

The combat information centre; the interface between warfare officers and sensor & weapon systems

Scope

In several studies for the Royal Netherlands Navy key elements have been identified for a contribution of human-factors research to the development and design of future operations rooms. With the emphasis on cost reduction for future combatants and the related interest in reduced manning concepts, special attention is paid to the allocation of functions and tasks during future operations. Within this scope, the functions to be fulfilled in the operations room, conceived of as a centre of Command and Control activities, are defined as:

Situation Awareness (SA): compilation and maintenance of the actual situation picture, as a result of combining pre-processed sensor information with additional information sources such as databases and links.

Threat Assessment (TA): appraisal and interpretation of the current situation from a tactical, warfare-related, perspective.

Decision Making (DM): planning of the mission and (counter)measures.

Direction and Control (DC): execution and adjustment of (counter)measures.

Experimental C² Laboratory

To determine the interaction between candidate workspace-design concepts and human monitoring and decision-making behaviour, an experimental Command and Control laboratory has been set up in which different warfare situations can be simulated.

Research issues

Main topics of research are the rather diverse conditions under which future tasks will have to be executed and the different effects this may have on task load. Critical conditions may arise when in unexpected situations different team members have to divide their attention over different sources of information. One of the future issues of interest to this study is in how far (3D) computer workstations can help, in the context of all the uncertainties that characterise operational situations, to generate, test and evaluate hypotheses in a broader perspective with all available data taken into account.



Recorded data include the interaction of command-team members with the C²-workstations, voice communication between team members, structured observation lists to register information needs and workload measures. On the basis of these available measures the information transfer between the basic C²-functions may be determined and used for the drafting of interface and layout recommendations.



Information

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