

**Long Term Cybersecurity research  
Summaries of projects granted in the second NWO call for proposals (2014)**

<b>Project number</b>	CYBSEC.14.016 / 628.001.010	
<b>Main Applicant</b>	Prof. dr. ir. P.H.A.J.M. van Gelder	Technische Universiteit Delft Subfaculteit Wijsbegeerte en Technische Maatschappijwet Veiligheidskunde
<b>Project title</b>	Secure Our Safety: Building Cyber Security for Flood Management	
<b>Scientific summary</b>		
<p>Cyber attacks on critical infrastructures can have devastating consequences for environment, health and even human lives. To improve the protection and resilience, various approaches for security risk assessment, attack detection and safety monitoring have been developed. The existing approaches, however, fail to fully incorporate the specifics of these systems for cyber security. On the one hand, security monitoring has little understanding of the safety context that is in place. On the other hand, procedures for safety response do not include knowledge about the security status of IT system components. In a broader perspective, the links between cyber security and safety management are poorly understood, and relevant information is not shared, creating space for malicious activities to pass undetected.</p> <p>This proposal aims at improving the cyber security of critical infrastructures by bridging the gap between safety and security risk management and monitoring. In particular, we use the context of flood management to provide integrated decision support for incident response related to cyber threats, based on both safety and security science. The project has two objectives. Firstly, the project will enrich network security monitoring with safety context information. Here, the context consists of static information about the underlying physical process, as well as dynamic information about safety threats (i.e., extreme hydrometeorological conditions). Secondly, the project will improve safety incident response by procedures that include information from security monitoring in assessing the expected effectiveness of responses. The integration of the two innovations will enable adequate responses to flood defence security threats.</p>		
<b>Applicable NCSRA themes</b>		
<ul style="list-style-type: none"> <li>• Attack detection, attack prevention and monitoring</li> <li>• Risk Management, Economics and Regulation</li> <li>• Secure Design and Engineering</li> </ul>		