



## ENTERPRISE ASSET MANAGEMENT SOLUTION FOR MOVABLE ASSETS IN THE OIL & GAS INDUSTRY

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### **Movable Asset Issues**

In the oil and gas industry, drilling companies provide rigs to oil and gas exploration and production companies. Drilling companies face several challenges in effectively managing assets both offshore and onshore.

Rigs operate as mobile factories with many systems and subsystems consisting of many assets. However, unlike general manufacturing, these assets routinely move between divisions, repair facilities, and even countries.

Asset movement must be accurately tracked to know where assets are located and whether they are installed and operational in order to ensure drilling efficiency and safety.

Given the nature of these movable assets, special consideration is needed for inspection schedules. Preventive maintenance schedules must be available based on operational time and equipment status changes, in addition to calendar days or meter values.

All of these concerns need to be handled with a robust system that captures data and manages maintenance activities even when communications are interrupted, as with the loss of satellite reception for offshore drilling.



Finally, flexibility in reporting is critical in making accurate, timely, and well-informed business decisions. Rig downtime, asset transfer and location history, asset details, and historical maintenance activity and costs are the most common critical reporting needs for well drilling companies.

AssetPoint, partnering with highly respected companies in the energy industry, has developed special features and functions within its TabWare Enterprise Asset Management (EAM) software to effectively and easily manage movable assets and special needs in the oil and gas industry.

### **Tracking Movable Assets**

In oil and gas drilling operations, assets are transferred between rigs, yards, and repair facilities as well as between divisions and countries. Assets may be transferred to support the needs of a rig, to place equipment into storage, and replace equipment for maintenance needs or certification. The need to manage the transfer of assets is critical. To ensure reliability, availability and continued preventive maintenance activities, asset history must follow each asset.

To manage asset moves, TabWare features the Asset Transfer Request (ATR). Additionally, an audit trail is created to show where assets have been located, and for what duration, over the lifecycle of the asset. TabWare allows the user to easily view all work orders, costs and equipment history for assets regardless of their physical location in your organization.

Movable assets can be assigned to any level in a hierarchy. The parent, child relationship of the hierarchy enables transferring assets in bulk.





From the equipment hierarchy view, the user simply selects any 'parent' level in the hierarchy and then launches the 'Asset Transfer Request.' All of the children assets for the selected hierarchy level will automatically populate the Asset Transfer Request form. On the ATR, the user will then specify the rig, yard, or facility that will be receiving the assets. The transfer request accommodates both capital asset movements and non-capital assets such as consumables, tools, and/or mail bags. At this point the user can capture any notes or comments, document the reason for the transfer, and specify the carrier. An email of the request is then sent to the designated corporate personnel and to the intended recipient of the assets (such as a rig supervisor) at the receiving facility. After the corporate approver receives the email notification, he or she will open the request within TabWare. The approver then reviews the information and makes any necessary changes. When ready, the approver simply clicks "approve." Once approved, the location of the

assets will change within TabWare. The assets are automatically removed from the current equipment hierarchy, location, and cost center, and land in a designated spares holding area.

The receiving location will receive an email notification of the pending Asset Transfer Request. After the ATR is approved, and once the assets arrive for receipt, the receiver can complete the ATR. To complete the transfer process, the receiver opens the Asset Transfer Request and verifies the accuracy of the information with the shipment received. Once the information has been verified, the user at the receiving location simply selects "Receive." The receiver then specifies by whom and when the assets were received. When the receipt is completed, the corporate approver will get an email verifying that the asset has been received.

Drill string components, or tubulars, such as drill pipe, drill collars, and heavy-weight, are a special type of asset that drilling companies also need to manage. A drilling company may own tens of thousands of these assets. TabWare makes managing tubulars quick and easy. TabWare's Inventory Module provides for the general storage, issue, receipt, and tracking of these assets by make, category, size, grade, class and many other unique identifiers.

## PM Scheduling

Managing preventive maintenance (PM) begins with defining and planning resources. TabWare's PM module enables users to plan resources such as labor, instructions, tools, materials, and services. PM is further supported with document linking. Linking documents has been identified as a critical need for the oil and gas drilling industry. Linking documents not only provides access to documentation for safety compliance regulations, it also provides for efficient, precise work execution. Whether tracking asset certifications, inspection instructions, or associating equipment overhaul specifications, document linking is essential for accessing the right information any time it is needed.

Through TabWare's document linking, procedures, drawings, certifications, marketing materials, etc. can be linked to assets, systems, and rigs. Documents linked to assets are automatically recalled with work orders associated with the asset and can also be flagged for automatic printing as part of the work order, or PM, package.

The oil and gas drilling industry has unique needs in asset inspections. From routine visual inspections to complete equipment disassembly, assets need to be inspected on differing frequencies. Depending on the nature of the inspection, these frequencies may be based on a specific number of calendar days or operational days. TabWare supports this need with tremendous flexibility in preventive maintenance (PM) scheduling. Asset PM's can be scheduled based on operational days, calendar days, meter values or any combination of these intervals. Also, TabWare features PM generation based on location status changes. The



benefit in this robust preventive maintenance capability is tremendous flexibility in ensuring your assets are optimally maintained.

Some assets, such as blowout preventers (BOPs) and winches, have PM's that are based on calendar days where PM scheduling is not interrupted regardless of

the asset status or location. If an asset is removed from service for an extended period of time, TabWare allows the user to place associated PM's on hold as needed.

Other assets, such as top drives, masts, and elevators, have PM's that are based on operational days. Operational days are typically defined as when the rig is working. TabWare is easily user-configured to add

or change “location status” values. The user can define a status and specify whether the status will accrue or suspend operational days. This functionality enables the user to suspend operating days when assets are in a yard or at a repair facility. Likewise, when assets are received on a rig, operating days can accrue.

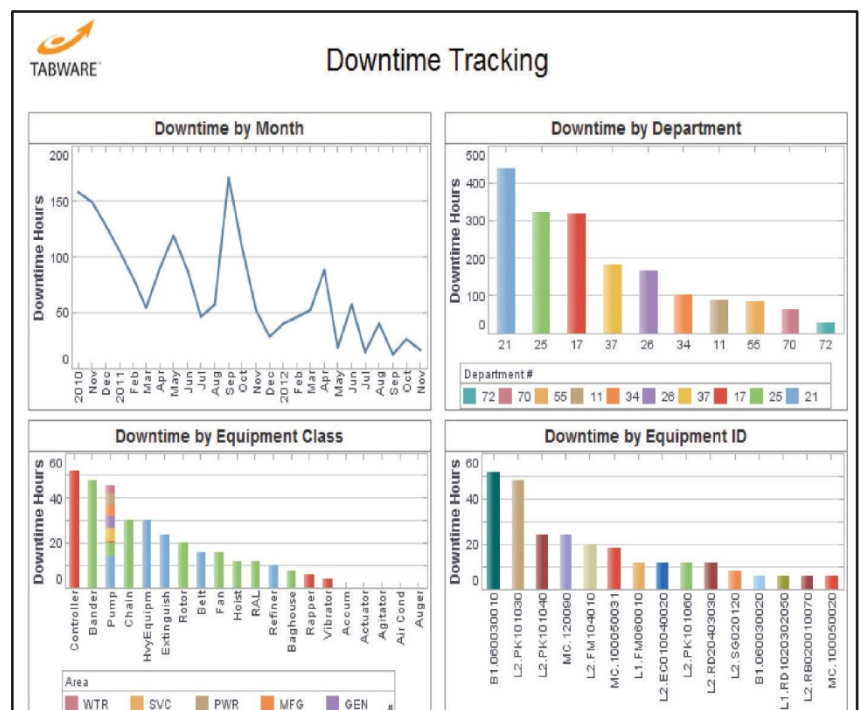
The parent, child relationship of the equipment hierarchy enables the trickle-down of operational days as a location status is changed. In the equipment or location notebook, the user can specify the status of a rig, system, or subsystem. If a higher “parent” location is selected, all children locations can automatically be updated to reflect the same location status to suspend or continue operational days.

TabWare also features PM generation based on location status changes. When a rig, platform, or any subsystem thereof, is changed from operational to racked or stacked (or any other user-defined status) additional PM’s can be triggered. For mothballing, commissioning, or in-transit statuses this flexibility is especially useful.

### Reporting

TabWare provides reporting capabilities to make accurate, timely, and well-informed business decisions. Accurate reporting begins with accurately and timely capturing work activity and failure codes. TabWare features component, condition, and action codes that are specific to the asset class making it quick and easy to locate the appropriate codes. Where remarks and comments are often difficult to search, sort and report, electronic coding ensures consistency, reduces the opportunity for error, and enables fast, accurate reporting. Equipment history is easily extracted to facilitate Root Cause Failure Analysis, PM optimization and other Reliability efforts that help eliminate defects and reduce breakdowns. Rig downtime, asset transfer history, asset location history, asset details, and historical maintenance activity and costs are easy to search, sort, and filter.

While no CMMS / EAM solution can provide every possible report, the TabWare solution provides the user with the ability to create reports through the report builder or wizard. TabWare’s report builder enables the user to create reports for historical analysis as well as manage and control upcoming maintenance needs. TabWare also features the ability to export data to many different formats including Excel, html and comma-separated values (csv).



TabWare makes it easy to create the reports needed to manage maintenance activities, track rig downtime, and extract key data to make accurate, timely, and well-informed business decisions.

## Summary

TabWare further supports the oil and gas industry with flexibility in access and security. Access rights can be enforced at any level in the hierarchy. Users can be assigned access to a specific rig, region, or even a specific asset location based on role, equipment, or country assignments.

The TabWare solution solves challenges associated with managing movable assets. With TabWare, entering asset transfer requests is easy, and you can be assured of accurate asset movement between divisions, repair facilities, and even countries.

TabWare's extremely flexible and robust preventive maintenance scheduling offers explicit support for the oil and gas drilling industry ensuring that your assets will always be optimally maintained in order to maximize asset performance.

TabWare is a complete Enterprise Asset Management software (EAM) solution. TabWare helps control maintenance and operations costs while improving equipment availability, optimizing spare parts inventory and streamlining procurement with a solution that is easy to learn, and easy to use. TabWare has one of the fastest adoption rates in the industry due to its ease of use and consistency in design.

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