

Cybersecurity for SMEs

Marco Spruit & Max van Haastrecht | GEIGER



Universiteit
Leiden
The Netherlands



Background



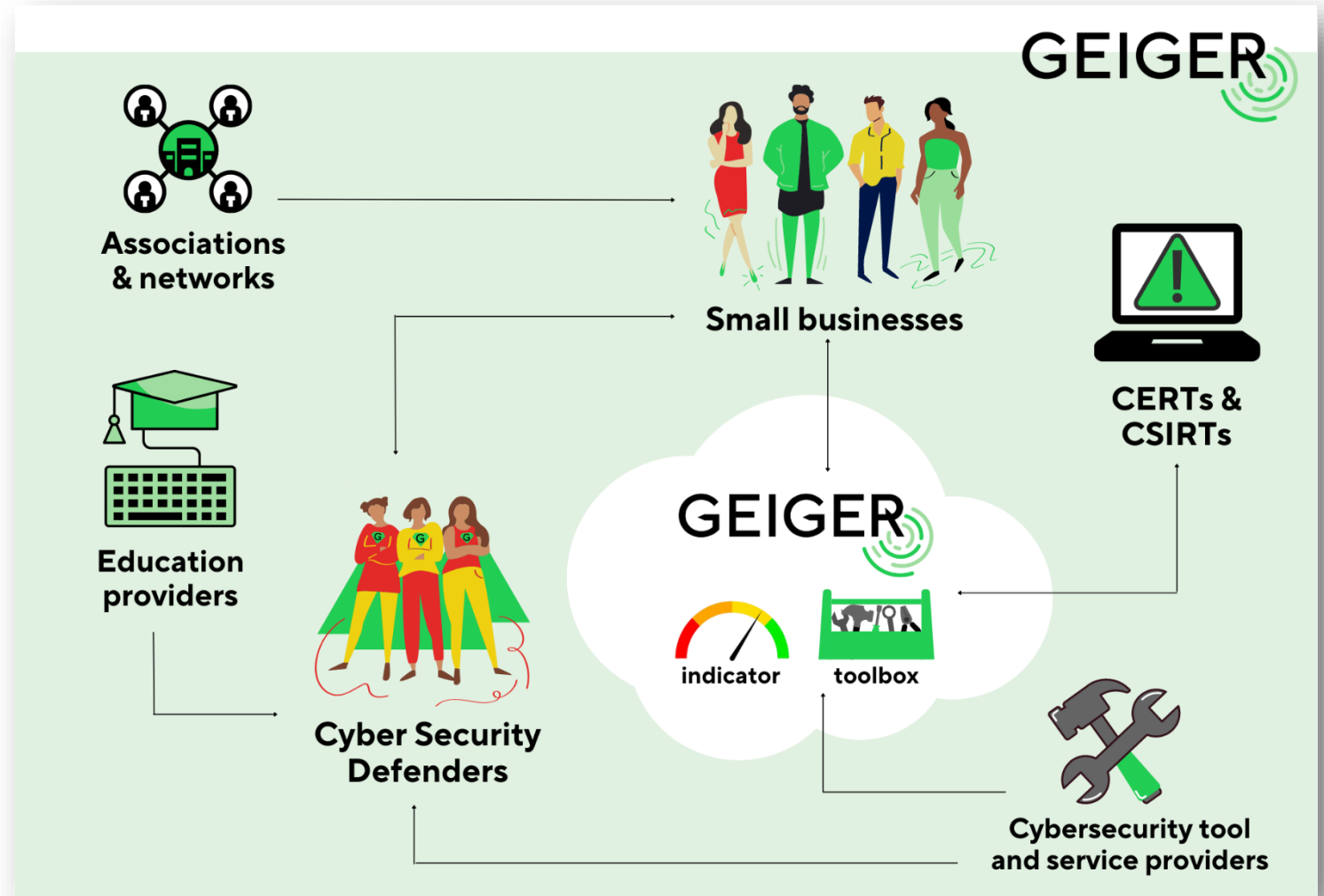
Why do SMEs need help?

- Cybersecurity resources and knowledge is low.
- [25 million SMEs](#) in Europe, comprising 2/3 of all jobs.
- [57% of SMEs](#) believe they would most likely go bankrupt in case of a cyber attack.
- The European Commission and ENISA recognise the importance of this group.
 - Many SME projects and initiatives.



The GEIGER project

- EU Horizon2020 [project](#) with 19 partners throughout Europe.
- Cybersecurity risk assessment app for small businesses.
- Educational ecosystem with security defenders as support.
- Direct connection with CERTs and NCSCs to share incident information.

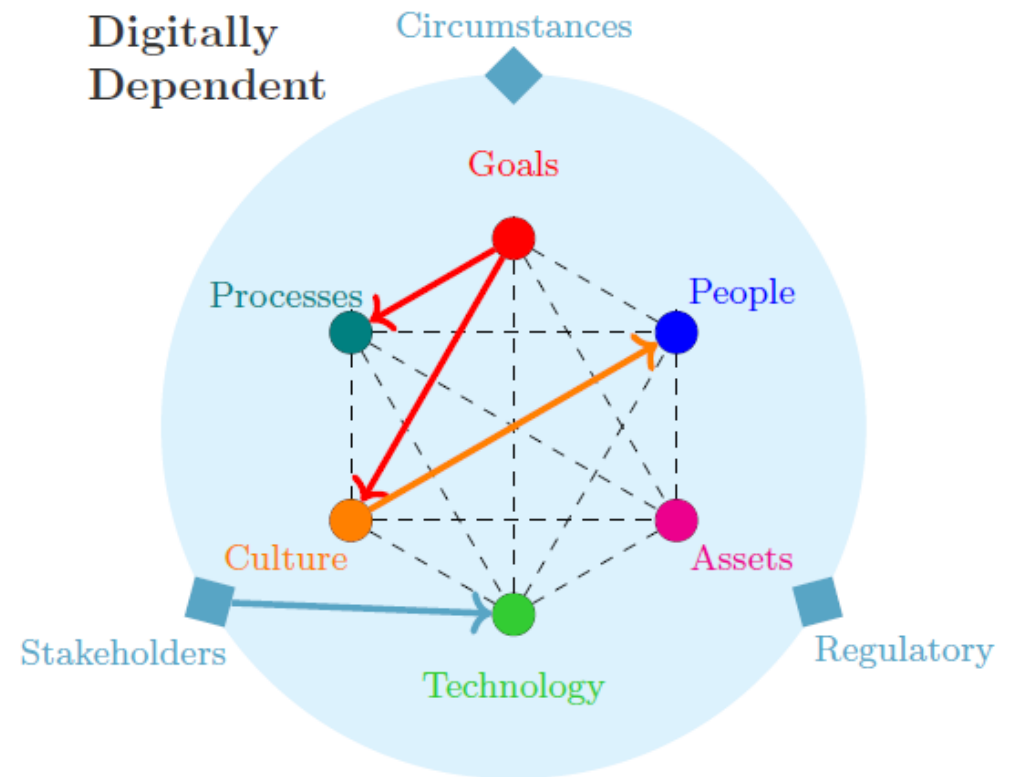
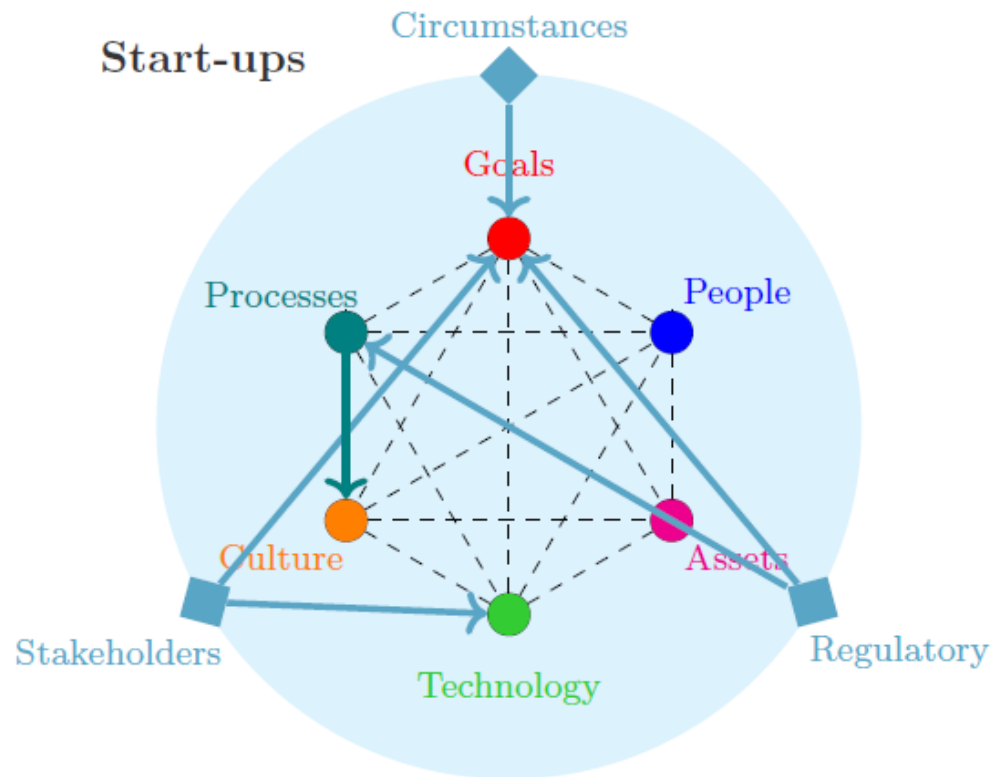


Research



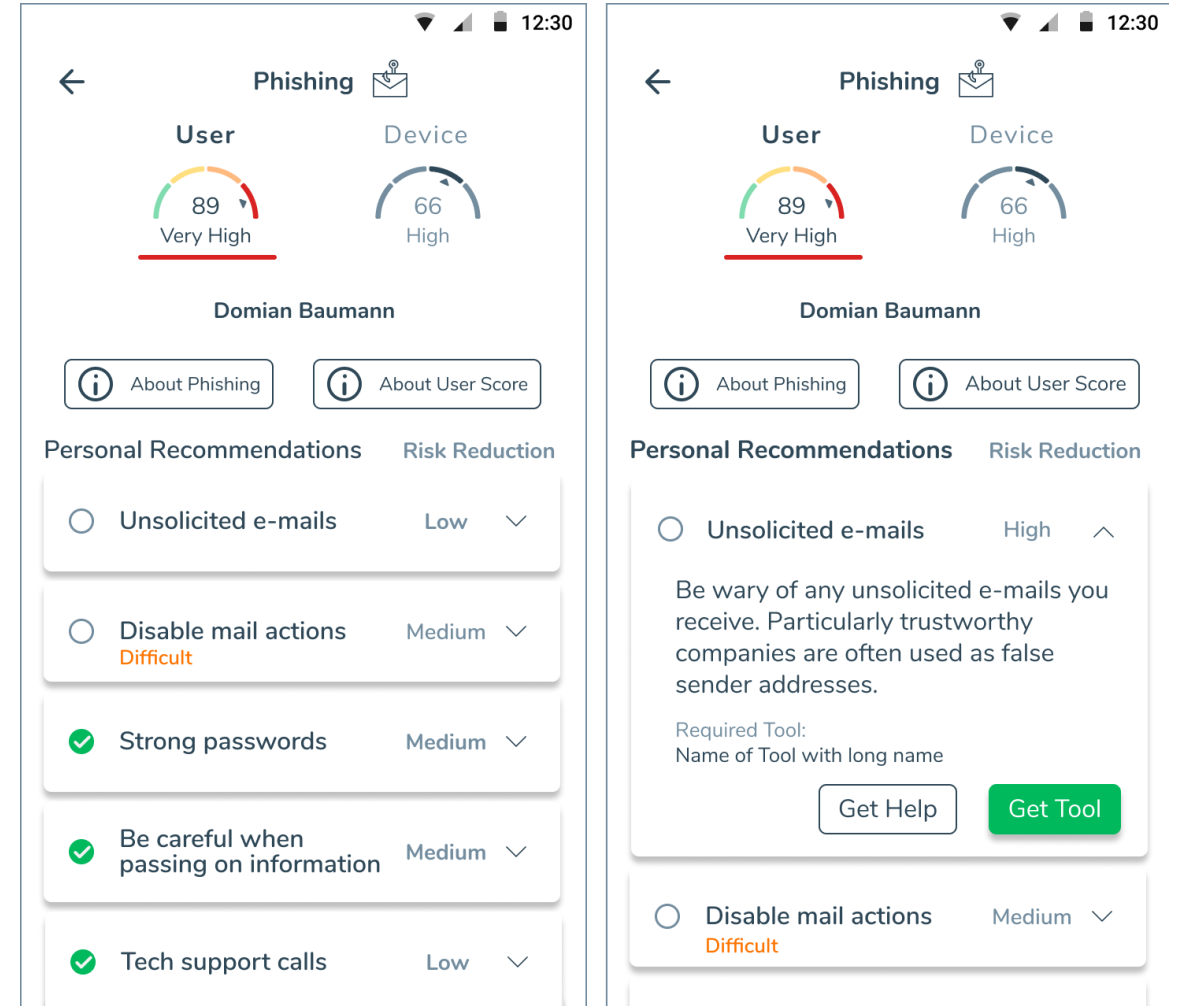
Different SMEs, different needs

- GEIGER focuses on the smallest, least mature SMEs.
- These SMEs still need to become aware about cybersecurity through their external environment. (van Haastrecht, 2021c).



Autonomy, competence, relatedness

- GEIGER aims to actively raise awareness at SMEs and also to keep them motivated.
- This is where self-determination theory comes in (van Haastrecht, 2021b).
- A cybersecurity risk assessment application for SMEs needs to give users a feeling of perceived:
 - Autonomy,
 - Competence,
 - Relatedness.



Personalisation using CTI

- We want a personalised experience to achieve an accurate risk assessment for each SME.
- In GEIGER we use our CERT/NCSC connections to update threat prioritisations based on CTI (van Haastrecht, 2021a).



Connecting to CERTs and NCSCs



Partners in the GEIGER project

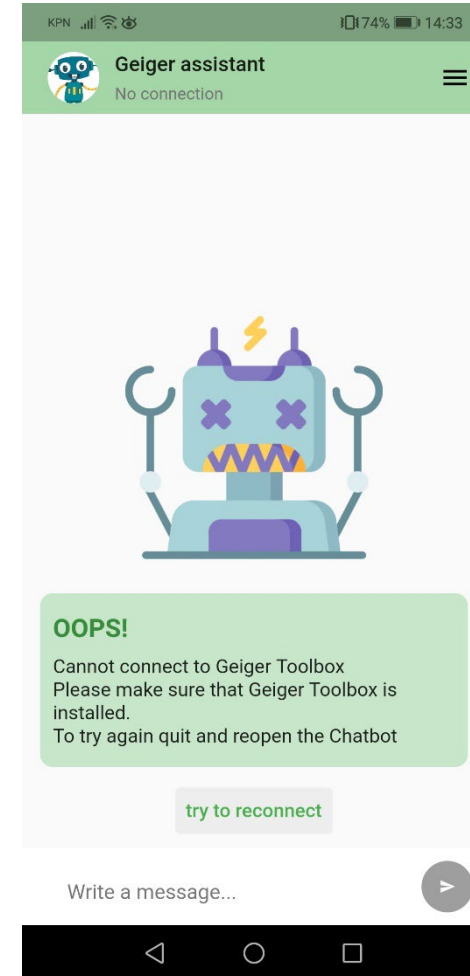
- We work with a consortium internal NCSC (DNSC – Romania), with a partner NCSC (NCSC Switzerland), and with the Dutch Digital Trust Center.
- GEIGER updates threat priorities using NCSC data, but also allows users to share their incident data with NCSCs.



DIRECTORATUL NAȚIONAL
DE SECURITATE CIBERNETICĂ

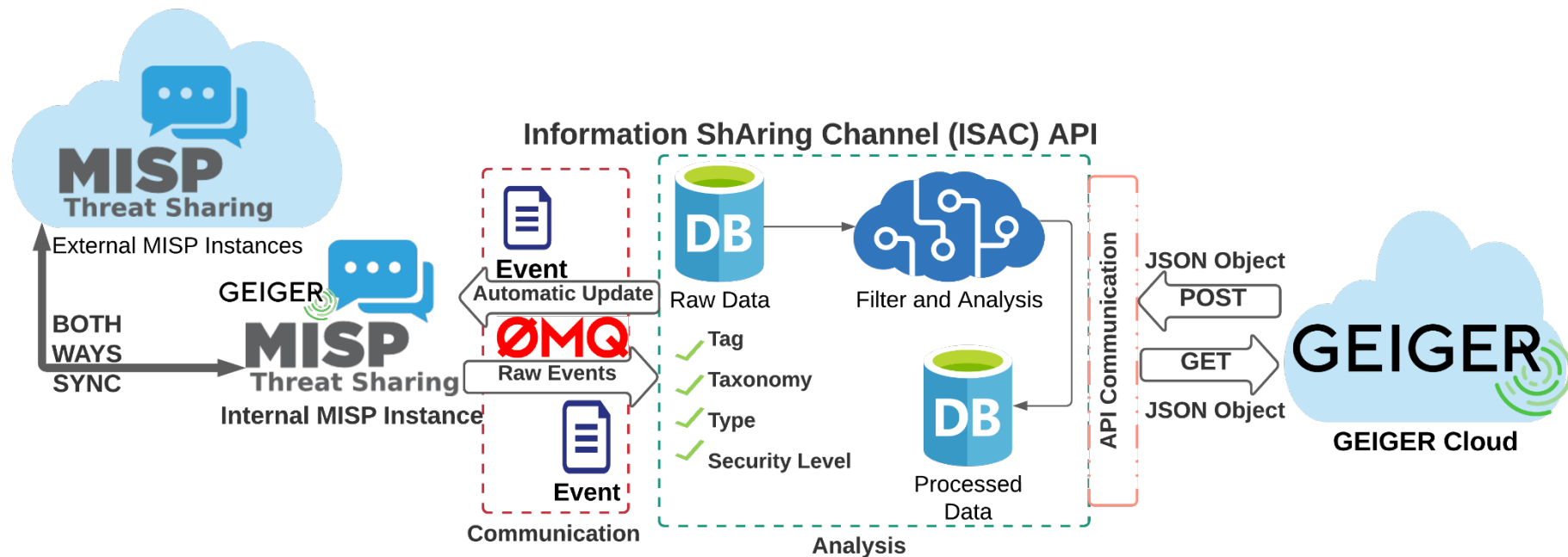


digital trust
center.



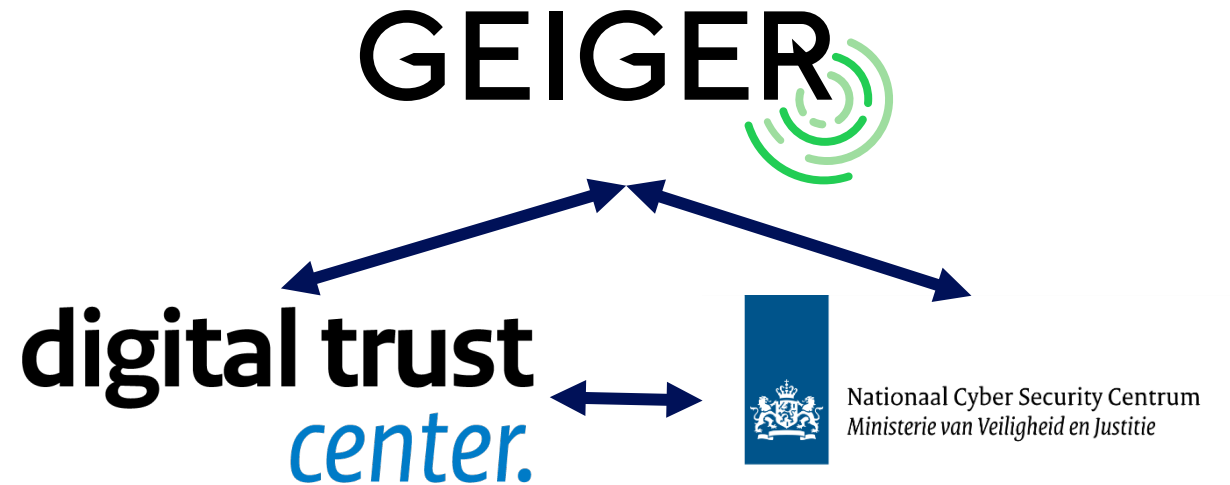
Security information exchange

- NCSCs can connect to the GEIGER MISP node to share incident information.
- NCSCs can also receive information from SMEs in their country through this information exchange.



Call for collaboration

- GEIGER and Leiden University are very much open to collaboration with NCSC, especially on the data front.
- Aligns well with recent developments regarding NCSC and the Digital Trust Center.



Brief regering

Integratie Digital Trust Center, CSIRT-DSP en Nationaal Cybersecurity Center

Download

Indiener



Indiener

D. Yesilgöz-Zegerius, minister van Justitie en Veiligheid



Medeindiener

M.A.M. Adriaansens, minister van Economische Zaken en Klimaat

7 september 2022

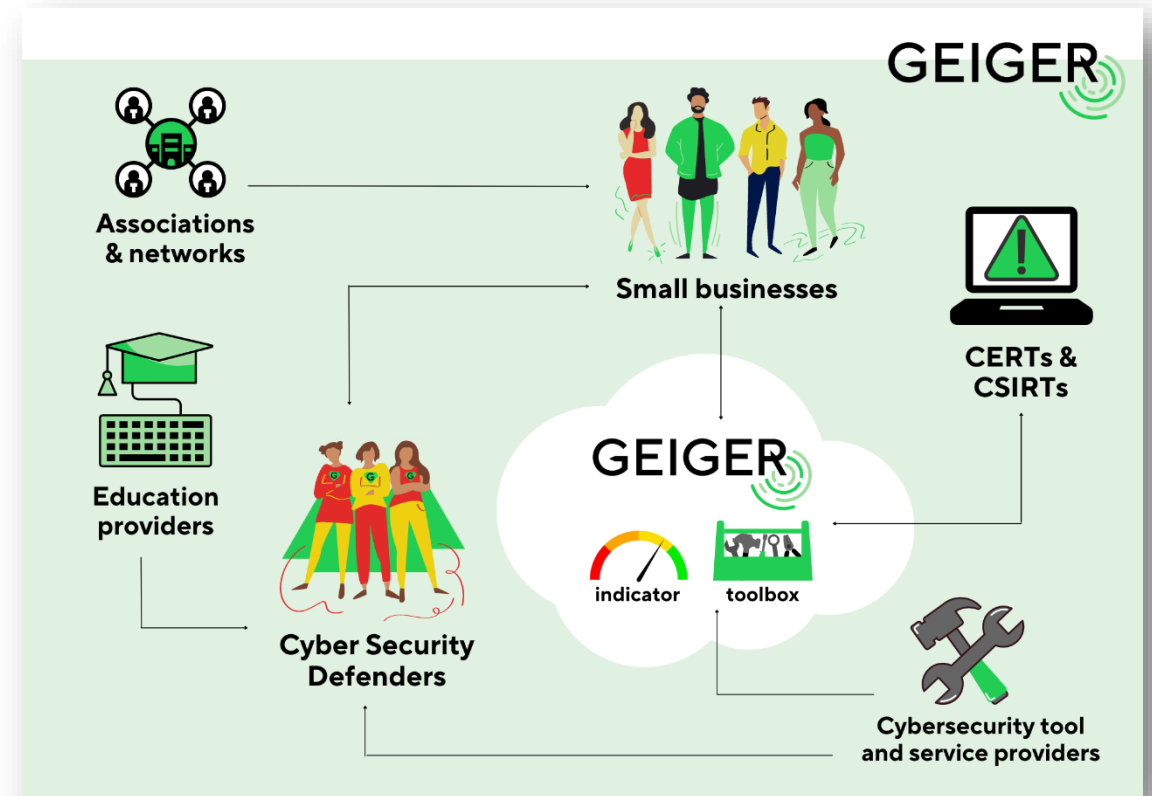
2022Z16336

Vaste commissie voor digitale zaken

Brief regering

GEIGER links and contact

- Learn more about the GEIGER project
 - <https://project.cyber-geiger.eu/>
- Download the app
 - <https://www.microsoft.com/store/apps/9MZ8QDJZ8ZGQ> (Windows)
 - https://play.google.com/store/apps/details?id=cybergeigertoolbox.geiger_toolbox&gl=NL (Android)
- Join the community
 - <https://community.cyber-geiger.eu/>
- Marco Spruit
 - m.r.spruit@liacs.leidenuniv.nl
- Max van Haastrecht
 - m.a.n.van.haastrecht@liacs.leidenuniv.nl



The End



Universiteit
Leiden
The Netherlands

References

1. van Haastrecht, M., Golpur, G., Tzismadia, G., Kab, R., Priboi, C., David, D., ... & Spruit, M. (2021a). A shared cyber threat intelligence solution for smes. *Electronics*, 10(23), 2913.
2. van Haastrecht, M., Sarhan, I., Shojaifar, A., Baumgartner, L., Mallouli, W., & Spruit, M. (2021b). A threat-based cybersecurity risk assessment approach addressing SME needs. In *The 16th International Conference on Availability, Reliability and Security* (pp. 1-12).
3. van Haastrecht, M., Yigit Ozkan, B., Brinkhuis, M., & Spruit, M. (2021c). Respite for SMEs: A Systematic Review of Socio-Technical Cybersecurity Metrics. *Applied Sciences*, 11(15), 6909.