

Ecommerce and  
Counterfeiting

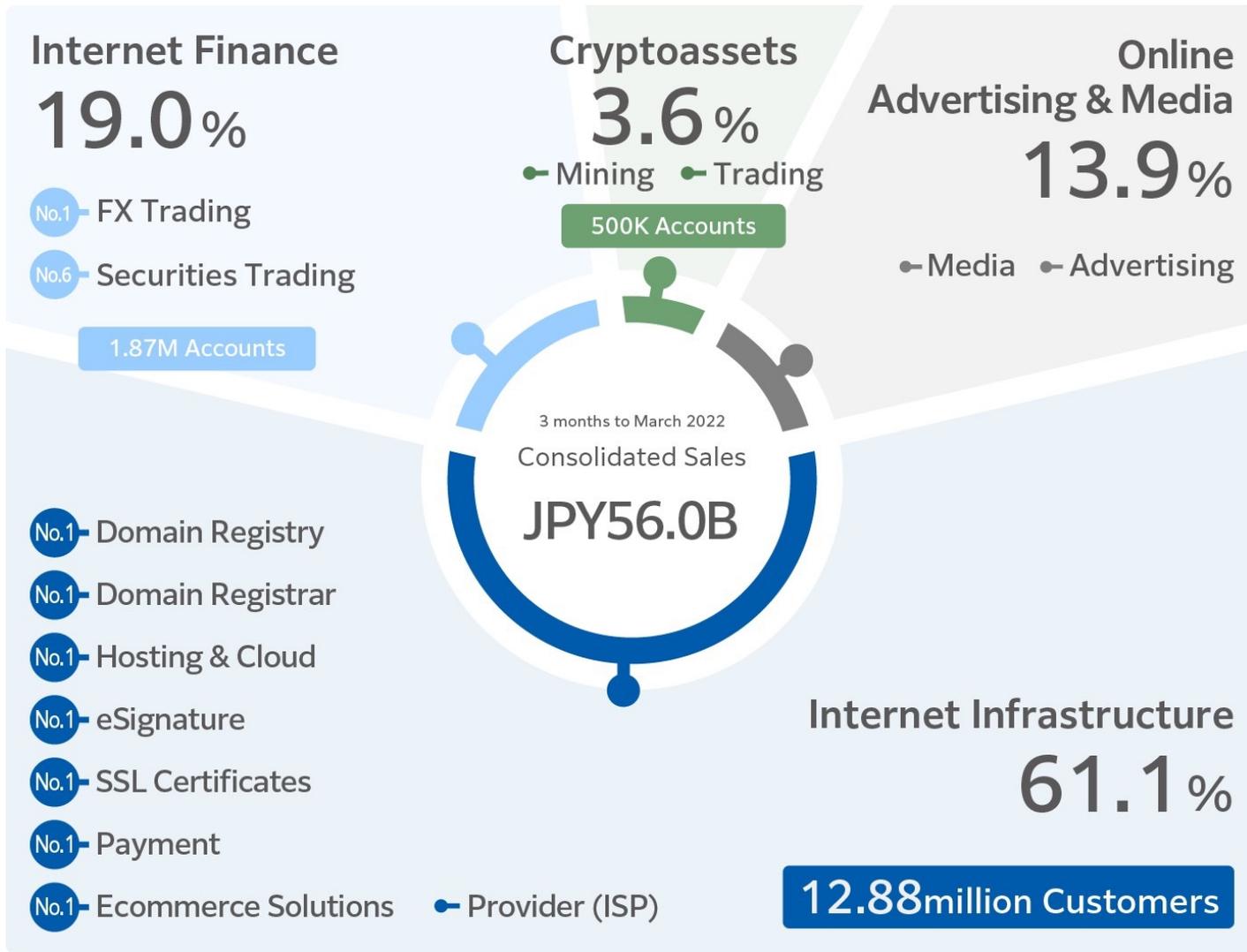


Hiro Tsukahara  
CEO  
GMO Registry

# About GMO

107 7,000 59 \$2 \$400

**GMO** INTERNET GROUP



**15.25M**  
 Recurring Customers

# Business Segments



No.1  
Market Share \*

83%

Domains Under  
Management

7.3M

\* Based on ICANN data

# Domain Registration



**Z.com SSL**

No.1  
Market Share \*

50.5%

\* Based on Netcraft's research

SSL

Mining

Bitcoin Mining



Exchange

Crypto Exchange



Payment

Stablecoin



NFT

Marketplace



Web3

## 最強のセキュリティエンジニアが提供する 最強のセキュリティソリューション

[サービスの詳細はこちら](#)

Webアプリ脆弱性診断実績 3,500件以上！

世界最大級  
コンテスト **No.1**

国内最大級  
コンテスト **No.1**

ホワイトハッカー  
在籍数120名以上 **No.1**



\*1: 2018年 DEFCON26 Can Hacking Village:世界1位  
 \*2: 2017年 Practical CAN Bus hacking CTF: 国内1位  
 \*3: 当社調査による



# Cyber Security (White hat hackers)

Brand



Generic



Country Code



Geographic

# 50 Top Level Domains

**.shop**

# Overview

TOP 4

New gTLD

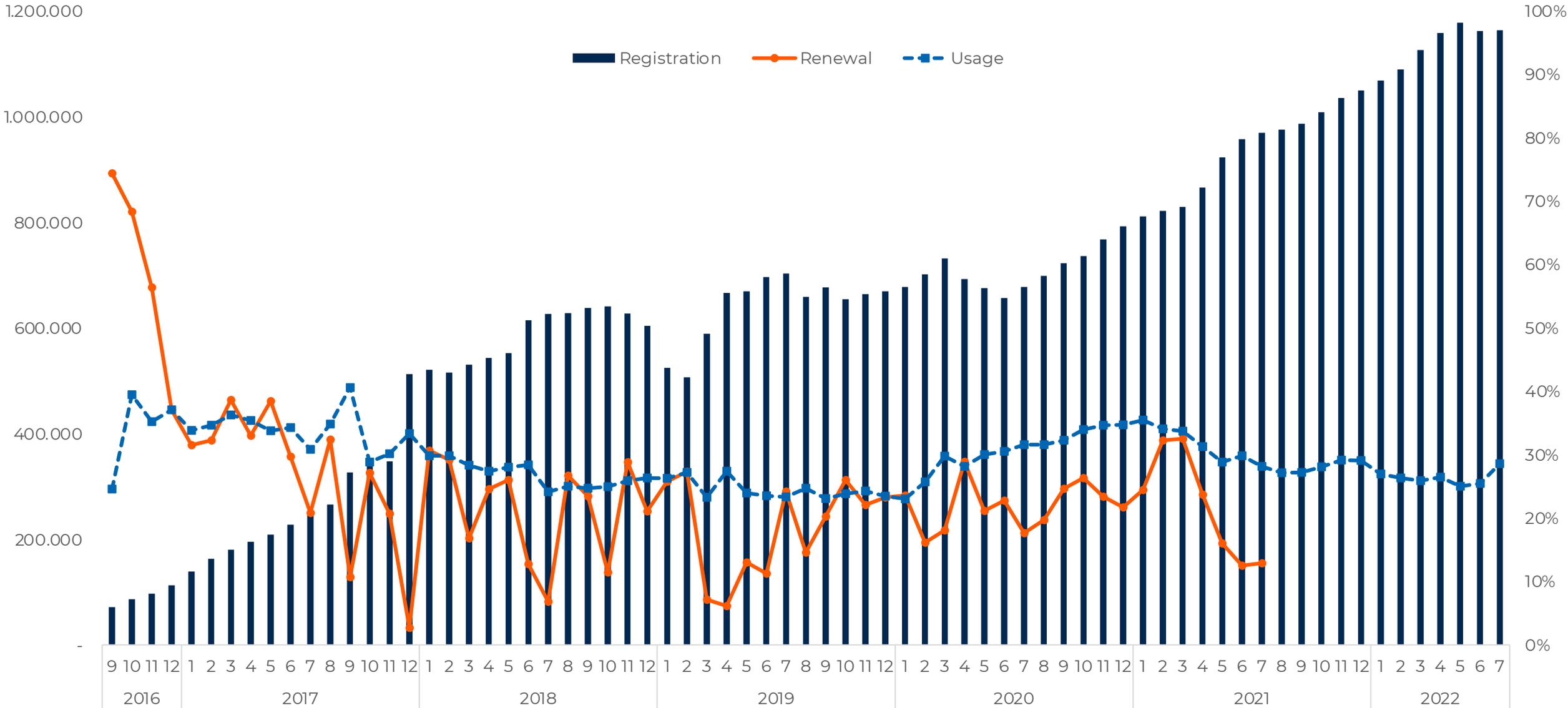
1.25M+

Active Registrations

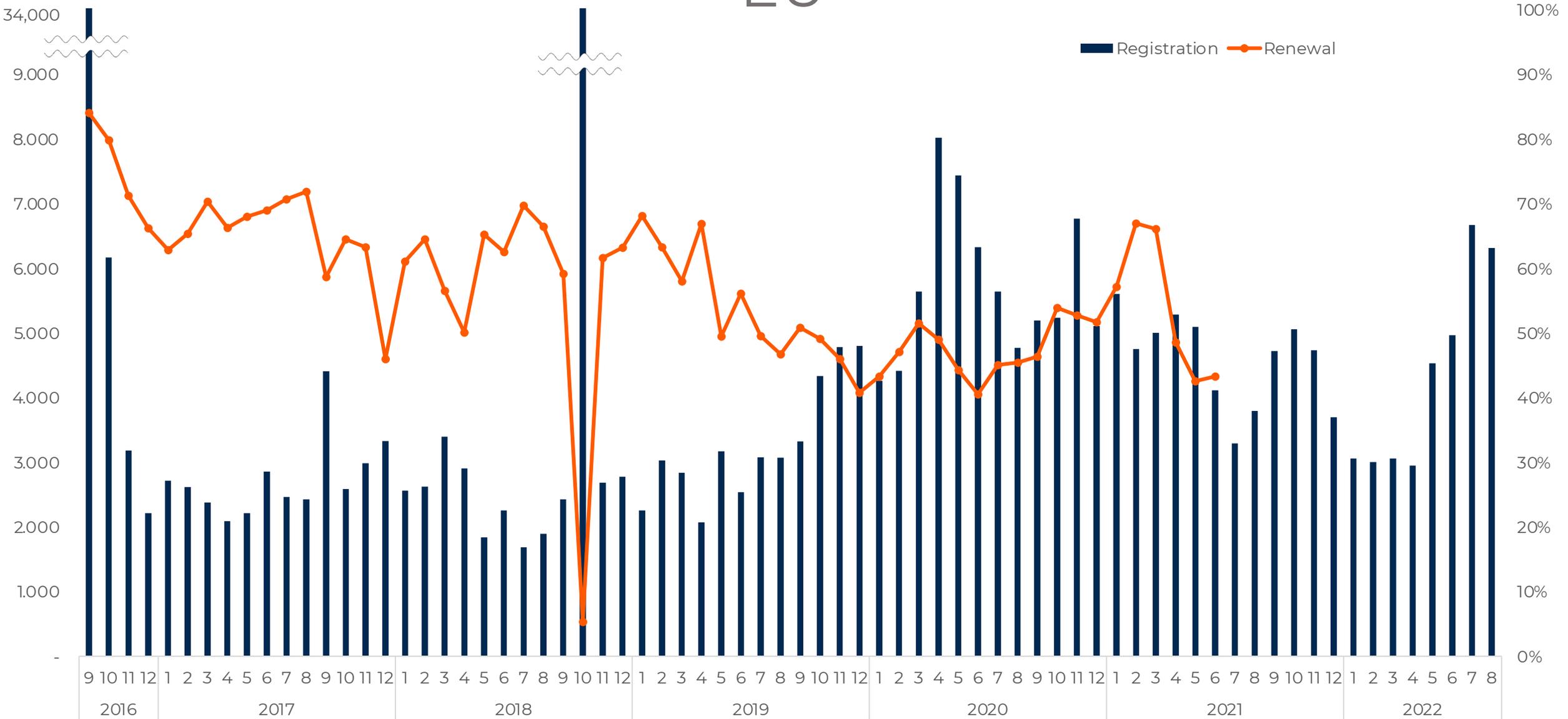
102,000+

Online Shops

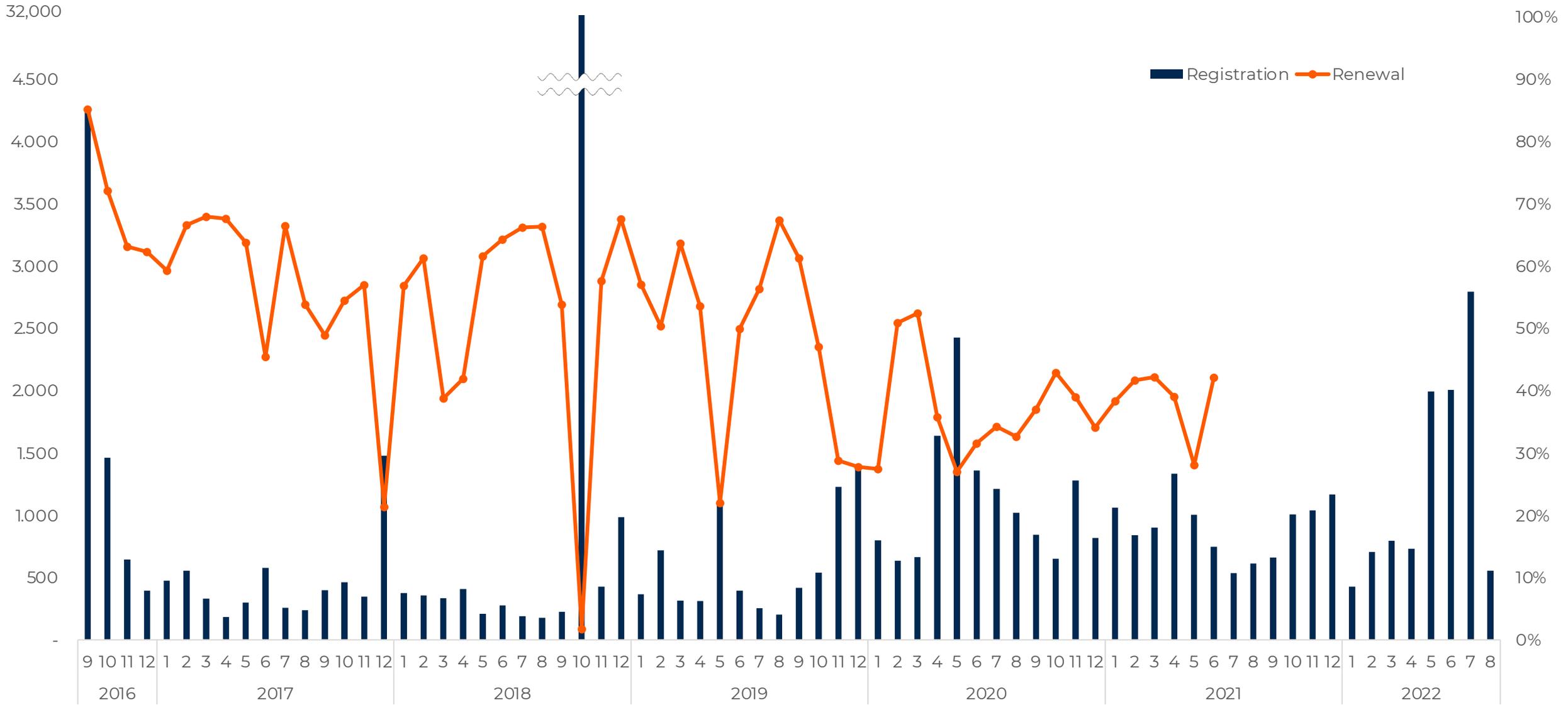
# Worldwide



# EU

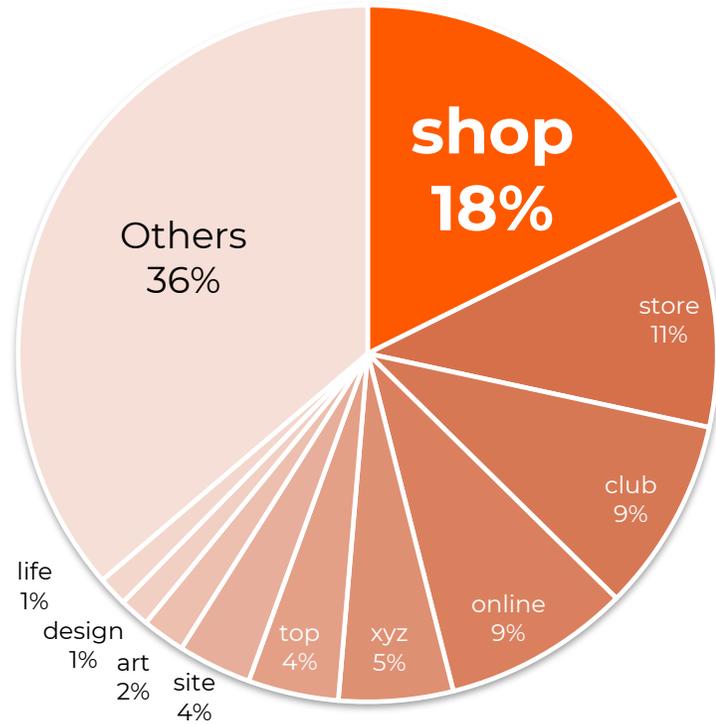


# Netherlands

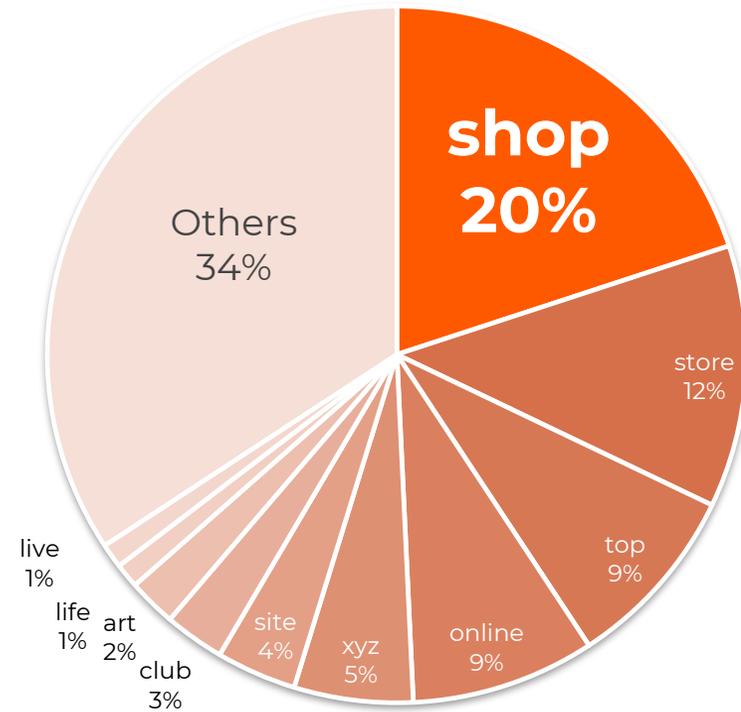


# New Gs in Ecommerce

Jul 2021



Jul 2022



HOW

- 8 Social Influencers
- 7 Physical to Online
- 6 Category Keyword
- 5 Portability
- 4 Complete Switch
- 3 Cross-border
- 2 Online Shop
- 1 Redirect

# briana-weds-joel.shop

redirect to a wedding registry

amazon

Deliver to Japan

Today's Deals Customer Service Gift Cards Registry Sell

wedding Rooms Categories Hobbies Brands Popular Gifts Gift Advisor

Your Registry Find A Registry Share Thank You List Settings Help

Briana Rollo & Joel Hubbard  
Oct 24, 2020

Please don't feel obligated to get a gift for us. There is an option for group gifting for anything over \$ 30.00

22 Items | Filter by: All | Sort by: Must Have

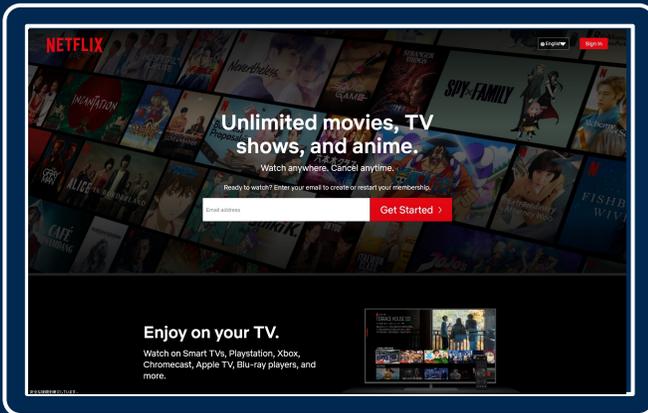
 ADD TO CART	 \$179 <sup>99</sup> 1 still needed CONTRIBUTE	 1 still needed BUYING OPTIONS	 \$41 <sup>95</sup> 1 still needed CONTRIBUTE	 \$33 <sup>99</sup> 1 still needed CONTRIBUTE
---	--	--	--	--

1 – Redirect

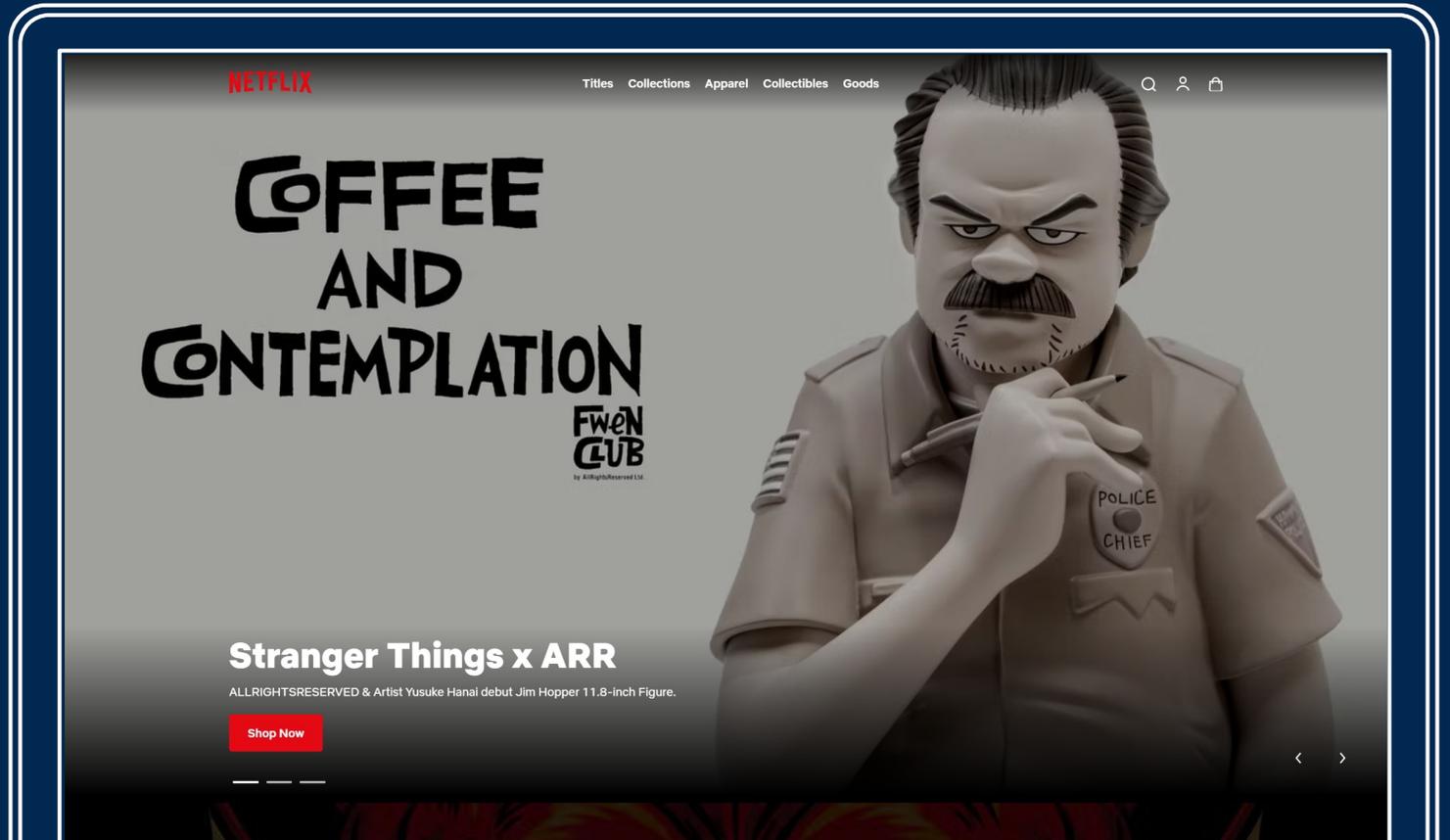
# netflix.shop

online shop

netflix.com  
general website



+

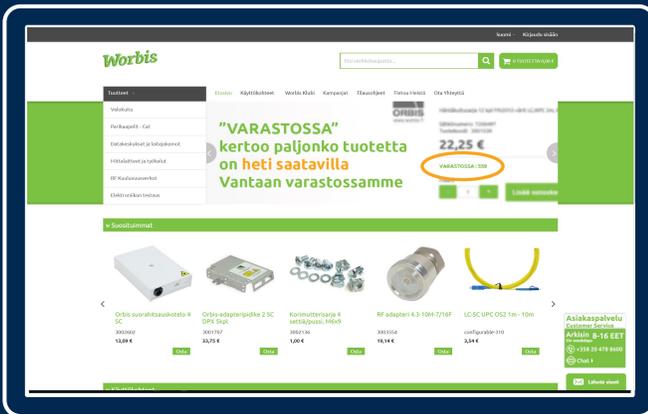


## 2 – Online Shop

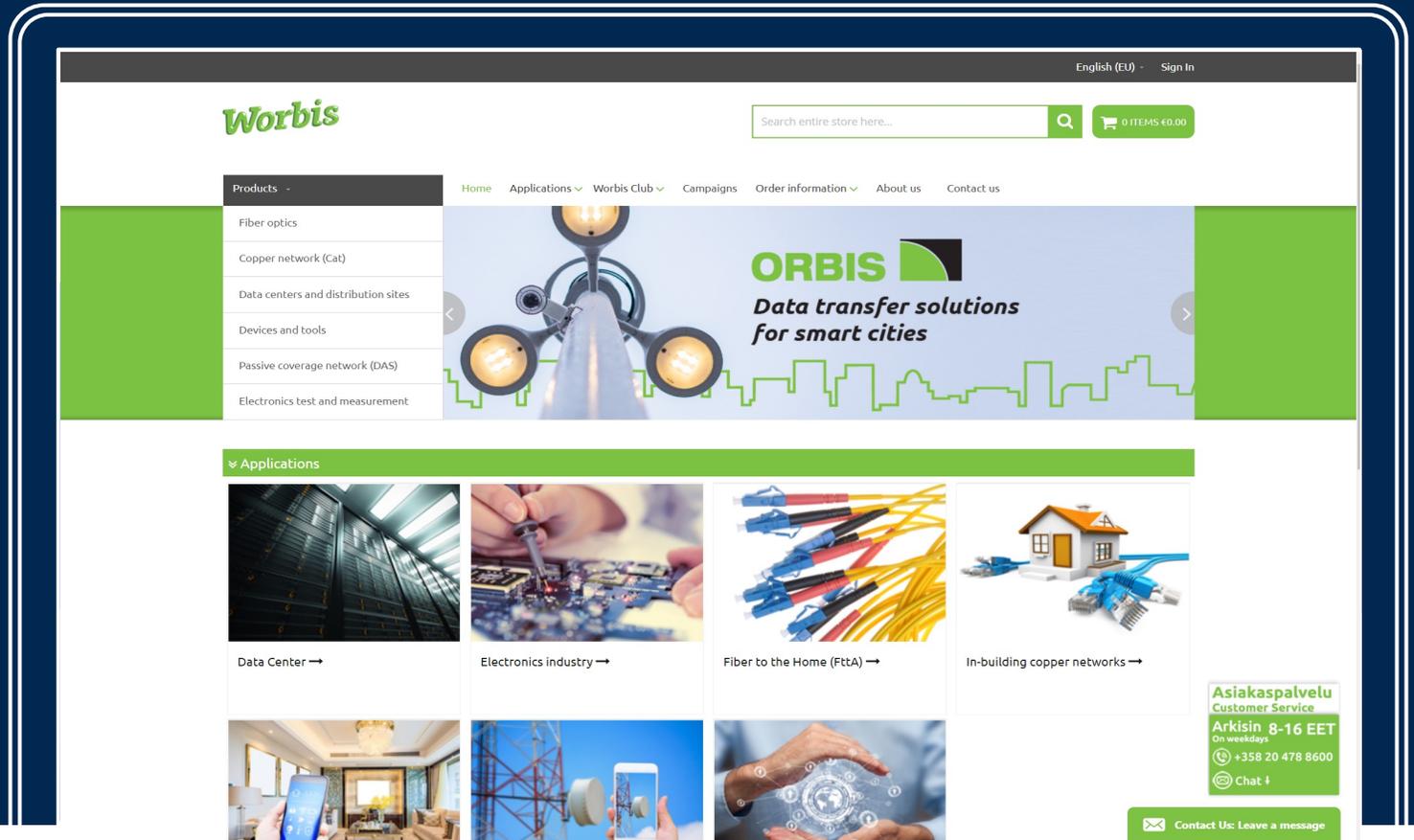
# worbis.shop

english website

worbis.fi  
finnish website



+



3 – Cross-border

# superfoodguru.shop

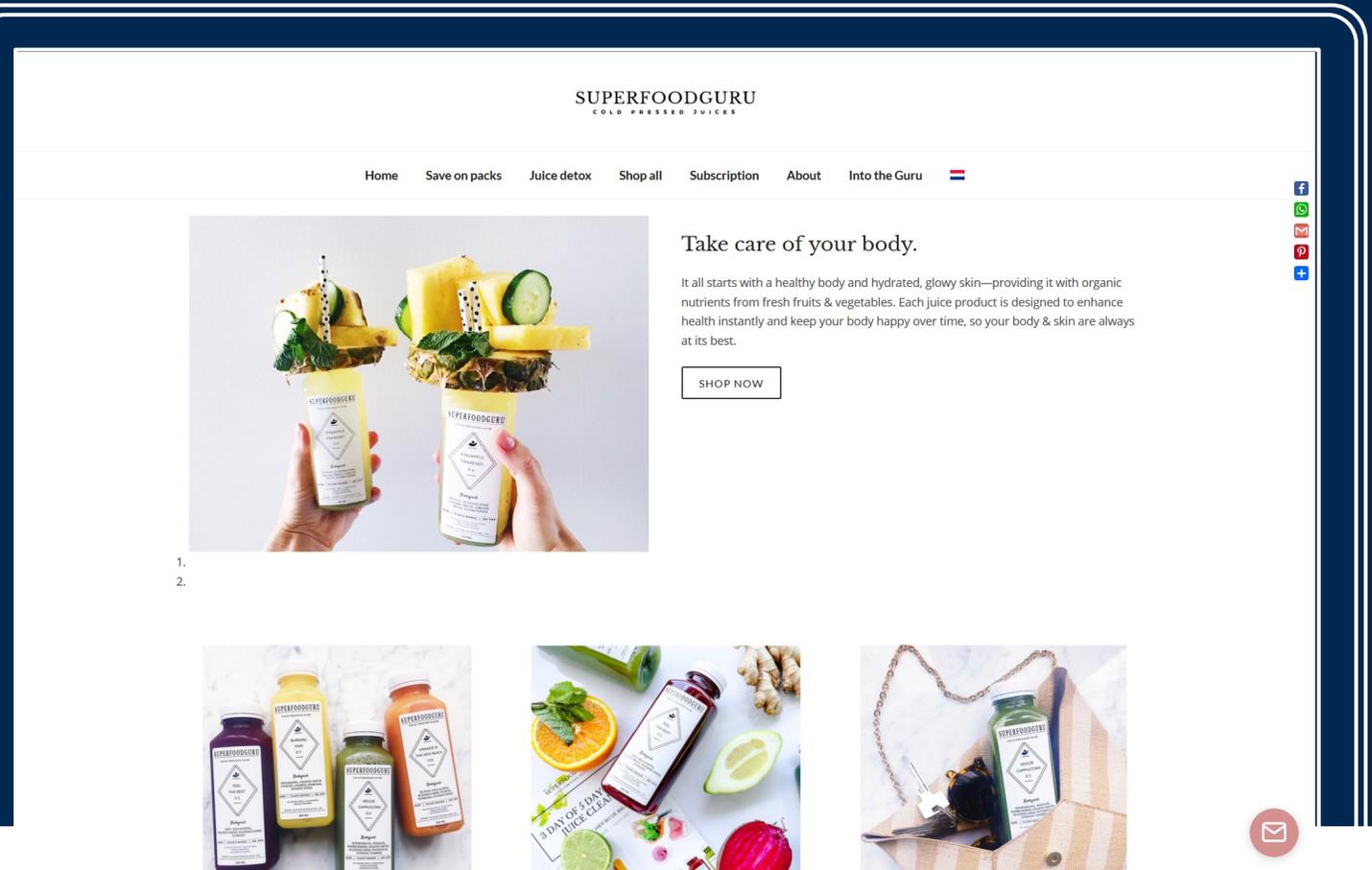
from .nl to .shop



An SEO agency advised me to use '.shop' for the Dutch domain name and '.shop/en' for the English one. Then I would be better found in Google.

I also liked the .shop extension because you think of a shop. I thought it sounded friendly.

- Jojanneke Leistra,  
owner of Superfoodguru



## 4 – Complete Switch

# flavor.shop

from .be to .shop

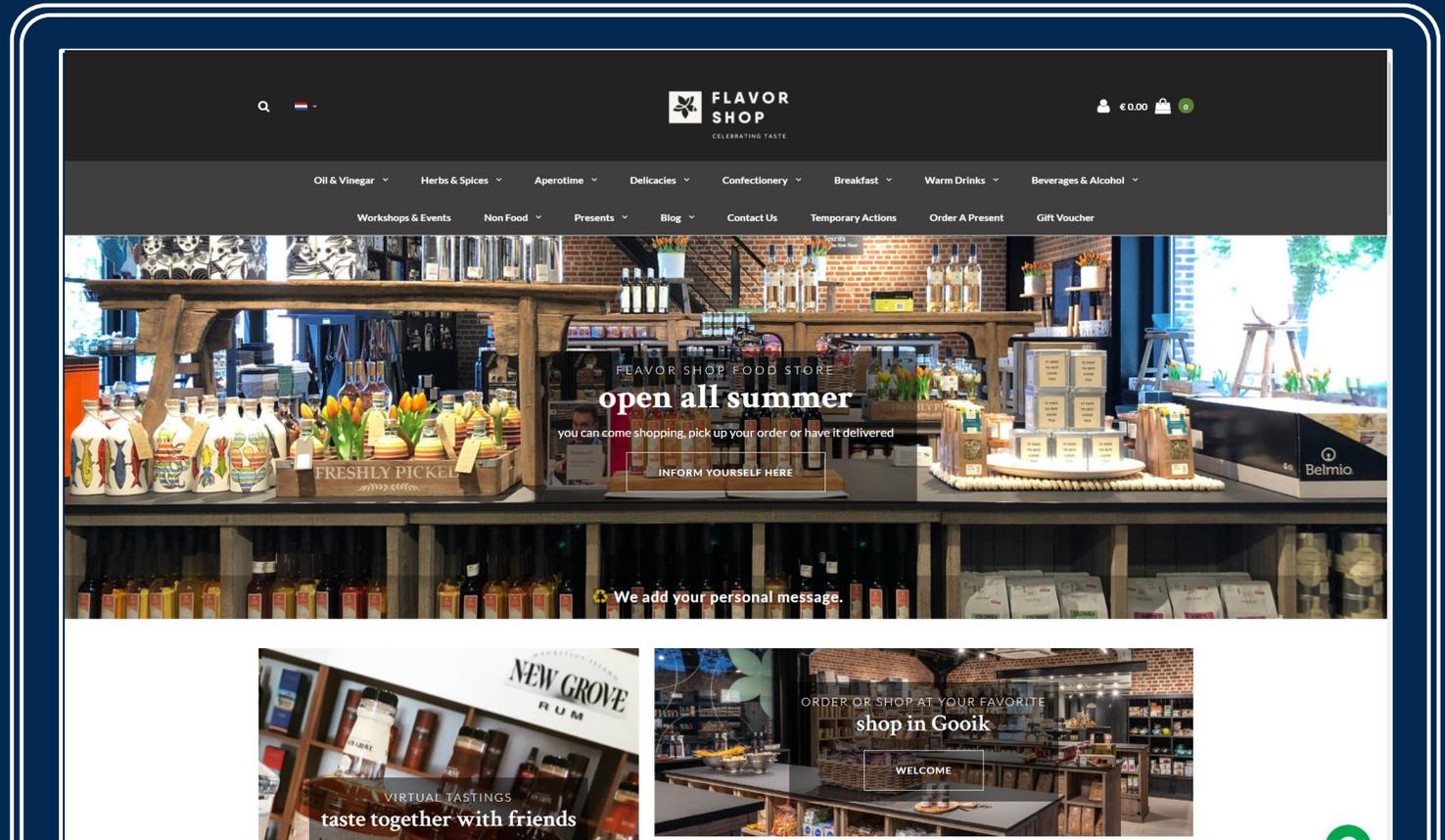


The .shop domain name perfectly matches the name of our shop: Flavor Shop.

Thanks to the existence of this domain name extension we were able to choose the url: [www.flavor.shop](http://www.flavor.shop).

We chose this name when we just started our new online web shop. It is short and easy to remember. Our first domain name used to be: [www.theflavorshop.be](http://www.theflavorshop.be), which was a lot longer and less user friendly for our customers.

- Birger Vanacker, owner of Flavor Shop



## 4 – Complete Switch

# coloringbooksforadults.shop

Transition from Amazon redirect to self-owned online shop

From Amazon



A screenshot of the Life Escapes website homepage. The header includes the email 'life\_escapes\_series@gmail.com', social media icons for Facebook, Twitter, and RSS, and navigation links for 'Bundle Subscription' and 'Life Escapes 10 Page Sampler Packs'. The main navigation bar has links for 'Home', 'How to Color Grayscale', 'Life Escapes' (with a logo), 'Flip Thru Video Gallery', and 'Contact'. The main content area features a large heading 'Life Escapes Adult Coloring Books PDF' followed by a paragraph: 'Life Escapes Adult Coloring Books for men, women and children features some of the best adult coloring books available by various grayscale designers. Adults are coloring and having fun doing it. Coloring grayscale images is quickly becoming the favorite choice for people needing to reduce stress. Coloring grayscale produces realistic results giving colorists a sense of achievement they can't get anywhere else. Our coloring books are available in PDF download right here on this site or you can get them in print on Amazon by following our links.' Below this are four pink buttons with green borders: 'See All Life Escapes Adult Coloring Books', 'Adult Coloring Books NEW from Life Escapes', 'What's New in Life Escapes Coloring Products', and 'What's New in Hand Colored Prints'. At the bottom are two more pink buttons with green borders: 'FOLLOW US ON FACEBOOK' and 'JOIN OUR FACEBOOK COLORING GROUP'. The footer features the text 'What We Offer at Life Escapes' and four decorative circular icons.

5 – Portability

# balsamico.shop

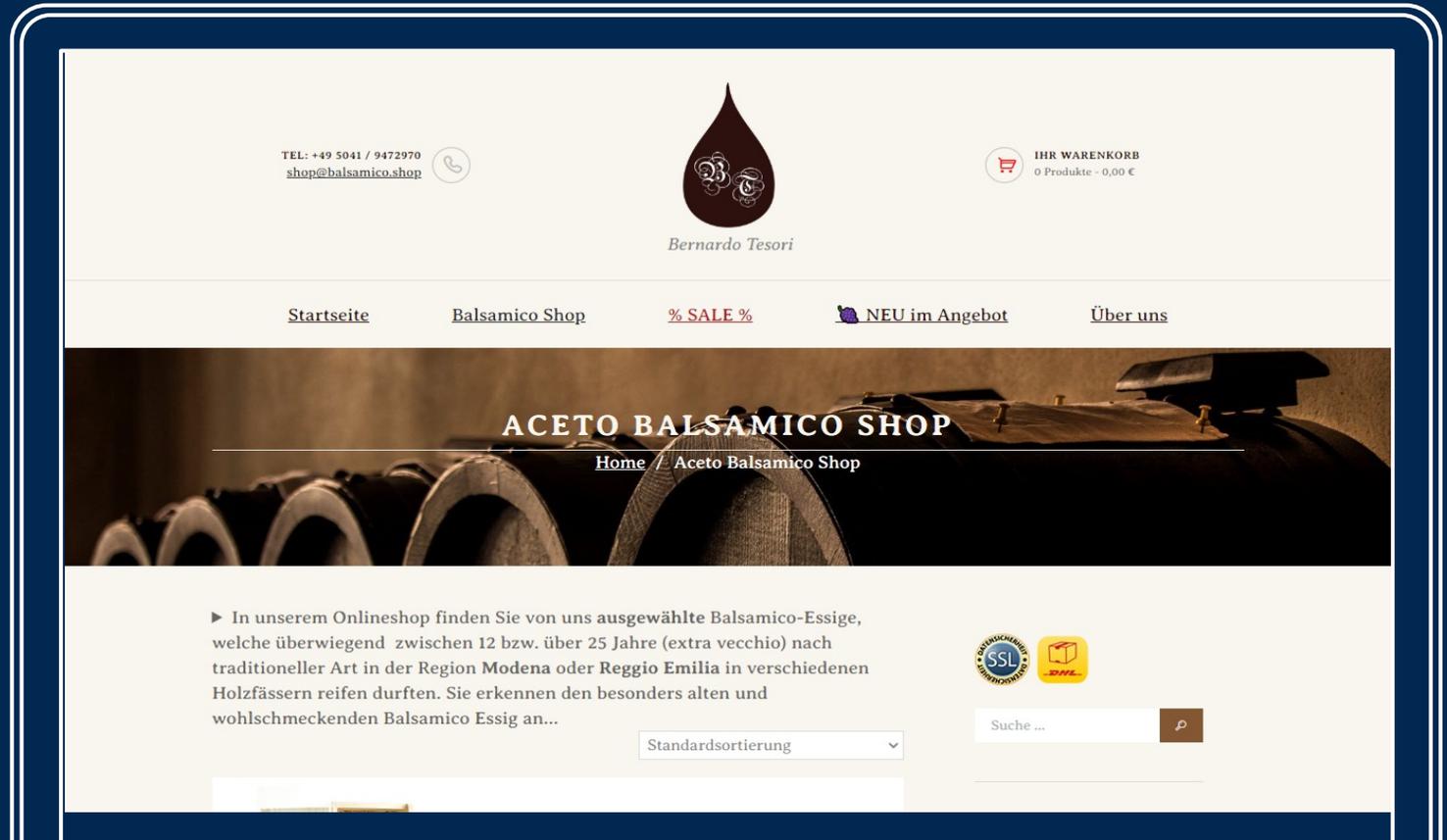
from .com to .shop



As a digital agency, we are doing online business since 1996 and good domain names have always been a game-changing element in our strategies. Especially when it comes to niche products, where people didn't remember any brand names due to infrequent contacts.

The .shop public launch in 2016 was a great chance to get a generic domain name to start growing in that niche. With balsamico.shop we got a short, recognisable, generic domain name and a TLD that states clearly what you will find on that property. **We switched from our .com domain name to .shop and now we are the No.1 online destination for balsamic vinegar foodies in our home market, Germany and selling these products now in eight different countries in Europe.**

The word "balsamico" is used frequently in Europe and stands for balsamic vinegar, an Italian made sweet&sour vinegar. With the .shop name people do not need to remember our brand "Bernado Tesori", they just say - "I bought my product at balsamico shop", which is simple and much more generic.- Uwe Tippmann, founder of Aceto Balsamico Shop



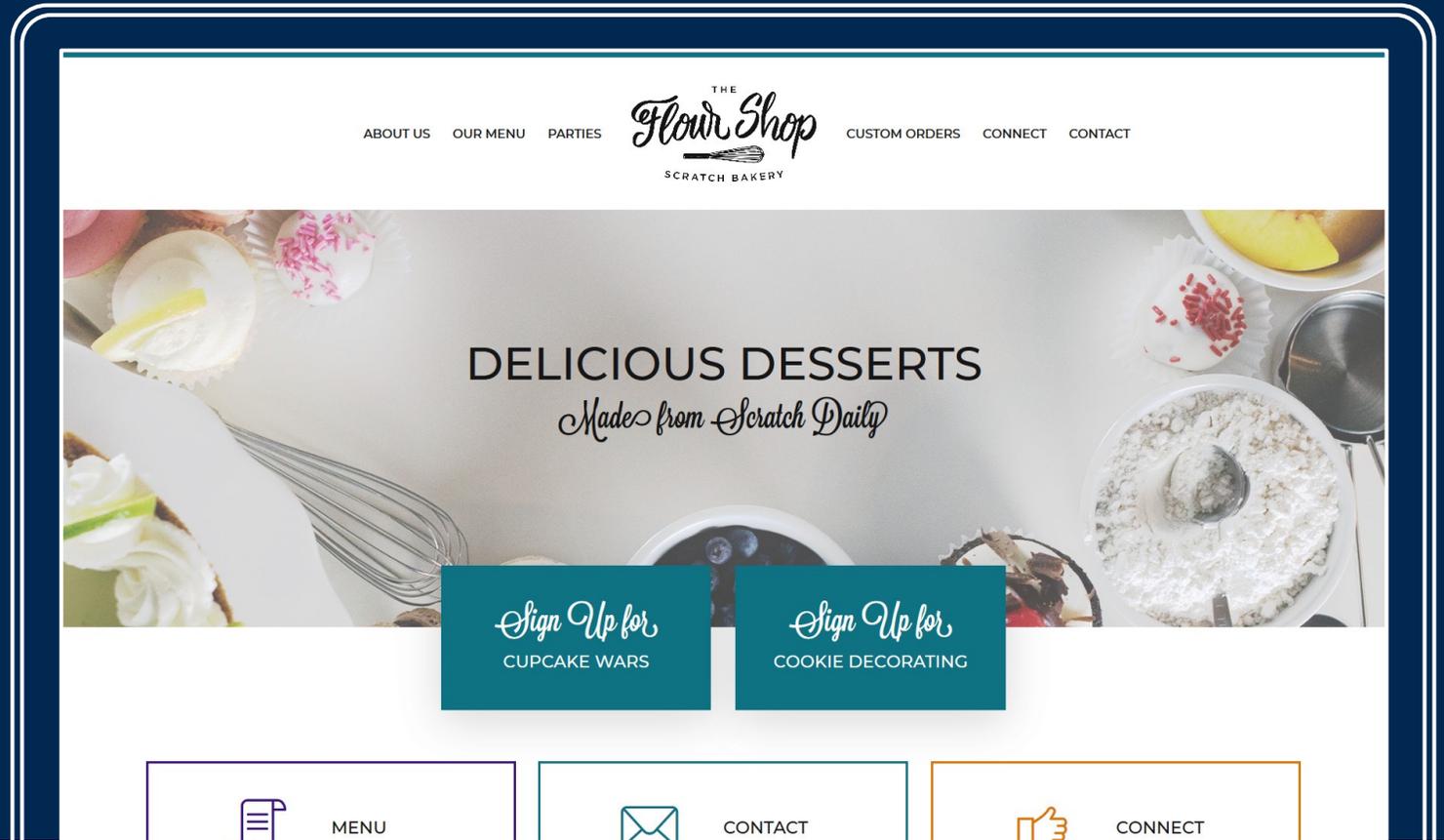
## 6 – Category Keyword

# theflour.shop

Use .shop for online shop



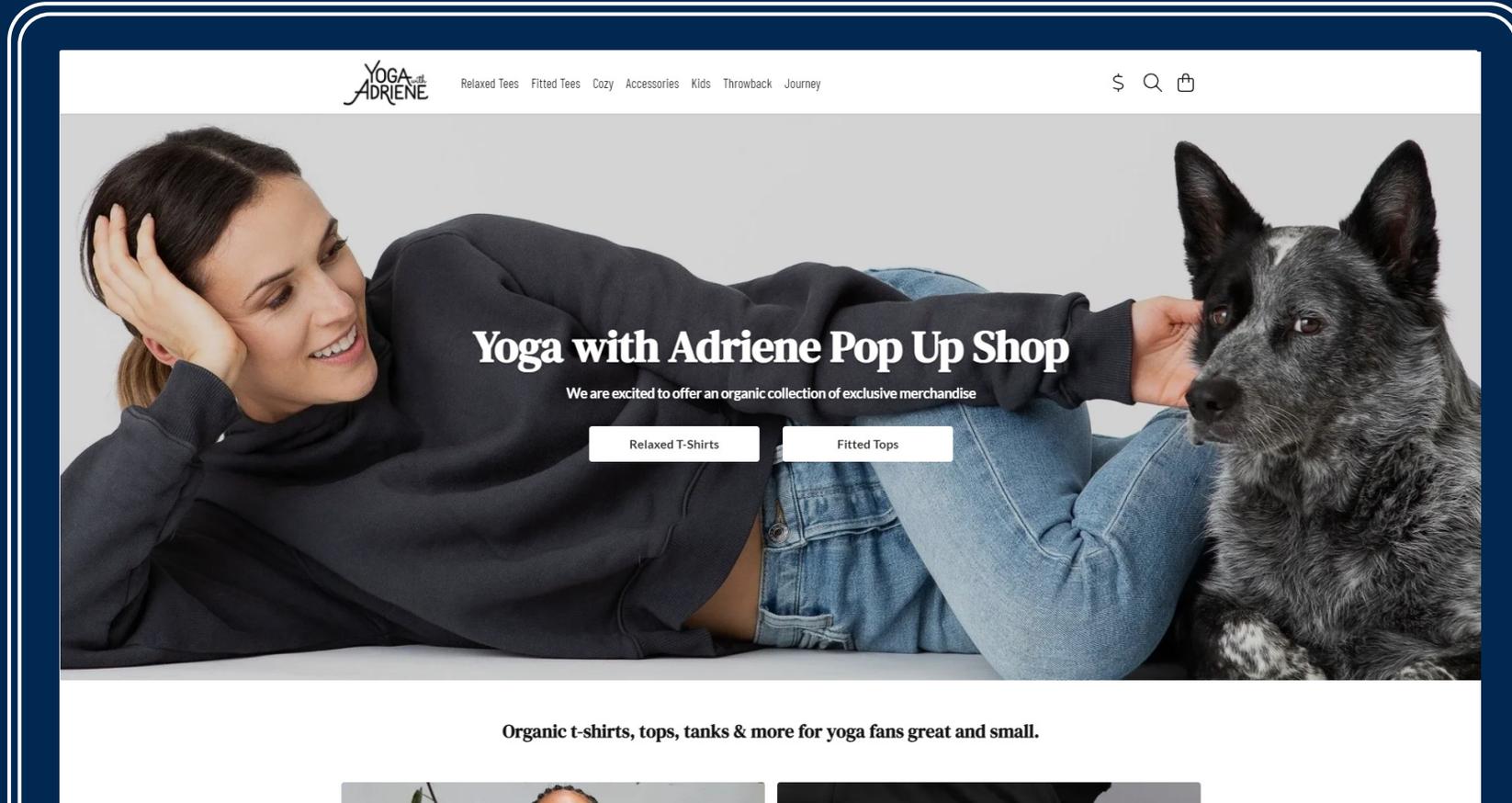
+



## 7 – Offline to Online

# yogawithadriene.shop

No. 1 Yoga Instructor on YouTube with 10M+ Subscribers



## 8 – Social Influencers

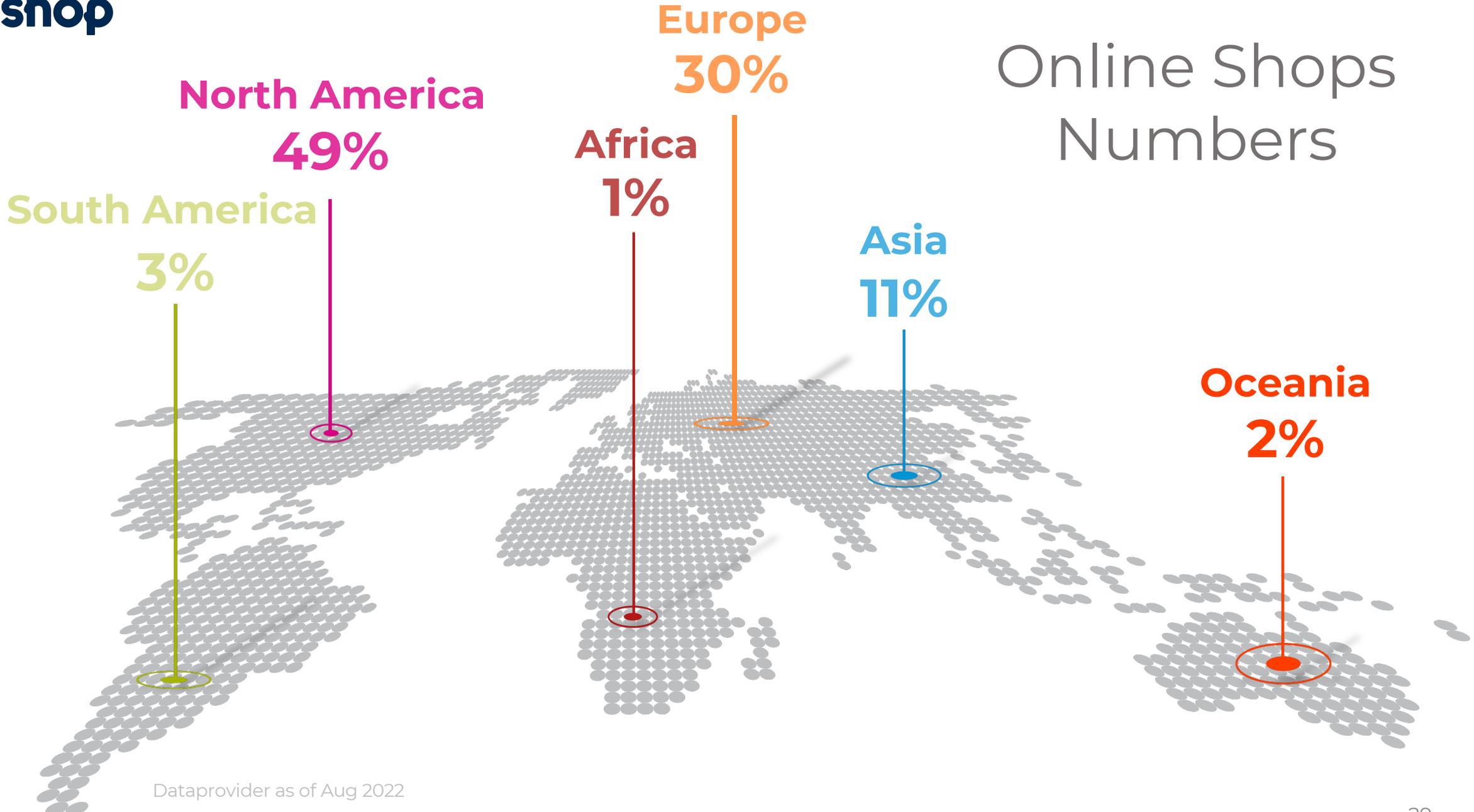
# Ecommerce and counterfeiting



# Online Shops in the World 2022

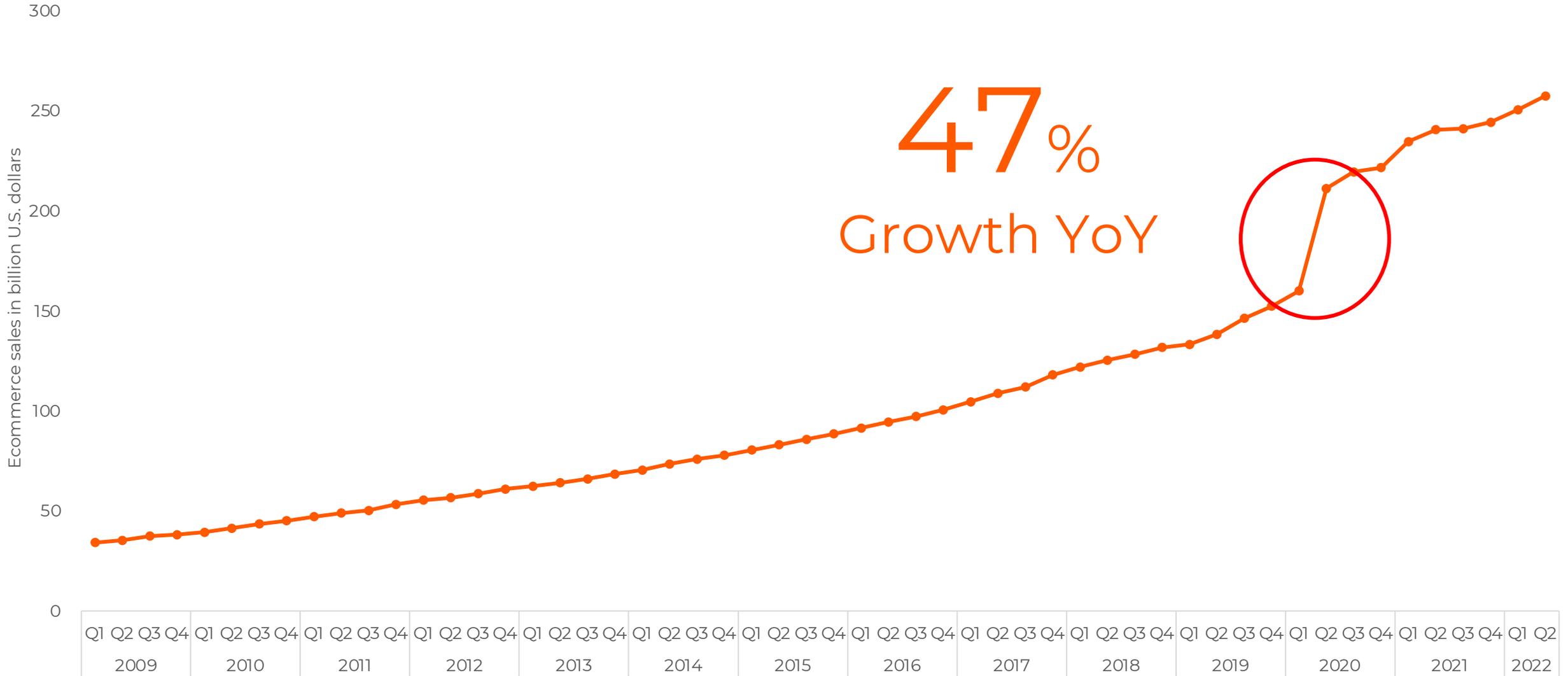
**7,817,123**

# Online Shops Numbers



Dataprovider as of Aug 2022

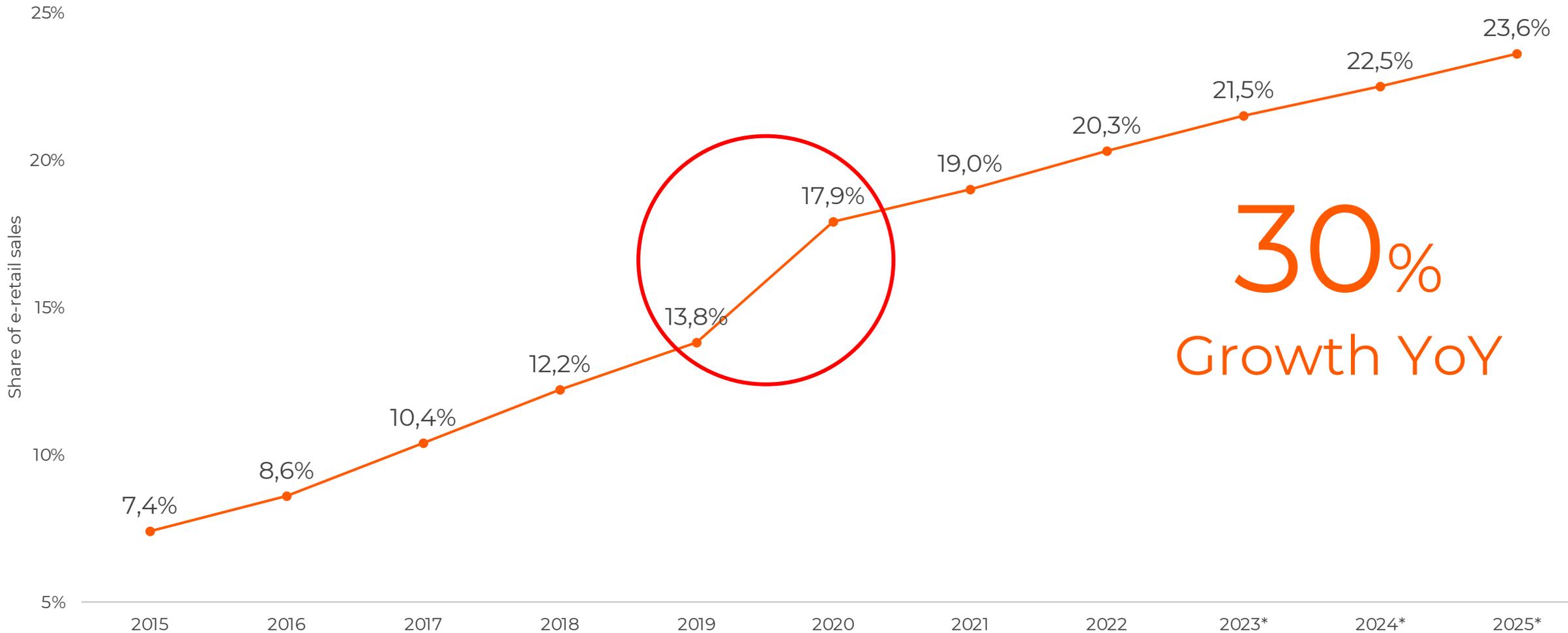
# Retail Ecommerce Sales



**Note:** United States; Q1 2009 to Q2 2022; Estimates are adjusted for seasonal variation, but not for price changes. Total sales estimates are also adjusted for trading-day differences and moving holidays.

**Source(s):** <https://www.census.gov/retail/index.html#ecommerce>

# Share of Ecommerce in Global Retail Sales



**Note:** Worldwide; E-commerce share of total global retail sales from 2015 to 2025

**Source(s):** <https://www.statista.com/statistics/534123/e-commerce-share-of-retail-sales-worldwide/>

# Breakdown of Ecommerce Revenue Worldwide

	Organic search	Paid search	Direct	E-mail	Social	Display	Referral	Other
Retail	31%	36%	13%	7%	4%	2%	3%	4%
Multi-channel	36%	23%	15%	11%	4%	0%	3%	8%
Online only	27%	46%	11%	4%	4%	4%	4%	1%
Travel	47%	23%	18%	0%	1%	0%	9%	2%
Overall	33%	34%	13%	6%	4%	2%	4%	4%



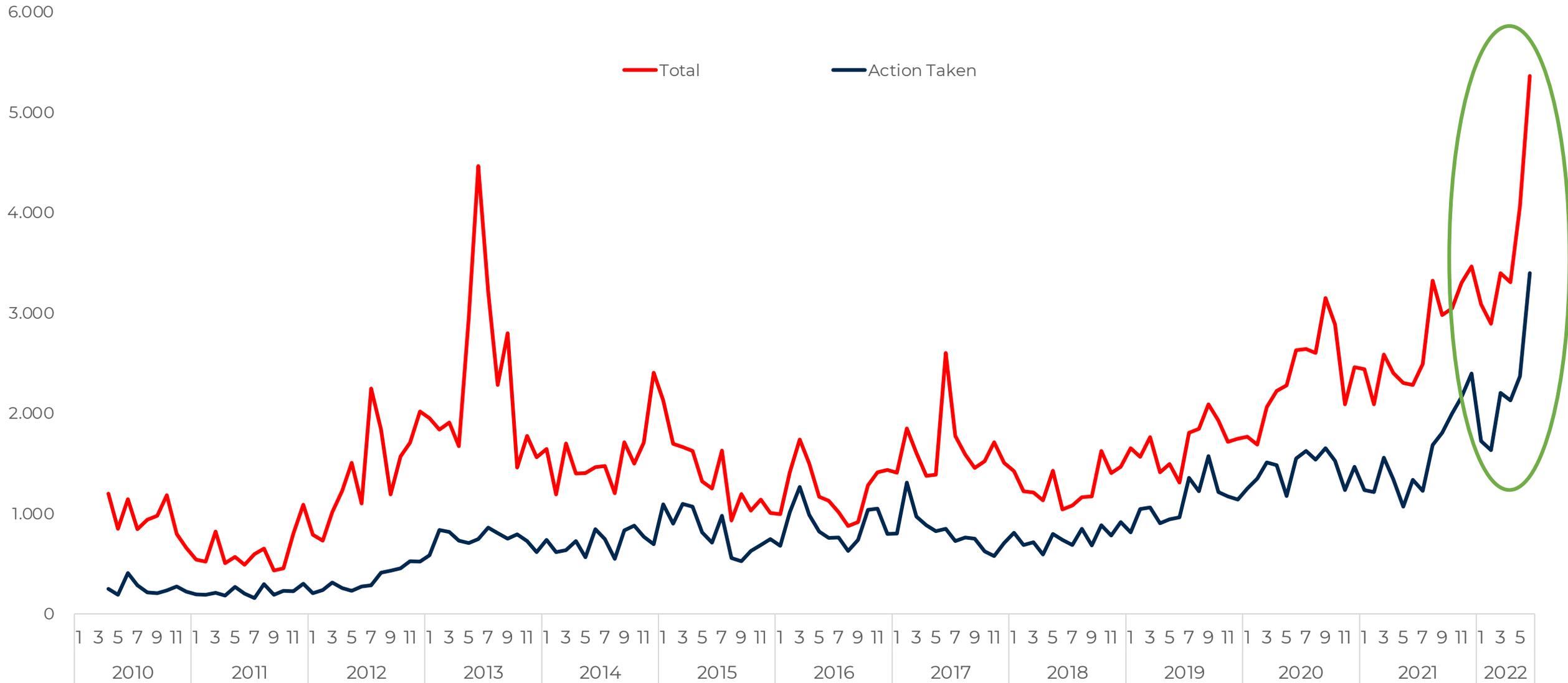
Image credit: [istockphoto.com/rsclyther5](https://www.istockphoto.com/rsclyther5)

# Prime Threats

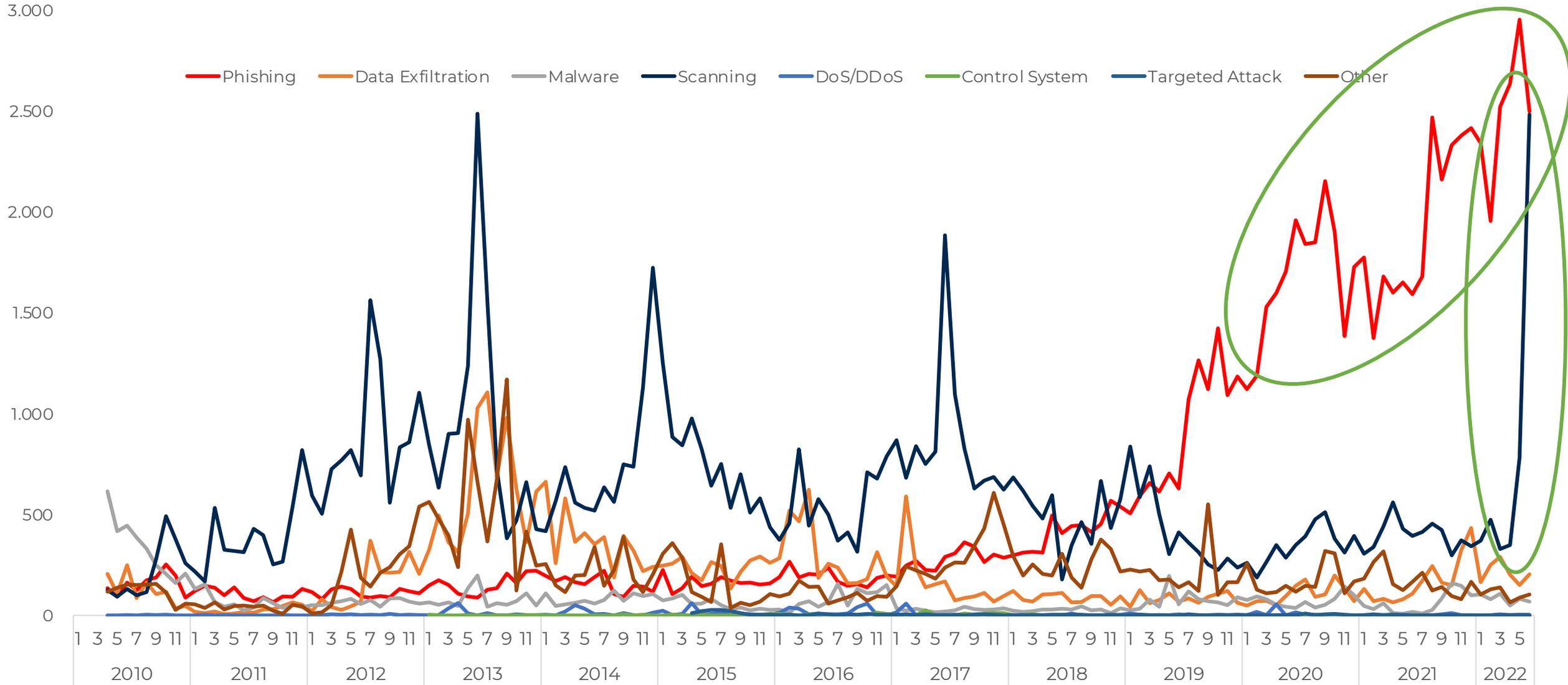


1. Ransomware
2. Malware
3. Cryptojacking
4. E-mail related
5. Against data
6. Against availability and integrity
7. Disinformation – misinformation
8. Non-malicious

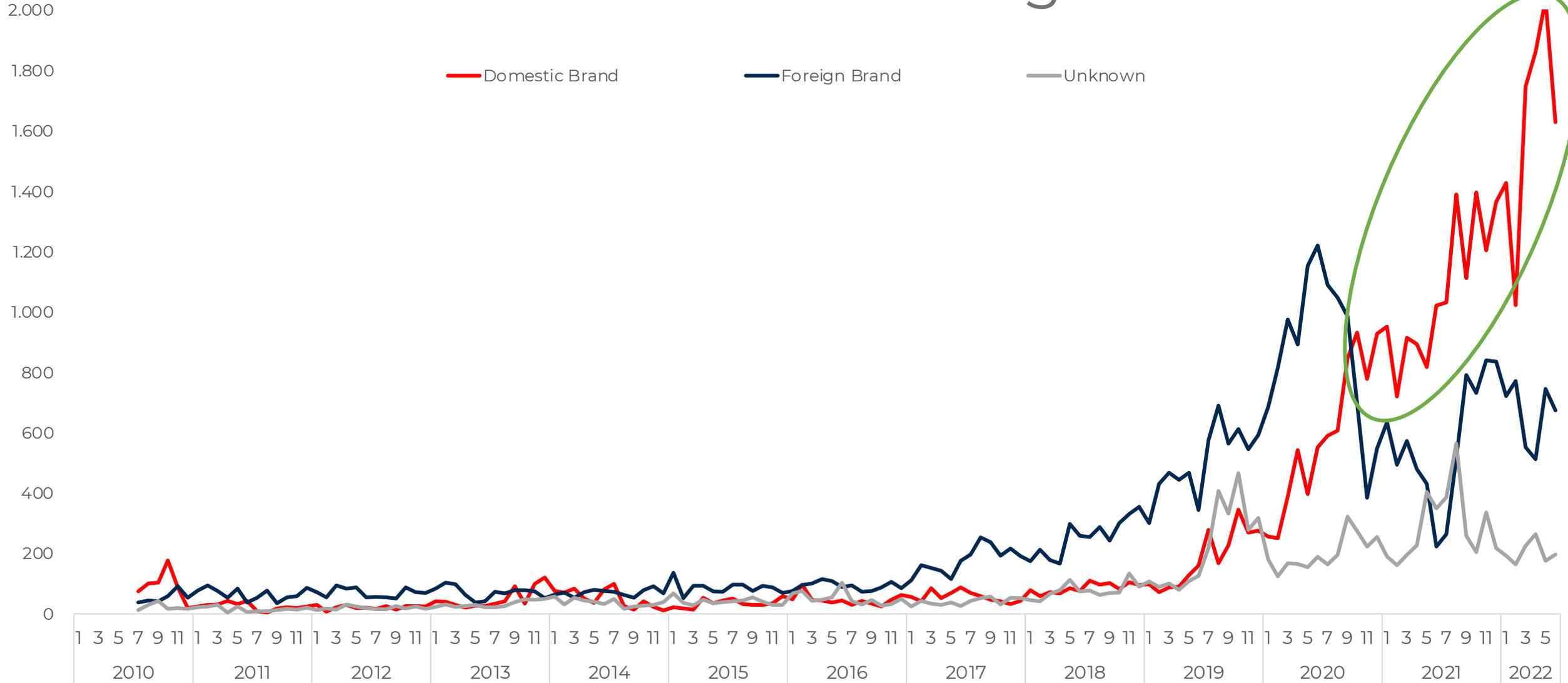
# Incidents



# Breakdown of Incidents



# Breakdown of Phishing Sites



# What is a Look-alike Domain?

dagvandedomeinnaam.nl		
1	TLD swap	dagvandedomeinnaam.com
2	Sub domain	dagvande.domeinnaam.nl
3	Typo	dagvande.domeinnaam.nl
4	Hyphenation	dagvande-domeinnaam.nl
5	Repetition	dagvandeddomeinnaam.nl
6	Replacement	dagvandedomeinnaam.nl
7	Omission	dagvandedomeinnaam.nl
8	Transposition	dagvaneddomeinnaam.nl
9	Insertion	dedagvandedomeinnaam.nl
10	Homoglyph	dagvǎndedomeinnaam.nl
11	Vowel-swap	dagvandedomainnaam.nl
12	Addition	dagvandedommeinnaam.nl

Actual Example

DEV  Q Log in Create account

**John Gracey**  
Posted on 2019年12月17日

## Hacking GitHub's Auth with Unicode's Turkish Dotless 'I'

#security #unicode #javascript #webdev

From combining emoji marks and astral planes, Unicode is under appreciated and poorly understood. The importance of understanding Unicode extends beyond localization and diversity. Failing to understand Unicode may lead to vulnerabilities in your code.

One lesser known occurrence is Unicode *Case Mapping Collisions*. Loosely speaking, a collision occurs when two *different* characters are uppercased or lowercased into the same character. This effect is found commonly at the boundary between two different protocols, like email and domain names.

### A quick example

```
'ß'.toLowerCase() // 'ss'  
'ß'.toLowerCase() === 'SS'.toLowerCase() // true  
  
// Note the Turkish dotless i  
'John@Github.com'.toLowerCase() === 'John@Github.com'.toLowerCase()
```

### Transformation Collisions

While there are many Unicode case collisions across all the [Unicode astral planes](#), We'll only include the characters that collide into the English alphabet. This Unicode guide includes an [exhaustive list of collisions](#).

#### Uppercase

Char	Code Point	Output Char
------	------------	-------------

**John Gracey**  
Follow  
JOINED  
2019年11月30日

#### Trending on DEV Community



Building an interactive screen-sharing app with Puppeteer and React 🤖  
#react #webdev #javascript #opensource



JavaScript sending data between windows  
#javascript #webdev #beginners



Music Monday — What are you listening to? (Homeland Edition)  
#watercooler #discuss #music

## Case Mapping Collision

Uppercase Letters

Lowercase Letters

Example  
A

ADMIN@SECURITY.CAMP



admin@security.camp

Example  
B

ADMIN@SECURITY.CAMP



admin@security.camp

Look IDENTICAL

## Case Mapping Collision

Lowercase Letters

Unicode Dotless i

Example  
A

admin@security.camp



U+0069 (English)

Example  
B

admin@securitycamp



U+0131 (Turkish)

NOT IDENTICAL

# Unicode Dotless i

Lowercase

Uppercase

i



I

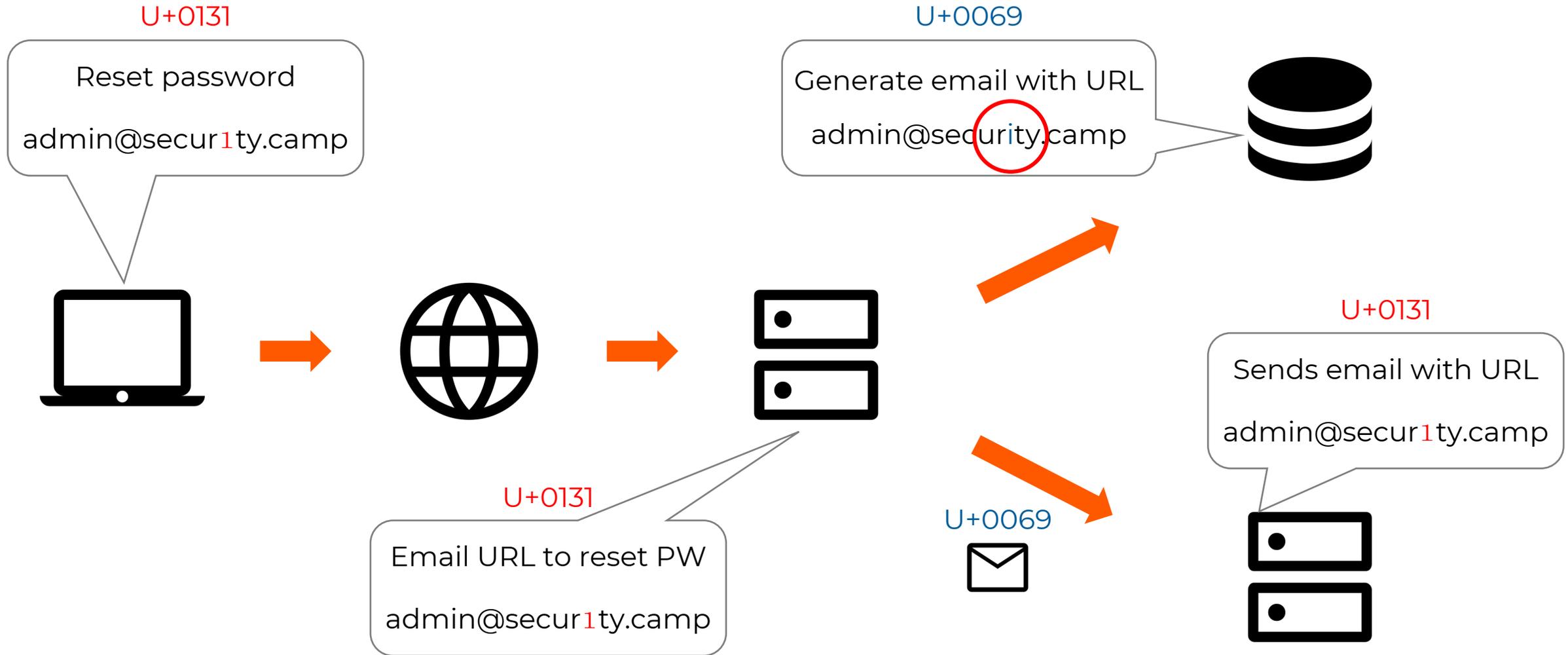
ı



I

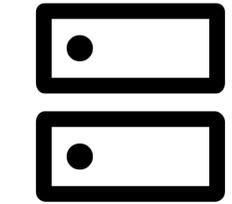
INDISTINGUISHABLE

# Flow

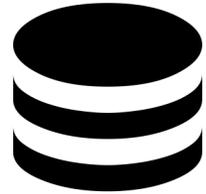


# Flow

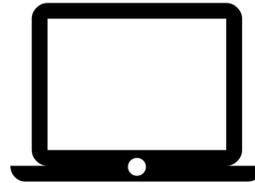
## Case Mapping Collision



Controller



Database



U+0131  
Requests to reset password for  
admin@secur1ty.camp



U+0069  
Receives email to reset password for  
admin@security.camp

# Wrong Recipient

## Case Mapping Collision

Uppercase Letters

ADMIN@SECURITY.CAMP



Lowercase Letters

admin@security.camp

admin@secur1ty.camp

# Recommendations

Cryptojacking	<b>Blacklisting</b> IP addresses and domains of popular cryptomining IP pools.
E-mail related	1) <b>Check the lifespan</b> of a suspected malicious domain and its ownership. If it has been active for less than a year, it could be a scam. 2) Check the domain name of the websites you visit for <b>typos</b> , especially for sensitive websites (e.g. bank websites). Threat actors usually register fake domains that are similar to legitimate ones and use them to ‘phish’ their targets.
Against data	URLs that are sent via e-mail or are randomly visited should first be checked based on their <b>IP address</b> , the ASN that associates with the IP, the owner of the domain and the relation between this domain and others, before any further step is taken.
Against availability and integrity	With Domain Hijacking accounting for 31% of all DNS threats making it the most observed, usage of <b>Registry Lock</b> can mitigate this risk.

gracias

תודה

dank je

شكرا

takk

gratias ago

salamat

ありがとう

terima kasih

ขอขอบคุณ

ευχαριστώ

# Dankuwel

whakawhetai koe

grazie

teşekkür ederim

tack

thank you

谢谢

Спасибо

mahalo iā 'oe

merci

asante

# Questions?

Hiro

tsukahara@gmoregistry.com

Taka

takayuki-ito@gmoregistry.com