TRANSNAV International Journal on Marine Navigation and Safety of Sea Transportation
Volume 2
Number 3
September 2008

Distributed Navigational Alert Management

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ABSTRACT: The team of authors is engaged in the IMO corresponding group on INS / Alert Management and in national task groups primarily specialising in "Navigational Alert Management" matters.
This presentation is based on the outcome of serious discussions carried out at different work group sessions in Germany and has been widely used as a guideline when details of an Alert Management concept are analysed (e.g. alert related communication and de-escalation strategies).
A separate paragraph of definitions within this presentation describes "Function Alerts" which are not relevant for the navigational tasks carried out by the officer of the watch. Alerts appear to be nonrelevant became the subject under discussion whether their announcement should be automatically filtered out by a navigational module within an INS. This could be one effective method of resolution to minimise (the number of high priority) alerts.

1 PRESENTATION OF A CONCEPT OF A DISTRIBUTED ALERT MANAGEMENT START OF PRESENTATION ON NEXT PAGE

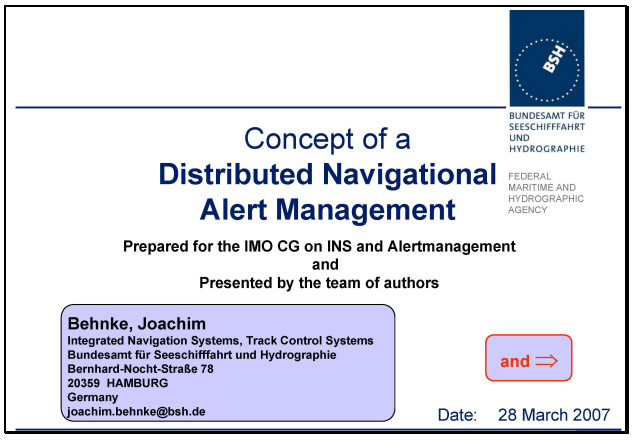


Fig. 1. Introduction of the authors

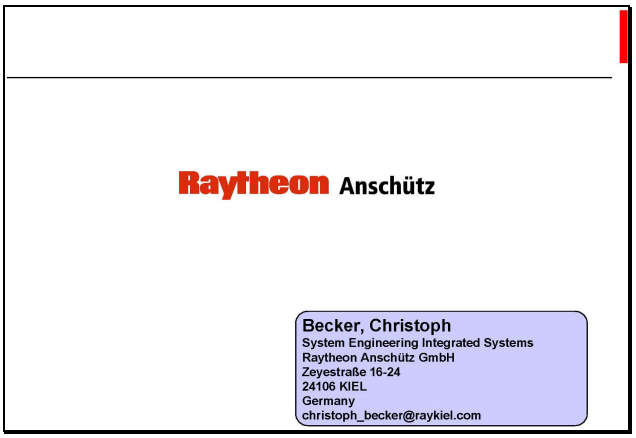


Fig. 2. Introduction of the authors

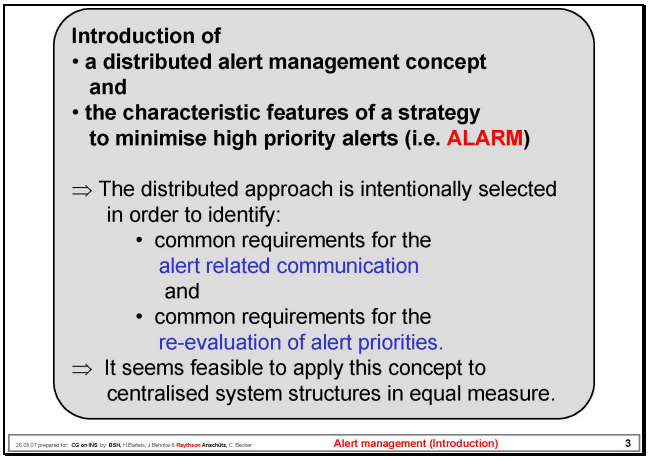


Fig. 3. Introduction of the subject-matter

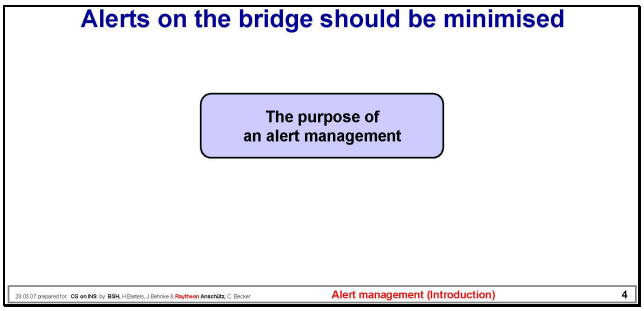


Fig. 4. The purpose of an alert management

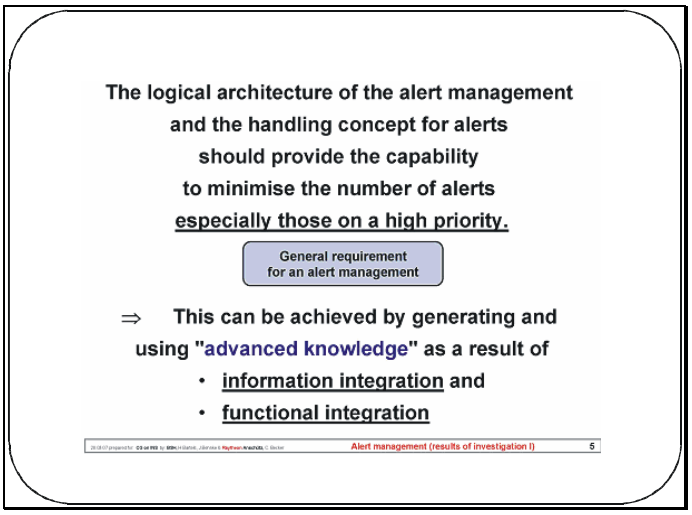
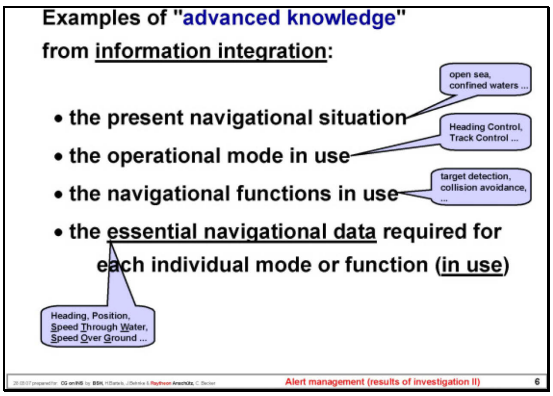


Fig. 5. Results of investigations



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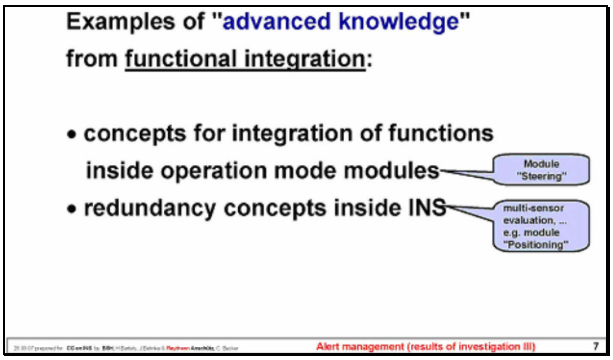


Fig. 7. Results of investigations

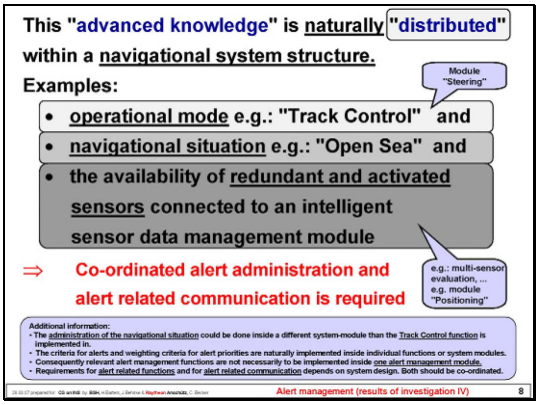


Fig. 8. Results of investigations

Fig. 9. Main tasks of the Alert Management

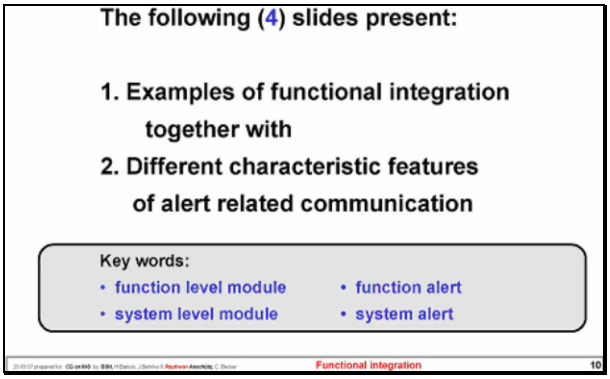


Fig. 10. Functional integration

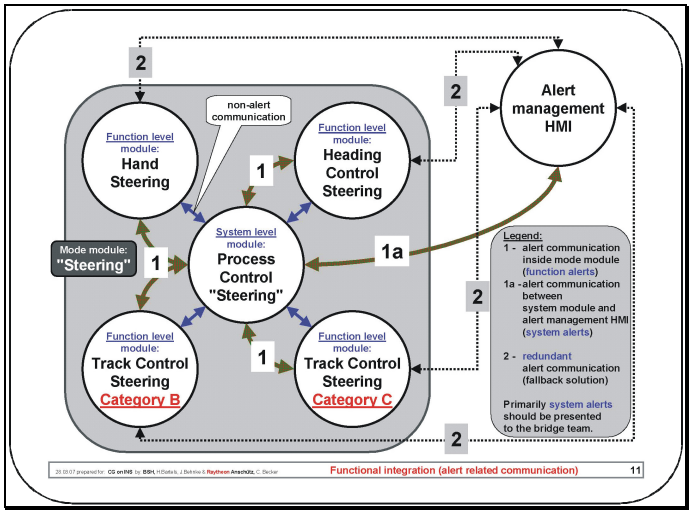


Fig. 11. Functional integration

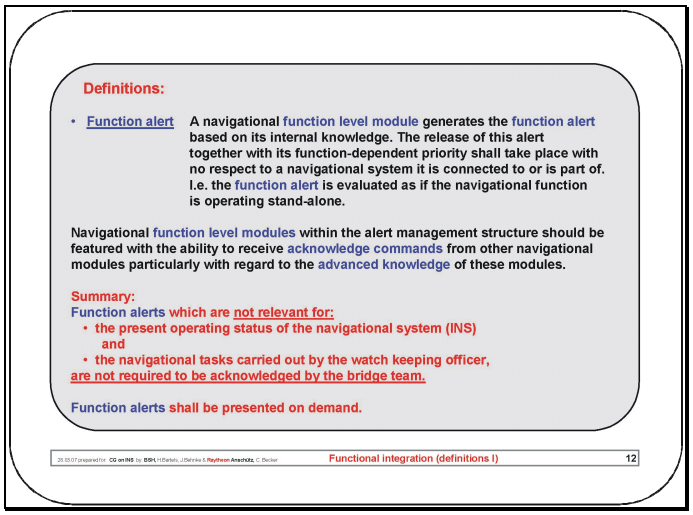


Fig. 12. Functional integration

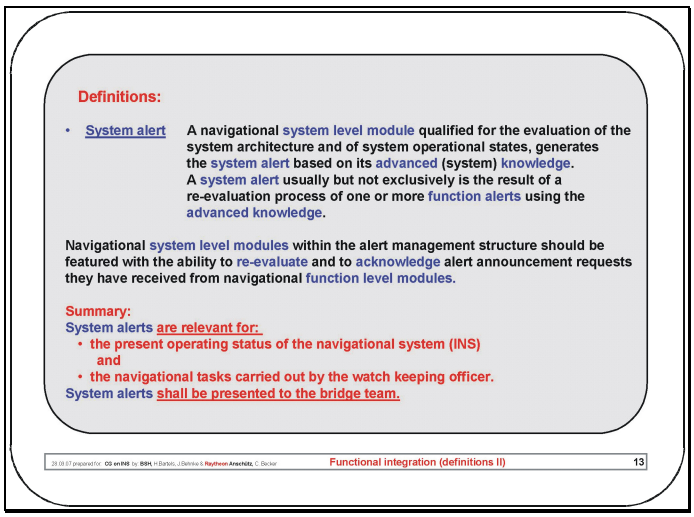


Fig. 13. Functional integration

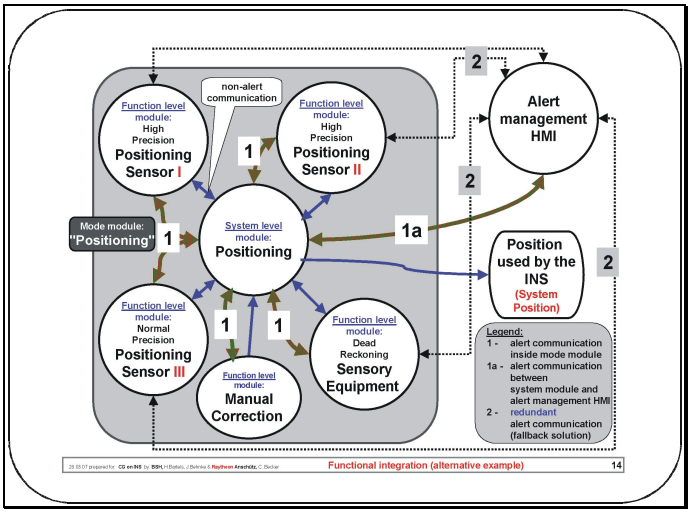


Fig. 14. Functional integration

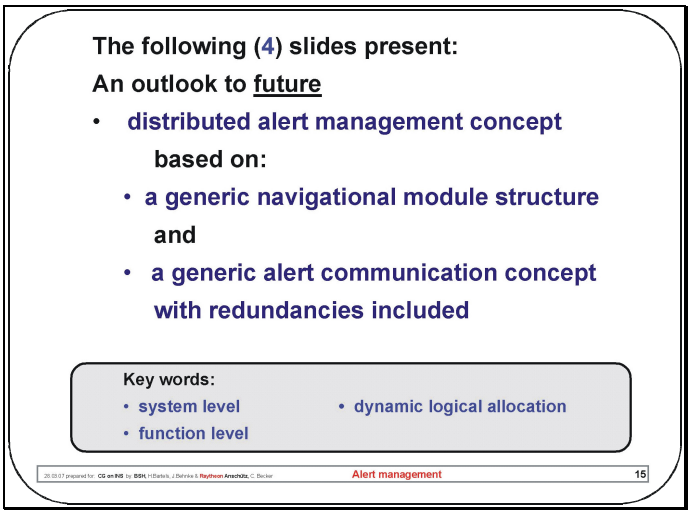
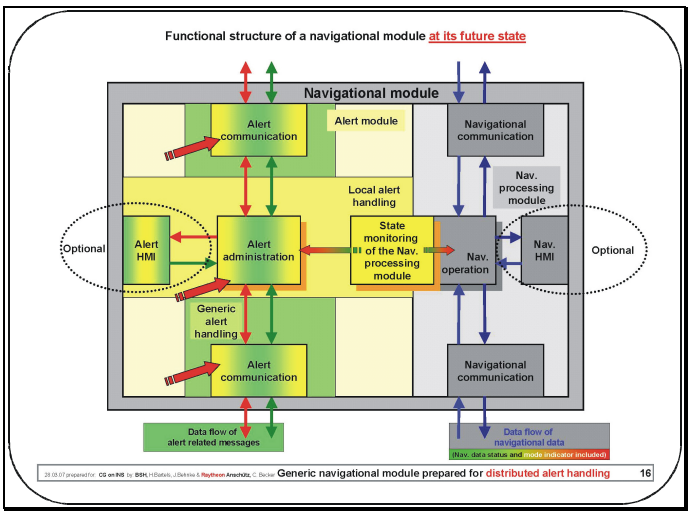


Fig. 15. Distributed concept



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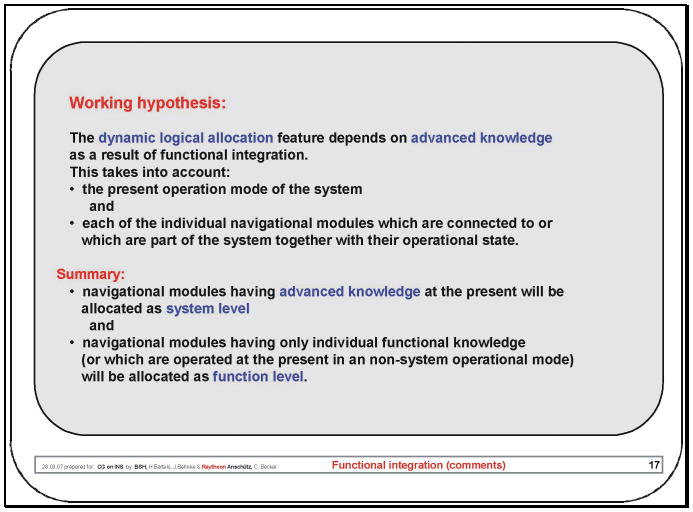

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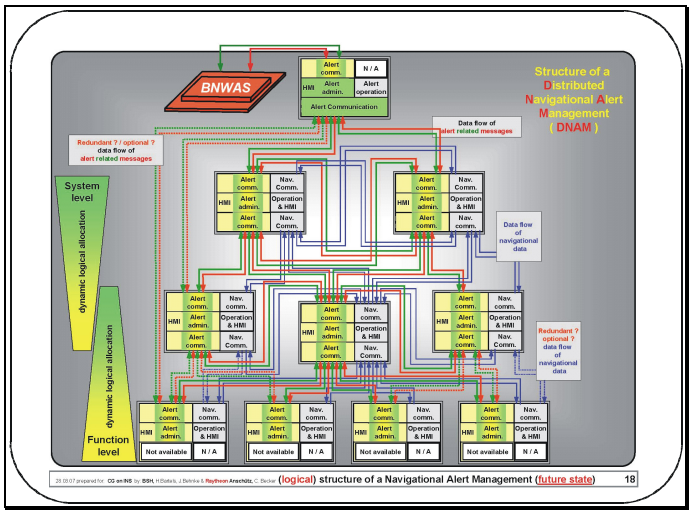

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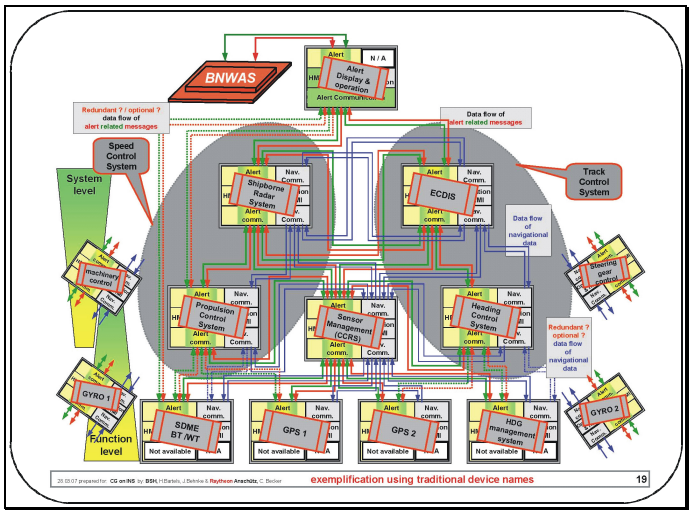

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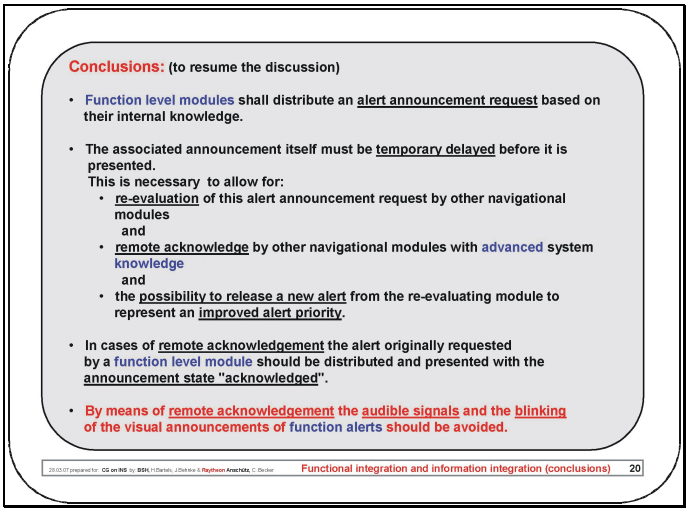

Fig. 20. Conclusions to resume the discussion

2 CONCLUSIONS

It appears feasible to minimise the number of alerts especially those on a high priority.

The conceptual design supports the implementation of “Function Alerts” and “System Alerts” and the capability of navigational system level modules to acknowledge “Function Alerts”.

Easily manageable alert related communication will be supported by this concept.

This presentation is a condensed version of an Alert Management concept based as a full version on different series of slides dealing with topics like “State Monitoring”, “Alert State Transitions”, “Alert Announcement State Transitions”, “Escalation Strategy” (to handle unacknowledged alerts), “Deescalation Strategy” (to minimise the number of high priority alerts) and “Consistency of Alert Presentation within a Navigational System”.

German workgroups deal successfully with these series of slides as a “starting point” whenever they plan to recommence discussions on related matters.

Additionally the slides are applied as a “toolbox” useful to align the picture of an Alert Management Structure in the mind’s eye of each member of a working group during discussions.

These series of slides are especially suited to mediate between the generic requirements laid down in the Performance Standards and the “Operational and Performance Requirements” to be implemented in IEC’s International Standards.