



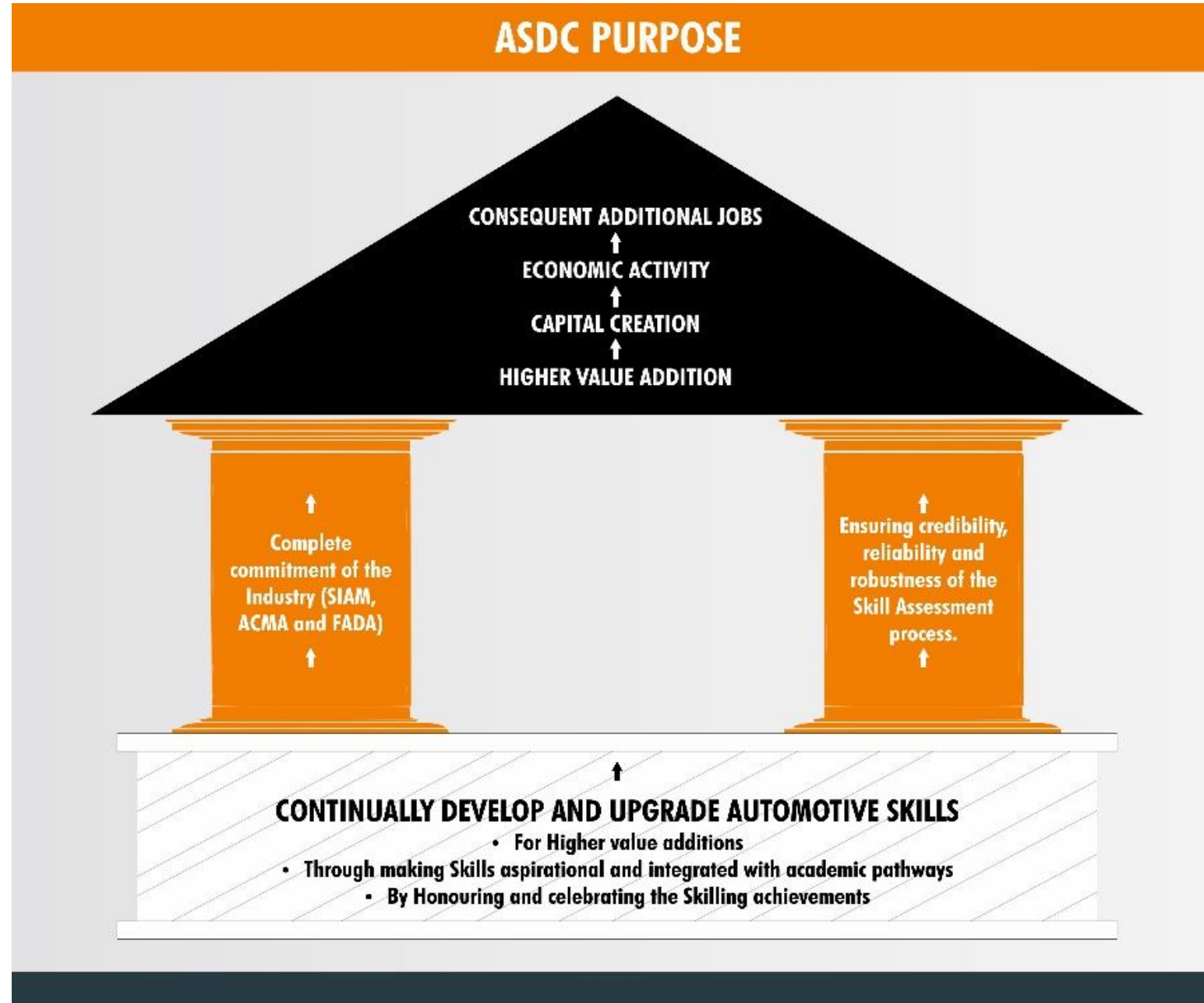
AUTOMOTIVE SKILLS DEVELOPMENT COUNCIL (ASDC)

Sunday, 17th November 2019
at **Indira Gandhi Pratishthan, Lucknow**

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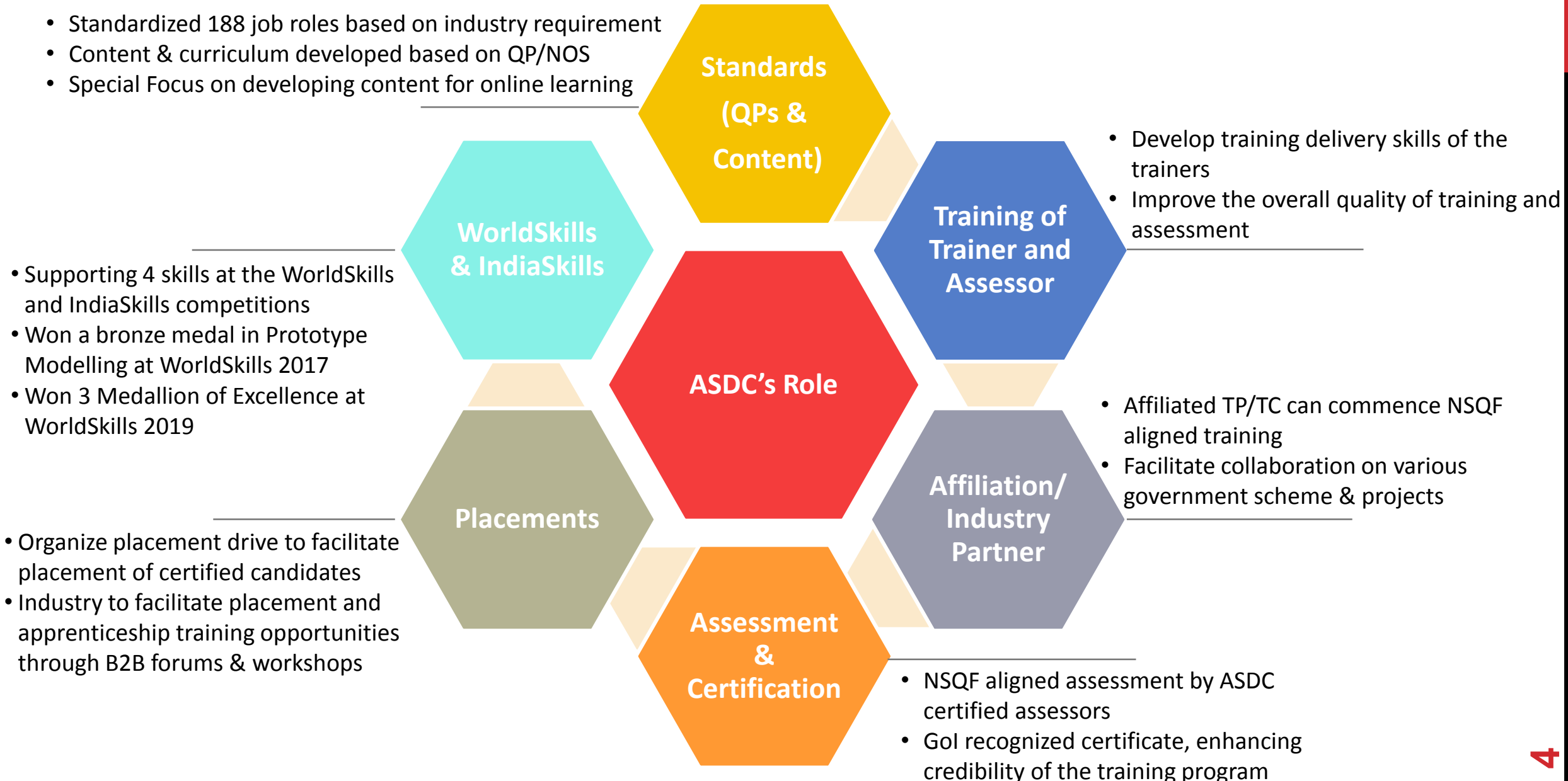
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1. Purpose

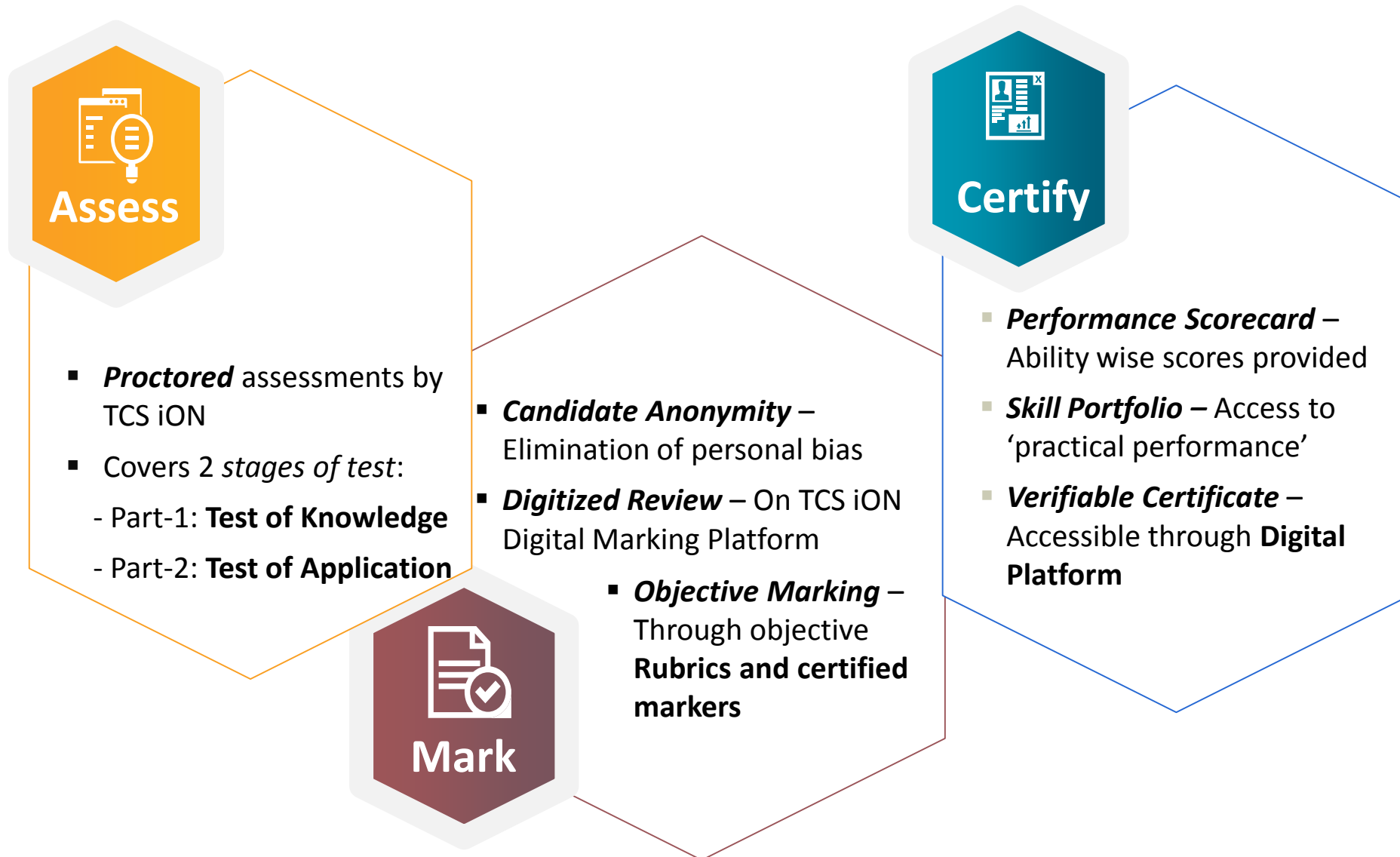


2. Roles

- Standardized 188 job roles based on industry requirement
- Content & curriculum developed based on QP/NOS
- Special Focus on developing content for online learning



2. Role: Assessment & Certification process



2. CERTIFICATION: TRANSPARENT, RIGOROUS & EVIDENCE-BASED

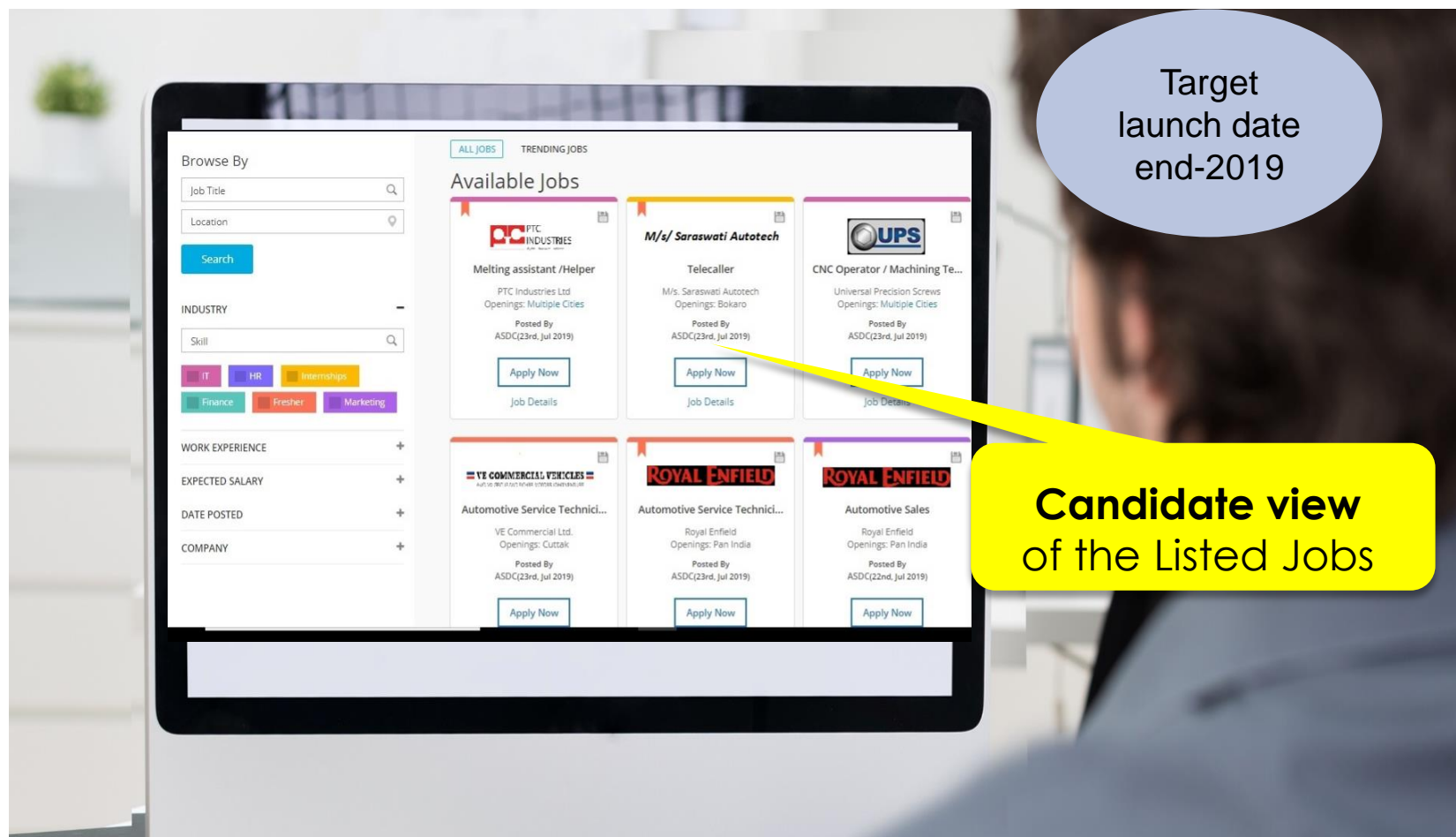


Verifiable Certification leveraging

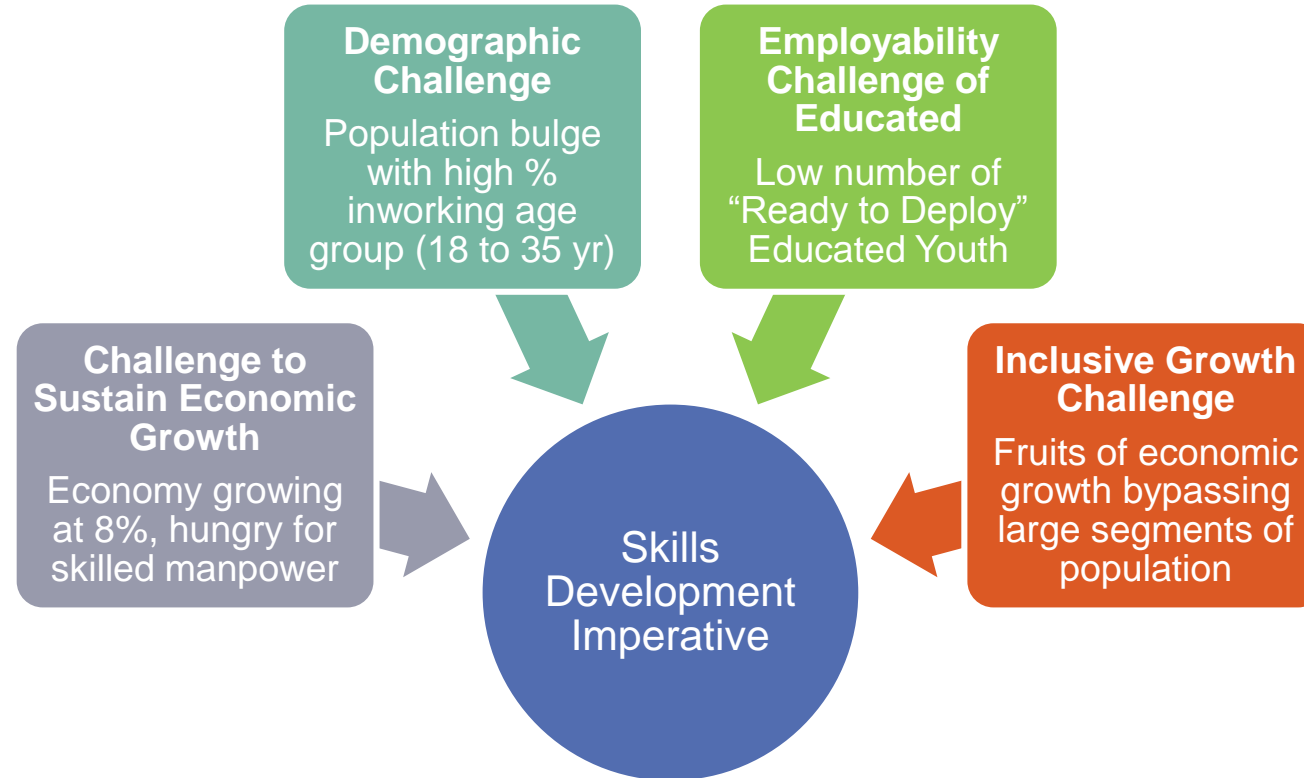
TCSION
Cert-n-Edge

Stages	Observations	Demonstrated by learner (Yes/No)	Demonstrated by learner (Yes/No)
TASK 1 Cleaning, Washing & Polishing	Vacuum cleaning Plug Vacuum cleaner Cord to electric supply Complete internal cleaning of the vehicle		
	Washing Wetting the vehicle with spread water jet Apply Washing agent / shampoo & rubbing with mop to clean the vehicle Wash the complete vehicle Dry the vehicle with mop & air blowing		
TASK 2 Perform reconditioning of brakes	Open brake oil reservoir Bleed the air from each wheel in correct sequence (Start from nearest wheel to master cylinder)		
	Maintain level in brake oil reservoir		
	Tighten the brake oil reservoir after completion		

2. Placement: Job Listing Platform

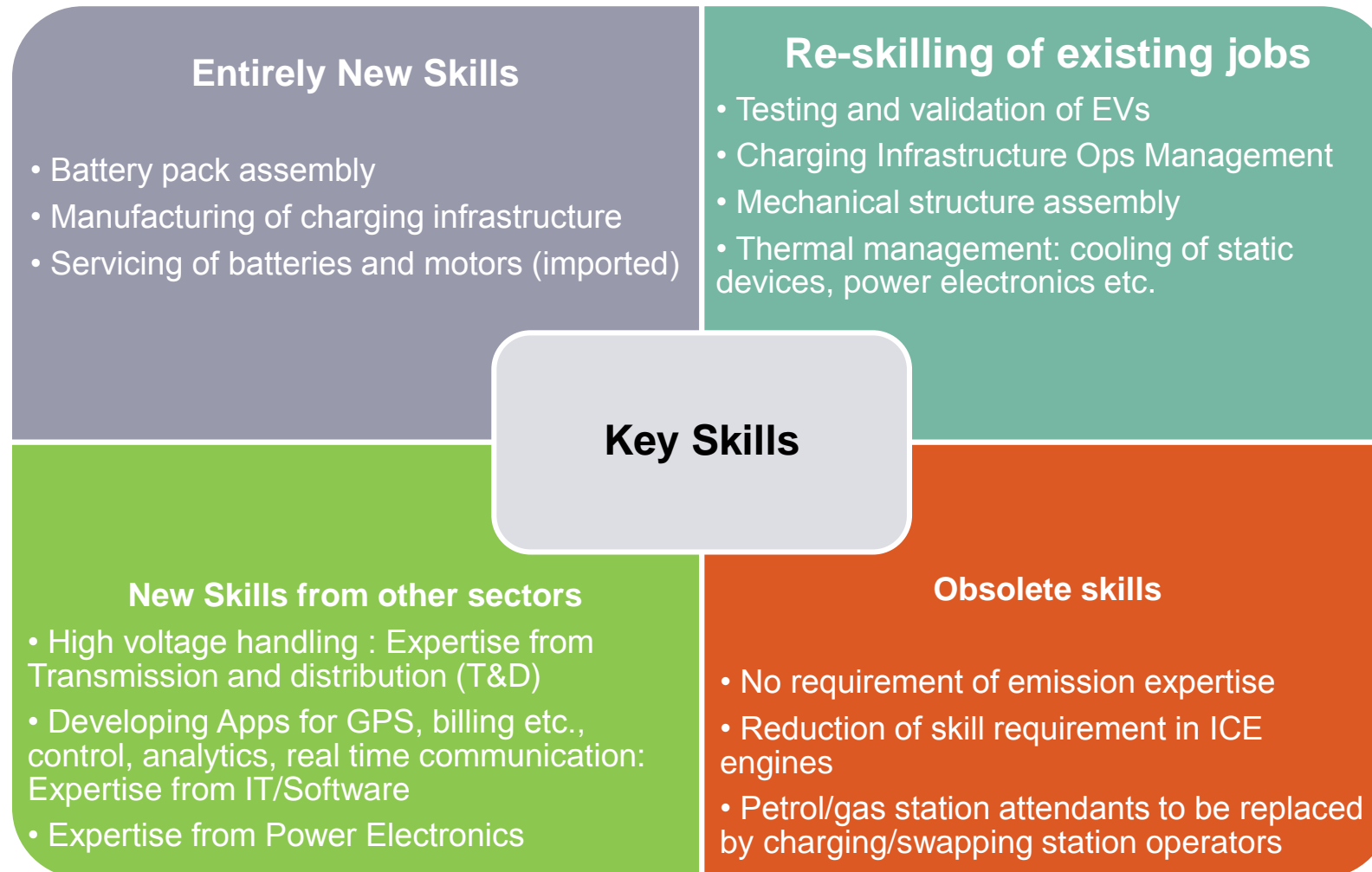


3. Challenges in Skilling and its role in developing any industrial sector



- Insufficient Scale and Restricted Capability of Training Providers
- Mobilization of Trainees as skill is not inspirational
- Employer's not buy-in as trainees are not job ready
- Scalability difficult due to poor support from stakeholders
- Skills Mismatch due to poor linkage of industry and academics
- No focus on Non-Technical Skills

4. Skill requirements in the EV sector



5. Training Needs

1. **EV diagnostics**: EVs will have many new electrical components, the troubleshooting, diagnostics its understanding becomes very to figure out where the problem is in the vehicle.
2. **Safety Precautions**: Batteries can pose a chemical and an electrical hazard to workers if not handled properly and training needs to be provided to maintain utmost caution and safety.
3. **Work Methodologies**: A training needs to be provided which covers best work methodologies for a safe working environment.
4. **Battery Handling**: A training needs to be provided for Effective battery management system (BMS) and manufacture of EV batteries with robust design for manufacture (DFM).
5. **Vehicle Integration**: These trainings should broadly cover two different domains- the grid technical operation and the electricity markets' domain to expand the EV market by integrating it in the electric power systems.
6. **Battery Swapping**: Training needs to be provided for attendants at the charging stations to be able to efficiently replace the discharged battery from the vehicle with a charged one.
7. **Service and Maintenance**: Service technicians and mechanics who inspect, maintain, diagnose and repair EV on working with computerized, electronic and traditional tools.

6. Occupational Map

- Occupational Map was developed by PwC and ASDC, then inputs were taken from Maruti India, Honda Cars India, Tata Motors, Sansera Engineering Pvt. Ltd., Mahindra & Mahindra, Ashok Leyland, etc
- Top priority job roles on Electric Vehicle

S. No.	Sub-Sector	Job Role	Area	Level
1	Charging Station	Charging Station Operator	Fast Charging	3
2	Manufacturing	Battery pack assembly operator	Battery Pack Assembly	4
3		Maintenance and Safety Engineer	Battery Manufacturing - Assembly line	6
4		Diagnostic and Troubleshooting Operator	Vehicle Assembly	4
5	Service - Vehicle	Automotive Servicing Supervisor	Workshop - Mechanical/Electrical/ Mechatronics Service & Repair	5

- ASDC is in process of developing QP/NOS and would most likely to be completed in April 2019 for specific job roles like Automotive Service Technician, Charging Station, etc.
- ASDC has formed Expert Group with the support from ARAI, Maruti India, Honda Cars India, Mahindra Electric, etc.

7. Focus Areas

A. 2 and 3 Wheeler Electric Vehicles

GENERAL

- Currently, a 12% GST applies on EVs, as against a 28%-plus GST on petrol and diesel cars and hybrid vehicles.
- 11,000 electric rickshaws are sold in India every month and sales are expected to increase by around 9% by 2021.
- M&M tied up with Three Wheels United to promote Treo range in Bangalore and Hyderabad with an aim to sell another 10,000 units.
- SmartE, an Uber-style app using 800-plus e-rickshaws around New Delhi.
- The potential market for e-rickshaws could be sales of 20 million vehicles a year.
- Hero Electric plans to sell 40,000 electric two-wheelers during the current financial year. Hoping to double its volume every year and reach the 100,000 mark by fiscal 2020 or 2021.
- SmartE plans to deploy a total of 10,000 Mahindra electric three-wheelers across India by 2020.

7. Focus Areas

B. Public Transportation (e-buses)

- Out of total budgetary support under FAMEII, about 86 percent of fund has been allocated for Demand Incentive so as to create demand for xEVs in the country
- The incentives based on demand are available as highlighted below:
 - **Electric two wheelers:** 10 lakh registered electric two-wheelers of Rs 20,000 each.
 - **E-rickshaws:** 5 lakh e-rickshaws of Rs 50,000 each.
 - **Electric four wheelers:** Rs 1.5 lakh each to 35,000 electric four-wheelers with an ex-factory price of up to Rs 15 lakh.
 - **Hybrid four wheelers:** Rs 13,000 each to 20,000 strong hybrid four-wheelers with ex-factory price of up to Rs 15 lakh.
 - **e-buses:** support to 7,090 e-buses with an incentive of up to Rs 50 lakh each having an ex-factory price of up to Rs 2 crore.

8. ASDC: experience in three Wheeler Electric Vehicle

- ASDC has QP for Auto E-Rickshaw Driver/ Assistant Service Technician (ASC/Q9719) which covers 3 wheeler domain
- Currently we are in process of revising the QPs with support of industry
- Total trained candidates under PMKVY scheme till date (2019- 2020) – 350+ candidates



9. ASDC: experience with State Transport Undertaking (STU)

- ASDC has signed MOU with DTC for training of RPL- 4 (Best in Class)
- Under RPL 4 already trained drivers are been certified under job role Commercial Vehicle Driver (ASC/Q9703)
- Till now 500+ contractual driver trained



10. How GIZ can collaborate

- **Dr. K C Vora (Deputy Director, ARAI)** is Chairing the ASDC Expert Group for Electric Vehicles.
- As per upcoming technology in the industry we are working with ARAI, Mahindra Electric, Tata Motors, Maruti, etc for QP development.

S. No.	Sub-Sector	Job Role	Area
1	Charging Station	Charging Station Operator	Fast Charging
2	Manufacturing	Assembly	Assembly Operator
3		Quality Control Engineer	Quality Enhancement
4		Diagnostic and Troubleshooting Operator	Vehicle Assembly
5		Maintenance and Safety Engineer	Battery Manufacturing - Assembly line
6	Service - Vehicle	Automotive Servicing Supervisor	Workshop - Mechanical/Electrical/ Mechatronics Service & Repair
7	Sales	Sales	Sales Manager
8	Driver's Training	Training	Driver-cum-Electrician/ Telematics

- GIZ could join in the effort and provide their expertise towards developing these QP. Also support creation of curriculum and in conduction of ToT and ToA:
 - Driving
 - Service
 - Battery Manufacturing, Design and Servicing
 - Product Design and Test Technician
 - Sales



THANK YOU