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Report of the Secretary-General

Part III: Administrative and statutory matters

(e) Information and communication technologies at the Secretariat

I.   Introduction

1.   The ICT Programme is a key support area within the UNWTO in the application of technology to facilitate the performance of its core work functions and one of the primary communication channels with internal and external stakeholders. This document provides a status report on the implementation of ICT programme of work and an outlook of the plans ahead.

2.   ICT delivers information and communication services to more than 200 internal customers as well as Member States. ICT core infrastructure includes an in-house data centre with more than 40 servers and 260 networked computers. ICT main functions are the management of the internal collaborative and information platform (INTRANET/EXTRANET), management of in-house and external communication services including switchboard and reception, technical and administrative management of the WEB infrastructure, enterprise mobility infrastructure, development and maintenance of the information systems and the integration of standard technological applications as well as personnel support and systems training. ICT also manages the organizational access and maintenance of personal computers, portable equipment including peripherals as well as tablets and other devices.

3.   Progress and continual technological changes, increasing data security and system risk, and higher demands for reliability in the delivery of its services make the management of this area extremely challenging, in particular with a very limited staff base.

4.   In accordance with CE/DEC/13(XCIV) the Executive Council welcomed the Secretary-General's initiative of keeping that body regularly informed on the ICT PoW strategy and developments. This report is set to fulfil these aims and outline current/future ICT activities.

5.   As was previously mentioned in the report to the 96th Executive Council, the Secretary-General approved the ICT proposal to conduct a second comprehensive technology audit in 2014. This is a continuation of the audit made in 2009. The outcome of this audit, which was conducted by Microsoft

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and outlined in the document **Executive Summary Microsoft Audit on Infrastructure Optimization Assessment on UNWTO**, provides a clear direction in the development of ICT's strategic ICT plan through 2017.

6.   As result of the Microsoft audit recommendations, the governance of Web Services is shared between the Communications Programme and ICT, requests for new services or changes are handled through the Communications Programme and are implemented by the ICT Programme. The platform of Web Services is "on the cloud" and its maintenance is under the responsibility of ICT.

7.   Another major action taken based on the recommendations of the audit was to create the internal Steering Committee on Technology (SCT) whose main goal is to define the Organizational response to technological challenges identified in audits report, defining its roadmap: priorities, objectives and activities. Of the 12 major actions identified on the Microsoft audit, the SCT decided to prioritize and focus on the first 6, conceptualizing and creating a roadmap for each one of the main 6 (see **Annex III**). The committee is composed of stakeholders of the main areas of the Secretariat, with the chairmanship of the Director of Administration and Finance. The committee has held ten meetings since its creation in 2014.

II.   Programme of work completed to date

8.   Since the report provided at the 101st Executive Council (September 2015), specific projects have been implemented as of the date of this report. Results are shown in the table in **Annex I**.

III.   Programme of work in progress (2016-2017)

9.   As the report provided at the 101st Executive Council (September 2015), the specific projects mentioned in the table in **Annex II** are in progress. Expected results are outlined, taking into account the current ICT audit conducted by Microsoft and its recommendations.

IV.   ICT strategy for 2016-2017

10.   The audit report goes into greater detail on all the capabilities and workloads of the IO model, to support the key findings. It is important to highlight that many of these findings go beyond the scope of technical ICT projects. Accordingly a Steering Committee on technology has been created and is responsible for submitting the necessary recommendations for Management decision-making. This Committee meets regularly to ensure proper guidance to ICT projects.

11.   All prior findings reported to the 101st Executive Council have been addressed. Significant progress has also been achieved in many of the capabilities and workloads of the Core and the Business Productivity Infrastructures.

12.   As mentioned in the previous report, the development of the financial information system (ATHENA) continues in progress based on formal development methodologies. Many surrounding applications still need to be reconverted and an organization-wide application development model needs to be defined.

13.   UNWTO should look into promoting a project management culture around all the activities, initiatives and projects it undertakes. This will help in the tracking of project progress, and overall management of resources.

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14.   The ICT Programme believes that the main core business productivity infrastructure plans were close to completion for the time being with the projects implemented for 2014-2015, and the focus needs to change urgently to create an Organization-wide data model for all UNWTO's managed data. To this end, a new Enterprise Content Management Platform (ECM) would provide important benefits to integrate digital contents managed by the Organization thus aligning UNWTO with the new trend in digital conversion in 2016/2017.

15.   In a rapidly evolving technology environment, a major set of issues which must also be addressed revolves around the security framework to preserve the integrity of the UNWTO's information assets and systems, while it expands to align to United Nations mandates and application of best practices.

16.   With changes in the UNWTO's business structure and emerging technologies, ICT continues to adapt its role and structure in order to maximize service delivery and ensure user satisfaction.

17.   ICT will have to regularly adjust its PoW to address these issues and provide the appropriate framework for continual change, compliance and planning to result in a revised two-year roadmap that will be presented at the next Executive Council. However challenging these assignments, strict resource control has to be observed, being one of the risks to address for timely completion of the programme of work.

18.   The formulation of ICT's programme of work up to 2017 is based around the key findings of Microsoft's audit and recommendations. The goal proposals are summarized in the table in **Annex III**.

V.   Actions to be taken by the Executive Council

19.   The Executive Council is invited:

(a)   To take note of the status of ICT activities in this document; and

(b)   To note the progress in the technology infrastructure already implemented by the Organization while acknowledging that a rapidly evolving technology environment and budgetary constraints represent a set of unique challenges in the near future.

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Annex I: ICT programme of Work completed to date

AREA	ACTIVITY/PROJECT	RESULTS	DATE COMPLETED
Core infrastructure / Data Centre	ICT Consolidation & Services	• Exchange 2013 migration • Domain controller, DNS and DHCP consolidation on a single server • DHCP, DNS, WDS and CA migration to Windows Server 2012 • Domain controller migration to Windows Server 2012	Completed 2016
Core infrastructure Data Centre Management	Business continuity planning	• Conducted the disaster recovery drill annual exercise • Strategic of backup copy outsourcing • Consolidated procedures, controls, reports and monitoring of security backups • Update contingency plan	Completed 2016
Core infrastructure / Data Centre	Web Services infrastructure	• Standardization and carry out consolidation of services and restructuring of infrastructure • Move to new Cloud service provider reducing costs by more than 80% • Contract new maintenance service company 12x7 ensuring continuity service. • Bigger capacity of management documentation and activity reporting	Completed 2015
Core infrastructure / Network	Wifi	• Improvements on the coverage	Completed 2016
Core Infrastructure / IT Services & Compliance	Printing services project	• Carry out a market research and feasibility study for cost reduction of a new leasing service model • Implementation of new printing services supported by 10 MFP's within the Organization • Until the bidding is finished the new service will be externalised	Completed 2016
Core Infrastructure / IT Services & Compliance	Conferences services	• Implement Intercall service as an improvement	Completed 2016
Business Productivity / Content Creation & Management	Collaborative Platform INTRANET/EXTRANET platform	• Improved and extended structures • Provided a system of internal controls to allow for information sharing and author control (work flows) over content • Migration to Microsoft Sharepoint 2013	Completed 2016

Business Productivity Infrastructure / Enterprise Mobility	Mobility Services	• Implemented OWA App as support for BYOD (Bring your own device) • Improve security procedures • Update data protection policies	Completed 2016
Application platform / BI & Analytics platform	Information Services	• Market research on products and costs, feasibility study on the implementation of ECM platform	Completed 2016
Application platform / data bases / LOB platform	Data management	• Developing and management of a new tool to support and improve protocol official contact management	Completed 2016
Core Infrastructure / IT Process & Compliance	Help Desk Platform	• Implemented a centralized request service to maximize the use of ICT resources to the Organization – Phase I	Completed 2016
Core Infrastructure / IT Process & Compliance	Implementation of IT Service Management best practices	• Adopted of some ITIL published guidelines. ITIL provides a cohesive set of best practices, drawn from international public and private sectors and are in compliance with UN agencies standards	Partly implemented Target completion 2017
Core Infrastructure / IT Process & Compliance	Organizational approval of document standards, document procedures to establish polices and guidelines	• Approved existing drafts for document standards, document procedures, and proposed polices and guidelines • Creation of new procedures of ICT internal controls	Partly implemented Target completion 2017
ICT Priorities	ICT Training annual plan 2015	• Continued to enhance technical competency of ICT staff through external training and certification	Completed 2015
User training	Conference Services & Systems	• Webex workshops • Exchange 2013 workshops	Completed 2016

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Annex II: ICT Programme of Work in progress (2015-2017)

Area	ACTIVITY/PROJECT	EXPECTED RESULTS	EXPECTED COMPLETION DATE
Application Platform/ Information Systems	Enhancement of Athena requirements in collaboration with Budget & Finance	• Three new modules of finance system information (Athena) based on IPSAS methodology – Phase II. Purchase Management and accounts payable modules. • Maintenance of Athena I • Databases & information systems affected by IPSAS regulations adapted	Target completion 2017 / Ongoing
Core Infrastructure/ IT Services & Compliance	Printing services project	• Close tender	Target completion 2016
Core Infrastructure / IT Process & Compliance	Help Desk Platform	• Implemented a centralized request service to maximize the use of ICT resources to the Organization. – Phase II. • Improved security, productivity and reduced IT overhead	Target completion 2016 / Ongoing
Core Infrastructure / Device Deployment & Management	Telephone Services & mobility	• Network improvements in security, devices management and quality of services • Use of best technology practices	Target completion 2016 / Ongoing
Core Infrastructure / Device Deployment & Management	Mobility Services, Fixed Services & Internet	• Call for tenders	Target 2017
Core Infrastructure / network	Security	• Firewall replacement • URL and Application Filtering Service • Multilayer protection via IPS and AMP system • Redundant wifi controller	Target completion 2016 Ongoing
Core infrastructure / Data Centre Management	Web Services infrastructure	• Restructuring new web infrastructure services once bid has been closed	Target completion 2017 /
Core Infrastructure / Data centre Management & Virtualization	ICT Consolidation & services	• Improved maintenance procedures, expansion and standardization • Improved core server availability average (99.998%) • Conducted performance optimization, operation and management of the virtualization platform	Target completion 2016 / Ongoing
Core Infrastructure / Datacentre Management	Business continuity planning	• Conduct a disaster recovery drill exercise	Target Completed 2016
Application Platform/ BI & Analytics Platform	Enterprise Data Model / Organization-wide Data Consolidation	• Create an organization-wide data model for all UNWTO's managed data. • Improve data classification, indexing, and publishing. • Improve data protection (encryption, rights management, etc.) • Define policies & procedures to data management • Design auditing strategies for the organizational data	Target completion 2016-2017 / Ongoing

Area	ACTIVITY/PROJECT	EXPECTED RESULTS	EXPECTED COMPLETION DATE
Application Platform / BI & Analytics Platform	ECM project implementation	• Full life cycle management of digital contents • Cost reduction • Intuitive document search • Reducing risk of data loss • Improves productivity among teams • Contents within Organization's context • Retention and destruction control of digital contents • Digital signature capabilities • Work flows & Business Process capabilities	Target completion 2017
Business productivity	CRM project (Custom Relationship Management)	• Improve present CRM's functions • Feasibility market research • Conduct a competitive bidding process if necessary	Target completion 2017
Core Infrastructure / Device deployment & Management	Desktop Virtualization project	• Implement a client platform deployment that puts the user in the centre as the subject to manage, instead of the device • Define policies and procedures to implement client platform management, including operating system deployment, software distribution, application virtualization, user state, etc. • Conduct a competitive bidding process	Target completion 2016-2017
Business Productivity / Collaboration	Collaborative Platform INTRANET/ EXTRANET Platform	• Improve and extend structures • Provide a system of internal controls to allow for information sharing and author control (work flows) over content • Develop a knowledge management platform, self-service and reporting • Implement search facilities • Develop of new services • Conduct a competitive bidding process if necessary • Migration to Microsoft Sharepoint 2016	Target completion 2016-2017 / Ongoing
Business Productivity / Collaboration	Digital signature project	• Encourage the use of digital signature to support greening polices • Streamline administrative processes • Reduce costs	Target completion 2017
Core Infrastructure / IT Process & Compliance	ICT Service Catalogue	• Review of the ICT services policies and obtain SCT approval • Implement services policies organization-wide • Improve ICT's Service Catalogue with the definition of clear Service Level Agreements and Operation Level Agreements • Improve security monitoring and problem & incidents management • Design and define change & configuration	Target completion 2017 / Ongoing

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Area	ACTIVITY/PROJECT	EXPECTED RESULTS	EXPECTED COMPLETION DATE
		management • Create self-service capabilities for users	
ICT priorities	ICT Training annual plan 2016	• Continue to enhance technical competency of ICT staff through external training and certification	Target completion 2016 / Ongoing
ICT Services and compliance	Videoconferences and conferences services	• Replacement of videoconference system 1st floor • Assesment of the Infrastructure of the ninth floor concerning videoconference and sound equipments	Ongoing
Core Infrastructure / Data Centre	ICT Consolidation & Service	• Increase network storage	Completion 2016

Annex III: ICT Programme of Work for 2015-2017

	KEY FINDING	Action to be taken	PRE - Requirements	Priority
1.-	**Public Web Assets totally decoupled from ICT governance** Direct consequences: - Myriad of solutions for same purposes, no standardization. - No Identity consolidation, synchronization and federation	Move and consolidate the infrastructure governance under ICT as well as the future development needs of this infrastructure.	• Business vision	Very High
2.-	**No Data Culture** One of the biggest areas of risk. UNWTO needs to improve its data classification, indexing, publishing, protection (encryption, rights management) and auditing strategies for the organizational data	Design & Implement an organization-wide data model for all UNWTO's managed data. (Enterprise Managed Data Model) to add value to the organization as will make users more "aware" of the data they can use and how to use it.	• Business vision • Data classification, Definitions, metrics • Information Governance • Organization and Roles • Information Life Cycle • Polices, Procedures	Very High
3.-	**No Business Intelligence or Big Data Culture**	Deploy a central data warehouse solution that can extract data from multiple operational or departamental databases and external sources using transactional systems and present multidimensional views of data to a variety of front-end BI tools. Implement a reporting platform and infrastructure. Design and deploy a BI infrastructure that simplifies the IT burden.	• Business vision • Strategy • Project scope • Roles, Responsibilities	Very High
4.-	**No Custom Development Framework and Lifecycle**	Implement an organization wide application infrastructure and development framework to work towards creating a more cohesive application environment, providing maximum value to the business.	• Business vision • Project scope	High

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5.-	**Lack of Project Management & Portfolio Planning Culture**	Promote a project management culture around all the activities, initiatives and projects it undertakes. Implement an integrated solution, which is flexible and web-based approach to project management.	• Business vision • Project scope • Strategy • Polices	High
6.-	**No Social Computing Culture**	Promote social computing behavior inside UNWTO, which will help identify subject matter experts, while promoting better interactions between employees. This will impact in innovation and help retain knowledge inside the Organization.	• Business vision • Project scope	High
7.-	**Lack of true Enterprise Mobility. UNWTO needs to improve its Remote Access Services**	Improve Remote Access Services and define a clear "Bring Your Own Device" strategy that will enable the majority of the Organization to be able to be more productive.	• Business vision • Strategy • Polices	High
8.-	**Moving Commodity based IT to cloud based solutions**	UNWTO should conduct a cost benefit analysis on Commoditizing IT services to Hybrid Cloud solutions	• Business vision • Project scope • Strategy • Polices	High
9.-	**Need to change from a Device mindset to user mindset**	UNWTO must change its focus to offer a modern approach to client platform deployment puts the user in the center as the subject to manage, instead of the device. Desktop Virtualization project	• Business vision • Project scope • Polices • SLA's • Procedures	High
10.-	**Need improvements on IT Processes & Compliance**	Improve ICT's Services Catalog with clear definition of Service level Agreements (SLA's) and Operation Level Agreements (OLA's) Improve security monitoring, problem, change & configuration management. Implement Self-service capabilities for users.	• Business vision • Polices • SLA's • OLA's • Procedures	High
11.-	**No Cloud culture**	UNWTO needs to implement cloud culture or cloud awareness in terms of private, public and/or hybrid cloud. UNWTO should conduct a cost benefit analysis of this strategy.	• Business vision • Project scope	Medium

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12.-	**Architectural design based on traditional architecture principles**	The new cloud world has created newer architecture principles that UNWTO needs to be aware of with regards to Enterprise Architecture, and which will need to be reflected on and decide on whether a strategy change is in order.	• Business vision • Project scope • Strategy	Medium

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