Asset management mobilisation – factors to consider

Companies in the rail industry looking to extend asset management activities to their mobile workers have a number of factors to consider when choosing the best solution for their needs, *says* **PAUL VINEY**, managing director of iQlink Ltd

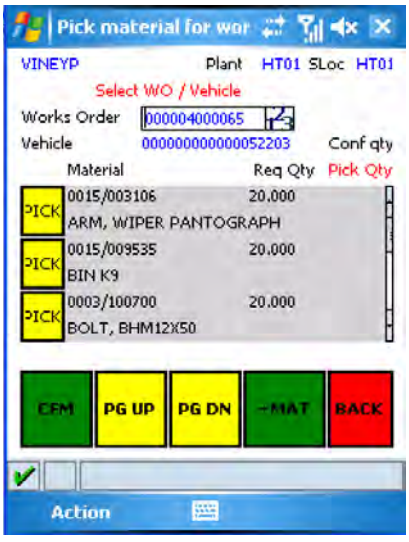
There are a range of options available and care is need in selecting a solution that will be integrated to back-end asset maintenance, planning or stores systems.

Collecting and recording information at the point of activity can greatly improve the performance of workers engaged in maintenance, stock management and stores processes. The right application design can guide users through complex process steps and even automate these in some cases. Updates can be made in real-time and the use of either barcoding or RFID tags greatly reduces possible errors caused by keying errors. This can also reduce significantly the amount of paperwork required.

Connectivity

Mobilising the workforce typically involves some form of wireless connection between the user (device) and any back-end server.

RF Local Area Networks (LANs) connecting to the corporate network via wireless access points is the solution of choice where a network can be established inside a building (maintenance shed). Where usage is required from remote locations, however, use can be made of GPRS / 3G mobile connectivity to communicate back to the server.



A choice of solutions

There are a range of 'middleware' solutions available on the market. These provide connectivity between a range of mobile devices and a server running the application. Great care is needed when integration to a back end system is required. This requires complex interfaces which can be prone to error and usually require maintenance if any part of the IT landscape changes or is upgraded.

Where rail companies are using systems such as SAP or Oracle as the back end ERP systems, it may be better to consider solutions from the software vendors themselves or from one of their software partners. These solutions have normally solved any integration issues, and better still may even be embedded or installed on the core back-end system itself.

On-line or off-line capability

Can connectivity to the main asset management system be guaranteed? If not, then the solution needs to be able to run 'stand-alone' on the mobile device, and synchronised to the back-end

system when connectivity is restored. Normally within a repair depot, for example, RF connectivity can be assured. On larger sites or in more remote areas, connectivity may be via GPRS (mobile network) link, or in some cases (e.g. inside tunnels) no connectivity is possible. In these situations, the application must be capable of running 'stand-alone' with the ability to synchronise to the host (back-end) system and ensure that data integrity is maintained. Solutions from companies such as iQlink (who provide mobilisation solution to SAP systems) provide this type of functionality.

Device selection

Usability is a key factor in deciding the type of device. Most suitable devices now run on the Windows™ Mobile platform, giving the benefit of touch screens and colour displays. The recommendation is to select a device with as large a screen format as possible which aids use, particularly where operatives may need to wear gloves.

Cost can vary according to how rugged the device needs to be (1.5m drop to concrete recommended for maintenance type usage); the type of connectivity required (wired, wireless (RF) of GPRS (mobile)); and what other input devices will be utilised (e.g. bar-code scanning/RFID).

Customer example

Northern Rail have recently implemented a mobile solution in their engineering stores to manage the issue and return of parts used in rolling stock maintenance and repair. They were looking for a solution to deliver a number of benefits for their stores teams:

- Simplified user interface
- Process automation
- Reduction in paperwork

Users needed to carry out system updates whilst managing the inventory, without the need to return to a fixed workstation to update the stores system.
The solution from iQlink has been deployed on handheld scanners (Motorola MC9090) running the Windows™ Mobile operating system. It has been connected seamlessly to the back-end SAP system via an RF link without any additional middleware. The solution has enabled the users to carry out all inventory transactions including goods receipt, put-away to bin, picking and issue to maintenance works order.

In addition, users can handle ad hoc requests from the maintenance team to issue additional parts to a works order required to complete a job, most of which has been barcode enabled and thus reducing the amount of data entry required.

Items unused on a repair job or returned for refurbishment are also handled from the RF devices. Repairable items are tracked by job and when returned back into the stores, the hand held mobile terminal flags them for inspection and refurbishment.

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