



INNOVATIONS & SERVICES

CATALOG 2022-2023

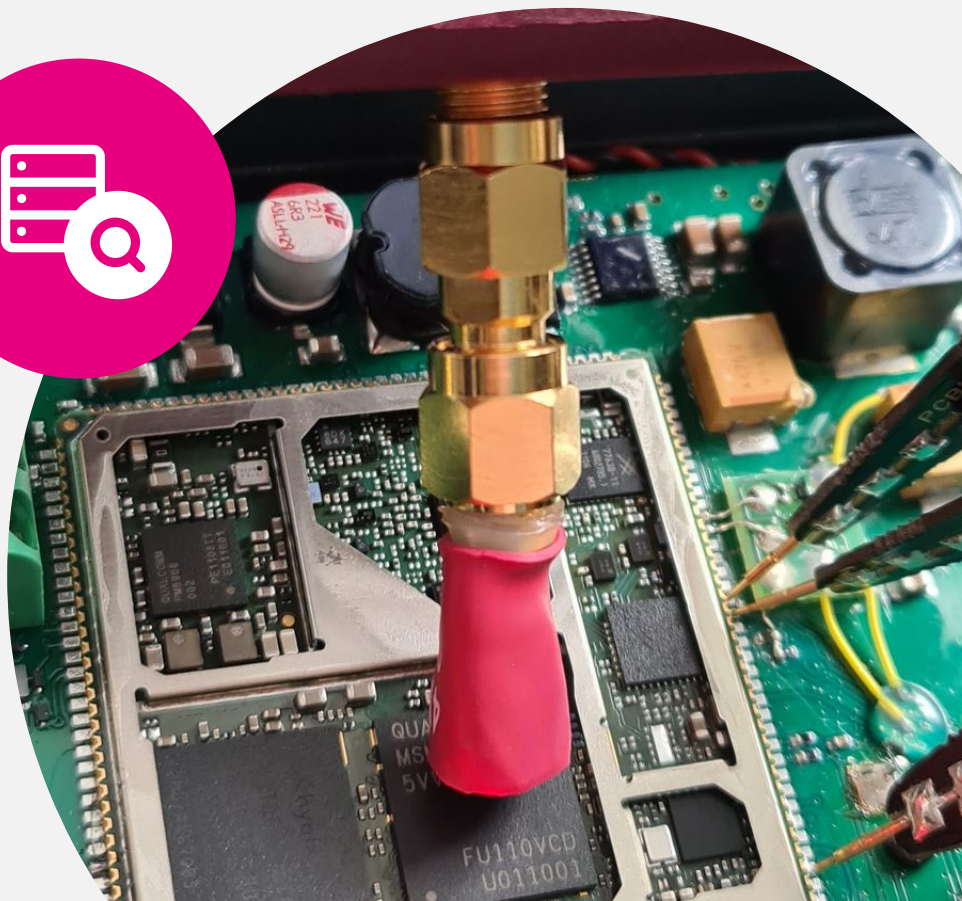
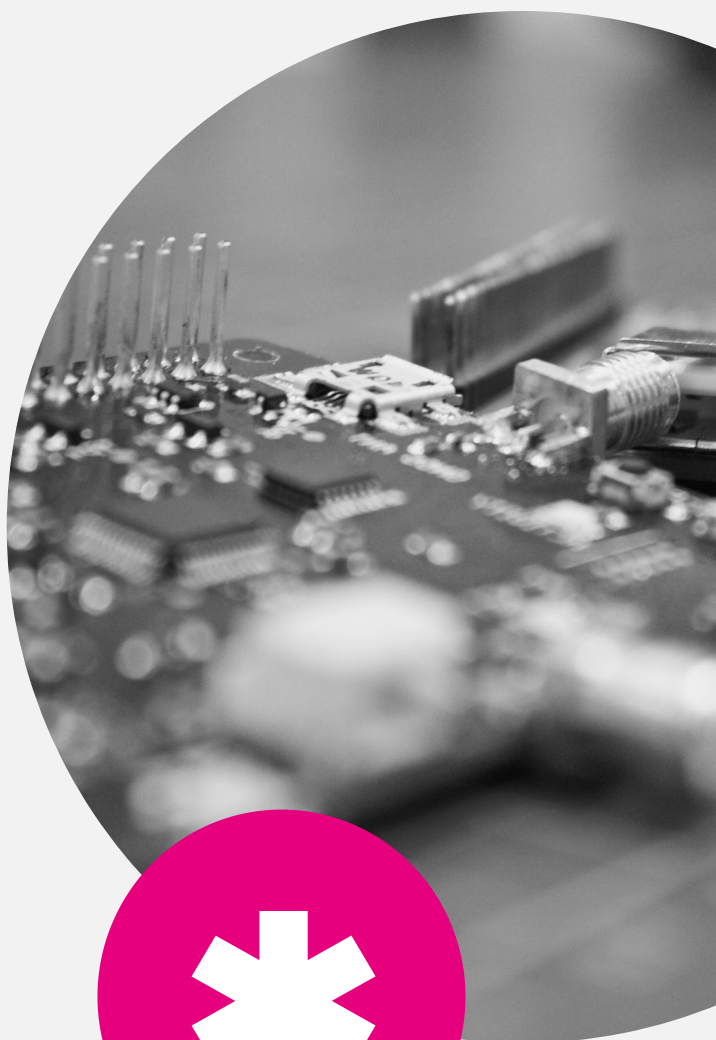


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Introduction

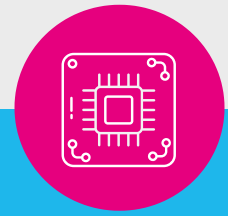
We specialize in wireless communications and hardware security to help you solve new challenges.



Trainings & skills
transmission



Vulnerability
research



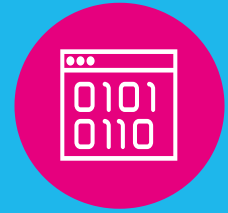
Hardware attacks



Research &
Development



Pentest & Red
Teams



Tools
development



Courses

1

RF Hacking with SDR

2

Mobile Hacking with SDR

3

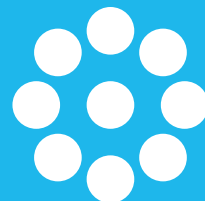
5G Devices & New core security

4

Red Team OTA

5

Tailored program



RF Hacking with SDR



Intrude most RF systems with Software-Defined Radio

TRAINER

Sébastien Dudek

Founder of Penthertz

OBJECTIVES

Learn essential concepts of radio, low-level Software-Defined Radio with GNU Radio, and methods to deal with most RF systems, including the exotic ones.

DURATION

4 days

CONTENT

- Introduction to radio & preliminaries
- Hands-on radio Analogic and Numeric with GNU Radio
- Attacking physical intrusion systems
- Unexpected implants, industrial systems, and arsenals
- And more.



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Mobile Hacking with SDR



Assess mobile devices & networks using SDR

TRAINER

Sébastien Dudek

Founder of Penthertz

OBJECTIVES

Use Software-Defined Radio to cover the maximum attacks that could apply to mobile phones, IoT modules, connected cars, and other infrastructures.

DURATION

3 days

MORE

- Introduction to mobile networks and protocols (2G/3G/4G/5G)
- Security & attack surface
- Set up a fake mobile station & making a testbed for pentests
- Fuzzing stacks
- And more.



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5G Devices & Networks security



Pentest 5G devices and core networks

TRAINER

Sébastien Dudek

Founder of Penthertz

OBJECTIVES

Learn how to hack 5G devices connected over the air with RF and SDR. Discover methods to intrude core networks and scale up your accesses.

DURATION

2 days

CONTENT

- Introduction to mobile networks and protocols
- 5G NSA and SA
- Security mechanisms on the radio
- Set up a testbed for RF pentests
- Attacking the 5G NGC
- And more.



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Red Team OTA: Physical intrusions with RF



Intrude premises being unseen

TRAINER

Sébastien Dudek

Founder of Penthertz

OBJECTIVES

Discover new opportunities for attacks targeting RFID, nRF, Bluetooth, and Sub-GHz systems, and enter to premises stealthily.

DURATION

3 days

CONTENT

- RFID & NFC systems
- Attacking current technologies with the Proxmark3
- MITM Bluetooth LE, cracking and injection
- Turning mice & keyboards into RF implants
- Opening garage doors
- And more.



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Red Team Wi-Fi: Modern techniques



The ultimate course to uncover modern Wi-Fi offensive attacks

TRAINER

Sébastien Dudek

Founder of Penthertz

OBJECTIVES

Save time and assess Wi-Fi networks with modern techniques against current targets.

DURATION

2 days


CONTENT

- Introduction & evolutions
- Monitoring networks
- Analyzing frames
- Opened to WPA3 attacks
- Attacking companies to get access to the Active Directory
- Red Team tips
- Defense



RED TEAM
Wi-Fi
Modern techniques



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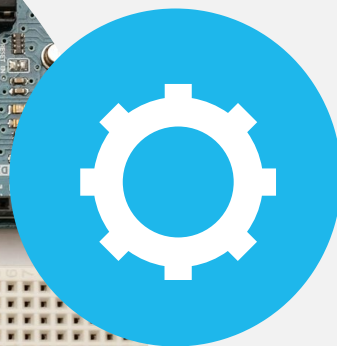
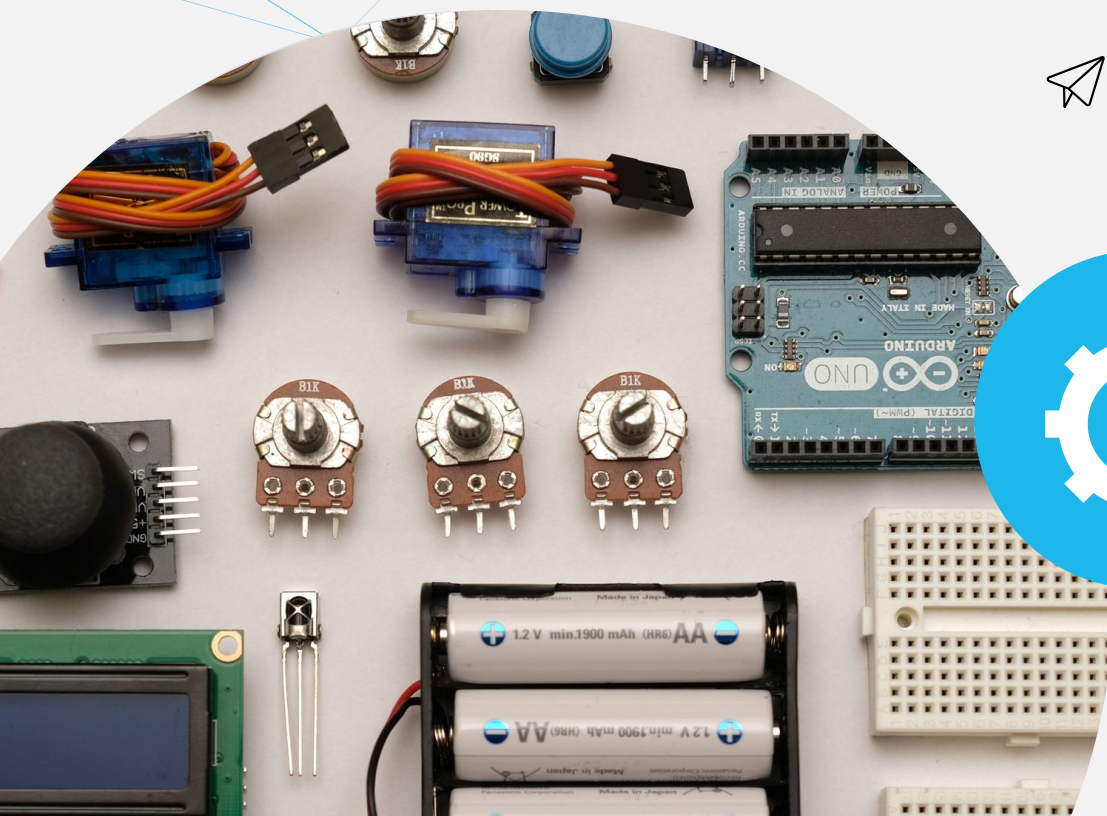
Tailored sessions

Make your own recipe by customizing an existing training, or building your program with us to fit clear expectations:

- **Mobile technologies:** attack of basebands, hunt for application vulnerabilities, fuzzing, core network attack and defenses
- **GPS:** decoy attacks, limits, and defenses
- **Bluetooth:** attacks, fuzzing, and defenses
- **Wi-Fi:** attacking the different protocols, fuzzing the protocol stack, and analyzing the radio signal
- **RFID/NFC:** additional content and advanced techniques with SDR
- **Hardware:** additional content in hardware and practice to attack embedded systems
- And other technologies.

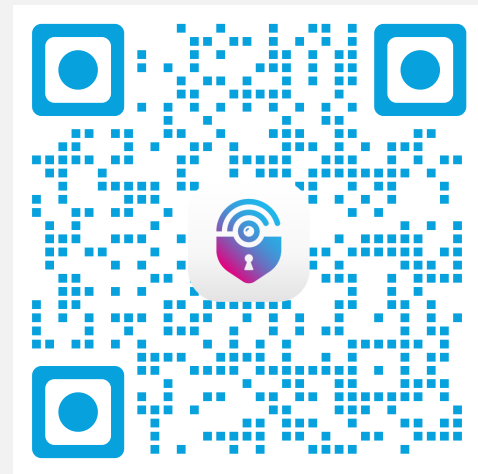
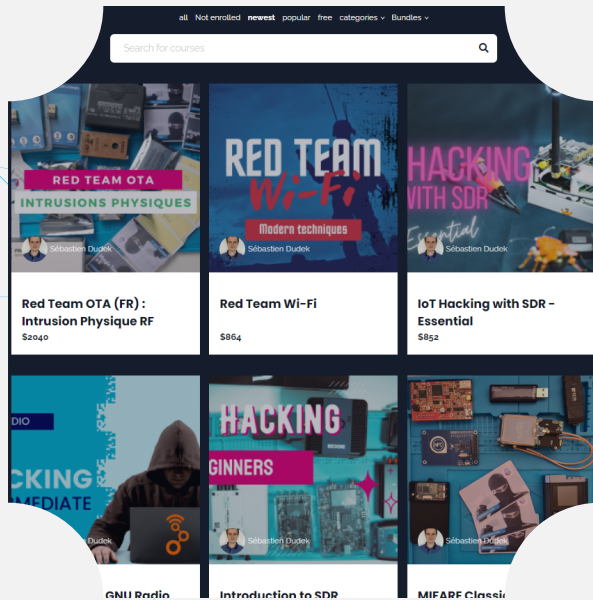


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On-demand

If you do not have time, Penthertz also provides on-demand trainings that are already pre-recorded:



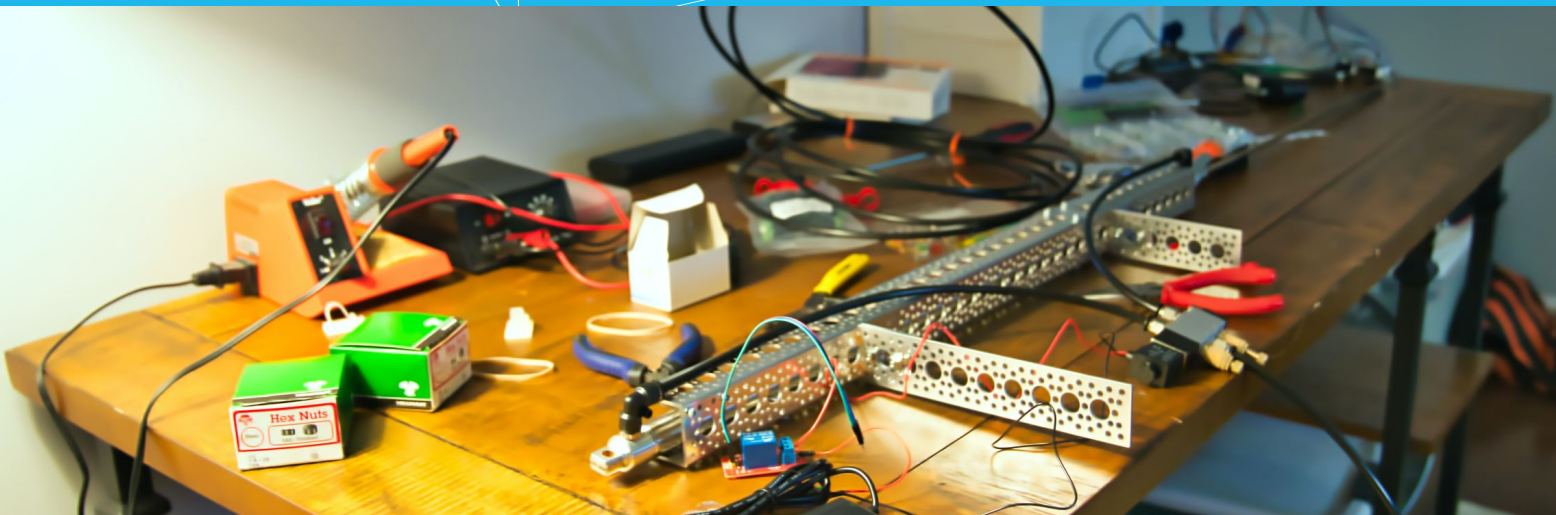
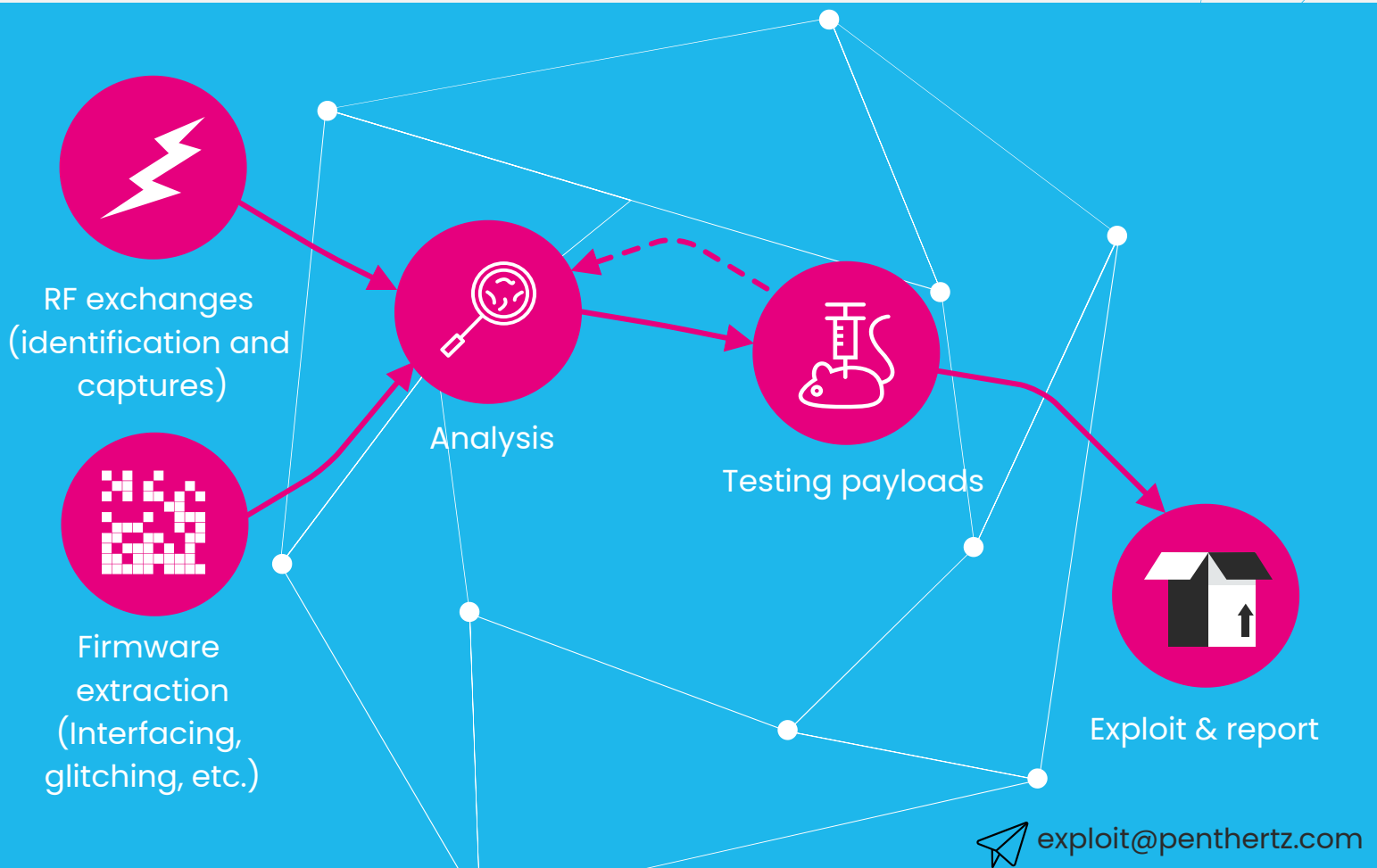
If you need a custom program, you can also contact us at: trainings@penthertz.com

Get also a look on our
YouTube channel!



Vulnerability research

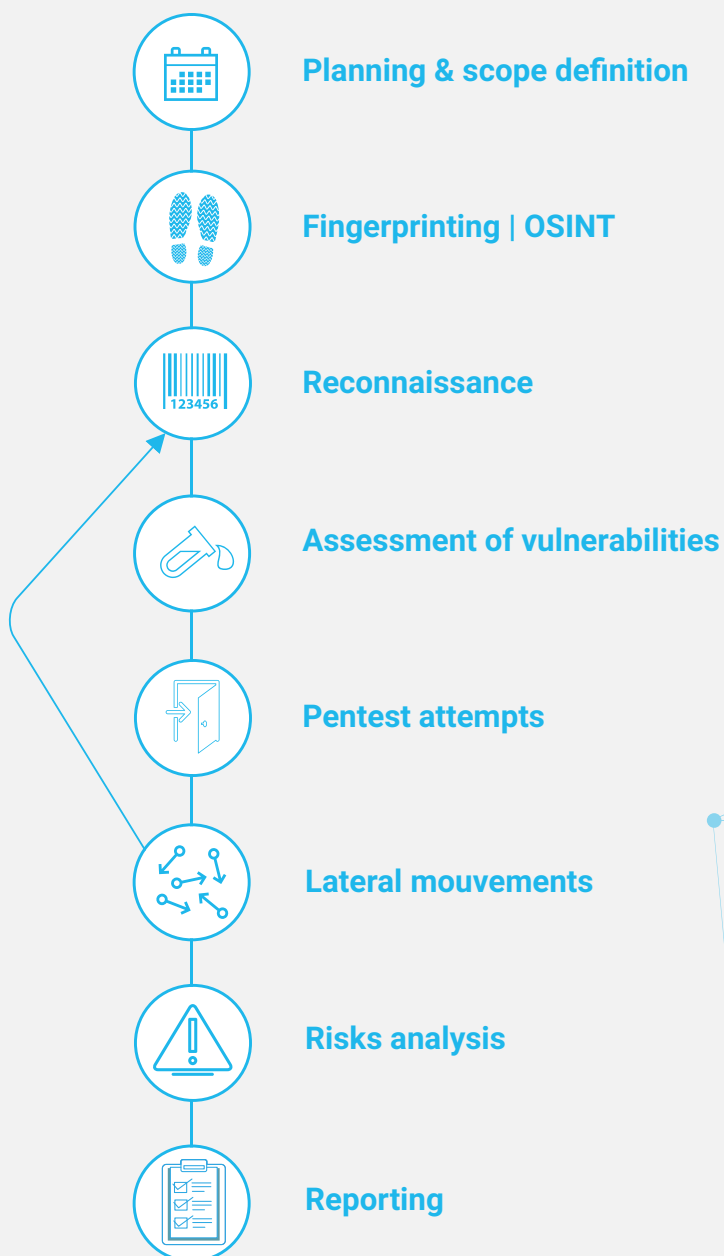
We analyze RF communications and extract firmware to find vulnerabilities.



Pentest & Red team tests

Most security tests are specific to your product, so we **avoid you wasting time** reading and fixing unrelated bugs by focusing on important ones. We also help you get your **product certified**.

Moreover, we offer Red Team assessments giving you a **real-world** based on our **various attack scenarios**.



 pentest@penthertz.com

Physical Intrusions



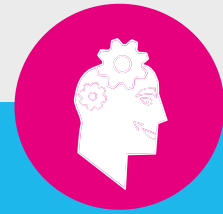
We go beyond internal & external tests to intrude your gates!



Social Engineering
To test employees' awareness



Lockpicking
Challenging physical security mechanisms



RF/Smart Mechanisms
Opening gates that use tags, remotes, etc.

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Research & Development

We are constantly developing **new methods and tools** to handle **future technologies** for our assessments and research.

These prototypes & tools can be reused or extended for your needs to **perform redundant tests automatically, saving you time and money and focusing on new and complex challenges.**



 products@penthertz.com



*We also publish free tools
on GitHub!*

Are you interested in working with us?



We would love to hear about your projects and help you grow safely!



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