



CENTRE FOR  
**CYBER SECURITY**  
BELGIUM

We must not only make humans ready for the Internet

We also need to make the internet ready for humans

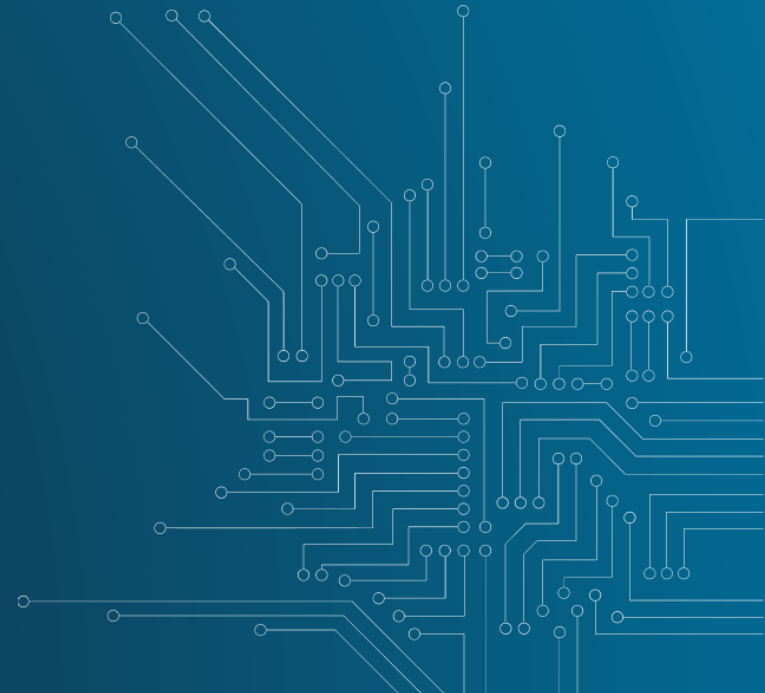
*Miguel De Bruycker*

# Active Cyber Protection

Belgian experiences with an  
added approach to  
improving cybersecurity

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*Pieter Byttebier*  
*International Relations officer*



## @ the beginning of a wonderful story

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Prosperity

Digital  
Transfor-  
mation

TRUST

Security



## Cyber Crime phenomena

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- Phishing
- Ransomware
- Data exfiltration (to cloud)
- Mobile Malware
- DDoS
- Supply Chain
- (Advanced Persistent Threat Acto

**HACKED**

## How is this possible?



# Vulnerabilities

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- Human

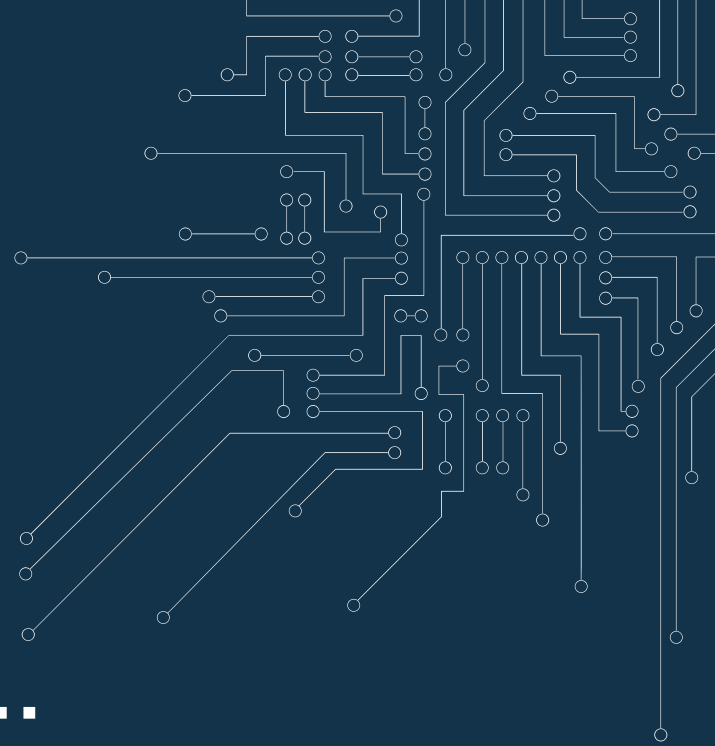
- Unawareness
- Ignorance
- Gullibility
- Speculation
- Greed
- Cluelessness



- Technical

- ICT Complexity
- Instant patching pressure
- Disorganized architectures
- Supply Chain challenges
- Business pressure
- Funding limitations





# @ the beginning of ... making cyber space less vulnerable

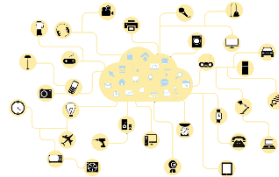




Malicious Actor



With Intentions



And Infrastructure



Malicious Action



Exploiting a Vulnerability



Of a Target or Victim

Cyber Defence & Intelligence

Cyber Crime Operations

GDPR

Cyber Act

Resilience Act

NIS

Active Cyber Security

*Detect – Disturb - Warn – Involve*

## **Active cyber security/Protection - a wider preventive and resilience strategy**

- Introducing concepts of **Liability & Accountability**
- A **proactive**, tailored, automated and **participative approach**
- Active and solicited **involvement of users** in their own protection
- Focusing on **actively bettering prevention**, detection, monitoring & analysis
- Offering **free services or tools**
- Rapidly and **automatically share** and understand relevant threat information
- **Directly to the involved parties (spear-warning)**

# Active Cybersecurity

- **Target** Technical vulnerabilities

- Early Warning System
- **Spear Warning**
- Fast and direct alerting
  - Cyber Threats
  - Vulnerabilities
  - Intrusions ...
- SafeOnWeb@Work -> all NIS-2 entities and more?



- **Target Human Vulnerabilities**

- suspicious@safeonweb.be
- Safeonweb app
- Belgian Anti-phishing shield
- Validated sites





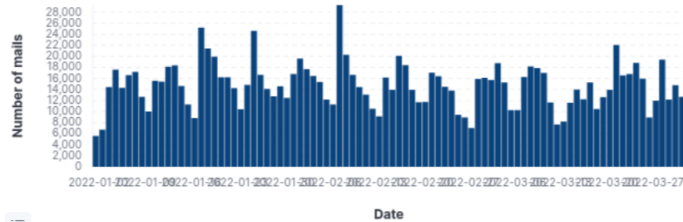
# BePhish (suspicious@safeonweb.be)



## BePhish statistics

Number of mails received over time Jan 1, 2022 @ 00:00:00.000 to Apr 1, 2022 @ 00:00:00.000

Number of mails received



Top 100 Subjects observed Jan 1, 2022 @ 00:00:00.000 to Apr 1, 2022 @ 00:00:00.000

Export

| Subjects             | Count  |
|----------------------|--------|
| Bericht              | 33,874 |
| Laatste herinnering  | 9,179  |
| Bevestig je afspraak | 7,451  |
| Automatisch bericht  | 6,638  |
| Kennisgeving         | 6,606  |

Number of mails received  
Jan 1, 2022 @ 00:00:00.000 to Apr 1, 2022 @ 00:00:00.000

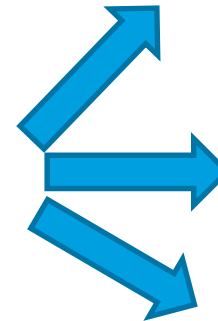
**1,326,864**  
Mails received

Number of unique URLs tagged as malicious by Netcraft  
Jan 1, 2022 @ 00:00:00.000 to Apr 1, 2022 @ 00:00:00...

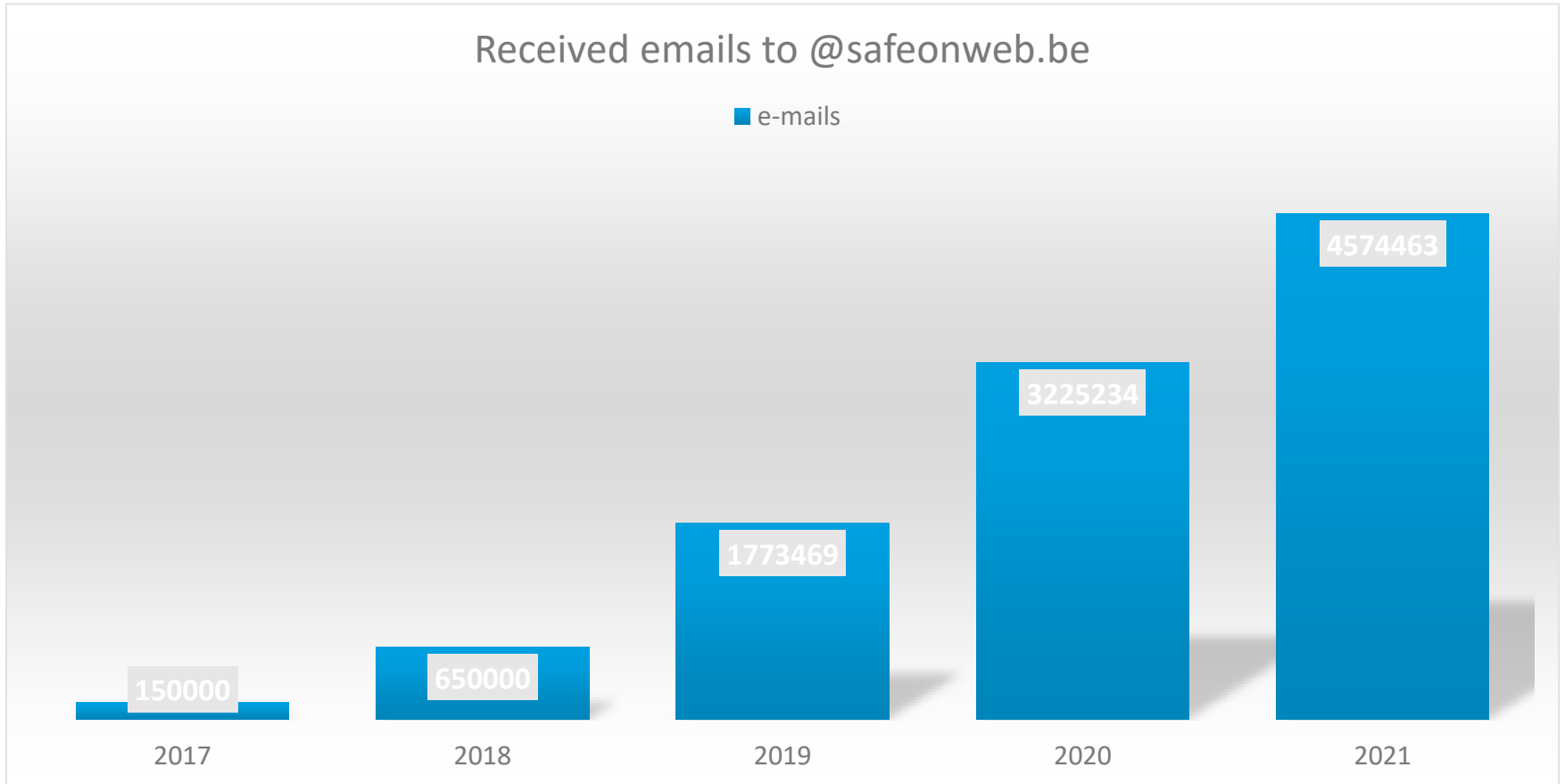
**129,987**  
Unique URLs tagged as malicious by Netcraft

Number of unique domains that are possibly malicious (Net...  
Jan 1, 2022 @ 00:00:00.000 to Apr 1, 2022 @ 00:00:00...

**5,737**  
Unique domains tagged as malicious by Netcraft

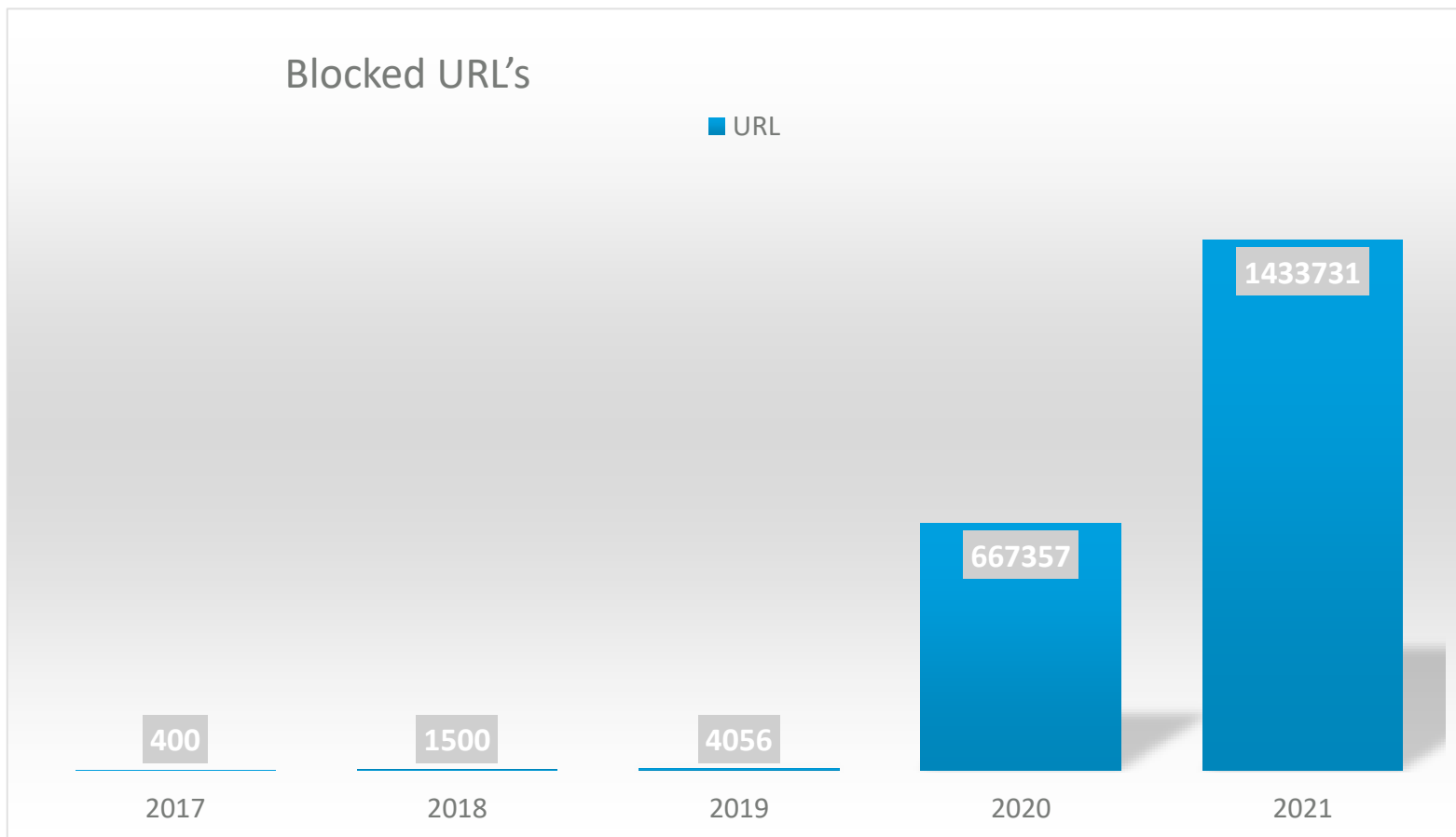


# Stats suspicious@



Source: CCB, 2021

# Stats suspicious @



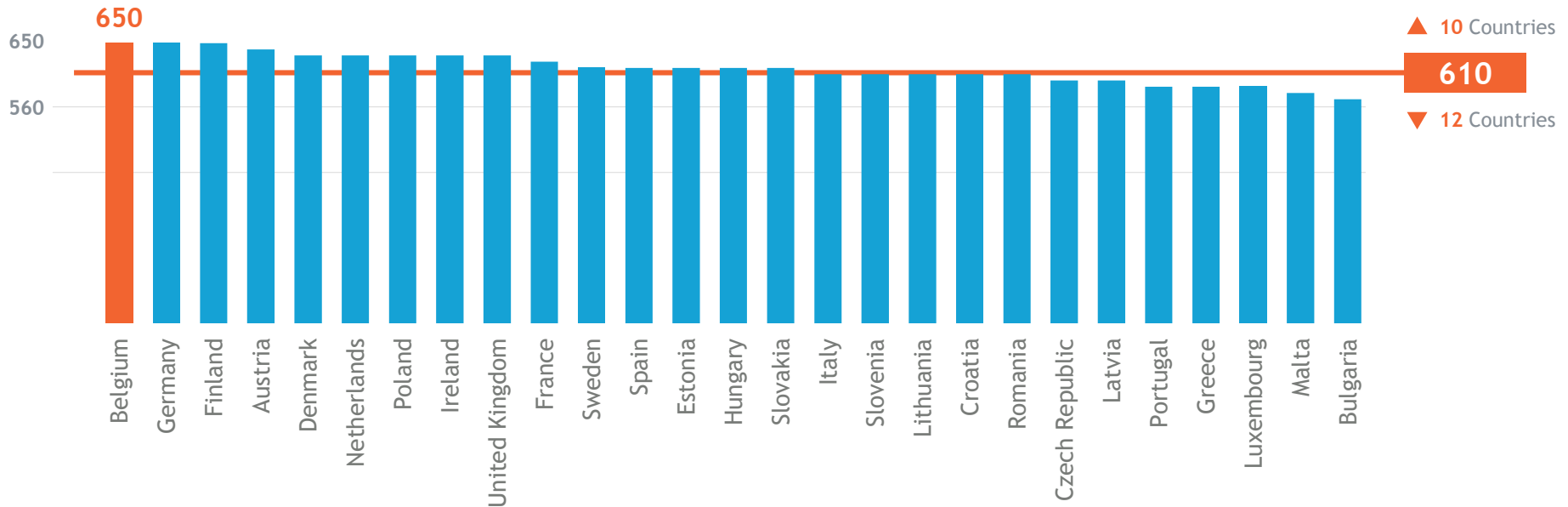
Source: CCB, 2021

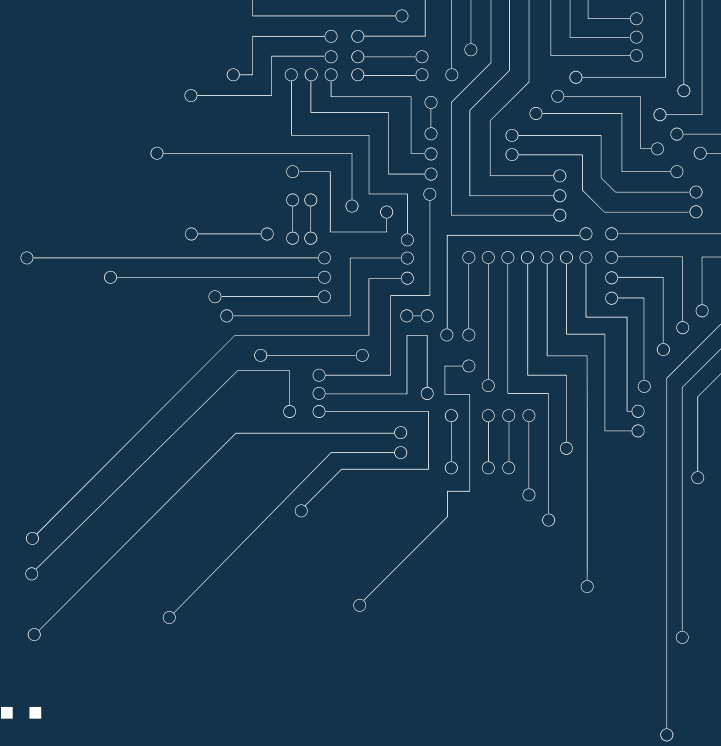
# Belgium is high ranking in Cyber Security

## BitSight Security Ratings Countries of European Union



MAY 2022





# @ the beginning of ... new notions on trust?



# Changing the Internet

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Synthetic Trust

Zero trust



Digital identity-based Trust

# Validated web sites 2023



- 9 STRONG Publisher Validation
- 7 POOR Publisher Validation
- 5 NO Publisher Validation
- 3 Known Malicious



# Know and understand current and future cyber threats

## *Intelligent fraude*

## *Intelligent systems*



- You see Do's number & name
- You hear Do's voice
- Do clearly knows you

No Stir/Shaken  
Deep voice Fake  
SOCMINT

This is possible now



**We must not only make humans ready for the  
Internet**

*Miguel De Bruycker, 2021*

**We also need to make the internet ready for  
humans**

Questions ?

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