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Ministry of Communications & IT
Department of Telecommunications

New Delhi, the Oct 2013

**Advisory Groups on Skill Development
in Telecom Sector - 1st Report**

Two Advisory Groups on Skill Development in Telecom Sector were constituted with the approval of Hon'ble Minister of Communications and IT vide OM of even no. dated 28th June 2013.

Meetings of both the Advisory Groups have been held on 7th Aug 2013 and 24th Sep 2013, and the minutes of these two meeting have been issued vide OMs of even No. Dated 23-Aug and 30-Sep respectively. Based on the brain-storming done in these meetings and inputs received from all the stakeholders, the following gist of actions initiated/ recommendations is prepared for the appraisal/ approval of the Apex Committee:

2 Actions Initiated

2.1 Commissioning of Skill Gap Study:

It was deliberated in the first meeting that the Skill Gap Study for the Telecom Sector may be commissioned under the aegis of NSDC, and DOT may provide the necessary domain expertise. *NSDC confirmed for undertaking the Study vide their communiqué dated 6th Sep 2013.*

- 2.2 NSDC had indicated that Telecom Sector was being treated as a sub-sector for the purpose of Skill Gap Study. The matter was further discussed in the meeting on 24-Sep. It was emphasised that clubbing Telecom as a sub-sector may not address all the potential issues in the Skill Gap study. NSDC had agreed to revisit the issue. A detailed communication for treating Telecom Sector as an independent Sector was sent to NSDC on 24th Sep. *NSDC has revisited the issue internally and the same has been confirmed by NSDC vide their response dated Oct 4, 2013*

2.3 Scope of Skill Gap Study

Scope of study and the expected outcomes from the Study have been prepared by an internal group of DoT and are placed at Annex A. The same was discussed in detail in the Advisory Groups.

NSDC has indicated that to bring more granularity in the Terms of Reference, they may organise a half-day workshop. A core group has been constituted in DOT to provide necessary domain expertise for the Study.

Advice of the Apex Body is solicited on any augmentation/ modification in the Scope of the proposed Study.

3. Recommendations

3.1 Skill Development Initiatives need to be targeted at all levels of the Skill Pyramid

- Higher skill levels to ensure industry competitiveness through research and IP etc.
- Lower levels where much of the workforce is concentrated - for effective service delivery and service utilisation

BSNL/MTNL have extensive and capital intensive state-of-the-art training infrastructure (Annex-B). They will need to play a pivotal role in catering to the higher skill levels where exposure to the back-end equipment will be a must. Skill Councils can play a pivotal role in development of skill sets in handset, CRM and similar verticals where the private industry has better core competence.

In-principle acceptance solicited.

3.2 Compared to other streams of Engineering education, Telecom stream is unique due to extremely fast changing technology.

Recommendation:

- *MHRD may put in place an institutional mechanism for regular review of Telecom course contents of Engineering colleges and Polytechnics in sync with industry requirements.*
- *Standing core groups may be constituted at NTIPRIT to review and make recommendations to all concerned agencies for upgrading the academic curriculum appropriately.*

Acceptance of the Apex Body may be solicited for the same.

3.3 There is a need to consolidate the information and knowledge base in the Telecom Sector, and a one-stop repository for disseminating telecom field related information, standards, benchmarks, resources, program curriculum, etc. is required. NTP-2012 has mandated a comprehensive repository at NTIPRIT. Such an initiative will be a great boost for the Skill development initiatives.

The Advisory Groups have taken note of the Committee formed under the chairmanship of Sr DDG (TEC) to submit a framework for technical details and content. Budget provisions in this regard may be made for the next year.

Further, NIC can be roped in for hosting the KR. Approval of Apex Body may be sought for the same.

- 3.4 To ensure proliferation of Telecom Technologies to the bottom of the Pyramid, content in the local languages is required on a much larger scale. Smart phones will be a great help in spread of ICT usage through vernacular scripts. Real utility of smart phones and broadband will be felt only when we are able to literally connect the unconnected.

As CDAC is pioneer in working on local languages, they are being included as special invitees in the future meetings of Advisory Groups. Approval may sought for making them a permanent invitee.

3.5 Role of NTIPRIT as per National Telecom Policy 2012

National Telecom Policy has mandated to strengthen and develop National Telecom Institute for Policy Research, Innovation and Training (NTIPRIT)

- as an institute of international repute,
- for capacity building and
- enabling research in India centric technologies and policies in telecom domain.

Presently, NTIPRIT is sharing resources and infrastructure of ALTTTC, Ghaziabad. NTIPRIT is to be developed and strengthened as per NTP mandate. Acceptance solicited.

NTIPRIT may make necessary Budgetary provisions in this regard.

- 3.6 There is need for standardisation of curriculum for Skill Development in Telecom Sector. Currently, the following initiatives have been taken up:
- BSNL has developed standard modules for courses in line with NVEQF, in collaboration with AICTE. They have also prepared and launched various certificate programmes in telecom domain, which are in mixed mode of On-line learning plus physical hands-on experience at various BSNL facilities.
 - Telecom Sector Skill Council have identified 150 job roles for the Sector and have developed National Occupation Standards for almost 25 job-roles.
 - NCVT is developing MES modules under their Skill Development Initiative Scheme.

Advisory Groups consider that this is just a beginning and there is enough space for all these players to work on development and standardisation of modules. As things evolve, these agencies can identify their core competence segments and consolidate. Further, there is a need for tie-ups with the industry to ensure employability of the skilled work-force. Since the acceptance of the Skill-certificates issued by the different agencies will be solely driven by quality, there is a need to ensure appropriate quality checks to have wider acceptance of their certification processes.

In view of large no. of ITIs in the last mile, DGET may initiate development of MES modules for Telecom Sector with inputs from industry and other stakeholders.

4 The Road Ahead

Following are some of the issues identified for future deliberations:

- Developing a comprehensive Skill development Plan for the Sector
- Matching demand and supply - acting as a Skills Development Aggregator for the Telecom Sector - aligning with the National Agenda of training 500 million people by 2022.
- Taking a holistic view and Synergizing Capacity building for Telecom Sector among PSUs, NSDC, Sector Skill Councils, MHRD, DGET etc.
- Creation of framework for certification and accreditation for Telecom sector
- Facilitating new initiatives for Capacity Building
- Skill development initiatives in New Technologies/ services
- There is a need to explore sharing of experts between Industry and education Sector. National Knowledge Network (NKN) should be effectively used to share and update the industry-related content/ knowledge.

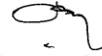
Based on future discussions in Advisory Groups wherever action can be taken in the spirit of directions of the Apex Body, the same will be initiated.

However, issues requiring directions of Apex Body shall be brought before the Apex Body in the forthcoming meetings.



(R K Bhatnagar)

Adviser (T)- cum-Chairman
Advisory Group on
Content, Quality and Examination Framework



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Adviser (O)- cum-Chairman
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Annex - A/1

Skill Gap Study for the Telecom Sector in India

- Terms of Reference

September 2013

The Mandate of Study

To assess

- current level of directly or indirectly deployed Human Resources and their skill sets and expertise levels, and
- demand projections for at least another 10 year period about incremental human resource requirements and their skill sets for the entire telecom sector.

Scope of Study

- Estimate the skilled manpower demand till 2022
- Identify industry trends that would impact the future skilled manpower requirement
- potential sources of skilled manpower;
- barriers to overcoming skill shortages and solutions
- To conduct a quantitative as well as qualitative (competency, education levels etc.) assessment of the current and projected supply based on required demand
- To conduct a quantitative as well as qualitative assessment of the existing gaps in the trainers space and recommend strategy & operating plan to increase the availability of trainers;
- Analysis of International best practices/benchmarks and in skill development in the sector;
- Developing strategy & operating plan for skill development in the sector;

Annex - A

Expected Outcomes of the Skill-Gap Study

1. Overall Mapping of the Telecom Sector
2. Demand mapping: Mapping of the Skills Gaps
3. Supply Mapping: Mapping of available skills/ training infrastructure in the sector
4. To consolidate and collect information on earlier initiatives on Skill-gap analysis for the sector by various Agencies, if any.

1. Overall Mapping of the Telecom Sector:

- (a) To analyse the entire sector and its characteristics in terms of available sub sectors, contribution to the industry, demand and supply factors in terms of employment,
- (b) To clearly identify the sub sectors that form part of the Telecom Sector
- (c) To understand the nature of job creation, job vacancies and expansion strategies of key stakeholders in selected main sub sectors
- (d) To validate the total workforce requirement numbers till 2022 (validate numerous studies done till date).
- (e) Geographic regions of employment concentration – States/ cities
- (f) To determine the training needs of workforce in the main subsectors from the perspective of industry

2. Mapping of the Skills Gaps (Demand mapping):

- (a) To understand the sub sector wise **current employment records** both direct and indirect jobs in core jobs of main sub sectors
- (b) To identify and **profile the skills** required to perform key trades in the main sub sectors, job profiles and understand the patterns of skills transfer and skill acquisition process and prepare a workforce matrix.
- (c) To understand the **interdependency and level of commonness** in sub sector profiles and availability of cross functional workforce requirement in selected subsectors
- (d) To understand the **job forecasting practices and the existing practices** of meeting the HR requirements being followed in the industry
- (e) To analyse the **manpower projections** in main sub sectors both in terms of direct jobs and indirect jobs and outlining the HR projections for the next 10 years, assessment of Human Resource requirements and time and stages of requirement in main sub sector, requirement of skilled manpower, direct jobs and indirect jobs in terms of numbers within main sub sectors of the industry
- (f) To assess the **surplus and shortage of workforce (quantitative)** in selected sub sectors
- (g) To **analyse the skills gap (qualitative)** in key thematic job profiles in terms of skills mismatch, skill adequacy, skill transfer etc within main sub sectors
- (h) To assess the functional distribution of human resources at operator, supervisor and managerial levels across functions of manufacturing, design & development, projects, sales and marketing, procurement, services, support functions etc. and skills shortages by functional distribution level

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Answer - A/3

3. **Mapping of available skills/ training infrastructure in the sector (Supply side):**
 - (a) To understand the **manpower supply systems, skills training institutions** and asses their effectiveness in terms of incorporating sector requirements (curriculum /Infrastructure deficit/competency of trainers) and relevant changes in their workforce development processes for the selected sub sectors
 - (b) To understand and document the **skill development initiatives being led by industry** and other agencies. This will cover the best practices, scope and challenges and improvement possibilities
 - (c) To analyze and understand the current accreditation and standardization processes

4. To consolidate and collect information on earlier initiatives on Skill-gap analysis for the sector by various Agencies, if any.

Availability of Infrastructure with PSUs

Infrastructure for elaborate technical training with the Telecom PSUs and their annual capacity :

- BSNL has a national footprint with 40 training centres located throughout the country
- MTNL has one training centre each at Delhi and Mumbai
- Taken together, these PSUs have 250 plus classrooms and **State-of-the-Art labs covering the entire gamut of Telecom Services**
- Hostel accommodation of 5000-odd beds translates into residential capacity for 2 lac trainee-weeks per annum
- ITI has 5 training Centres

DOT will encourage these PSUs to increase their involvement in skill development. They may carry it out directly or through partner organizations