

Why and How we Benefit the Maintainer by the Introduction of an Automated Maintenance System

Richard Wilmot
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Introduction

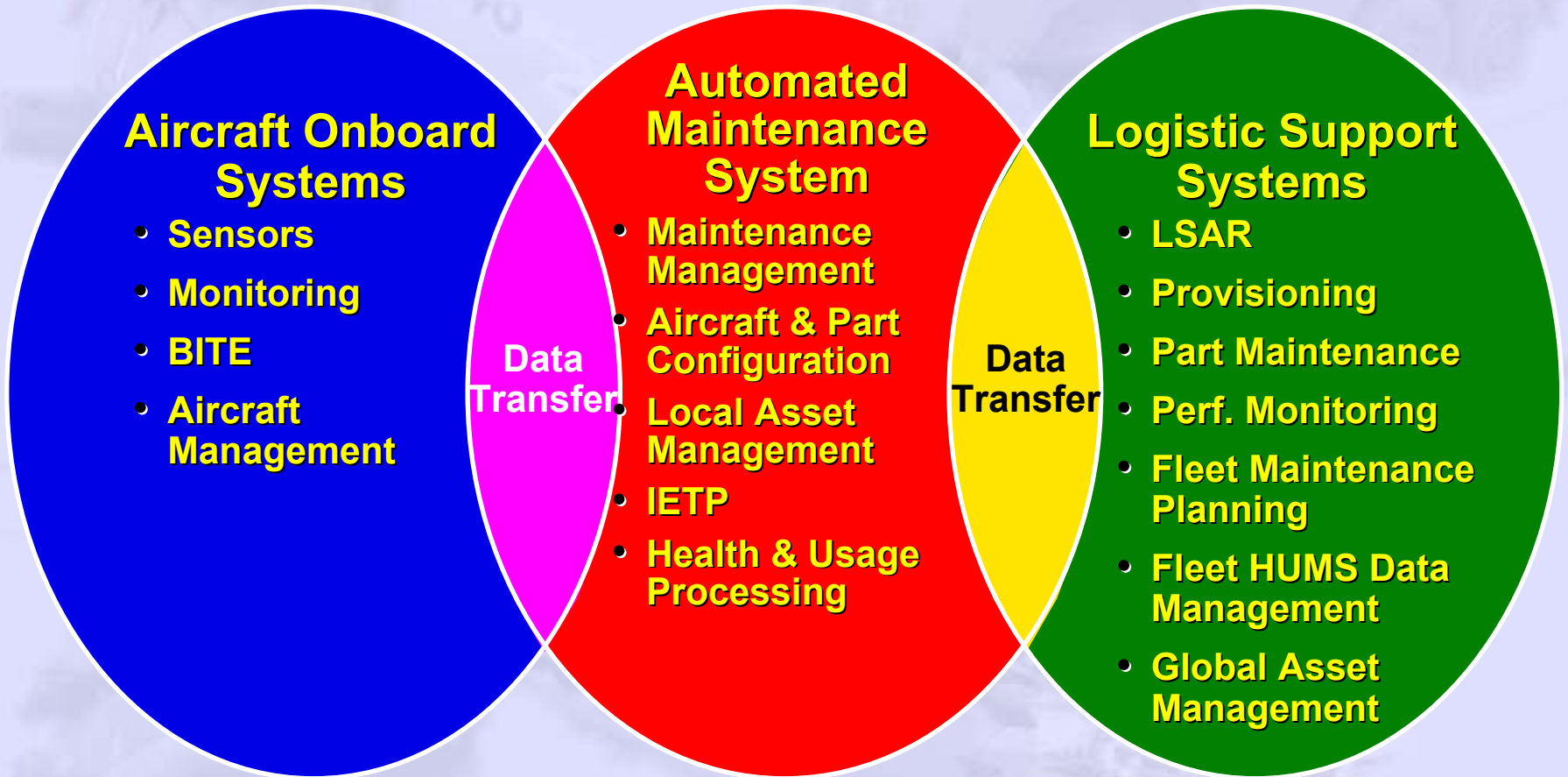


- In both the UK and the US increasing use is being made of automated maintenance systems (AMS)
- The main objective of both of these efforts is to be able to achieve transformation goals: - reduction in logistic footprint and the development of a rapid, lean and deployable force
- Management and monitoring of process change to achieve this goal relies on accurate data from the field.
- A significant portion of this data comes from the lowest rung in the ladder, the maintainer. It follows that in order to get this information in a timely and accurate manner, we must clearly demonstrate and deliver benefits to the maintainer when we introduce these systems.
- In this presentation we will take a short look at the following:
 - function of a typical automated maintenance system;
 - the benefits it can provide to the maintainer;
 - what is needed to realize these benefits;
 - and lastly, some of the reasons why we have not accrued these benefits in the past.



Our customer

What Do These Systems Do?



Data Presented and Collected

- **As a minimum, an AMS should be able to provide the maintainer with the following information:**
 - **What task he should be doing, and then hot linked to the IETM or the paper manual**
 - **What skills he needs to complete the task (People)**
 - **What parts he will require to complete the task (Parts)**
 - **What tools he will require to complete the task (Tools)**
 - **How long it should take him to complete the task (Time)**
- **As a minimum, it should collect**
 - **What task was completed**
 - **Who did the task (ID and MOS) (People)**
 - **What parts were used (Parts)**
 - **What tools were used (Tools)**
 - **How long it actually took (Time)**
- **Note that the system should also be capable of updating the first set of information based on the results of the second**

Benefits

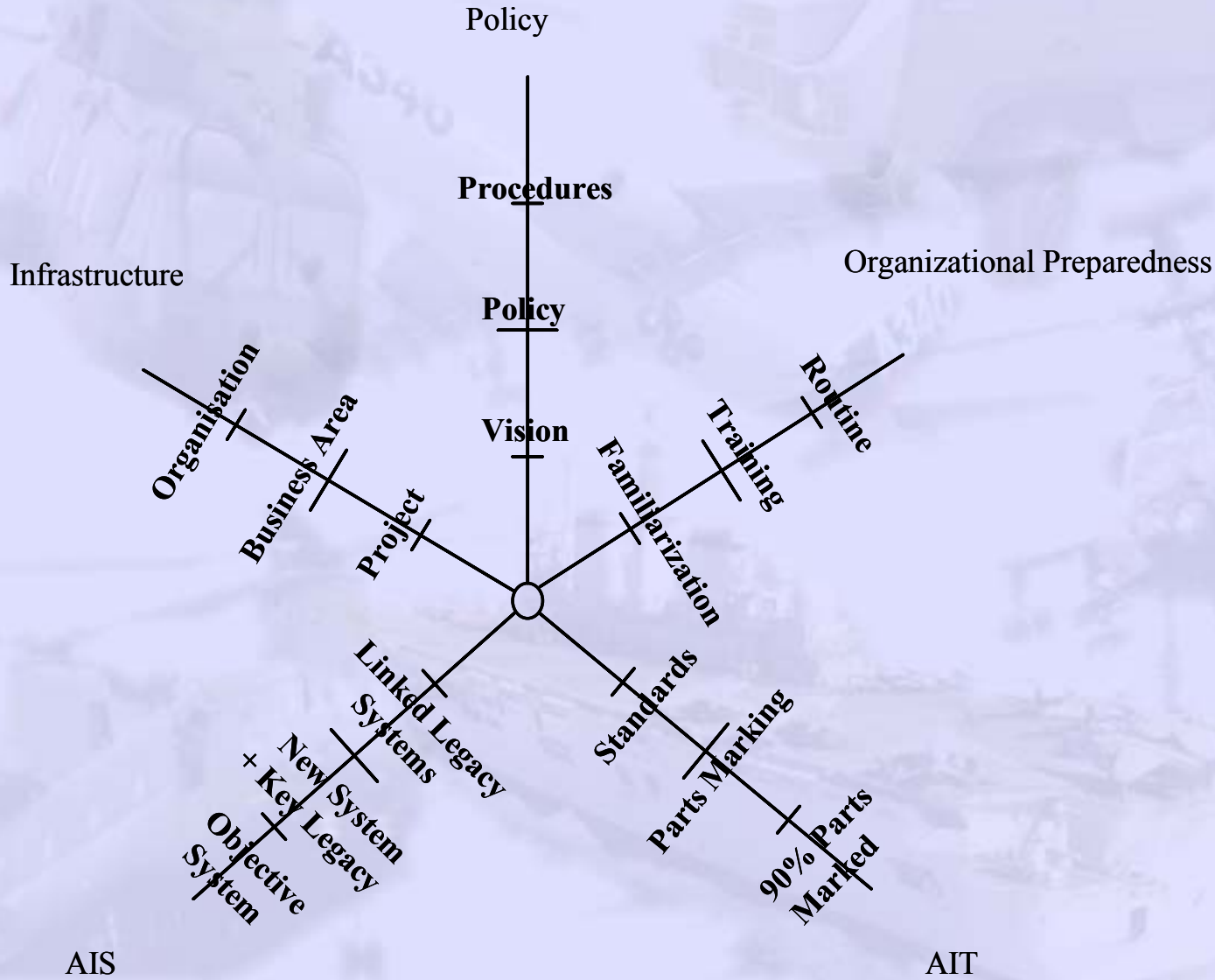
- **By definition the AMS (and associated Logistic Support systems) will ALWAYS do more for the Management function than it will for the maintainer. However the maintainer will benefit from the following:**
 - **Single point of access and entry for data - Maintenance recording, Maintenance Logs, Technical Data, Provisioning, Requisitions.**
 - **'Hot spot' linking between disparate data sources - Repair process to Parts Catalogue, Parts Catalogue to Part Numbers, Task Descriptions to Technical Data etc.**
 - **Greater visibility and accuracy of impending workload at Flight line level - links to pre-provisioning of spare parts and fly away packs.**
 - **Transition to optimized maintenance - no more "why do we inspect this when it's never broken?"**
 - **Immediate access to corporate or tribal knowledge**
 - **Targeted training**
 - **Relief from the need to track serial number parts through a time consuming and error prone paper based system (AIT).**
 - **Translation of complex or large amounts of data e.g HUMS downloads. into tasks for the maintainer to perform.**

Why haven't systems in the past given these benefits?



- **Too little effort in preparing the culture for change** - introducing these systems is not just a technical challenge there are humans involved
- **No transition planning** - how do we get from our present system and processes to where we want to be
- **Over burdening of the maintainer** – what information do you require to manage the fleet - everything!
- **Poor understanding of the difference between Data and Information** – Data needs analysis and conversion before it becomes useful information
- **Confusing or Over Complex GUI** - the maintainer has to understand how to translate what he has done into AMS 'speak'

State Web Diagram



Summary

- Introduction of an AMS benefits the maintainer
- The benefits are gained only when the system is fielded in a planned manner with all aspects of the system being considered.
- If the AMS implementation is flawed there is a high risk that the data we need to achieve our transformation goals will not be obtained
- It is important to understand what information is required to manage. Only then can you ensure that the correct data is collected.