

GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT AND ENTREPRENEURSHIP
LOK SABHA
UNSTARRED QUESTION NO. 1518
ANSWERED ON 09.02.2026

SKILL GAPS IN EMERGING SECTORS

1518. SHRI M K RAGHAVAN:

Will the Minister of SKILL DEVELOPMENT AND ENTREPRENEURSHIP be pleased to state:

- (a) whether the Government has identified skill gaps in emerging sectors such as AI, green energy, EVs, semiconductors and logistics;
- (b) if so, the details of new courses introduced for skill training; and
- (c) the details of the number of youth trained and placed in these sectors during the last three years and the current year?

ANSWER

THE MINISTER OF STATE (INDEPENDENT CHARGE) IN THE MINISTRY OF SKILL DEVELOPMENT AND ENTREPRENEURSHIP

(SHRI JAYANT CHAUDHARY)

(a): To identify the skill development needs of respective sectors as well as to determine skill competency standards, 36 Sector Skill Councils (SSCs) have been set-up which are led by industry leaders in the respective sectors. Skill Gap studies are conducted by Sector Skill Councils (SSCs) from time to time, which guide the interventions of the Government aimed at preparing the workforce as per the industry needs. Details of the skill gap studies in areas like AI, green energy, semi-conductors and logistics are as under:

<i>SSC concerned</i>	<i>Skill Gap Study</i>
NASSCOM (IT-ITeS SSC)	Talent Demand & Supply Report: AI & Big Data Analytics
Skill Council for Green Jobs	Skill Gap Report for Solar PV, Thermal, Wind & Small Hydro
Electronics Sector Skills Council of India	The Skill Requirement & Job Potential in Indian Electronics Industry
Logistics Sector Skill Council	Skill Gap and Manpower Demand Report

(b) & (c): Under the Government of India's Skill India Mission (SIM), the Ministry of Skill Development and Entrepreneurship (MSDE) delivers skill, re-skill and up-skill training through an extensive network of skill development centres under various schemes, viz. Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Jan Shikshan Sansthan (JSS), National Apprenticeship Promotion Scheme (NAPS) and Craftsman Training Scheme (CTS) through Industrial Training Institutes (ITIs), to all the sections of the society across the country. The SIM aims at enabling youth of India to get future ready and equipped with industry relevant skills, including the merging sectors like AI, green energy, EVs, semiconductors and logistics. The sector-wise and job role-wise training data under these schemes of MSDE is given at **Annexure**.

Amongst the schemes of MSDE, placements were tracked under the Short-Term Training component of PMKVY in the first three versions (PMKVY 1.0, PMKVY 2.0 and PMKVY 3.0) implemented from 2015-16 to 2021-22. Under PMKVY 4.0, the focus is to empower our trained candidates to choose their varied career path and they are suitably oriented for the same. Further,

various IT tools like Skill India Digital Hub (SIDH) also gives this opportunity. The details of the trained candidates are available on SIDH portal for connecting them with potential employers. Through SIDH, candidates can have access to jobs and apprenticeship opportunities. Further, Rozgar Melas and PM National Apprenticeship Melas (PMNAMs) have been organized to facilitate the placements opportunities to the certified candidates. Under JSS, Livelihood Cell has been set up to orient the candidates for entrepreneurship and livelihood promotion.

ANNEXURE REFERRED TO IN REPLY TO PART (b) & (c) OF LOK SABHA UNSTARRED QUESTION NO. 1518 ANSWERED ON 09.02.2026.

Annexure

(a) Details of candidates trained under PMKVY 4.0 on the future-skills job roles during last three years including the current year (up to 31.12.2025)

Sector Name	Job Role Name	2023-24	2024-25	2025-26
Aerospace and Aviation	Aerospace Composite Technician	-	8	-
Aerospace and Aviation	Drone Operator - Multi Rotor	-	142	45
Automotive	Automotive Additive Manufacturing Operator	60	200	-
Automotive	Automotive Additive Manufacturing Technician	-	60	-
Automotive	Automotive Automation and Robotics Engineer	56	301	-
Automotive	Automotive IIOT Application Engineer	-	80	-
Automotive	Automotive IIOT Application Technician	-	300	-
Automotive	Electric Vehicle Assembly Operator	-	430	66
Automotive	Electric Vehicle Assembly Technician	-	664	81
Automotive	Electric Vehicle Maintenance Technician	-	682	-
Automotive	Electric Vehicle Product Design Engineer	60	100	-
Automotive	Electric Vehicle Quality Control Inspector	-	300	-
Automotive	Electric Vehicle Service Lead Technician	-	30	29
Automotive	Electric Vehicle Service Technician	835	54,363	990
Automotive	Electric Vehicle Test Engineer	-	295	-
Electronics and Hardware	Battery System Assembly Operator	60	1,597	45
Electronics and Hardware	Battery System Repair Technician	-	11,317	-
Electronics and Hardware	Drone Manufacturing and Assembly Technician	962	6,754	383
Electronics and Hardware	Electrical Assembly Operator - Control Panel	-	97	-
Electronics and Hardware	Electronic Hardware Assembly Operator	140	10,030	695
Electronics and Hardware	HVAC Technician	75	48	-
Electronics and Hardware	Solar LED Technician	1,349	37,984	1,498
Electronics and Hardware	Solar Panel Installation Technician	804	21,840	853
Electronics and Hardware	Battery System Design Engineer	60	387	-
Electronics and Hardware	Electronics Machine Maintenance Executive	30	22,771	493
Electronics and Hardware	Embedded Full-Stack IoT Analyst	40	310	-
Electronics and Hardware	Embedded Product Design Engineer-Technical Lead	-	111	-
Electronics and Hardware	Embedded Software Engineer	-	1,199	558
Electronics and Hardware	Internet of Things (IoT) Assistant	-	144	20
Electronics and Hardware	Internet of Things (IoT) Developer	-	221	-
Electronics and Hardware	IoT Hardware Analyst	60	2,873	262

Electronics and Hardware	Mechanical Fitter Electronics	143	3,680	460
Electronics and Hardware	Mechatronics Designer and System Integrator	-	43	8
Electronics and Hardware	Motor & Controller Repairing Technician	60	744	45
Electronics and Hardware	Motor and Controller Design Engineer	-	570	-
Electronics and Hardware	Welding Operator Electronics	60	435	-
Electronics and Hardware	Winding Operator	30	594	-
Green Jobs	Green Hydrogen Plant Entrepreneur	-	556	336
Green Jobs	Green Hydrogen Plant Junior Technician- Storage	-	180	358
Green Jobs	Green Hydrogen Plant Technician	-	771	381
Green Jobs	O&M Electrical & Instrumentation Technician- Wind Power Plant	-	215	55
Green Jobs	Rooftop Solar Grid Engineer	-	999	30
Green Jobs	Small Hydro Power Plant Technician-(Jal Urja Mitra)	-	150	-
Green Jobs	Solar EV Charging Entrepreneur	-	60	-
Green Jobs	Solar Photovoltaic Entrepreneur	-	2,470	-
Green Jobs	Solar Proposal Evaluation Specialist	-	360	-
Green Jobs	Solar PV Business Development Executive	225	401	-
Green Jobs	Solar PV Designer	-	2,658	-
Green Jobs	Solar PV Engineer (Option: Solar Water Pumping System)	-	52	-
Green Jobs	Solar PV Manufacturing Technician	125	234	-
Green Jobs	Solar PV Project Manager (E&C)	-	187	-
Hydrocarbon	Advance Course on Green Hydrogen	-	550	-
Hydrocarbon	Concepts of Green Hydrogen	-	165	-
Hydrocarbon	Green Hydrogen Plant Supervisor	-	78	-
Information Technology	Cyber Security Assistant	-	66	60
Information Technology	Cyber Security Associate	-	150	-
IT-ITeS	Cloud Application Developer	-	4,220	706
IT-ITeS	Cloud Consultant	-	168	52
IT-ITeS	3D Printing Modelling Engineer	-	80	-
IT-ITeS	AI - Business Intelligence Analyst	-	1,997	734
IT-ITeS	AI - Data Architect	-	575	822
IT-ITeS	AI - Data Engineer	141	981	143
IT-ITeS	AI - Data Quality Analyst	-	5,990	1,276
IT-ITeS	AI - Data Scientist	52	3,810	89
IT-ITeS	AI - Database Administrator	-	5,710	448
IT-ITeS	AI - DevOps Engineer	-	4,074	295
IT-ITeS	AI - Machine Learning Engineer	127	7,234	435
IT-ITeS	AI - Solution Architect	19	222	-
IT-ITeS	Analyst Application Security	-	30	-
IT-ITeS	Analyst Security Operations Centre	-	73	-
IT-ITeS	Application Architect - Web & Mobile	21	270	-
IT-ITeS	Application Developer - Web & Mobile	114	14,283	8,155
IT-ITeS	AR/VR Architect	-	-	30
IT-ITeS	AR/VR Consultant	-	240	-
IT-ITeS	AR/VR Infrastructure Engineer	-	30	-
IT-ITeS	AR/VR Support Analyst	-	554	-
IT-ITeS	Blockchain App Developer	-	185	60
IT-ITeS	Blockchain Architect	-	540	40
IT-ITeS	Cloud Administrator	-	614	45

IT-ITeS	Cloud Computing with AWS and Azure	-	45	-
IT-ITeS	Cloud Infrastructure Analyst	-	42	100
IT-ITeS	Cloud Security Analyst	-	360	-
IT-ITeS	Consultant Network Security	-	60	20
IT-ITeS	Data Annotator	-	658	-
IT-ITeS	Information Security Specialist	-	90	404
IT-ITeS	IoT - Domain Specialist	-	197	-
IT-ITeS	IoT - Network Specialist	-	217	25
IT-ITeS	IoT - Product Manager	-	384	-
IT-ITeS	IoT - Security Specialist	-	154	-
IT-ITeS	IoT - Software Analyst	-	2,462	2,198
IT-ITeS	IoT - Solution Architect	-	6,893	1,054
IT-ITeS	IoT - Test Analyst	-	180	60
IT-ITeS	Mobile Device Management Analyst	-	305	-
IT-ITeS	Product Manager - Web & Mobile	216	512	-
IT-ITeS	Security Analyst	-	163	-
IT-ITeS	Software Vulnerability/Penetration Tester	-	240	-
IT-ITeS	User Experience Designer	-	298	550
Logistics	Data Feeder - Warehouse	317	490	30
Logistics	Functional Analyst - WMS	-	45	-
Logistics	Land Transportation Executive	-	239	-
Logistics	Packaging Designer	-	24	-
Logistics	Supply Chain Associate	-	336	-
Logistics	Supply Chain Executive	-	1,232	189
Logistics	Warehouse Associate	-	-	120
Logistics	Warehouse Manager	-	1,506	886
Logistics	Warehouse Supervisor	3,594	9,185	862
Media and Entertainment	3D Printing Operator	-	247	40
Media and Entertainment	Technical artist -AR-VR	-	12,223	1,625
Telecom	AI & ML - Jr. Telecom Data Analyst	-	254	-
Telecom	AI Devices Installation Operator	-	165	-
Telecom	Information and Communication Technology (ICT) Engineer - 5G Networks	-	150	-
Telecom	Infrastructure Technician - 5G Networks	-	1,178	-
Telecom	IoT Installation Solution Architect	-	60	90
Telecom	IoT Technical Service Operator	-	96	-
Telecom	Machine Learning (ML) Engineer	-	240	60
Telecom	Project Engineer - 5G Networks	404	2,832	4
Telecom	Technician 5G - Active Network Installation	375	19,684	745
Telecom	Telecom E-Waste Handler	60	2,253	-
Telecom	Telecom Rigger - 5G and Legacy Networks	602	1,938	20
Telecom	Telecom Technician - IoT Devices/Systems	419	27,185	2,820
Telecom	Wireless Technician	-	1,940	2,085

(b) Details of the candidates engaged under NAPS in new-age trades during last three years and the current year (up to 31.12.2025)

Sector Name	Course Name	2022-23	2023-24	2024-25	2025-26
Automotive	Electric Vehicle Service Lead Technician	92	287	371	222
Green Jobs	Facility Cleaning Professional	742	3,590	1,667	1,430
Green Jobs	Solar Lighting Assembler	-	6	67	30
Green Jobs	Solar Pv Business Development Executive	1	3	14	
Green Jobs	Solar Pv Cell Manufacturing Technician	-	53	86	68
Green Jobs	Solar Pv Installer (Suryamitra)	57	-	5	38
Green Jobs	Solar Pv Installer- Electrical	8	16	24	16

Green Jobs	Solar Pv Maintenance Technician- Electrical (Ground Mount)	-	2	1	-
Green Jobs	Solar Pv Manufacturing Operator	15	28	159	325
Green Jobs	Solar Pv Project Helper	45	341	495	1,754
Green Jobs	Solar Technician (Electrical)	72	63	101	414
Green Jobs	Waste Water Treatment Plant- Technician	1	6	2	-
IT-ITeS	Ai - Business Intelligence Analyst	-	11	81	80
IT-ITeS	Ai - Data Engineer	-	17	116	50
IT-ITeS	Ai - Database Administrator	-	14	44	39
IT-ITeS	Ai - Machine Learning Engineer	-	2	10	18
IT-ITeS	Ai - Data Quality Analyst	-	116	298	377
IT-ITeS	Ai - Data Scientist	-	13	116	236
IT-ITeS	AI - Devops Engineer	-	11	173	136
IT-ITeS	Python Ai Trainee	-	-	-	20
IT-ITeS	Trainee - Ai Cloud Engineer	-	-	-	13
Logistics	Cargo Booking Clerk	-	18		
Logistics	Cargo Vehicle Driver (Non-Hazardous Goods)	-	-	304	473
Logistics	Case Packer/ Palletizer Operator	-	-	-	7
Logistics	Clearance Support Agent	4	52	3	2
Logistics	Cold Storage Supervisor - Packing And Grading	-	-	-	3
Logistics	Commercial Vehicle Driver - LMO	-	-	1,244	471
Logistics	Consignment Booking Assistant	-	126	3	48
Logistics	Consignment Tracking Assistant	-	18	3	9
Logistics	Consignment Tracking Executive	-	15	13	17
Logistics	Container Repair And Maintenance Supervisor	-	-	1	6
Logistics	Courier Associate - Operations	-	367	1,089	1,188
Logistics	Courier Delivery Management Executive	-	-	2	1
Logistics	Courier Delivery Executive	-	323	202	130
Logistics	Courier Executive - Operations	-	50	4	34
Logistics	Courier Manager - Operations	-	-	3	-
Logistics	Courier Supervisor - Operations	-	-	-	1
Logistics	Crane Operator - Port Terminals/Cfs/Icd	-	-	7	20
Logistics	Customer Support & Vehicle Operations Executive	19	154	299	152
Logistics	Data Feeder - Warehouse	-	-	-	15
Logistics	Data Feeder (All Logistics Sub Sector)	227	673	459	104
Logistics	Data Feeder (All Logistics Sub Sectors)	-	-	-	27
Logistics	Data Feeder (All Logistics Sub-Sectors)	19	-	-	-
Logistics	Digital Retail Apprentice	-	-	-	18
Logistics	Document Executive (Custom Clearance)	15	12		
Logistics	Documentation & Claims Management Executive	12	125	496	157
Logistics	Documentation And Claims Management Executive	10	17	2	-
Logistics	Drone Operator - Over Dimensional Cargo	-	-	1	1
Logistics	E-Commerce Delivery Associate	-	-	11	398
Logistics	E-Commerce Manager	-	-	9	37
Logistics	E-Commerce Micro Entrepreneur	-	-	1	130
Logistics	E-Commerce Order Fulfilment Associate	-	-	-	1
Logistics	E-Commerce Order Fulfilment Executive	-	-	-	10
Logistics	E-Commerce Team Lead -V 2.0	-	91	181	99
Logistics	Exim - Supervisor	-	-	-	3
Logistics	Exim Executive -V 2.0		73	23	20
Logistics	Exim Supervisor	198	-	-	-
Logistics	Field Executive (Custom Clearance)	35	17	-	-
Logistics	Field Executive (Custom Clearance)	4	-	-	-
Logistics	Forklift Operator	-	-	-	12

Logistics	Fresh Stock Binner	-	-	-	7
Logistics	Functional Analyst - Wms		39	90	6
Logistics	Goods Packaging Machine Operator	2,228	2,165	2,268	1,095
Logistics	Goods Packaging Machine Operator	1,123	-		635
Logistics	Green Hydrogen Procurement Manager	-	-	1	
Logistics	Green Hydrogen Refuelling Hub Operator	-	-	23	52
Logistics	Green Hydrogen Tube Trailer - Driver	-	-	2	5
Logistics	Home Goods Delivery Associate	-	-	-	14
Logistics	Hub - Branch Operations Executive (Courier)	203	-	-	-
Logistics	Hub-Branch Operation Executive	195	241	148	52
Logistics	In-Plant Logistics Executive	96	5	3	-
Logistics	In-Plant Logistics Executive (Supply Chain)	128	-	-	-
Logistics	International Freight Forwarding Executive	-	56	78	57
Logistics	International Freight Forwarding Executive	35	-	-	-
Logistics	Inventory, Materials Manager	-	-	16	33
Logistics	Junior Cargo Operator - Port Terminals/CFS/ICD	-	-	14	103
Logistics	Key Accounts Management Executive	-	-	-	42
Logistics	Key Accounts Management Executive - Courier	-	-	-	5
Logistics	Key Consignor Executive	-	-	2	6
Logistics	Labelling Machine Operator	-	-	-	7
Logistics	Land Transportation Associate	-	807	1,656	914
Logistics	Land Transportation Executive	1	-	-	-
Logistics	Land Transportation Executive V2.0	-	1	124	95
Logistics	Land Transportation Supervisor	-	3	29	13
Logistics	Loader Unloader	-	-	-	12
Logistics	Loading Supervisor	54	298	245	65
Logistics	Logistics Customer Care Executive	-	-	-	7
Logistics	Maintenance Engineer	-	-	-	35
Logistics	Manual Mhe Loading Operator	1	-	-	-
Logistics	Material Handler	1,491	66	-	-
Logistics	Medium Commercial Vehicle Driver	-	-	-	8
Logistics	MHE Operator And Technician	102	7	-	-
Logistics	MHE Operator And Technician / Material Handler	-	637	442	535
Logistics	Mhe Maintenance Executive	213	140	174	258
Logistics	Multimodal Transport Planner	-	-	6	2
Logistics	Order Packer	-	-	-	397
Logistics	Order Picker (Mhe) Operator	-	-	-	39
Logistics	Packaging Designer	-	-	-	24
Logistics	Packer	1,965	4,397	7,146	9,588
Logistics	Port Terminals/Cfs/Icd Supervisor	-	-	3	2
Logistics	Procurement and Order Fulfilment Executive (Supply Chain)	6	-	-	-
Logistics	Rail Logistics Executive	-	-	2	1
Logistics	Refrigeration Equipment Maintenance Specialist	-	33	68	218
Logistics	Rubber Tyre Gantry (Rtg) Crane Operator	-	-	-	27
Logistics	Storage And Inventory Executive	1,635	680	478	236
Logistics	Supply Chain Associate / In-Plant Logistics Assistant	-	198	674	472
Logistics	Supply Chain Executive	-	115	280	458
Logistics	Supply Chain Executive (Sustainability)	-	-	3	42
Logistics	Supply Chain Supervisor - Agri Commodities	-	4	33	22
Logistics	Supply Chain Sustainability Specialist	-	-	2	28
Logistics	Transport Coordinator	24	92	180	31
Logistics	Transportation Data Analyst	-	-	-	18

Logistics	Warehouse Picker	571	718	31	-
Logistics	Warehouse Associate (Intermediate)	17	-	-	-
Logistics	Warehouse Associate- V.2	-	1,056	3,019	17,119
Logistics	Warehouse Binner	69	96	667	2,768
Logistics	Warehouse Claims Coordinator	102	167	81	5
Logistics	Warehouse Data Analyst	-	-	4	15
Logistics	Warehouse Executive V.2	136	-	-	-
Logistics	Warehouse Executive (Receipts & Dispatch)	220	745	1,441	1,153
Logistics	Warehouse Executive (Receipts And Dispatch)	29	-	-	-
Logistics	Warehouse Lead	8	3	18	42
Logistics	Warehouse Management Supervisor	-	-	14	14
Logistics	Warehouse Manager	-	-	2	15
Logistics	Warehouse Picker	923	-	-	-
Logistics	Warehouse Picker - Automotive	-	-	-	207
Logistics	Warehouse Picker-3.0	8	5,114	525	276
Logistics	Warehouse Quality Checker - V.3	-	606	1,426	855
Logistics	Warehouse Supervisor - 3.0	-	221	476	331
Logistics	Warehouse Supervisor V3	-	-	-	21
Logistics	Warehousing, Inventory, Transportation (Wit)	-	56	221	166
Retails and Logistics	Direct Selling	-	26	61	-

(c) Details of the candidates trained/enrolled under CTS of Directorate General of Training (DGT) in new-age trades during last three sessions

Trade Name	Session 2023	Session 2024	Session 2025
AI Programming assistant	0	439	512
Mechanic Electric Vehicle	4,318	5,994	7,614
Semiconductor Technician	0	0	31
Small Hydro Power Plant Technician	0	0	19
Solar Technician (Electrical)	2,280	3,125	5,750
