Dr. Piet De Vaere
Product Cybersecurity Consultant

My focus is on the EU Cyber Resilience Act (CRA), the EU Radio Equipment Directive (RED/DA), and the UK PSTI. IEC 62443 often serves as a supporting standard for this work.

I bring the insights from my PhD to my consultancy work. This means I put a strong focus on understanding the exact needs and problems of each client, to then design a tailored but pragmatic solution. Doing so maximizes gains while avoiding work that does not bring value.

My background in electrical engineering helps me interact with both software and hardware teams, allowing me to effectively bridge the gap between C-level, management, and engineers.

piet@devae.re — Based in Zürich Area, CH — Works across europe — References on request

Work and Education

Lead Security Architect   Since January 2024 at **Zühlke**, CH
Work on PKI design, product security, IEC 62443, EU CRA, RED/DA, ...
Various Swiss and international clients in industrial and consumer products

Network Security Lecturer   Since 2023 at **ETH Zürich**, CH
Teaching in the master-level Network Security course. Ca. 320 students/year.
Focus topics: PKI, VPNs, anonymous communication, and BGP security.

PhD in Network Security   2018 to 2023 at **ETH Zürich**, CH
Advised by Prof. Adrian Perrig at the Computer Science Department
Thesis: "Fine-Grained Access Control for Sensors, Actuators, and Automation Networks"

MSc in Electrical Engineering   2016 to 2018 at **ETH Zürich**, CH
GPA: 5.92/6 — with Distinction — ESOP Excellence Scholarship

BSc in Electrical Engineering   2013 to 2016 at **TU Delft**, NL
GPA: 9.5/10 — Cum Laude — Honours Programme — Challenge Programme

Selected Client Projects

CRA Gap Analysis
For a Swiss client in the machinery industry, I analyzed their current product and development processes against the EU Cyber Resilience Act (CRA) and IEC 62443. We established a roadmap towards compliance in Q4 2027.

RED/DA Compliance Pilot
For a Danish client in the liquid handling industry, I executed a pilot program for product compliance under the newly activated essential requirements in the EU Radio Equipment Directive (RED/DA). During this pilot, we ran through the compliance process for two products following EN 18031, and designed the process for scaling compliance to the full product portfolio.

Product PKI design
For an international client producing building management equipment, I designed a product public key infrastructure (PKI). The design was tailored to the specific needs of the client, including: (i) the absence of Internet connectivity, (ii) the need for zero-config installations, and (iii) support for OEM manufacturing.

Selected First-Author Publications

Hey Kimya, Is My Smart Speaker Spying on Me?   USENIX Security 2023
Taking Control of Sensor Privacy Through Isolation and Amnesia
Ideally, smart speakers should only be able to listen when they are spoken to (*"Hey Siri!"*), but if so, how could they hear us call out to them? Kimya is a low-level framework that ensures that stand-by smart speakers cannot leak audio data and must forget what they heard immediately.

The SA^{4}P Framework: Sensing and Actuation as a Privilege   ASIACCS 2024
IoT devices interact with the physical world through sensing and actuation. Therefore, their presence introduces real privacy and safety risks. SA^{4}P enables fine-grained control over which devices are allowed access to the physical world, and at which times. It also motivates developers to sense or actuate not more than needed.

Languages   (ILR scale)

German, Professional working proficiency   **Dutch**, Native
English, Full professional proficiency   **French**, Elementary proficiency