

**Long Term Cybersecurity research
Summaries of projects granted in the first NWO call for proposals (2012)**

Project number	CYBSEC.12.003 / 628.001.003	
Main Applicant	Prof. dr. M.J.G. van Eeten	Technische Universiteit Delft Faculteit Techniek, Bestuur en Management Beleidskunde
Project title	Reputation Metrics Design to Improve Intermediary Incentives for Security (REMEDI3S)	
Scientific summary		
<p>The past decade has highlighted that cybersecurity failures are not only the result of technological vulnerabilities but also of misaligned economic incentives. Improving the incentives for security -- the forces that shape the security decisions of market players -- is therefore a key challenge. It is especially urgent for Internet intermediaries, which are increasingly recognized as critical nodes for cybersecurity. These include ISPs, hosting providers, registrars, certification authorities and cloud service providers.</p> <p>While Internet intermediaries are critical to cybersecurity, it is difficult for businesses, consumers, regulators and even the intermediaries themselves, to reliably assess how well they perform. Who knows, for example, which Dutch ISP is most effective in remediating botnets? Such information asymmetries severely impede the functioning of markets. They weaken the intermediaries' incentives to invest in security.</p> <p>This project reduces this information asymmetry by developing empirical reputation metrics for the security of Internet intermediaries. It builds on recent innovations which extracted such metrics for ISPs from data being collected by third parties for incident response and situational awareness. The project is novel because: (1) it advances metrics that can serve as publicly available market signals; (2) it does so for more classes of intermediaries than just ISPs; (3) it develops empirical models around the reputation metrics to disentangle the impact of other forces that shape the security incentives of intermediaries, such as privacy laws and price competition; and (4) offers intermediaries the option to benchmark themselves against their market. All of this generates evidence-based policies and sustained incentives for security.</p>		
Applicable NCSRA themes		
<ul style="list-style-type: none"> • Malware • Cybercrime/underground economy • Risk management 		