

**NASSCOM®**

# **Jobs and Skills: The Imperative to reinvent and disrupt**

**18 May 2017**

# High Impact Sector of India



**3.9 mn**

**Largest** private sector employer

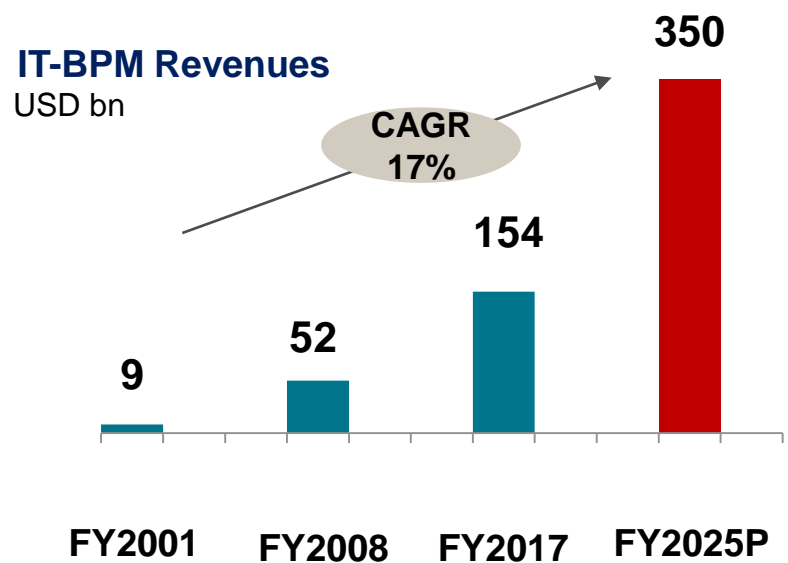
**\$154 bn**

**Growth sector** – 3 sub sectors with revenues of over \$ 20 bn

**1/4<sup>th</sup>**

Share in total services and merchandise exports

**Created technology brand for India globally**

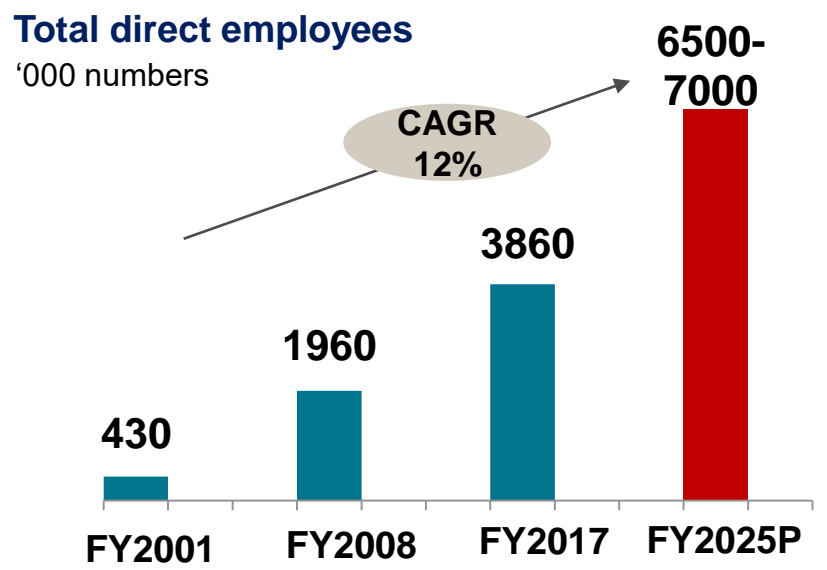


### Revenue Growth

- 12 times growth in last 16 years
- ~10bn USD annually over last 3 years
- Vision to grow to ~350bn USD by 2025

### Employment Growth

- 3.5mn new employment since 2001
- 600,000 new employment in last 3 years
- Add 2.5 - 3mn new jobs by 2025



# Alarming Scenario Projected: Bitter truth or Bizarre Fiction?

Automation, slowing growth push IT lay-offs

**Seven IT cos to lay off 56,000**

**AT STAKE** Infosys, TCS, Wipro, others struggling to cope with new tech, Trump's protectionist policies

IT layoffs: Are slow growth and automation responsible for mass job cuts in the sector?

**A warning from IT**

Protectionism & automation make skilling India vital

**IT jobs crisis: Automation, skill standards, ageism all play a part**

Layoffs in Indian IT may continue for 1-2 yrs

**Layoff Crisis in IT may be Bigger than 2008 Recession**

**Layoff time: Techies branded non-performers to cut costs**

**IT to layoff up to 200,000 engineers for next 3 years**

**IT and the story of pink slips**

Why being a techie in India is no longer cool

**TECH CHECK** A double whammy of automation as well as lack of key skills among those fired may result in many of the them being unemployed for a while

**Experts See Bleak Future for Sacked IT Employees**

- 1** Reports of mass layoffs in the sector are categorically rejected. NASSCOM and top industry leaders have said this and reiterate it.
- 2** Hiring continues across the sector. FY 2017 saw 1,70,000 added; Q4 FY 2017 alone saw gross hiring of over 50,000 by top 5 companies;
- 3** Performance linked workforce realignment impacting 0.5 - 3% of the talent pool remains key competitive strategy. No change in current year.
- 4** Industry will remain a major net hirer in FY 2018; There is a continuing gentle deceleration in net hiring growth rate (but with a growing base) as industry focuses on innovation, enhanced efficiencies and lower attrition
- 5** Emphasis shifting from scale to skills. In demand: technical competencies (especially in new technologies) & soft skills; Automation cannibalizing some jobs and creating new ones, net impact positive due to growth
- 6** Industry investing heavily in reskilling its workforce; half the workforce covered by reskilling. NASSCOM creating collaborative skilling platform
- 7** Huge untapped opportunity ahead – this can be the next growth wave for the sector – companies and employees – need to tackle skilling challenge

# FY 2017 Indian IT-BPM Skills Landscape

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## TALENT POOL

**3.9  
million**

**Largest private sector employer**

**~1.7  
lakh**

**Net addition**

**~12  
million**

**Indirect Employment**

## HIRING MODELS

**4-5%**

**Contract employees**

**~40%**

**Lateral hires**

**>130+**

**Nationalities employed**

## RISE OF TECHNOLOGISTS

**~30%**

**Tech talent in BPM; technical career tracks in companies**

**~10%**

**Hires are domain experts**

**~5%**

**Hires among end-users are tech**

## IMPROVING PERFORMANCE METRICS

**~10%**

**Increase in utilization in 5 years**

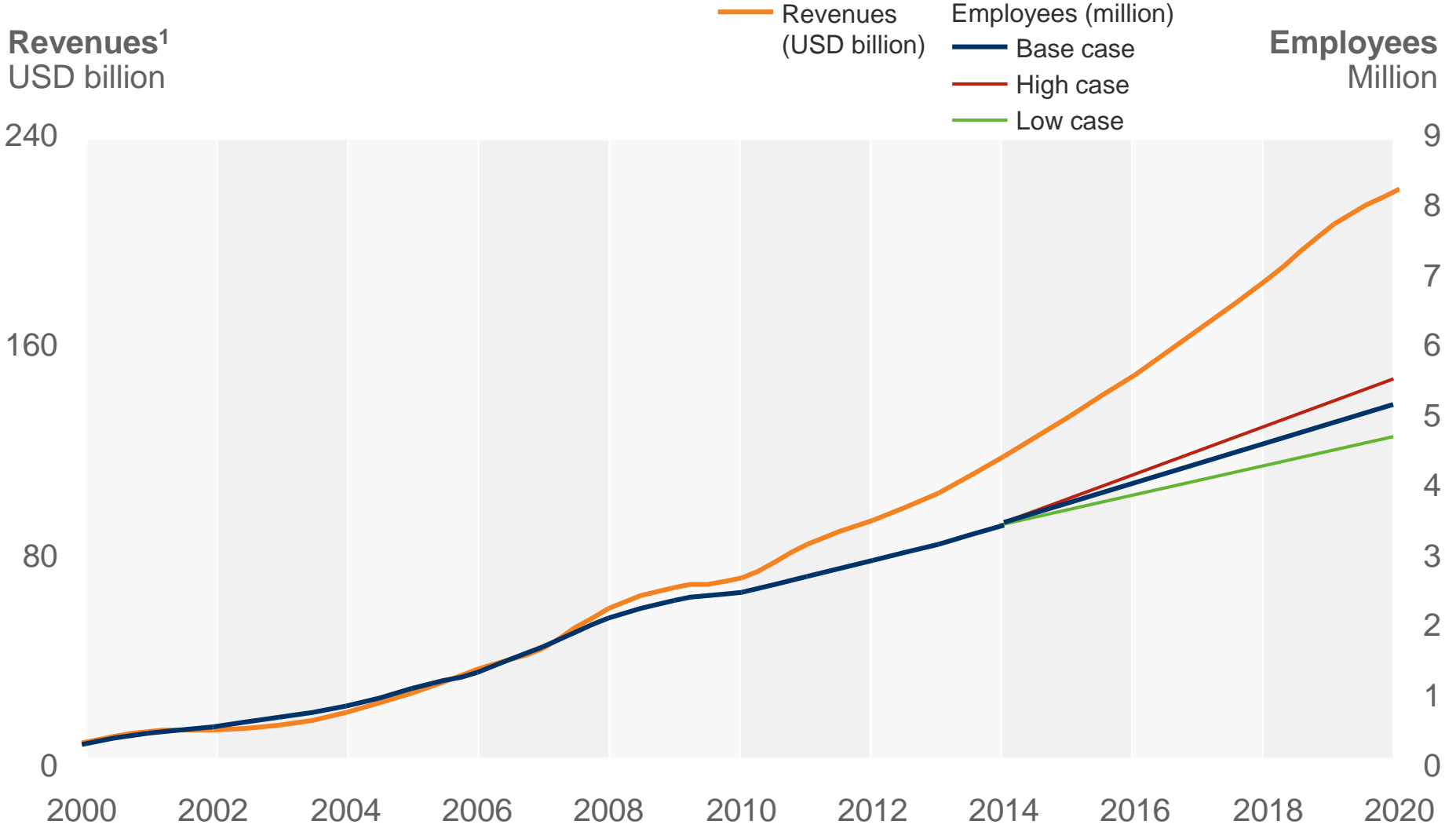
**~9%**

**Growth in revenue/employee in 5 years**

**~5%**

**Decrease in industry attrition**

# Decoupling of revenue and headcount likely to accelerate over next few years

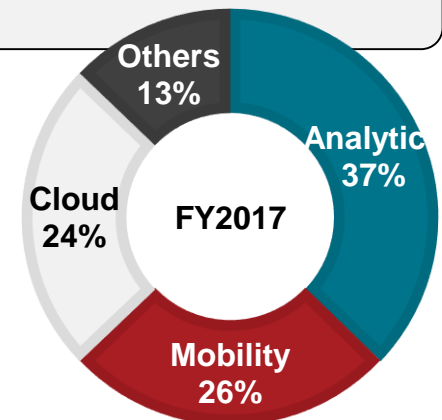


<sup>1</sup> Includes revenues (domestic and export) from software products and services, BPM, ER&D and IT hardware

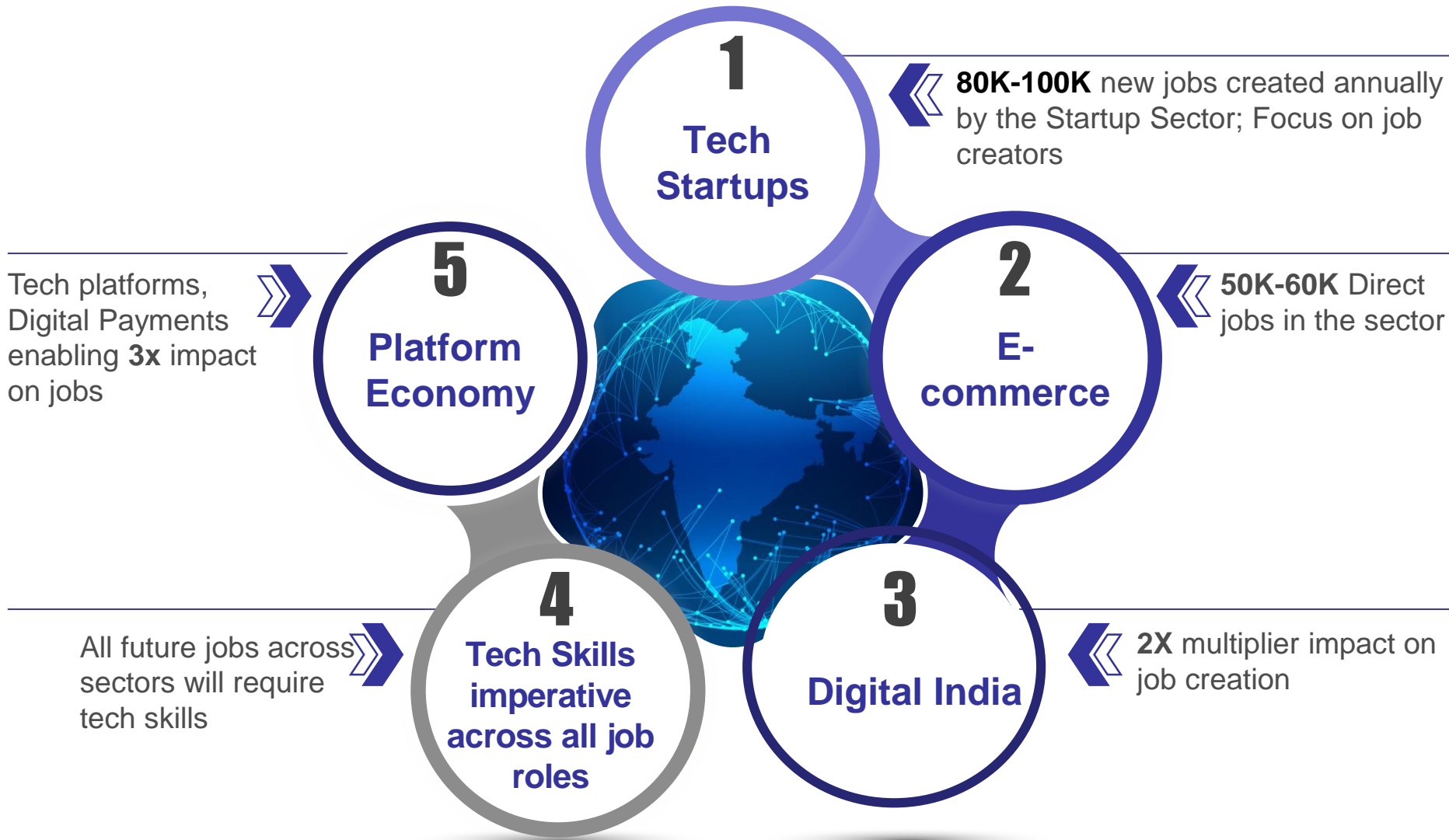
## Over 50% of employees from leading companies already trained in Digital technologies

- New talent addition around emerging job roles – subject matter experts and hybrid professionals (domain + tech + soft skills)
- **New job roles:** Cybersecurity, mobile app development, new user interfaces, social media, data scientists, platform engineering
- **New skills:** Big data analytics, cloud & cybersecurity services, IoT, service delivery automation, robotics, AI/machine learning/NLP, etc
- **Subject matter experts:** Graphic designers, humanities, sociology, security, finance, payments

Early adopters include Analytics, Mobility and Cloud.  
Consulting and Design skills next in the list...







**...however Employees and Employers will need to prepare themselves to adapt to the changing job environment**



**Technological shifts**

- Social/ mobile
- Cloud computing
- Big Data Analytics
- Internet of Things
- Block-chain
- Artificial Intelligence
- Virtual Reality
- Augmented Reality
- Robotic process automation
- 3D Printing



**Changing stakeholder expectations**

- Rise & rise of regulations
- Globalization and increase in complexity
- Real-time insights-manage legacy systems



**Changing job scenario**

- New areas of work are opening up (as technology embeds itself more deeply within different industries)
- Existing service lines are being transformed through increasing intelligent automation
- **~50-60% jobs would require new skills**

**Major NASSCOM Skills Initiative**

**NASSCOM Future Skills Workgroup in partnership with BCG has been building a "skilling for the future" roadmap for last 6 months – we will move into the implementation phase in the next few weeks**

## 55 new job roles identified across 8 technologies

Technology	Number of Job Roles	Examples of Job roles
<b>Virtual Reality</b>	12	<ul style="list-style-type: none"> <li>VFX Artist</li> <li>Computer Vision Engineer</li> </ul>
<b>Internet of Things</b>	11	<ul style="list-style-type: none"> <li>Wireless Network Specialist</li> <li>Embedded System Programmer</li> </ul>
<b>Big Data Analytics</b>	4	<ul style="list-style-type: none"> <li>Data Scientist</li> <li>Data Architect</li> </ul>
<b>Artificial Intelligence</b>	10	<ul style="list-style-type: none"> <li>AI Research Scientist</li> <li>Language Processing Specialist</li> </ul>
<b>Robotic Process Automation</b>	5	<ul style="list-style-type: none"> <li>RPA Developer</li> <li>Deployment Engineer</li> </ul>
<b>3D Printing</b>	4	<ul style="list-style-type: none"> <li>3D Modeling Engineer</li> <li>3D Designer</li> </ul>
<b>Cloud Computing</b>	5	<ul style="list-style-type: none"> <li>Cloud Architect</li> <li>Migration Engineer</li> </ul>
<b>Social &amp; Mobile</b>	4	<ul style="list-style-type: none"> <li>Android/ iOS App developer</li> <li>Digital Marketing</li> </ul>

UI/ UX designer, system admin  
Information security analyst

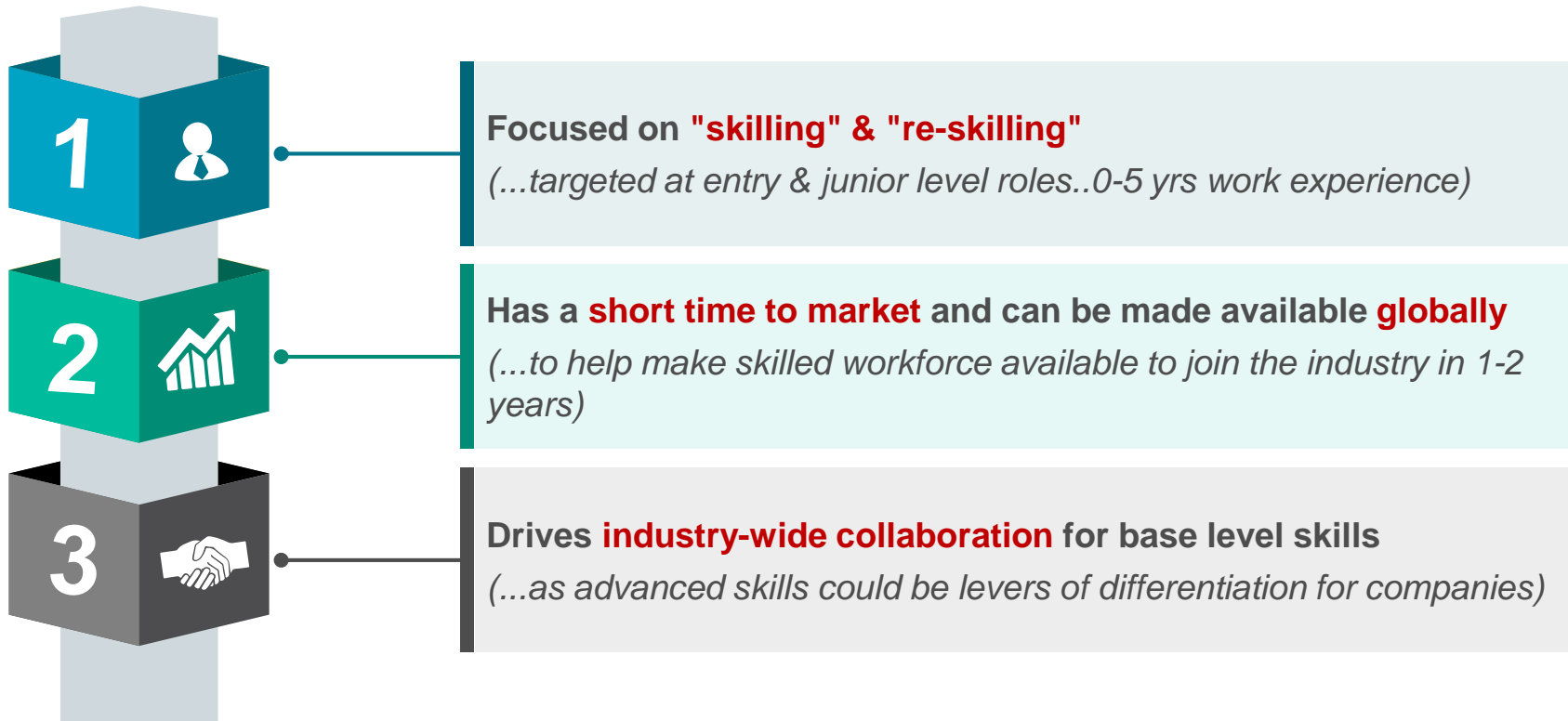
Unique roles Common roles

Source: LinkedIn & Indeed Analytics, Discussion with experts, BCG Analysis

The Bottom Computing Group

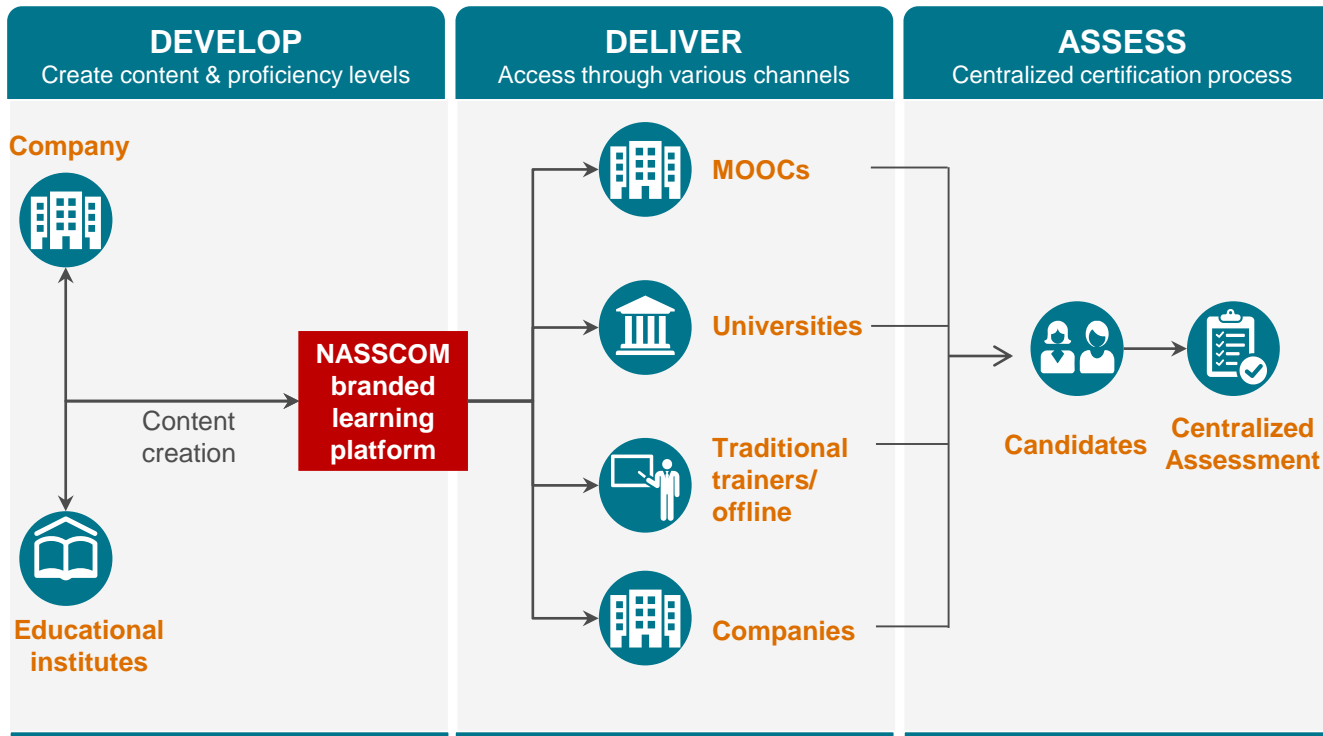
A collaborative learning ecosystem being put in place jointly by NASSCOM and Member firms...

....



**This skilling/ re-skilling initiative will translate into 1.5-2M people working on next-gen technologies in India within 4-5 years**

.... that is primed for the future



**KEY HIGHLIGHTS**

Focus on skills, with curated playlists of content

"Self learning" based/ "continuous"

Cloud-based/ Digital delivery platforms

Partnership/collaboration/co-creation

Innovative commercial models for participants

The initiative is backed by member firms including TCS, Infosys, Accenture, Genpact, Google, Quattro, NIIT, and ITC Infotech

# Learning the Right Lessons from Two Major Recent Episodes in the Sector

Episode	Wrong Lesson	Right Lesson
Rumours of “Mass Layoffs” in IT Sector	“How can we stop workforce realignment by resort to regulation, employee activism, etc.” <b>(Impact: Decline in competitiveness, potential loss of existing jobs)</b>	Focus on new age skills that are in demand globally – continuously refresh skills and fill the growing global skill gap <b>(Impact: Accelerated growth, greater value add &amp; revenues)</b>
Recent Cyber Security Incident from “WannaCry”	“It did not have much impact in the country - we are safe and secure and don’t need to act”	This is a low cost wake-up call. We need to urgently focus on cyber security: skills, technologies, practices and research. If not, we will be badly hit sooner or later

Learning the right lessons is essential for continued global growth and domestic security

## **Skills are the New Currency**

**Change is happening at an unprecedented scale and the lifecycle of skills is shorter than ever. Reskill or Perish is the mantra for the future – for both companies and employees**

**“If you have the right skills, you will not be looking for a job, the job will be looking for you”**

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**Thank you**