

# IFS gives Shanghai Metro the performance edge to move over 8 million passengers daily



IFS enables Shanghai Metro Maintenance Department to move over eight million passengers daily by achieving high train utilization through effective maintenance and engineering practices. With real-time information in one central database that can be accessed anywhere across the Shanghai rail network, Shanghai Metro can now analyze performance, strategically plan and execute maintenance and scheduling, manage inventory and warranties, and make timely business decisions that allows the company to achieve high train utilization.

## Disparate systems and lack of visibility disrupts business performance

The primary responsibility of Shanghai Metro is to maintain the Shanghai train network and ensure optimal performance all the time. The Shanghai Metro system consists of fourteen lines, 331 stations, an operating route length of 538 km, and 579 train configurations. Furthermore, the Shanghai Metro Maintenance team can only perform maintenance and engineering activities 11p.m.–3a.m., so time and careful planning are of the utmost importance. “Prior to IFS Applications, it was a very disorderly time for us,” says Xue Bei Yi, Manager IT Improvement Department, Shanghai Rail Transit Maintenance Support.

Maintenance and engineering is the core business, with Shanghai Metro using a mixture of 3rd party systems and Microsoft® Excel® spreadsheets to carry out activities. “We couldn’t accurately track the history of an asset, how long it had been in operation, and when it needed to be repaired or replaced until it became faulty or non-operational,” says Xue. “During this period, if we had a registered fault, we raised 120 work orders to fix the fault, which was very cumbersome, costly and time-consuming.” Staff didn’t have the means to enable real-time data entry, having to input data and status updates once the maintenance window of 11p.m.–3a.m. closed. Furthermore, management had no visibility into the engineers’ activities during 11p.m.–3a.m. to know whether an activity or work order was completed. “Information recorded in the systems was prone to errors, and we had a lack of visibility into the work order status or if a fault was repaired,” says Xue.

## About Shanghai Rail Transit Metro Co., Ltd

Shanghai Rail Transit Metro is a rapid transit system in Shanghai operating 14 metro lines and 331 stations. The Shanghai Metro system ranks third in the world for annual ridership, with 2.5 billion rides in 2013. The sole purpose of Shanghai Rail Transit Metro is to ensure high utilization of trains through maintenance and engineering works.



Managing spare parts and the warranty of an asset caused unforeseen costs to Shanghai Metro. There was no traceability of spare parts, knowledge of when the asset was installed, how long it had been operational in the train, and the warranty expiry date. "When a fault was registered, for example a faulty door that needed to be replaced, I'm sure we could have saved money if we knew when it was first installed, how long it had been operational, if there was replacement stock on site, or if the asset was under warranty. We had no visibility to be able to make decisions to pre-empt maintenance and prolong the asset's lifecycle. Or ensure we had a supply of spare parts for emergencies," says Xue. Shanghai Metro needed to centralize its data and address the quality of information that supported its core business. "We couldn't accurately produce reports on the required information about KPIs, governance and quality assurance," says Xue.

**"Shanghai Metro now delivers high utilization of trains by improving our through-life support of assets to move over eight million passengers daily thanks to IFS Applications."**

Xue Bei Yi, Manager IT Improvement Department,  
Shanghai Rail Transit Maintenance Support

### **A complete EAM solution to improve business performance**

Shanghai Metro defined its business requirements and went to market for a new enterprise asset management (EAM) solution to address its needs and provide full through-life support for all its assets. With 80% of the core business being focused on maintenance and engineering, the new solution had to be rich in functionality to support these core processes including vehicle information management (VIM) and project management capability. Furthermore, Shanghai Metro required the system to provide full transparency across all of the business, including a single centralized database. "We went to market and it was clear that IFS was the only vendor sufficiently rich in functionality to support our complex maintenance and engineering requirements, and that could also support the entire business," says Xue.

Scheduling calendar-based maintenance by asset duration in operation and preventive maintenance enables Shanghai Metro to be proactive about managing and prolonging an asset's lifecycle and ensuring that trains operate at high utilization. "Now that we know when the asset was installed, how many kilometers it has performed in the train's operational schedule, we can schedule regular maintenance to prolong the asset's lifecycle and plan in advance when to order and replace parts," says Xue. Staff can now efficiently manage and track spare parts, and facilities management is now streamlined. "If there is a fault registered, and the asset is within its warranty lifecycle,

### **Benefits seen using IFS**

- Complete through-life support of all assets
- High utilization of trains
- Complete visibility into Engineering and Maintenance



we can now replace those parts while under warranty. This has saved us a lot of money,” says Xue. “Most advantageous, when a train door control system fault is registered, we only need to raise one work order rather than up to 120 work orders, which saves considerable time and money.” Shanghai Metro is now proactive in planning for all eventualities by storing a number of spare carriages and spare parts to ensure there is high train utilization at all times.

IFS has optimized workforce scheduling and enhanced realtime decision making. “We can now deploy the right people at the right time with the right materials to execute a work order with real-time information at their fingertips,” says Xue. “Time is of the utmost importance to deliver all maintenance, cleaning, and network repairs to ensure high train utilization; IFS enables us to do that. We can now accurately report on the required information about KPIs, governance and quality assurance.”

### **IFS keeps Shanghai Metro moving**

To move over eight million passengers a day and ensure that the train network is performing in high utilization is no easy task. “Implementing a world-class EAM solution has enabled us to streamline operations, make executive business decisions through quality information, all in real time, and deliver a train service that meets high utilization of our quota to ensure our customers can enjoy a reliable service so they can travel around Shanghai on time,” says Xue.



### **Find out more**

Further information, e-mail [info@ifs.com](mailto:info@ifs.com), contact your local IFS office or visit our web site, [ifs.com](http://ifs.com)

