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IBM Gold Business Partner

How Technology is Revolutionising the Bus industry

Vehicle Maintenance, Remote Working and Safety

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Knowledge where it's needed

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The Bus industry is embracing the new digital era. Passengers can purchase tickets on apps using Apple Pay, or at machines using contactless cards; e-tickets eliminate the need for paper tickets; and intuitive apps allow customers to track their bus using a real-time map.

Bus companies utilising this modern technology are improving the customer experience, allowing not only customers, but staff working for bus organisations to improve their overall efficiencies.

Across the industry, there is an ongoing debate as to how far the bus sector can go with this digital transformation. Powerhouse names like Uber and Citymapper are regularly changing expectations for users, and predicting the future of driverless buses is difficult due to safety concerns and compliance.

Therefore, while some industry executives strive for continued digital expansion, most public sector bus companies are approaching the digital revolution with caution.

The requirements of a modern-day bus company

The Annual Bus statistics from December 2019 revealed that the number of local bus passenger journeys in England was 4.27 billion. This demonstrates the importance of the industry to everyday life.

Furthermore, with so many daily users of buses, it is critical that buses are kept on the move and working in optimum condition.

A modern-day bus company needs to juggle many responsibilities with regards to asset management, including:

- Maximising vehicle availability
- Keeping all vehicles maintained to industry standards
- Ensuring that all health and safety regulations are met
- Efficiently managing asset warranties

It can be difficult to achieve all of this while balancing costs. However, there are a number of technological alternatives that can be implemented to resolve issues around maintenance, automation and working efficiently in real-time.

For this reason, many bus operators are turning towards the financial and operational advantages that effective Enterprise Asset Management (EAM) brings.

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Delivering crucial insight into asset performance

Using an Enterprise Asset Management (EAM) system such as IBM Maximo means that bus companies are able to optimise the performance and cost-effectiveness of their operations and assets.

The key function of an EAM system is to:

- Focus on critical assets, including their condition and performance
- Provide insights and tools to help companies make wise investments, and improve service
- Deliver insight into safety performance, resource allocation and quality information

With the right implementation of Maximo, bus companies can overcome the challenges of inefficient working practices and unnecessary costs.

In addition, predictive analytics can provide a maintenance revolution for buses. It is possible to create a warning system that automatically schedules maintenance for a bus's equipment. For example, the optimal time to undertake maintenance considering asset uptime requirements and asset lifecycle cost can be understood by using Maximo.

image: Electric bus, Girton Road

Managing assets and work orders at the point of work

Many bus organisations are also implementing a mobile EAM solution. Engineers in the industry require a system that is:

- Robust
- Rapid
- User-friendly
- Intuitive
- Easy to use from remote locations

By working more effectively in the field, the productivity of bus companies will increase. Assets will be available more, have a longer lifecycle, and resources will be more productive and better utilised.

Working on a mobile device allows engineers to record vehicle maintenance work and be more efficient in undertaking activities such as stock and inventory management and job allocation. With the elimination of their paper process, operators can:

- Reduce costs
- Avoid administration errors
- Ensure everyone is working from the same 'live' digital data

With a mobile EAM solution, data is transferred to the central Maximo system in real-time, which produces necessary reports for compliance and KPIs.

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Gaining a competitive advantage in the marketplace

Bus engineers who undertake daily vehicle inspections require a simple and robust mobile solution, which makes their lives easier. When users have to fill out less forms, and can access information more easily, adoption is straightforward.

Peacock Engineering's Fingertip mobile solution uses highly configurable mobile forms that can be designed to suit the business' requirements, for example vehicle inspections or roadwork maintenance. Fingertip seamlessly integrates with Maximo to provide essential data at the point of work.

This technology supports health and safety, vehicle maintenance and effective working, as assets can be preserved for longer through improved controlling and monitoring of asset lifecycles. Integrating Maximo with Fingertip addresses these issues and helps organisations to gain a competitive advantage in the marketplace.

image: Copyright: CC-BY-SA 4.0 Matti Blume

Extending Asset Management into the field

Effective asset management is essential for all bus operators, with many now striving for ISO 55000 certification. By increasing asset uptime, bus companies can maximise revenue and avoid downtime costs.

For example, a major inter-city bus operator in Chile has used IBM Maximo inventory and procurement capabilities in recent years to:

- Reduce inventory costs by $1.5 million
- Reduce warranty costs by $500,000
- Adopt a preventive maintenance model for its fleet of 1,500 buses

The benefits of effective asset management are taken further when IBM Maximo is extended into the field. Mobile solutions allow bus operators' staff to access critical data in the Maximo system, at the point of work.

In an increasingly digital world, the possible improvements offered by a mobile working solution are significant. The bus industry is starting to embrace these changes – and is enhancing customer experience as a result.

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About Peacock Engineering

Peacock Engineering Ltd was established to deliver a diverse range of Asset and Service Management solutions to asset intensive industries.

Our consulting team is made up of long standing IBM Maximo professionals, each with an average of 12 years' experience in the product and who, together, have amassed over 400 man-years of Maximo systems implementation experience.

From this knowledge and practical application, a proven and trusted process-driven methodology has emerged. With the methodology in place, the ongoing challenge is to improve delivery efficiency and provide affordable solutions, using a mix of services and systems provisioning models, to meet a broad range of industry verticals.