# 2BM MOBILE
# WORK ORDER.

14:30

Brian Mortensen
Technician

Technical Objects

Today's Uptime
96.4%
Avg. 98.2%

Create Notification
+

Hours Without Breakdown
93
Best: 286 Hours

WORK ORDER.

My Notifications
2

Today's Production
83.9M
79.4M
5% Ahead of Target

Daily Performance
mon    fri
1% Below Projected

Work Orders
3

All QNL-machines have been upgraded in plant 2014 and 2214
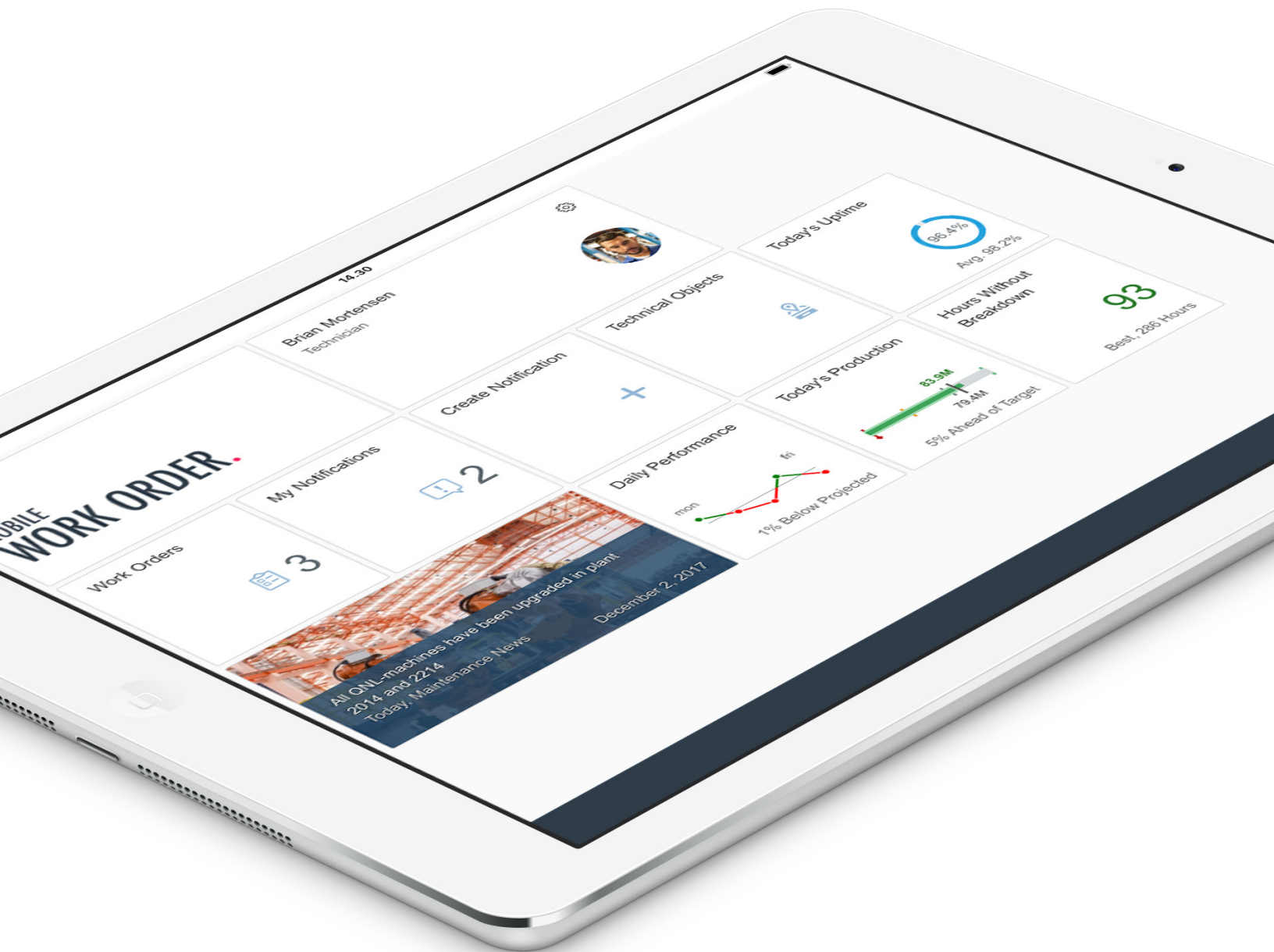Today, Maintenance News
December 2, 2017

# FOUR ARGUMENTS FOR
# MOBILIZING
# SAP ASSET MANAGEMENT.

Since 2007, 2BM has worked with **mobilizing** and **optimizing** maintenance processes in companies that use SAP for asset management. Among others we have helped **DONG Energy**, **Grundfos**, **RailNet Denmark**, and **LEGO** in achieving more efficient asset maintenance, for less money.

2BM Mobile Work Order is a next generation mobile maintenance application that allows your technicians easy access to work orders, operations, measurements, materials, time registration, sensor data, and notifications - directly on their PCs, tablets, and mobile phones. With 2BM Mobile Work Order, you can experience more than 35% more efficient maintenance through substantial savings on time and paper usage, and maximize operational throughput with IoT and Predictive Analytics.

Read through the white paper and get insights on how 2BM Mobile Work Order can transform your maintenance processes through significant improvements in **four key metrics**.
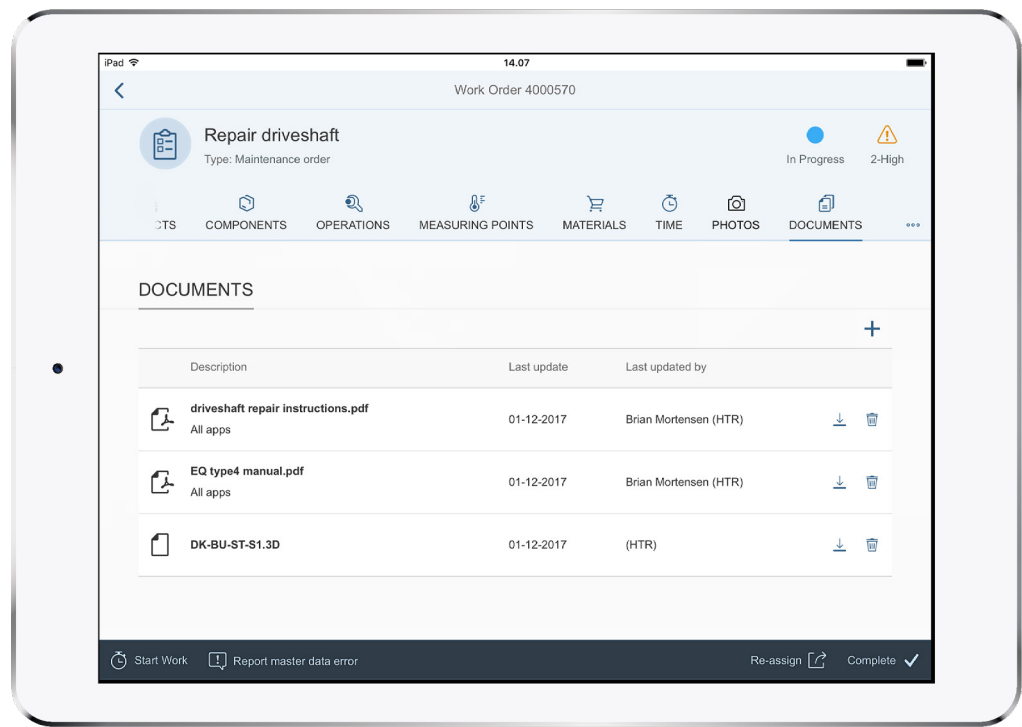
**2B**M

Mobilize maintenance processes and get an edge over the competition with the user-centric Mobile Work Order application built entirely on SAP standard technologies

# ARGUMENT ONE.
## GET IT RIGHT THE FIRST TIME



2BM Mobile Work Order supports your technicians with the right documentation.

You're under constant cost-pressure from senior management – at the same time you want to ensure that production runs smoothly, and that means minimal downtime. How can both objectives be reached?

The answer lies in improving the job-readiness of your technicians and increasing your organization's first-time fix rate using 2BM Mobile Work Order – getting it right, the first time.

## WHY IS FIRST-TIME FIX RATE IMPORTANT?

According to the Aberdeen Group, field service jobs that aren't resolved in a single visit require an average of 1.5 additional visits to complete. The additional cost-pressure from repeat visits, repeat training and instructions, and repeat planning and scheduling, highlights the importance of getting it right the first time.



## WHAT ARE SOME OBSTACLES TO ACHIEVING A HIGHER FIRST-TIME FIX RATE?

The common problems that 2BM has identified in relation to achieving a high first-time fix rate are:

1. **Required spare-parts not on hand:** The necessary parts may not be available, or the required tools may not be on-site.

2. **Lack of assistance:** Technicians may not get the assistance and/or information they need to perform the repair.

3. **Poor maintenance planning:** The maintenance planner may not have allocated enough time for the repair in the scheduling system. Or the technician has received inadequate or incorrect information on the location of the asset.

## WHAT ARE THE REPERCUSSIONS OF LOW FIRST-TIME FIX RATES?

When not getting it right the first time, the maintenance organization wastes valuable resources such as technicians' time, as well as maintenance supervisors having to spend more time and effort on a single repair due to repeat training, instructions, repair guidance, and documentation.

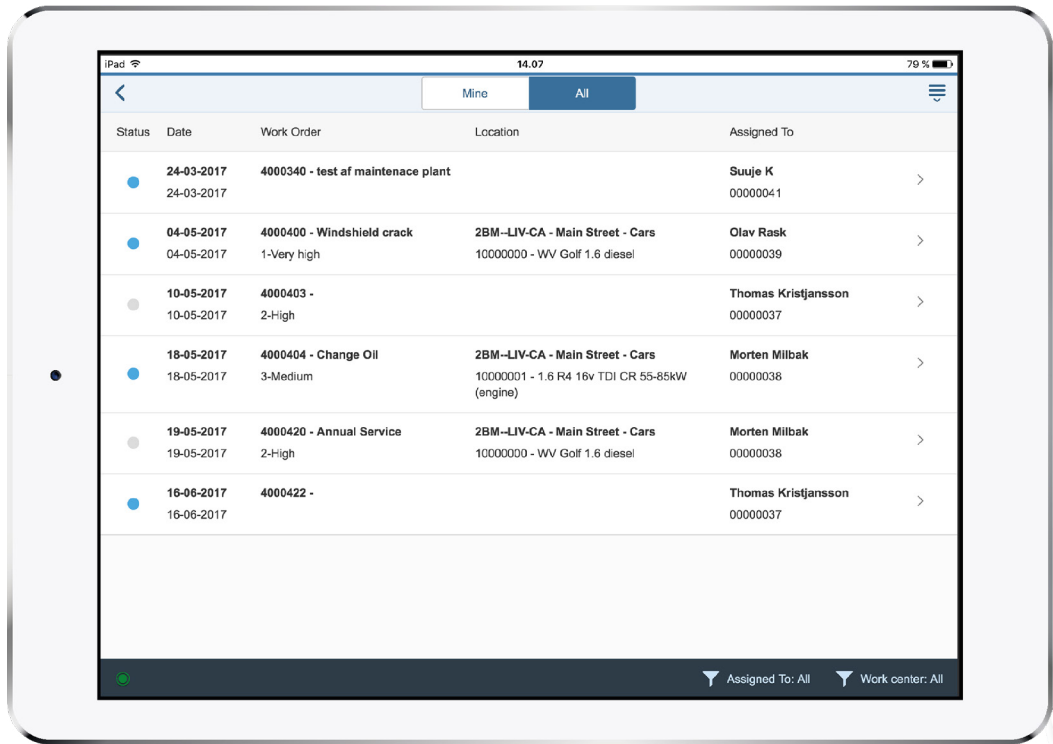## HOW CAN TECHNICIANS BE SUPPORTED TO GET IT RIGHT THE FIRST TIME?

Higher first-time fix rates can be achieved through better repair guidance and documentation to technicians, access to real-time inventory information, and giving technician the ability to order spare-parts from the field.

2BM's 'Mobile Work Order', will be able to provide the technician the necessary information to succeed. Consider these benefits of 2BM Mobile Work Order:

**Enhanced information-flow:** Geographical Information System-based knowledge on repair locations and storage locations where technicians can pick up materials, spare-parts and work tools.

**Technical support:** Provide technician with up-to-date documentation, schematics, blueprints, and information about known integrity-levels of critical infrastructure and equipment.

**Clear instructions:** Give maintenance technicians complete check-lists, measuring point details, and easy-to-read work orders with a precise set of operations to perform.



**Information**
User Manuals
Blueprints

**Data**
Repair History
Geo Location

# WO.

**Training**
Certificates
Instructions

**Tools**
Knowledge Sharing
Material Supply

## TO SUM-UP.
2BM Mobile Work Order can facilitate your maintenance technicians with the data, information, training, and tools they need to perform inspections, replacements, or repairs, all of which are crucial elements to enhance your first-time fix rate.

# ARGUMENT TWO.
## ACHIEVE BETTER DATA MANAGEMENT

SAP Plant Maintenance is focused on the right data entering the system. The purpose of 2BM Mobile Work Order is to facilitate this process by recording relevant cost information, and document work order completion – while supporting your technician with real-time data.

### WHAT ARE THE CONSEQUENCES OF POOR DATA MANAGEMENT?

Lacking visibility into work processes, low-quality spare parts management, inventory leakages and poor work scheduling are the results of incomplete or inaccurate data reporting.

An inefficient and slow field service spare parts ordering system creates difficulties and hurdles for maintenance-schedulers because they have less accurate information on parts and materials ordered from the field. Spare parts suppliers are at risk of running late, with deliveries at risk of being damaged or lost.

Poor parts management adversely affects first-time fix rates because technicians do not have the right tools at the right times to perform the work order.
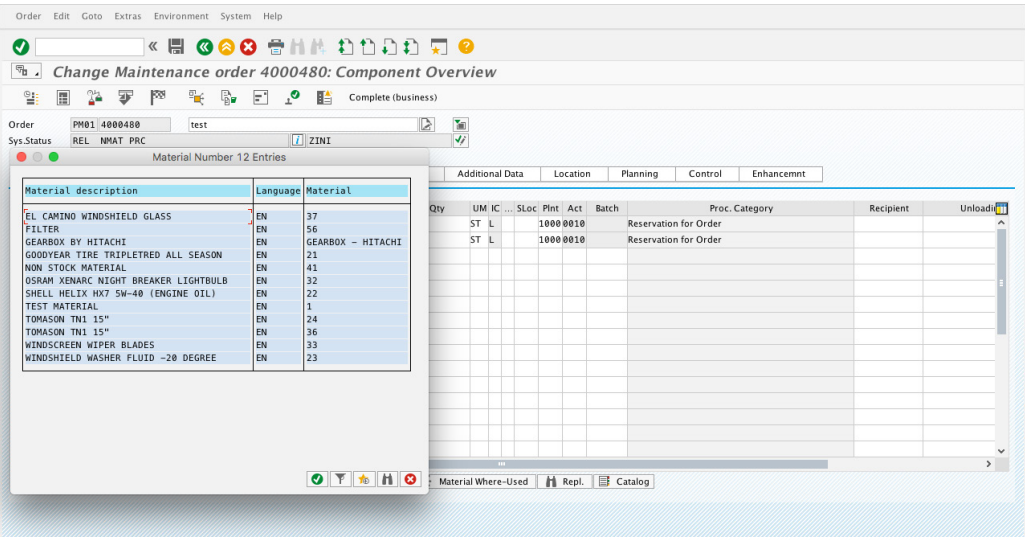


How data management used to look.



How data management looks with 2BM Mobile Work Order
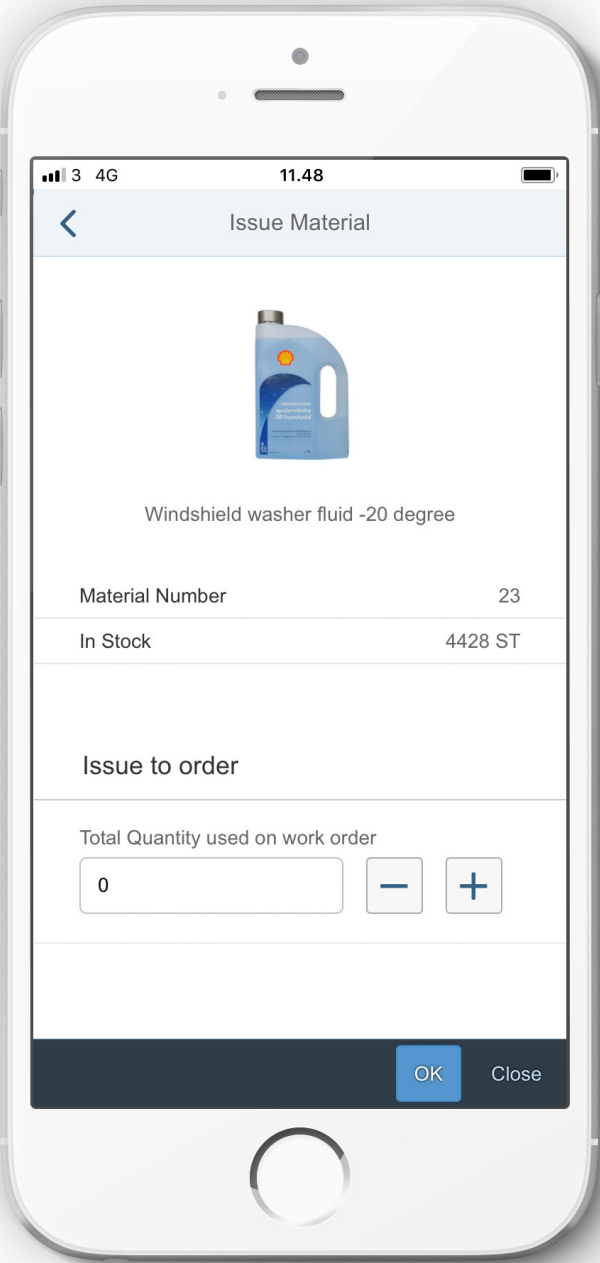
### WHY A MOBILE SOLUTION WINS.

Perhaps your technicians might write down incomplete information on their job cards because they find data entry burdensome and time-consuming.

With 2BM Mobile Work Order, easy-to-fill-out and pre-defined fields allow for complete data on materials used to be entered into the system.

This allows your maintenance supervisors to view in real-time exactly what materials are being used, or requested in the field.

Furthermore, 2BM Mobile Work Order's advanced material look-up functionality makes it easy for the technician to find materials needed for a repair and request it from head office if it's not in stock.

The result is increased reliability of data, with maintenance-planners receiving the same quality and quantity of information on a day-to-day basis.
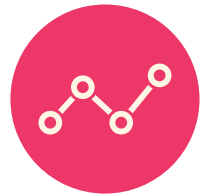
## IMPROVE DATA MANAGEMENT
## WITH 2BM MOBILE WORK ORDER.

2BM Mobile Work Order will allow your maintenance organization to receive the right data, which will lead to better-quality costing, budgeting, and forecasting.

### TECHNICAL OBJECTS

2BM Mobile Work Order can help you record and identify the correct technical object data from SAP PM including which factory and plant the maintenance work has been performed at, and which machines and equipment were inspected or repaired.

### MEASURING POINTS

2BM Mobile Work Order makes it easier to record measuring-point data, and because the app will synchronize rapidly with head office, your maintenance supervisors will have instant access to data direct from the field.

### TIME REGISTRATION

With 2BM Mobile Work Order, technicians can record time used in the app itself, instead of first recording it on their job cards and then later entering the information into a head-office SAP PM workstation.

### MATERIALS MANAGEMENT

2BM Mobile Work Order records materials and tools used and thereby enabling higher-quality costing and itemization — facilitating better-quality procurement and sourcing, improving warehouse and logistical processes.



### TO SUM UP.

With 2BM Mobile Work Order your maintenance-planners can correctly add items to bill of materials, and they can more accurately gauge the performance of maintenance work performed on the asset. This will allow you to benchmark technician performance and help your maintenance-schedulers pinpoint qualification gaps.

# ARGUMENT THREE.
## ACHIEVE A GREAT USER EXPERIENCE

Changing social environments and higher requirements for user-centric and simplified design, means that a good user experience is a critical parameter for the success of mobile asset management.

## WHAT ARE THE CONSEQUENCES OF POOR USER EXPERIENCES?

Without a good user experience, your employees will resort to workarounds to avoid using the solution, which means a diminished business case realization.

If user experience is poor, employees will feel disgruntled and feel that the mobile solution was 'forced' on them, and this will lead to poor productivity because of the fall in morale.
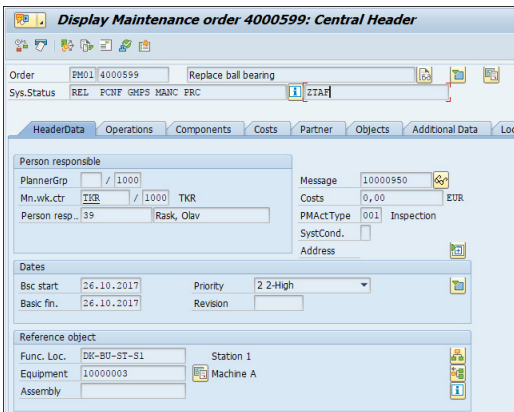


Handling SAP PM in the classic SAP GUI

## WHAT IS A GOOD USER EXPERIENCE?

A good asset management user experience is based on a simplified, smooth, and enjoyable work process – 2BM Mobile Work Order achieves this with intelligent layout of buttons and a streamlined approach for clicking between pages for swift and intuitive navigation.

2BM has discovered that maintenance workers want reduced complexity in a mobile solution because it enables them to focus their attention on the work they're performing, without having to exert disproportionate effort on time-consuming documentation.

We have learned that ease of use and simplicity enhances an organisation's ability to promote repeatability of time-saving work patterns, and that workers prefer a predictable user experience.

2BM Mobile Work Order enables a predictable user experience, helping you standardize work processes, without compromising responsiveness to changing circumstances.

## WHY IS USER EXPERIENCE IMPORTANT?

A good UX impacts business value – the benefits of a good UX are derived from: • Higher productivity • Increased user adoption • Decreased user errors • Saving costs on training

A good user experience drives user adoption and engagement. Bringing a business case for mobilizing plant maintenance to life is achievable, but it requires that your technicians are onboarded on the new solution.

Onboarding of technicians can be facilitated by 2BM Mobile Work Order because it is user-friendly, simple, easy to use, and eliminates unnecessary processes.
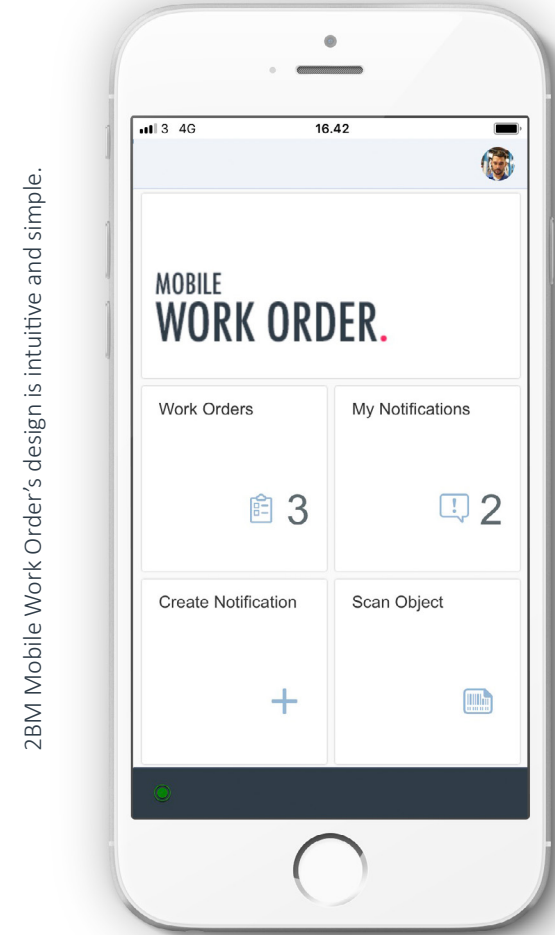


2BM Mobile Work Order's design is intuitive and simple.

## HOW CAN YOU ACHIEVE 'CONSUMER GRADE' USER EXPERIENCES?

We have made it our mission that 2BM Mobile Work Order's user experience is improved by faster app load and rendering times, making sure the interface is not text heavy, and ensuring that it features intuitive navigation and button placement.

A good user experience should be realized for all roles, backgrounds, educational levels, languages, working styles, geographical climates, etc. 2BM has achieved this with 2BM Mobile Work Order by using Design Thinking in the planning and design phase, and including maintenance technicians in this process.

## TO SUM UP.

A good user experience will increase your technicians' motivation. Furthermore, your technicians will take ownership of the maintenance work process and become ambassadors for the new mobile solution and consequent new way of working – **with reduced errors in data registration and reporting.**

# ARGUMENT FOUR.
## Enhance your maintenance with the Internet of Things

In the era of digital transformation, it is becoming more important to keep up with a changing competitive landscape in asset management and production. Organisations today face the dual challenges of escalating costs, and a demand for exponential growth in efficiency – how will you confront the challenges of stepping into industry 4.0? The answer lies in taking your first step towards true Predictive Maintenance through the use of Internet of Things (IoT) devices, using Machine Learning and Artificial Intelligence. Read on to find out why.

## THE WHY.

Asset-intensive organisations lose millions everyday due to breakdown, line stops, and inefficient utilization of assets. Many organizations today employ planned maintenance, relying on scheduled replacements of equipment, machinery, and components. This is furthermore combined with a reactive approach to asset management, wherein asset integrity levels are not monitored, resulting in repair work performed after the machinery has broken down.

This can be prevented by an IoT solution that moves your asset management from reactive or planned to predictive maintenance, and allows you to reap the benefits of sensor-based condition monitoring. 2BM Mobile Work Order with its sensor-based IoT module represents such a solution.

## THE HOW.

2BM Mobile Work Order supports your technicians to get it right the first time. At 2BM, we have taken it one step further by integrating advanced state of the art IoT functionality, for organizations to prevent failures, before they happen.

Using 2BM Mobile Work Order's IoT module, maintenance notifications can be generated automatically in SAP based on specified conditions and thresholds. When the notifications are received a planner can convert them to work orders or the system can take care of the entire process and do this automatically.

2BM's sensor technology will analyze KPIs' (Key Performance Indicators) down to the machine level by measuring attributes of the Digital Twin.
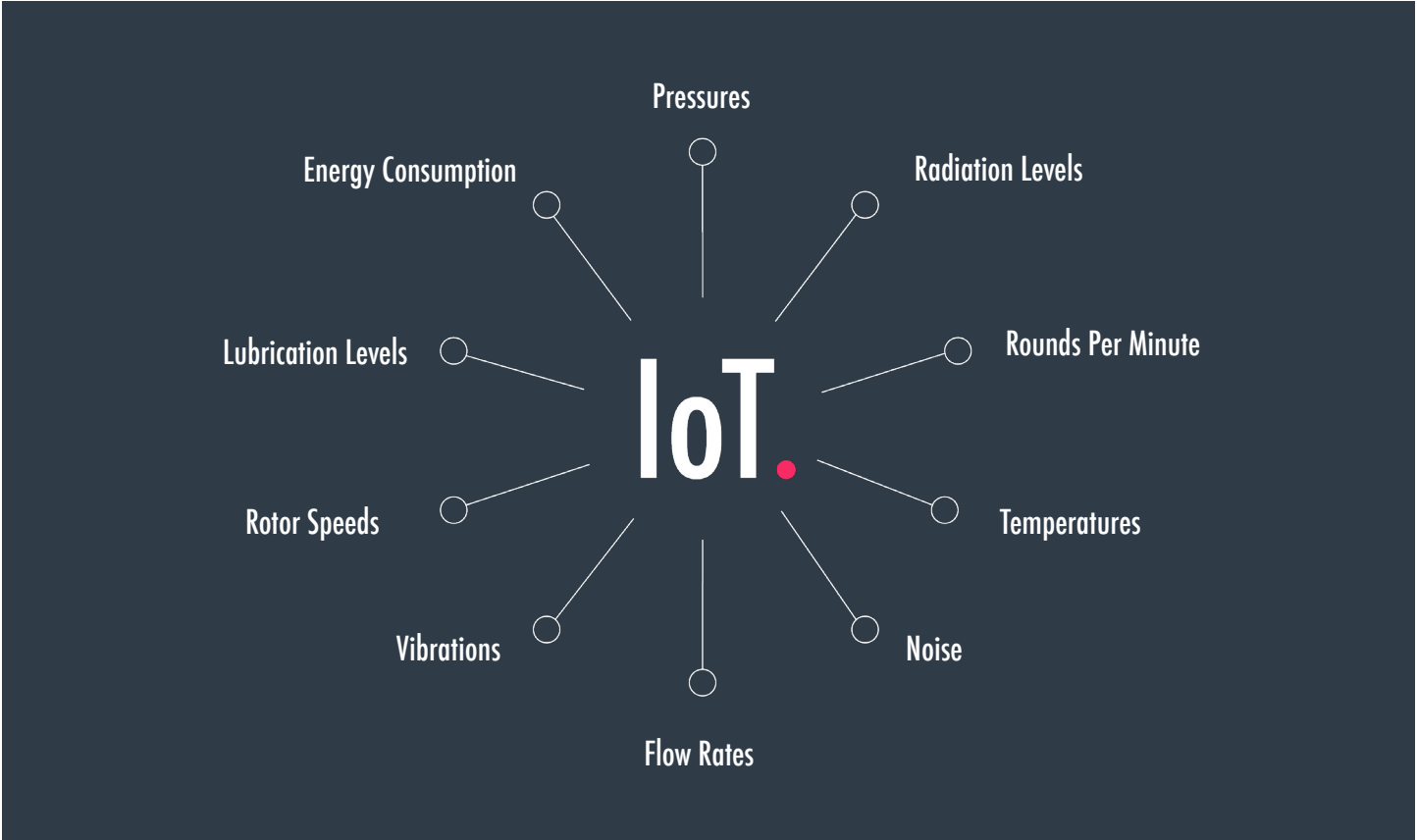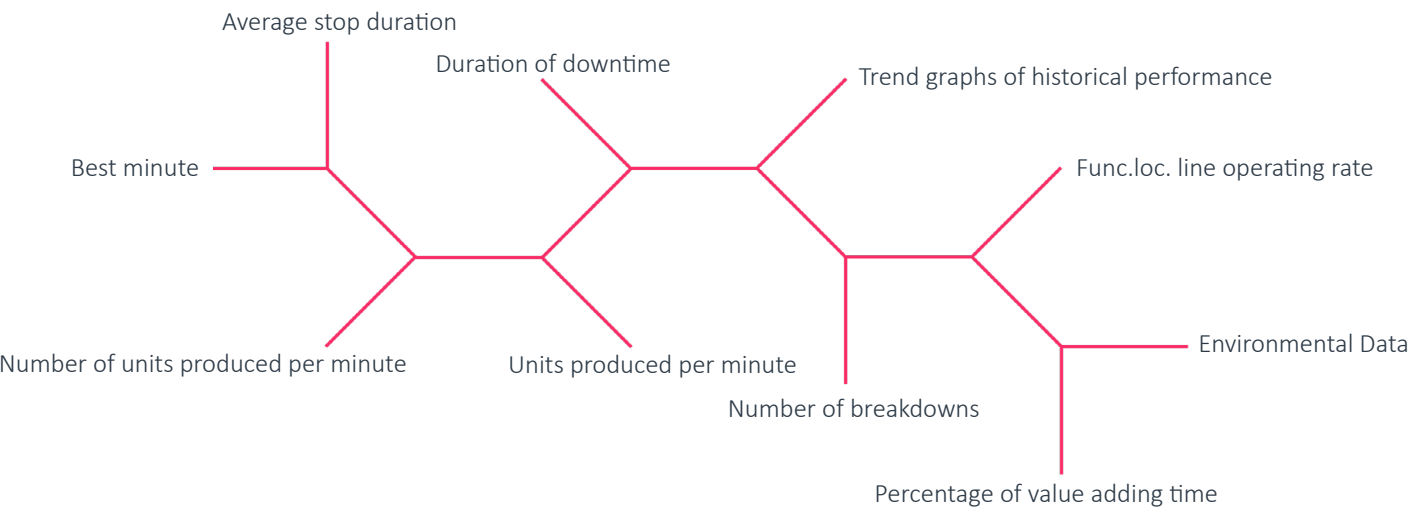
## 2BM MOBILE WORK ORDER'S IOT MODULE.

2BM's IoT functionality comes with Virtual Inspections using video-feeds. The technicians will use the time-stamp of machine breakdown and scroll to that exact time in the video recording to see what actually happened at the time of failure.

Furthermore, 2BM Mobile Work Order's IoT module includes alerts, thermal conditions and weather circumstances, categorized according to severity and criticality. The alerts are created when KPI thresholds are breached. These thresholds are based on machine and equipment conditions, or the production line.

Finally, the IoT module contains KPIs using data visualization through graphs and charts including:

- Average stop duration
- Duration of downtime
- Trend graphs of historical performance
- Best minute
- Func.loc. line operating rate
- Number of units produced per minute
- Units produced per minute
- Number of breakdowns
- Environmental Data
- Percentage of value adding time

## WHAT YOU WILL ACHIEVE WITH 2BM MOBILE WORK ORDER IOT.

2BM Mobile Work Order's IoT functionalities allow you to improve response time to failures, as well as enhance documentation of technicians' response times through accurate time registration. By augmenting SAP PM functionality, 2BM Mobile Work Order improves maintenance planning with insights from IoT sensor data. 2BM Mobile Work Order's IoT module provides the following competitive advantages:

- Activate safety protocols for technician based on asset condition including protective gear and which safety checklist to follow.

- Using KPIs, video feeds and alerts, maintenance planner will target which sensors and data to analyze.

- Decrease investigation time into malfunction as technicians will know which component to replace, and has the necessary documentation.

- Benchmark response quality and speed for failure correction.
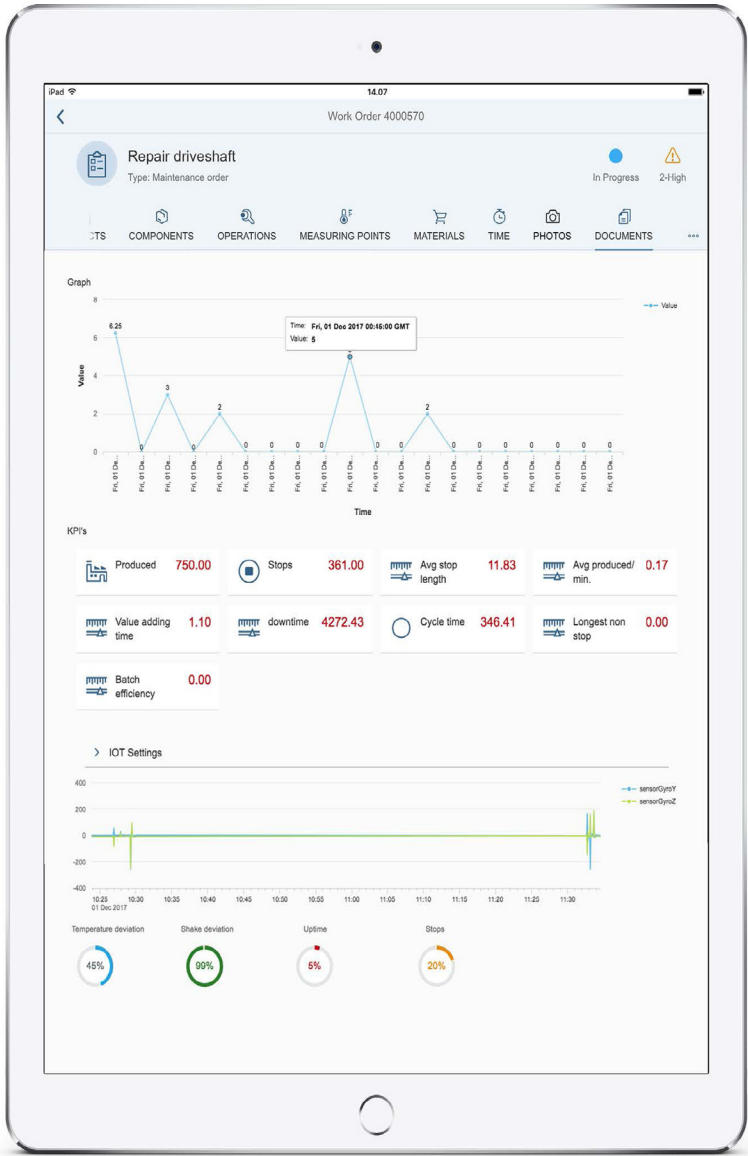


## IOT HARDWARE.

2BM Mobile Work Order IoT Module uses an industrial-grade sensor technology that easily is installed in your machinery and equipment. The sensor data is relayed to a Cloud Server, which contains sophisticated machine learning algorithms that turn the data into actionable insights, e.g. KPI's and dashboard visuals (graphs, charts).

In addition, machine learning algorithms do the investigative work for you, analyzes the data, look for patterns and create new notifications and work orders that are directly relayed to your SAP PM system.

## TO SUM-UP.

2BM Mobile Work Order with the IoT module offers unprecedented opportunities to explore industry 4.0 and explosive revenue growth by having a tool that advances optimal utilization of your assets. By preventing downtime, and performing repairs timely through sensor guided insights, you will more efficiently utilize your workforce talent and take your first step towards the future of asset management;  Predictive Maintenance.
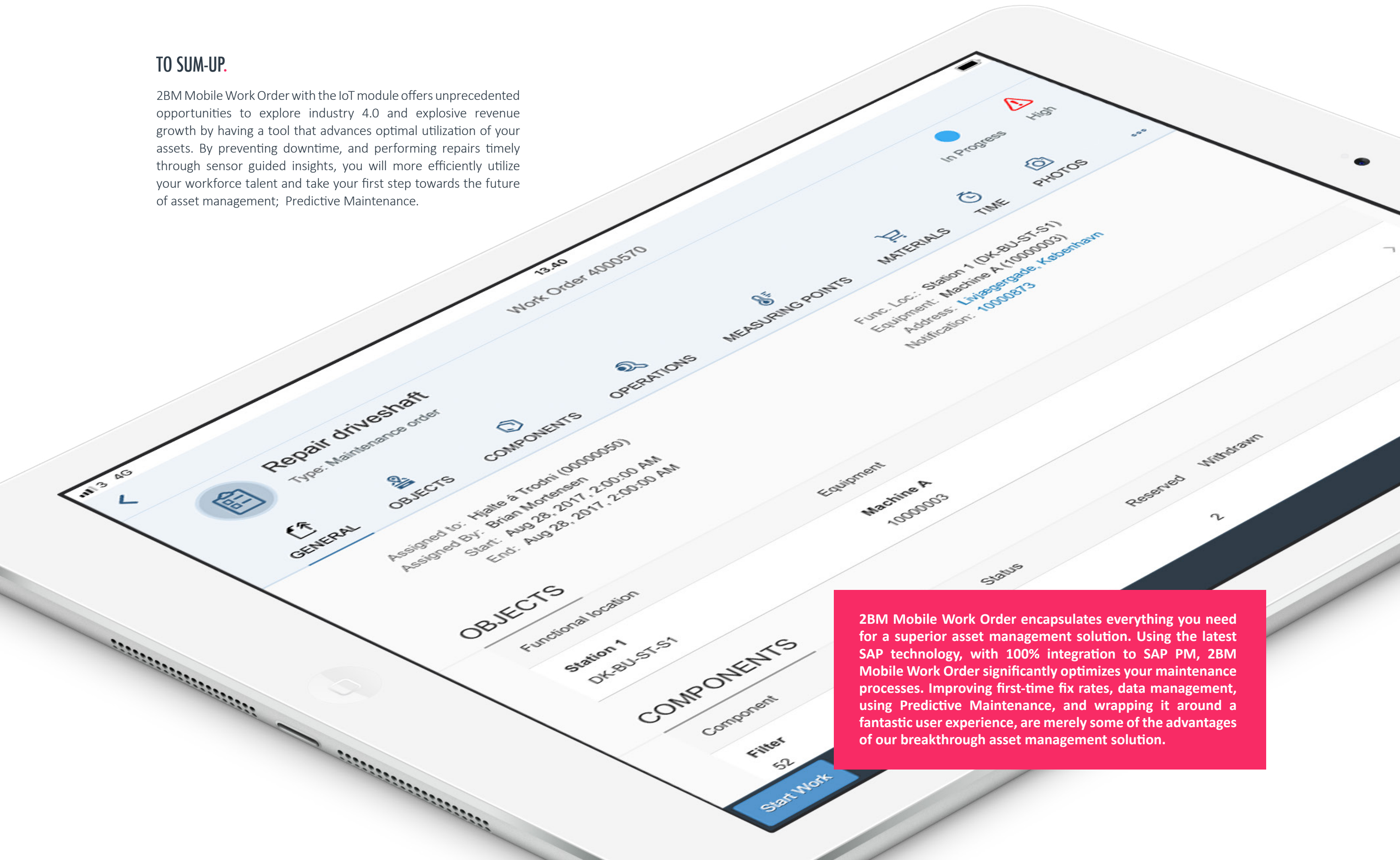


**2BM Mobile Work Order encapsulates everything you need for a superior asset management solution. Using the latest SAP technology, with 100% integration to SAP PM, 2BM Mobile Work Order significantly optimizes your maintenance processes. Improving first-time fix rates, data management, using Predictive Maintenance, and wrapping it around a fantastic user experience, are merely some of the advantages of our breakthrough asset management solution.**

# ABOUT 2BM.

2BM is a leading SAP consulting and software development company that brings tomorrow's technology into today's business practices. In 2000, the company was founded with the purpose to support forward- thinking and quality-conscious companies and organizations, primarily with mobile Enterprise solutions. Since then, the company has grown from being one of Denmark's and the Nordic region's leading specialist companies to being a strategic full service provider, delivering optimized business value across technologies, platforms, and products.

2BM is a member of the United VARs network – the largest global alliance of SAP channel partners. The network covers more than 80 countries and gives our clients access to more than 7,500 highly qualified and experienced SAP consultants.

Find the Mobile Work Order app in your app store
and experience the future of maintenance yourself

iOS 

Apple TestFlight

**SAP**

SAP App Store

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