

The **innovative** appliance of network security.

Q1 / 2022



Roberto Camerinesi

- . CTO @CyberEvolution
- . Inventor of LECS Project
- . Network Penetration Tester
- . Security Researcher

Roberto Camerinesi is a researcher in cyber security, developer and CTO of Cyber Evolution SRL. Embracing the philosophy of **Ethical Hacking** in his adolescence, he has been working for over **11 years in the ICT and Security branch.**

During his life he acquired various **International Certification** in this field and in Network Defence such as **Penetration Tester.**

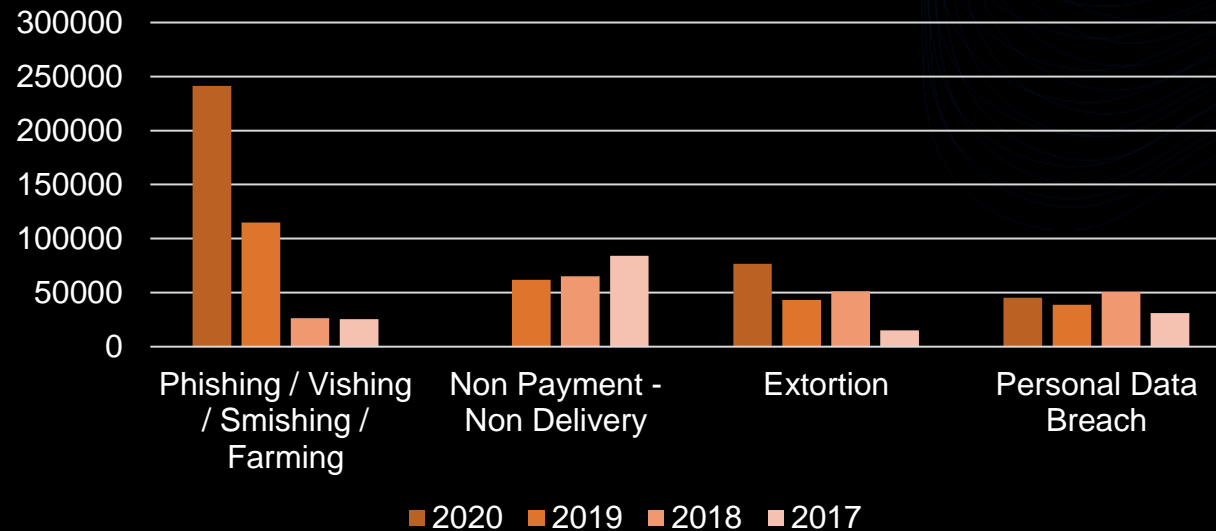
He believes that security is an idea that needs to be spread, and for this he divulges and studies systems to **capillarise security**, inventing and **patenting air-gap defense systems.**

As a **popularizer and speaker**, he has spoken at important events and training institutions such as the Experis Academy master, ITASEC21 and as a finalist in the WMF20 startup competition.

He writes and **contributes to several national newspapers** such as Hackin9, InfoSec and CyberSecurity360.

The Problem

2020 – Top 4 crime type comparison last four years



* Fonte: FBI Report (USA – 2020)

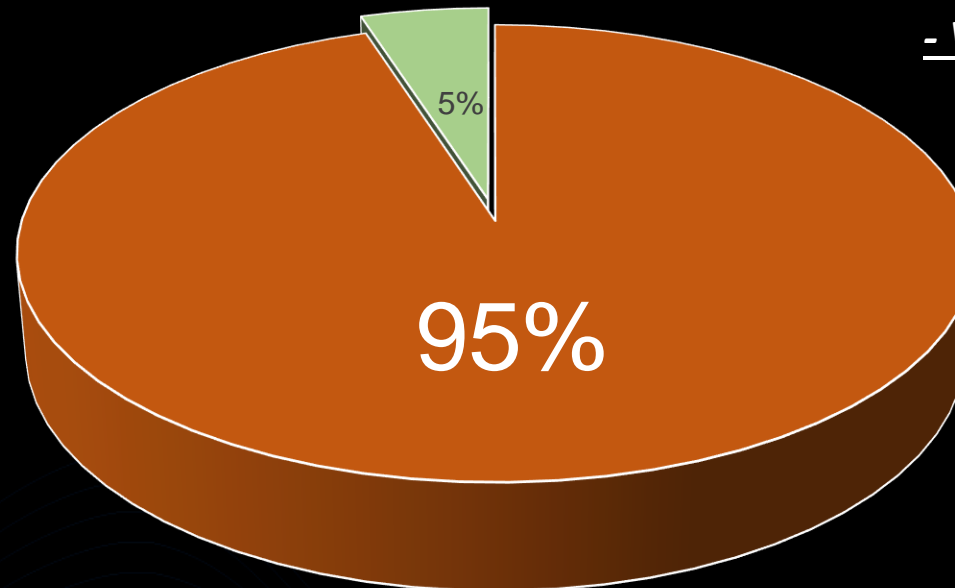
WHY ARE CYBER THREATS MORE FREQUENT
EVEN IF NOWADAYS PROTECTION SYSTEMS ARE EVER-EVOLVING?

The Cause

A **STRONG LACK** OF CYBER SECURITY IMPLEMENTATION
IN PMIs, OFFICES AND COMPANIES

"On average, only 5% of companies' folders are properly protected"

- Venture 2021



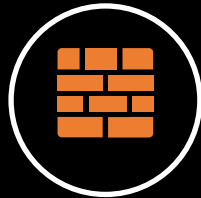
Big gap

Nowadays Problems



Know-How

Unqualified staff and insufficient formation.



Not security by Design

Inadequate network topologies, BYOD implementations and structures



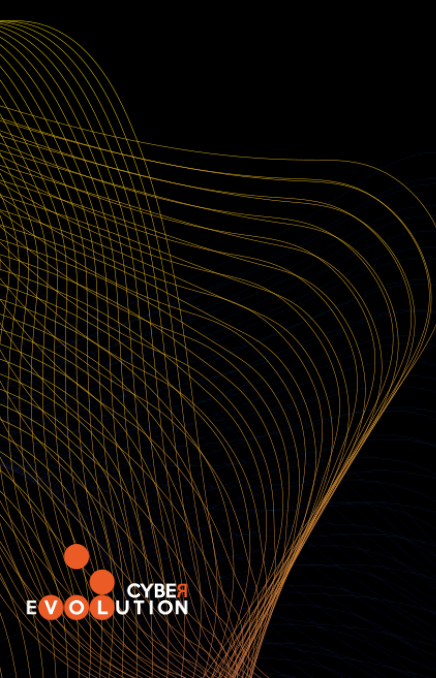
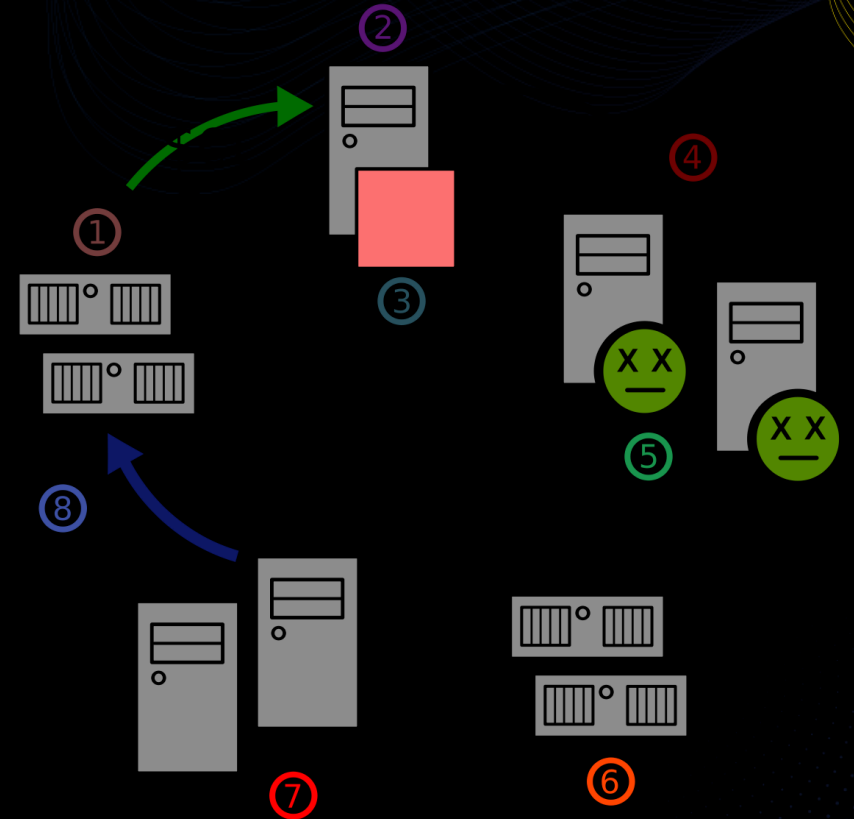
Costs

Installation/ Implementation/ Maintenance



Weak Points

Social Eng, IoT, Distance Learning, Remote Work



Aftermath



High Threat Proliferation

Zombie Botnets, spywares, ad ransomwares have a wide operation range.



Buisness Loss related Costs

Turnover's reduction, inflation and loss of reputation.



Local damages and «not GDPR/16»

Loss of normal and sensitive data, mail and credit card breaches, notification costs to victims and authorities

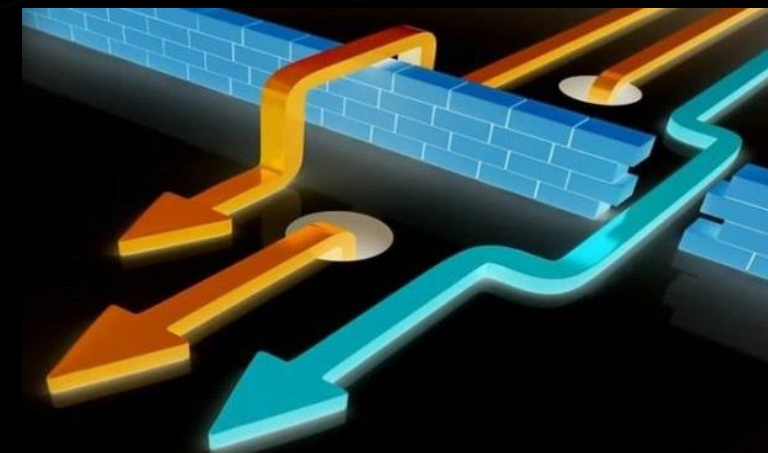
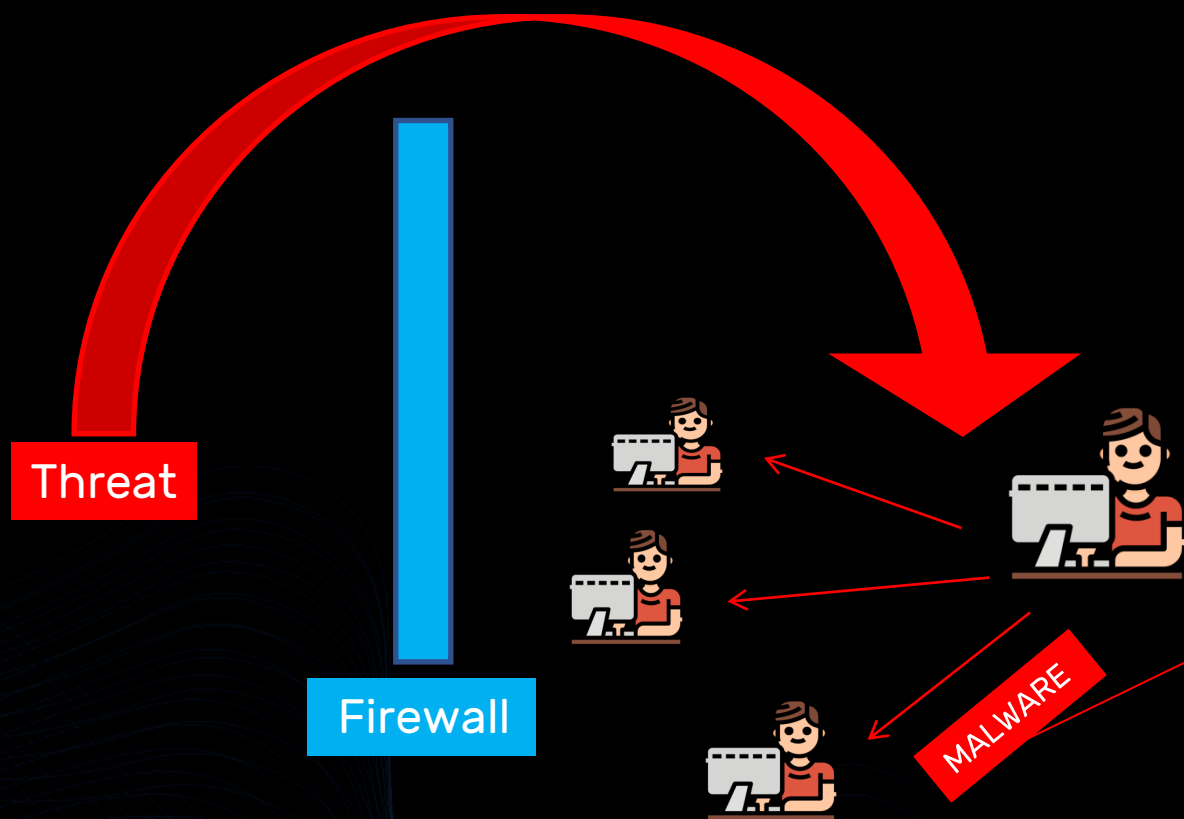


Costs detection ed escalation

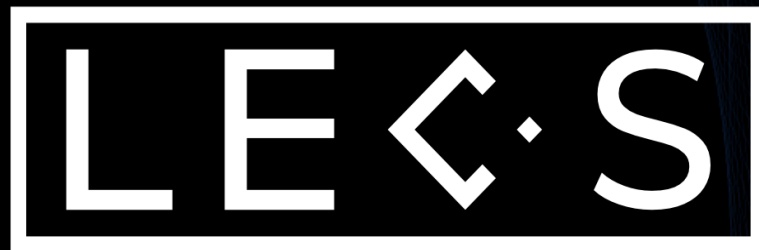
Help-Desk, investigative activites and forense, IRT organization and assessment services related costs.

Eluding Security

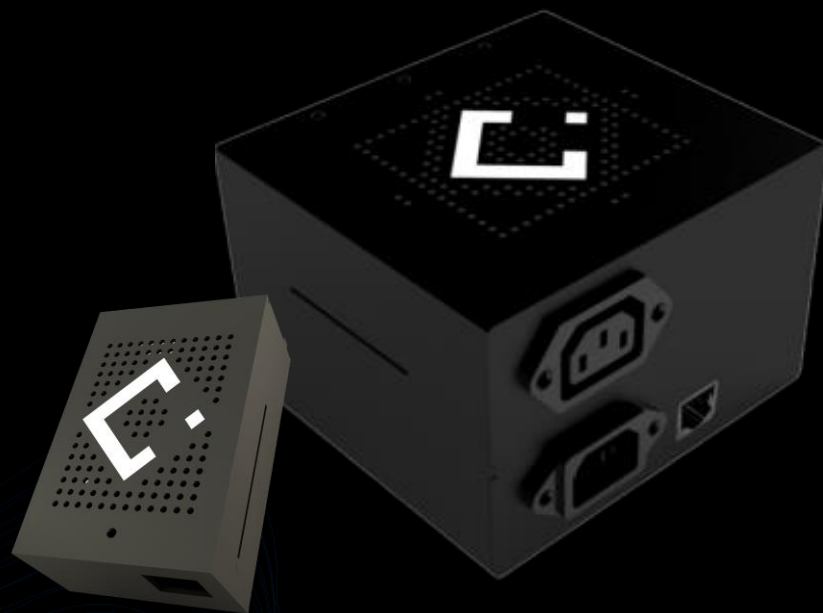
MOST OF DANGEROUS INTRUSIONS HAPPEN THROUGH EMAILS,
ALWAYS CHANGING **METHOD AND APPEARANCE**



Why it's not being detected inside the network?



The **innovative** appliance of **network security**



Protect your company with LECS, the very first **Plug&Play** cyber security device that safeguards from attacks and IT threats everytype of net, device, Industry or IoT in the LAN.

--

No Maintenance.
No Configuration.
Predictive.
Smart.
Autonomous.

--

Top-tier protection, for everyone.



Ministero dello
sviluppo economico

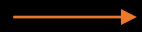
Sistema Brevettato



Made &
Data in Italy

How It Guards You

The Technology



LECS CYBER PLATFORM

The Algorithms



SPECTO

Analizza

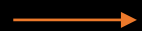
RAISES

Protegge

TIRESIA

Migliora

Application Fields



NETWORK

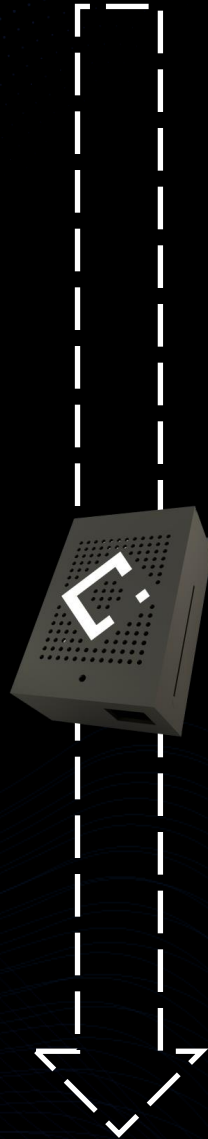
CLOUD

CLIENT

IOT 4.0

LECS: How does it work

LECS'S ACTIVE PROCEDURE



SPECTO

- **Trap/Strategic BlackBox** in the net hidden among other hosts, without disturbing normal operations
- **Real Time Analysis** of the threats in the net
- **Classification** of threats based on their impact
- **Parameterization** based on it's AI/ML and proprietary algorithms

RAISES

- In case of high impact threats the disconnection engine starts:
 - **Energetic** Physical L1 OSI, according to **patented procedure**
 - **Procedural** Physical L2, 3 OSI, according to **patented procedure**
- Instant alerting notification via mail/app/SMS

TIRESIA

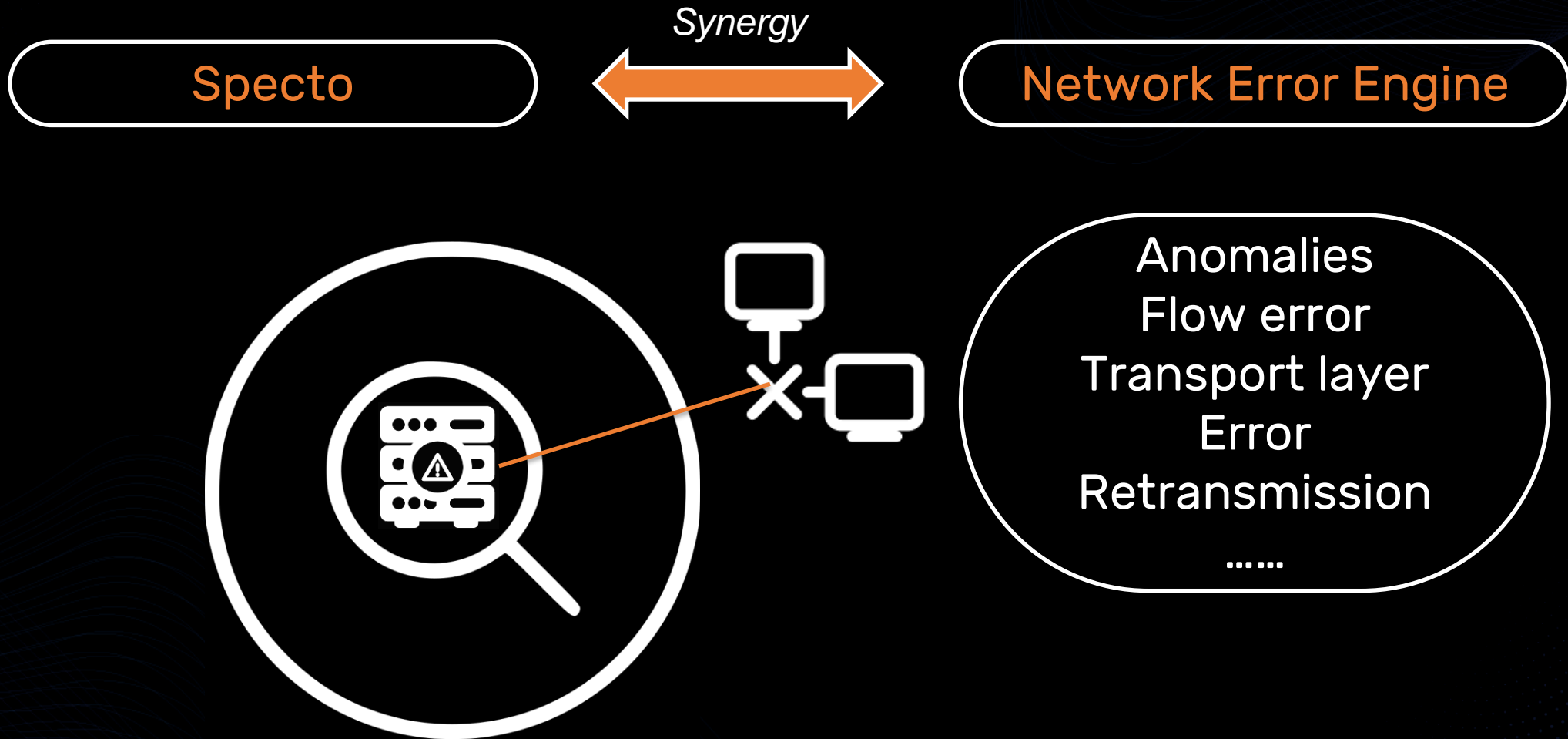
- **Restores** network connection
- **Checks** the presence of other threats
- **Machine Learning Method** and Predictive System
- **LOG-SIEM** long-term storing and monitoring statistics



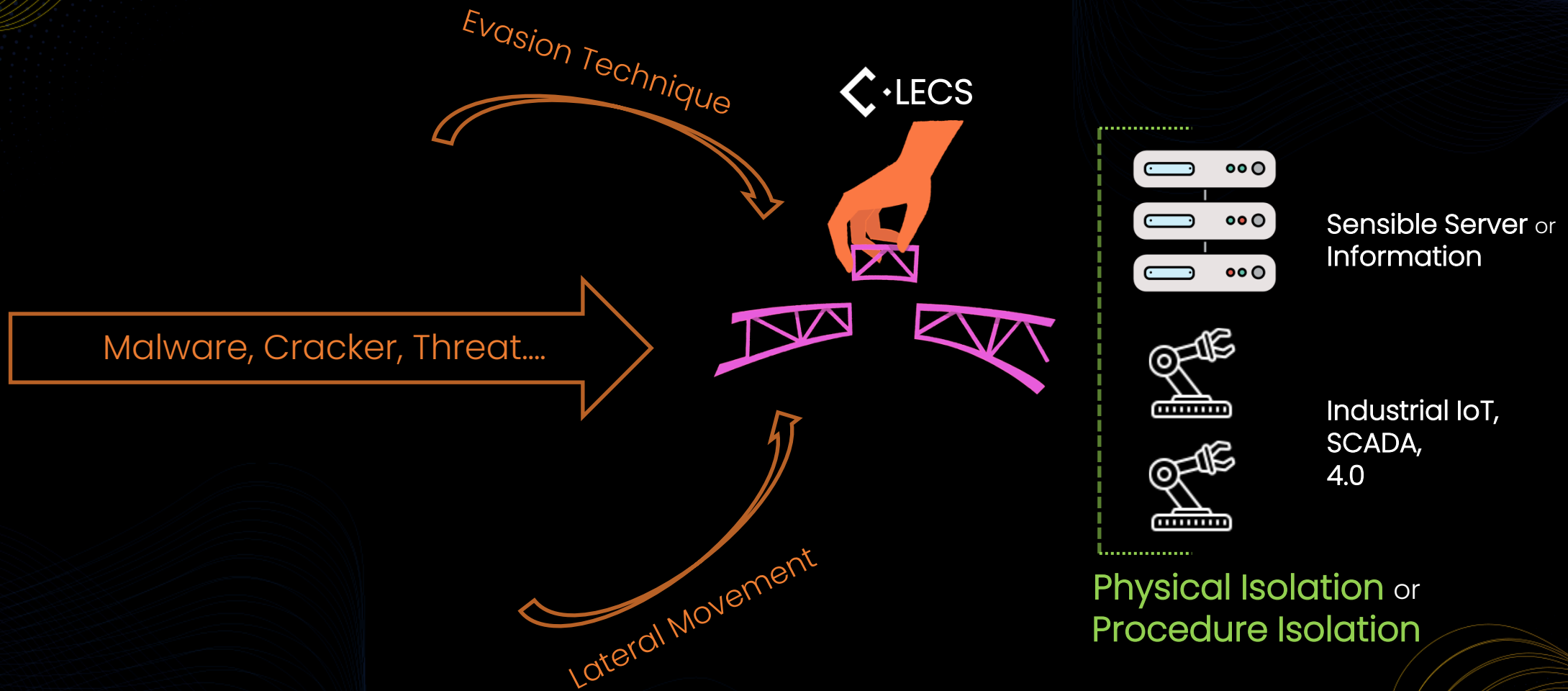
Tiresia
Threat Forecast

LECS: Security over the threats

Internal Network Error Debugger



LECS: Air-Gap RAISES systems advantages



LECS: Features

INTEGRABILITY

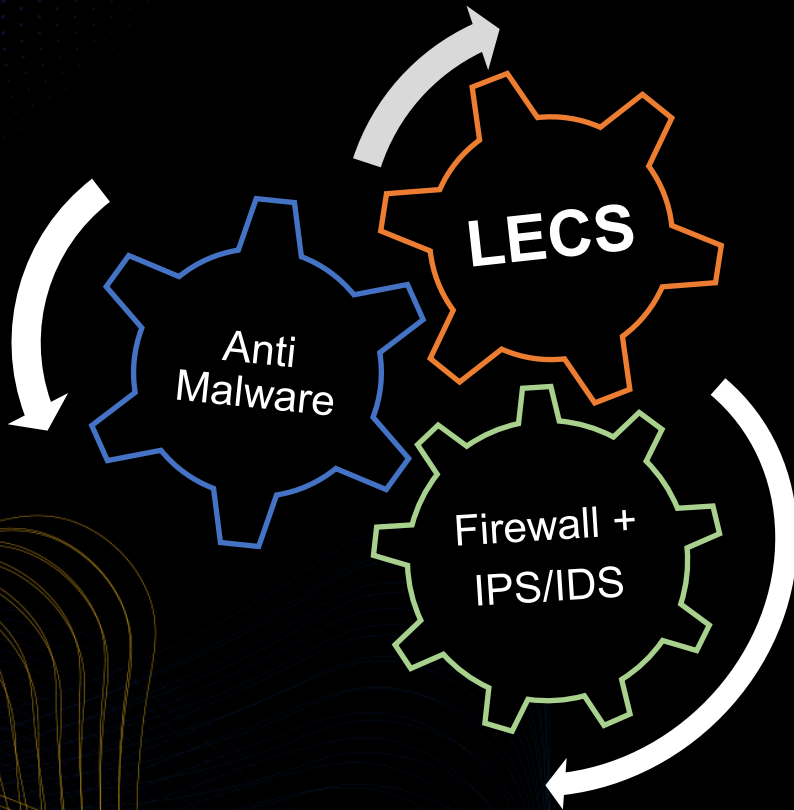
LECS can be either installed **stand-alone** or **as an addition** and support to pre-existent systems like firewalls, antimalwares and similars, increasing their efficiency.

VERSATILITY

It protects every type of network and nodes while supporting a lot of **protocols**.
Device **IoT**, **Industrial-IoT**, Server, Desktop, Mobile OS...

PLUG & PLAY

LECS's simplicity of implementation aims to give **more protection** against dangerous attacks **at a lower price** of maintenance and implementation of security appliances



LECS: Comparison

Caratteristiche	LECS	Antivirus	Firewall	IPS
Plug & Play	✓	✗	✗	✗
Contromisura elettrica o procedurale innovativa	✓	✗	✗	✗
Protegge attivamente dispositivi IoT ed Ind.IoT	✓	✗	✓	✓
Agisce da trappola nascosta	✓	✗	✗	✓
Archivio LOG fisico lunga durata - blackbox	✓	-	✗	✗
Protezione intra-network	✓	-	✓	✓
Installazione parallela, no pass-thru	✓	-	✗	✓
Nessun know-how tecnico per manutenzione	✓	✓	✗	✗

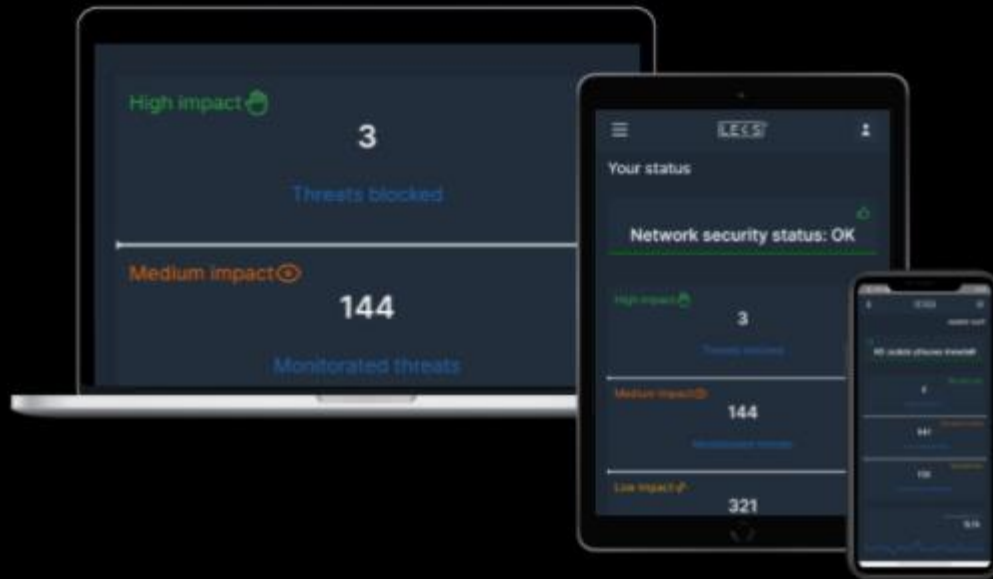
LECS: Simplified LOG Management

The app allows to check the LOGS acquired by LECS.

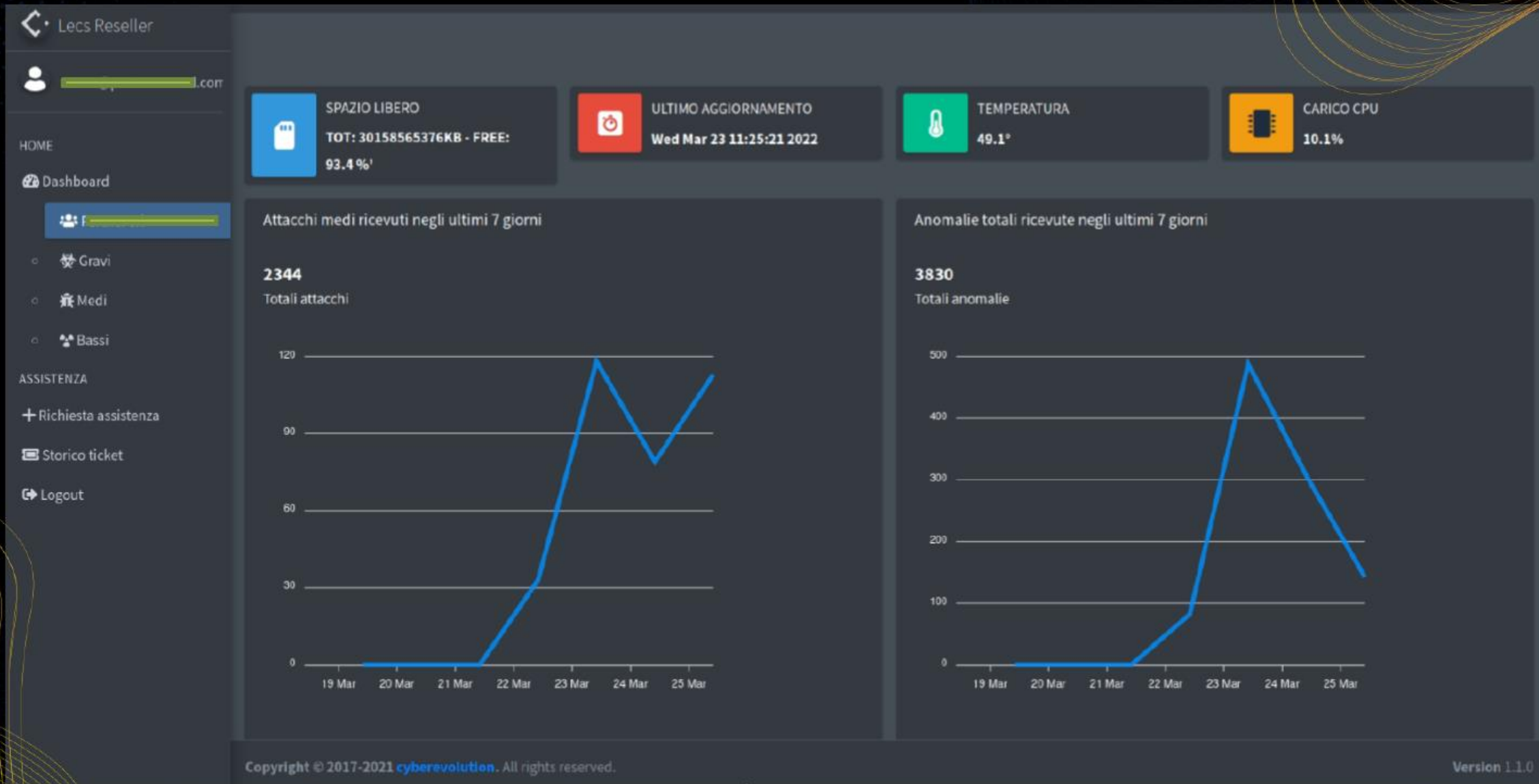
The classification is based on the type and severity of the attack, acquiring statistics and much more

Weekly report

Via the web app is possible to receive notifications and emails about urgent attacks.

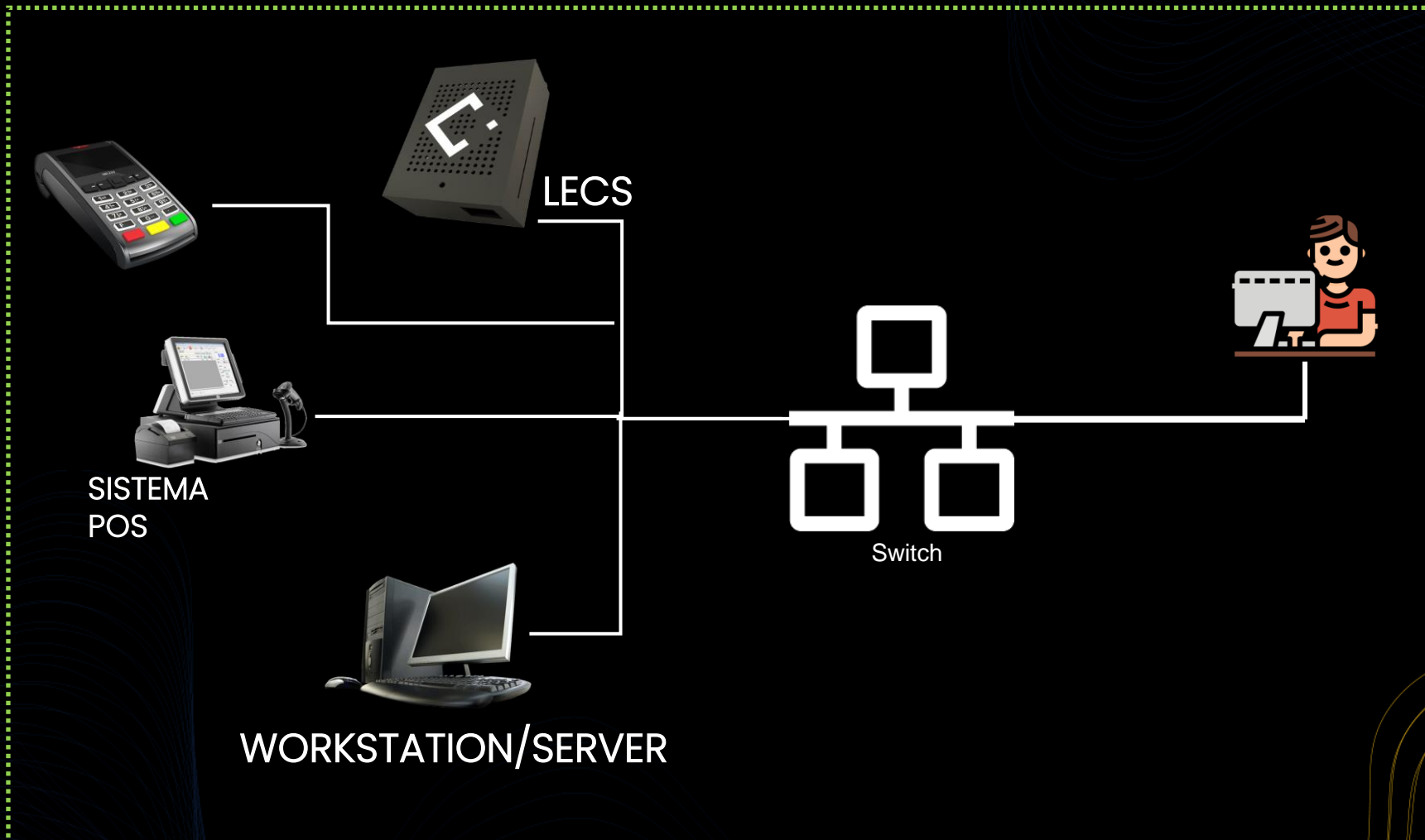


LECS: Advanced Dashboard



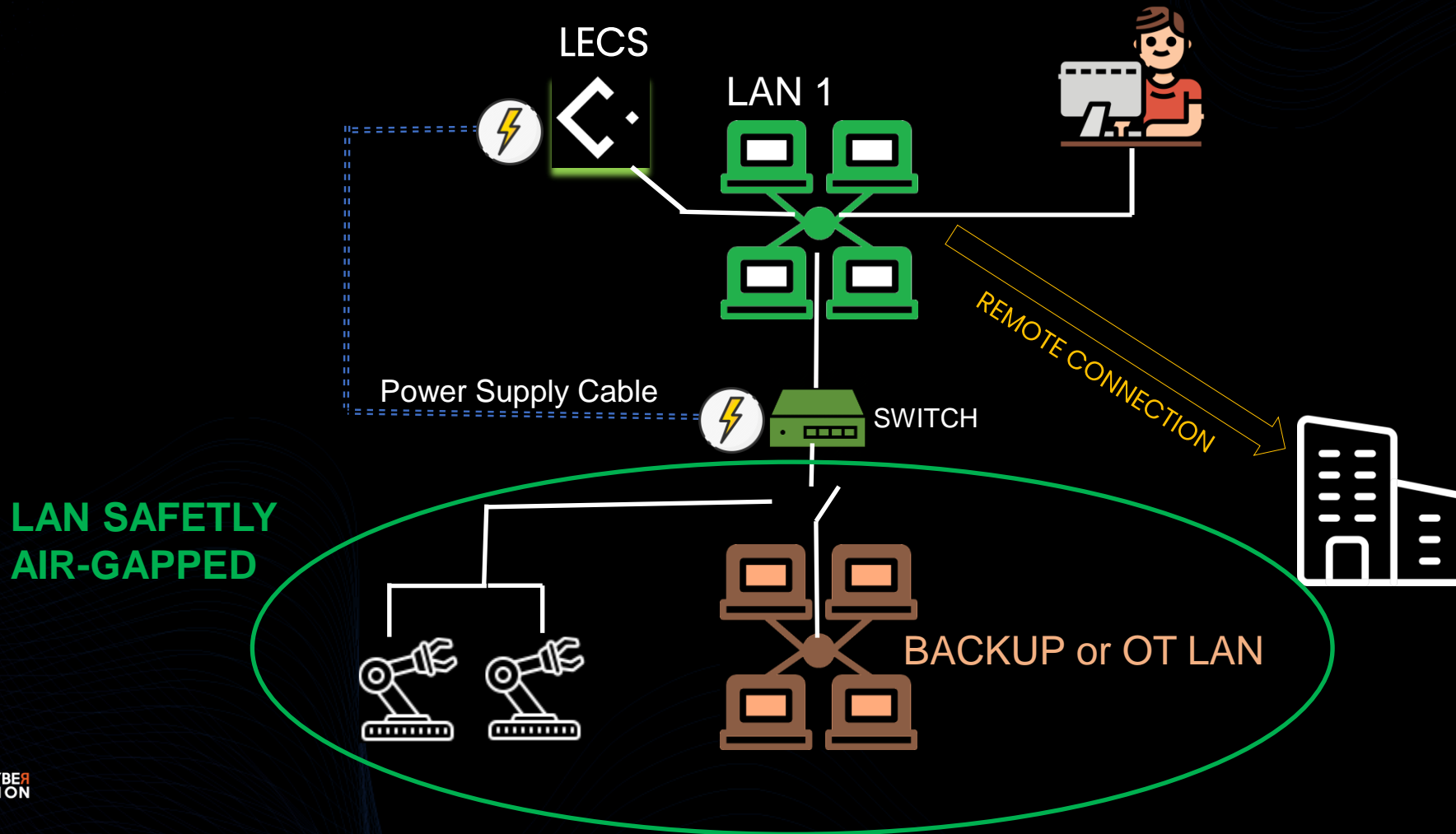
LECS: Implementation

STRATEGIC POSITIONING IN m-PMI and IT AMBIENTS



LECS: Implementation

STRATEGIC POSITIONING IN INTEGRATOR/4.0 AMBIENTS

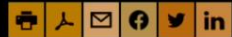


LECS: The right side of force VS Advanced Ransomware Kill-Chain

HOME > NEWSROOM > WORLD'S MOST DANGEROUS MALWARE EMOTET DISRUPTED THROUGH GLOBAL ACTION

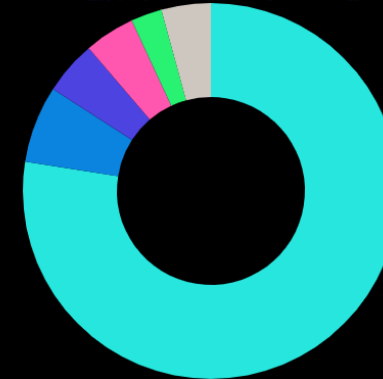
WORLD'S MOST DANGEROUS MALWARE EMOTET DISRUPTED THROUGH GLOBAL ACTION

27 January 2021
Press Release



Law enforcement and judicial authorities worldwide have this week disrupted one of most significant botnets of the past decade: EMOTET. Investigators have now taken control of its infrastructure in an international coordinated action.

2.000.000.000 \$
in losses



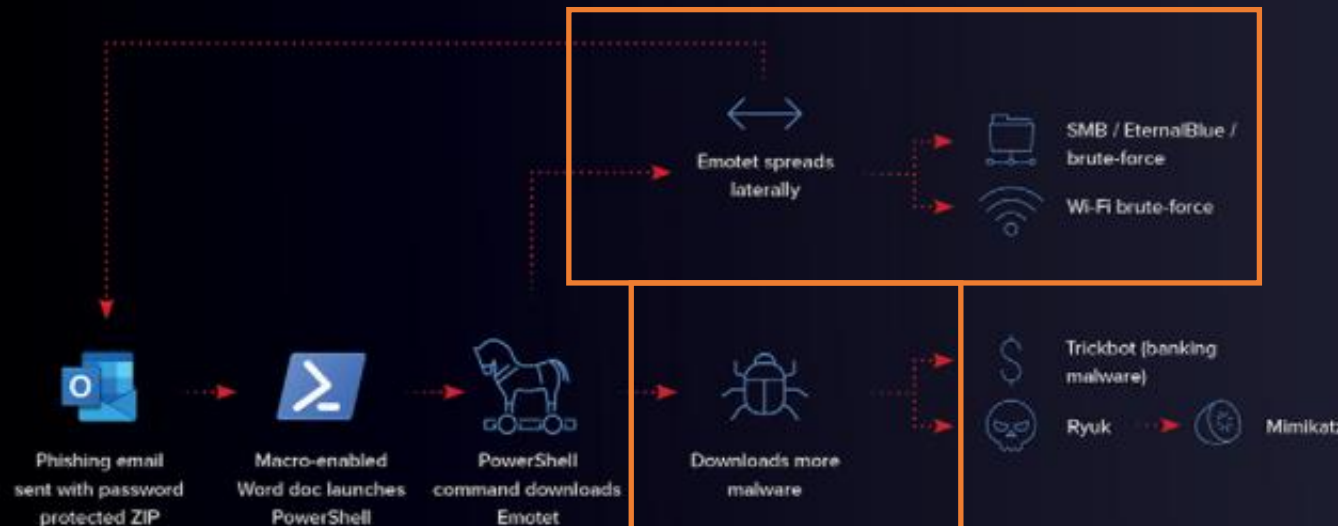
Ransomware

- WannaCry
- Mimikatz
- WannaMine
- Adyllkuzz
- Marsatormin
- Others

Top five malware using EternalBlue in 2019 based on detections from SPN

Attack Flow

LECS Kill-Chain BLOCK



LECS: Version



LECS SaaS

Procedural virtualized version.
Installable on servers or single clients.
Coming soon Q3 2022



LECS

Version that has a Procedural countermeasure Software
Compact design.
anodized aluminum body.



LECS +

Version with hardware countermeasure.
Cubic design.
anodized aluminum body.
Shucko sockets IEC13-14 220v



LECS 4.0

Custom Version.
Rack 1U implementation.
anodized aluminum body.
Customizable countermeasures

LECS: Market Target/ Partner

EMBEDDED IMPLANT

Industrial Projects
Machines 4.0

SYSTEM INTEGRATOR

Rapid Installations
Parallel implementation
No incompatibilities
with other vendors
Scalability

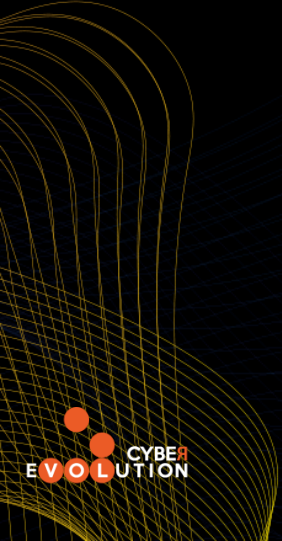
STANDALONE SOLUTION

PMI
Privates
Substitute to other measures
Plug & Play Solution
Scalability



LECS: Main Advantages

01. **Innovative and Patented** efficient countermeasures
02. **Plug & Play**, no configuration needed, many less costs
03. **Parallel or Stand Alone integration** to every network or pre-existent protection system
04. **Simplicity in the communication** of details to the user or IT
05. **Support to the 4.0** Industrial IoT and related systems
06. **Security by design**, blackbox approach
07. **GDPR / ISO / NIST Framework** Compliance Support



Press & Media



Sky TG 24



WMF 2020



Il Resto Del Carlino



2021 B2B SWG Report



ItaSec21 –
Presentazione
tecnologia LECS



Testimonianza
c/o master Experis
05/2021

Thanks !



Follow us:

@cyberevolution

@LECS_Security

info@cyberevolution.it

WebSite:

lecs.io