ITU Centers of Excellence Workshop

On "VSAT and Satellite Systems" For Arab Countries -
Cairo, Egypt 21 - 25 September 2014

DAY 1		
	1. Basics of satellite communications	
9:00 AM - 10:30 AM	1.1 Birth of satellite communications	
	1.2 Development of satellite communications	
	1.3 Configuration of a satellite communications service	
	1.3.1 Communications links	
	1.3.2 The space segment	
	1.3.3 The ground segment	
	1.4 Types of orbits	
	1.5 Orbital positions and radio interferences	
	1.6 Types of antennas	
	1.7 Antenna performance measures	
	1.7.1 Gain	
	1.7.2 Radiation pattern and angular beam width	
	1.7.3 Polarization	
	HEALTH BREAK	
11:00 AM - 1:00 PM	1.8 RF equipments	
	1.8.1 BUC	
	1.8.2 LNB	
	1.8.3 Transceivers, Filters, Waveguides and Coaxial cables	
	1.8.4 Couplers, combiners and dividers	
	1.9 Earth station measurements	
	1.10 Services	
	1.11 Modulation Techniques	
	LUNCH BREAK	
	2. Policy and regulatory guidelines for satellite services	
2:00 PM - 4:00 PM	2.1 Radio regulations organizations	
	2.2 Satellite policy principles	
	2.2.1 Non Discriminatory Market Entry	
	2.2.2 Open borders for competitive access	
	2.2.3 Transparency of telecommunications rules and policies	
	2.2.4 Content neutral regulations	
	2.2.5 Technology neutral regulations and licensing requirements	
DAY 2		
9:00 AM -10:30 AM	**Policy and regulatory guidelines for satellite services (Cont'd)**	
	2.3 Legal framework of satellite communications	
	2.4 Key regulatory and licensing trends	
	2.4.1 Space segment	

	2.4.2 Ground segment	
	2.4.3 Establishing appropriate fees	
	2.4.4 Enforcement	
	2.5 Means of monitoring and controlling the spectrum	
	BREAK	
	3. Network planning	
11:30 AM-1:00 PM	3.1 VSAT Network topologies	
	3.1.1 Point to point links	
	3.1.2 Star networks	
	3.1.3 Mesh networks	
	3.1.4 Broadcast	
	3.1.5 Hybrid networks	
	3.2 Access schemes	
	3.2.1 SCPC	
	3.2.2 TDMA	
	3.3.3 FDMA	
	BREAK	
2:00 PM-4:00 PM	3.3 Frequency bands	
	3.3.1 C-Band	
	3.3.2 Ku-Band	
	3.3.3 Ka Band	
	3.4 Base band signals	
	3.5 Digital communications techniques	
	DAY 3	
9:00 AM -10:30 AM	**4. Link Budget analysis; Satellite Technology Trends**	
	4.1 Link budget Analysis	
	4.2 Satellite Technology Trends	
	HEALTH BREAK	
11:00 AM-1.00 PM	**5. VSAT installation and maintenance**	
	5.1 VSAT Installation	
	5.1.1 Site survey and preparation	
	5.1.2 Calculating, measuring and working with a clear line of sight azimuth and elevation	
	5.1.3 Equipment assembly and configuration parameters	
	LUNCH BREAK	
2:00 PM-4.00 PM	5.1.4 Grounding and lightening protection	
	5.1.5 Using a spectrum analyzer	
	5.1.6 Align the antenna to the satellite	
	5.1.7 Commissioning the service with the satellite provider	
	5.1.8 User Acceptance tests	
	5.2 VSAT Maintenance	
	5.2.1 Preventive Maintenance actions	
	5.2.2 Troubleshooting and incident resolution	
	5.2.3 Service Level Agreements	
	DAY 4	

9:00 AM- 10:30 AM	**6.** Analog TV to DTT migration	
	HEALTH BREAK	
11:00 AM-11.30 AM	7. WRC 15 Key satellite issues	
11.30 AM-01.00 PM	8. VSAT equipment and bandwidth procurement	
	8.1 Define your needs	
	8.1.1 Business requirements	
	8.1.2 Bandwidth requirements	
	LUNCH BREAK	
2:00 PM-4:00 PM	8.1.3 Technical considerations	
	8.2 Acquire the VSAT	
	8.2.1 Procurement approaches and strategies	
	8.2.2 Prepare bids and inviting proposals	
	8.2.3 Evaluating proposals	
	8.2.4 Negotiate and award the contract	
	DAY 5	
9:00 AM-10.30 AM	**9. ITU-Radio Regulations**	
	9.1 Overview 9.2 Orbit spectrum- International Regulatory framework 9.3 Space FSS and BSS plans 9.3.1 Broadcasting-Satellite Service Plans (Appendices 30 & 30A) 9.3.2 Fixed-Satellite Service Plans (Appendix 30B) 9.4 Non-Planned Satellite Services (Coordination and Notification)	
	HEALTH BREAK	
11:00 AM-1.00 PM	9.5 Receivability of space notices 9.6 Notification and recording of assignments 9.7 BR Space Software and Databases 9.8 Submission of comments using SpaceCOm	
	LUNCH BREAK	
2:00 PM-5.00 PM	9.9 BR IFIC on DVD-ROM, Space website, Preface 9.10 SpaceWisc 9.11 Earth Station Coordination and Tools 9.12 Capture, Validation, and Submission of Earth Stations 9.13 WRC-15 and WRC-18 preparation	
	END	