

Ιδιωτικότητα (Privacy)

Χρήστος Καλλονιάτης
Αναπληρωτής Καθηγητής

Εργαστήριο

“Τεχνολογίες Προστασίας της Ιδιωτικότητας και Εφαρμογές Πληροφορικής
στις Κοινωνικές Επιστήμες”

Τμήμα Πολιτισμικής Τεχνολογίας και Επικοινωνίας
Πανεπιστήμιο Αιγαίου

Τι πιστεύουμε....



...τι υπάρχει!



...Internet use!

**JAN
2020**

DIGITAL AROUND THE WORLD IN 2020

THE ESSENTIAL HEADLINE DATA YOU NEED TO UNDERSTAND MOBILE, INTERNET, AND SOCIAL MEDIA USE

TOTAL
POPULATION



**7.75
BILLION**

URBANISATION:
55%

UNIQUE MOBILE
PHONE USERS



**5.19
BILLION**

PENETRATION:
67%

INTERNET
USERS



**4.54
BILLION**

PENETRATION:
59%

ACTIVE SOCIAL
MEDIA USERS



**3.80
BILLION**

PENETRATION:
49%



we
are
social



Δραστηριότητα ανά λεπτό!

2018 This Is What Happens In An Internet Minute



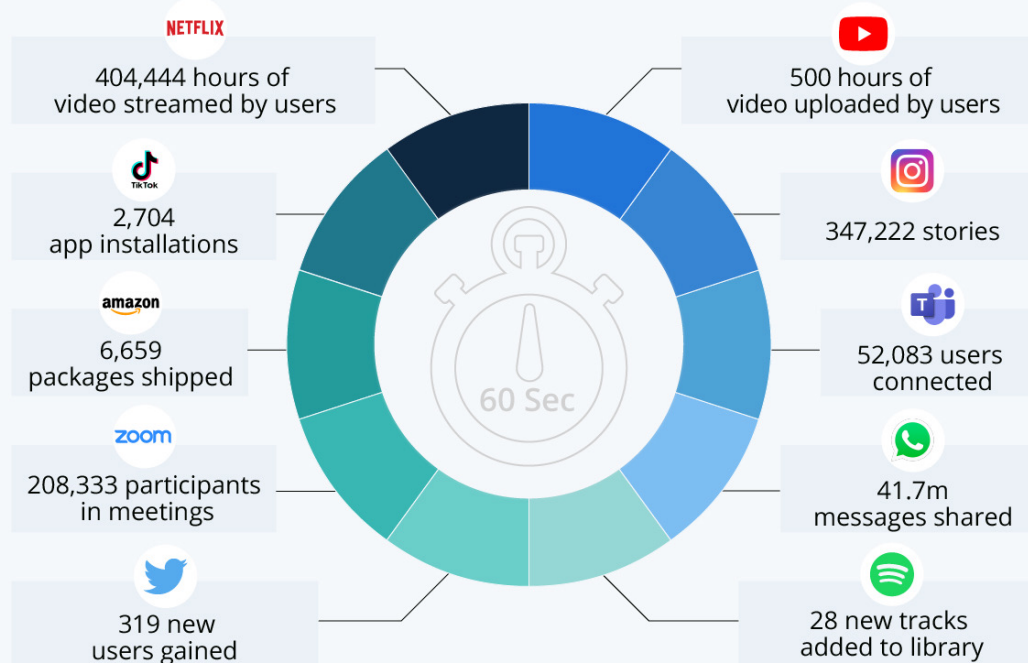
2019 This Is What Happens In An Internet Minute



Δραστηριότητα ανά λεπτό!

A Minute on the Internet in 2020

Estimated amount of data created on the internet in one minute



Source: Visual Capitalist



Δραστηριότητα ανά λεπτό!



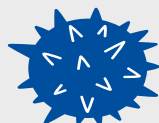
Απειλές το 2020

ENISA Threat Landscape 15 Top Threats in 2020



EUROPEAN UNION AGENCY
FOR CYBERSECURITY

1



TREND

Malware

2



TREND

Web-based attacks

3



TREND

Phishing

4



TREND

Web application attacks

5



TREND

Spam

6



TREND

DDoS

7



TREND

Identity theft

8



TREND

Data breach

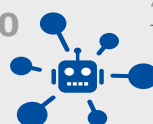
9



TREND

Insider threat

10



TREND

Botnets

11



TREND

Physical manipulation, damage, theft and loss

12



TREND

Information leakage

13



TREND

Ransomware

14



TREND

Cyberespionage

15



TREND

Cryptojacking



Ανησυχίες

- Κύριες ανησυχίες των χρηστών:
 - Μη εξουσιοδοτημένη χρήση και γνωστοποίηση των προσωπικών πληροφοριών σε επιχειρήσεις
 - Παρακολούθηση δραστηριοτήτων στο Διαδίκτυο με σκοπό τη μελλοντική προσωποποιημένη διαφήμιση και διαμόρφωση περιεχομένου ιστοσελίδων

Στοχευμένη Διαφήμιση



The image shows a screenshot of a Facebook page for "Sampan Restaurant Philadelphia". A large red arrow points from the text "Facebook Ads" across the middle of the page. The page layout includes a left sidebar with navigation links (Wall, Info, Friend Activity, Links, Photos, Reservations, Reviews, Notes), a top navigation bar (facebook, Search, Home, Profile, Account), and a main content area with posts from the restaurant. The right sidebar contains account protection status, location information, and sponsored ads.

facebook Search Home Profile Account

Sampan Restaurant Philadelphia Like
Restaurant/Cafe · Philadelphia, PA

Wall Sampan Restaurant Philade... · Most Recent

Sampan Restaurant Philadelphia
Graffiti Bar open to... See you there!!!
23 hours ago via iPhone
6 people like this.

Sampan Restaurant Philadelphia
Friday Happy Hour cocktail-- mango sake sour
Friday at 4:49pm via iPhone
Amy Edel-Vaughn likes this.

Sampan Restaurant Philadelphia
Happy Hour just got happier :)
Yes folks, the rumors are true! Sampan is now offering our ever popular Happy Hour seven days a week. Just in time for all of you to try our newly revamped menu. We've expanded our delicious food selection and added a new draft beer... We promise, there is something delicious for everyone. ...
Friday at 3:14pm · Share
5 people like this.

Sampan Restaurant Philadelphia
Ella Mae Bruce Yay!!!!
Friday at 3:29pm

Account Protection
Your account protection status:
Very Low
Increase protection

Which city do you live in?
Harrisburg, Pennsylvania
Todd Ramsey and 5 other friends live here.
I live here Choose another city

Sponsored Create an Ad

Harrisburg Bucket List
livingsocial.com
365 Things to do in Harrisburg before you die.

Tire & Auto Service
Click here to "Like Us" on Facebook and receive a \$20 off coupon.

See your public record
mylife.com
Enter your name to see publicly available

Επιπτώσεις

- Οι επιπτώσεις για τους χρήστες Διαδικτύου από την απώλεια ιδιωτικότητας είναι σημαντικές:
 - Αυξάνεται το ποσοστό καταγεγραμμένων περιπτώσεων στις οποίες τα προσωπικά δεδομένα χρηστών αξιοποιήθηκαν με διαφορετικό τρόπο από τον αναμενόμενο
 - Οι χρήστες αντιμετωπίζουν προβλήματα διαπροσωπικών σχέσεων εξ' αιτίας στοιχείων που δημοσίευσαν στο Διαδίκτυο
 - Αρκετοί/ες έχουν υποστεί παρενόληση στο Διαδίκτυο

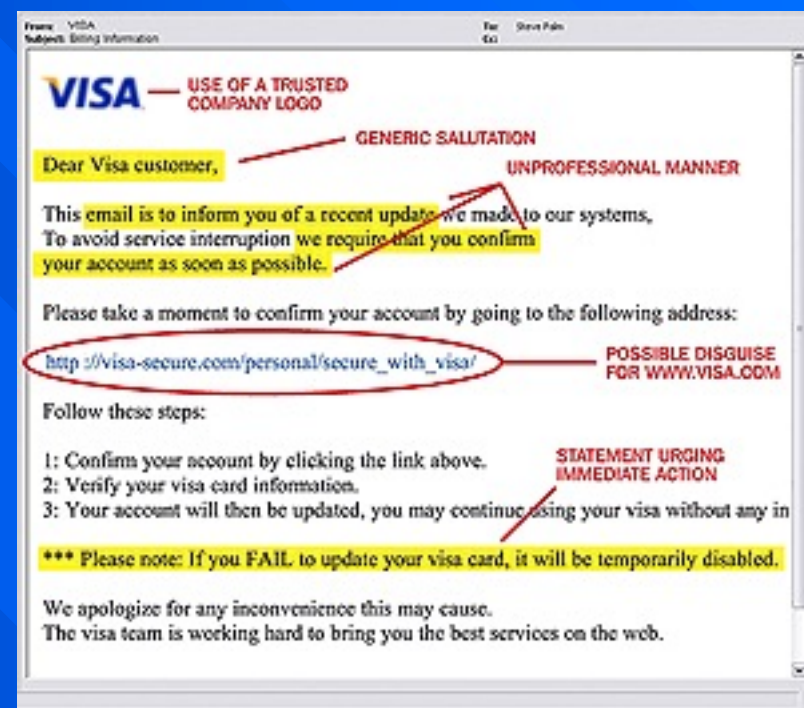
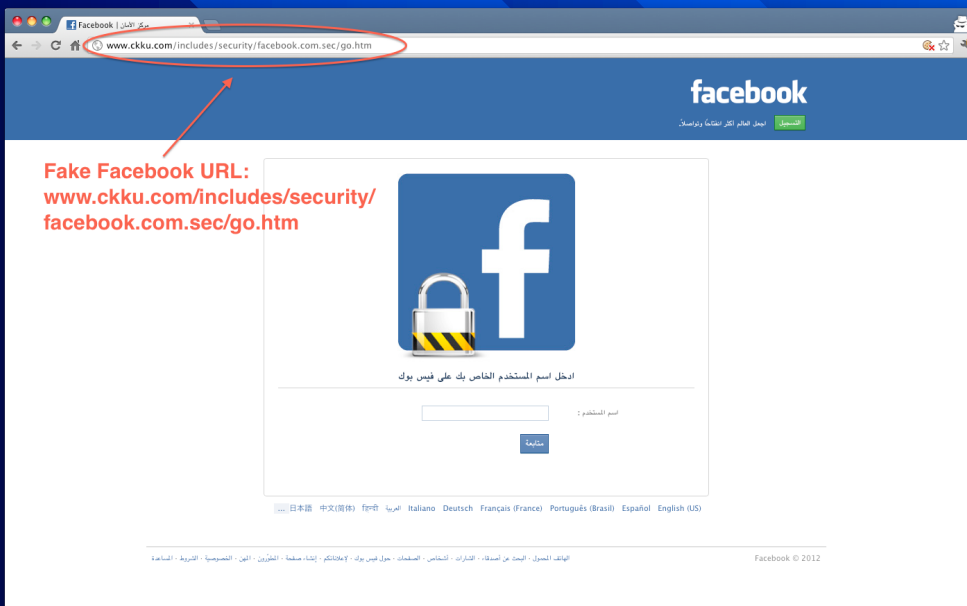
Επιπτώσεις



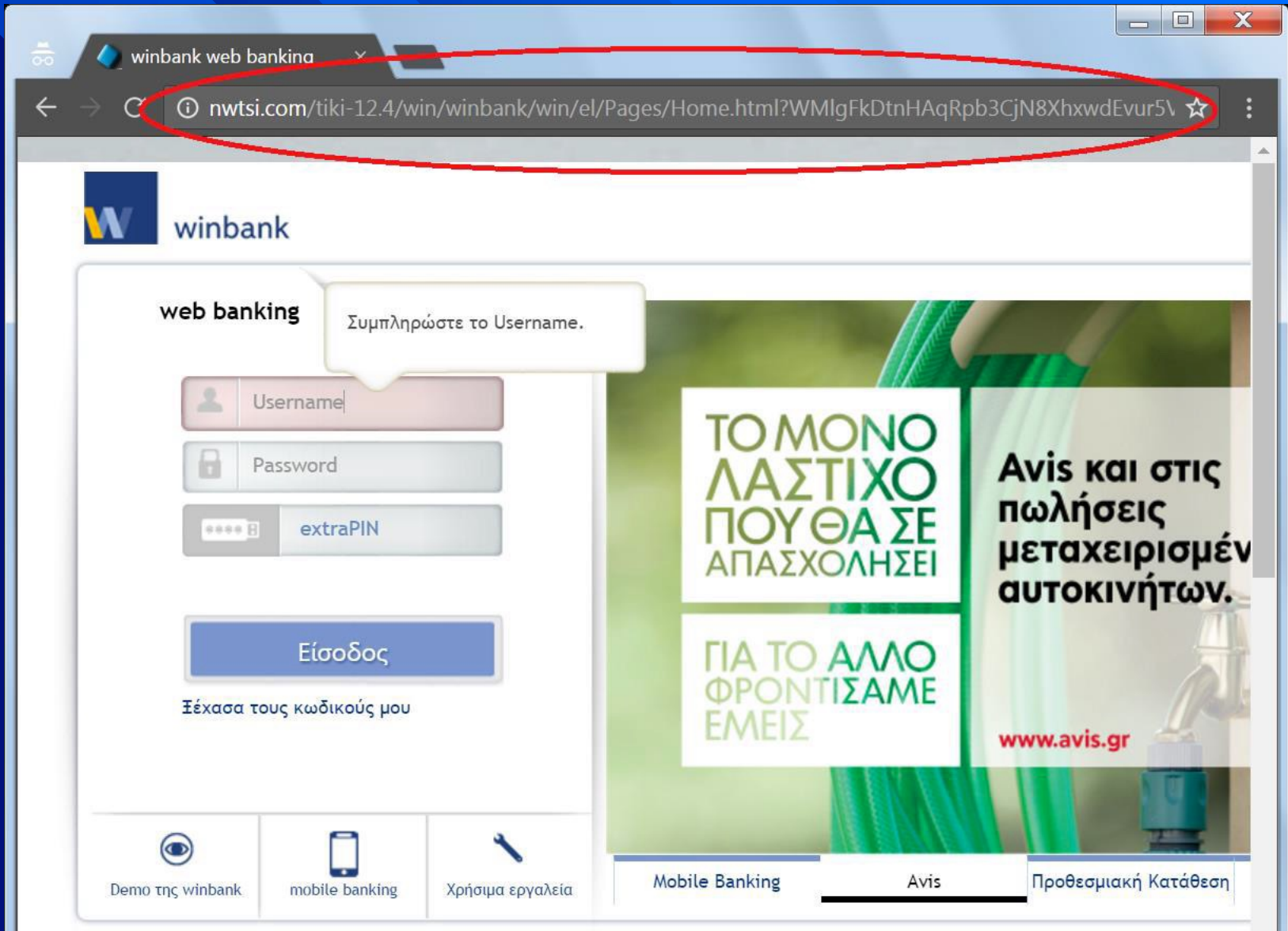
Επιπτώσεις

- Οι επιπτώσεις για τους χρήστες Διαδικτύου από την απώλεια ιδιωτικότητας είναι σημαντικές:
 - υποκλοπή προσωπικών δεδομένων (για παράδειγμα στοιχεία τραπεζικών λογαριασμών)
 - Εξαπάτηση από επιθέσεις διαδικτυακής απάτης (scam) με χρηματικές απώλειες

Phishing Attacks



Phishing Attacks



Επιπτώσεις

- Οι επιπτώσεις για τους χρήστες Διαδικτύου από την απώλεια ιδιωτικότητας είναι σημαντικές:
 - δυσφήμιση εξ' αιτίας διαδικτυακών δραστηριοτήτων τους
 - Αποκλεισμός από επαγγελματικές ή εκπαιδευτικές ευκαιρίες εξ' αιτίας στοιχείων που δημοσίευσαν στο Διαδίκτυο

Επιπτώσεις



The screenshot shows a Facebook profile for Ashley Payne. The profile picture is a woman with blonde hair, smiling and holding a glass of beer. The cover photo is a larger version of the same image. The profile name is "Ashley Payne" with an "Add Friend" button. Below the name, it says "Works at Gamestop", "Studied Information technology at National University Los Angeles", and "Born on May 2, 19". The "Wall" tab is selected, showing a post from "Ashley Payne" that says "updated their work and education." with a photo of her holding two glasses of beer. Below the post, there is a "RECENT ACTIVITY" section with two entries: "Ashley and Mike [redacted] are now friends. + Add Mike as Friend" and "Ashley is now friends with Danny [redacted] and 10 other people." The left sidebar shows the "Wall" tab selected, with links to "Info" and "Friends". The "Friends (12/12)" section shows two friends: "Ángel [redacted]" and "Mike [redacted]".

Αίσθηση Χρηστών

- Η αίσθηση των χρηστών Διαδικτύου είναι ότι:
 - Δεν είναι εφικτό να παραμείνουν ανώνυμοι στο Διαδίκτυο
 - Η σύγχρονη νομοθεσία είναι ανεπαρκής για την προστασία της Ιδιωτικότητας των χρηστών στο Διαδίκτυο
 - Θα έπρεπε να έχουν το δικαίωμα να χρησιμοποιήσουν το Διαδίκτυο προστατεύοντας την ανωνυμία τους
 - Οι πολιτικές Ιδιωτικότητας και χρήσης προσωπικών δεδομένων είναι δυσνόητες

The paradox...

EMC **Privacy Index**

A World of Complex Paradoxes

Digital privacy is a complex issue. The EMC Privacy Index offers insights in the international conversation about digital privacy, examining consumer attitudes and how they vary by geography as well as the many roles we assume when we go online.

Global research* reveals three privacy paradoxes, with implications for citizens, businesses and technology providers.



* Online survey based on a nationally representative sample, weighted to gender and age, conducted August 1, 2013 to August 19, 2013, and based on 1,000 respondents per country in 15 countries. For combined samples, weighted to majority country representation. Margin of error for each country: +3.1%; global: +1%. Significance testing was conducted at the 95% confidence level.

† Data was normalized by putting the attributes on a 0-100 scale: 100 = Most willing to trade privacy for greater convenience; 0 = Unwilling to trade any privacy for greater convenience. The overall score is found by using the metrics for willingness to trade privacy for greater convenience and benefits.

For full information visit:
www.emc.com/privacyindex

EMC²

www.emc.com

EMC Corporation is a global leader in enabling businesses and service providers to transform their operations and deliver IT as a service. Fundamental to this transformation is cloud computing. Through innovative products and services, EMC accelerates the journey to cloud computing, helping IT departments to store, manage, protect and analyze their most valuable asset – information – in a more agile, trusted and cost-efficient way.

The paradox...

1

The 'We Want it All' Privacy Paradox

Consumers are highly active online, with shopping, banking, searching and social networking leading global online activity:

78%

Shopping

74%

Banking

71%

Search

68%

Social



These activities create personal data, **information that identifies them**

Yet they are unwilling to trade that data for a better online experience

Q: HOW WILLING
are they to hand over, or trade, that private information
in exchange for a more convenient experience?

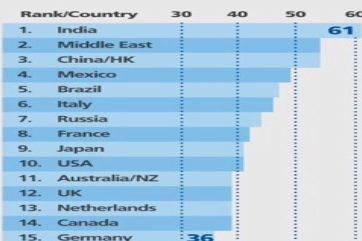
A: NOT MUCH
according to the EMC Privacy Index



Globally just one person in four is willing to sacrifice some of their privacy for more benefits or conveniences

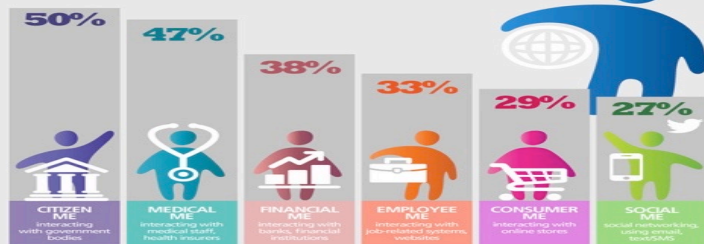
This varies by country, with people in India most willing to trade their privacy for better services, and people in Germany least willing:

Overall willingness to trade some privacy for greater convenience:



WILLINGNESS also varies depending on the roles we assume when we go online – there isn't a single digital self but a series of 'personae'

GLOBALLY we are far more willing to trade privacy when dealing with government bodies than we are when social networking



Many are looking for governments and businesses to protect information for them. But there's a lack of trust:

Consumer confidence in organizations' ethics falls below confidence in organizations' skills in protecting privacy:



2

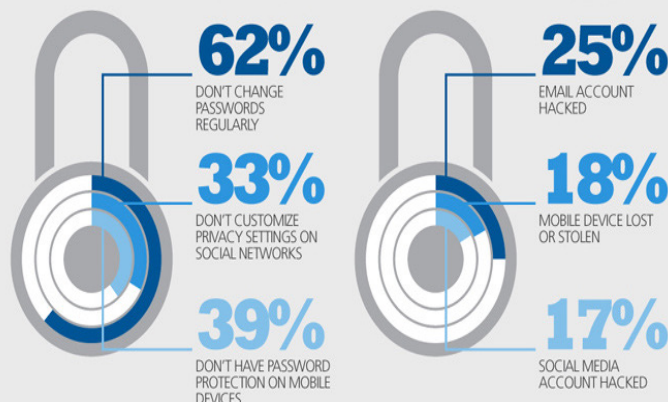
The 'Take No Action' Privacy Paradox

Consumers are readily using technologies that reveal personal data, but take few actions to protect their privacy.

Many consumers do not take the necessary actions ...

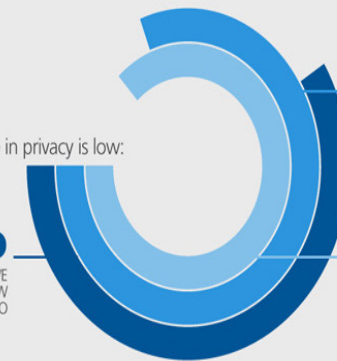


Despite more than 50% having experienced a data breach:



Overall confidence in privacy is low:

59%
BELIEVE THEY HAVE LESS PRIVACY NOW THAN A YEAR AGO



81%
EXPECT PRIVACY WILL BE MORE DIFFICULT TO MAINTAIN IN NEXT FIVE YEARS

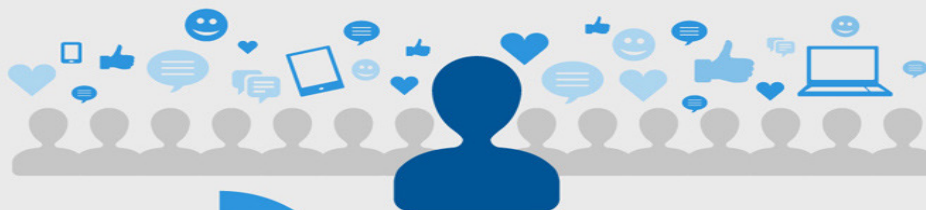
87%
THINK THERE SHOULD BE LAWS TO PROHIBIT COMPANIES BUYING AND SELLING DATA WITHOUT MY 'OPT-IN' CONSENT

The paradox...

3

The 'Oversharing Social Media User' Privacy Paradox

Social media users heavily share personal information, despite being least confident in the skills and ethics of social networks and platforms.



84%

OF CONSUMERS DON'T LIKE ANYONE KNOWING ANYTHING ABOUT THEMSELVES OR THEIR HABITS UNLESS THEY MAKE A DECISION TO SHARE THAT INFORMATION

Hacked social media accounts are one of the most frequent (17%) data breaches, yet in 2012:

>400 million
Tweets shared daily

>1 billion
people shared information on Facebook

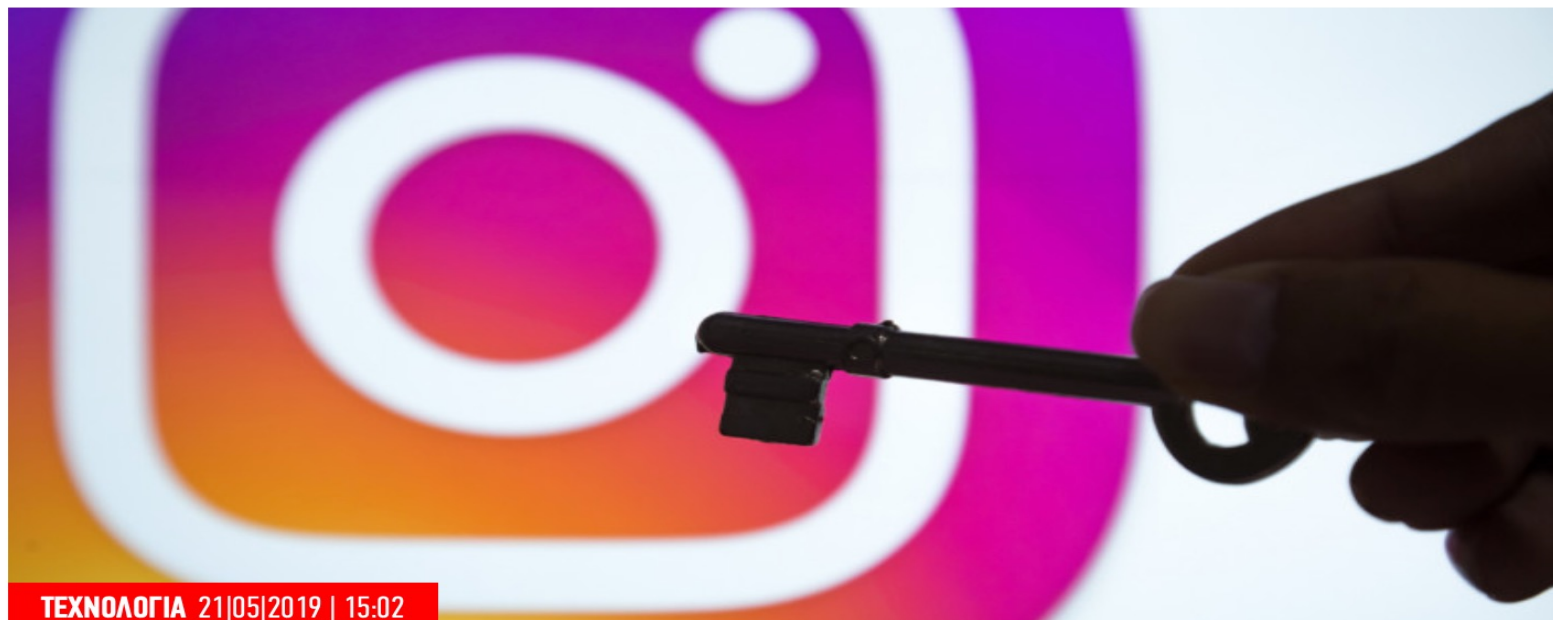
Just half have confidence in the skills of social network providers to safeguard personal information, while two people in five have confidence in organizations' ethics.



The paradox...

ΑΝΑΣΤΑΤΩΣΗ ΣΤΗ FACEBOOK

«Βόμβα» στο Instagram: Διέρρευσαν προσωπικά δεδομένα 49 εκατ. χρηστών –Και celebrities



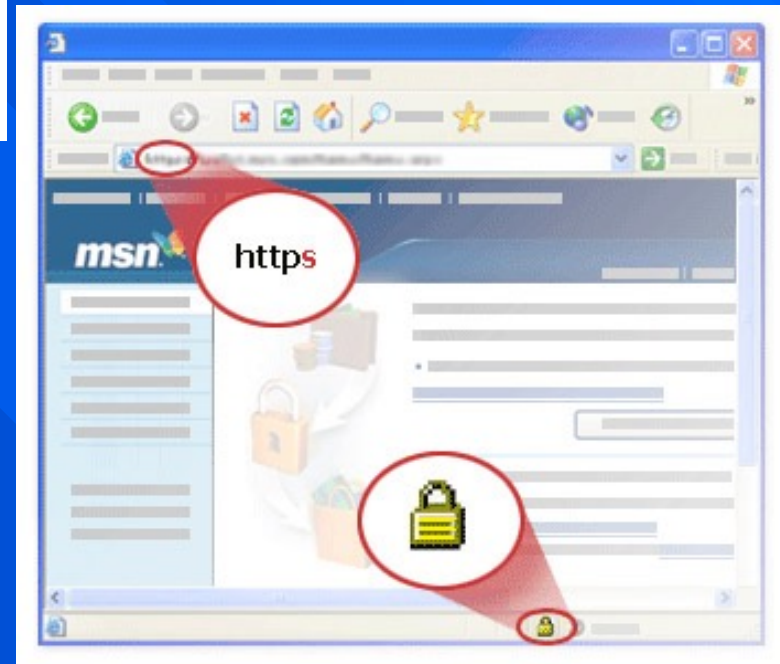
ΤΕΧΝΟΛΟΓΙΑ 21|05|2019 | 15:02

Σύμφωνα με αναλυτές διέρρευσαν πολύ ευαίσθητα προσωπικά δεδομένα / Φωτογραφία: Shutterstock

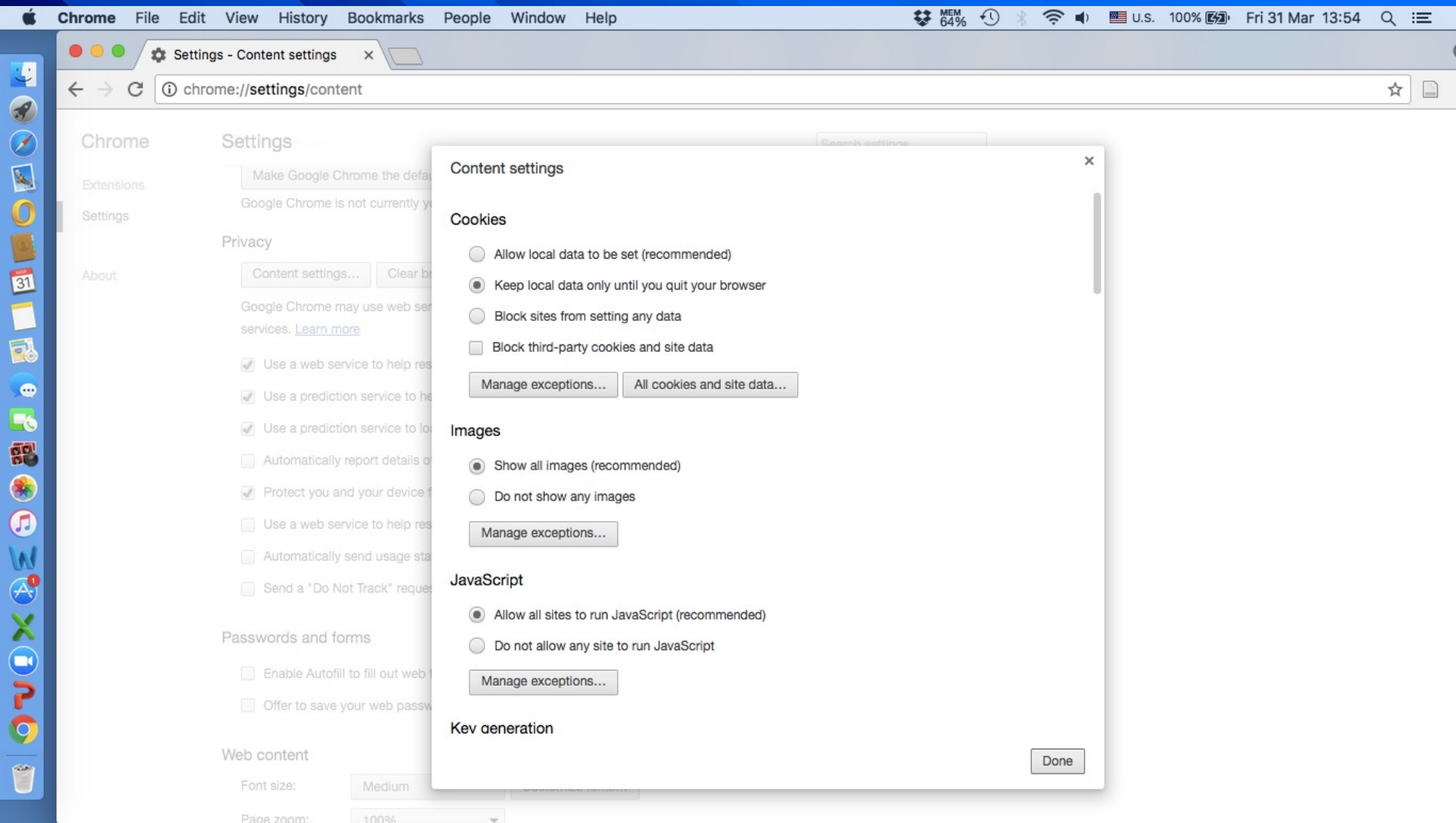
Λύσεις

- Οι χρήστες χρησιμοποιούν πλέον διάφορες στρατηγικές για να είναι λιγότερο “ορατοί” στο Διαδίκτυο:
 - Αφαιρούν cookies και διαγράφουν το ιστορικό του λογισμικού πλοήγησης
 - Διαγράφουν/επεξεργάζονται παρελθούσες δημοσιεύσεις
 - Απενεργοποιούν τη δυνατότητα εγκατάστασης cookies
 - Αποφεύγουν τη χρήση ιστοτόπων που απαιτούν πραγματικό όνομα
 - Άλλες πρακτικές, όπως μεταμφίηση ταυτότητας, κρυπτογραφία επικοινωνιών, δημοσίευση ανακριβών στοιχείων, κ.ά.

Https



Browser



Chrome File Edit View History Bookmarks People Window Help

MEM 64% 100% U.S. Fri 31 Mar 13:54

chrome://settings/content

Content settings

Cookies

- ☐ Allow local data to be set (recommended)
- ☒ Keep local data only until you quit your browser
- ☐ Block sites from setting any data
- ☐ Block third-party cookies and site data

Manage exceptions... All cookies and site data...

Images

- ☒ Show all images (recommended)
- ☐ Do not show any images

Manage exceptions...

JavaScript

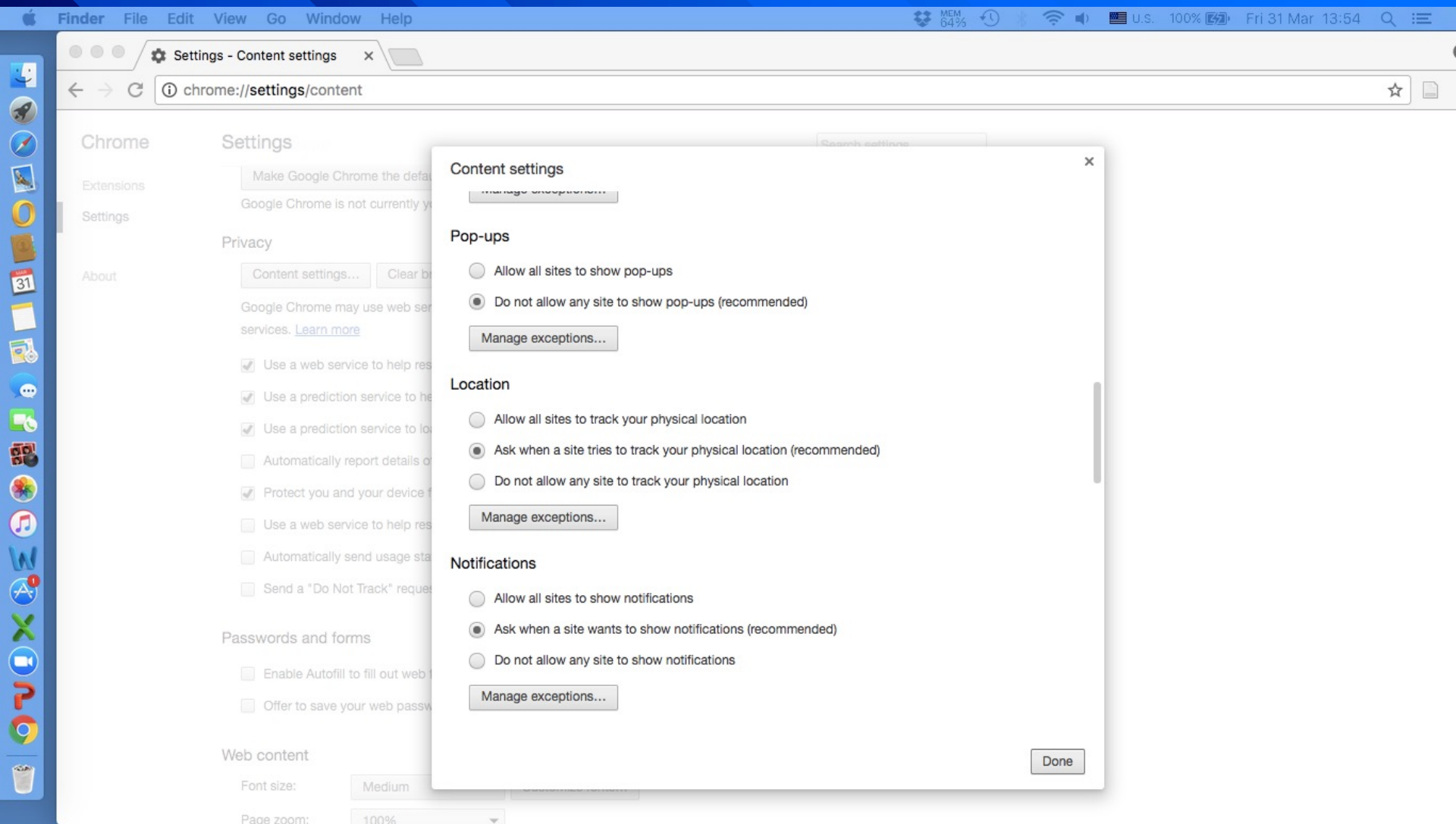
- ☒ Allow all sites to run JavaScript (recommended)
- ☐ Do not allow any site to run JavaScript

Manage exceptions...

Key generation

Done

Browser



The screenshot shows a Mac OS desktop environment. At the top, there is a blue header bar with the 'PrivaSI' logo and the text 'Privacy Engineering & Social Informatics lab' on the left, and the University of Athens logo and name 'Πανεπιστήμιο Αθηνών' on the right. Below the header, the word 'Browser' is displayed in large yellow letters. The main part of the image is a screenshot of a Google Chrome browser window. The browser's address bar shows 'chrome://settings/content'. The 'Settings - Content settings' dialog is open, displaying three sections: 'Pop-ups', 'Location', and 'Notifications'. In the 'Pop-ups' section, the option 'Do not allow any site to show pop-ups (recommended)' is selected. In the 'Location' section, the option 'Ask when a site tries to track your physical location (recommended)' is selected. In the 'Notifications' section, the option 'Ask when a site wants to show notifications (recommended)' is selected. The background of the browser window shows the 'Settings' page with various categories like 'Privacy', 'Passwords and forms', and 'Web content'. The Mac OS dock is visible on the left side of the screen, and the top status bar shows system information like 'MEM 64%', 'U.S.', '100%', and the date 'Fri 31 Mar 13:54'.

Finder File Edit View Go Window Help

MEM 64% U.S. 100% Fri 31 Mar 13:54

Settings - Content settings

chrome://settings/content

Chrome Settings

Make Google Chrome the default browser

Google Chrome is not currently your default browser.

Privacy

Content settings... Clear browsing data...

Google Chrome may use web services to help improve your experience. [Learn more](#)

☒ Use a web service to help resolve names

☒ Use a prediction service to help resolve names

☒ Use a prediction service to help resolve names

☐ Automatically report details of crashes to Google

☒ Protect you and your device from dangerous sites

☐ Use a web service to help resolve names

☐ Automatically send usage statistics to Google

☐ Send a "Do Not Track" request to websites

Passwords and forms

☐ Enable Autofill to fill out web forms for you

☐ Offer to save your web passwords

Web content

Font size: Medium

Page zoom: 100%

Content settings

Pop-ups

☐ Allow all sites to show pop-ups

☒ Do not allow any site to show pop-ups (recommended)

Manage exceptions...

Location

☐ Allow all sites to track your physical location

☒ Ask when a site tries to track your physical location (recommended)

☐ Do not allow any site to track your physical location

Manage exceptions...

Notifications

☐ Allow all sites to show notifications

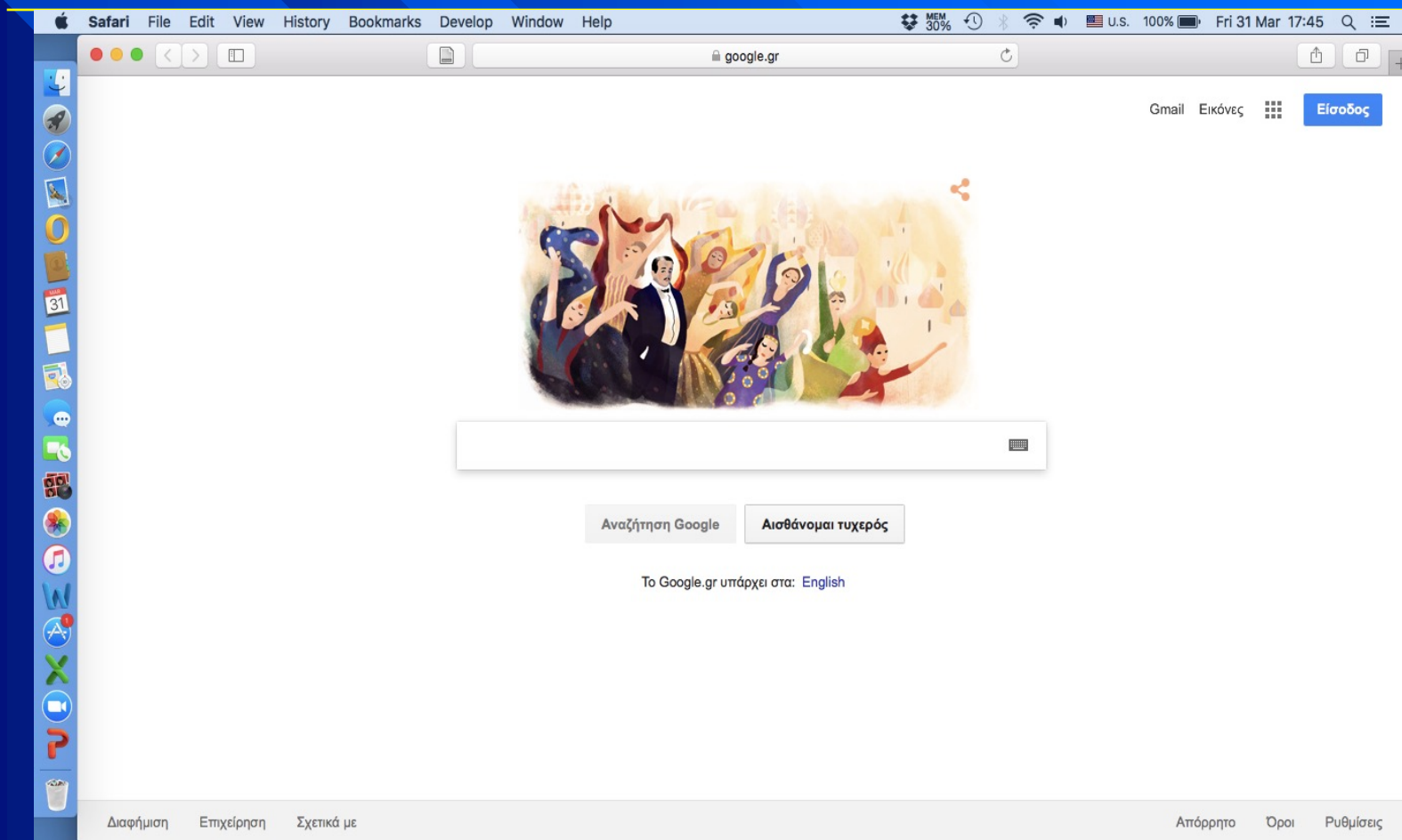
☒ Ask when a site wants to show notifications (recommended)

☐ Do not allow any site to show notifications

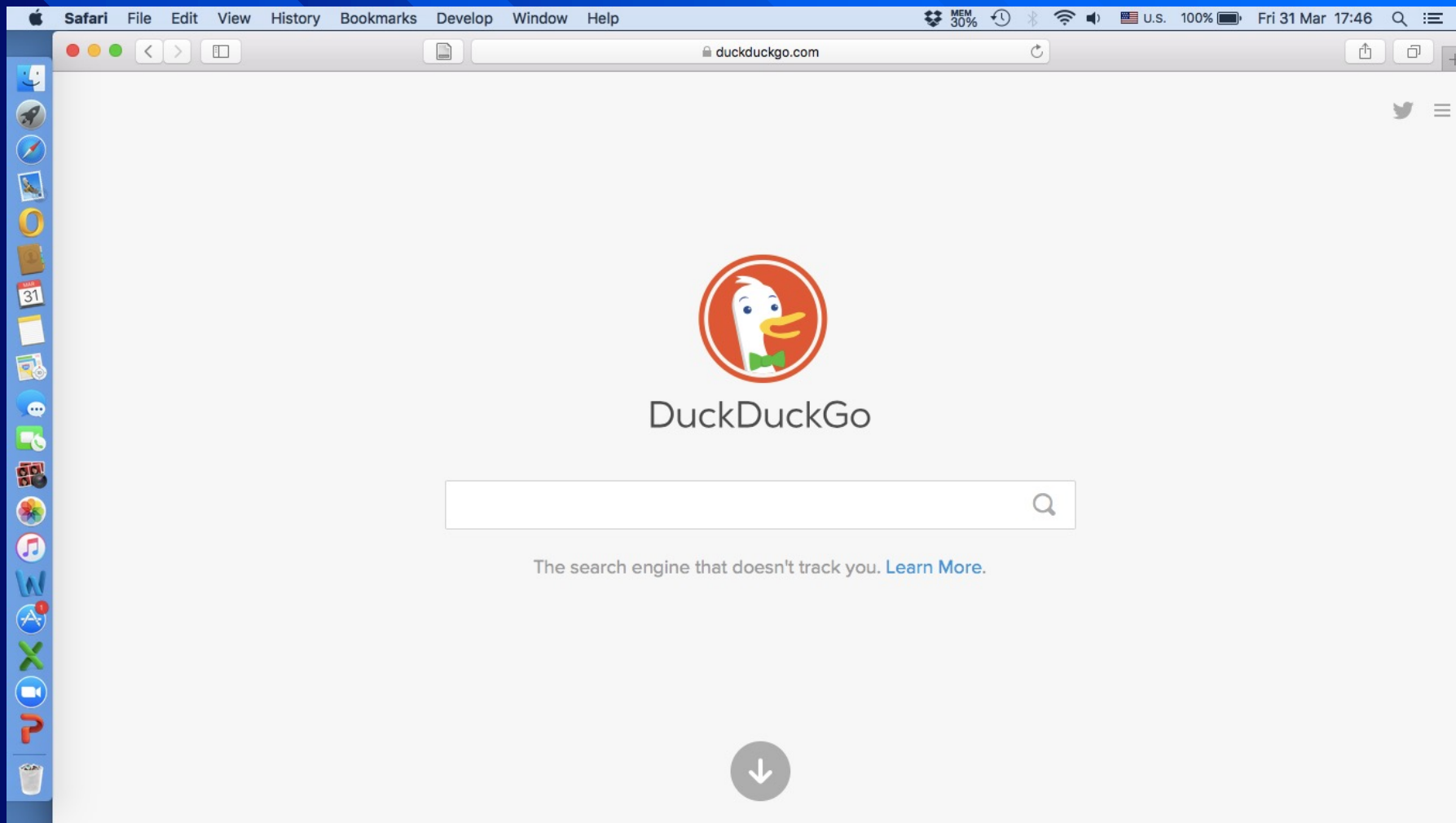
Manage exceptions...

Done

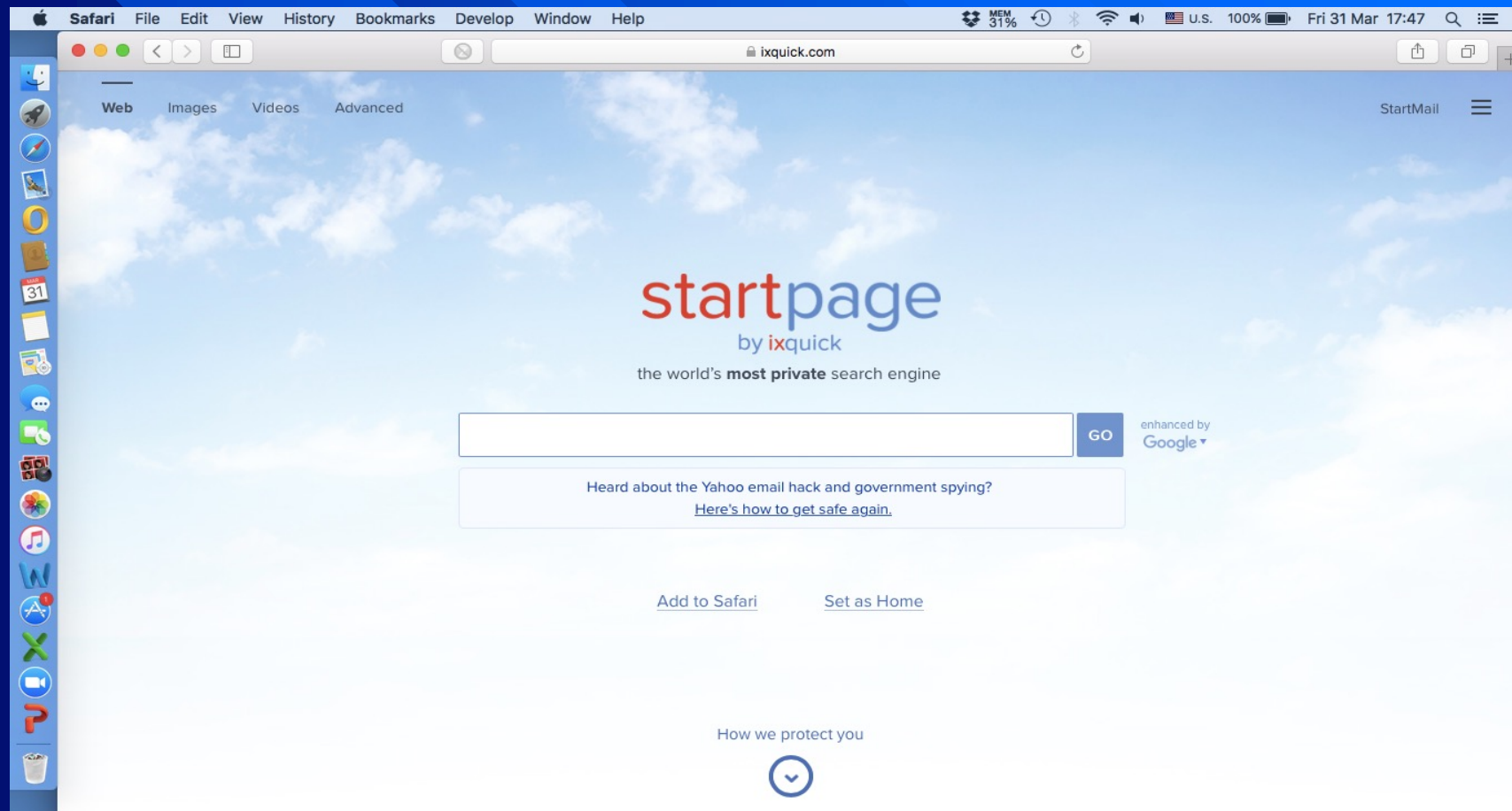
Μηχανές Αναζήτησης



Μηχανές Αναζήτησης



Μηχανές Αναζήτησης





Intelligent Systems for a More Connected World

Intelligent Systems are devices that transform how we travel, shop, make things and more.

By 2020 each person will own an average of 7 connected devices¹.



COMMUNICATIONS

Connected
Shares data through Internet and the cloud

Managed
Can be remotely monitored,
updated and power controlled

Secured
protects data against
fire, theft and tampering

#2 Data Breach

Medical data disclosure is the second most breached source of data².



MEDICAL

71% of Shoppers are Multi-Channel...

based on respondents planning their 2011 holiday shopping³.



RETAIL

23.6M
Connected
Cars



23.6 million cars will have Internet access by 2016, rising from 8.7 million in 2010⁶.



VEHICLES

30%
Annual
Growth Rate

Projected increase in connected machine-to-machine devices over the next 5 years⁴.



INDUSTRIAL

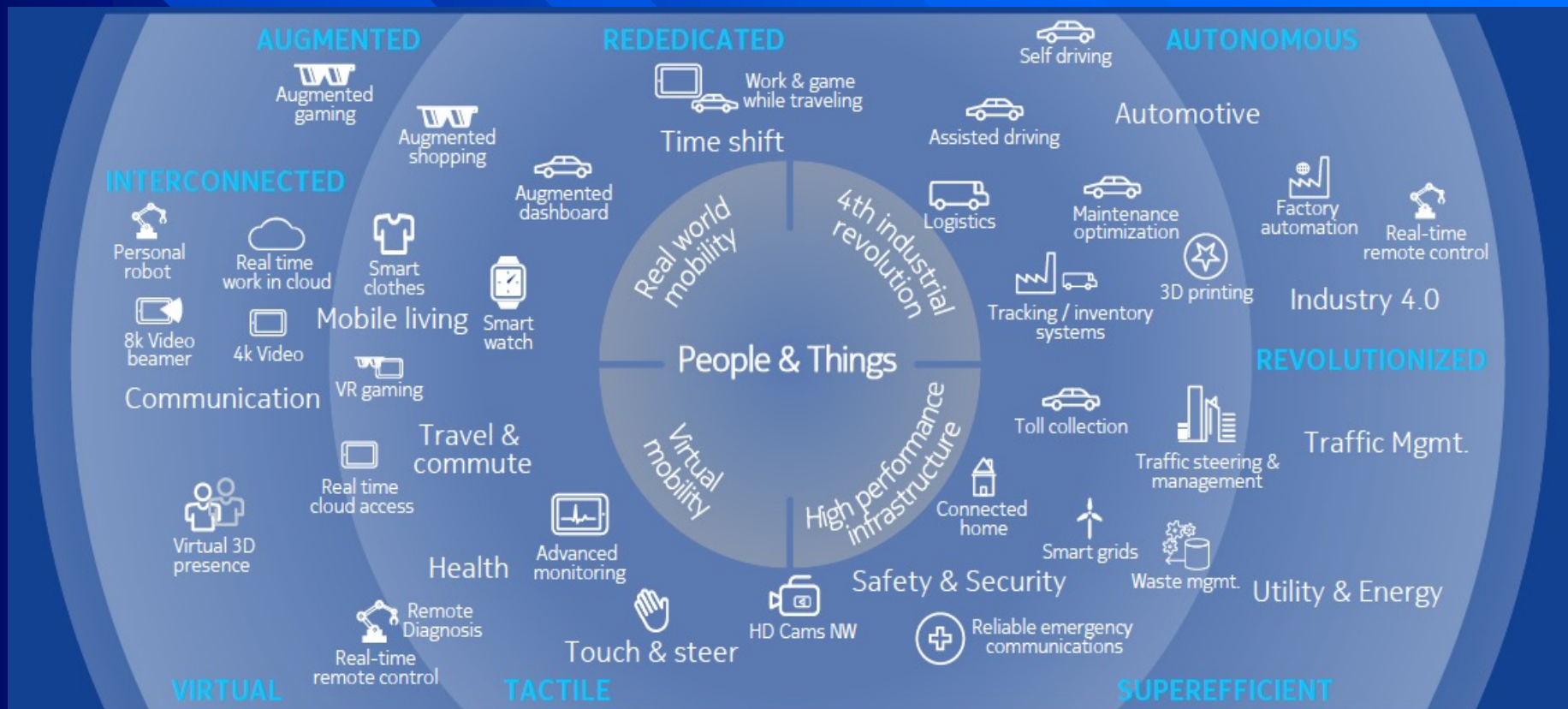


The new era...

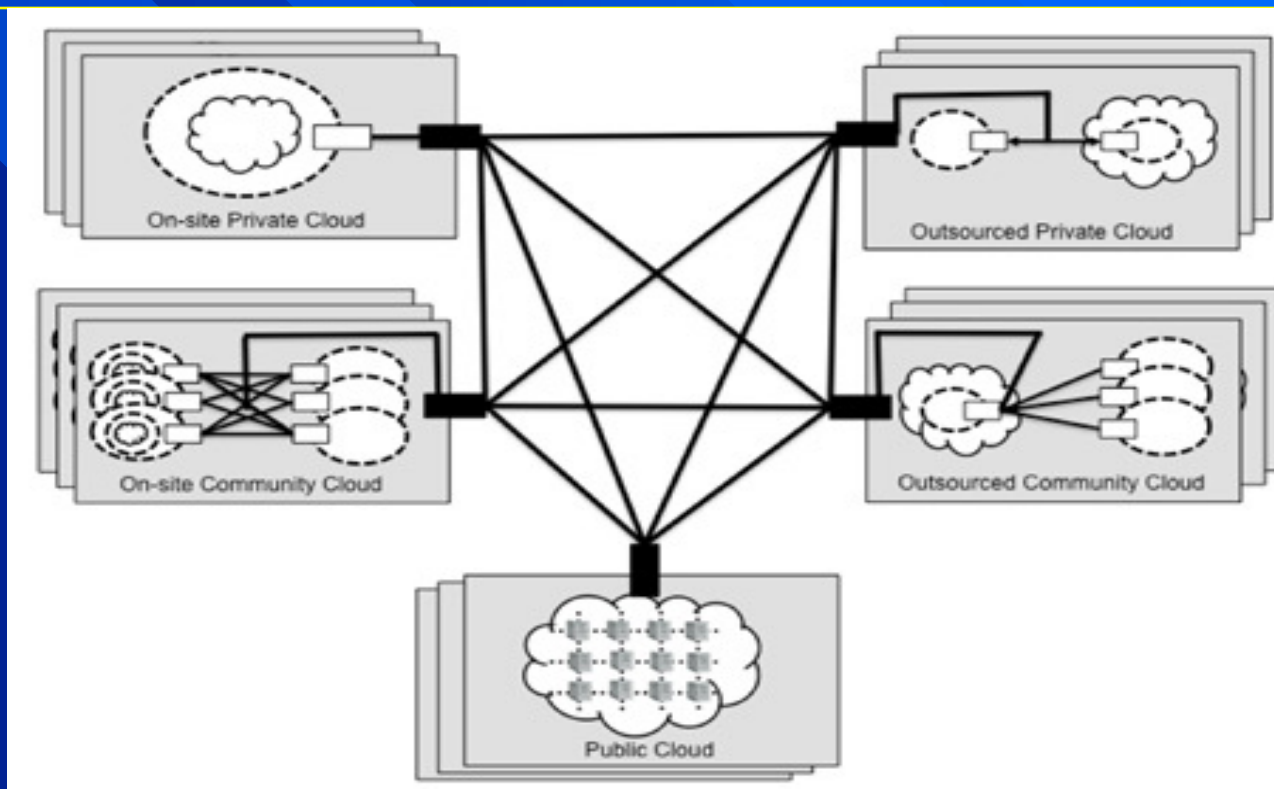




The new era...



Behind the scenes...



Badger, L., Grance, T., Patt-Corner, R., & Voas, J. (2011). DRAFT Cloud Computing Synopsis and Recommendations. 84.



The GDPR era...

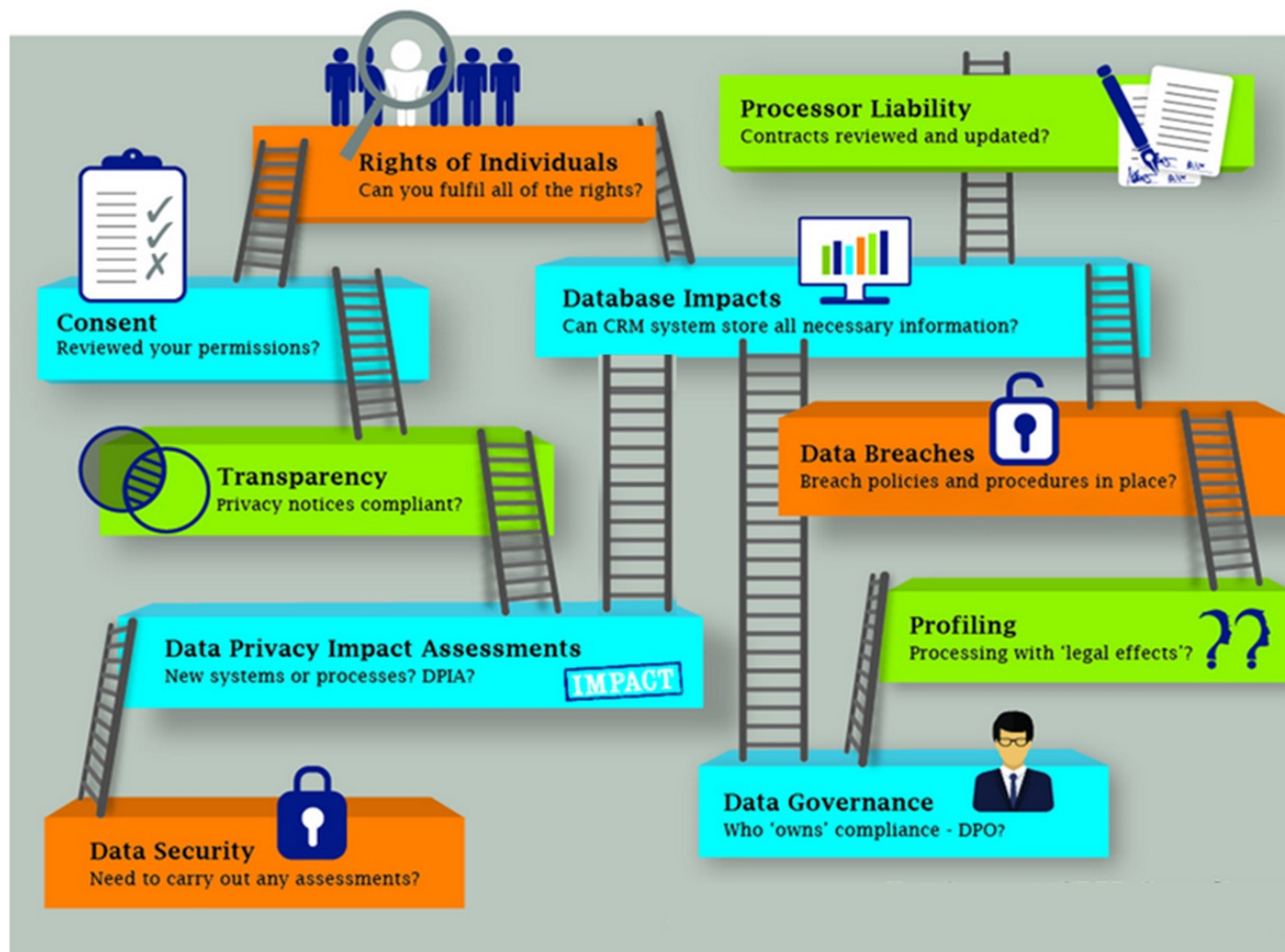
- Ο ΓΚΠΔ ενισχύει το θεμελιώδες δικαίωμα της προστασίας προσωπικών δεδομένων
- Ενσωματώνει την προστασία δεδομένων στις επιχειρησιακές διαδικασίες
 - «Μεταφέρει» το βάρος στους ίδιους φορείς στο να αυτο-συμμορφώνονται και να μπορούν να το αποδεικνύουν όποτε χρειαστεί
 - Καταργούνται «γραφειοκρατικές» διαδικασίες που δεν παρείχαν ουσιαστικό επίπεδο προστασίας
- Νέα δικαιώματα για τα φυσικά πρόσωπα
 - Νέες υποχρεώσεις για υπευθύνους και εκτελούντες
- Νέος ρόλος της Αρχής Προστασίας Προσωπικών Δεδομένων
- Η προστασία προσωπικών δεδομένων δεν θα πρέπει να εκλαμβάνεται ως «εμπόδιο» στις δράσεις των φορέων
 - Όλοι θα είναι ωφελημένοι από την ορθή προστασία του δικαιώματος αυτού
 - Ο ΓΚΠΔ πρέπει να εκληφθεί ως ένα πολύτιμο εργαλείο για όλους

The Six GDPR Principles to Ensure Accountability



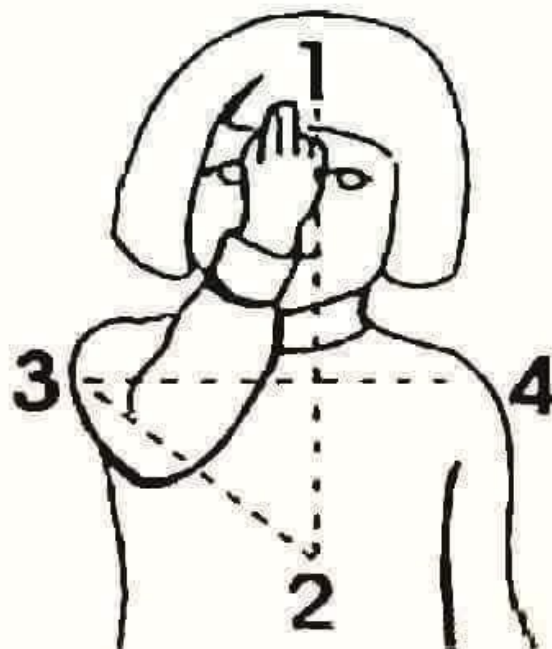


The GDPR steps...



The GDPR compliance...

4 EASY STEPS FOR GDPR COMPLIANCE



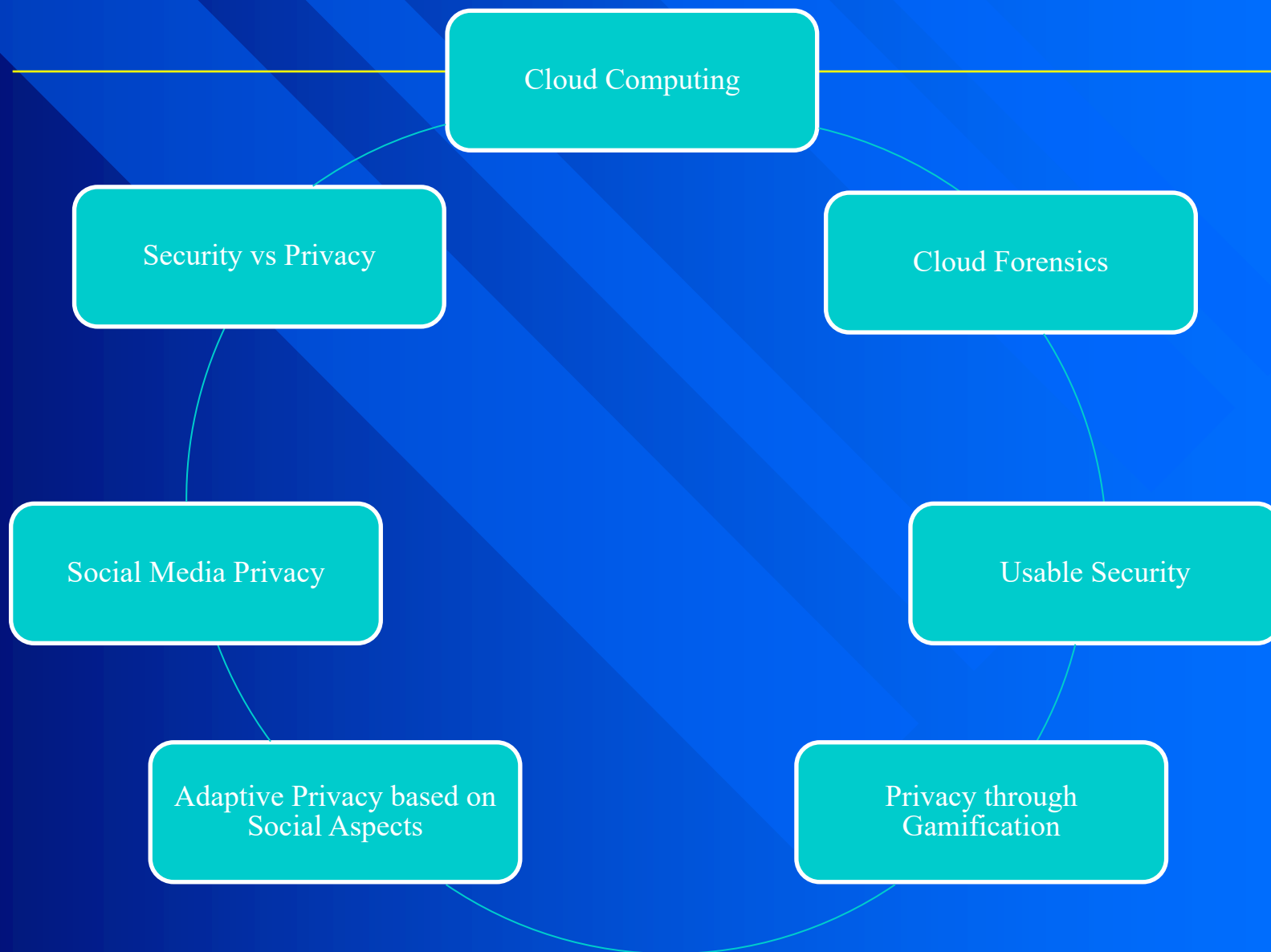


PrivaSI Lab

- Ιδρύθηκε το 2017
- Privacy Engineering and Social Informatics
- Εξετάζουμε την εφαρμογή των απαιτήσεων ιδιωτικότητας σε διάφορες ερευνητικές περιοχές
- Αναπτύσσουμε μεθόδους και εργαλεία για την ενίσχυση των αναλυτών ΠΣ στην ενσωμάτωση των απαιτήσεων ιδιωτικότητας



Research Subdomains





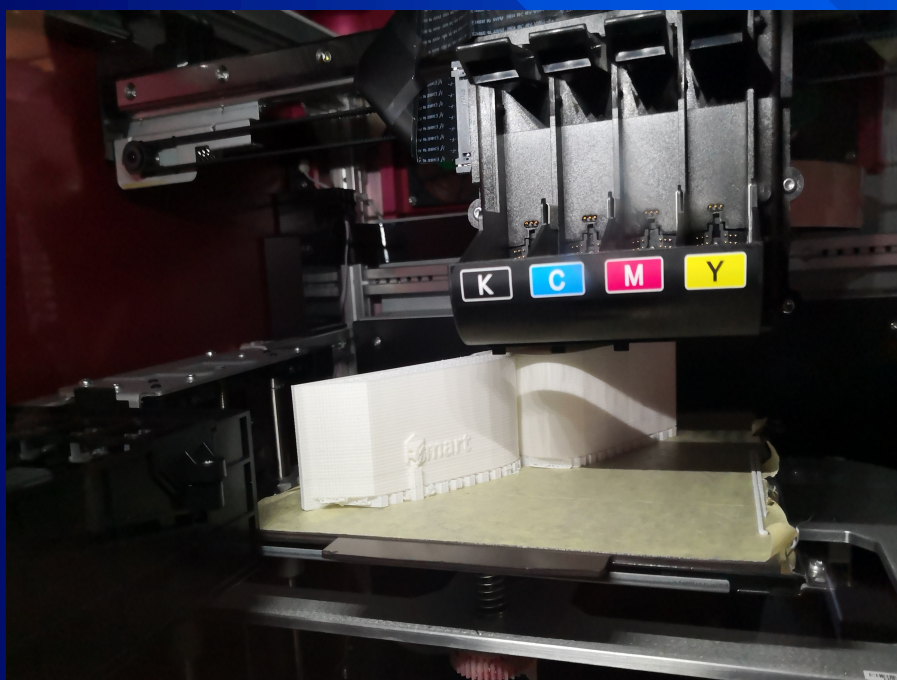
BIONIC Project

- Προστασία της υγείας των εργαζομένων σε περιβάλλοντα που προκαλούν υψηλή σωματική κόπωση

<https://bionic-h2020.eu/videos/>

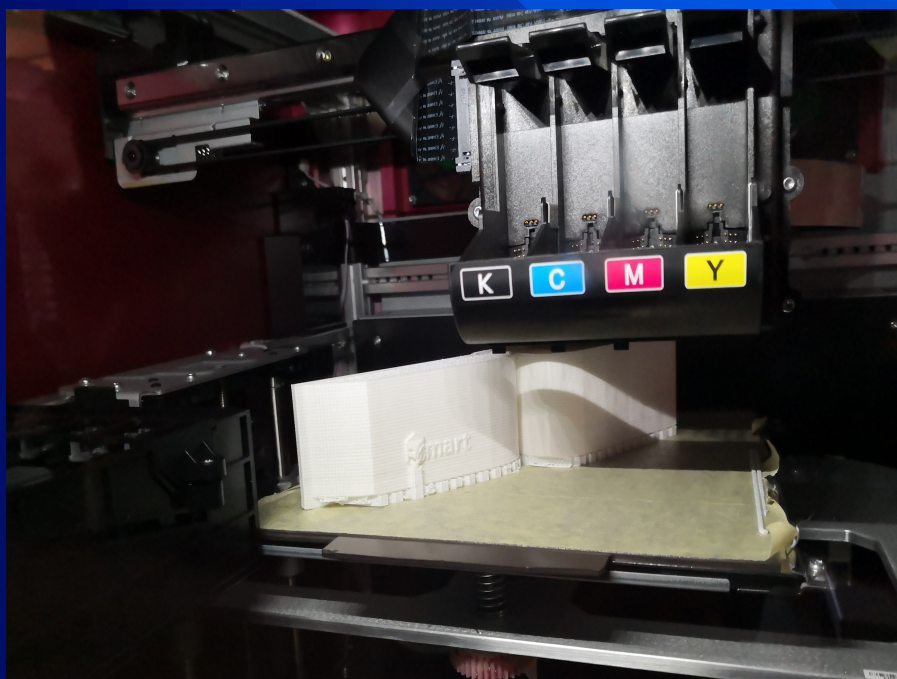
PSMART Project (3D Printing)

- Σχεδιασμός και κατασκευή ασφαλών έξυπνων συσκευών για τη διατήρηση της υλικής πολιτισμικής κληρονομιάς



PSMART Project (3D Printing)

- Σχεδιασμός και κατασκευή ασφαλών έξυπνων συσκευών για τη διατήρηση της υλικής πολιτισμικής κληρονομιάς





PSMART Project (3D Printing)

Katerina Mavroidi

Niovi Maragkoudaki

Christos Kalloniatis

Panos Mazarakis

Stavros Stavridis



PrivaSI Lab

University of the Aegean

 **Greece**

#UnitedInDistance
Covid-19



Επίλογος

Think before U Click!!!!