



## **Internal Oversight Division**

Reference: IA 2016-01

## **Audit Report**

Pre-implementation and Data Migration Review of Taleo™

April 29, 2016

**TABLE OF CONTENTS**

- LIST OF ACRONYMS..... 3**
- EXECUTIVE SUMMARY..... 4**
- 1. BACKGROUND..... 5**
  - (A) INTRODUCTION..... 5
  - (B) OBJECTIVES..... 5
  - (C) SCOPE AND METHODOLOGY ..... 5
- 2. OBSERVATIONS AND RECOMMENDATIONS ..... 6**
  - (A) PROJECT MANAGEMENT ..... 6
    - (i) Involvement of Business Users in User Acceptance Testing..... 6
    - (ii) Documentation of risks and controls ..... 7
  - (B) DATA MIGRATION ..... 7
    - (i) Data Repository Documentation ..... 7
    - (ii) Data Conversion..... 8
- TABLE OF RECOMMENDATIONS ..... 10**
- ANNEX ..... 11**

**LIST OF ACRONYMS**

<b>AIMS HR</b>	Administrative Integrated Management System, Human Resources
<b>BI</b>	Business Intelligence
<b>ERM</b>	Enterprise-wide Risk Management
<b>ERP</b>	Enterprise Resource Planning
<b>HRMD</b>	Human Resources Management Department
<b>IOD</b>	Internal Oversight Division
<b>ISS</b>	Information Security Section
<b>IT</b>	Information Technology
<b>UAT</b>	User Acceptance Testing
<b>WIPO</b>	World Intellectual Property Organization

## EXECUTIVE SUMMARY

1. The Internal Oversight Division (IOD) conducted this review as part of its 2016 Oversight Plan in parallel with the ongoing implementation of the Taleo™ system. The Taleo™ system replaces “e-recruit”, WIPO’s existing system for managing human resources recruitment.
2. This review was focused on assessing the adequacy of risk assessment and internal control measures in the design of the recruitment process in the Taleo™ system as well as the data migration plan for existing data. Data from e-recruit is planned to be migrated an internal WIPO “data repository” where the data will be stored for reporting purposes.
3. Generally, lessons learned from previous systems’ implementation projects have been incorporated into the Enterprise Resource Planning (ERP) project management office methodology. This resulted in a better managed implementation project, with the staff of the user division being involved more actively. However, IOD did find areas where further improvements could be made.
4. Documentation relating to testing the completeness and accuracy of the data migration from the legacy system to the new data repository was incomplete. The planned tests and results need to be documented and stored as part of project management records, which will provide an effective audit trail.
5. Issues were faced by business users in the conduct of User Acceptance Testing (UAT), particularly with regard to balancing their existing work commitments and requirement of additional involvement in integration testing. A detailed debriefing session should be held with relevant users to take on-board their feedback for consideration in future projects.
6. Improvements to the project methodology can be made by requiring business users to conduct a business process risk assessment of the system design in new system implementations.
7. A review of the technical documentation of the internal created data repository should be performed to assess its sufficiency for future maintenance purposes.

## 1. BACKGROUND

### (A) INTRODUCTION

8. The Human Resources Management Department (HRMD) in collaboration with the ERP Project Management Office is presently in the process of implementing a recruitment platform known as Taleo™ to replace the existing e-recruit platform. The requirement specification phase of the project was completed by end-December 2015. The user testing was completed during February early-March 2016 with a go-live date in the first week of April 2016. The data migration to the data repository is planned towards end of June 2016 when the existing e-recruit system will be fully decommissioned.

### (B) OBJECTIVES

9. The main objective of the review was to assess whether WIPO has considered all the key risks and controls for a complete and accurate data migration from the legacy e-recruit system and other relevant sources of legacy data to the new system (Taleo™). The review also reviewed the “as-is” and “to-be” processes defined in the new system to examine if all relevant risks and controls have been incorporated to mitigate relevant process risks.

### (C) SCOPE AND METHODOLOGY

10. The audit work included:

(a) Interviews with staff from the Project Management Team, Information and Communication Technology Division, Management and Administrative Applications Section involved in the data migration process.

(b) A review of available documentation on planning and execution of the data migration process, in line with the applicable good practice.

11. IOD observed project board meetings and decisions as necessary.

12. The audit was performed in accordance with the International Standards for the Professional Practice of Internal Auditing.

## 2. OBSERVATIONS AND RECOMMENDATIONS

### (A) PROJECT MANAGEMENT

13. Typically, the process for implementing a new system involves the following broad steps, once the decision to implement has been taken:

- (a) Gain an understanding of the existing business process and logic;
- (b) Prepare a design of the expected business process based on inputs from business stakeholders and obtain their sign-off;
- (c) Configure and customize the new system in a development environment;
- (d) Perform unit and integration tests and further fine-tune the system based on the results of testing;
- (e) Transfer the newly configured system to a test environment with test data;
- (f) Business users perform UAT;
- (g) Make changes (if required) to the system configuration, based on feedback received from UAT;
- (h) Transfer the final configuration to the production environment;
- (i) Perform data migration from legacy system (if required); and
- (j) Go live after confirmation from business and Information Technology (IT).

14. As part of its review of the Administrative Integrated Management System Human Resources (AIMS HR) data migration process<sup>1</sup> conducted in early 2014, IOD had made a recommendation to ensure the early involvement of key business stakeholders so as to avoid delays in project execution, specifically as it relates to obtaining agreement on the design of the proposed system and consequently of the user acceptance testing.

15. IOD is pleased to note that the ERP project management team has taken on board this recommendation and has had significantly improved involvement with the business stakeholders in agreeing the design of the new system.

16. However, opportunities exist to further improve the project management process in the following areas:

(i) Involvement of Business Users in User Acceptance Testing

17. UAT is a key activity in the process of implementing a new system, as it involves the users of the new system with knowledge of the existing business process.

18. It is therefore crucial to identify key business users to perform UAT on behalf of the business, at the early stages of the process so that their understanding of the new system and the expectations of them can be clearly communicated. During the UAT phase of a project, key business users will be expected to perform their regular business functions in addition to their UAT responsibilities.

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<sup>1</sup> IA 2013-04 Review of Data Migration to the New Human Resources Management System.

19. When this expectation is clearly communicated to users by their management as well as through project briefings, it leads to better and more efficient conduct of UAT.

20. It was also noted that due to the quality issues with the implementation partners initial delivery of the system, there resulted in a slight delay of three weeks in the project schedule which was agreed to in November 2015 by the project board.

21. Furthermore, due to lack in clarity of the expectations of business users provided by the system implementation partner, the system unit and integration tests also required more time to be invested by business users in the project than expected.

(ii) Documentation of risks and controls

22. WIPO has recently made significant progress in implementing an Enterprise-wide Risk Management (ERM) system. Among others, the ERM process also aims to improve WIPO's culture in identifying, assessing and mitigating or managing risks that may impair the achievement of its objectives.

23. Typically a new system implementation in a business process will involve changes to the existing process and therefore necessitates a review of the related process risks and the design of controls required to mitigate those risks.

24. IOD observed that while key risks in the business process have been identified as part of the business process mapping, the related controls to mitigate those risks had not yet been signed-off as at the time of the writing of this report.

25. If the documentation of the process design along with the related risks and controls are not signed-off by the relevant business management, it could lead to gaps existing in the system of internal control.

**Recommendation**

The ERP Project Management section should:

1. Conduct a debriefing session with business users involved in User Acceptance Testing (UAT) in the Taleo™ project to obtain feedback on the areas for improvement in conducting future UATs.  
(Importance: Medium)
2. Include, as a part of project schedules, the requirement for business process owners to perform a risk assessment of the "to-be" business process and design controls to ensure that relevant process risks are mitigated.  
(Importance: Medium)

(B) DATA MIGRATION

(i) Data Repository Documentation

26. Although the existing e-recruit system holds recruitment related data on past candidates, the project team in consultation with HRMD and the Information Security Section (ISS) decided not to migrate that data from e-recruit to Taleo™. The main reason for this decision is due to the concerns over the security of personal data hosted outside of WIPO.

27. However, in order to maintain internal reporting mechanisms that may require the use of legacy data, it was decided to create a "data repository" which would be used to store data from

the legacy systems and incremented by data additions from Taleo™. The data stored in the data repository would feed into WIPO's Business Intelligence (BI) reporting tool.

28. The design of the data repository is being performed entirely in-house by the WIPO Management and Administrative Applications Section. The proposal is to create a separate database within the AIMS HR database server which will contain data from the legacy recruitment systems and incremented by data which gets added from Taleo™.

29. As this is an entirely in-house exercise, it is important that the technical information concerning the data repository structure and methodology is clearly documented and maintained for future reference. As at the time of the writing of this report, it was not clear if the ERP project management team would carry out a review of the technical documentation of the WIPO data repository prior to its go-live date.

30. As the future maintenance of the database and its documentation will rest with the same team that is creating the database, if the technical documentation related to the data repository is not independently reviewed, it may lead to lack of sufficient and accurate documentation of a system (database) potentially hampering future maintenance or upgrade efforts.

#### (ii) Data Conversion

31. WIPO has to rely on the vendor of the existing e-recruit tool (also known as Talenti) to provide the data download for the purpose of migration to WIPO's proposed data repository. Inherently, this carries the risk that the data received may not be complete and accurate.

32. As the data migration to the data repository is a one-time exercise and WIPO will not have the flexibility to refer to the e-recruit tool once it has been decommissioned, it is critical that due attention be given to the completeness and accuracy of the data to be migrated.

33. In the absence of any direct access to the source data in the future, if adequate tests are not performed by both IT and HRMD to ensure the completeness and accuracy of data migration, future reporting using data from the data repository may not be reliable.

34. As the HRMD will remain the ultimate owner and user of the data to be migrated, it is essential that adequate comfort be obtained by them over the conversion process.

35. Although HRMD and the ERP Project Management plan have agreed on a conceptual plan to test for the completeness and accuracy of the data migration, this plan is yet to be formally documented.

#### **Recommendations**

3. The ERP project management team should ensure that all technical documentation concerning the design and operation of the proposed data repository is complete and suitable for reference by future users of the database.

(Importance: Medium)

4. The Human Resources Management Department should design and execute tests to confirm the completeness and accuracy of data migrated from e-recruit to the proposed data repository. These tests results should be documented and maintained as part of project records.

(Importance: High)

**ACKNOWLEDGMENT**

*IOD wishes to thank all relevant members of staff for their assistance, cooperation and interest during this assignment.*

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**TABLE OF RECOMMENDATIONS**

No	Recommendations	Priority	Person(s) Responsible	Management Comments and Action Plan	Deadline
1.	The ERP Project Management section should conduct a debriefing session with business users involved in User Acceptance Testing (UAT) in the Taleo™ project to obtain feedback on the areas for improvement in conducting future UATs.	Medium	Ms. Mannur	As part of the project closure a lessons learned is always conducted and documented within the End Project report. For this project the lessons learned from the business users involved in UAT will be captured and recorded in the lessons learned log.	31 May 2016
2.	The ERP Project Management section should include, as a part of project schedules, the requirement for business process owners to perform a risk assessment of the “to-be” business process and design controls to ensure that relevant process risks are mitigated.	Medium	Mr. Lawton	The risks/controls for recruitment process were considered by the project. However, the ERP Common Implementation Methodology will be updated to include a specific task/reminder to consider “to-be” process risks/controls in future projects.	30 April 2016
3.	The ERP project management team should ensure that all technical documentation concerning the design and operation of the proposed data repository is complete and suitable for reference by future users of the database.	Medium	Mr. Maurissen	A resource from Management and Administrative Applications Section, not involved in the repository work, will list the technical documents needed to support it in the future. The list will then be used to ensure documentation is gathered/created to ensure future support.	31 May 2016
4.	The Human Resources Management Department should design and execute tests to confirm the completeness and accuracy of data migrated from e-recruit to the proposed data repository. These tests results should be documented and maintained as part of project records.	High	Ms. Barbier	HRMD with the project team will document the tests to be performed, typically by running existing reports from erecruit in BI, and comparing to ensure the results are the same. This will confirm the completeness and accuracy of the data migrated. This documentation will become part of the project records.	31 May 2016

[Annex I follows]

## ANNEX I: PRIORITY OF RECOMMENDATIONS

The recommendations are categorized according to priority, as a further guide to WIPO management in addressing the issues. The following categories are used:

Priority of Audit Recommendations	Nature
<b>Very High</b>	<p>Requires Immediate Management Attention. This is a serious internal control or risk management issue that if not mitigated, may, with a high degree of certainty, lead to:</p> <ul style="list-style-type: none"> <li>• Substantial losses.</li> <li>• Serious violation of corporate strategies, policies, or values.</li> <li>• Serious reputation damage, such as negative publicity in national or international media.</li> <li>• Significant adverse regulatory impact, such as loss of operating licenses or material fines.</li> </ul>
<b>High</b>	<p>Requires Urgent Management Attention. This is an internal control or risk management issue that could lead to:</p> <ul style="list-style-type: none"> <li>• Financial losses.</li> <li>• Loss of controls within the organizational entity or process being reviewed.</li> <li>• Reputation damage, such as negative publicity in local or regional media.</li> <li>• Adverse regulatory impact, such as public sanctions or immaterial fines.</li> </ul>
<b>Medium</b>	<p>Requires Management Attention. This is an internal control or risk management issue, the solution to which may lead to improvement in the quality and/or efficiency of the organizational entity or process being audited. Risks are limited. Improvements that will enhance the existing control framework and/or represent best practice.</p>

[End of annex I and of document]