

**المواصفات الفنية الخاصة بالمناقصة العامة**

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**الخاصة بشراء وتوريد عربتين متنقلة لمشروع تعميم**

**الحاسوب بالمدرسة الالكترونية المتنقلة مع التدريب**

**المؤسسة العامة للاتصالات السلكية واللاسلكية**

**الإدارة العامة للمشتريات والمخازن**

**إدارة المشتريات - قسم العقود والمناقصات**

## Preliminary Study to establish Mobile computer school in Yemen

### E- CARAVAN

#### *1. introduction*

The use of technology facilitates and accelerates search opportunities in the Internet, which allows instant and direct access to the requested information. Communication and Information Technology becomes the privileged mean to obtain various info in the World Wide Web in an easy way.

Among the increase in the technology over the world, Public Telecom Corporation PTC Yemen, intends to spread out computer science and information technology knowledge in rural areas, through establishing an educational cultural project using number of **E-Caravans** for this purpose to shrink the digital divide between the urban and rural areas. The E-Caravan (fully equipped mobile computer school) will be used to roam villages and regions that suffer from absence of IT infrastructure, introducing the world of Information Technology (IT) to the far and isolated communities in the Republic of Yemen. Hence, the necessity to recourse to a well equipped mobile school, to disseminate IT knowledge even in the most remote and scattered areas of the country, in an effort to overcome their inevitable social and economic exclusion.

#### *2. Project Objectives*

- Creating new generation of qualified students of both gender to have the ability to get in the job market in future in which computer science and information technology is involved.
- encourage the disabled persons to get acquainted with IT and assist them to be merged with the society and bring out their own hidden skills and abilities.
- Assisting the countrywomen to get computer knowledge to able them creatively think of a new innovation such as (sewing , embroidery...) which will contribute in development of the rural areas.
- encourage rural people to study new IT science which avoid the migration from rural to urban areas. since they will get a good level of education by using the technology.
- Bridging of digital divide between urban and rural areas.
- Finally the project supports fighting the lack of IT awareness and IT education amongst neglected communities; especially, graduated youth and women who consequently find themselves lagging behind the job market.

#### *3. The expected achievements:*

Number of students expected to benefit from this project depends on the information which can be obtained from the governmental partners such as local Education offices and local Specialized institutes.

However, the teaching courses will be prepared by qualified institute targeting different ages categories.

#### *4. The benefits for the trainee.*

- Getting authorized certificates.
- Become qualified to job opportunities for the unemployed.
- Enhancing the skills of beneficiaries whose working conditions require more usage of IT.

## 5. Target categories (ages) and Areas

- Students of the primary and secondary schools who are interested to earn knowledge of computer science in the rural areas as well as the disabled persons and graduated students. In coordination with the governmental partners (ministry of education) to execute the project in the areas which located in the centers of many clusters populations.
- Any person who want to get skills of computer usage or internet browsing.

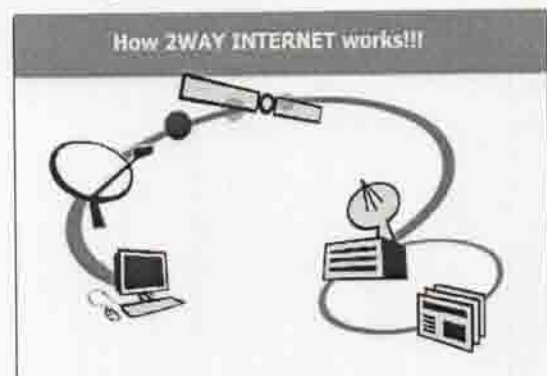
### • Requirements:

1. 2 mobile Vehicles or buses equipped with the appropriate equipments to operate the Flyway (VSAT , RF and internet equipments,) and the computer terminals , projectors, printers, tables etc..
2. Number of Laptops or desktop computers (installed in the buses) to be connected to the internet using the satellite links.
3. Satellite internet service can be provided either by any satellite internet provider.

### • Technical Specifications:

According to the above Hardware requirements, there are some technical specification to be taken into the consideration:

1. operating the Internet via satellite link, we need data rate as follows:
  - **downlink** 1.5 Mbps
  - **uplink** 0.5 Mbps
2. Operating the VSAT system in Ku-Band to decrease the Antenna size, and using the newest error correction methods to optimize the cost.
3. The VSAT Flyway can be connected to the satellite internet provider.
4. The network topology preferred to be Star, reliability and expandable in the future.
5. The internet link dedicated to every site can be at least 265 kbps. to guarantee operating different applications.





- **Bus Specifications:**

1. The bus should take class room shape provided with the necessary equipments to teach the trainee as well as the computer desks ,chairs , projectors and the printers.



2. The bus contains suitable air condition to cool the communication equipments especially the VSAT system.
3. The power supply (silent generator ) with UPS placed inside the bus.
4. The generator capable to handle all the load (Air condition, lights, equipments, Flyway terminal).
5. Training class room containing at least 10 sets for students.
6. The Flyway terminal mounted on the bus.

- **Stationary**

To implement the program we need stationary support for the trainee to give them handbooks or small references to review during the course.

- **Network configuration**

1	Band	Ku band
2	Network topology	Star & mesh
3	Modulation	QPSK & BPSK
4	FEC	3/4, 7/8
5	Multiple access	TDMA & MF-TDMA
6	Protocols supported	TCP, UDP, PPP, HDLC ...
7	Bandwidth	Static, dynamic bandwidth

- Remote station

Item	description	QT
<b>Satellite Router</b>	• <b>Data rate</b> Downstream 64k – 18Mbps upstream 64k-11Mbps	2
	• <b>Data interface</b> Eth 10/100 baseT.	
	• <b>Modulation</b> QPSK	
	• <b>FEC</b> 3/4, 7/8	
<b>ANTENNA</b>	0.9-1.2m Auto lock (Tracking System)	2
<b>LNB</b>	Optional	2
<b>HPA</b>	5-16 W (Ku-Band).	2

- Estimated Cost

Training courses of operating and maintenance of all equipments of project are mandatory.