Cyber Monday: Roadmaps to make the Netherlands more digitally resilient

On this Cyber Monday, we would like to take a moment to reflect on cyber security. Within our daily lives and routines, digitization is taking on ever greater proportions. Precisely the innovations within cyber security make it possible to use the benefits of digitization in a responsible manner. The roadmaps of dcypher give a real substance to this. In this blog, we will update you on the content of these roadmaps, in which we are closely involved as subject matter experts at TNO.

Achieving goals step by step

As a platform, dcypher has a number of major ambitions: Making the Netherlands more resilient to cybercrime is the most important. We also want to give an economic boost to cyber security companies and strengthen the autonomous knowledge position of the Netherlands in the field of cyber security.

To achieve these ambitions, we are working with roadmaps: multi-year programs focused on urgent themes that need extra attention. These programs consist of various projects that are chronologically related to each other. This way, a subsequent project can benefit from the results of an earlier project and thus work step by step towards the final objectives.

Collaboration and valorization

Within the roadmaps, collaboration is central: we believe that companies and research institutions become stronger if they share knowledge and expertise with each other - at least in the fundamental phase. This applies all the more because the number of experts in the Netherlands is limited and we do not want to be dependent on foreign countries. That is why we bring the right companies and organizations together for each project, who then set to work on their own.

We are also committed to accelerating the valorization of knowledge from research. At present, this knowledge sometimes remains on the shelf for years or remains completely unused. That is a loss for all parties. Moreover we fund research positions that tie in with the themes of the roadmaps. And we involve students in the activities we do whenever possible.

Roadmap 1: Automated Vulnerability Research

The first roadmap that dcypher initiated is about Automated Vulnerability Research (AVR). AVR focuses on finding and fixing vulnerabilities in software. Of course, many cyber security companies have been doing this for a long time, but they often focus on vulnerabilities that have been published before. With our roadmap, we want to achieve automated systems able to detect unknown vulnerabilities as well. Efficiently, timely and at scale.

We are aware that other countries are working on AVR capabilities. But because of the strategic importance of software vulnerabilities, that knowledge will not always be shared. Therefore, it is necessary to boost AVR research in the Netherlands and to train more professionals in this field. So that is one important goal of this roadmap. But research alone is not enough: we are also looking for companies willing to put today's AVR technology into practice. We can work with them to see how we can apply it in operational environments, for example in the software development process.

Read the roadmap AVR (Dutch version or English version) to see what's in it for you.

Roadmap 2: Cryptocommunication

The second roadmap of dcypher is still under development. This one is about cryptocommunication, or secure digital communication making use of cryptography. Cryptography is an important building block for cyber security, because it can guarantee the confidentiality, integrity and availability of digital communication. It is important that the Netherlands has sufficient knowledge about this so that we can be autonomous in this area. This is why the Ministry of Economic Affairs is keen to invest in this and why we are now working on a roadmap for this.

The roadmap will focus on four important developments in cryptography:

- Securing new technical environments

- Migration to post-quantum cryptography

- Deployment of cryptography for new decentralized applications

- Formal verification of cryptography and cryptographic source code

For more information about the exploration you can read 'The exploration of the Netherlands as crypto land' (Dutch version or English version)

We are looking for companies and research institutions that want to think along with us or want to participate in projects. We are also looking for a large company or (government) agency that has a need for innovative products in the field of cryptography. This organization can help us, as a needs assessor, to steer the innovations in the right direction.

Join us!

Interested in these themes and roadmaps? We'd love to discuss them further with you in our communities:

- Join the Automated Vulnerability Research community

- Join the Crypto communication community

- Bert Jan te Paske and Yoram Meijaard