
CONNECTED ASSET LIFECYCLE MANAGEMENT

ABB Ability™ Ellipse® WFM

Cloud-based mobile workforce management designed to enhance efficiency, productivity and safety.



Optimize asset performance

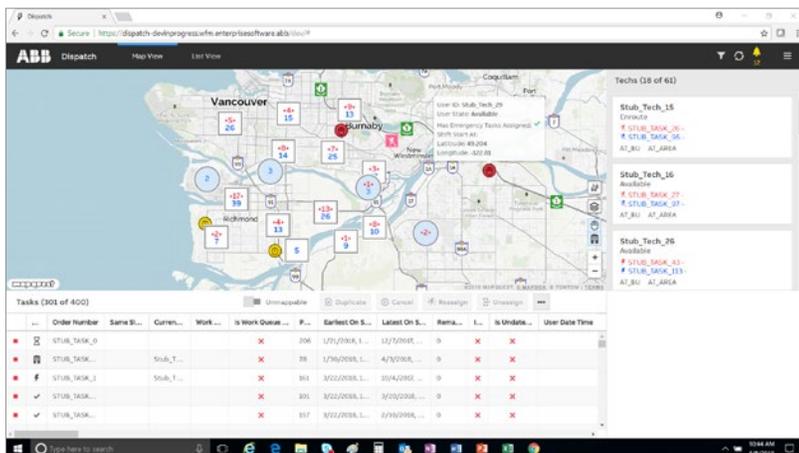
with a simple solution for complex inspections, maintenance and repair.

In today's rapidly-changing digital world, asset-intensive industries are under increasing pressure to effectively inspect and maintain their critical assets and infrastructure. They must also respond quickly to customer requests and emergencies, while ensuring the reliability and safety of both their equipment and their field technicians.

ABB Ability™ Ellipse® Workforce Management (WFM) addresses these challenges with a highly-scalable and intuitive application that offers the mobile workforce improved productivity in

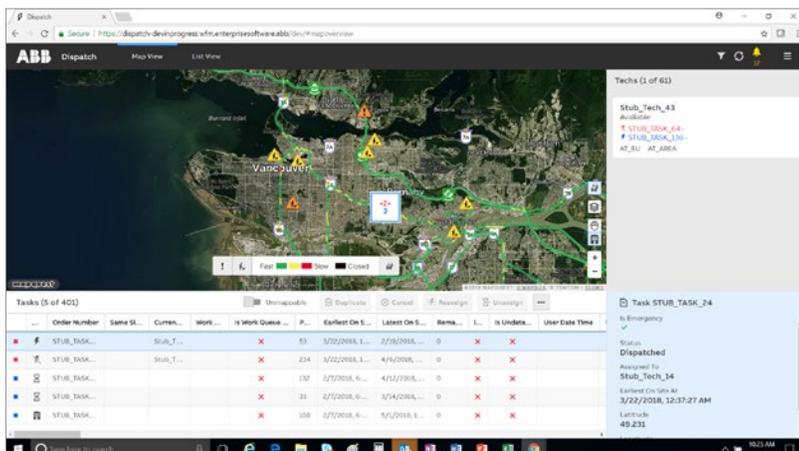
inspections, maintenance and repair. Ellipse WFM equips mobile users with the tools needed to execute work in the field with optimal efficiency.

Built on the Microsoft® Azure® platform, Ellipse WFM is a multi-tenant SaaS application with industry leading security and disaster recovery. Available for Android™, iOS™ and Windows® 10, Ellipse WFM allows users to view and complete work orders, rounds or inspections on a laptop, tablet or smartphone from anywhere in the field.



Tens of thousands of mobile technicians and dispatchers rely on ABB's mobile workforce management solutions every day to manage their technicians and solve their toughest field challenges.

The net effect of their feedback is a comprehensive, intuitive solution proven to increase productivity, reduce costs and contribute to better asset reliability.



01 Task overview – map view with technician details

02 Map satellite view with live traffic. Live traffic is not available in all global regions. Ask your ABB representative about your country.

Built to simplify mobile work

Dispatch

Managing and appropriately dispatching work orders is at the heart of efficient field operations. Ellipse WFM provides dispatchers with the information and tools to effectively:

- View live traffic on the map to inform dispatch decisions
- Filter or sort based on technician attributes
- Search for specific technicians
- Have the system automatically display the most appropriate technicians for a job based on their status, skills and location
- Assign work through the mobile device

Having identified the best technician for a job, the dispatcher can assign work (through the mobile device) and can monitor, modify and reassign work as the situation changes. A mobile supervisor app lets supervisors and crew leads monitor technicians and jobs, and assign jobs to technicians on a mobile device in the field.

Outage management

Ellipse WFM enables utilities to respond quickly to system outages. Integrated to ABB Ability Network Manager™ ADMS, the workforce management system can receive work orders directly from the outage management system when faults are detected. Based on the severity of the fault, work orders are resourced and workers quickly dispatched to restore the network. Seamless integration between the systems ensures that real-time information is available to key stakeholders about the expected restoration time and effort required to return the network to normal operations.

Asset inspections

ABB has served asset-intensive industries for over 125 years and understands that inspecting and maintaining assets is extremely complicated. For this type of work to be completed effectively, technicians must be able to assess and grade the condition of each asset based on a number of factors such as condition, age and environment.

Using custom forms with dynamic fields, clients can create workflows that easily guide a mobile user through the assessment process. Mobile users see only the fields that are relevant to the equipment being serviced. This allows clients to control the inspection while eliminating paper-based data capture and the errors that result from incorrect transcription or missing data.

Inspection compliance

The ability to conduct complex inspections on a powerful mobile device simplifies the process of capturing data and improves the accuracy and consistency of asset condition information returned to the enterprise asset management system (EAM). By requiring all mobile users to follow the same electronic workflow (script), managers are assured that inspections are being conducted correctly every time, regardless of who does the work. This improves compliance rates and allows managers to focus on operations rather than on rework and data audits.

Maintenance and repair

Ellipse WFM is a powerful tool for maintenance and repair work. The application supports a variety of scenarios, such as creating work requests from the field to address issues identified during routine maintenance, and capturing and verifying GPS data for an asset in the field to facilitate locating the asset. The ability to manage inspections, maintenance and repair through a single application eliminates the need for multiple applications, which drives operational efficiency and cost savings.



Hands-Free Inspector

Ellipse WFM improves the efficiency and safety of field operations via integration with ABB's Hands-Free Inspector (HFI) application that runs on Android-based wearable computers such as the RealWear™ HMT-1™. Hands-Free Inspector uses voice commands to allow field technicians to carry out a wide variety of tasks without using their hands or compromising awareness of their surroundings:

- View information such as photos, schematics or inspection scripts
- Complete forms, speak with co-workers, stream video from site
- Capture images and information

Integrations

Ellipse WFM is designed to integrate to ABB solutions and a variety of back office systems such as asset management (EAM), customer billing (CIS), outage management (ADMS/OMS) and asset performance management (APM) systems. Feeding work order data into Ellipse WFM using simple APIs ensures that the mobile workforce can execute work orders regardless of where the order originates. Ellipse WFM can also accept order information from spreadsheets like Microsoft Excel® in cases where no host system exists.

Ellipse WFM has standardized integrations to SAP®, Maximo®¹, ABB Ability Ellipse EAM, ABB Ability Ellipse APM and ABB Ability Network Manager ADMS. In the case of ABB's products, these standardized integrations allow WFM to share data with the other applications with minimal configuration creating a complete lifecycle management solution for assets. For third party applications such as SAP, standardizing the integration improves ROI and shortens implementation time, allowing customers to reap operational benefits sooner.

Improved efficiency

Ellipse WFM draws on ABB's extensive expertise in mobile workforce management to offer a rich mobile experience that drives improved efficiency.

- **Self-dispatch functionality** allows technicians to sequence work appropriately by selecting work from their work queues or fill free time by claiming nearby jobs.
- **Work anywhere** with support for connected and disconnected modes – orders and completed form data sync automatically when the user re-enters a coverage zone.
- **Integration to the mobile device's camera** enables users to document asset conditions as part of the completed work order. Visual evidence can be archived and analyzed to support preventative maintenance programs.
- **Configuration tool** allows clients to configure forms and fields themselves to fit their business processes, shortening the time to achieve ROI and enabling changes as necessary.



¹ Available Q4 2018

Key capabilities

Mobile mapping

- Display street maps with live traffic²
- Includes MapQuest street maps
- View maps while offline/disconnected
- View driving directions to an order using native maps
- Hear audible driving directions using native maps
- View current location on a map
- View and process work orders on a map on the mobile device

Device

- Seamlessly move in and out of coverage
- Localization and regionalization
- Order notifications (e.g., new, removed, modified)
- Automatically submit timesheets based on known shift information
- Audible alerts

Communications

- Exchange messages with host system

Dispatch activities

- View available technicians and their status (sortable/filterable)
- View technicians' current routes and locations
- Assign or re-assign work to technicians

Order activities

- Mobile user self-dispatch
- Mobile order status: acknowledge, suspend, refer/reject
- Technician status: en-route, on-site, available
- Work request creation in the field
- Barcode scanning using device camera
- Validation and capture of GPS coordinates at the asset
- Attach pictures to update form
- Report estimated time to completion

Order summary

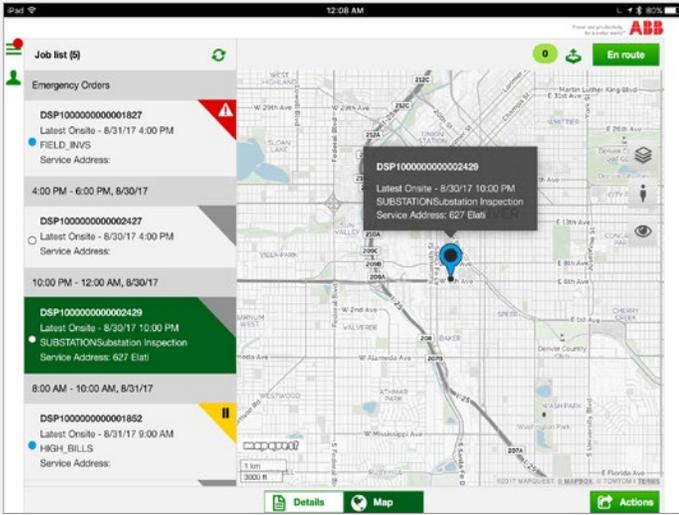
- View dispatched orders
- List and map based views of all assigned work
- Emergency order indicators

Order details

- View pictures, maps and PDF files
- View list of attachments
- Hyperlinks in order details
- Orders with multiple activities
- Capture geo-location (latitude & longitude) on a form

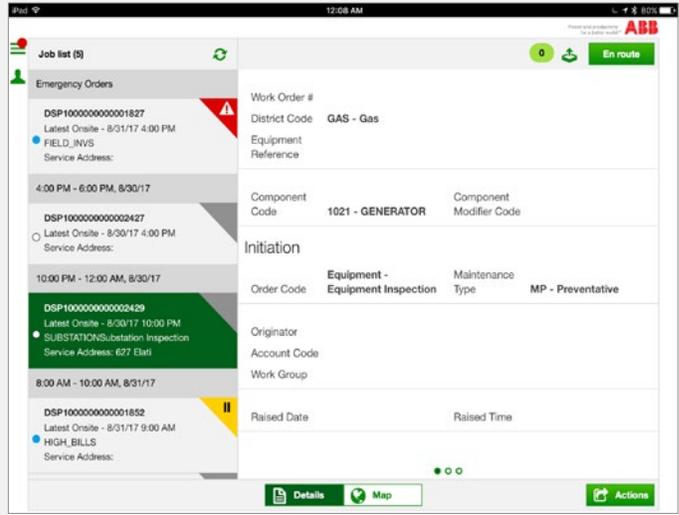
² Please contact ABB for a list of currently-available countries.

ABB Ability Ellipse WFM in action



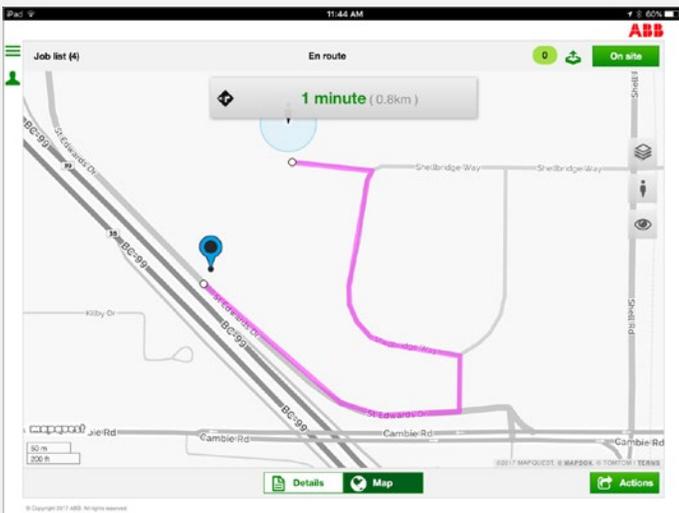
01 Job list map

This screen displays a detailed job list of orders assigned to the mobile user. Orders appear on the left hand side with the highlighted order appearing in green and identified on the map.



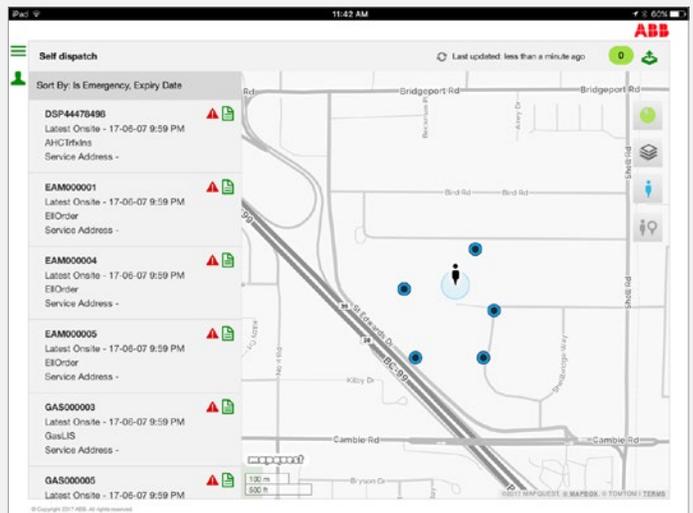
02 Details view

Details view allows users to review the assigned tasks associated with the work order.



03 Integrated maps

With integrated maps, users can easily see on their mobile device how to get to their next order, along with an estimate of the time required to arrive.



04 Self dispatch

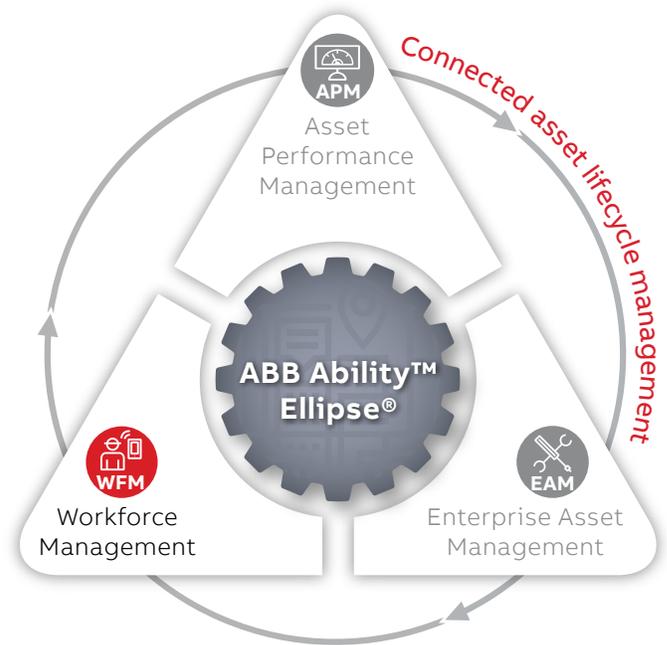
The self dispatch application allows mobile users to view available orders and to select work that is close by. This feature is ideal for customers that do not have a centralized dispatch department.

ABB Ability Ellipse

Connected asset lifecycle management

Ellipse WFM is a key component of ABB Ability™ Ellipse®, the premier connected asset lifecycle management solution that unifies world-class functionality of enterprise asset management (EAM), workforce management (WFM) and asset performance management (APM). Combined, Ellipse allows for the orchestration of priority, process and people across an organization and enables peak operational performance and continuous process improvement in line with ISO 55000 best practices.

Implementing Ellipse WFM as part of a comprehensive asset management strategy enables cross-functional visibility, consolidated reporting, improved workforce productivity and reduced down-time. Ellipse WFM is a SaaS offering and can be implemented with Ellipse EAM or integrated with other EAM systems.



Working together to work better.

Communication and connection between the three cornerstone functions of Ellipse drive continuous, successful operations.



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