

FutureSkills Prime Digital Engineering Initiative to Build Industry-Ready Talent Pool for ER&D Sector

Bridging academia and industry to meet the growing demand for skilled talent and equip youth with essential digital skills



Overview

Engineering Research and Development (ER&D) industry in India is a vital sector driving innovation, technological advancements, and economic growth. Currently, the number of ER&D talent in India stands at **965K**, with a projected growth to **2.2x** by **2025**. The demand for digital engineering skills is also increasing significantly, with more than **15%** growth in job postings in domains such as cybersecurity, big data analytics, AI/ML, edge computing, and IoT etc.



Recognizing the growing demand for specialized digital engineering skills, FutureSkills Prime has initiated an industry-recognized digital engineering skilling program to assist academia in keeping up with the industry's evolving digital priorities. The program focussed on incorporating course credits into college curricula in accordance with the National Skills Qualifications Framework (NSQF).



Global ER&D Talent Pool
Overall : ~6.2 million



Emerging Skills
~600,000



Current Demand Gap
Overall : ~30,000 of which 90,000 for emerging skills



Demand Growth
Overall : ~3.9 million additional resources required by 2025



Demand in Emerging Skills
~1.2 million additional resources required by 2025

Problem Statement

The FutureSkills digital engineering program addressed three key challenges in fostering a digital engineering culture at an academic level and ensuring that India's workforce is inclusive and future-ready.



Employee Productivity



Skill Development



Process Automation

Goal



Focus on Emerging Technologies

Train students in AI/Deep Learning, Big Data Analytics, Cybersecurity, Internet of Things, and Edge Computing



Industry-Recognized Certification

Provide nasscom certified courses to validate and enhance the credibility of the acquired skills



Commitment to Hiring

Facilitate the transition from theoretical knowledge to practical industry application, ensuring that trained professionals are employable

Why FutureSkills Prime?

FutureSkills Prime offered an exclusive nasscom-certified Digital Engineering program meticulously crafted by **55 subject matter experts (SMEs)** from the aforementioned organizations ensuring relevance and quality.

On the Futureskills Prime portal, learners gained a seamless learning experience through self-paced courses and earned badges after completing knowledge checks at the end of each pathway. Under the initiative, successful candidates who scored 50% or higher in the SSC nasscom assessment received a nasscom certification, which validated their expertise in the ER&D domain.

Participants received course credits aligned with the National Skills Qualifications Framework (NSQF) after completing the Digital Engineering program offered by FutureSkills Prime.

Detailed Implementation of FutureSkills Prime's Digital Skills Program

The program, curated by 55 SMEs across leading organizations, offered comprehensive training in five key emerging technologies:



Internet Of Things



Edge Computing



Cybersecurity



AI/ML



Big Data Analytics

The digital engineering program was specifically designed to bridge the gap between academia and industry, aligning with the hiring requirements of organizations like Cyient and Tata Technologies. These organizations committed to preferential hiring for candidates who are DE-certified.

Key Highlights

01 33 Hours of Intensive Foundational Training

02 Collaboration with 55 SMEs

03 Specialized Industry Relevant Content

04 Self-Paced Learning

05 Quizzes and Assessments

06 NSQF Aligned Credits



How We Bridged the Skill Gap

FutureSkills Prime prioritized several actions to bridge the skill gap in digital engineering:

CONNECT ACADEMIC SKILLS WITH PRACTICAL EXPERIENCE

Supervised career-related experience (Internship)

- Online internship through AICTE approved Industry -recognized NASSCOM pathways, assessments and off-campus project framework for 4th & 5th semester students
- Supervised career-related experience (4-6 weeks) at Industry after 6th semester

Industry – Academia Applied research collaboration

- Mandatory academic partnerships for super cluster matching grants

01

CONDEVELOP READY TO WORK SKILLS THAT KEEP PACE WITH CHANGE ECT ACADEMIC SKILLS WITH PRACTICAL EXPERIENCE

ER&D Bootcamp/Finishing Programs for Industry-ready talent

- Bootcamp Programs for Digital (top 5 skills), Embedded, VLSI & Full-stack in 5 cities and 10 emerging locations
- Govt. conditional training grants & placement grants NASSCOM approved institutions (Ref.)*
- Shared lab infrastructure for bootcamps in PPP model*

02

STRENGTHEN ER&D CARRIER PATHWAYS FOR TARGET MARKETS

Early exposure to target market language & cultures

- 5-Year Integrated double degree masters' programs in collaboration with international universities in target markets (Japan, Germany & France)*
- Foreign language credit programs in engineering colleges*

03

DIVERSITY, EQUALITY & INCLUSION

Increase women in ER&D

- Common Industry framework to recruit, engage, grow and retain women in ER&D and implement

Develop wider and deeper pool of skilled talent (enhance Tier-2 employability)

- ER&D bootcamps and shared infrastructure in 10 emerging locations

Facilitate access to global talent/Indian residents at abroad

- Simplify immigration processes and offer tax benefits new immigrants or returned residents (Reff.-1 & Ref.-2)*

04

* Govt. funding/ interventions

Emerging Locations: Ahmedabad, Vadodara, Thiruvananthapuram, Chandigarh, Jaipur, Coimbatore, Kochi, Visakhapatnam, Indore and Kolkata.



Key industry players who participated in this digital engineering program



Impact

Under the FutureSkills Prime's skilling initiative, 2566 learners successfully earned their certification in essential digital engineering skills

The program had also integrated course credits as part of college curricula, aligning with the National Skills Qualifications Framework (NSQF).

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