

## **Vacancy: Coordinating Research Engineer trusted future internet infrastructures at SIDN Labs**

We are looking for a Coordinating Research Engineer to further increase the impact of “2STiC” ([www.2stic.nl](http://www.2stic.nl)), a joint research programme involving three Dutch universities and five internet industry organisations. The goal of 2STiC is to develop and evaluate mechanisms for trusted future internet infrastructures that contribute to increasing our society’s digital strategic autonomy based on a showing-by-doing approach. 2STiC’s long-term ambition is to set up a leading centre of expertise on trusted internet infrastructures to help put the Dutch and European networking communities in a leading position in this strategically important field.

As a Coordinating Research Engineer, you will have two key responsibilities. The first is to advance SIDN Labs’ technical work on trusted future internet infrastructures, for instance by contributing to our implementation of the SCION protocol stack in P4, to demonstrators that show the added value of new internet infrastructures and running experiments with these technologies using the 2STiC testbed or the international SCIONLab test network that we connect to. Two of our research engineers are currently driving the technical work and they often collaborate with peers from various backgrounds (software engineers, operators, academics), both at SIDN Labs and within the 2STiC research teams and partner organisations elsewhere, such as ETH Zürich.

Your second key responsibility will be to coordinate 2STiC, in particular to further expand and strengthen the community working on trusted future internet infrastructures in the Netherlands, Europe and beyond. You will guide 2STiC’s overall technical direction based on the interests of the partners and contribute to extending 2STiC’s project portfolio. You will also act as the internal and external figurehead of the 2STiC consortium and will share the 2STiC results at relevant conferences and with organisations in the Netherlands and Europe.

### **What you'll be doing**

- Designing and prototyping new mechanisms that increase the security and resilience of the internet infrastructure and extend it with properties such as transparency and controllability
- Showing the added value of future internet infrastructures for specific sectors of society (public administration, finance, utilities, transport, etc) through demonstrators
- Experimenting with new internet architectures and mechanisms using the 2STiC programmable network, SCIONLab, and other testbeds
- Sharing your work with the Dutch, European and worldwide internet communities, for instance through demonstrators, open-source software, papers, blogs, tech reports and presentations
- Developing and maintaining a broad view of emerging internet infrastructure initiatives worldwide and (policy) developments around digital strategic autonomy
- Further strengthening the collaboration between the 2STiC consortium partners, our research partners in the Netherlands and researchers involved in similar initiatives elsewhere
- Further enhancing the 2STiC portfolio with co-funded research projects in collaboration with the 2STiC partners and others
- Continuously working with the consortium partners to fine-tune 2STiC’s vision, ambitions, technical direction and approach based on the partners’ interests
- Further increasing the visibility of the 2STiC results for the wider internet community
- Acting as the first point of contact for 2STiC
- Organising and running regular 2STiC meetings

### **What we want**

- Thorough understanding of core internet protocols, such as TCP/IP, BGP, intra-domain routing protocols and the DNS
- Interested in critical services that use the network, such as energy grids, e-health services and cooperative autonomous driving
- Experience in coordinating research consortiums and collaborative research projects (further development of these skills on the job is possible), preferably experience of developing such projects

- Ability to listen to organisations, people and partners, and to translate their needs into research directions, projects and testbed requirements
- Ability to balance light heartedness, patience and persistence (developing new internet technologies is a long-term effort) with decisiveness and dynamism
- Extensive relevant contact network, both nationally and internationally
- Ability to clearly explain the 2STiC work to people without a technical background
- Excellent communication skills in English
- Basic ability to understand and communicate in Dutch
- An MSc or PhD in Computer Science or a related field

### What you can expect

- A job at a not-for-profit company that provides critical internet infrastructure services
- Opportunity to tangibly contribute to the development of new internet infrastructures
- Cutting-edge research and development tools
- Colleagues who are technical experts in internet security and stability
- Wide range of training opportunities for technical and personal development
- A market-rate, competitive salary based on your education and experience
- Linux, Mac or Windows laptop and an iPhone
- A bonus based on company results
- Other normal benefits such as a 38-hour contract
- Bean-to-cup coffee machines! (once we're back in the office :-))

### Interested?

If you're interested in the position, send your resumé and covering letter to [recruitment@sidn.nl](mailto:recruitment@sidn.nl). If you have any questions, give us a call on +31 26 352 55 00 and ask for Cristian Hesselman, Director of SIDN Labs. If you'd like more information on the application procedure, please contact Kim Ewes of our HR team.

We would be particularly pleased to hear from female applicants, since we would like to increase the diversity of the SIDN Labs team.

The selection procedure does involve a Certificate of Good Behaviour (similar to a criminal record check) and reference checks.

For more details of our work at SIDN Labs, please check our site [www.sidnlabs.nl](http://www.sidnlabs.nl). More information on 2STiC is available at [www.2stic.nl](http://www.2stic.nl).

### About SIDN

SIDN (*Stichting Internet Domeinregistratie Nederland*) is responsible for running the Netherlands' top-level internet domain (TLD), .nl. As such, we manage the .nl server infrastructure in the Domain Name System (DNS), a worldwide system that maps domain names to IP addresses and is part of the technical core of the internet. Our other task is to invest in continued improvement of the internet for the Dutch, European and worldwide internet communities, specifically through the applied research of SIDN Labs and the projects sponsored by SIDN Fund. We are a not-for-profit organisation with a staff of about 100 FTEs.

As operator of the .nl TLD, security and resilience are our top concerns. Because domain names are used in nearly every internet interaction, our services are essential for the Netherlands and the wider internet community. Our DNS infrastructure consists of dozens of anycasted name servers distributed across the world, which process around 2.5 billion DNS queries a day. We also manage the registration database for .nl, which is a multi-site facility that holds all of .nl's 6 million domain names and serves around 1,500 domestic and international registrars. 3.3 million .nl domain names have been secured with DNSSEC, which makes .nl the largest DNSSEC-enabled TLD worldwide in absolute terms.

Website: [www.sidn.nl](http://www.sidn.nl), [www.sidnfonds.nl](http://www.sidnfonds.nl)

### About SIDN Labs

SIDN Labs is the research arm of SIDN. SIDN Labs' goal is to contribute to ongoing improvement of the internet infrastructure's trustworthiness through technical applied research, for the benefit of



Netherlands, Europe and the wider world. We focus on three research areas: network security (DNS, routing, NTP), domain name and IoT security, and trusted future internet infrastructures. Our main research activities are large-scale internet measurements and the prototyping of new internet systems.

Our team consists of people with technical expertise in areas such as large-scale DNS and internet measurements, storage and analytics of these measurements, internet protocols and systems, IoT security systems and future internet technologies. We help SIDN's operational teams, write open-source software, analyse vast amounts of data, run experiments and write applied academic papers. We also actively contribute to internet organisations such as the IETF/IRTF, RIPE and ICANN. Our results are publicly available in the form of open-source software and publications. Many of our projects are collaborations with universities and other research labs from around the world, such as the University of Twente, the University of Southern California, Delft University of Technology and NLnet Labs.

Our team consists of thirteen people of various nationalities and ages. We often work with MSc students who help us progress our projects in specific areas.

Website: [www.sidnlabs.nl](http://www.sidnlabs.nl)

### **About 2STiC**

2STiC is a joint research programme on trusted future internet infrastructures. The partners are AMS-IX, NDIX, NLnet Labs, SIDN Labs, SURF, TU Delft, the University of Amsterdam and the University of Twente. 2STiC (pronounced "to stick") is short for Security, Stability and Transparency in inter-network Communication.

2STiC's goal is to develop and evaluate mechanisms for increasing the security, stability and transparency of internet communications, for instance by experimenting with and contributing to emerging internet architectures, such as SCION, RINA, and NDN, as well as the existing (IP-based) internet. Our long-term ambition is to set up a centre of expertise in the field of trusted and resilient internet infrastructures and help put the Dutch and European networking communities in a leading position in this strategically important field.

Website: [www.2stic.nl](http://www.2stic.nl)