



BRICS FUTURE SKILLS CONFERENCE



Brazilian National Service for Industrial Training

THE FUTURE OF WORKFORCE

Mr. Dilip Chenoy Secretary General, FCCI

INDIA: KEY GROWTH INDICATORS

| Key Economic & Demographic Indicators | Facts & Figures | Year |
|--|-----------------|-----------------------|
| Population | 1.35 bn | 2019 |
| GDP | \$ 2.7 tn | 2019-20 (E) |
| FDI | \$ 19.33 bn | 2019-20 (till August) |
| Per Capita Income (Nominal) | \$ 2199 | 2019 |
| Literacy | 79% | 2017-18 (E) |
| Gross Enrolment Ratio (HE) | 26.3% | 2018-19 |
| Labour Force Participation Rate (LFPR) | 49.8% | 2017-18 |
| Exports | \$ 137.26 bn | 2019-20 (April-July) |
| Imports | \$ 164.50 bn | 2019-20 (April-July) |

PROGRAMS SHAPING UP INDIA'S GROWTH



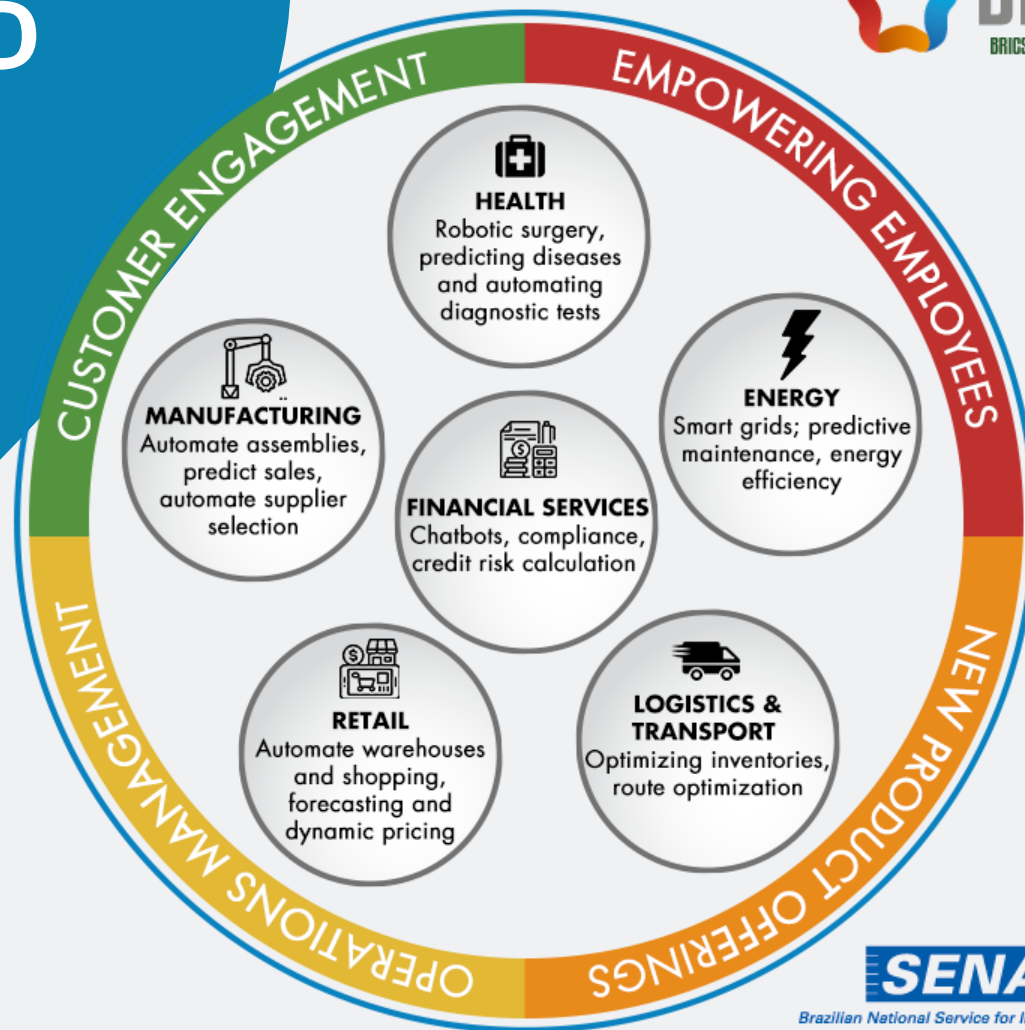
#startupindia

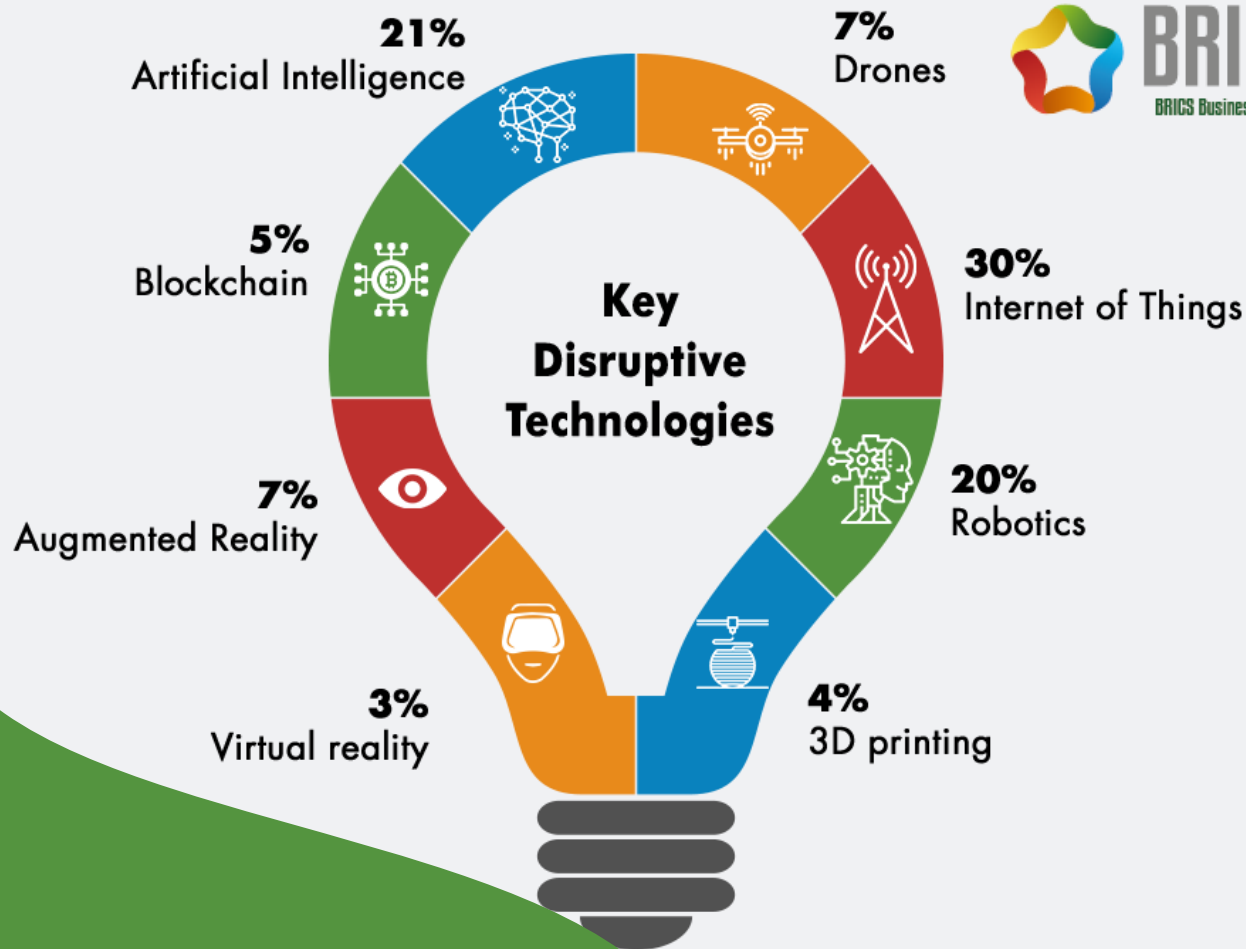


SENAI

Brazilian National Service for Industrial Training
THE FUTURE OF WORKFORCE

SECTORS AND TECH- ADOPTION IN INDIA





TECHNOLOGY AND ITS ADOPTION LEVEL IN INDIA

OYO Rooms: Using Machine Learning and Artificial Intelligence to dynamic pricing barcodes mobile payments

Paytm: Uses AI based router engine to help merchants achieve payment success rates

Flipkart: Machine learning and AI is used to track addresses and products exchange

Lenskart: Company is using 3D face modeling and IoT to develop virtual trial systems for customers

Swiggy: Uses Machine Learning AI to collect and analyze data from food orders and consumption level

**SELECT INDIAN
CASE
STUDIES OF
TECH- ADOPTION**

HEALTHCARE

- Niramai
- Doxper

LOGISTICS

- LogiNext
- Locus.sh

FINTECH

- Rubique
- LendingKart

ONLINE RETAIL

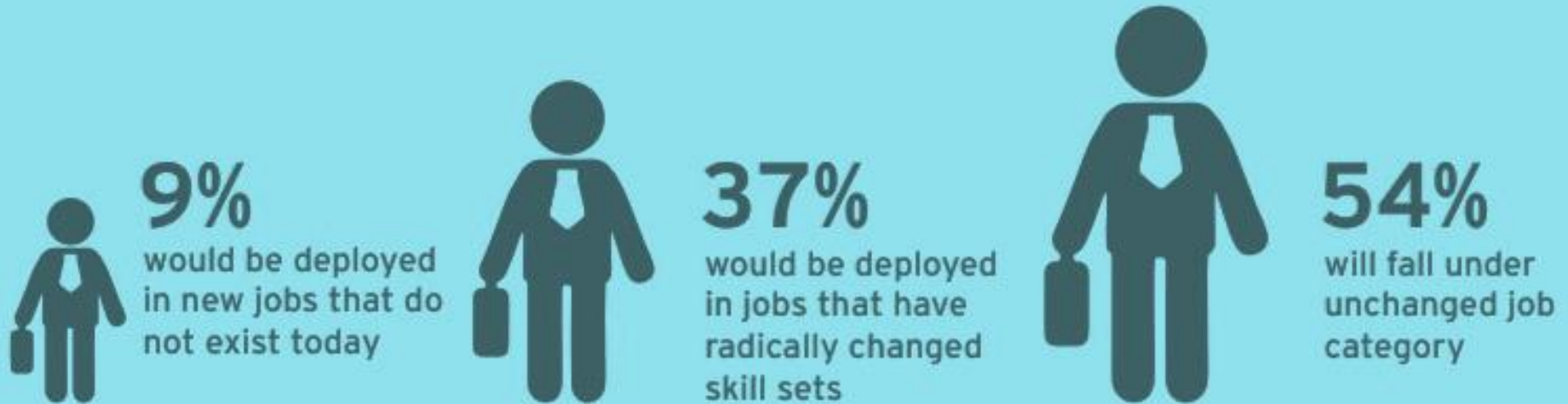
- Cropin
- Niki




AI SOLUTIONS

- Signzy
- Marax






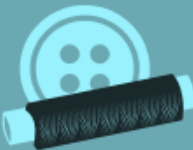
**SELECT INDIAN START-UPS
USING DISRUPTIVE TECHNOLOGIES**

INDUSTRY 4.0 AND FUTURE OF JOBS IN INDIA









| | Workforce that | | | New job roles |
|--------|---|---|---|--|
| | would be deployed in new jobs that do not exist today (projected for 2022) | would be deployed in jobs that have radically changed skill sets (projected for 2022) | will face an existential threat to their jobs (for 2017) | |
| IT/BPM | 10%-20%  | 60%-65%  | 20%-35%  | <ul style="list-style-type: none"> ▶ VFX artist ▶ Computer vision engineer ▶ Wireless network specialist ▶ Embedded system programmer ▶ Data scientist ▶ Data architect ▶ AI research scientist ▶ RPA developer ▶ Language processing specialist ▶ Deployment engineer ▶ 3D modeling engineer ▶ 3D designer ▶ Cloud architect ▶ Migration engineer ▶ Android/iOS app developer ▶ Digital marketing |

EMERGING JOB ROLES IN SELECT SECTORS: AUTOMOTIVE AND TEXTILE & APPAREL

| | Workforce that | | | New job roles |
|----------------------|---|--|--|--|
| | would be deployed in new jobs that do not exist today (projected for 2022) | would be deployed in jobs that have radically changed skill sets (projected for 2022) | will face an existential threat to their jobs (for 2017) | |
| Automotive | <div>5%-10%</div> <div></div> | <div>50%-55%</div> <div></div> | <div>10%-15%</div> <div></div> | <div><div><div>▶ Automobile analytics engineer</div><div>▶ 3D printing technician</div><div>▶ Machine learning based vehicle cybersecurity expert</div></div><div><div>▶ Sustainability integration expert</div></div></div> |
| Textiles and apparel | <div>5%-10%</div> <div></div> | <div>35%-40%</div> <div></div> | <div>15%-20%</div> <div></div> | <div><div><div>▶ Apparel data analyst / scientist</div><div>▶ IT process engineer</div><div>▶ E-textiles specialist</div></div><div><div>▶ Environment specialist</div><div>▶ PLC maintenance specialist</div></div></div> |

EMERGING JOB ROLES IN SELECT SECTORS: BFSI AND RETAIL

| | Workforce that | | | New job roles |
|--------|---|--|--|---|
| | would be deployed in new jobs that do not exist today (projected for 2022) | would be deployed in jobs that have radically changed skill sets (projected for 2022) | will face an existential threat to their jobs (for 2017) | |
| BFSI | 15%-20%  | 55%-60%  | 20%-25%  | <ul style="list-style-type: none"> ▶ Cyber security specialist ▶ Credit analyst ▶ Robot programmer ▶ Blockchain architect ▶ Process modeler expert |
| Retail | 5%-10%  | 20%-25%  | 15%-20%  | <ul style="list-style-type: none"> ▶ Customer experience leader ▶ Digital imaging leader ▶ IT process modeler ▶ Digital marketing specialist ▶ Retail data analyst |

SKILL DEVELOPMENT ECOSYSTEM IN INDIA

FINANCE SKILLS PROVISION

- MSDE as program architect and financier
- DGT and STATES as implementer
- NSDC as experimenter

DESIGN POLICIES AND REGULATIONS

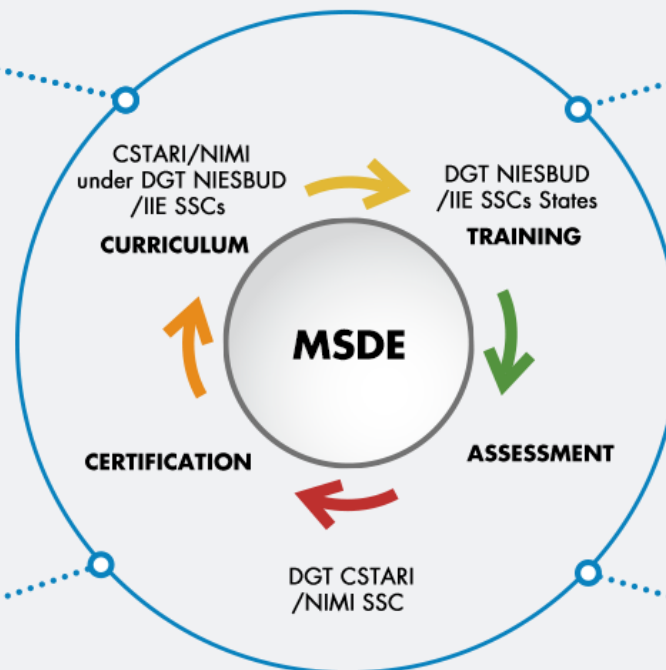
- MSDE and STATES as the key policymaker
- NCVET as the single central regulator
- STATE machineries as local enforcers

DRIVE CONVENING, ADVOCACY, AND PARTNERSHIP

- MSDE as the nodal body for convening and advocacy
- NSDC as the international and industry anchor
- SSCs as sector- specific partnership anchor
- States as the local advocacy and partnership anchor

SUPPORT KNOWLEDGE MANAGEMENT

- MSDE with a research wing
- NSDC to drive LMIS and advisory support
- SSCs as sector specific LMIS anchors



THREE KEY CHALLENGES RELATED TO FUTURE SKILLS IN INDIA



Data Sources

Non-availability of robust system of capturing market intelligence and monitoring of changing needs of industry



Industry-Academia Engagement

Lack of effective collaboration between Industry and Academia which can promote new-age innovation & research and can help in capacity building



Skilled Workforce

Limited resources to skill workforce on 'future skills' and Lack of Institutional framework for skill transfer



RECENT INITIATIVES TAKEN BY GOVERNMENT (Towards Industry 4.0)

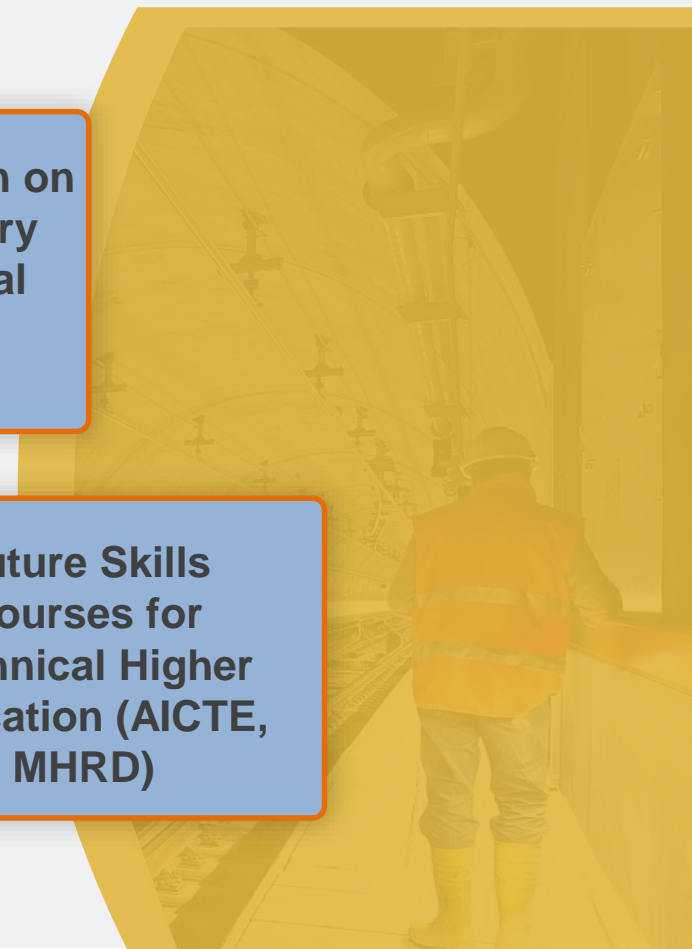
**Smart Advanced
Manufacturing and
Rapid
Transformation Hub
(SAMARTH)**

**National Mission on
Interdisciplinary
Cyber-Physical
Systems
(NM-ICPS)**

**The Automotive
Mission Plan 2016-
26 (AMP 2026)**

**National
Programme on AI**

**Future Skills
Courses for
Technical Higher
Education (AICTE,
MHRD)**



AREAS OF COLLABORATION BETWEEN INDIA-BRICS

- Creating a methodology to enable countries to come up with compatible 'Future Skills' demand
- Trainer exchange program for K-12 and Higher Education Institutions
- Sharing of courses and curriculum on 'Future Skills' for integrating the same in existing pedagogy



Industry

- Build a network of employers who can support in cross-cultural and cross-functional training in BRICS countries
- Annual five regional workshops on the subject in each BRICS countries
- Develop robust framework for intra country cooperation on promoting technical & vocational education

Academia

- Identify and build a network of 'Futuristic Higher Education Institutions' & integrate industry linked future courses which are globally aligned with 'Qualification Frameworks'
- Promote a culture of joint research & innovation and act as testbeds for new innovation
- BRICS knowledge repository with latest research & trends in BRICS in Industry 4.0



Thank You



@ficci_india