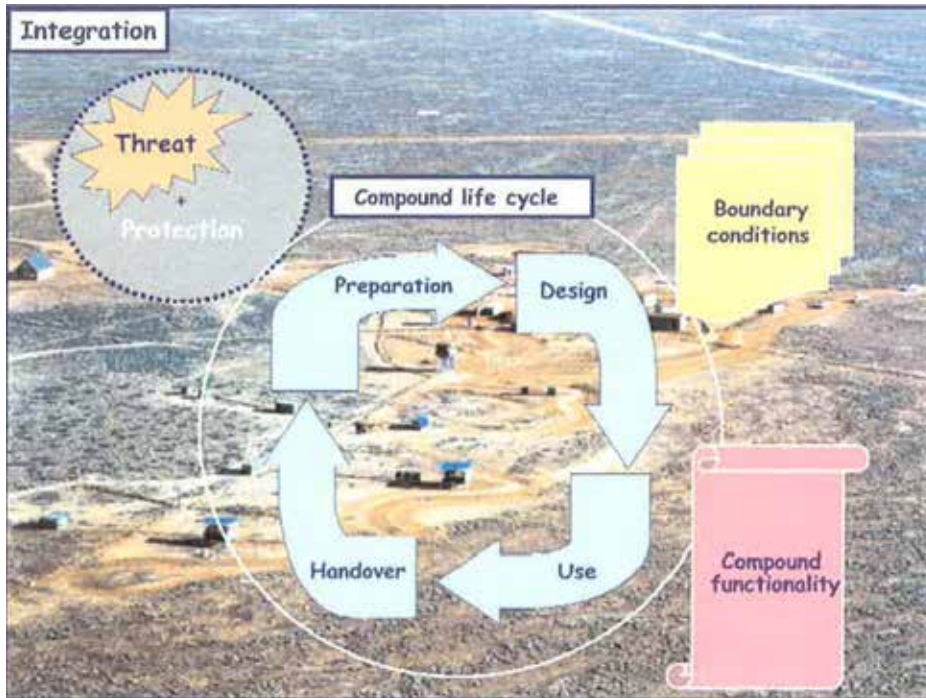


PROTECTION AND SURVIVABILITY OF COMPOUNDS



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INTRODUCTION

Operational field commanders have to spend an increasing fraction of their operational capacity on Force Protection. This has a considerable impact on the mission and the realization of its goals. This means that, when determining the desired level of force protection and protective measures, the mission goals have to be taken into account.

Required protective measures for a mission have to be related to the total life cycle of the compound (from the exploratory phase, through construction and operation, to dismantling). During all phases of this compound life cycle, the adequate level of protection has to be achieved in the most quick and efficient way possible. Given the continuously varying threat spectrum, the available protective measures have to be adjustable quickly, efficiently and flexibly to a change in threat. This involves both an upscale to a higher protection level and a downscale to a lower protection level.

All this implies that the Army Corps of Engineers, who are tasked with Force Protection, have to realize their goals more quickly and that the logistic consequences of an operation increase continuously. This was the incentive for the NL/MoD for the five-year research programme 'Protection

and survivability of the compound as platform', which is focused on the protection and survivability of compounds. The programme is focused on answering questions that relate to all phases of the compound lifecycle.

OBJECTIVES

The central challenge of this programme is the fact that the Netherlands Ministry of Defence (NL/MoD) requires more insight in the protection of the platform compound, in relation to the compound life cycle and a continuously changing threat spectrum. In practice, the NL/MoD needs to be able to exploit compounds in such a manner, that the best balance is obtained between the level of protection that the compound offers and the quality of operations from the compound. This implies that the MoD needs more insight in integral Force Protection of the platform compound.

The programme goal that was formulated based on the above considerations, is: 'To build up and combine knowledge and expertise, such that questions related to the platform compound can be answered. In particular, the various aspects of protection, operational readiness, survivability and mission success will be related in a consistent manner. This gives the ability to provide integral answers to questions considering the location, exploitation, layout, design and construction of the platform compound.'

The result of the programme will be a collection of insights and methods integrated into a consistent method with which analyses of protective measures for the platform compound can be carried out, always in relation to the mission goals.

PROJECTS

In the research programme, knowledge and expertise will be developed for:

- The characterization of relevant threats and operational aspects that play a role for operations from a compound;
- The effects and consequences of the selected threats on compound infrastructure, personnel and on the compound as a whole;
- The added value of a situational awareness method and, vice versa, a method to derive system specifications for a situational awareness-system.

Special attention is given to the integration and interpretation of these different modules into a general method for survivability assessment of compounds. A blueprint of this method will be built directly after the start of the programme, to ensure that the various elements can be built into this method in a uniform and consistent manner.

STUDIES

The studies that will be performed in the Programme are:

- Determination of a representative threat library that is valid for present and future (next 5 - 10 years) missions Out-of-Area;
- Methods and means that can be used to achieve flexible protection of personnel, assets and compound infrastructure;
- Translation of a given threat spectrum to a desired level of protection, which in turn can be expressed in terms of required protective measures (active or passive);
- A method for 'cost'-benefit analyses of protective measures and situational awareness, in relation to the mission goals.

APPLICATION

The knowledge and expertise built up in this research programme will be used to support the NL Army Corps of Engineers in the protection and use of the platform compound in all phases of the compound lifecycle.

PROGRAMME

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Title

Protection and survivability of the compound as platform

Programme number

v817

Time schedule

4-3-2008 - kick-off
31-12-2012 - completion

Budget

3600 kEURO

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TNO

TNO is an independent innovation organisation that connects people and knowledge in order to create the innovations that sustainably boost the competitiveness of industry and wellbeing of society.

TNO focuses its efforts on seven themes including Defence, Safety and Security: TNO works on a safe and secure society by creating innovations for people working in defence organisations, the police, emergency services and industry.

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