

TITAN

Computerized Maintenance
Management System (CMMS)



REDUCE MAINTENANCE COST



MINIMIZE DOWNTIMES



BOOST PRODUCTION



IMPROVE ASSETS LIFE



BOOST TEAM PERFORMANCE



ENSURE COMPLIANCE





CONTENTS



01

WHAT IS TITAN

04

WHY TITAN
IS NEEDED?

07

HOW TITAN
IMPACTS
FINANCIALS



11

BENEFITS OF
TITAN

17

FEATURES

18

APPLICATIONS
OF TITAN

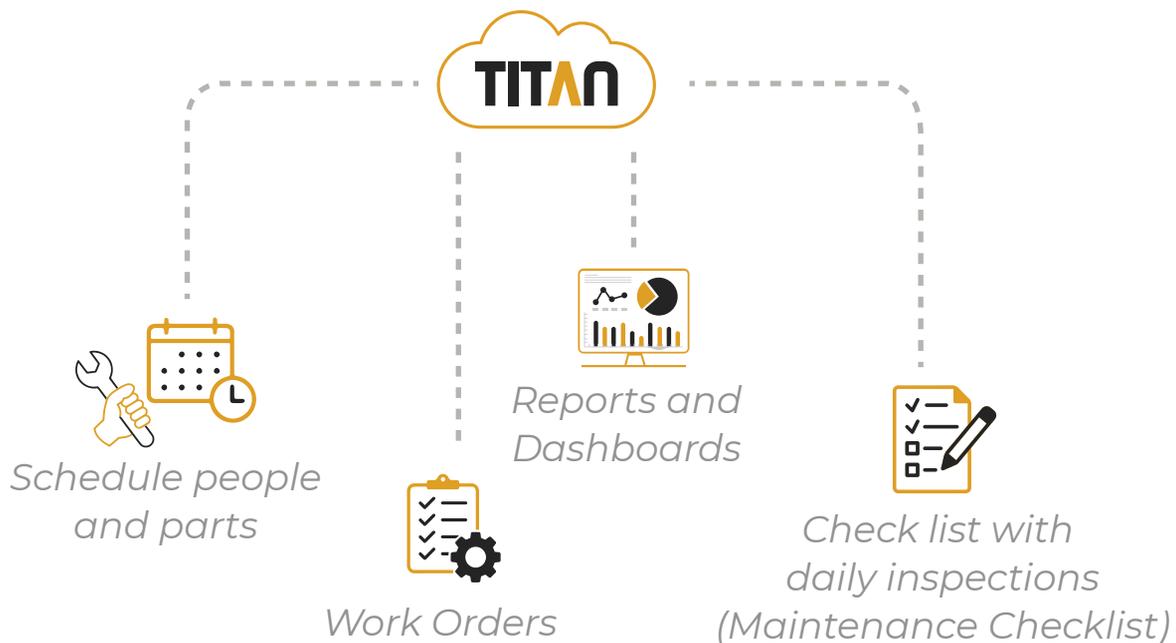


20

IMPLEMENTATION
STRATEGY



What is TITAN?



The TITAN – CMMS (Computerized Maintenance Management System) is a software designed to optimize the management of deferred maintenance and capital improvement activities throughout the Service by using standardized procedures to document and prioritize field facility and equipment needs and to report accomplishments. It is a management tool for planning and budgeting deferred maintenance, capital improvement, equipment repair and replacement, and construction projects.

A software that helps organizations manage and streamline:

- Resources and labor
- Asset lifecycle
- Preventive maintenance
- Work order prioritization and scheduling
- Materials and inventory
- Audits and compliance tracking
- Reporting and dashboarding

Why TITAN is Needed



Operational roadblocks like downtime have the tendency to inflict major tangible and intangible losses. Research indicates that the costliest aspects of downtime are:



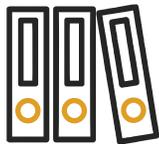
Lost Revenue



Lost Productivity



Lost Brand Trust



No records keeping



Unplanned work remains uncontrolled



Equipment history is inside people's heads



Impossible to objectively estimate maintenance costs



Strategic value of maintenance is not realized completely



Do you need TITAN? Question yourself!



1

Do you effectively record, track and manage work orders of industry?

2

How do you measure maintenance team performance?

3



Do the management get any notifications ahead of any critical situation?



4

Do you have historical data for planning and budgeting?

5

How do you make sure spare parts availability to reduce turnaround time?

6



How do you ensure Health & Safety compliance?



7

How do you enforce maintenance . technicians to follow O&M procedures, equipment manuals? How do you store all the documents?

8



Do you have enough data to identify productivity black holes? To identify factors affecting maintenance cost?



TITAN helps with

TITAN helps maintenance teams keep a record of all assets they are responsible for, schedule and track maintenance tasks, and keep a historical record of work they perform. We've outlined some of the key areas that a TITAN is used for:



Tracking Work Orders

Maintenance Engineers can select equipment with a problem, describe the problem, and assign a specific technician to do the work. When the machine is fixed, the execution details are entered in application so that in future it these details can be utilized.

maintenance, they need a reliable work calendar. TITAN is especially good at scheduling recurring work and sending reminders to the right people. Organized scheduling helps even out the workload for a maintenance team making sure that tasks do not get forgotten.

request from an assembly line operator who is hearing a strange noise from a drill or a tenant at an apartment building who is requesting shower repairs. The TITAN can be a central place for recording these requests and tracking their completion.



External work requests (Job Order)

Maintenance teams often have to take a work request from people outside the team. This can be a



Recording Asset History

Many maintenance teams have to care for assets that are 10, 20, even 30 years old. These machines have a long history of repairs. When a



Scheduling Tasks

As a team starts to schedule preventive

problem comes up, it is always useful to see how this problem was solved last time. In TITAN – CMMS, when repairs are done, they are recorded in the machine’s history log and can be viewed again by workers.



Standardized Maintenance Procedures

TITAN provides functionality to create, view, edit and use Standard Operating Procedures in Work Orders for maintenance activities. These procedures eliminates dependencies from high value resources and enable all maintenance technicians to perform maintenance activities.



Industrial Internet of Things (IIoT)

TITAN enables its customers to connect their maintenance application with plant machinery, smart sensors can directly put data in inspection modules, hence enabling maintenance system to be smart enough to create work order automatically for any unpleasant response from machinery.



Managing Inventory

Maintenance teams have to store and manage a lot of inventory that include things like spare parts for machines and supplies like oil and grease. TITAN let the team see how many items are in

storage, how many were used in repairs, and when new ones need to be ordered.



Audit & Certification

TITAN keeps an unchangeable record of every action, so an asset’s maintenance history can be audited. This is useful in case of an accident or insurance claim – an inspector can verify if the proper maintenance was completed on a machine. TITAN also keep data in a centralized system, which helps keep one version of the truth for ISO certification.

How TITAN

Impacts Financials

The impact generated by the use of TITAN in the financial statements of a company, varies depending on the type of company, the business sector to which it belongs, the type of assets which its production supports, its size and the type of policies it implements for asset management and maintenance.

Each organization has its own identity, with unique characteristics that make up its brand. However, in general terms, there are two aspects in which the use of TITAN affects the financial statements of the company:

Depreciation of Fixed Assets

From a financial point of view, depreciation is the mechanism by which the process of the life cycle of use by physical assets is measured.

TITAN is the CMMS designed to facilitate and guarantee the effectiveness of both the management of physical assets and maintenance management, which extends the depreciation time and, therefore, the value of the assets in the accounts. In addition, by lengthening the useful life of physical assets, the company obtains a greater return on its initial investment, and greater gain on the production generated by the assets.

Cost of Asset Stops

Unforeseen stops occur as a result of breakdowns and failures, which generate varying degrees of losses to the company. These losses can be divided into two groups.

1. The expense that generates the repair, and includes from

the materials and necessary spare parts required to carry out repair, including the resources used.

2. The cost of the number of units that down-line are inactive in production during the stoppage time.

TITAN has all the features and functionalities necessary to support maintenance management, and dramatically reduce unforeseen failures, guaranteeing greater availability of equipment, as well as its absolute reliability.

Benefits of TITAN

Maintenance teams can make a big impact with TITAN CMMS



Maintenance around the world have saved millions of dollars and thousands of hours by using CMMS and achieving:

51% ▼

*Increase in
Maintenance
Staff Productivity*

35% ▼

*Reduction in Part
replacement cost*

40% ▼

*Reduction in over
Time*

5% ▼

*Reduction in
energy costs*

25% ▼

*Reduction in
Breakdowns*

When you implement TITAN, you can expect to realize these benefits:

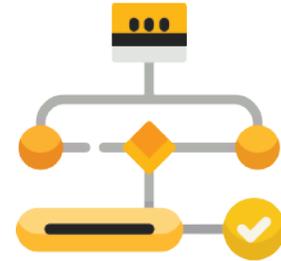
WORKFLOW IMPROVEMENTS

Reduce:

1. Stock waste
2. Human intervention
3. Turnaround Time

Improve:

1. Accountability & prioritization
2. Safety
3. Forecasting and planning
4. Standard practices



TRACKING & REPORTING

Reduce:

1. Average MTTR (Mean time to repair)
2. Average MTBF (Mean time between failures)
3. Preventive maintenance waste
4. Time to diagnose

Identify:

1. Maintenance trends and averages
2. Cost footprints
3. Audit logs
4. Productivity black holes
5. Iterative maintenance strategy realignment
6. Compliance to standards



INVENTORY & ASSET MANAGEMENT

Reduce:

1. Unnecessary paper work
2. Communication delays
3. Data fragmentation
4. Resource dependency

Improve:

1. SOPs and best practice compliance
2. Resource utilization
3. Quality control
4. Maintenance tracking & history



COST REDUCTION

Reduce:

1. Downtime & unplanned shutdowns
2. Overtime
3. Average time to repair
4. Repair Cost

Improve:

1. Asset life
2. Budget efficiency/utilization





Less work outages

It is easy to do preventive maintenance which means there are less surprise breakdowns.



Information capture

Technicians can record problems and solutions, so this information is recorded for others to use.



Certification and analysis

A full record of assets and performance helps managers analyze energy usage and plan maintenance spend.



Better accountability

Quickly see if a technician did their work on time and get alerted when a task is complete.



Savings on purchases

With inventory tracking features TITAN makes it possible to order spare parts before they are needed. When you order in advance, your team doesn't have to pay expedited shipping charges and has more time to negotiate on pricing.



No Lost Work Orders

TITAN keeps track of how asset problems were solved in the past. When you see a familiar breakdown, you can instantly see how the problem was fixed last time it occurred



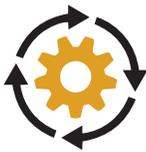
Less overtime

Better scheduling of work means that your team isn't sitting idle or working overtime which means work can be distributed evenly.



Repair things quicker

Do you still fumble with paper copies of work-orders and work- requests? By using TITAN – CMMS, you eliminate the paper – and you will never lose or forget another work-re-quest.



Discover ways to improve

When maintenance is tracked through TITAN you get access to special reports that help you get organized. These reports show you which equipment is problematic, whether your team is underperforming and where best to save money. None of

these insights are possible without a maintenance software package to store and present information.



Preventative maintenance gets done

When maintenance is tracked using paper or Excel, it is impossible to get pre-scheduled alert for preventive maintenance tasks. TITAN gives maintenance teams automated email alerts, and notifications within the program whenever maintenance is due. This makes it easy to get prescheduled tasks completed.



Better work scheduling

In maintenance, there is a certain amount of work to be done and a certain number of man-hours to do it in. Whether work gets done often depends on the skill of the maintenance manager in scheduling his team's time. TITAN helps create better schedules because it shows all upcoming maintenance tasks in advance.

Features

Asset Register

- a. Asset modeling is first stage where user defines complete structure of asset, multilevel sub asset hierarchy can be created.
- b. Multiple variants of same asset model can be created for minimal changes in sub items.
- c. Most of the details can be entered at sub item level i.e. brand, serial number, quantity, tolerance, etc.
- d. Multiple stances can be created for each asset model or variant.
- e. Details of location, department, sub departments and other necessary details can be entered against each asset entry.



Classification

Create Asset Group and Type

Modeling

Create Asset Template and Define Sub Items

Variants

Create Asset Variants for minor variations in models

Asset Entry

Create instances of defined template, according to locations and Departments

Preventive Maintenance

Time Based

Scheduled Work Orders

Maintenance engineer will generate a preventive maintenance routines or scheduled work orders for all production Machinery.

Job Orders will be automatically generated after pre defined time period and concern employee will be notified through sms, email and push notification.

User can view, edit or deactivate any preventive routine at any time with some predefined approval routings

Condition Base

Inspections

Inspection templates and parameters will be defined for all assets.

Inspection entries will be created according to predefined time periods.

Meter Readings

Meter readings can be entered manually or can be directly fetched from SCADA database. Job Orders will be automatically generated if meter reading value is out of pre defined range.

Corrective Maintenance

- a. TITAN CMMS provides complete Work order flow where you can add authorization levels at any stage.
- b. Work order flow consist of following steps
 1. Job Order Creation (Work Request)
 2. Work Evaluation
 3. Work Order Creation
 4. Work Order Execution
 5. Final Endorsement
- c. TITAN CMMS enables user to enter evaluation details for any faults so that in future maintenance team can get help from previous

work.

- d. Detailed procedures can be linked to work order that eliminates dependencies from high value resources and avoid delays.

Job Order Flow



Work Order Procedure

- a. Work Order Procedures consist of Work Order Methods.
- b. Work Order Methods contains detailed steps of work, tools requirements and time taken for each step.
- c. If any other department help is required it is mentioned in WO Procedure.

- d. WO Procedures eliminates dependencies from high value resources.

Work Order Procedure		
METHOD 1	METHOD 2	METHOD 3
Step 1 Time Taken Tool Required Picture	Step 1 Time Taken Tool Required Picture	Step 1 Time Taken Tool Required Picture
Step 2 Time Taken Tool Required Picture	Step 2 Time Taken Tool Required Picture	Step 2 Time Taken Tool Required Picture
Step 3 Time Taken Tool Required Picture	Step 3 Time Taken Tool Required Picture	Step 3 Time Taken Tool Required Picture

Dashboards

Data Visualization and Analytics

- a. Main Dashboards : summary of Work Orders
- b. Departments : KPIs (MTTR, MTBF, Maintenance Cost, Backlog) Against Departments
- c. Machine Groups: KPIs (MTTR, MTBF, Maintenance Cost, Backlog) Against Machine Groups



Dashboard 1



Dashboard 2

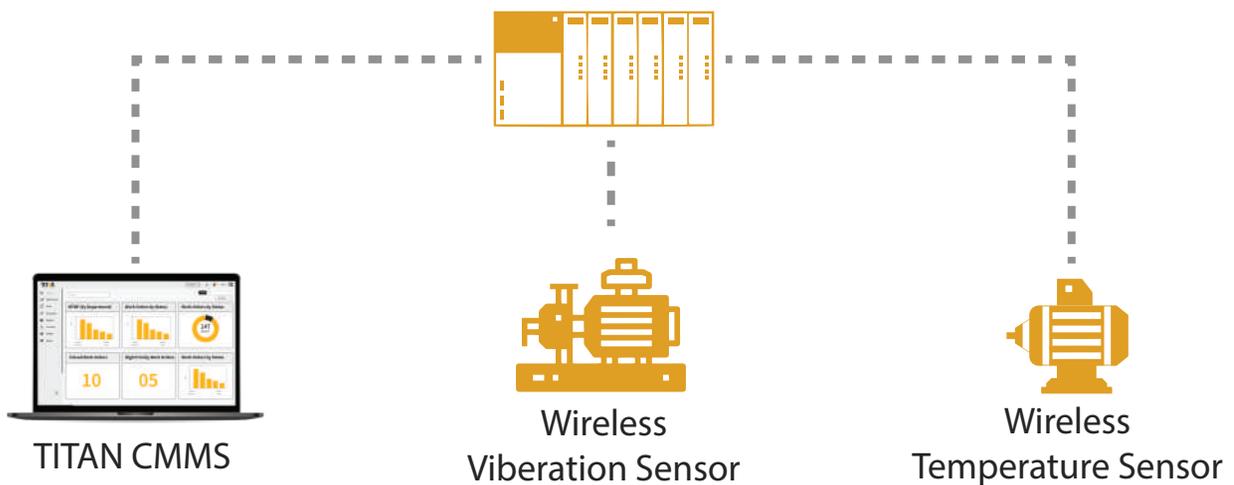


Dashboard 3

**Dashboards can be designed and configured according to customer requirements.*

IOT Compatible

TITAN - CMMS enable you to connect your plant and machinery to your maintenance management system through smart sensors and other IIoT techniques. This enables your maintenance management system to be smart enough to generate and schedule maintenance activity requirements automatically for assets.



Benefits of IIoT with CMMS:

- a. Automatically collect condition-related measurements.
- b. Automatically generate and schedule maintenance requests.
- c. Facilitate safety compliance.
- d. More accurate Total Cost of Ownership (TCO)
- e. Step-In to smart maintenance management era.



Automatic Inspections for Plant and Machinery through **IIoT** techniques



Failure Mode and Affect Analysis (FMEA) for **Root Cause Analysis** (RCA)



Component Level tracing for faulty items



Integration with other ERP Modules



Inventory Management
Basic Functionality



Workshop Production
Record details of inventory used and produced by work-shops



Applications of TITAN

Just about every kind of industry requires maintenance and TITAN help record and plan that maintenance. There are 4 major types of users for these systems:

Production maintenance



These are companies that make tangible products. They have machines, assembly lines, forklifts, and heavy equipment that require frequent maintenance.

Facility maintenance

These are companies that take care of buildings. Apartment buildings, theatres, and government buildings all require maintenance. TITAN help them deal with structural, HVAC, and water-supply problems.

Fleet maintenance



These are companies that take care of vehicles and transportation. Car rental companies, pizza delivery cars, city buses, transport ships, and fleets of towing trucks all need to have repairs scheduled which can be taken care of with TITAN – CMMS.

Information capture



This is a special category of maintenance for companies that have assets that are kilometers long. For example, a city's linear assets are roads and water pipes, a telecom company needs to maintain fiber-optic cabling, and an energy utility needs to maintain long spans of electrical wiring.



Implementation Strategy

The project takes approximately 4 Months (can be changed according to requirements), from the date of confirmation.

The timeline and process steps are listed below:



Step 1: week 1-2

As-is Analysis

In-depth analysis of current system will be done. It will be studied that how your maintenance team is running maintenance system and Following points will be analyzed

- Current business processes
- Number of departments
- Type of departments
- Type of employees
- Type of users
- Number of Users



Step 2: week 3

To-be Analysis

This step is basically target setting, what we need to achieve by implementation of CMMS



Step 3: week 4

GAP Analysis

GAP between current system and target will be analyzed and Business Requirement Document (BRD) will be finalized.

Step 4: week 5-9

Software Customizations

- a. Customization of software against BRD
- b. Preset Software modules are customized according to BRD
 - i. *Functional customization by SME*
 - ii. *Technical customization by developers*

Step 5: week 10

Software Testing

- a. Software is tested by implementation team
- b. This involves internal testing

Step 6: week 11

System Installation

Application will be installed in customer premises.

Step 7: week 12

User Acceptance Test

- a. Specific users will run the application and test against their requirements
- b. UAT will signify that MMS is ready for deployment

Step 8: week 13-14

User Training and Testing

- a. After completion of software, user training begins
- b. This involves training manuals, videos and training from vendor
- c. Training will be done according to the specific modules and . specific users.
- d. Each User will have to take test before go live.

Step 9: week 15-16

Go Live

Users will Start Entering Data in real system..

TITAN SUCCESSFUL IMPLEMENTATION

Candle Embroidery Threads is a leading embroidery threads processing industry based in Karachi, Pakistan. Maintenance of more than 2000 machineries was a huge task for their team before CMMS. They invested in TITAN and using it for 3 years. They have seen mark able improvements in maintenance management after TITAN implementation.

"We have reduced our yearly maintenance budget 25%-30% by efficiently planning the maintenance and productively use our resources with TITAN. We have improved resource utilization up to 60% and we have reduced 40% work force allocated for maintenance. We have standardized the maintenance procedures for assets & equipment so the maintenance is not centric to specific person but anyone who uses TITAN can fix most problems. We have reduced downtimes of production by 50%. Maintenance couldn't have been a simple job without TITAN."

MUDASSIR SALEEM
(Managing Director of Salim
Winding Works – Candle Threads)



Scan QR or visit www.titanmms.com