



Workforce Planning  
and Compliance.  
Mathematically Optimized.

## Safe ship operations with SCEDAS

SCEDAS is a decision support system which assists the planner to calculate detailed work schedules for every seaman.

### Increased seafarer satisfaction

Compliance with work and rest hours regulations will be growing by conducting an automatic and optimized planning. This leads to a reduction of fatigue caused by violation of regulations.

### Optimized work schedule

Due to the large number of influencing factors the reliable determination of crew size and composition represents a complex planning problem. Efficient scheduling algorithms enable the creation of better work schedules than the manually created ones.

### Reduction of detentions

Possible infringements of rest hour regulations and thus the risk of schedule delays through detentions are minimized.

### Increased transparency

The increased transparency regarding workloads has the advantage of achieving time budgets for maintenance purposes or anticipated personnel costs. Also some classification societies have already announced an inquiry into internal company methodologies of determining crew size and consistency by means of annual audits. SCEDAS would represent a suitable tool to satisfy this inquiry.

### Reduction of administrative work

SCEDAS assists the ship's command by providing rest hours optimized schedules on demand and by taking into account actual seafarer's work hour records. Additionally, many administrative tasks and reporting obligations will be rendered redundant by the automatic exchange of necessary information between ship and shore.







# Working with SCEDAS

## Office Module

In the office module, necessary man-power demands per ship depending on a specific port schedule, resulting workloads and compliance rules are calculated. The output is the required number of seafarers for each position with a detailed work schedule. This work schedule should ensure that compliance requirements are fulfilled.

## Reporting Module

This module provides reports (e.g. time sheets) for external inspections and company internal controlling purposes (e.g. compliance reports per ship or fleet).

## Data Management

It is possible to define and change base data concerning:

- Ports
- Ships
- Positions
- Tasks
- Ship Operating States (SOS)
- Task Assignment to SOS
- Crew List

## Reporting

- Synchronization of vital information between ship and shore
- Work and rest hours accounts
- Incompliance reasons for every crew member



## Scenario Creation

By comparing the calculation results of different input data the effects of specific scenarios can be evaluated. Different scenarios can be created by defining:

- Ship class
- Voyage details
- Min/Max numbers for every position
- Compliance Regulations (Rules for work and rest hours and watchkeeping patterns)
- Allowed exceptions from regulations

## Onboard Module

In daily shipping it is likely that original planning will be more or less changed by unpredictable events (e.g. the pilot boat arrives three hours later than expected). The onboard module addresses this fact by constantly updating the work schedule during the voyage. Actual work hours records of every crew member in combination with real-time voyage situations are considered enabling short term recovery from non-compliance incidents.

## Analysis Options

- Type and number of positions scheduled per day [in heads and full time equivalent]
- Depiction of workload and rest hours for every position per day/week/whole loop [%]
- Maintenance time budget for every position group per week [h]
- Detailed work schedule with task assignment for every position [½ h]
- Personal Compliance Index (PCI) and Ship Compliance Index (SCI) [%]



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