

**Bangladesh Hi-Tech Park Authority (BHTPA)
Information and Communication Technology Division
Ministry of Posts, Telecommunications and Information Technology**

**Digital Entrepreneurship and Innovation Eco-System Development Project
(DEIEDP)
Bangladesh Hi-Tech Park Authority (BHTPA)**

**Terms of Reference (TOR)
for
Selection and Employment of a Consulting Firm
For Management of**

“Training on 4IR Technologies”

**as a part of the Digital Entrepreneurship and Innovation Eco-system
Development Project under the
Private Investment and Digital Entrepreneurship Project (PRIDE)**

Package No: DEIEDP-BHTPA-S-24

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1. Introduction

- 1.1 The Government of Bangladesh has set objectives to maximize the potential direct and indirect impacts through a more modern, generalized regime for Economic Zones (EZs) and Hi-Tech Parks.
- 1.2 The now completed Private Sector Development Support Project (PSDSP) supported establishment of HTP under BHTPA. The new Bangladesh Private Investment & Digital Entrepreneurship (PRIDE) Project will build upon the foundation laid by PSDSP and strengthened capacity to start delivery by BEZA and BHTPA on their mandates.

2. Objectives of the project

- 2.1 **The objective of PRIDE** is to promote private investment, job creation, and environmental sustainability in participating economic zones (EZs) and software technology parks (STPs) in Bangladesh. It will achieve this through four components.
- 2.2 BHTPA will implement the component **4: Strengthening the Digital Entrepreneurship and Innovation Ecosystem Development (DEIEDP-BHTPA)**.
- 2.3 **The DEIEDP-BHTPA:** The component 4 is implemented by the BHTPA which is aimed to strengthen the foundation of the digital entrepreneurship and innovation ecosystem in Bangladesh and take advantage of the increasing global and domestic demand for digital services further ramped up by the Covid-19 pandemic. Estimates of the size of the digital economy range from 5 percent to 15 percent of GDP and information, communication and technology (ICT)-related exports are estimated at US\$1 billion in 2019. Nearly 300,000 Bangladeshi professionals code software, design software applications and serve clients at home and abroad through peer-to-peer digital marketplaces compared to less than 10,000 five years ago. The digital economy is increasingly affecting traditional industries. but, there are relatively few Information Technology Services (ITS) and Information Technology Enables Services (ITES) companies that have grown large, and there is a disconnect between universities and industries which means that graduates are often unprepared for the world of work. More traditional businesses are adapting to digital platforms and use ITS and ITES to improve operations. There is an increasing demand for facilities offering connectivity, funding, market access, and physical and virtual workspaces for digital entrepreneurs. Estimates suggest that four out of five ITS and ITES businesses operate from non-commercial or residential areas. The sector has the potential to create a lot of jobs for educated women. The share of female employees varies across Software Technology Parks (STPs) with an average of 33 percent. STPs provide a unique opportunity to promote female employment and entrepreneurship in the ITS and ITES sector, which is generally lower than in some other sectors.
- 2.4 The BHTPA is planning to establish incubation centers within the STPs and select technical universities to strengthen the entrepreneurship ecosystem and encourage digital entrepreneurship.

2.5 PRIDE's DEIEDP-BHTPA will create the country's largest agglomeration of ITS and ITES Small to Medium Sized Enterprises (SMEs) in Dhaka's Vision 2021 Tower Software Technology Park (STP) that will be turned into a green building; and promote digital entrepreneurship more broadly among young professionals and women. Digital entrepreneurship will be supported at three levels. First, it will establish modern and professional start-up and scale-up facilities and services in STPs licensed by the BHTPA. Second, it will pilot entrepreneurship and innovation hubs in some leading technological universities and business schools. This will also offer accredited and rapid training programs to budding entrepreneurs and managers in the ITS and ITES field. Third, it will offer a media-based challenge program with prizes to help change attitudes and attract more youth, women, and young professionals to consider becoming entrepreneurs. The goals are to create entrepreneurship hubs, to increase market entry and growth rates of digital startups and SMEs, and to create a gender-inclusive culture. The component has two sub-components:

2.5.1 Establishing Dhaka's first digital entrepreneurship hub in Vision 2021 Tower STP (Former Janata STP)

2.5.2 Digital Entrepreneurship, training and innovation support program

3. Skills Development in the DEIEDP-BHTPA: Training on 4IR Technologies

3.1 The DEIEDP-BHTPA success is dependent on entrepreneurs and firm employees having, or having access to, the right skills and so the project includes support for skills development. The skills development work supports the overall PRIDE component 4 objectives:

- a) More people in better jobs - 4000 new high skill, graduate, jobs will be facilitated by PRIDE. Employment opportunities in STPs generated by these new jobs, and by natural churn in existing jobs, are more skilled and more likely to be formal than in the wider labour market. This generates opportunities for nationals, but only if they have the right skills. Skills development will provide pathways into the STPs and High-Tech Parks (HTPs), including into the new jobs created, by offering skills development opportunities to 3000 beneficiaries which leads to a graduate job.
- b) More investment-ready SMEs - by offering technical, management and leadership skills required for business scale-up to management and employees of SME firms and their potential hires.
- c) More youth, women and professionals attracted to becoming digital entrepreneurs - by providing entrepreneurial training and support for people who wish to start new businesses in BHTPA-supported STPs and HTPs.
- d) Women participating in ICT and ITes industries – by improving pathways into ICT jobs. At least 40% of the new jobs facilitated by BHTPA's PRIDE should be taken by females. The specific Component 4.2 objective is that 40% of the beneficiaries of training linked to employment in STPs and HTPs will be women.

This Terms of Reference is wholly focused on skills development for 4IR Technologies, thereby supporting the overall PRIDE skills development objectives.

3.2 The expected beneficiaries of the skills development program are the IT ITes companies specially Tenants of the HTPs and STPs, potential firm who will be Tenants, and the firms, entrepreneurs and employees who are in Tenant Supply chains. Beneficiaries also include

female graduate job-seekers who are seeking employment or self-employed work in the HTPs, STPs or their supply chains.

- 3.3 BHTPA is interested to create skilled resource pools in IT/ITES and Hi-Tech Sector through scaling up their skills to face the challenges and innovations of 4th Industrial Revolution. BHTPA is also keen to create world class human resources in emerging and upcoming technology.
- 3.4 Firms in the HTPs and STPs are expected to include those which are offering services to customers and clients overseas, and to be operating as a part of global value chains. BHTPA will also target support for firms which are investing into high value business models based on trading intellectual assets, digital transformation and the fourth industrial revolution, and semi-conductors. These priorities are linked to the PRIDE objectives of providing higher value jobs by moving on from business models based on low costs of labor.
- 3.5 BHTPA has conducted a Training Needs Analysis which gives clear guidance on technical skills development requirements for the IT and ITes sector, but also highlights a substantial need for on-the-job learning to ensure that skills are developed in the work environment, and for broader workplace skills such as soft skills. It also reiterates existing information on a disconnect between universities and industry, necessitating better approaches to education-to-employment pathways.
- 3.6 The scope of this Terms of Reference is limited to providing skills development services, in other words, the skills gap will be addressed through skills development programs.

4. Objectives of the assignment

Increase the proportion of working in graduate positions in IT/ITES industry specially in the HTPs and STPs by targeting new graduates or existing workers and improving their access to jobs and careers through information, training, and support tailored to their needs. The detailed objectives are as follows:

- Create a readily employable workforce to be absorbed in the IT/ITES sector by the industry, particularly for the firms located in HTP/STPs;
- Increase self-employment opportunities for the female in the IT/ITES industries
- Upgrade skills of employees working in the IT/ITES industries, enabling its growth with better-qualified human resources
- Provide globally recognized vendor specific certification and training programs covering IT/ITES industry needs
- Develop increased freelancing community to participate in micro work on crowdsourcing platforms

5. Scope of Services

BHTPA will hire a skills development Consulting Firm to address the career development of individuals desiring to work in IT sector targeting needs of 4IR technologies in Tenant firms in HTP/STP or their suppliers or prioritized IT firms or freelancing market. The Consulting Firm shall:

- 5.1 Develop and operate a process like survey/workshop/focus group discussion/stakeholder consultation for acquiring client firms, reaching and on-boarding learners, and supporting

learning and learner progression in work which delivers on pre-agreed outcomes for firms, trainees and BHTPA.

- 5.2 Target a list of firm and individual as clients of the services through appropriate channels and work with BHTPA to ensure participation of trainees thriving in emerging technologies. The list of Target Firms will include:
- Firms that are investing into 4IR Technologies.
 - Firms that are tenants of HTPs or STPs or are prospective tenants who are intend to develop intellectual assets based on 4IR technologies.
 - Local firms who are delivering in 4IR supply chain.
- 5.3 Provide client support to firms:
- Understanding clients' training and recruitment needs and ensuring the skills development offer meets their needs; and
 - Meet clients regularly to take feedback and check programme effectiveness.
- 5.4 Work together with the Tenant firms in HTP/STP to understand the potential employees career paths and enroll them in courses that are appropriate for their careers.
- 5.5 Find or develop channels to reach graduate employees, job-seekers or potential self-employed workers in order to inform them of skills development opportunities under Training on 4IR Technologies.
- 5.6 Target learners for recruitment onto Training on 4IR Technologies or take referrals and run a process for checking their eligibility, understanding learning needs, and registering them onto courses with appropriate training plans.
- 5.7 Develop and maintain communication and linkage with educational institutes to ensure large number of female involvements in the program which will create awareness.
- 5.8 Develop and maintain communication and linkage with associations and organizations who are working for the development of female involvement in the program which will create awareness.
- 5.9 Develop and operate specific tactics for improving participation by people with disabilities.
- 5.10 Provide training in the technical subjects listed in the section below which has the following features:
- Select trainees as per qualification and eligibility criteria detailed in section 10
 - appropriately qualified trainers/experts to conduct quality training program which will enhance better employability skills of the candidates for the IT/ITES sector;
 - A work-based element of training and assessment such as project work or teamwork.
 - Trainer trainee ratio in any classroom for this program could not exceed 1:20;
 - Need to conduct prescribed duration of courses;
 - Refresher courses/re-training of candidates not passing the assessment test without claiming any additional cost.
- 5.11 Soft Skills Training and assessment against standards provided by BHTPA.

5.12 Provide support and guidance to learners through their learning process:

- Careers advice and guidance for new joiners based on information about the labor market supplied by BHTPA or other sources, and specific opportunities found through work with client firms.
- Initial assessments of their needs to ensure appropriateness of skills development programme.
- Guidance and support during programs aimed at helping them achieve their personal goal.
- Job-placement support through job-matching or job-search training and support, or equivalent support for people finding self-employed opportunities.

5.13 Assessment of competence in a final assessment, and a certificate that can be cited in resumes and on-line profiles. In some cases, there is an external vendor certification and the Consulting Firm will facilitate the assessment and certification process for learners. Where there is no external vendor certification, the Consulting Firm will issue a certificate with the logos of their company and BHTPA and signed by an appropriate representative of both organizations.

5.14 Find or develop channels to track employment and career progress of the trainees.

5.15 The consulting firm has to perform till 18 months.

5.16 Place of work: Dhaka, Chattogram, Khulna, Rajshahi, Sylhet, Mymensingh, Barisal (Location may change based on demand).

5.17 Reporting to BHTPA to support performance management as outlined in the sections below

A. Training Details

- Total target no of trainees: 300, where 120 must be female (40%)
- Total Number of Specialization: 5
- Total Number of courses: 13
- No of courses with professional certification exams: 11 certification exams (260 persons)
- No. of Courses with Industrial project work report: 2 Courses (40 persons)
- Completion time: 18 months

Specialization	Course Name	Hours	External Assessment Or Certification	Location	No of Trainees	No of Batches
Big Data	Data Analytics	160	Certified Analytics Professional (CAP®)	Dhaka	20	1
	Power BI Data Analyst	160	Microsoft Certified: Power BI Data Analyst Associate	Dhaka	20	1
				Chattogram	20	1
Artificial Intelligence	Artificial Intelligence Professional	160	Certified Artificial Intelligence Professional (CAIP)	Dhaka	20	1
	Artificial Intelligence Expert	160	Artificial Intelligence Expert Certificate - CAIEC™	Dhaka	20	1
	Machine Learning	160	Google Certified Professional	Khulna	20	1

Specialization	Course Name	Hours	External Assessment Or Certification	Location	No of Trainees	No of Batches
	Professional		ML Engineer	Dhaka	20	1
Embedded Systems	Embedded Systems Schematic & Circuit Design	160	Exam and Industrial project engagement report	Dhaka	20	1
	Microcontroller Embedded Programming C	160	Exam and Industrial project engagement report	Dhaka	20	1
Robotics	Automation Professional 360	160	Automation Anywhere Certified Advanced RPA Professional	Sylhet	20	1
	Automation Master 360	160	Automation Anywhere Certified Master RPA Professional	Dhaka	20	1
	Robotic process automation Associate	160	UiPath Certified RPA Associate (UiRPA)	Rajshahi	20	1
	Robotic process automation Developer	160	UiPath Certified Advanced RPA Developer (UiARD)	Dhaka	20	1
Cyber Security	Information Systems Security	160	Certified Information Systems Security Professional (CISSP)	Dhaka	20	1
	Governance of Enterprise IT	160	Certified in Governance of Enterprise IT (CGEIT)	Dhaka	20	1
					300	15

- All trainees will also receive training and certification in Soft Skills against standards that will be supplied by BHTPA.
- Product and UX design principles & basics needs to be included in the course curriculum for applicable courses.

B. Expected outcome

- I. Eighty (80) percent of Target Firms (refer to the Scope of Services section above) engaged as beneficiaries.
- II. Completions/assessments/certifications against agreed learning outcomes
 - Number of learner course completions is Hundred (100) percent of the numbers listed in the Number of Trainees column in the table A above.
 - Number of learner course completions is Hundred (100) percent of the number registered through the learner recruitment and registration process.
 - Number of successful assessments and certifications is no less than Eighty five (85) percent of the number of course completions.
- III. Create gainful training leading to employment, self-employment for the youth through the program in the IT/ ITES industry and sector.
- IV. (80) percent of registered learners gain successful employment outcomes. An employment outcome may be proof of:
 - In-work progression for learners who were employees when they were registered. This may be movement to a new post or project consistent with their learning programme, or a pay increase if they remain in the same post.
 - A job for learners that were job-seekers when they were registered, which they hold for no fewer than 3 months (the statutory probationary period)

- A freelance position for those who registered on the learning programme in order to be self-employed.
- V. Increase participation from freelancers in Microwork on Crowdsourcing platforms measured by proven participation in the platforms by those who were trained under Training on 4IR Technologies.
- VI. Establish special linkages with the local and international IT/ITES companies (the Target Firms detailed in sections above) in facilitating placement of trained candidates.
- VII. Support current tenants of STPs and HTPs and their supply chain in improving female participation, and encourage IT/ITES companies to set up their operations at the STPs and HTPs in Bangladesh. This should be measured through Employer Satisfaction Survey.
- VIII. Create awareness on the IT/ITES sector opportunities among trainees, parents and teachers measured through survey.

C. Performance Monitoring

- I. **Management:** The Project authority and the Consulting Firm shall meet at the management level at least once every month or as often as necessary to review the performance of the services provided with a view to ensuring quality standard in the services.
- II. **Work Progress Record and Reports:** The Consulting Firm needs to deliver records of following documents on timely basis:
 - i. Trainee database (before starting class)
 - ii. Lab facility details with picture (before starting class)
 - iii. Picture (CCTV screen-shoot) of class (regularly- at the mid of the class)
 - iv. Live tracking of class through CCTV and social media page (regularly)
 - v. Daily attendance (within 1hour of class)
 - vi. Course progress (soft copy-daily & hard copy Monthly)
 - vii. Assignment (after 70% of class completion) & assessments (at the end of the course based on the assignment)
 - viii. Certification
 - ix. Trainee & Trainer feedback (monthly)
 - x. Job placement record (at the end of the course)
 - xi. Vendor certification record (at the end of the exam)
 - xii. Employer satisfaction survey results
 - xiii. Tracking of trainee's career growth (for 1 year after completion of job placement).
 - xiv. Round the clock expert support service for trainees in a mean of blended learning.
- III. **The following recorded documents should be submitted to the Project office:**
 - i. Inception report: The Consulting Firm will submit the inception report within 20 days of agreement signing including finalized trainers list, lab details, marketing & trainee acquisition plan, detailed program plan in prescribed format.
 - ii. Pre-assessment report: The Consulting Firm will submit the pre-assessment report before starting every batch in prescribed format including selected candidates present skill level, convenient class schedule, modified syllabus and training plan.

- iii. Quarterly work progress report: The Consulting Firm will submit work-progress report on quarter basis in prescribed format including the batches and date details.
- iv. Batch completion report: The Consulting Firm will submit batch completion report in prescribed format including post training assessment and the batches details.
- v. Job placement report
 - 1. Before starting batch, the current job condition of the trainees;
 - 2. Immediate after completing training, if any improvement; and
 - 3. Complete placement report within 6 month of batch completion.
- vi. End-of-Contracts Reports: The Consulting Firm will submit contract completion report in prescribed format including the batches and date details.
- vii. Follow up report: The Consulting Firm will submit the follow up report quarterly after assignment/ contract completion.
- viii. Other documents if required.
- ix. The Consulting Firm must keep all this information in a learning management system and BHTP shall access to it to verify records.

IV. Progress Monitoring

- i. The Project Authority will designate consultant(s) from the Project office who is involved in monitoring progress, reviewing major shortcomings and corrective action taken by the Consulting Firm, assessing the arrangements made by the Consulting Firm and attending to other matters related to contractual obligations of the Consulting Firm for the successful implementation of the project.
- ii. Progress meetings are meant to review on the services provided by the organization as a whole and they are not meant to substitute the regular consultations and meetings that are usually held at ground level for day-to-day matters.
- iii. Appropriate records of the Progress Meetings shall be kept by the officer Performance of the Consulting Firm will be certified by this officer which shall be the basis for phase-by-phase payment to the Consulting Firm.
- iv. BHTPA will have the right to make short-notice or surprise visits to the installations where training services are being delivered, with the purpose to validate quality of learning and quality of record keeping.

6. Key Experts

Sl. No	Expert position	Educational Qualification	Experience & Professional Certification	Total person-month	Indicative Number of positions
1	Team Leader	Minimum master's degree in CSE/EEE/ETE or any IT/ITES related discipline	Minimum 10 (ten) years of experience in similar type of project management, at least 2 Years as team leader.	1*18	1 (Full time)

Sl. No	Expert position	Educational Qualification	Experience & Professional Certification	Total person-month	Indicative Number of positions
2	Coordinator	Minimum Bachelor's degree in CSE/EEE/ETE or any IT/ITES related discipline.	Minimum 5 (five) years of experience in Training Management with at least 2 Years as training coordinator.	(3*12) = 36	3 (Full time)
3	Key Expert / Trainer	Minimum bachelor's degree in CSE/EEE/ETE or any IT/ITES relevant discipline.	Minimum 5 years of relevant experience. Must have related professional certification for respective course and proven industrial experience for embedded system courses.	(2*15*6) = 180	2 trainers in each Batch
4	Mentor-1	Minimum bachelor's degree in any relevant discipline.	Minimum 3 years of relevant experience. Must have proven track record as top-rated freelancer in 4IR technologies.	6	1 (Intermittent)
5	Mentor-2	Minimum bachelor's degree in any relevant discipline.	Minimum 3 years of relevant experience. Must have proven track record as soft skill trainer.	6	1 (Intermittent)
6	Lab Expert	Graduate or Diploma from IT/ITES related discipline.	Minimum 1 (one) year of experience as Lab Assistant in 4IR technologies. Minimum 1 (one) year of experience as Lab Assistant for Embedded systems design	30	5 (Intermittent)
Total				210	

The key experts proposed by the short-listed consulting firms will be interviewed by the PIU.

7. Classroom Infrastructure and training tools/equipment required:

7.1 At least one Training room in each location with necessary training equipment (projectors, white board, chairs, tables) to accommodate at least 25 trainees.

7.2 At least one computer lab in each location with

- 350-400 sq. ft. lab space;
- Minimum 25 computers with all required licensed software for the listed courses respectively;
- Emergency power backup;
- Stable Internet connection;
- Headphone and microphone;
- AC;
- CCTV;
- Projector and white board;

7.3 Labs and infrastructure proposed by the short-listed consulting firms will be visited by the PIU.

8. Eligibility Criteria of the Trainees:

The trainees would be selected by the training service providing firm in collaboration with the project office. The following criteria should be followed to select the trainees:

- a. The training service providing firm will conduct a workshop guided by the PIU to set applicant standard for the listed courses respectively. The standard must be validated by Industry-Academia-PIU alliance. The firm will invite applications based on the set standard accordingly.
- b. The training service providing firm will conduct another workshop guided by the PIU to set course curriculum and training mode for the listed courses respectively. The course curriculum and training mode must be validated by Industry-Academia-PIU alliance. The firm will invite applications based on the set standard accordingly.
- c. Trainees should be employees, potential employees or freelance workers of IT/ITES firms located in HTP/STP, or of organizations in the supply chains of IT/ITES firms located in HTP/STP
- d. Trainees have to pass an entry-level selection process to attend the program as a part of the Participant Selection Process outlined below;
- e. BHTPA always encourages participation of people with disabilities, transgender and third gender;
- f. For vendor/professional certified course, candidate must fulfill eligibility requirements set by the Exam Vendor.

9. Facilities, Data, Information, Support: The BHTPA will provide the following support:

- a. Ninety five percent (95%) tuition fees will be borne from DEIEDP-BHTPA and rest five percent (5%) will be borne by the participants;
- b. Tuition fee will be disbursed to the Consulting Firm by the project authority subject to the fulfillment of every milestone based on the number of graduate candidates enrolled for undergoing training under this project.
- c. Vendor certification fees will be reimbursed after successful completion of the examination.

10. Participant Selection processes

- a. Hundred (100) percent trainees will be graduate of relevant discipline where all of them must be either:
 - i. Currently employed at a Tenant firm in HTP/STP or an organization in their supply chain, or prioritized firms or
 - ii. A graduate job-seeker who is seeking employment in known positions in tenant firms or their downstream supply chain, or prioritized firms or

- iii. A graduate who intends to become self-employed offering services for which there is a known demand in tenant firms or their downstream supply chain or prioritized firms or
- b. Trainees have to pass an entry-level selection process to attend the program as per the standard set in section 8.a.
- c. The Consultant Firm must offer career guidance to trainees and an initial assessment to confirm that the trainee can get benefit from the selected course.

11. Consulting Firm Training activities:

Consulting Firm will offer career counseling as part of an onboarding process. Consulting Firm will initiate the process of a topic only after getting written permission from the project office.

12. Code of Conduct

- a. During the service provision period, all experts and support staff of the Consulting Firm must comply with applicable laws, rules, and regulations of Bangladesh.
- b. All the documents and information produced by or during the consultancy services will be the sole property of the BHTPA. No information or document is permitted to transfer or share or disseminate elsewhere without the permission of project director will be treated as fraudulent activities and measures will be taken if so happen.
- c. The project may have the copy right of all documents developed under this assignment.

13. Payment Schedule

1st Payment: Ten percent (10%) of the contract price after the submission of the inception report and acceptance by the project authority.

Payment Based on Deliverables: Sixty percent (60%) of the contract price at the rate of four percent (4%) for each batch ($15 * 4\% = 60\%$). The program will be completed in fifteen (15) batches and the consultant is eligible for payment after submission of batch completion report of at least seven (7) batches.

Payment Based on Placement Reporting: Twenty percent (20%) of the contract price after submission of complete job placement report for all 15 batches.

Final Payment: Ten percent (10%) of the contract price after transferring learning management system details, verification by BHTPA, handing over learning contents and other materials/resources to be developed by the program, and submission of all final reports including follow-up of skill implementation and acceptance by the project authority.