
GEAR UP WITH EU PARTNER TO RUN INDUSTRY 4.0 : FRAMEWORK FOR PUBLIC VET IN INDIA

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ABSTRACT

To adopt Industry 4.0, India is expected to encounter a number of challenges related to skill level of its workforce. The skills which are considered important today will cease to do so in Future and the workforce will be expected to possess new skill sets in the domain of Information technology, data analytics etc. A higher Percentage of the Jobs will give importance to cognitive abilities and system skills over Physical abilities.

In India, there exists a mismatch between the skill sets job applicants have and the skill sets they are expected to Possess. In the Scenario where, Industry 4.0 technologies have been widely adopted, this demand supply gap will widen even Further if necessary immediate actions are not taken. Here, exists an opportunity for India to collaborate for skilling, reskilling and up skilling with EU training providers and work together to prepare their workforce For Industry 4.0 readiness.

This paper aims to address this issue in the context of Industrial Training Institutes (ITIs) and propose Framework for partnership through a case study.

(Domain Area HRM / Keywords : "The tandem between skill development and global skill sets - an Indian perspective"/"Man-Machine Collaboration")

Introduction :

In India, Industrial Training Institutes (ITIs) are major Post School vocational and Technical Skill training Institutes. At present, there are total 14,165 ITIs (Government 2181 + private 11,984) with seating capacity 23.41 lakh (Government 5.89 lakh + private 17.52 lakh). Trades covered 126 (popular trades are Electrician, Fitter, Machinist, welder, MMV).

Demand for skilled manpower for newly Launched schemes of Government of India, namely Make in India, Digital India and readiness for Industry 4.0 in country would be Forthcoming. **Question is whether ITIs are ready to take up this challenge on their own? Attempt has been made to answer this question by critical evaluation of present ITI ecosystem and course of action has been proposed.**

Observations From the field For ITIs and Industries for Industry 4.0 readiness :

Majority of Indian manufacturing Industries have low levels of Industrial automation (robot density), low numbers of Industry 4.0 related patent applications, low numbers of machine – to – machine connections and limited activities in robotics and additive manufacturing, which is an indication of low levels of Industry 4.0 readiness. Comparison of these parameters that with the Germany is given in **Figure 1**.

	Year	India	Germany
Robot Density	2014	02 Industrial robots per 10000 Employees	282 Industrial robots Per 10000 Employees
Industry 4.0 related Patents	2014	35	953
M2M Connection SIM Connection	2014	3 1.2% Global Share	6 2.34% Global Share

Figure 1. Comparison of India and Germany

Source: International Federation for robotics, Ministry of Economy, Trade and Industry (Japan); WIPO; UPTO

On the other hand, take a case of Government Industrial Training Institute, Latur From Maharashtra State in India. Institute imparts skill and technical training in various manufacturing, Production and Fabrication trades. Critical evaluation of trade curriculum, training delivery analysis and discussions with trainer, shows inadequacy of present system of ITI to face the challenge of skilling for industry 4.0. Existing curriculum have no coverage on Robotics, Additive manufacturing, Simulation, Industrial Internet, Big data and analytics, Cloud computing, Augmented Reality, Cyber physical systems and Internet of things. Neither ITI have Facilities nor trainer possess competencies to deal with these skill sets. **Here, need arises for collaborations at Individual ITI level with EU training partners to prepare trainee and trainer for Industry 4.0 skill sets.**

Funding is not a problem for ITIs :

In the Recent past Various External and domestic funding schemes has been launched for ITIs such as world bank VTIP total outlay 355 million USD, Domestic funding for PPP Project, outlay 798 million USD, World Bank STRIVE Project 790 million USD. It is the need of the hour to utilize these funds to prepare ITIs and equip them for Industry 4.0 skills through professional training alliances with EU partners.

Collaborations needed based on ASEM Educational Process

Though MSDE Govt. of India Signed agreements with some of the EU countries like Germany, Belarus, UK, Swiss for cooperation in the Field of skill development and professional education and training. However, the main challenge in these collaborations are the last mile implementation. These collaborations are only as good as their implementation on the ground. Majority of such agreements are based on strategic Partnerships. Hence, chances of pay off takes Five to six years.

Therefore, partnerships should be based on ASEM Educational process, which emphasis on equal partnership and avoiding any “aid-based” relationships.

Proposed Frame work for Partnership :

Selection of ITI : District level ITI like Government ITI Latur. Where, land and Buildings are readily available. Act as Nodal ITI.
Nodal ITI caters the need of surrounding Taluka ITIs.

- Project objective : Skill development in ITIs for Industry 4.0
- EU training Provider : Such as iMOVE German Training provider pool, CINOP Global From the Netherlands, AQWA academy, BFW BAUSACHSEN, gGmbH, christiani are the few names.
- Agreement and funding : Agreement between Individual ITI and training Provider. Funds for services will be borne by central, State and CSR from Industries.

It should be a two way frame work in which roles of each clearly predefined. These partnership roles has been depicted in **Figure 2**.

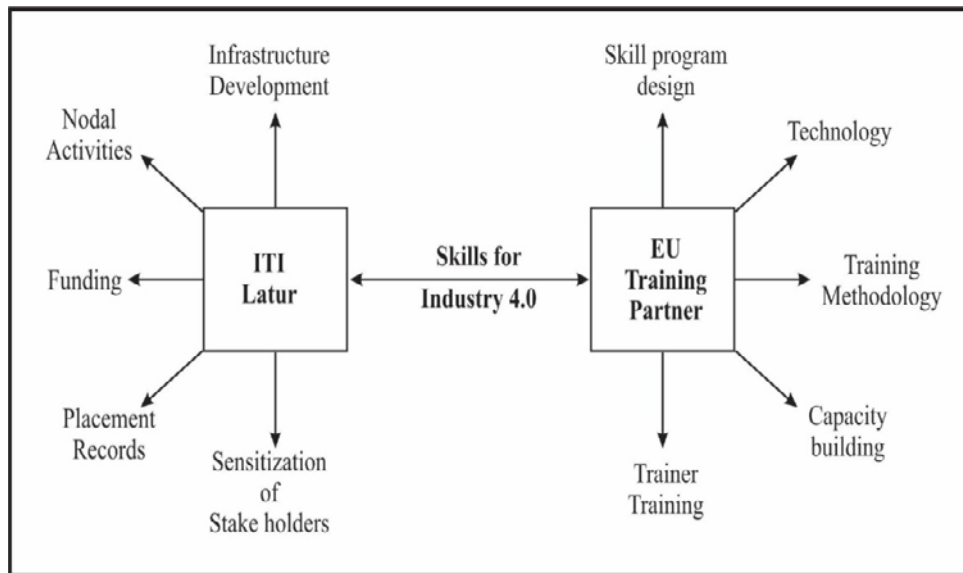


Figure 2. Two way Partnership roles.

Conclusions and Recommendations

1. The main objective of EU partnerships and collaborations is to leverage best practices and expertise to get ready for skills required for industry 4.0. Further, such partnerships will immensely enrich domestic training programmers already operationalized in ITIs.
2. The present various grant and aid based “Free” MOUs and partnerships in skill training programs available for developing countries, though necessary, have their own limitations, especially when, receivers getting benefits for “free” attach little value to training.
3. The cognitive abilities as a core skill will rise in ITI students through such partnerships.
4. Partnership with EU training provider will help to identify the strengths and weaknesses of existing ITI skill systems, benchmark them internationally, and develop policies for in house improvement.
5. This cooperation will also help to make Indian youth Job ready as per global standards.
6. Pedagogical and didactic reforms within the scope of the Industry 4.0 can be achieved.

(Keywords : ITI, partner, Framework, Industry 4.0 Skills.)

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