

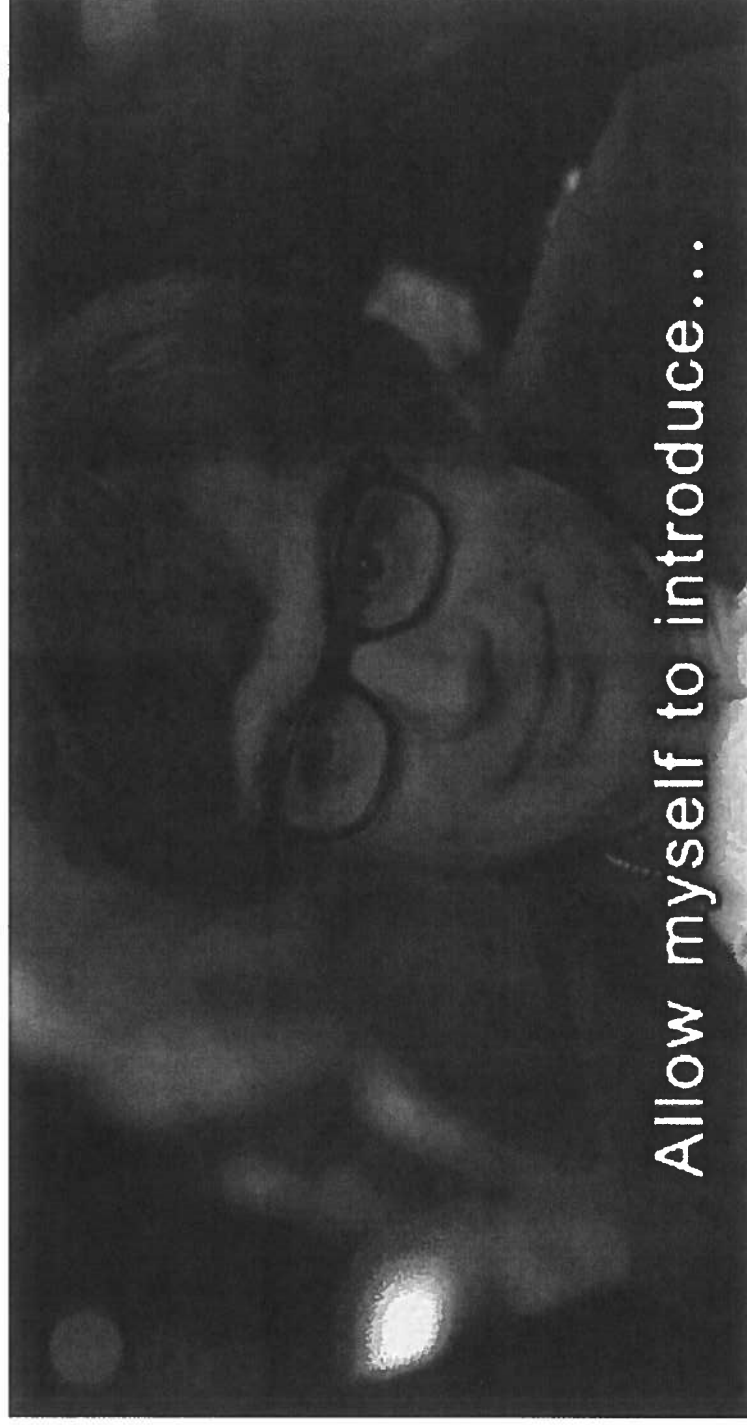
# Dark Web

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## Introduction

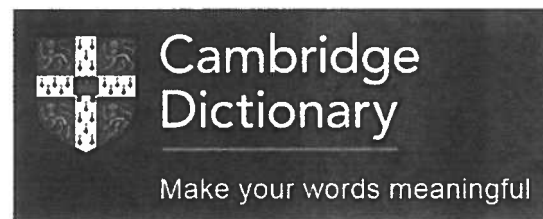


# Introduction



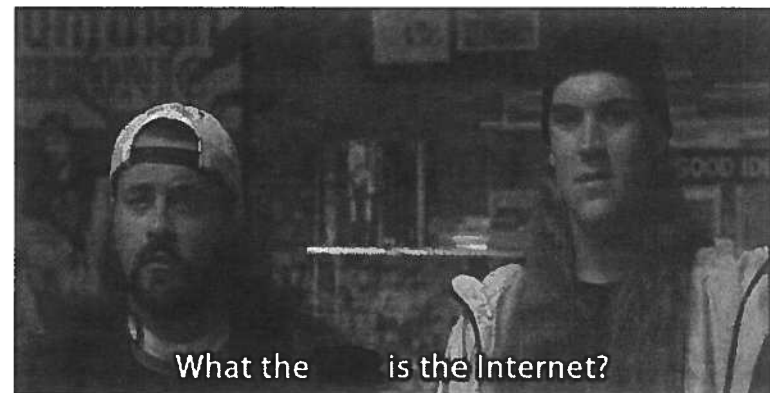
# What is the INTERNET?

- **Wikipedia:** The global system of interconnected computer networks that use the Internet protocol suite (TCP/IP) to link devices worldwide.
- **Google:** A global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardized communication protocols.
- **Cambridge Dictionary:** The large system of connected computers around the world that allows people to share information and communicate with each other.



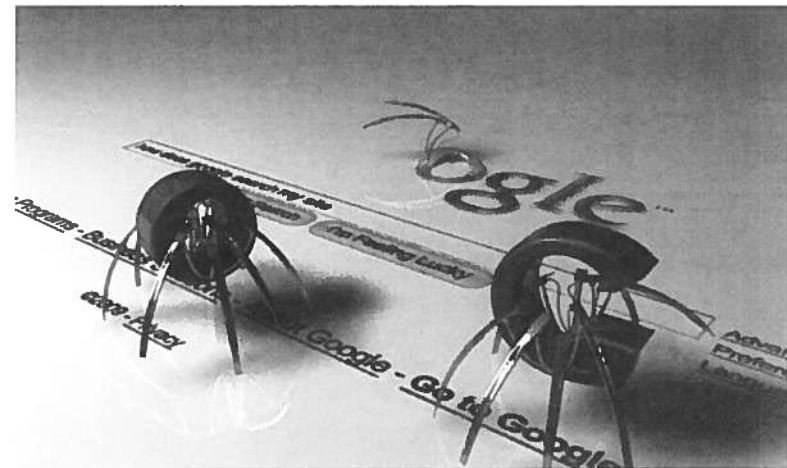
# What is the INTERNET?

- **My family:** electronic mail, world wide web, messenger, communication tool
- **My colleagues:** network of the networks, ultimate source of porn, cute pictures and videos of cats
- **My friends:** virtual network, best solution for connections and information flow, free contact and messenger, the murderer of my friends favorite porn video rental shop



# The Internet how we know...

- **Crawling:** When Google visits a website for tracking purposes. This process is done by Google's Spider crawlers.
- **Indexing:** After crawling has been done, the results get put onto Google's index (i.e. the web search).
- If something can not find with Google, it does not exists
- Is it true or false?



Surface Web

# Exploring The Hidden Internet



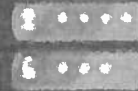
4%

Deep Web

Legal Documents

Government Records

Scientific Reports



Academic Records

Financial Records

90%

Dark Web

Drugs

Tor

Illegal Info



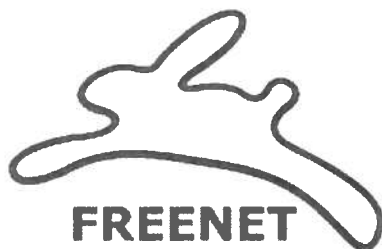
# The Deep Web

- **The Deep Web** (invisible web or hidden web) is part of the World Wide Web but the contents are not indexed by standard web search engines for any reason.
- For example:
  - Password protected
  - Contains file types which are not indexed by crawlers
  - Can be reached only with specific DARKNET software



# The Darknet

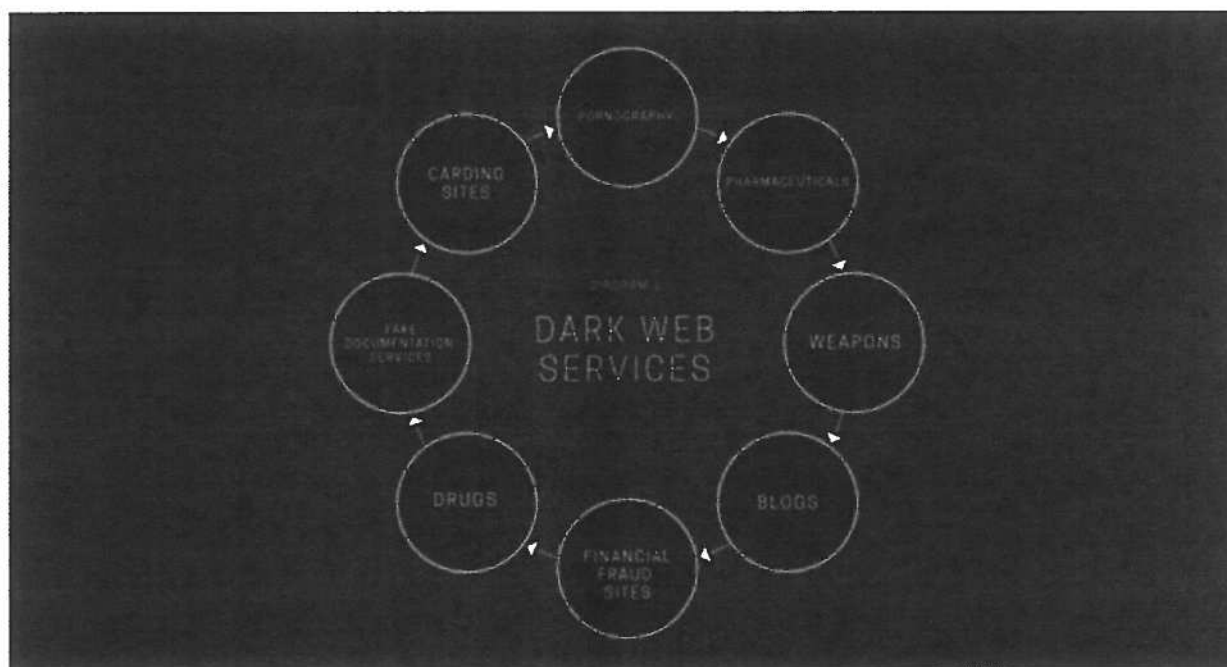
- **The Darknet:** An encrypted network built on top of the existing Internet, and specific software or tools are required to access it. Darknet provides anonymity to the users. Darknet is for example TOR, Freenet or I2P.



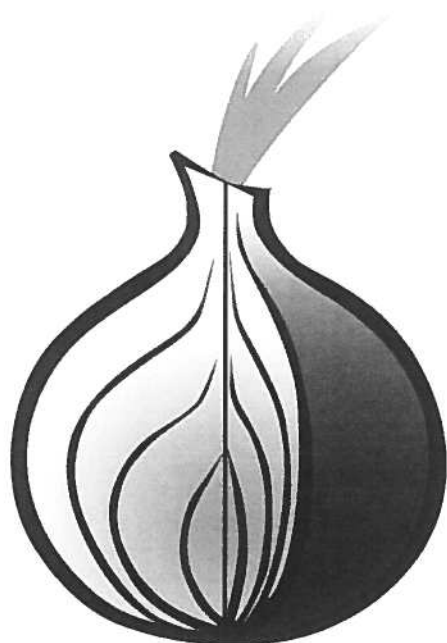


# The Dark Web

- **The Dark Web** is the World Wide Web content that exists on Darknets and requires specific software, configurations, or authorization to access.

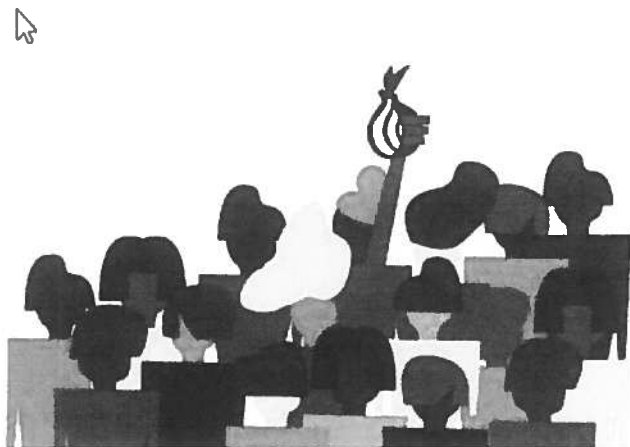


# The TOR Network



- was developed in the mid-1990s by US Naval Research Laboratory
- special proxy network ( client – node – tor-exit)
- daily users average 2 000 000 Worldwide (650 in Albania, 1250 in Slovenia, 4000 in Hungary, 400 000 in USA)
- Requires a special browser (TOR Browser)
- Free to download it, legal to use it
- Special domains .onion, but „normal” websites can be open with it

TOR: STRENGTH IN NUMBERS



Advance universal human rights. Protect the privacy of millions. Your financial support will allow people around the world to be more safe online.

Give today, and Mozilla will match your donation.

Count me in



Home

About Tor

Documentation

Press

Blog

Newsletter

Contact

Download Volunteer Donate

# Anonymity Online

Protect your privacy. Defend yourself against network surveillance and traffic analysis.

- Tor prevents people from learning your location or browsing habits.
- Tor is for web browsers, instant messaging clients, and more.
- Tor is free and open

We're hiring! »

## Recent Blog Posts

New Release: Tor Browser for And...

Wed, 31 Oct 2018

Posted by: sysrqb

New Release: Tor Browser 8.5a4

Tue, 23 Oct 2018

Posted by: boklm

# The TOR Project

## Our Projects



### Tor Browser

Tor Browser contains everything you need to safely browse the Internet.



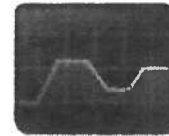
### Orbot

Tor for Google Android devices.



### Tails

Live CD/USB operating system preconfigured to use Tor safely.



### Nyx

Terminal (command line) application for monitoring and configuring Tor.



### Relay Search

Site providing an overview of the Tor network.



### Pluggable Transports

Pluggable transports help you circumvent censorship.



### Stem

Library for writing scripts and applications that interact with Tor.



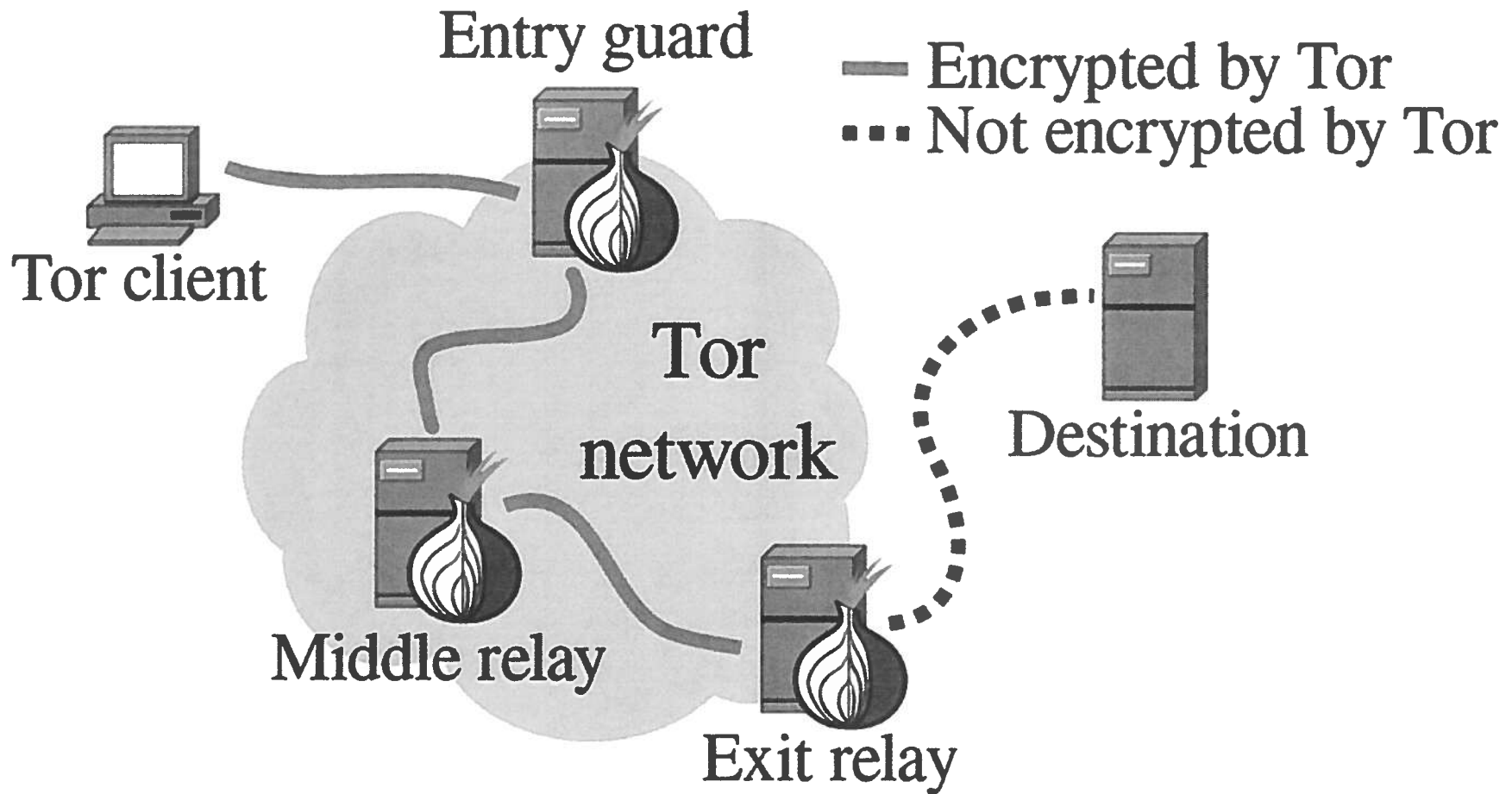
**ooni**

### OONI

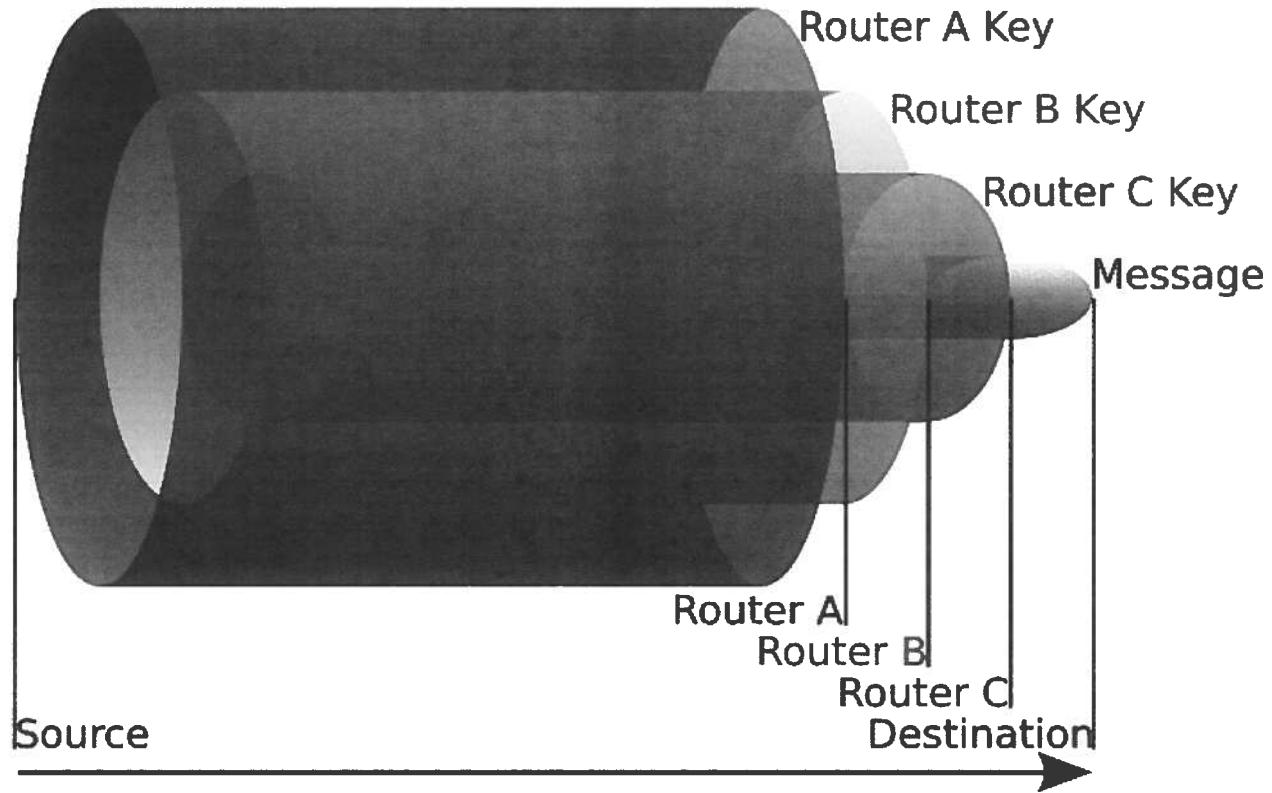
Global observatory monitoring for network censorship.

[Learn more about our projects »](#)

# The TOR Circuit



# The TOR Encryption



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# What are the disadvantages?

- It is for anonymity and not for encryption
- Slow connection speed
- Sometimes the network is unstable
- Some websites denying TOR exit nodes (as disallowed IPs)



## Access Denied

You don't have permission to access "http://www.footlocker.com/" on this server.

Reference #18.9e3919b8.1541199237.20499dd

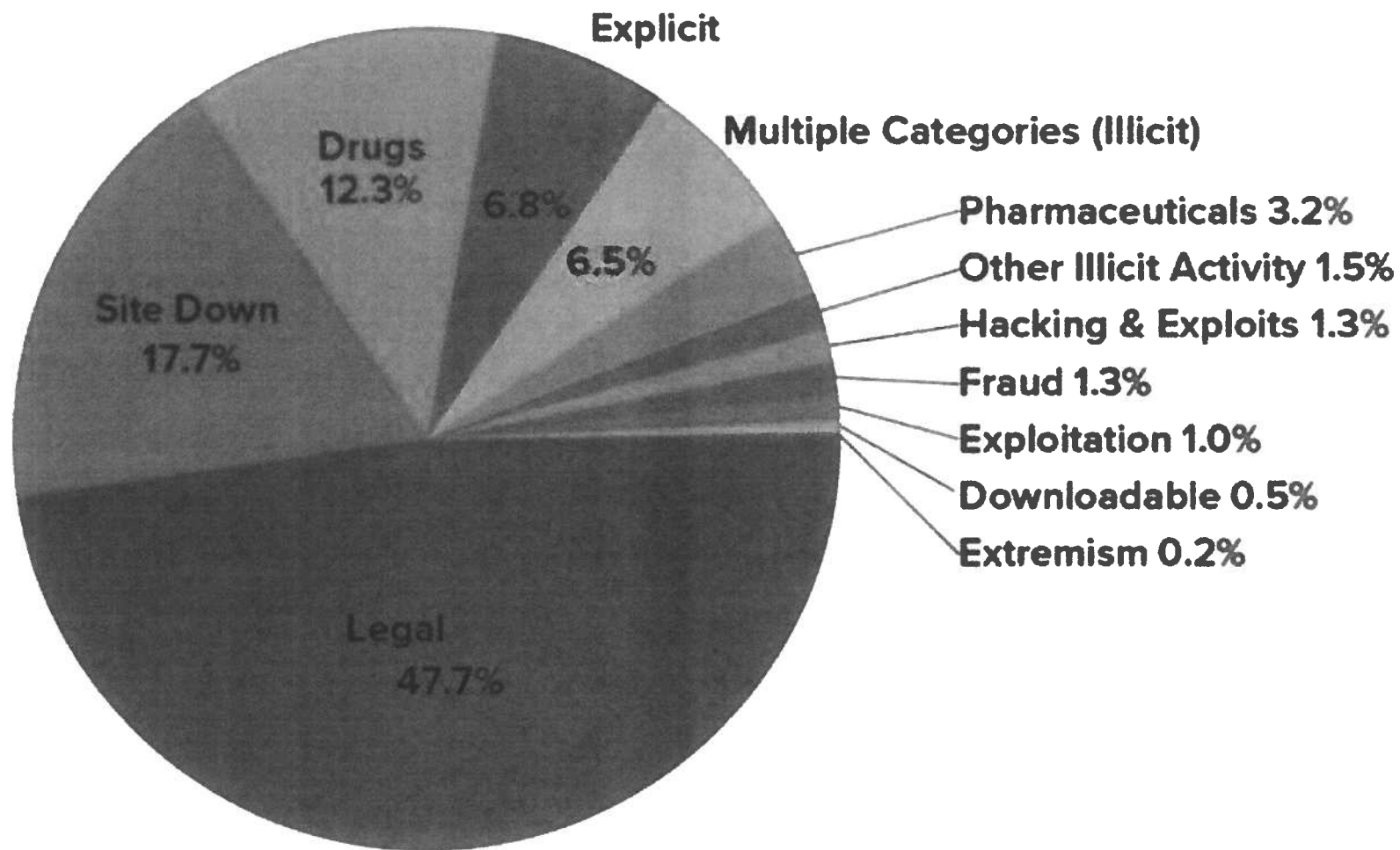
how do i get to the...

# Let's find some Dark Web URLs... but on the Surface Web...

- <http://www.deepdotweb.com/>
- <http://darkwebnews.com/dark-web-market-list/>
- <https://dnstats.net/#>
- <http://darknetmarkets.org/>
- <http://www.gvibes4u.com/list-of-darknet-marketplaces-pages/>
- <http://thehiddenwiki.org/>



# What can we find on the Dark Web?



# Search engines



DuckDuckGo

Search for...

The search engine that doesn't track you. Help Spread DuckDuckGo!

# ONION LINK

Enabling search and global access to Tor's onion sites

Copy Custom Search

Why

Security

Legal

Media

Privacy Policy

Onion link services client-encrypted for convenience. These websites to browse anonymously must download the Tor Browser Bundle.



# searX

Search for...

Advanced settings

# TORCH

TORCH: Tor Search Engine

Search!

## ! NEW 2018 TEAM !



**BUY REAL MONEY**  
STACK WOLFS





# The (uncensored) Hidden Wiki

zqktlwi4fecvo6ri.onion/wiki/index.php/Main\_Page

Most Visited Learn more about Tor Deep Dot Web Hidden Wiki Dream Market

create account log in

main page discussion view source history

## Main Page

Welcome to The Hidden Wiki New hidden wiki url 2018 <http://zqktlwi4fecvo6ri.onion> Add it to bookmarks and spread it!!!

### Editor's picks

Pick a random page from the article index and replace one of these slots with it:

1. The Matrix - Very nice to read.
2. How to Exit the Matrix - Learn how to Protect yourself and your rights, online and off.
3. Verifying PGP signatures - A short and simple how-to guide.
4. In Praise Of Hawala - Anonymous informal value transfer system.
5. Terrific Strategies To Apply A Social media Marketing Approach - Great tips for the internet marketer.

### Volunteer

Here are the six different things that you can help us out with:

1. Plunder other hidden service lists for links and place them here!
2. File the SnapBBSIndex links wherever they go.
3. Set external links to HTTPS where available, good certificate, and same content.
4. Care to start recording onionland's history? Check out Onionland's Museum.
5. Perform Dead Services Duties.
6. Remove CP shitness.

### Introduction Points

- Ahmia.fi - Cleamnet search engine for Tor Hidden Services.
- DuckDuckGo - A Hidden Service that searches the cleamnet.
- Torlinks - TorLinks is a moderated replacement for The Hidden Wiki.
- Torch - Tor Search Engine. Claims to index around 1.1 Million pages.
- The Hidden Wiki - A mirror of the Hidden Wiki. 2 days old users can edit the main page. **[redirect]**

#### Contents [hide]

- 1 Editor's picks
- 2 Volunteer
- 3 Introduction Points
- 4 Financial Services
- 5 Commercial Services
- 6 Domain Services
- 7 Anonymity & Security
- 8 Blogs / Essays / Wikis
- 9 Email / Messaging
- 10 Social Networks
- 11 Forums / Boards / Chans
- 12 Whistleblowing
- 13 HPI/AAWWIC
- 14 Audio - Music / Streams
- 15 Video - Movies / TV
- 16 Books
- 17 Drugs
- 18 Erotica
  - 18.1 Noncommercial (E)
  - 18.2 Commercial (E)
- 19 Uncategorized
- 20 Non-English
  - 20.1 Belarussian / Белорусский
  - 20.2 Finnish / Suomi
  - 20.3 French / Français



#### navigation

- Main page
- Recent changes
- Random page
- Rules of the site

#### search

Search

Go

Search

#### tools

- What links here
- Related changes
- Special pages
- Printable version
- Permanent link
- Page information



# Marketplaces

- New generation of vendors and buyers, everybody keeps anonymity
- The first marketplace was opened in 2011 (Silk Road)
- General currency is Bitcoin or other cryptocurrencies
- There are general marketplaces and special ones only for one or two type of goods
- Despite law enforcement counter measures (Silk Road, AlphaBay, Hansa, etc.) it is a rapidly growing business
- The biggest now days are Dream Market, The Wall Street Market, Point/Tochka Free Market



# Marketplaces – How they operate?

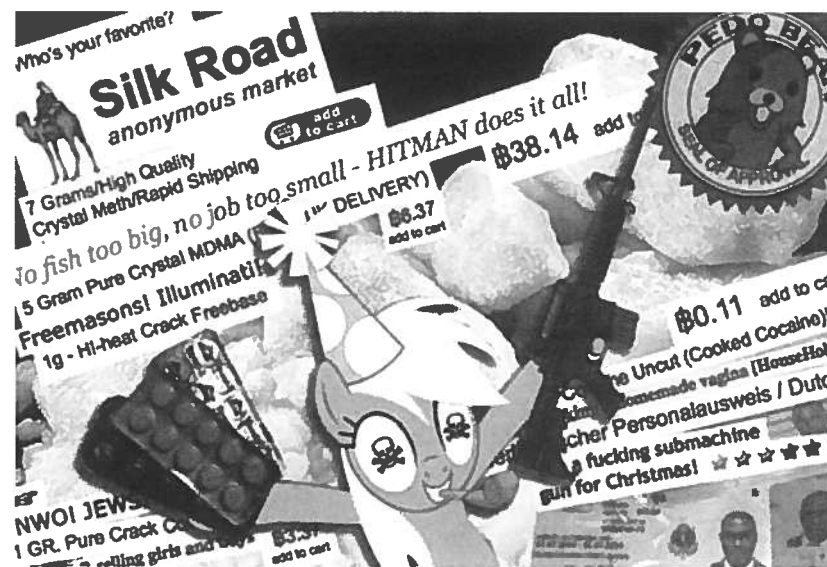
- Only username and password needed (no e-mail, no phonenumber, no credit card number, no real personal data)
- Sometimes Vendor status requires a bond of app. ₪0.1 (\$634)
- There is escrow protection
- Forum, Chat rooms, Bug hunting for money

## How the Marketplace works



# Marketplaces – What can we buy?

- All type of drugs
- Medicine
- Steroids
- Counterfeited money
- Forged documents
- Fake bank statement
- Payment card data
- Bank account data
- Child abuse material
- Prostitutes
- Hitman
- Hacking activity
- Stolen goods
- Weapons, ammo
- Guidelines



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**U.S. Immigration and  
Customs Enforcement**

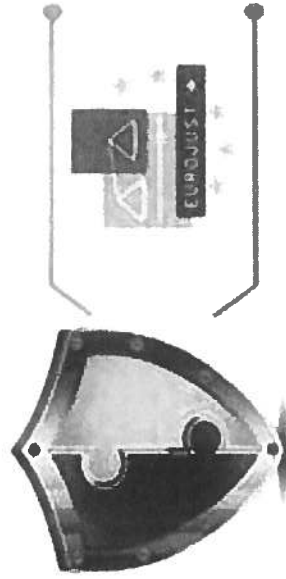


# **THIS HIDDEN SITE HAS BEEN SEIZED**

**as part of a joint law enforcement operation by  
the Federal Bureau of Investigation, ICE Homeland Security Investigations,  
and European law enforcement agencies acting through Eurojust and Eurojust**

**in accordance with the law of European Union member states  
and a protective order obtained by the United States Attorney's Office for the Southern District of New York  
in coordination with the U.S. Department of Justice's Computer Crime & Intellectual Property Section  
issued pursuant to 18 U.S.C. § 983(j) by the**

**United States District Court for the Southern District of New York**



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# Some law enforcement success

NEW YORK

Navigation menu: HOME, NEWSROOM, ACTIVITIES & SERVICES, PARTNERS & AGREEMENTS, CAREERS & PROCUREMENT, PUBLICATIONS & DOCUMENTS

Logo: EURPOL

HOME > NEWSROOM > MASSIVE BLOW TO CRIMINAL DARK WEB ACTIVITIES AFTER GLOBALLY COORDINATED OPERATION

## MASSIVE BLOW TO CRIMINAL DARK WEB ACTIVITIES AFTER GLOBALLY COORDINATED OPERATION

20 July 2017  
Press Release



Takedown of AlphaBay and Hansa will lead to hundreds of new investigations in Europe

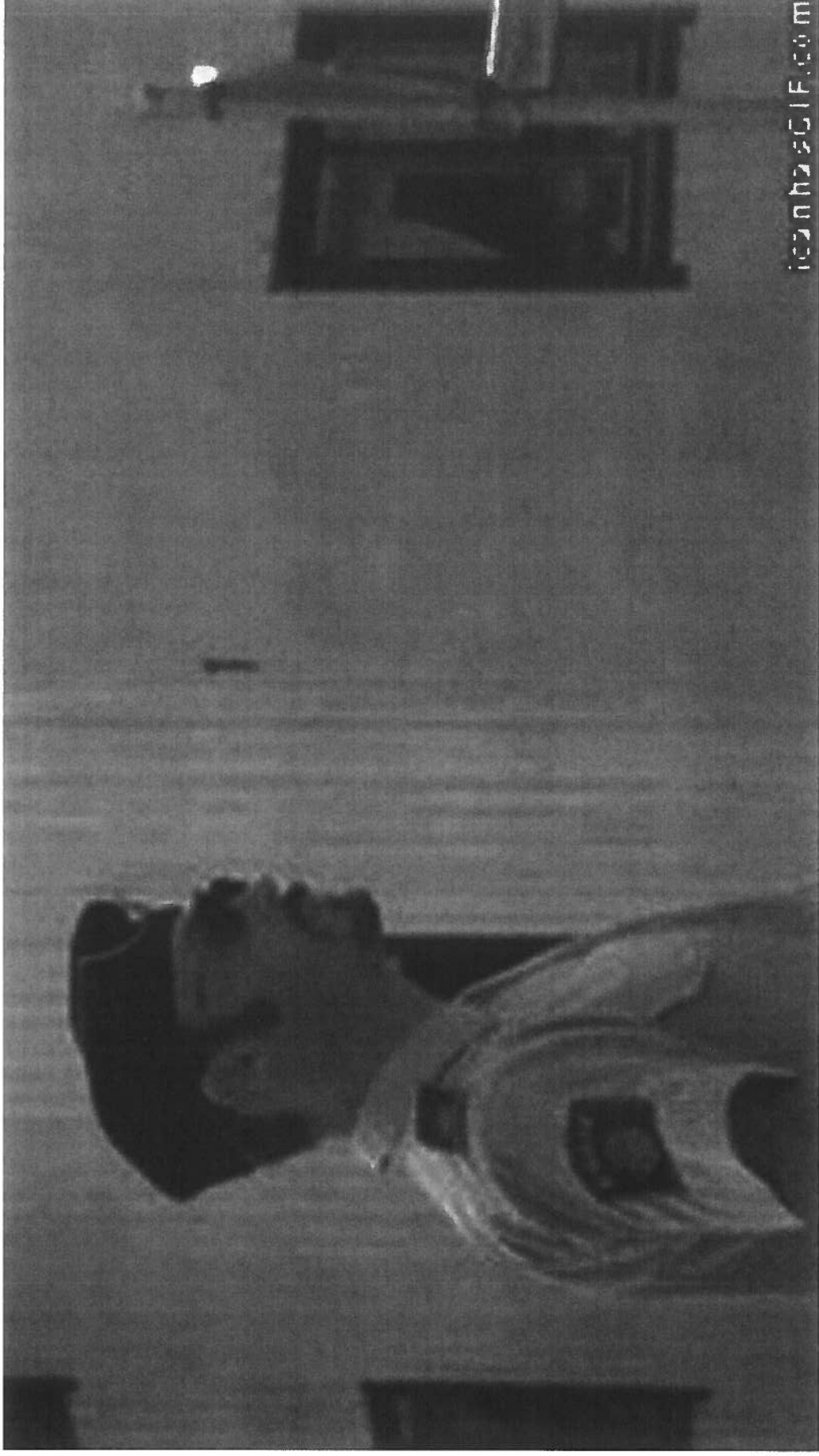
Months of preparation and coordination have resulted today, 20 July 2017, in the takedown of two of the largest criminal Dark Web markets, AlphaBay and Hansa.



Automated translation

THIS NEWS/PRESS RELEASE IS ABOUT  
DRUG TRAFFICKING  
[View all crime areas](#)

**So let's continue taking down the bad guys...**





# Thank you for your attention!

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European Union Agency for Law Enforcement Training

Offices: H-1066 Budapest, Ó utca 27., Hungary • Correspondence: H-1903 Budapest, Pf. 314, Hungary

Telephone: +36 1 803 8030 • Fax: +36 1 803 8032 • E-mail: [info@cepol.europa.eu](mailto:info@cepol.europa.eu) •

[www.cepol.europa.eu](http://www.cepol.europa.eu)





# International Cooperation

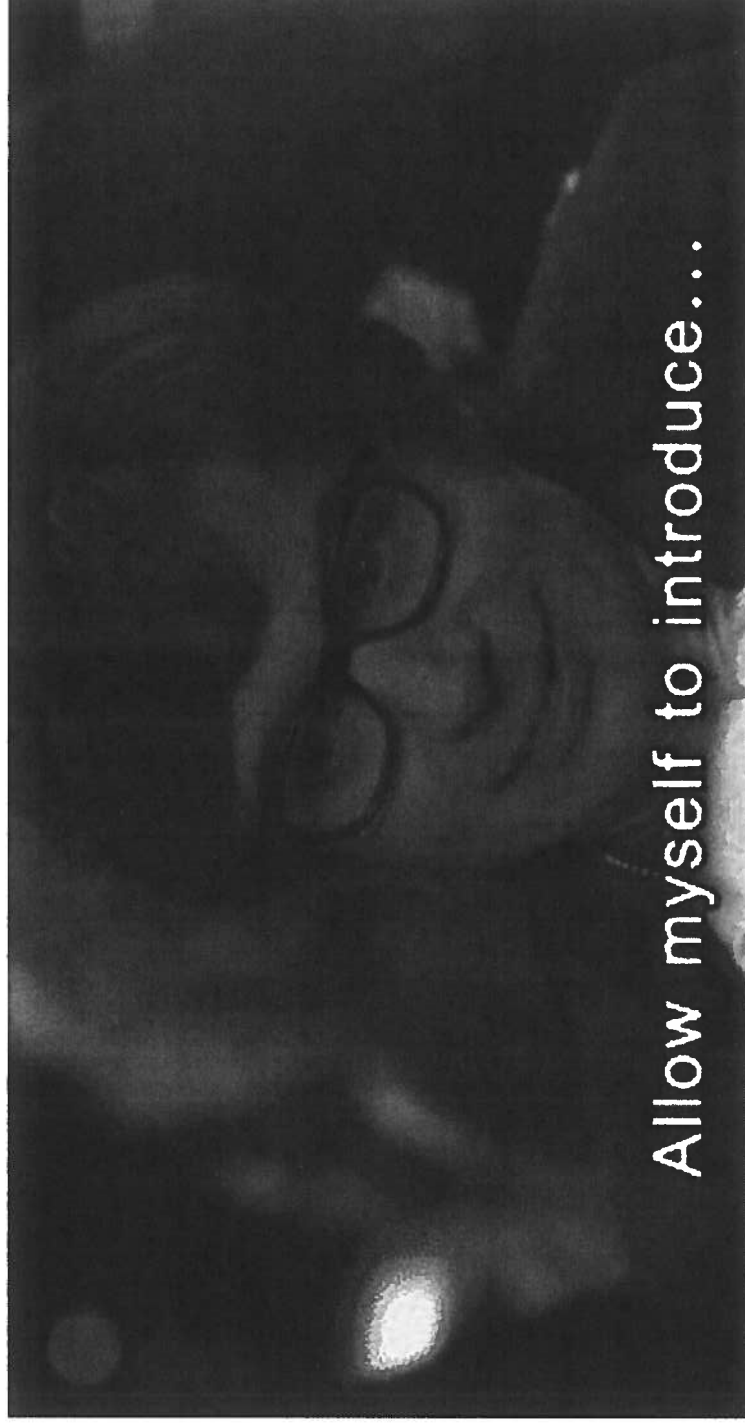
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## Digital evidences abroad

EUROPEAN UNION AGENCY FOR LAW ENFORCEMENT TRAINING

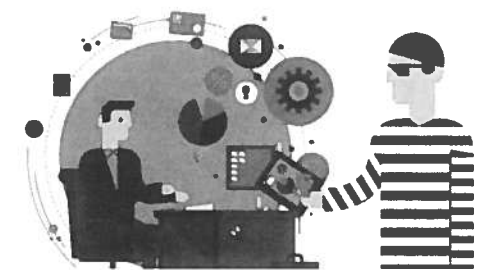
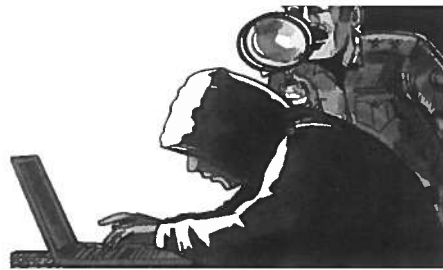
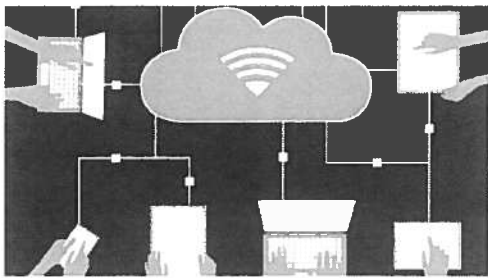


# Introduction



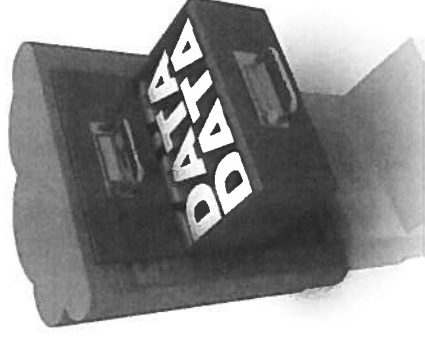
# Key findings

- Digital globalization
- Cloud computing
- Criminals and crimes become more transnational
- No borders for criminals
- Borders for law enforcement
- Legal regulations changing very slow
- Law enforcement and judicial authorities hardly adapt



## Some problems...

- Phone numbers
- E-mail addresses
- IP addresses
- Data storage
- Bank accounts
- Property
- Other financial actions



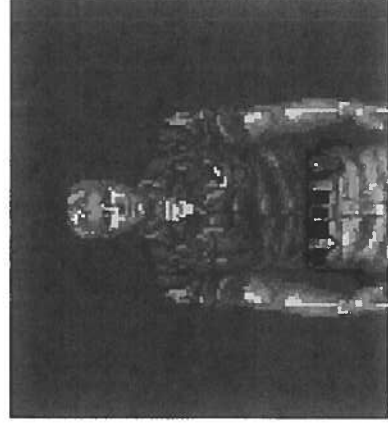
# Convention on Cybercrime („Budapest Convention“)

- drawn up by the **Council of Europe** in Strasbourg
- signed in **Budapest 23/11/2001**
- open for signature by the member States and the non-member States (**61 ratifications** now)
- the main objective is a **common criminal policy** for the protection of society against cybercrime
- the **first international treaty** on crimes committed via the Internet (infringements of copyright, computer-related fraud, child pornography, violations of network security)
- it also contains a series of **powers and procedures**



# Convention on Cybercrime („Budapest Convention”)

- **preservation** of stored data, preservation and partial disclosure of traffic data, production order, **search and seizure** of computer data, real-time **collection** of traffic data, and **interception** of content data.
- contains a provision on a specific type of **trans border access** to stored computer data which does not require mutual assistance (with consent or where publicly available)
- provides for the setting up of a **24/7 network** for ensuring speedy assistance among the Signatory Parties.



# Why this is important for us?

- Preamble: ...and to enable the collection of evidence in electronic form **of a criminal offence**;
- Article 14: ...each Party shall apply the powers and procedures referred to in paragraph 1 of this article to: ...c the collection of evidence in electronic form **of a criminal offence**
- Article 25: The Parties shall afford one another mutual assistance to the widest extent possible for the purpose of investigations or proceedings concerning criminal offences related to computer systems and data, or for the collection of evidence in electronic form **of a criminal offence**.





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## Other 24/7 channels

- **G7 network** (Established by G7 Subgroup on High-Tech Crime in 1998, 71 members, updated by USA Department of Justice – Albania has a PoC)
- **INTERPOL DIGITAL CRIME CENTER 24/7** (Established by INTERPOL, almost 200 members, updated by INTERPOL – Albania has a PoC)

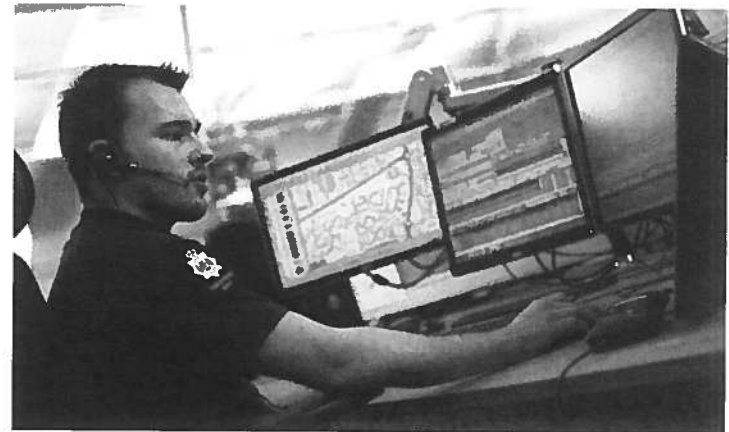


INTERPOL

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# Why is it good and how can we use it?

- Fast, direct, electronic channel
- English speaking police officers
- Ask for information (legal requirement, competent authority, general practice, contact info, etc.)
- Ask for preservation of stored data and traffic data, production order, search and seizure of computer data, real-time collection of traffic data, interception of content data



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# Thank you for your attention!

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European Union Agency for Law Enforcement Training

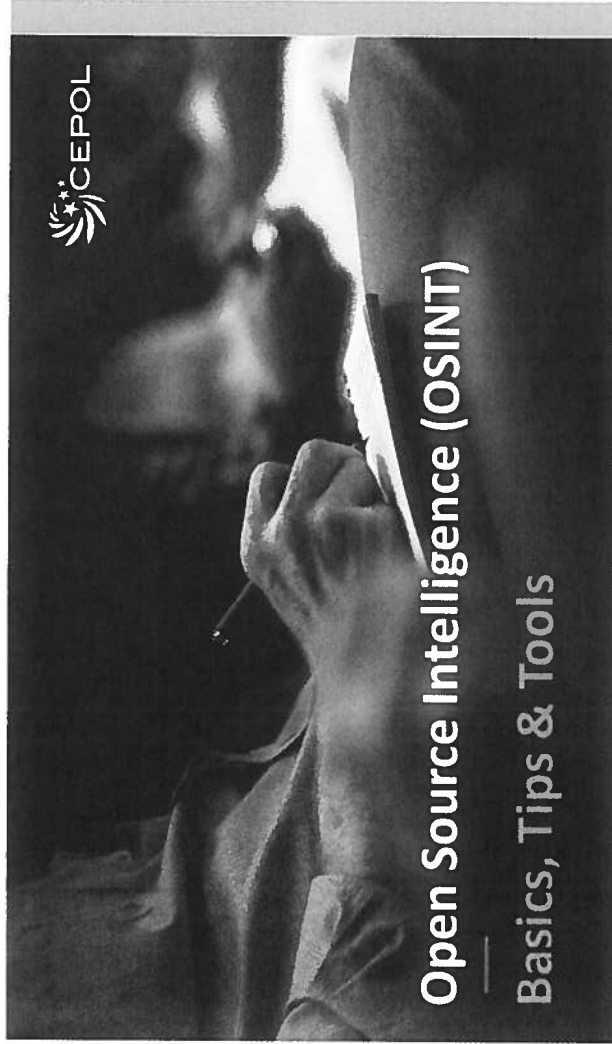
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## Introduction



## What is OSINT?

- Open Source Intelligence: an intelligence gathering method which involves finding data in sources publicly and legally available for everyone and analyzing it to be used in an intelligence context



## Digital footprint

- Every action on the Internet leaves a trace behind
- At least an username, an e-mail account and a password is necessary almost everywhere
- Once it is there, it can be only hardly or never removed...



## Intelligence gathering methods

- HUMINT – Human Intelligence
- MASINT – Measurement and Signature Intelligence
- GEOINT – Geospatial Intelligence
- SIGINT – Signals Intelligence
- TECHINT – Technical Intelligence
- MARKINT – Market Intelligence
- OSINT – Open Source Intelligence
- Etc.



## OSINT vs. other intelligence gathering methods

- In other intelligence methods the hardest part is **obtaining** the data while in OSINT the major difficulty is to **analyze and verify** it.
- It became **essential** after the Internet explosion
- **90 %** of data processed by intelligence services is based on open sources



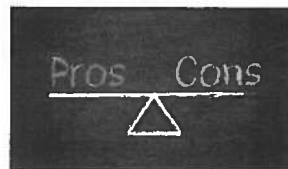
## OSINT vs. other intelligence gathering methods

### • Advantages:

- Easy to access
- Cheap or free
- Big volume of data
- Good chance to get information
- Can be used without permission
- Open sources usually record historical data too

### • Disadvantages:

- Time consuming
- Needs new type of skills and knowledge
- Big volume of data
- Many fake information, reliability of data
- You need other sources for verifying



## OSINT Methods

- **Passive:** no interaction with the target

*„The quieter you become the more you are able to hear.“*

(Ram Dass)

- **Active:** taking some intrusive steps is necessary to get the information (e.g. follow an Instagram profile, send a friend request or join a group on FB, etc.)

*„The line between ACTIVE OSINT and HACKING is very thin.“*

(Anybody who teaches OSINT)



## Open sources

- Media: newspapers, magazines, radio, television...
- Public databases: libraries, universities, governmental bodies, NGOs, research facilities, private companies...
- Publications: governmental reports, studies, academic papers...
- Public conferences and other public events...
- **World Wide Web**

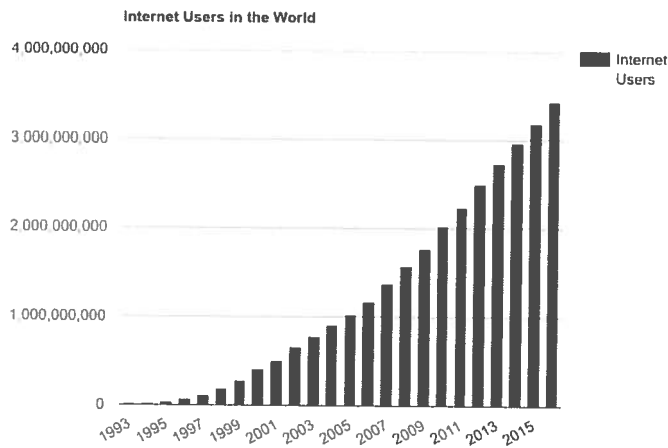


## Why is the internet is the most important source?

- Easy to access
- Used by everyone – including criminals
- Timeless and timely
- The quantity of the data on the world wide web grows exponentially
- Cointains everything mentioned before and a lot more
- There are types of data which could be obtained only from the web



## Exponential growth in the last two decades



Year	Internet Users**	Penetration (% of Pop)
2016*	3,424,971,237	46.1 %
2015*	3,185,996,155	43.4 %
2014	2,956,385,569	40.7 %
2013	2,728,428,107	38 %
2012	2,494,736,248	35.1 %
2011	2,231,957,359	31.8 %
2010	2,023,202,974	29.2 %
2009	1,766,403,814	25.8 %
2008	1,575,067,520	23.3 %
2007	1,373,226,988	20.6 %





**3,757,261,687**

Internet Users in the world



**1,273,496,747**

Total number of Websites

[sources](#) [more info](#) [watch all](#)



**132,610,427,629**

Emails sent today



**377,610,348**

Tweets sent today



**3,059,114,974**

Google searches today



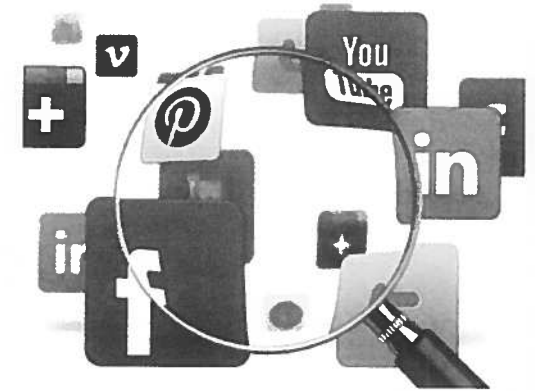
**2,870,676**

Blog posts written today



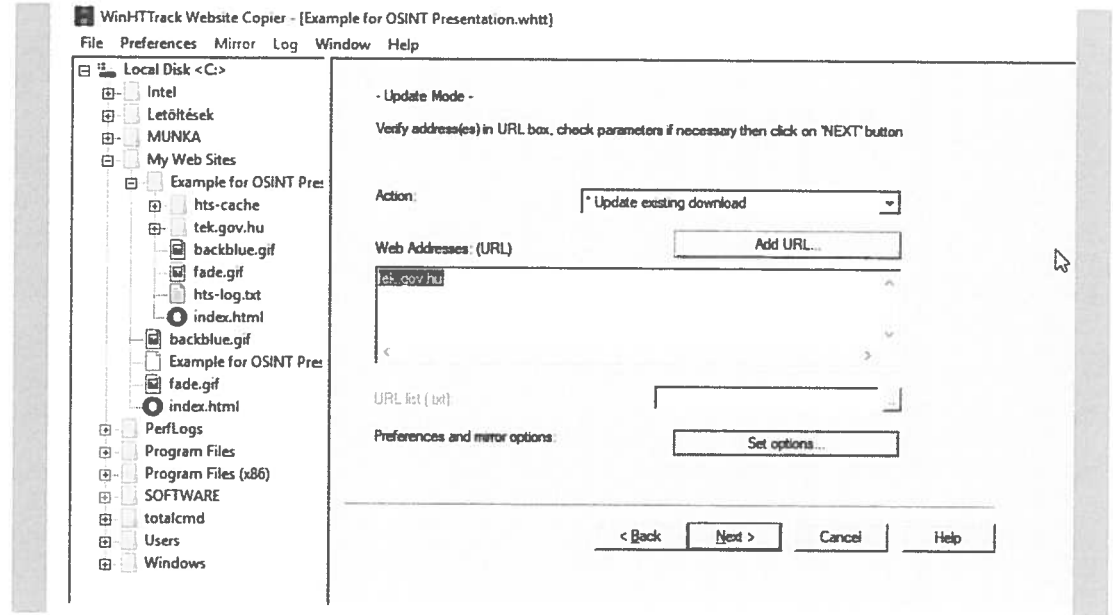
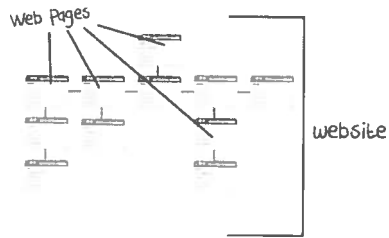
## What are the most important sources?

- Websites
- Search engines
- Online databases
- Instant message apps
- Maps
- Photos, videos
- Dark web
- Social media



## Websites

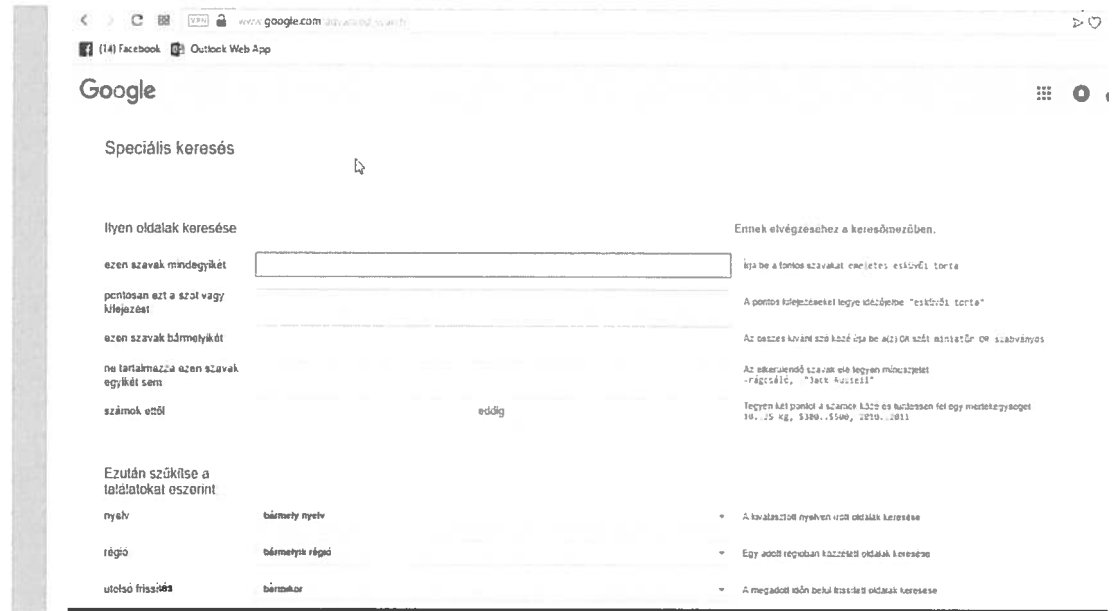
- Websites made by the suspect or visited by the suspect can contain useful information
- Website vs. Webpage
- **Tip:** a comment section of a website is a good source
- **Tool:** for downloading a website use Httrack (<https://www.httrack.com>)





## Search engines

- The BIG ONES: Google, Bing (Yahoo), Yandex (Russia), Baidu (China)
- Special search engines:
  - Country based search engines
  - People search engines
  - Social media search engines
  - Deep web search tools
  - Etc.
- **Tip:** always check Bing also
- **Tool:** use Google Search Operators and Google Advanced Search



GOOGLE Search Operator	Meaning
	<b>Pages containing keywords in:</b>
<b>allinurl: / inurl:</b>	– the <b>URL</b>
<b>allintitle: / intitle:</b>	– the <b>Title</b>
<b>allintext: / intext:</b>	– the <b>text</b>
<b>cache:</b>	– <b>cache</b>
<b>filetype:</b>	– <b>after the last period in file name</b>
<b>site:</b>	<b>Narrow results to a site</b>
<b>related:</b>	<b>Shows similar sites</b>
<b>info:</b>	<b>Shows page info</b>
<b>"keyword keyword"</b>	<b>Search for a phrase</b>
<b>-</b>	<b>Exclusion</b>
<b>OR</b>	<b>Alternatives</b>

- Stolen Samsung laptop probably sold on [www.vatera.hu](http://www.vatera.hu)

*site:vatera.hu „samsung laptop” AND „for sale”*

- Looking for word documents on [www.police.hu](http://www.police.hu)

*site:police.hu filetype:doc OR filetype:docx*

- Looking for CV on [www.un.org](http://www.un.org)

*site:un.org filetype:doc | filetype:docx | filetype:rtf | filetype:odt | filetype:pdf cv*

## Online Databases

- Company registers: Information about the directors, shareholders, incorporation dates, annual reports, addresses, jurisdiction, connections...
- [www.opencorporates.com](http://www.opencorporates.com)
- **Tip:** try free tolls before paid services
- **Tool:** European e-Justice Portal – Company Registers (all EU members, in all EU languages)

opencorporates

Search 137 189 193 companies

Companies Offices Browse all jurisdictions

Winner Open Data Business Award 2015



The screenshot displays the European e-Justice Portal interface for the Slovenian Business Register. At the top, there is a navigation bar with the 'e EUROPEAN JUSTICE' logo, a search bar, and a language menu. The main content area is titled 'Business registers in Member States - Slovenia' and includes a warning icon and a note about the original language version. Below this, there is a section titled 'What does the Slovenian Business Register (Poslovni register Slovenije) offer?' which provides an overview of the register and lists the categories of businesses included, such as companies, sole traders, and legal entities governed by public or private law. The language menu on the right lists various languages including English, French, German, Italian, and Slovenian.



## Online Databases

- Online auction sites: E-bay, Amazon, AliExpress, Wish
- **Tip:** search on E-bay by username

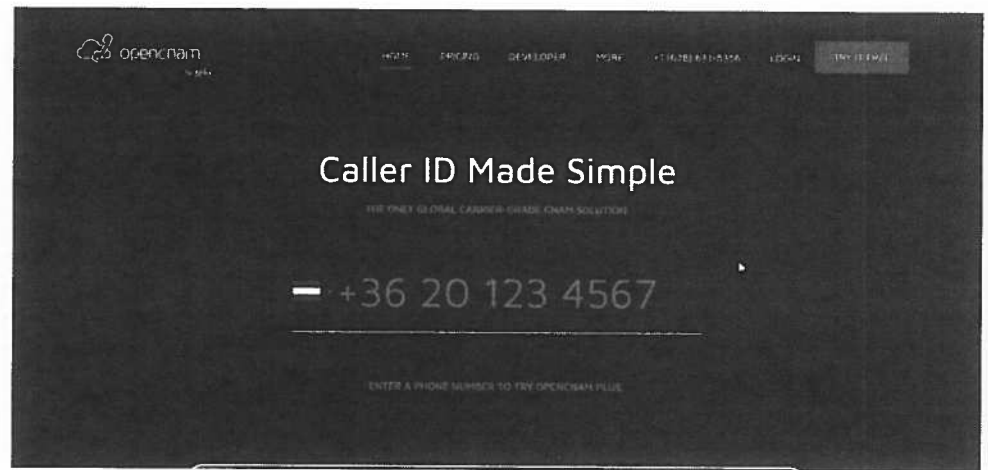
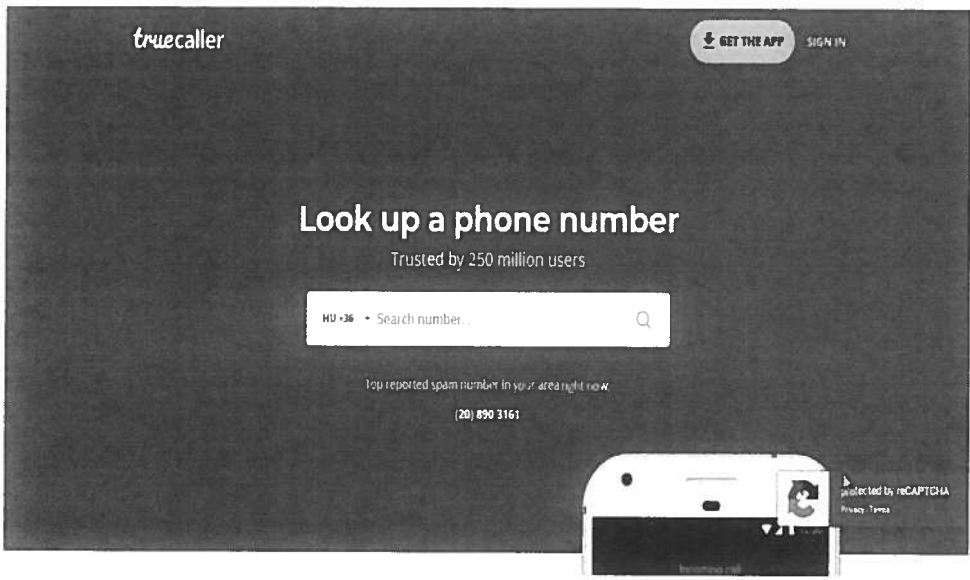


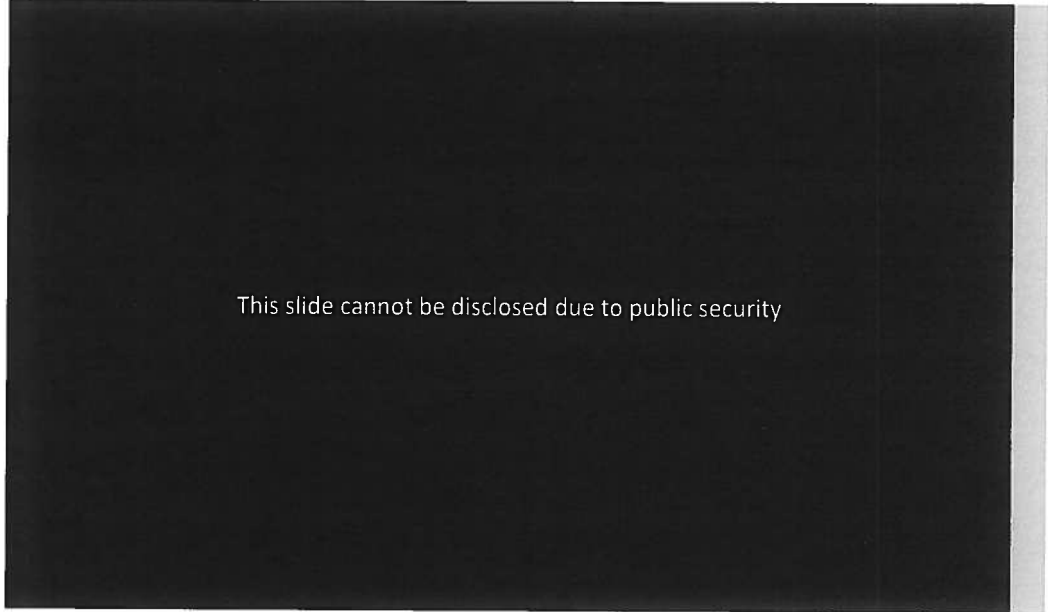
## Online Databases

- Phone registers: mobile service providers search pages by country OR global online search webpages
- **Tip:** search number also in Google in different ways „0036..., +36..., without country code..., etc.”
- **Tool:** register to all of the available phone register webpages and bookmark them in your browser









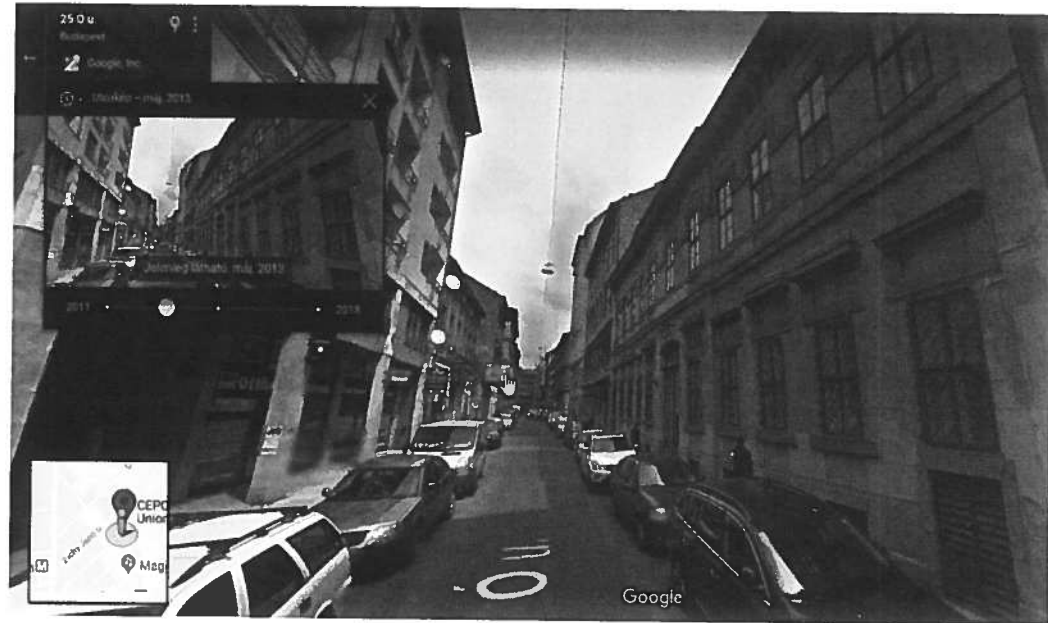
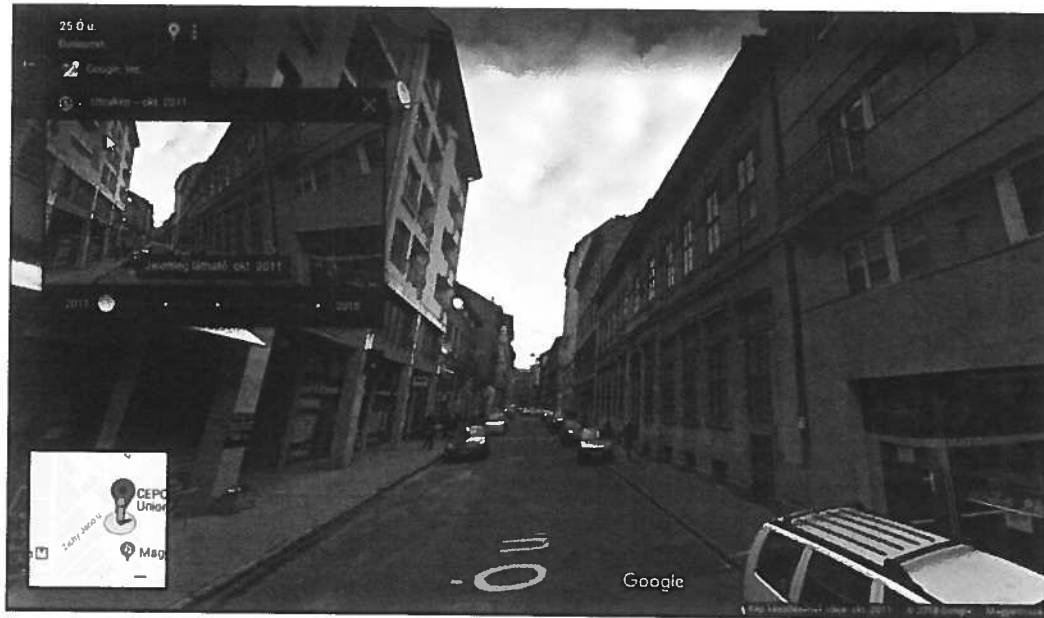
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## Maps

- Google Maps and Google Earth, (Bing Maps)
- We can check almost any address without going out – even in the past
- Especially useful before an arrests and a house search
- **Tip:** Always check the date at the left upper corner
- **Tool:** Google Maps Timeline

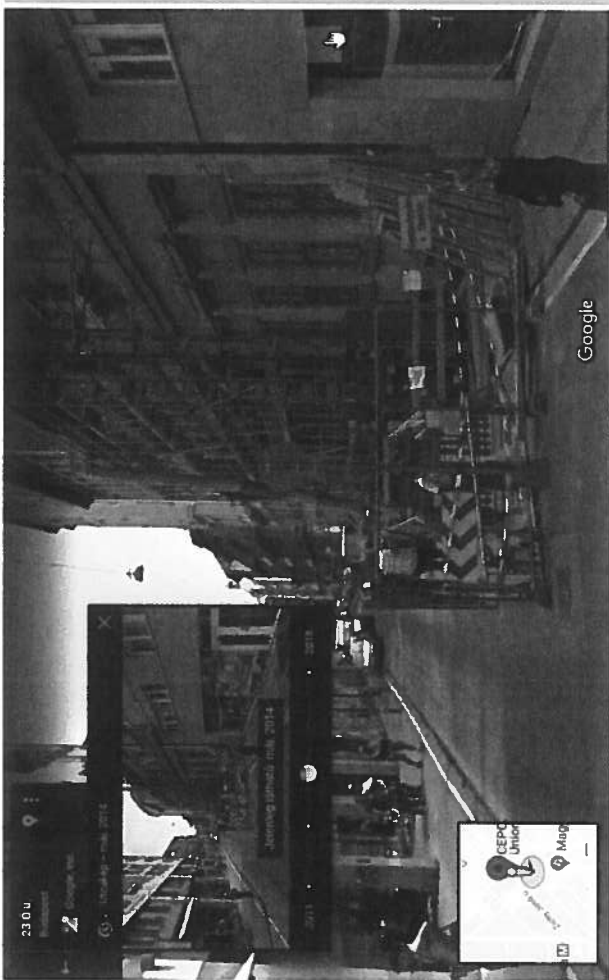








CEPOL



CEPOL

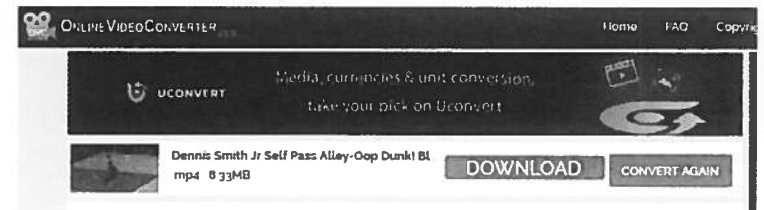
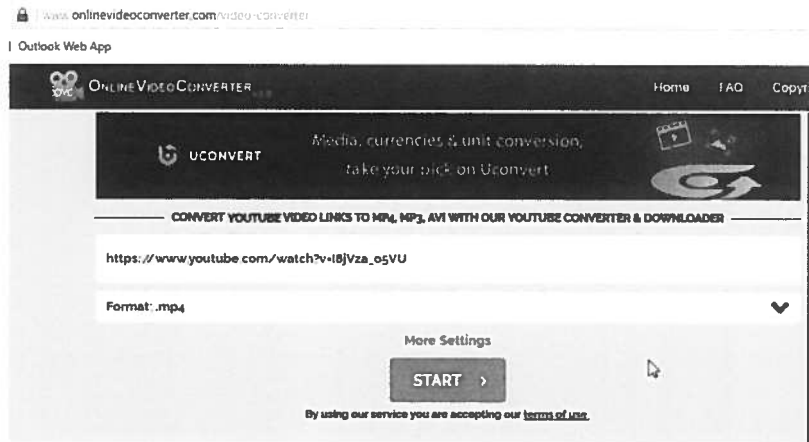
## Photos, Videos

- Photos and videos made by the target, made of the target
- We can find them everywhere, we can search them
- We can analyze them and the metadata also (sometimes)
- **Tip:** check photo metadata easily with Windows, but do not forget to analyze the photo itself
- **Tool:** for downloading a video from youtube.com use <https://www.onlinevideoconverter.com>



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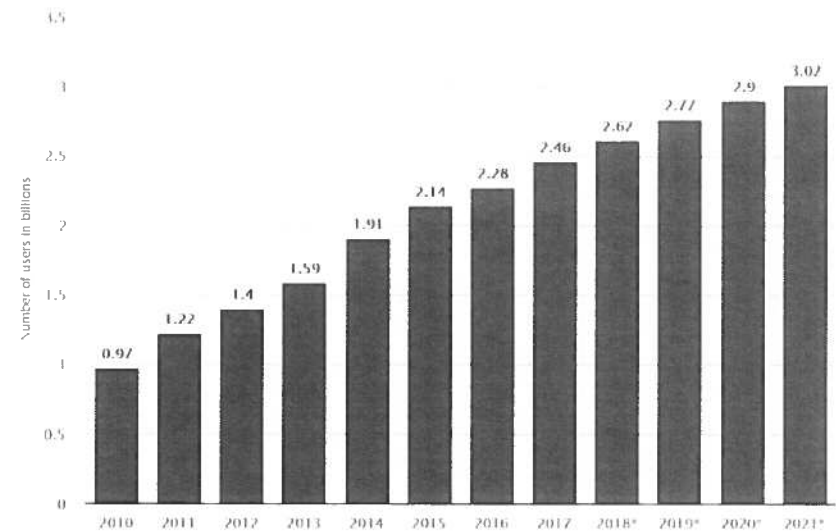


## Social media

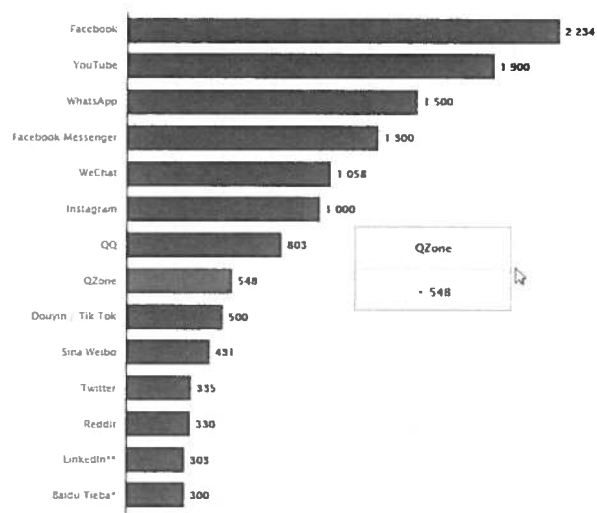
- The most important source, the backbone of every OSINT investigation
- We can obtain the most personal and up to date information about a target
- Nearly everybody was, is, or will be on some kind of a social media site
- **Tip:** check all the popular social media websites in your country
- **Tools:** we need another week for that... but let's try



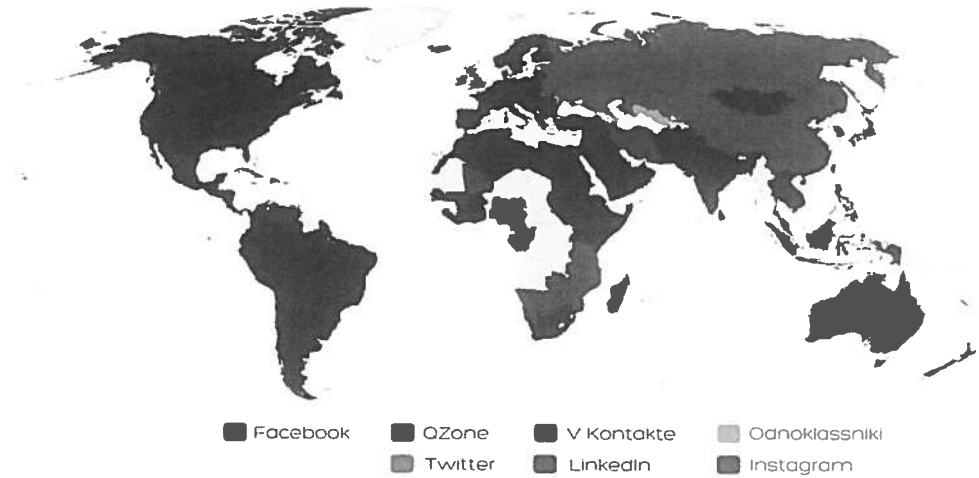
## Number of social media users



## Most popular social networks worldwide of ( October 2018 - in millions)



## WORLD MAP OF SOCIAL NETWORKS January 2017



credits: Vincenzo Cosenza vincos.it

license: CC-BY-NC

source: Alexa/SimilarWeb

## Some statistics on Facebook users

- 87 % of online users of age 18-29 are on Facebook
- Half of them checks Facebook when they wake up
- The average time spent on facebook per visit is 20 minutes
- Average Facebook user has 155 friends
- Average number os pages, groups and events a user is connected to is 80



## Some statistics on Facebook content

- 350 million photos uploaded every day, with 4.000 uploads per second
- Every 20 minutes 1 million links are shared, 20 million friend requests and 3 million messages are sent
- 55 million status updates are made every day
- Every 60 seconds 1 million comments are posted



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27

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27



## FACEBOOK Search Bar

- Simple:
  - People who live in (places)
  - People who work at (working places)
  - People who was born in (birthplaces)
  - People who visited (visited places)
  - People who like (liked content)
  - People named (name)
- Multiplied:
  - People named XY who live in X
  - People who live in X who work at Y

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## FACEBOOK User ID

- What we usually need:
  - To identify the target profile
  - The name of a person is often not enough (e.g. John Smith – hundreds of results even by narrowing them down)
  - We need the user identification number („USER\_ID” )
- Getting the User ID:
  - Browser add-ons
  - Collect it from the URL
  - Or from the page's source

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91

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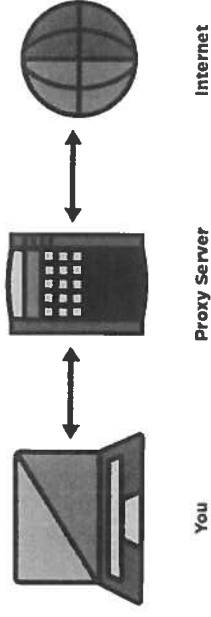
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38

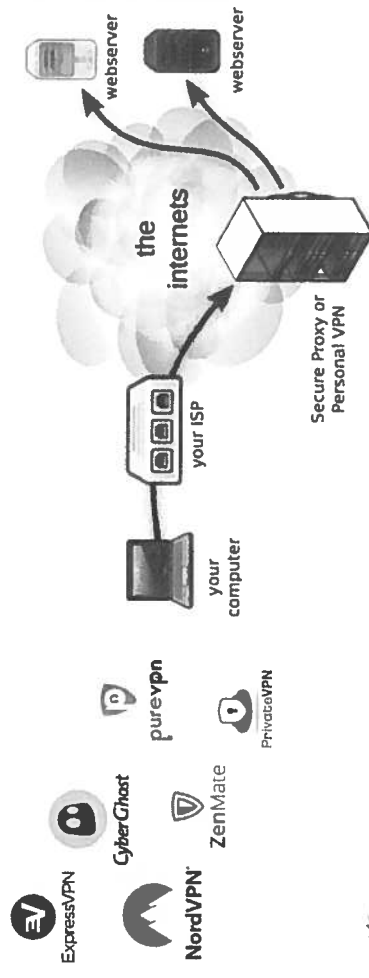
## What is a proxy?

- A proxy server acts as an intermediary between the source and the target



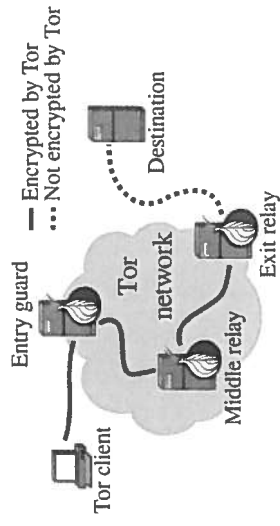
## What is a VPN?

- VPN stands for Virtual Private Network
- Some free solutions BUT paid are more recommended
- It masks your identity online



## What is TOR?

- encrypted network that gives anonymity for the users and requires a specific software to access it
- Maybe the best solution for anonymity



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## What is a Virtual Machine?

- A virtual machine (VM) is a software program or operating system that exhibits the behavior of a separate computer and capable of performing tasks such as running applications and programs like a separate computer.
- Protects you and your machine
- You can simply delete it and create a new one for a new task



VirtualBox

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**Thank you for your attention!**

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