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**Programme, Financial and Administrative Section**  
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**PFA**

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### FOURTH ITEM ON THE AGENDA

## Information and communications technology questions: Progress report on the ILO Information Technology Strategy 2010–15

#### Purpose of the document

At its 306th Session (November 2009), the Governing Body approved the ILO's Information Technology (IT) Strategy for the period 2010–15. The IT Strategy 2010–15 establishes indicators, targets and milestones for each biennium of the six-year period. The Office provides an update on progress on an annual basis. This paper summarizes progress since the last report issued at the 320th Session (March 2014) of the Governing Body.

**Relevant strategic objective:** Governance, support and management.

**Policy implications:** None.

**Legal implications:** None.

**Financial implications:** None.

**Follow-up action required:** Final report in March 2016.

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**Related documents:** GB.306/PFA/ICTS/1; GB.306/9/1(Rev.); GB.306/PFA/11; GB.309/PFA/ICTS/1; GB.309/PFA/ICTS/2; GB.309/PFA/7; GB.310/PFA/3; GB.313/PFA/1; GB.316/PFA/4; GB.319/PFA/5/1; GB.319/PFA/5/2; GB.320/PFA/INF/3.



## Introduction

1. The ILO is in the last biennium of its six-year Information Technology (IT) Strategy 2010–15.
2. The IT Strategy identifies areas for improvement, highlighting the need to elevate and position IT as a strategic enabler and driver of change. Areas include restructuring and realigning the IT function to facilitate an Office-wide approach to governance and management of IT resources and assets, and to establish a roadmap towards IT service excellence by delivering modern, efficient and cost-effective IT services, which are more closely aligned with the needs of the Office.
3. The Office has made significant progress towards reaching the milestones and targets identified in the IT Strategy. Fifty IT initiatives and projects were completed in 2014.
4. Implementation of the IT Strategy is organized around three key outcomes linked to the ILO's overarching Strategic Policy Framework 2010–15. This paper reports on the progress made regarding each outcome as measured against the 2014–15 biennial milestones. It should be noted that many milestones set for 2014–15 were reached ahead of schedule. To fully assess the overall achievement against all IT Strategy milestones, it is necessary to review the progress reported to the Governing Body at previous sessions.<sup>1</sup>

## Progress of IT Strategy outcomes in 2014

### Outcome 1

5. Progress has been achieved under the following Outcome 1 indicators and milestones defined for 2014–15:
  - the reorganization of the IT function to better serve the Office;
  - the roll-out of the main Integrated Resource Information System (IRIS) functionalities to all regions;
  - the implementation of two joint IT initiatives with other United Nations (UN) agencies; and
  - Office-wide implementation of an electronic document management system.

### *Reorganization of IT*

6. Management of printers and mobile devices, previously the responsibility of the Internal Services and Administration Department (INTSERV) was transferred to the Information and Technology Management Department (INFOTEC) in 2014. Discussions are taking place to evaluate other decentralized IT functions within the Office for potential consolidation.
7. With the Office-wide migration to Microsoft Exchange and Outlook, servers supporting email and local file storage in the regions will no longer be needed. The IT infrastructure

<sup>1</sup> GB.316/PFA/4; GB.320/PFA/INF/3.

supporting these services, including administration, monitoring and the back-up of data, will be located and managed at the ILO Data Centre at headquarters in Geneva. This data is in turn replicated and stored in key locations outside of headquarters. Consolidation of field infrastructure at headquarters enhances business continuity and recovery in the event of a disaster, reduces IT security risks, and lowers overall IT storage, hardware, licensing and support costs in the regions.

### ***Roll-out of IRIS to the field***

8. The roll-out of IRIS has moved forward in line with the schedule submitted to the Governing Body in October 2013.<sup>2</sup>
9. The Regional Office for Africa and the Country Office for Ethiopia and Somalia received the financial modules of IRIS in June 2014. This marked the completion of full IRIS deployment in all ILO regional offices.
10. The human resources, payroll and strategic management modules of IRIS, as well as access to view information pertaining to all ILO technical cooperation projects, were rolled out to seven offices in Latin America and the Caribbean region in September 2014, and 11 offices in Asia and the Pacific region in November 2014. These offices cover 50 countries and territories. The ILO also took the opportunity to deploy the new IRIS leave functionality in all of these offices as part of the roll-out.
11. Over 450 staff members in the field participated in IRIS training in 2014.
12. With the centralization of IRIS payroll processing at headquarters, 18 local payroll systems in the field were decommissioned. The IRIS payroll module now generates salaries for an additional 715 field staff.
13. Roll-out is to take place in 2015 for the offices in the Africa, Europe and Central Asia regions, along with the New York, Washington, DC, and Tokyo Offices.
14. The operational model for the deployment of the remaining IRIS functionalities in the regions is planned for the end of 2015. Initial discussions have already taken place with the relevant departments at headquarters.
15. A second IRIS super-user workshop is planned for the last quarter of 2015. The workshop will be aimed at key personnel from each region with a view to strengthening IRIS skills locally, ensuring sufficient support is available to sustain ILO administrative processes and serve the rapidly growing IRIS user base.

### ***Joint UN initiatives***

16. The ILO was on eight inter-agency working groups and committees and actively participated in several joint IT initiatives during 2014.
17. The ILO built on the work carried out by the World Health Organization (WHO) to reduce the implementation time of the IRIS self-service leave module for all ILO staff. The Office also collaborated with the WHO and the Food and Agriculture Organization on the development of the IRIS interfaces of the United Nations Joint Staff Pension Fund's new Integrated Pension Administration System (IPAS).

<sup>2</sup> GB.319/PFA/5/2.

18. The ILO is collaborating with the International Atomic Energy Agency, the International Telecommunication Union, the World Intellectual Property Organization, and the United Nations Industrial Development Organization to jointly develop and to proactively address and mitigate risks associated with external cyber threats.

### ***Electronic document management system***

19. The Office contracted a leading consulting firm to assist with the development of a strategy, technology roadmap, and resourcing model for the management of enterprise content, including the Intranet, record management systems, document management systems, collaboration portals, social networks, and web search function.
20. Fifty interviews with staff from across the Office were carried out to gather requirements and assess the current state of the IT systems being used to manage information at the ILO. Of particular note is the recommendation to implement Microsoft SharePoint, a web application framework, at the ILO to deliver enterprise content management (ECM) solutions, including an electronic document management system. Although SharePoint currently underpins several existing ILO applications, the Office has implemented a number of pilots internally to further assess the feasibility of using this technology on a larger scale. Further details are presented later in this paper.
21. Key findings, recommendations and costs from the study carried out by the consulting firm will be used as a basis for developing a comprehensive ECM strategy for the ILO.

### ***Knowledge sharing and collaboration***

22. The Central Information Services Gateway was implemented in May 2014.<sup>3</sup> The Gateway provides ILO constituents, staff and the general public with easy access to country-specific information on labour laws, policies, standards and statistics. The Gateway consolidates information in real time from more than 20 ILO data repositories, thereby enabling more effective knowledge dissemination. Release 2 of the Gateway, which includes additional content, data sources and functionality, is scheduled to go live in April 2015.
23. The Field Operations and Partnerships Portfolio (FOP) collaborative platform was implemented in February 2015 as a SharePoint pilot to facilitate the exchange of information between headquarters and external offices on the promotion of good practices, outcomes of key events, and decisions of the ILO Senior Management Team that have an impact on the field.
24. A collaboration and knowledge management system is currently being developed for the Partnerships and Field Support Department (PARDEV) to improve working methods and communication between headquarters and field officials concerning the delivery of the Office's substantive work. The system, scheduled for release in the first half of 2015, is another SharePoint pilot and seeks to streamline key aspects of technical cooperation project cycle management using automated workflows linked to appraisal, approval and reporting. It aims to improve the quality of technical cooperation proposals by providing a single repository of reference materials and enabling staff to collaborate throughout the drafting process using online forums and communities of practice.

<sup>3</sup> GB.310/PFA/2; GB.310/PFA/3.

## Outcome 2

25. Progress has been achieved under the following Outcome 2 milestones defined for 2014–15:
- the possibility of reporting, throughout the Office, all categories of IT expenditure; and
  - the implementation of a centralized governance process to monitor major IT initiatives.

### *IT expenditure*

26. The roll-out of IRIS has made it possible to accurately report on categories of IT expenditure in offices using IRIS.
27. The Office reported the results of a 2012–13 IT benchmarking exercise to the Governing Body at its 320th Session in March 2014.<sup>4</sup> The results show that the ILO has been able to operate and improve its IT infrastructure, applications and services in a very cost-efficient and effective manner when compared with national and international governments and agencies of similar size and budget. A further benchmarking exercise will be carried out at the end of the current biennium and presented to the Governing Body in March 2016.

### *IT governance*

28. The Information Technology Governance Committee (ITGC) has met five times to date to discuss and make decisions related to strategic IT initiatives. Membership of the ITGC includes a broad representation from headquarters and the regions. The ITGC focused its efforts on facilitating consistent and steady progress towards mature IT governance processes and ensuring that IT decision-making took place at the right levels within the Office.
29. The ITGC established a charter and discussed a number of key strategic IT priorities, reviewed and provided guidance on optimal use of the ILO's IT budget, identified and set priorities, addressed risks, and provided guidance on key IT initiatives, including infrastructure upgrades linked to the building renovation, mobile working, software upgrades to key ILO systems, the roll-out of IRIS to the field, enterprise content management, the centralization of IT functions and the strengthening of existing IT policies.

## Outcome 3

30. Progress has been achieved under the following Outcome 3 milestones defined for 2014–15:
- the drafting of service level agreements for ten high-value services;
  - the roll-out of 50 per cent of the hardware in a consolidated configuration;
  - a 20 per cent reduction of the ILO Data Centre's energy consumption; and

<sup>4</sup> GB.320/PFA/INF/3.

- the evaluation of alternative models to provide 24-hour support for key IT services.

### ***Service level agreements***

31. The implementation of service level agreements was completed in 2013 and reported to the Governing Body in March 2014.<sup>5</sup>

### ***IT infrastructure transformation***

32. A detailed status update on the progress made as measured against the remaining milestones in Outcome 3 is provided in this section of the paper.
33. Seven of the 12 IT infrastructure transformation projects,<sup>6</sup> approved by the Governing Body in March 2011, were fully implemented within the budget:
- DC.1: “Upgrade the ILO Data Centre facility”. The facility has been completely refurbished. Remaining security and safety improvements were validated by the building renovation project team and carried out in 2014.
  - SS.1: “Rationalize and consolidate server hardware”. Over 90 per cent of servers in the ILO Data Centre have been virtualized; 400 state-of-the-art servers now have a homogeneous configuration. The virtualization and consolidation of servers has increased computing capacity, improved the availability of systems, reduced maintenance and support costs and lowered the Data Centre’s environmental footprint by an estimated 40 per cent.
  - SB.1: “Upgrade Storage Area Network (SAN) to accompany data growth”. The ILO’s total data volume has increased from 70 terabytes in 2010 to 400 terabytes at the end of 2014. To better manage increased data storage demands, technologies such as data deduplication, hierarchical storage and virtual tape management have also been implemented.
  - DR.1: “Replicate ILO data at UNICC (United Nations International Computing Centre) Disaster Recovery Site”. All of the ILO’s data at headquarters is being copied to the UNICC’s data centre in real time to facilitate business continuity and enable the recovery of data in the event of a disaster. Data being migrated from the field and consolidated at headquarters is also being copied to the UNICC’s data centre (see FP.3 below).
  - IH.1: “[ILO] HQ Internet/Intranet infrastructure overhaul”. New servers to improve secure access to the ILO public website have been implemented.
  - DR.3: “Host [the] infrastructure required to support critical ILO systems in a secondary ILO Data Centre”. Additional critical hardware has been deployed in a second ILO Data Centre located on the north side of the building. This reduces the risk of downtime if an unplanned service outage occurs at the ILO’s primary Data Centre, located on the south side of the building.
  - CO.1: “Improve connectivity in the regions”. Connectivity has been upgraded in all the field offices in order to support the roll-out of IRIS and the use of Microsoft

<sup>5</sup> GB.320/PFA/INF/3.

<sup>6</sup> GB.310/PFA/3.

technologies. Wide area network (WAN) acceleration infrastructure has also been implemented in all the regions to maximize ILO investments in connectivity. WAN acceleration has improved Internet and IRIS data transfer rates by 30 per cent.

**34.** The remaining five IT infrastructure transformation projects are at various stages of implementation:

- FP.3: “Migrate to Windows Server for file, print and authentication”. The migration of headquarters’ file systems data from Novell to Microsoft servers was completed in 2013. Approximately 70 per cent of field offices have also been migrated including all offices in Asia and the Pacific, Arab States and Africa. Offices in Latin America and the Caribbean, Europe and Central Asia will be migrated in 2015.
- EM.4: “Migrate to email as service”. The migration of staff mailboxes from Novell GroupWise to Microsoft Exchange and Outlook at headquarters was completed in 2014. The migration to Microsoft Exchange and Outlook is taking place at the same time as the migration of the file system data described in project FP.3 (see above). In 2016, the process of selecting a “cloud” service provider for email hosting will begin. Migration to the cloud will require the ITGC’s approval and a funding commitment for ongoing costs associated with subscription fees and required services as referred to in the Director-General’s Programme and Budget proposals for 2016–17. The legal implications of using a cloud provider for email hosting are being examined. Several UN agencies have overcome similar concerns and have moved their email and other data to cloud platforms provided by, for example, Microsoft and Google, following joint negotiations which culminated in long-term agreements, to which the ILO may be able to eventually subscribe.
- IDM.1: “Single Identity Management”. The Office has begun identifying critical systems and processes to be included within the scope of this project. This initiative is on track for implementation in 2016.
- DC.3: “Move IT hardware and systems to a commercial data centre”. Given the modernization of the ILO Data Centre facility and infrastructure, this project is currently on hold pending the finalization of the analysis of long-term costs, benefits and risks associated with using an external service provider to host the ILO’s IT infrastructure and data. This analysis will be completed in 2015.
- DC.4: “Full data centre outsourcing as a managed service”. The implementation of this project depends on the analysis and resulting decision regarding project DC.3 above.

### ***Information security***

- 35.** INFOTEC’s Information Security and Assurance Services Unit worked closely with the ILO’s Senior Risk Officer to align the risk management processes concerning information security with the ILO’s overarching risk management framework.
- 36.** Key technical information is being aggregated from ILO computers every three hours to more accurately measure key risk indicators. This made it possible for the Office to assess and mitigate the risks requiring immediate attention, thereby reducing the time needed to isolate and block software viruses and other malware on ILO computers.
- 37.** Software and processes were implemented to assess weaknesses which could potentially compromise the integrity, confidentiality and availability of ILO data accessible on the Internet through ILO web-based applications.

- 38.** The Office implemented a pilot project with the ILO Administrative Tribunal using digital signatures and data encryption to ensure the integrity of highly confidential electronic documents during the drafting, editing, translation and publication processes. The results of this pilot are being evaluated for wider use within the Office.