A new Operating and Maintenance Information System for Observation Systems of Turkish State Meteorological Service

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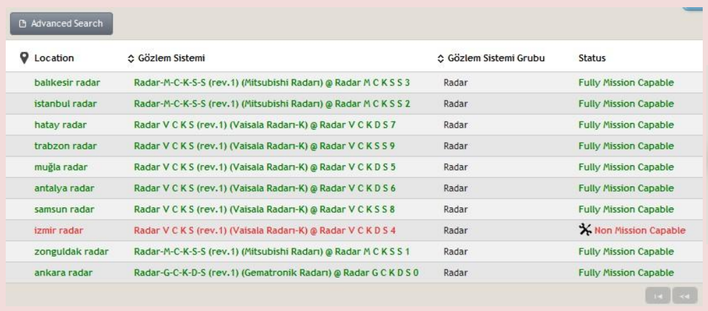
Turkish State Meteorological Service (TSMS) has been modernizing and expanding its meteorological observing network which includes systems like Weather Radars, Automated Weather Stations, Radiosondes and Lightning Detection Systems continuously as a part of Global Observing System (GOS).

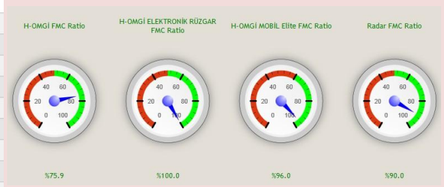
Operationally reliability of observing systems is crucial for TSMS and WMO. Regular maintenance and calibration of systems is one of the critical aspects of operating those networks properly and efficiently and to maintain the availability of data of high quality. On the other hand, the proper calibration of systems for accurate measurements has been a serious matter. Managing sophisticated assets' maintenance is a complex activity that involves matching maintenance requirements against limited resources. In the maintenance world, system operational time, reliability, maintainability and the cost efficiency are critical factors. It is getting hard following, keeping alive and reliable all those critical systems.

In this scope, TSMS has been carrying out a new "**Operating and Maintenance Information System**" (OMIS)to follow operational, calibration and maintenance status of all inventories of Observation Systems operated. Purposes of applying this information system are being able manage the complex configurations of advanced technology vehicles, following calibration activities, planning human source dealing with operating and maintenance, using proactive maintenance approaches rather than reactive, having improved reporting and dashboard capabilities, provide a visibility to scheduled maintenance information, increasing maintenance efficiency while lowering operational costs, providing maintenance actors with comprehensive, accurate and timely information at all stages of the maintenance process and providing an easy to use mechanism to plan, to execute and to monitor maintenance activities.

Reporting current status of the observing systems

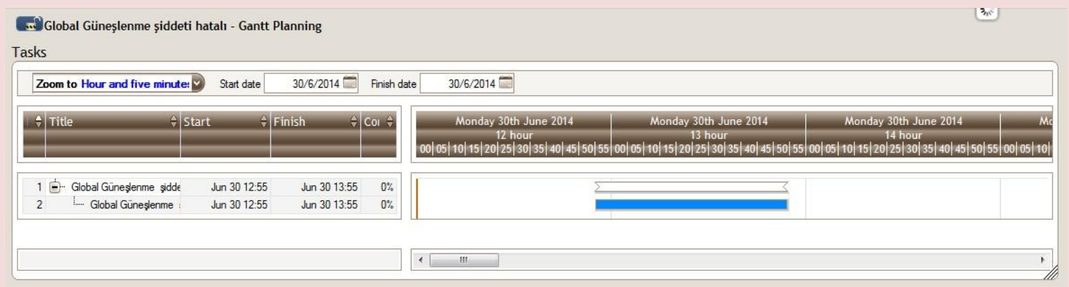
Current status of systems like radars, AWOS, Radiosonde etc. Can be observed from the system.





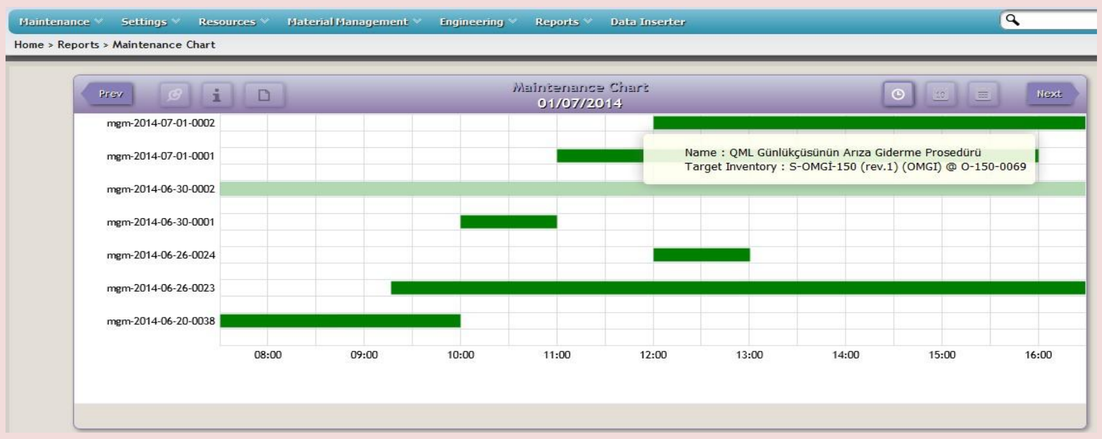
Assigning a personal for a corrective(failure) or periodic maintenance

Manager can assign a technical staff for maintenance. Assigned staff can access documentations regarding the related system to solve the problem or executing maintenance and upload document to the OMIS when traveling.



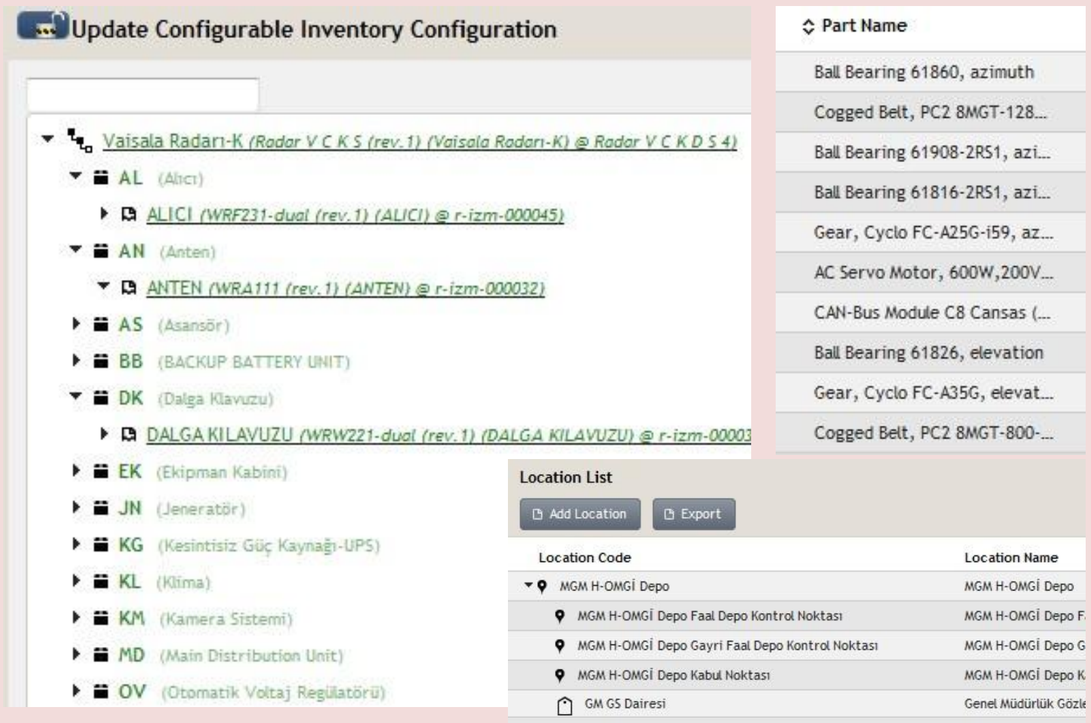
Reporting maintenance activities. Informing for approaching and past maintenance activities

Past and planned maintenance activities can be observed from OMIS and it warns for approaching and passed maintenances.



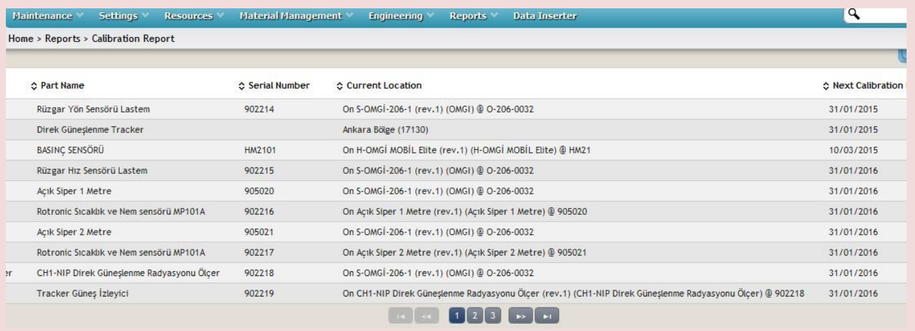
Following inventories and spares for each depot or location

Since all inventories and spare parts are created virtually, they can be followed for each system and location. Parts can be changed from the system and can be sent between locations on the OMIS as in real life.



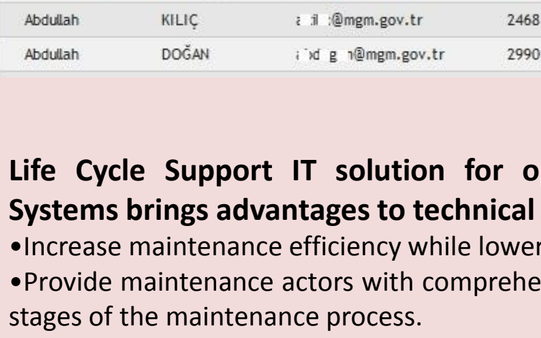
Warning about approaching calibrations and life time of each system and subsystems

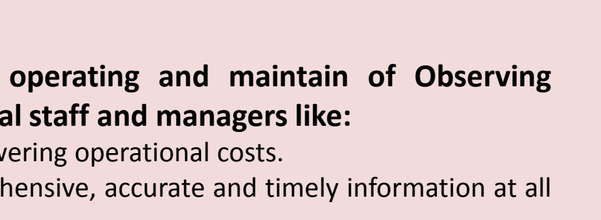
One of the challenges of Observing Systems is following calibration of the sensors and systems. OMIS can produce warnings regarding calibration of each subsystem.



Reporting history of each inventory

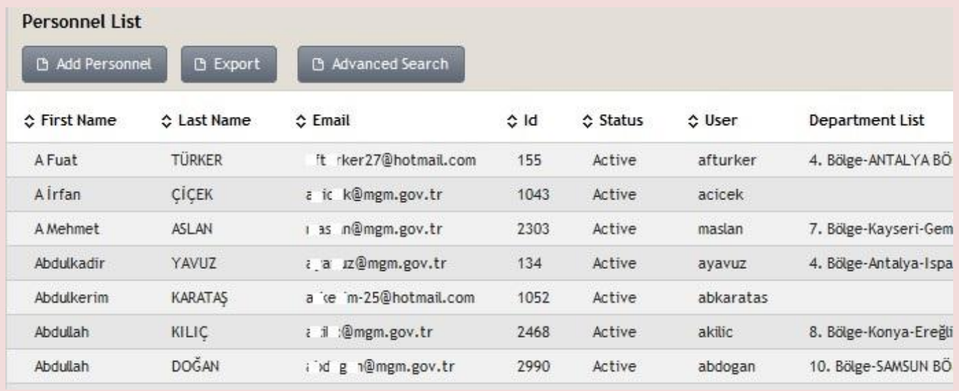
System can follow history of each inventory as well the each part. Past of each part including failures, calibrations, locations is recorded. Following frequent failures for each system is possible.





Reporting performance of technical staff

Following performance of another important issue during operating and maintain observing systems. Skilled staffs as well as staffs need more training. could be determined with statistics .



Life Cycle Support IT solution for operating and maintain of Observing Systems brings advantages to technical staff and managers like:

- Increase maintenance efficiency while lowering operational costs.
- Provide maintenance actors with comprehensive, accurate and timely information at all stages of the maintenance process.
- Provide an easy to use mechanism to plan, to execute and to monitor maintenance activities.
- Provide (situational awareness) a single view of the entire fleet through visual attributes for the decision makers at various levels, ranking from high level (strategic) to operational level.
- Exhibit the status, upcoming maintenance requirements and due items of all owned assets.
- Be able manage the complex configurations of advanced technology vehicles.
- Use proactive maintenance approaches rather than reactive.
- Meet the growing expectations of maintenance world.
- Have improved reporting and dashboard capabilities.
- Be continuously improved to meet the demands of an expanding networks.
- Provide a visibility to scheduled maintenance information.
- Use a modern IT architecture and provide advanced capabilities such as a role-based web browser interface.
- Support portable wireless devices.
- Provide an infrastructure enabling smooth transition to Performance Based Logistics.