



SCEDAS® TIMEKEEPER

A SMART TIME TRACKING SYSTEM PROVIDES WORKFORCE ANALYSIS

VALUABLE SUPPORT FOR BUSINESS DECISIONS IN MAINTENANCE AND CREWING

Maintenance and crewing are considered as two of the major cost factors in ship operation, and also the ones with the greatest impact on safety and quality of the service. It is essential to have a profound information basis for business decisions in these fields. Numbers and figures on the crew's workload and their work distribution give valuable support for that.



Figure 1: Data gathering and analyses are the profound basis of optimization.

Fraunhofer CML has developed a universal recording and analysis tool for the workload distribution on board. A software tool on board the vessel collects data on the current workload and its distribution among the crew. Fleetwide analyses of the gathered data provide insights into the work processes on board and give valuable support for business decisions.

RECORDING AND ANALYZING TASK SPECIFIC WORK HOURS

SCEDAS® Timekeeper consists of two modules, a recording module and an analysis module. The recording module collects work hours to a task specific detail. The seafarers enter their work hours and specify what they have worked on in an easy-to-use program.

Once a significant amount of data is gathered, the fleetwide recorded work hours offer great analysis potential. The analysis module provides insights into the job profiles, workload distribution and the vessel's maintenance status.

SCEDAS® Timekeeper was developed as an add-on to the software SCEDAS® for optimized workforce planning. However, it can be deployed as an independent analysis tool.



Figure 2: Task specific work hours can be analyzed fleetwide.

A UNIVERSAL DATA ANALYSIS SYSTEM FOR THE MARITIME INDUSTRY

SCEDAS® Timekeeper offers various applications for the maritime industry. In further development projects, the data analysis system can easily be customized to different needs. Company specific KPIs can be integrated.

The workload analysis with regard to optimized workforce planning with SCEDAS® is an established use case. The analysis of all tasks and board, qualifications of involved crew on their durations is the prerequisite for the assessment of crew demands.

In addition, SCEDAS® Timekeeper allows a fleetwide analysis of maintenance tasks. The investigation of maintenance occurrences gives an overview of the fleet's maintenance status. Moreover, additional data on planned maintenance can be gathered.

The original area of application of SCEDAS® Timekeeper is on board the vessel. However, the data analysis system is highly flexible. It can easily be modified to provide analyses in other environments, e.g. analyses on land based operations of shipping companies or port operations.

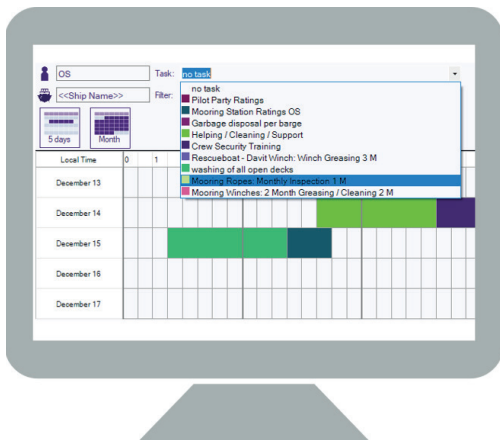
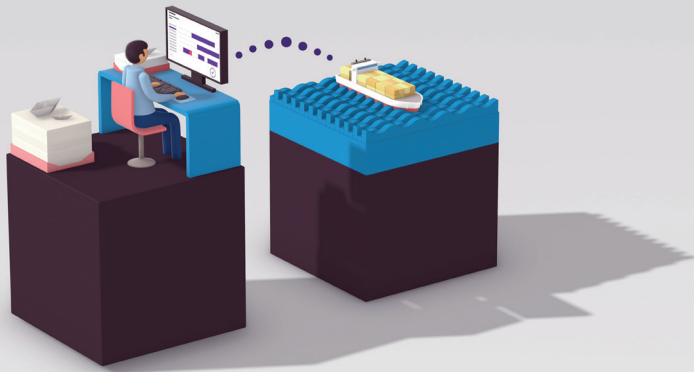


Figure 3: The recording module of SCEDAS® Timekeeper collects work hours on board.

RECORDING MODULE

- Offline program on board the vessel
- Synchronization with office when necessary (for data transfer)
- Seafarer login with individual ID
- Job selection from predefined list (possibility for crew to append new jobs)
- Anonymous data collection: association to qualification profiles only

ANALYSIS MODULE

- Offline program on shore
- Fleetwide analysis tool for recorded work hours
- Customized analyzes of work distribution across qualification profiles and task categories

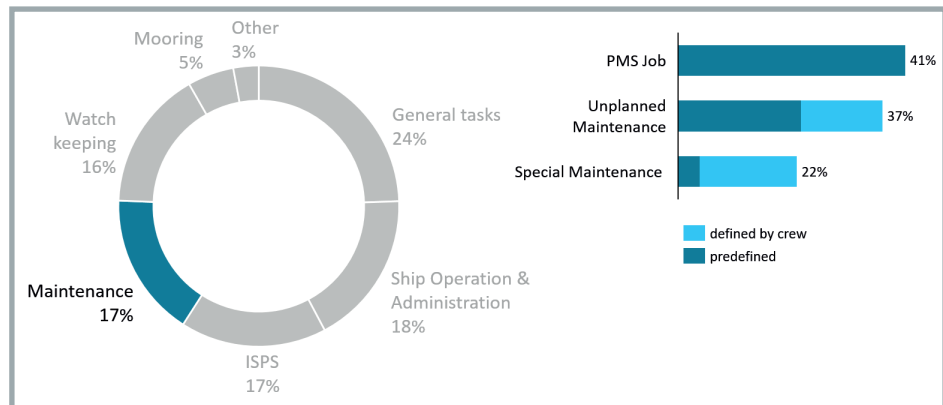


Figure 4: Example analysis of recorded work hours with analysis module of SCEDAS® Timekeeper

POTENTIAL APPLICATIONS

CREW DEMAND ASSESSMENT AND SCHEDULING

- Data of on board workload for calculation of ship and voyage specific crew demand
- Decision support for both crew and maintenance management onshore
- For more information see www.scedas.com

IMPROVING DATABASE OF PMS JOBS

- Interface between Planned Maintenance System and SCEDAS® Timekeeper
- Collection of information (e.g. average job duration, involved positions) for enrichment of PMS data

ANALYSIS OF MAINTENANCE STATUS

- Collection of data on planned vs. unplanned maintenance
- Correlation of data to the ship's voyages and condition
- Understanding of maintenance workload
- Assessment and prediction of workload on sister ships

SUPPORT FOR REDEFINITION OF JOB DESCRIPTIONS

- Digitalization and automation redistribute workload from ship to shore
- Analysis of transformed job descriptions
- Identification of potentials for educational trainings

CONTAINER MANAGEMENT FOR PORTS

- Recording processes on container yards
- Recording work flows in logistical hubs
- Identification of optimization potentials

WORKFORCE ANALYSIS FOR PORTS

- Analysis of deployment of qualified personnel
- Identification of optimization potential for efficient scheduling of qualified personnel across terminals

TERMINAL MAINTENANCE

- Recording planned / unplanned maintenance of port infrastructure
- Assessment of maintenance condition of terminal
- Identification of optimization potential for maintenance efficiency

IMPRESSUM

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Optimized Workforce Planning by SCEDAS®

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