community, largely through the use of ICT for governance.

E-governance has come to mean, as per the National e-Governance Plan (NeGP): "Make all Government services accessible to the common man in his locality, through common service delivery outlets, and ensure efficiency, transparency, and reliability of such services at affordable costs to realise the basic needs of the common man."⁹⁹

To that end, India is now home to the largest biometric-based data system in the world, the Aadhaar, with a mindboggling 1.13 billion enrolments which links a person's demographic and biometric information, including their photograph, ten fingerprints and an image of their iris, stored in a centralised database.¹⁰⁰

The Aadhaar identity is now being used as an authenticating platform to provide government services to the common citizen, bypassing the middleman and weeding out the undeserving or the illegal.

It is now base data for a host of government services that include Direct Benefit Transfers to citizens eligible for subsidies and pension from the Government, opening a bank account, issuance of passports, etc. Hence, the Government has been able to save a whopping Rs 57,000 crore that earlier used to be leaked from the system to unintended and unauthorised beneficiaries, promoting both transparency and ease of living.

The Government has introduced the Digital Locker on the cloud. This enables e-Signing of documents and makes them available electronically and online to obviate the necessity of carrying the documents for physical verification. This also reduces the

⁹⁹ <http://meity.gov.in/divisions/national-e-governance-plan>

¹⁰⁰ http://www.business-standard.com/article/economy-policy/aadhaar-database-is-leaky-by-design-but-it-keeps-on-growing-117050500298_1.html

administrative costs of government departments even while providing 'anytime, anywhere' access to the citizens through a well-structured standard document format to support easy sharing of documents across departments and agencies. This includes PAN verification record, driving license, vehicle registration, Aadhaar, education certificates, etc.¹⁰¹

All these measures, along with the opening of more than 31 crore bank accounts (Jan Dhan), the Aadhaar and penetration of mobile phones, leading to the JAM trinity, coupled with the 'one nation, one tax' GST legislation are fast-tracking governance through the ICT adoption. Added to this is the boost to financial transactions through the UPI system, which has meant that digital transactions in India reached a record high of 1.11 billion in January 2018.

India is world's second largest telecom market in terms of the number of subscribers and mobile handsets users with over 1,000 million mobile users and over 200 million broadband users. But till date, the country does not have a platform like the World Mobile Congress where global industry stakeholders meet.¹⁰²

Fig 1: Benefits of unified taxation – GST



Source: cbec.gov.in

¹⁰¹ <https://www.india.gov.in/spotlight/digilocker-online-document-storage-facility>

¹⁰² <http://businessworld.in/article/-IMC-Will-Not-Only-Bring-Investment-But-Job-Opportunities-As-Well-/17-07-2017-122268/>

Digitisation is that multiplying force in India right now. The trio of measures to boost financial inclusion (Jan Dhan bank accounts), a universal biometric identification system (Aadhaar), rising smartphone penetration (JAM, or Jan Dhan, Aadhaar, Mobile), coupled with the move in July 2017 towards a fully online goods and services tax (GST) system changes are fast-tracking India's digitisation and, in turn, bringing about rising financial access and rapid formalisation of the India economy.¹⁰³

E-governance through ICT tools is on the cusp of receiving a further push through the Smart Cities Mission, which will have digitisation and networks as the backbone of its infrastructure. It is estimated that nearly 600 million Indians will be living in cities by 2030, up from 290 million as reported in the 2001 census. A McKinsey Global Institute study estimated that cities would generate 70% of the new jobs created by 2030, produce more than 70% of the Indian gross domestic product and drive a fourfold increase in per capita income across the country.

Smart Cities Mission is an urban renewal and retrofitting programme by the Government of India with the mission to develop 100 cities across the country making them citizen friendly and sustainable.¹⁰⁴ A total of Rs 98,000 crore (\$15 billion) has been approved by the Indian Cabinet for the development of 100 smart cities and the rejuvenation of 500 others.

In the field of healthcare too NeHA has been proposed as a promotional, regulatory and standards-setting organisation in the health sector to attain "high quality of health services for all Indians through the cost-effective and secure use of information and communication technologies in health and health-related fields" and "to ensure development and promotion of eHealth ecosystem in India for enabling the organisation, management and provision of effective people-centred health services to all in an efficient, cost-effective and transparent manner".

E29 Initiatives

These ambitious initiatives of the Government of India have a synergy with the experience and expertise of E29 counties that have not only been the pioneers in e-governance but also continue to head the innovation ecosystems.

Switzerland, for instance, has formulated a Strategic Plan 2016 - 2019, as part of e-governance with the objectives of creating a one-stop shop to enable companies to

¹⁰³ <https://economictimes.indiatimes.com/news/economy/indicators/how-digitisation-can-push-indias-growth-and-per-capita-incomes-in-the-coming-decade/articleshow/61158292.cms>

¹⁰⁴ https://en.wikipedia.org/wiki/Smart_Cities_Mission

make their dealings with the Swiss authorities completely electronically; establishment of an electronic identity valid globally; setting up a Swiss federation of identities through which users can access various online services with single registration procedures; multiple use signature validation instrument. It even envisages the implementation of electronic voting.¹⁰⁵

Sweden has launched a policy of ICT for Everyone - A Digital Agenda for Sweden -- and proposed a new goal for ICT policy, that Sweden should become the best in the world exploiting the opportunities of digitisation. Special attention has been paid to the role of ICT in societal development. To support the strategy, the Digitalisation Commission has been established in 2012 by the Swedish Government to analyse and monitor progress in terms the progress.

Turkey has drafted the "2016 - 2019 National e-Government Strategy and Action Plan"

The vision of the strategy and action plan is "increasing the quality of living with the active e-government". The strategy and action plan covers four strategic objectives -- provision of activeness and sustainability of the e-government ecosystem, realisation of common systems for infrastructures and administrative processes, provision of e-transformation of public services and increase in usage, participation and transparency.

The National Development Strategy 2020 for Poland envisages creation of a single IT centre for the whole government in order to implement uniform rules for e-governance; digitisation of public administration to simplify administrative processes and create structured digital knowledge resources; it will also make auditing the quality of public information possible, with a view to creating a platform for information flow and electronic access to the widest possible range of public services, allowing full interaction with the office, and making it possible to handle matters at a distance.¹⁰⁶

Austria has been at the forefront for many years in e-governance. The diverse efforts and leading e-governance initiatives of the Austrian government have been awarded time and again with the top position in the most important e-governance index. This was underlined once again in October 2016 in the publication of the 13th eGovernment Benchmark1. In the overall ranking, Austria stands as one of Europe's top performers.

The Platform Digital Austria was founded in 2005 by the Austrian Federal Chancellery as an inter-administrative platform to help coordinate on a standardised e-governance

¹⁰⁵ https://joinup.ec.europa.eu/sites/default/files/inline-files/eGovernment%20in%20Switzerland%20-%20February%202016%20-%20Edition%2010_0%20-%20v3_00.pdf

¹⁰⁶ https://joinup.ec.europa.eu/sites/default/files/inline-files/eGovernment_Poland_June_2016_v4_01.pdf



strategy for the federal government, the provinces, municipalities and local authorities and businesses. By involving public administration bodies in cooperation with businesses, all e-governance projects, strategies and guidelines are able to be collectively planned, coordinated and implemented. This was and remains of the most important reasons behind Austria's top ranks in global benchmarks.¹⁰⁷

¹⁰⁷ [https://www.digital.austria.gv.at/documents/333663/355318/eGovernment-ABC-Guide-2017_SigS tS.pdf/3af80626-c057-40db-9799-2aa969a8d97d](https://www.digital.austria.gv.at/documents/333663/355318/eGovernment-ABC-Guide-2017_SigS%20tS.pdf/3af80626-c057-40db-9799-2aa969a8d97d)



SMART CITIES – REDEFINING URBAN LIVING





SMART CITIES – REDEFINING URBAN LIVING

An Urban Revolution

It has been estimated that in the next 15 years or so, 200 million Indians will move from the rural to urban centres. To put that in perspective, this migration will be more than or equal to the current populations of France, Germany and UK combined. While urbanisation or the movement of people from the hinterland to the cities or towns is not by itself a downside, if it is not managed and planned, would be a catastrophe for the ease of living index, the upping of which is an avowed mantra of the Indian government.¹⁰⁸

As per the Census of 2011, nearly 31% of India's population lives in urban centres and contributes 63% of India's GDP. With increasing urbanisation, urban areas are expected to house 40% of India's population and contribute 75% of India's GDP by 2030.¹⁰⁹

It is estimated that nearly 600 million Indians will be living in cities by 2030, up from 290 million as reported in the 2001 census. A McKinsey Global Institute study estimated that cities would generate 70% of the new jobs created by 2030 and drive a fourfold increase in per capita income across the country.¹¹⁰

This requires comprehensive development of physical, institutional, social and economic infrastructure. All are important in improving the quality of life and attracting people and investments to the city, setting in motion a virtuous cycle of growth and development. Development of smart cities is a step in that direction.

The Indian Smart Cities Mission is an urban renewal and retrofitting programme launched by the Government of India with the mission to develop 100 cities across the country with the nodal ministry for implementing the mission working in collaboration with the state governments of the respective cities.¹¹¹

¹⁰⁸ <https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/combating-the-challenges-of-urbanization-in-emerging-markets-lessons-from-india>

¹⁰⁹ [http://164.100.161.224/upload/uploadfiles/files/SmartCityGuidelines\(1\).pdf](http://164.100.161.224/upload/uploadfiles/files/SmartCityGuidelines(1).pdf)

¹¹⁰ <https://scroll.in/bulletins/118/relying-on-the-power-of-habits-to-solve-indias-mammoth-sanitation-problem>

¹¹¹ https://en.wikipedia.org/wiki/Smart_Cities_Mission

The Mission used the 'Competition' route to select cities for the programme for funding through an 'area-based development' model in the spirit of 'competitive and cooperative federalism' through a transparent parameter based contest among cities. The strategic components of the Smart Cities mission comprise "city improvement (retrofitting), city renewal (redevelopment) and city extension (greenfield development) plus a pan-city initiative wherein smart solutions are applied covering larger parts of the city."

Retrofitting will involve introducing and integrating an existing built-up area to achieve smart city objectives, making the existing area more efficient and liveable; even as the current assets remain largely intact. Redevelopment will be effected by replacing the existing structural assets and "co-creation of a new layout with enhanced infrastructure using mixed land use and increased density."

Greenfield development will introduce most of the smart solutions in a previously vacant area (more than 250 acres) using innovative planning, plan financing and plan implementation tools (e.g. land pooling/ land reconstitution) with provision for affordable housing, especially for the poor.

Pan-city development will leverage the benefits of appropriate smart solutions to the already existing assets and structures through optimisation of technology, information and data to make infrastructure and services better. For example, applying smart solutions for intelligent traffic management system will raise productivity and improve the ease of living. Another example could be waste water recycling and smart metering.¹¹²

It has also been argued that the Smart Cities Mission has to go beyond the technological aspects to focus on sustainability, resource productivity, economic development, and job creation, as well as getting basic core infrastructure right to enable decent quality of living.

Experts say that it is important to "quick-win" with demonstrable successes in the Smart Cities Mission. Pune, in the state of Maharashtra, is one such instance of a quick-win that also exemplifies the scale of a smart city project. City leaders set out to create public spaces that capitalise on existing assets to promote health, happiness, and well-being and rejuvenate urban centres.

Pune used a "smart element project" to bring together six elements: "Wi-Fi hotspots across strategic locations such as parks, hospitals, and other public spaces;

¹¹² <http://smartcities.gov.in/content/innerpage/strategy.php>

environmental sensors to monitor critical parameters such as air quality and noise pollution; public announcement systems to broadcast both general and emergency messages to improve communication and public awareness; an emergency response system to increase citizen safety; a variable messaging system that deployed electronic display boards placed across the city to broadcast messages, alerts, and city updates; a scalable command and control centre that assimilates data from all of those elements to monitor and manage smart-city operations from a single hub; and a focus on the core issue of focusing on long-term mobility by working to enhance bus infrastructure and kick-start its metro project.”¹¹³

Fig 1: India's Smart City Development Roadmap



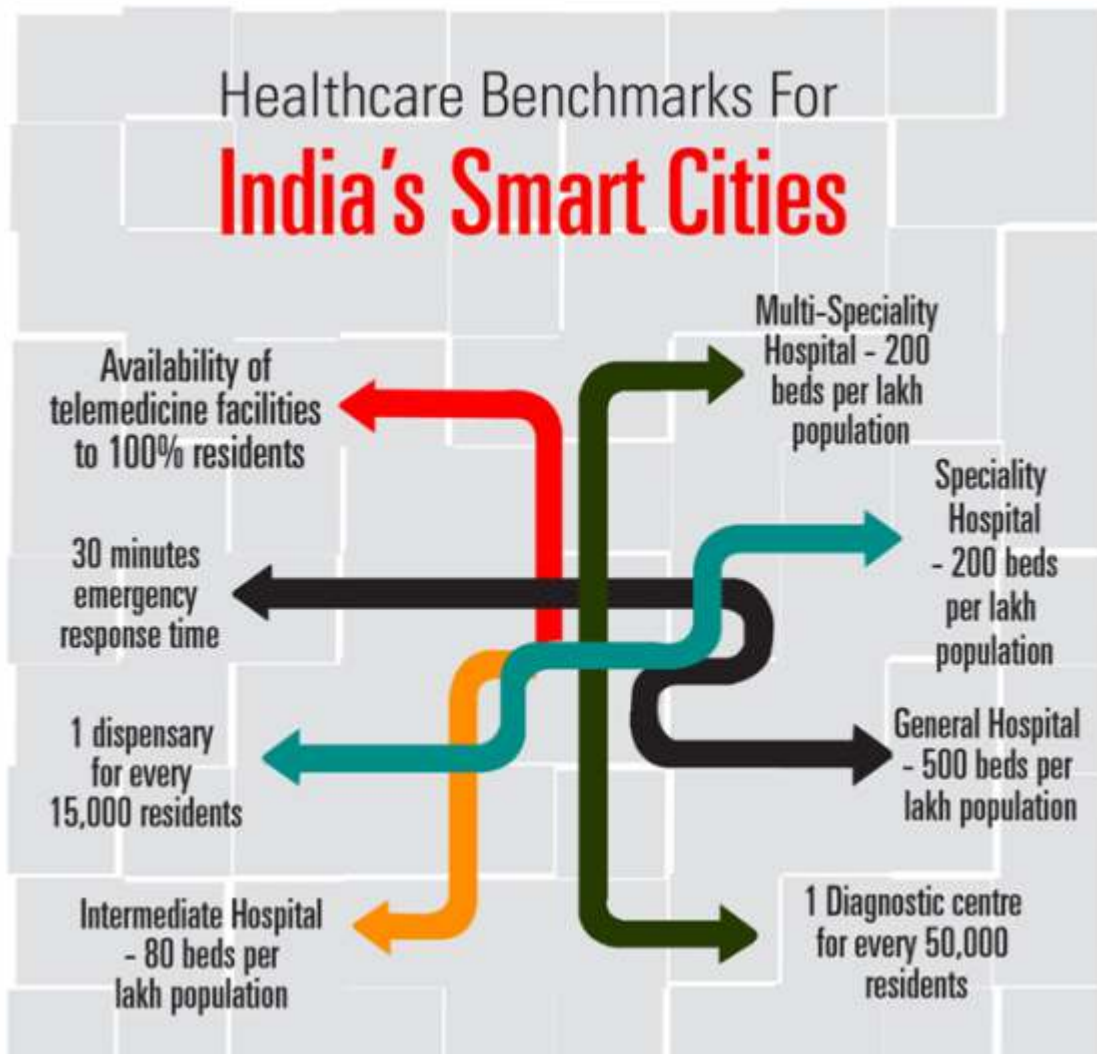
Source: http://www.livemint.com/r/LiveMint/Period1/2016/01/29/Photos/g_citysmart_web.jpg

Needless to say, the Mission involves considerable financial and technological outlays. So far, 60 Smart Cities, in two tranches, have been selected for development. The remaining 40 cities, out of a total of 100, are to be selected in the 3rd year of implementation by March 2018.¹¹⁴

¹¹³ <https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/combating-the-challenges-of-urbanization-in-emerging-markets-lessons-from-india>

¹¹⁴ <http://indianexpress.com/article/india/smart-cities-mission-rs-5961-crore-released-between-fy16-and-fy17-5058055/>

Fig 2: Benchmark Standards For Smart Cities



Source: Ministry Of Urban Development, 2015

Be that as it may, along with smart urban planning, smart technology will be the key components of the Smart Cities Mission and therefore capacity assistance and collaboration with smart cities technology leaders will be a key.

E29 Experience With Smart City Development

This is where the E29 countries come into play. Some of the E-29 countries are global leaders in smart solutions in urban development. Sweden is a world leader in waste management, urban mobility solutions, smart parking systems and air filtration. In 2015, it had signed an MoU with India on urban renewal. Sweden has suggested a Common Plan of Action for the Smart Cities Mission and offered its expertise and technology in



environment-friendly public transport and solid waste management. Swedish company Scania is introducing ethanol-based green buses in Nagpur.

Finland is partnering with the state of Chhattisgarh to pilot its foray into Finnish innovation in India in the smart city innovation space. "I believe that smart city, energy efficiency and usage of renewable energy sources are sectors in which the two countries can cooperate and Finland can help India achieve its aims of cleaner environment and sustainable development," Finland's Minister for Environment, Energy and Housing Kimmo Tiilikainen said on his visit to India in October 2017.¹¹⁵

With Switzerland, a multi-year cooperation project for Capacity Building for Low Carbon and Climate Resilient City Development (CapaCITIES) was launched in Udaipur, Rajasthan, financed by the Swiss Agency of Development and Cooperation (SDC). The initiative includes technical assistance in the areas of city planning, solid waste management, sewage treatment, water availability, building energy efficiency and mobility. The project is being extended to Coimbatore, in Tamil Nadu, Rajkot in Gujarat, Siliguri in West Bengal and Udaipur in Rajasthan.¹¹⁶

The Nordic countries have built some of the world's most sustainable, smart and attractive cities. The Nordic countries are frontrunners in relation to sustainable urban development and efficient land use. Creative and innovative Nordic forces are thriving, particularly within the fields of design, architecture and landscape planning," said Mr Nils Ragnar Kamsvåg, Norway's Ambassador to India.¹¹⁷

The "Nordic Solutions" are a combination of holistic thinking, participatory approach and system integration and innovation. It is particularly true in the field of sustainable urbanisation – which has become of the most important driver for economic growth and job creation worldwide.¹¹⁸

The Czech Republic holds expertise in technologies in energy saving technology, pollution control, sanitation, water treatment and purification and cleaning aerosols for industrial use. Czech Ambassador to India Milan Hovorka said, "The Czech Republic is

¹¹⁵ <https://timesofindia.indiatimes.com/business/india-business/india-finland-can-cooperate-in-smart-city-energy-sectors/articleshow/60939524.cms>

¹¹⁶ <https://www.eda.admin.ch/countries/india/en/home/news/news.html/content/countries/india/en/meta/news/2017/switzerland-supports-four-indian-cities-in-addressing-future-challenge>

¹¹⁷ <https://www.norway.no/en/india/norway-india/news-and-events/new-delhi/news/strengthening-indo-nordic-sambandh-on-smart-cities/>

¹¹⁸ <https://www.norway.no/en/india/norway-india/news-and-events/new-delhi/news/strengthening-indo-nordic-sambandh-on-smart-cities/>

ideally positioned to become an increasingly promising partner for India in transforming its Smart City Vision into reality. Technologies and solutions it can offer in areas like affordable housing, building efficiency, green mobility, smart grids, sanitation, health and safety and other sectors perfectly fit the objective of creating state of the art urban spaces in India."¹¹⁹

The stage is set for deeper bilateral India-E29 partnerships in smart city development projects including knowledge sharing, skill development and cross-border investments.

¹¹⁹ https://www.mzv.cz/newdelhi/en/economy/smart_cities.html



DIGITISATION OF HEALTHCARE INDUSTRY





DIGITISATION OF HEALTHCARE INDUSTRY

2017 has seen a lot of trends emerging in the healthcare industry and as we march into the year 2018, the stage is set for the healthcare sector to revolutionise its services through digitalisation. Technology will be a game changer in the manner in which healthcare services will be delivered. To optimise costs and effectively manage operations, IT solutions will become an integral part of the process management, patient care and the management information system (MIS) in hospitals. Artificial Intelligence (AI) will help in solving many problems faced by patients, doctors, hospitals and the overall healthcare industry. It is expected that by 2020, around 20% of healthcare and 40% of science organisations will achieve 15-20% higher productivity through adoptions of AI.

Digitisation has the potential to affect every aspect of care delivery and operations, enabling smarter choices and better utilisation of time and resources. Mobile health apps can help in preventing serious diseases by increasing patient engagement, providing health education and expert guidance from one's care provider. Mobility and cloud access have contributed to greater healthcare accessibility for patients and doctors alike.

Another game changer in the healthcare sector are wearable medical devices. These wearable medical devices collecting data anytime and anywhere are sensor-based accessories, designed to help people become active, eat well, sleep better, etc. These fitness or wearable devices are available as watches, footwear, chest straps and sensible glasses – and can manage a patient's heart rate, blood pressure and blood sugar levels and reduce trips to the doctor and save money.

Where India Stands

The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well private players. Considering the growth that Indian IT is expecting by year 2025 (\$350 billion), the coming years are expected to witness greater deployment of tools such as telemedicine, tele radiology, hospital information systems (HIS)/hospital management information systems (HMIS), online or electronic medical records (EMR), etc.

To drive improved efficiencies, more hospitals are likely to seek automation for their workforce management, administration, finance, billing, patient records and pharmacies. Along with the growing popularity of digitisation in hospitals, market

penetration of picture archiving and communication systems (PACS) is likely to increase further in the coming years.

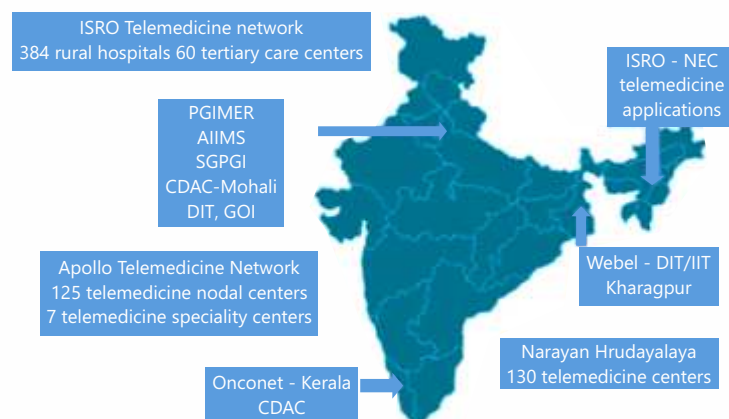
It is also anticipated that many healthcare providers will adopt IoT-based asset tracking and inventory management systems in hospitals. That is expected to improve patient's safety, staff satisfaction and operational efficiency. In India, the rise of IoT will also support providers and organisations in making operational decisions and will aggregate as well as integrate data through IoT-enabled platforms. With the rise of the Internet of (Medical) Things (IoMT), mobile and wearable devices can be used to identify the risk factors and provide preventative treatment to patients. It can be used to predict healthcare trends and problems.

M-health is probably one of the largest sectors within digital healthcare in India, with an estimated market size of Rs 2,083 crore (\$313.1 million) in 2015—which is set to rise to Rs 5,184 crore (\$779.2 million) by 2020. Low-cost portable innovations are being developed in India to cater to the needs of its vast rural population. India's remote healthcare delivery market was estimated at \$7.5 million in 2011 and is expected to grow at a CAGR of 20%. These products help increase access to healthcare for remote and rural populations by providing point-of-care diagnostics, teleconsultation and e-prescription capabilities.

Needless to say, the healthcare industry in India is ahead of many industries and has tested the capabilities of technology to improve services, knowledge, communication, outcomes, quality and efficiency. Cost-effective cloud-based solutions are expected to drive increased adoption of HMIS and EMRs. Various benefits that can be derived are easy accessibility irrespective of geographical location, fewer errors, fast response in times of emergencies, patient convenience, among others.

Fig 1: Telemedicine in India: Role of Government and private enterprises

Telemedicine in india : Role of government and private enterprises

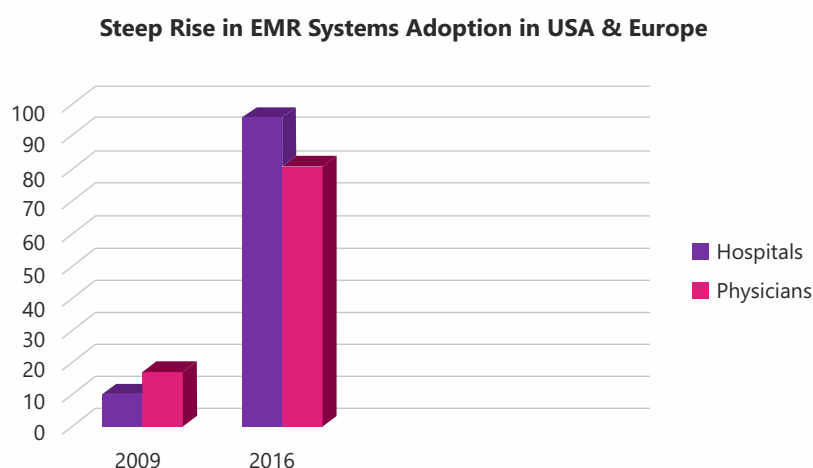


Source: <https://www.omicsonline.org/open-access/evolving-role-of-telemedicine-in-health-care-delivery-in-india-2167-1079-1000260.pdf>

Where E29 Stands

Over the past 10 years the Western world has seen an unprecedented health IT transformation. Hospitals, as well as private clinics, have moved from the traditional paper-based systems to one where the patients have a digital record of their medical conditions and treatments. The enabler has obviously been a dramatic uptake of Electronic Health Records (EHR/EMR).

Fig 2: EMR Adoption in US & Europe



Source: <https://www.healnt.com>

According to a data gathered in 2016, over 95% of hospitals and nearly 80% of physicians in USA used EMR systems. The prevailing ecosystem is pushing both these numbers rapidly even more closer to the 100% mark. In 2009, the data stood at under 10% hospitals and 17% physicians using electronic medical records systems.¹²⁰

The EU is currently spending nearly €80 billion on research funding as part of its Horizon 2020 programme. In February 2017, the European Commission set up an internal task force bringing together technology and health policy makers to examine EU policy actions to ensure that transformation of healthcare in the Digital Single Market will benefit people, healthcare systems and the economy.

As part of the Commission's Digital Single Market (DSM) strategy, three priorities for EU actions were identified – to enable citizen's secure access to and use of health data across-borders, to support a cross-border data infrastructure to advance research and

¹²⁰ <https://www.healnt.com/blog/post/2017/09/15/Digitizing-Healthcare-in-India-The-Current-Scenario>

personalised medicine and to facilitate feedback and interaction between patients and healthcare providers, supporting citizen empowerment.¹²¹

Over the last decade, healthcare digitisation initiatives have played a pivotal role in expanding access to quality healthcare in Western Europe through strategic investments in projects that are aligned to countries' national eHealth agenda. Today, most countries in Western Europe have policies or strategies outlining eHealth objectives, implementation goals and a future roadmap for scaling and adding new healthcare services. Countries such as the UK, Germany, Netherlands, Sweden, Denmark, Norway and Finland that have more advanced healthcare ICT infrastructure are beginning to deploy next-generation health informatics applications to improve patient-centric care.

Some of the priority areas for future eHealth investment opportunities include interoperable electronic health records, cloud computing, migration to web based applications, smart monitoring solutions for the high-acuity care setting, electronic prescribing, document management, clinical noting, integrated vital sign observation systems, healthcare mobility applications (deploying mobile device management and bring-your-own-device program), data centre consolidation; enhanced clinical compliance and disaster recovery to ensure business continuity.

Switzerland is considered to have one of the best standards of healthcare in the world where the adoption of artificial intelligence is on the rise, making the healthcare ecosystem more organised. Robotics, healthcare, life sciences, fintech and insurtech are the five most important sectors where Switzerland AI start-ups are active and they have contributed immensely to the Swiss healthcare standard.

Sweden has started a 'Digital First' initiative where local authorities will use the digital mode as a priority to deliver social services. In this initiative, healthcare tops the priority list.

Finland is now taking the lead for the Nordics in the world of digitisation of healthcare. Among other actions Finland has already passed a legislation around secondary data use rights that will allow their world class biobank, genomics and healthcare data to be put to use on a health-data enabled cloud, providing the foundation for cognitive offerings that can drive meaningful and urgent population health initiatives and innovation.

¹²¹ <https://ec.europa.eu/digital-single-market/en/policies/ehealth>

Many believe that Norway is one of the best countries when it comes to cancer knowledge. The fact is that the Nordics are uniquely qualified to solve many of the most urgent healthcare problems. Now the Nordic countries need to come together and lead the world in this area, says IBM's global head of strategic partnerships and channels for Healthcare and Life Sciences, Brian Frederiksen.¹²²

Key Challenges

In the last decade the Indian start-up environment has developed manifold and have made a major contribution in the digitalising of healthcare. However, there are several challenges that still needs to be addressed. Lack of innovative strategies, ineffective business model, regulatory issues and funding are some of the major road-blocks.

Also, Indian markets are usually unorganised. Behaviour of Indian consumer are very volatile changes and that makes it difficult for a startup to build a scalable business or market strategy for their products or services. Healthcare startups have struggled in India due to fundamental operational challenges. Recently, ventures like Practo, Lybrate & Portea have grown significantly, but it has not been an easy ride. Moreover, private healthcare providers are buffeted by the extreme price sensitivity of the market, especially as areas of very low income abound. With only 10% of the population having medical insurance, financial protection against sudden and dramatic medical contingencies is far from universal.

Despite its growth potential, the Western Europe Healthcare IT market, is challenged by fragmentation of its healthcare system, ageing IT infrastructure, absence of interoperability standards and concerns surrounding the privacy of the patient's health information which militates against the adoption of advanced paperless systems.

How India and E29 Can Collaborate

In a rapidly changing world where physical and virtual environments are converging and where close to 45% of the 7 billion population are connected through the Net, India and E29 should explore opportunities to collaborate and leverage the ever-changing role of digital technology.

While India's healthcare sector is one of the fastest growing markets in the world, Switzerland offers the best healthcare services backed with cutting edge technology. Collaboration between universities, investors and startups of India and Switzerland can

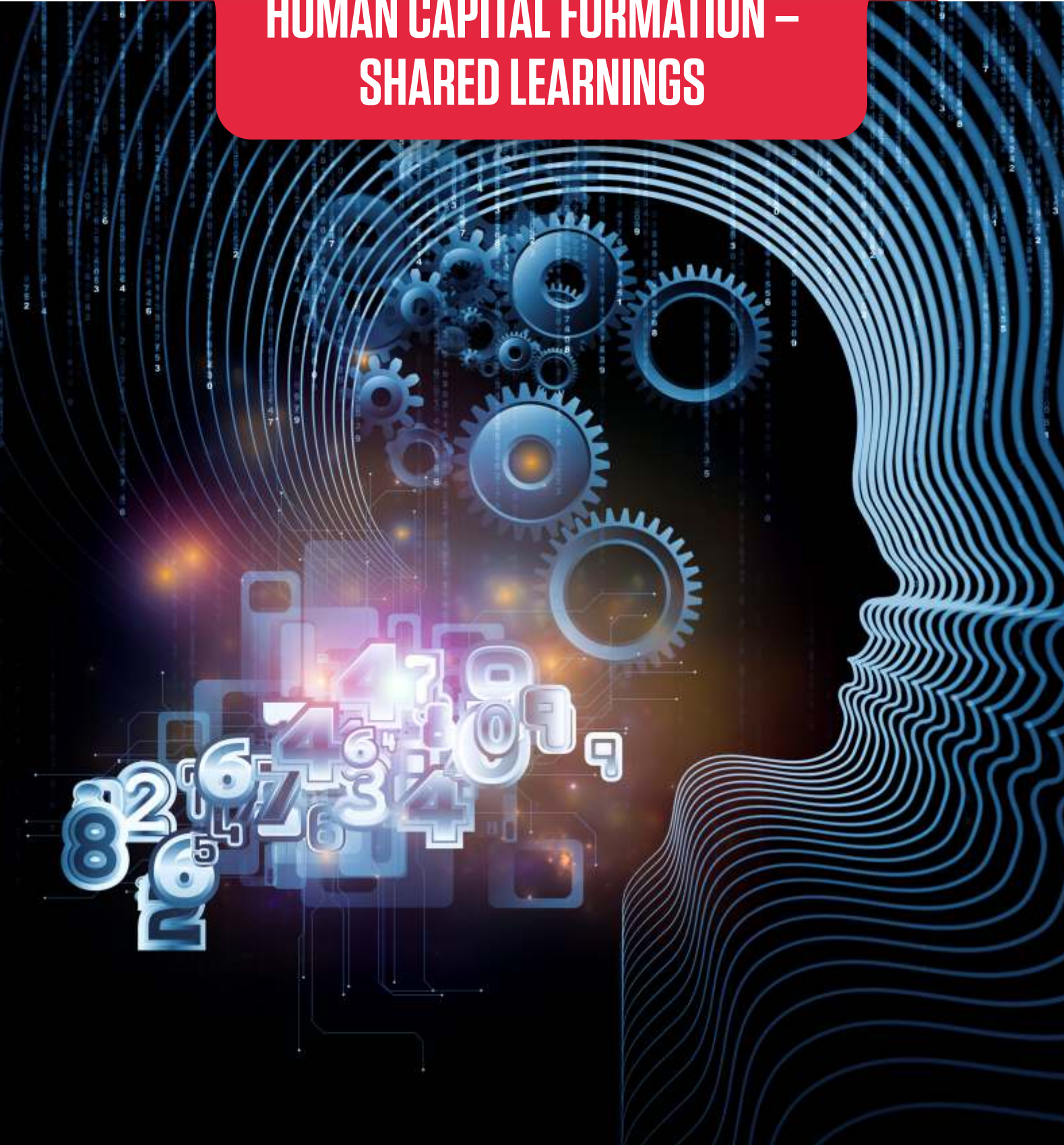
¹²² Life Sciences, Brian Frederiksen.

create a solid platform for budding entrepreneurs who want to bring in new innovations in healthcare sector. Telemedicine is one of the top digital transformation trends in healthcare. Telemedicine offers patients and health care providers both a new wave of freedom and accessibility where a patient's care options are not limited by geographic location. A Pune based startup Zywie Technologies is set to make its mark in various parts of Europe in the field of telemedicine.

The E29's healthcare sector was long considered an impenetrable or less attractive target for IT innovations. This is definitely no longer the case and going forward there are many compelling areas for collaborations in a changing healthcare environment. India, known for its export-oriented ICT service industry, can offer great opportunities to create a sustainable digitalised healthcare environment. The future is promising for deep-seated collaboration between India and E29 in digitising healthcare systems and creating robust healthcare ecosystems.



HUMAN CAPITAL FORMATION – SHARED LEARNINGS





HUMAN CAPITAL FORMATION – SHARED LEARNINGS

India is one of the world's fastest growing major economies, expected to grow at 7.2% in 2017-18, and at 7.7% by 2019-20. That said, only 2.3 % of the workforce in India has undergone formal skill training as compared to 68% in the UK, 75% in Germany, 52% in USA, 80% in Japan and 96% in South Korea. Within the modern context of development, human capital forms the base of economic growth and that is why developing human capital is often vital to develop countries with increasing working population.

India ranks 103rd among 130 countries on the World Economic Forum's (WEF's) Human Capital Index in 2017, behind not only other developing economies but also Nepal, Serbia, and Ghana. India was late in adapting to the changes catalysed during the first and second industrial revolution leading to a century of lost growth and decline in living standards. And therefore, India today is focusing on improving human capital to sustain the economic growth trajectory.

In order to scale up skill training efforts to meet the demands of employers and drive economic growth, India has launched the National Skills Development Mission, which provides the overall institutional framework to rapidly implement and scale up skill development efforts across India. In support of this mission, the World Bank has cleared a \$250 million loan for making Indian youth more employable through reskilling.

For India to achieve long-term sustained economic growth, policy makers should consider allocating the financial resources towards improving India's human capital, which can be achieved by increased healthcare expenditure and more funding towards education. Currently, in India, there is a growing gap between job creation and the needs for automation, digitisation and cloud computing. Globalisation and technology are accelerating both job creation and destruction. India now focuses on developing and empowering human capital to be able to shift to the new technology world seamlessly.

The need of the hour is to overcome institutional inertia and outdated socio-cultural norms so that the gap between widening skills gaps and skilling systems can be bridged.

Integration of higher education with skills and vocational education; attracting the most credible talent to the teaching profession; building global recognition to the education

system; and streamlining regulation to attract credible private sector entities to education are some structural changes which are needed for transforming education.

National Skill Development and Entrepreneurship Policy launched in the year 2015 by the Ministry of Skill Development and Entrepreneurship (MSDE), Government of India, clearly stated the challenges faced by the country in regard to the skill gap across industries. It has been identified that 104.62 million fresh entrants joining the workforce by 2022 will need to be skilled. Additionally, 298.25 million of existing farm and non-farm sector workforce will also need to be skilled again.

The main emphasis is to equip the young workforce with employable skills and provide them with entrepreneurship opportunities. The government is also focusing on providing quality training to youths with the latest technology applications.

There are as many as 200 Pradhan Mantri Kaushal Vikas Yojana PMKK in 28 States which are already functional and providing skill-based training. This number will increase to 556 centres across 514 districts. There are more than 13,000 ITIs in both government and private sectors which are being modernised and upgraded to institutes of great standards and technical support. More than 11.7 million people have been skilled under various programmes propagated by the MSDE under the Skill India Mission till now.

"As India charts its course for the future, the productivity and skill level of its workforce is becoming even more critical," says Bill Gates, business icon-turned-philanthropist. According to the World Economic Forum list while India still has a long way to go in order to improve its human capital index, E29 countries like Norway (1st), Finland (2nd), Switzerland (3rd), Denmark (5th), Sweden (8th), Slovenia (9th) and Austria (10th) are among the top 10 countries in the world.

Many smaller E29 countries have taken progressive measures to improve their human capital. The Albanian Government has committed to transform the economy to become more competitive, innovative and flexible by calling for tailored support-measures that equip the country's young workforce with the right skills and the National Employment and Skills Strategy (NEES) 2014-2020 was developed. The programme works to improve and diversify employment promotion measures and ensure that resources are better managed. It also introduces entrepreneurship support as an activation measure of the National Employment Service, establish quality assurance and accreditation systems for increased and quality vocational skills development institutions and programmes, and provide the youth and other stakeholders with better information on the current and future state of the labour market.

Turkey lays strong emphasis on placing people into jobs. ISKUR which is the Turkish public employment agency has significantly increased the number of jobs and



vocational counsellors within the employment system to better match job seekers to employers.

The government of Sweden aims at increasing the attractiveness of vocational education and training (VET). The employment rate of recent upper secondary VET graduates, at 83.9% in 2016, is well above the EU average. Sweden has also endorsed a 5-year pilot scheme creating 'branch-schools' where students follow specialised VET-courses around the country, as part of their training in an upper secondary school in their home municipality.

Access to adult education is being widened, primarily to improve labour market outcomes for the low-skilled. Participation by adults (25-64) in learning is high and growing: in 2016 the rate was 29.6 % compared to the EU average of 10.8 %. To help curb skills mismatches among newly arrived adults, a Swedish Tuition for Immigrants (SFI) course is offered to migrant residents aged 16 or older, in combination with employment, vocational education or other studies.

Finland takes the top spot on the Development pillar (efforts to educate, skill and upskill the students and the working age population) due to the quality of its primary schools and overall education system. The country scores highly on the Capacity pillar (how well educated its people are through the generations) and Know-how pillar (the breadth of skills-use at work). Finland possess some of the world's highest attainment rates of tertiary education, and almost half of the country's workforce is employed in high-skilled occupations.

Switzerland also has a very high quality education system, including staff training, as well as a strong rate of vocational training. It also ranks first overall on the Know-how pillar, with a very high share of skill-intensive employment and economic complexity. Austria ranks 10th (in the WEF Global human capital index), with a well-established vocational training system.

Fig 1: Global Human Capital Index 2017 Ranking: E29 countries

Country	Ranking
Norway	1 st
Finland	2 nd
Switzerland	3 rd
Denmark	5 th
Sweden	8 th
Slovenia	9 th

Fig 1: Global Human Capital Index 2017 Ranking: E29 countries

Country	Ranking
Austria	10 th
Estonia	12 th
Iceland	21 st
Czech Republic	22 nd
Lithuania	25 th
Latvia	28 th
Poland	31 st
Bulgaria	32 nd
Slovak Republic	36 th
Croatia	37 th
Cyprus	38 th
Hungary	39 th
Malta	41 st
Romania	42 nd
Greece	48 th
Serbia	60 th
Moldova	62 nd
Macedonia	67 th
Turkey	75 th
Albania	85 th

Source: <https://www.weforum.org/reports/the-global-human-capital-report-2017>

Areas of Cooperation: India and E29

India and many E29 countries share great diplomatic and bilateral relations not restricted to trade and economics alone.

India and Sweden have had a long-standing business relationship. Swedish companies directly employ 1,85,000 people in India, while creating up to 1.3 million jobs indirectly. To further strengthen the ties between the two countries, the Swedish government is keen to work closely with the Indian government to take this working relationship to greater heights and the 'Skill India' programme would play a crucial role in this.



Many Swedish firms are entering India, led by Ikea, defence major Saab (will make fighter jets in India in a JV with Adani Group) and H&M. Working with Business Sweden as country partner, NSDC is in discussions with over 10 Swedish firms, including Scania, ABB, SKF, Oriflame, Atlas Copco and Volvo Bus, to set up skill academies.

Swedish firms will take the lead in identifying job roles, providing pedagogy and in supplying equipment and master trainers. Over 20 Indian private universities will run the programme on their campuses. It would be fruitful for Sweden and India to benchmark skill standards that would enable ease of recognition of skills between the two countries.

SkillSonics, started in 2011 in Bengaluru, with National Skill Development Corporation having a small stake in it, has adapted Swiss vocational training in India. SkillSonic plays the role of a knowledge partner to Swiss companies and Indian institutes. It has developed courseware (three months to three years) based on Swiss standards for engineering technicians in sectors like automobiles, aerospace and defence, and across verticals like production, maintenance and service. It also partners companies for training and rolling out programmes that upskill shopfloor workers for high-tech manufacturing.

An MoU to institutionalise bilateral cooperation in the areas of skills development and vocational education and training was signed between India and Switzerland in 2016. Under Swiss initiatives in the field of vocational education in India Bharatiya Skill Development Campus [BSDC], Jaipur was established by the Switzerland-based 'Rajendra and Ursula Joshi Foundation' which works on the model of Swiss Dual System of Training. The Indo-Swiss Centre of Excellence, Pune is a not-for-profit organization set up to impart highest standards of skill training by applying Swiss Vocational Education System. It is setting up a Centre of Excellence in Manufacturing and a Centre of Excellence in Agriculture which are expected to become operational in 2018.

Currently, India is facing numerous challenges to improve its human capital index. The World Economic Forum suggests that employers and employees need to start thinking about skill bundles, not job titles. With a large population, stable economic growth, and moderately liberalized economic and political systems, India should take a more comprehensive view of development that incorporates all elements of human capital. Deeper educational reforms, an emphasis on creating a level socio-economic playing field, and improvement in basic urban living conditions would represent a good start. India and E29 countries need to find complementarities and synergies between India's Skill India initiative and E29's skill agenda for mutual benefit.

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