European Commission | Horizon 2020 European Union funding for Research & Innovation

**From Real-world Identities to Privacy-preserving and Attribute-based CREDentials for Device-centric Access Control**

ReCRED

**WP8– Exploitation and Dissemination**

**Deliverable D8.3 "First dissemination report"**

| | |
|---:|---|
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| **Dissemination Level:** | PU - Public |
| **Nature:** | R |
| **Version:** | 1 |

ReCRED Project Profile

| | |
|---|---|
| Contract Number | 653417 |
| Acronym | ReCRED |
| Title | From Real-world Identities to Privacy-preserving and Attribute-based CREDentials for Device-centric Access Control |
| Start Date | May 1st, 2015 |
| Duration | 36 Months |

**Partners**

| | | |
|---|---|---|
|  | University of Piraeus research center | Greece |
|  | Telefonica Investigacion Y Desarrollo Sa | Spain |
|  | Verizon Nederland B.V. | The Netherlands |
|  | Certsign SA | Romania |
|  | Wedia Limited | Greece |
|  | EXUS Software Ltd | U.K. |
|  | Upcom Bvba (sme) | Belgium |
|  | De Productizers B.V. | The Netherlands |
|  | Cyprus University of Technology | Cyprus |
|  | Universidad Carlos III de Madrid | Spain |
|  | Consorzio Nazionale Interuniversitario per le Telecomunicazioni | Italy |
|  | Studio Professionale Associato a Baker & Mckenzie | Italy |

**Document History**

| Version | Date | Author | Remarks |
|---------|------|--------|---------|
| 0.10 | 2016-02-11 | Evangelos Kotsifakos (WEDIA) | Initial Table of Contents |
| 0.20 | 2016-03-29 | Antonis Melachrinos, Elias Miliakos (WEDIA), Claudio Pisa (CNIT), Christos Xenakis, Christoforos Ntantogian, Nikos Vavoulas, Eleni Veroni, Faidon Lalagiannis (UPRC), Ozlem Bilgili, Bharadwaj Pulugundla (VERIZON) , Ruben Cuevas (UC3M), Antonio Fernandez Anta (IMDEA), Savvas Zannettou (CUT), Vangelis Bagiatis (UPCOM), Dimitris Kanakidis (EXUS), Saverio Puddu (BAK) | Input from all partners has been added |
| 0.30 | 2016-04-22 | Christos Xenakis, Christoforos Ntantogian, Nikos Vavoulas, Eleni Veroni, Faidon Lalagiannis (UPRC) | Input from UPRC regarding events |
| 0.40 | 2016-04-26 | Evangelos Kotsifakos, Elias Miliakos (WEDIA) | Corrections, ReCRED website statistics |
| 1 | 2016-04-30 | Evangelos Kotsifakos, Elias Miliakos (WEDIA) | Final version |
| 1.1 | 2017-07-31 | Evangelos Kotsifakos | Final version - statement |
| | | | |

## Executive Summary

The deliverable 8.3 entitled "First dissemination report" summarizes all the actions and plans for the dissemination of Recred project. The detailed agenda of the whole consortium as far as actions taken up to now is presented, in terms of scientific publications related with the research that is taking place in Recred, the project's website, appearance of ReCRED in the media, social media and corporate websites, the leaflet and flyer, presentation in workshops, courses and talks given by members of the consortium and finally participation in technical program committees of conferences and in the board of industrial events. Furthermore, the planned future actions are provided.

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# Table of Abbreviations

DoW Description of Work

EAI European Alliance for Innovation

BICT Bio-inspired Information and Communication Technologies

ACM Association for Computing Machinery

SIGSIM Special Interest Group on Simulation

SIGEVO Special Interest Group on Genetic and Evolutionary Computation

SIGAPP Special Interest Group on Applied Computing

ICT Information and communications technologies

FASES Future Access Control, Identity Management and Privacy Preserving Solutions in Internet Services

ARES Availability Reliability Security

NRENs National Research and Education Networks

OIX Open Identity Exchange

OIFD OpenID Foundation

ICWSM International AAAI Conference on Web and Social Media

IFIP International Information Security and Privacy Conference

WONS Conference on Wireless On-demand Network Systems and Services

COMM Global Forum for Marketing Data and Measurement

# 1 Introduction

ReCRED's target is to disseminate the results of the project in several fields such as mobile device manufacturers, retailers and mobile operators, consumers, public bodies and regulators, authentication and authorization standardization bodies; and the scientific community. To this end, several dissemination channels are employed. This deliverable aims at detailing all the actions that have been undertaken by the consortium members up to now for the implementation of ReCRED's dissemination strategy. These actions include scientific publications, presence in media and online social media, participation in workshops, project leaflet and website related lessons/talks in universities.

The efforts don't stop here, as a continuous activities' plan is outlined in the DoW, that the whole consortium has agreed on executing so as to promote ReCRED's idea and outputs. Partners will stimulate discussions with their customers to present the project, they will release newsletters and promote the project through blogs.

Furthermore, operators have agreed to offer demonstrations in the form of Student Offers and mobile connect authentication.

# 2 Scientific publications

Academic partners have been very active on their research, which has concluded to the successful submission and presentation or publishing of numerous articles.

More specifically, **University of Piraeus Research Centre (UPRC)** team presented the paper "Evaluation of Cryptography Usage in Android Applications" in the 9th EAI International Conference on Bio-inspired Information and Communications Technologies in New York City.

The 9th EAI International Conference on Bio-inspired Information and Communication Technologies (BICT, formerly known as BIONETICS) was held at Columbia University, NY, USA, in December 2015. Sponsored by EAI, ACM SIGSIM, ACM SIGEVO, ACM SIGAPP, Department of Biomedical Engineering at the Columbia University School of Engineering and Applied Science, University of Bremen and CREATE-NET, BICT features state-of-the-art keynote speeches, parallel technical sessions, focused special tracks, interactive demo/poster sessions, informative co-located workshops and entertaining social functions.

UPRC was selected to participate in BICT 2015, presenting the paper "Evaluation of Cryptography Usage in Android Applications", where the research group studied whether cryptography and related techniques are employed in a proper way in mobile applications to protect sensitive data like passwords, short messages, documents etc. To this end, 49 Android applications from Google Play marketplace were examined showing that 87.8% of them present some kind of misuse, while the rest appear to employ no cryptography at all. Finally, a set of countermeasures was proposed, mainly intended for developers, to alleviate the issues identified by the research.

BICT's aim is to provide a world-leading and multidisciplinary venue for both researchers and practitioners in diverse disciplines that seek the understanding of key principles, processes and mechanisms in biological systems and leverage those understandings to develop novel information and communications technologies (ICT).

The research was very well received by the conference audience and especially the developer community that acknowledged the common issue of cryptographic misuses and welcomed the best practices proposed in the paper.

Related material can be found on the following links:

http://bionetics.org/

http://bionetics.org/2015/show/program-final

and

http://www.recred.eu/sites/default/files/androcrypto-cameraready.pdf

Additionally, UPRC recently published their paper "(U)SimMonitor: A mobile application for security evaluation of cellular networks" on Computers & Security, acknowledging ReCRED. The paper presents the design and implementation of a novel mobile application named (U)SimMonitor that captures and analyzes the security policy that a cellular operator enforces.

Computers & Security is the most respected technical journal in the IT security field and it is aimed at the professional involved with computer security, audit, control and data integrity in all sectors - industry, commerce and academia. It has been recognized as the primary source of reference for applied research and technical expertise, becoming an essential reading for IT security professionals around the world.

Related links:

http://www.journals.elsevier.com/computers-and-security

http://www.sciencedirect.com/science/article/pii/S016740481630027X

https://www.researchgate.net/publication/299574592_USimMonitor_a_mobile_application_for_security_evaluation_of_cellular_networks (open access)

UPRC also plans to submit a paper to the FASES Workshop of the ARES 2016 Conference which is described in section 8.4 of this document.


**Universidad Carlos III de Madrid (UC3M)** has participated in the writing and the publication of numerous papers and journals.

More specifically, the following papers/journals were presented in international conferences or published in international peer reviewed magazines:

"Understanding the detection of fake-view fraud in Video Content Portals", M. Marciel, R. Cuevas, A. Banchs, R. Gonzalez, S. Traverso, M. Ahmed, A. Azcorra, 25th International World Wide Web Conference (WWW). 2016.

Related url:

http://arxiv.org/abs/1507.08874

The paper refers to the design of measurement tools to collect data from Internet services and is loosely related to the project. Its target audience is the Security and Networking academia and industry.

Also, the article entitled:

"Quantifying the Economic and Cultural Biases of Social Media through Trending Topics", J. Carrascosa, R. Cuevas, R. Gonzalez, A. Azcorra, D. Garcia PLOS ONE. 2015

with related url:

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0134407

refers to the design of measurement tools to collect data from social networks and is loosely related to the project. Its target audience is the online social networks scientific community.

On the other hand, the paper entitled:

"I Always Feel Like Somebody's Watching Me. Measuring Online Behavioural Advertising", J. Carrascosa, J. Mikians, R. Cuevas, V. Erramilli, N. Laoutaris, 11th ACM International Conference on emerging Networking Experiments and Technologies (ACM CoNEXT). 2015

with related url:

http://arxiv.org/abs/1507.08874

is a common effort between **UC3M** and **Telefonica I+D (TID)**. The paper refers to measuring privacy aspects of internet services and is highly related to the project. Its target audience is the Security and Privacy academia and industry as well as regulators.

**Cyprus University of Technology (CUT)** submitted a paper related to ReCRED to the FASES Workshop of ARES 2016 Conference - Workshop Future Access Control, Identity Management and Privacy Preserving Solutions in Internet Services. The target audience of the article is the scientific community.

**TID** has published the following two Conference papers targeting the scientific community.

Web Identity Translator: Behavioral Advertising and Identity Privacy with WIT. Papaodyssefs, F., Iordanou, C., Blackburn, J., Laoutaris, N., & Papagiannaki, K. (2015, November).

The paper was presented in ACM Workshop on Hot Topics in Networks and can be found on the following link:

http://dx.doi.org/10.1145/2834050.2834105

The second one is the same as the UC3M one presented before, entitled: "I Always Feel Like Somebody's Watching Me. Measuring Online Behavioural Advertising".

Furthermore, **IMDEA networks** has acknowledged ReCRED in the following papers.

Resource location based on precomputed partial random walks in dynamic networks. Víctor M. López Millán, Vicent Cholvi, Antonio Fernández Anta, Luis López. http://arxiv.org/abs/1507.08476

This paper proposes techniques to locate specific nodes in a network that change dynamically. This approach can be used in ReCred applied to social networks to locate identities that match between different social networks, which is one of the objectives of WP4.

Internet Computing: Using Reputation to Select Workers from a Pool. Evgenia Christoforou, Antonio Fernández Anta, Chryssis Georgiou, Miguel A. Mosteiro. http://arxiv.org/abs/1603.04394

CoVer-ability: Consistent Versioning for Concurrent Objects. Nicolas Nicolaou, Antonio Fernández Anta, Chryssis Georgiou http://arxiv.org/abs/1601.07352

In this paper a technique is proposed to guarantee consistency in a data repository so that changes are made in a consistent way, and every version is derived from a clearly identified prior version. This technique may be used in the ID consolidation store to preserve consistency in the presence of concurrent accesses and modifications.

# 3 Project website - portal for the ReCRED project & applications.

ReCRED's website was designed and realized by WEDIA who is also hosting it. The corresponding link is www.recred.eu.

More specifically ReCRED's website is compatible with Firefox, Chrome, MS IExplorer and can be viewed on mobile devices such as smartphones and tablets running Android, Windows or iOS.

Furthermore, a search function is offered so as viewers can search for any text in the entire website.

A special section of the website has been devoted to dissemination, a snapshot of which can be found below.
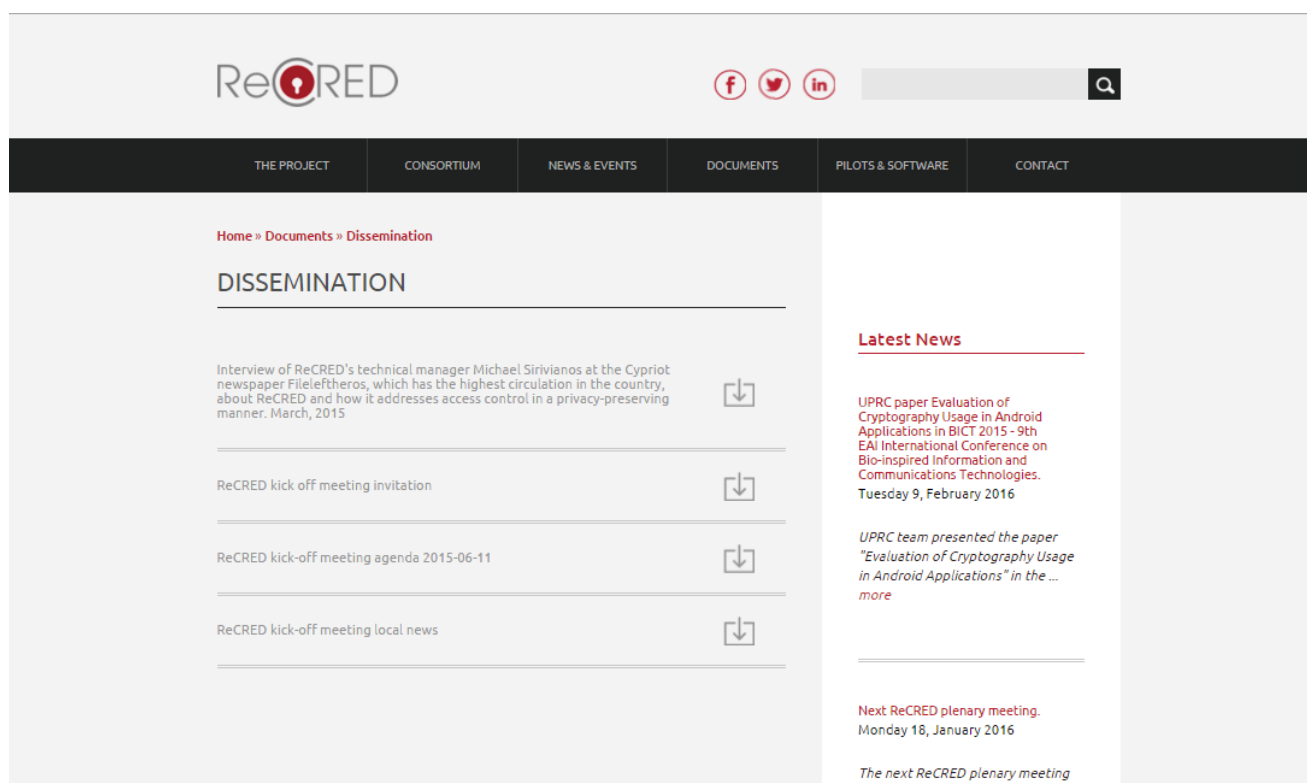
**Figure 1 Project dissemination page**

Several statistics such as number of active users, language of visitors, location of visitors, number of sessions, technology used to browse the website: browser and operating system as well as kind and number of device used, are measured by Google analytics.



| | Country | Sessions | | % Sessions |
|---|---|---|---|---|
| 1. | Romania | 69 | | 25.56% |
| 2. | Greece | 50 | | 18.52% |
| 3. | United Kingdom | 28 | | 10.37% |
| 4. | United States | 23 | | 8.52% |
| 5. | Netherlands | 15 | | 5.56% |
| 6. | Cyprus | 14 | | 5.19% |
| 7. | Spain | 13 | | 4.81% |
| 8. | Brazil | 12 | | 4.44% |
| 9. | Italy | 10 | | 3.70% |
| 10. | Belgium | 6 | | 2.22% |

view full report

**Figure 2 Countries of ReCRED's website audience**

Primary Dimension: Language

First Rows | Secondary dimension ▾ | Sort Type: Default ▾ | | advanced

| | Language | Acquisition | | | Behavior | | | Conversions | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Sessions ↓ | % New Sessions | New Users | Bounce Rate | Pages / Session | Avg. Session Duration | Goal Conversion Rate | Goal Completions | Goal Value |
| | | 270<br>% of Total: 100.00% (270) | 71.48%<br>Avg for View: 71.48% (0.00%) | 193<br>% of Total: 100.00% (193) | 42.96%<br>Avg for View: 42.96% (0.00%) | 3.19<br>Avg for View: 3.19 (0.00%) | 00:03:11<br>Avg for View: 00:03:11 (0.00%) | 0.00%<br>Avg for View: 0.00% (0.00%) | 0<br>% of Total: 0.00% (0) | $0.00<br>% of Total: 0.00% ($0.00) |
| | 1. en-us | 157 (58.15%) | 63.06% | 99 (51.30%) | 29.30% | 3.80 | 00:04:28 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 2. en | 23 (8.52%) | 95.65% | 22 (11.40%) | 95.65% | 1.09 | 00:00:06 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 3. en-gb | 17 (6.30%) | 64.71% | 11 (5.70%) | 17.65% | 4.76 | 00:03:31 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 4. el-gr | 12 (4.44%) | 33.33% | 4 (2.07%) | 33.33% | 2.75 | 00:01:36 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 5. pt-br | 12 (4.44%) | 100.00% | 12 (6.22%) | 100.00% | 1.00 | 00:00:00 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 6. el | 9 (3.33%) | 77.78% | 7 (3.63%) | 66.67% | 2.56 | 00:03:28 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 7. ro | 9 (3.33%) | 88.89% | 8 (4.15%) | 55.56% | 1.67 | 00:03:28 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 8. ro-ro | 8 (2.96%) | 100.00% | 8 (4.15%) | 87.50% | 1.12 | 00:00:05 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 9. (not set) | 4 (1.48%) | 100.00% | 4 (2.07%) | 100.00% | 1.00 | 00:00:00 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 10. it | 3 (1.11%) | 100.00% | 3 (1.55%) | 66.67% | 1.67 | 00:00:05 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |

Show rows: 10 ▾ Go to: 1 1 - 10 of 21 ‹ ›

This report was generated on 4/20/16 at 7:41:10 PM - Refresh Report

© 2016 Google | Analytics Home | Terms of Service | Privacy Policy | Send Feedback

| | Language | Acquisition | | | Behavior | | | Conversions | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Sessions ↓ | % New Sessions | New Users | Bounce Rate | Pages / Session | Avg. Session Duration | Goal Conversion Rate | Goal Completions | Goal Value |
| | | 270<br>% of Total: 100.00% (270) | 71.48%<br>Avg for View: 71.48% (0.00%) | 193<br>% of Total: 100.00% (193) | 42.96%<br>Avg for View: 42.96% (0.00%) | 3.19<br>Avg for View: 3.19 (0.00%) | 00:03:11<br>Avg for View: 00:03:11 (0.00%) | 0.00%<br>Avg for View: 0.00% (0.00%) | 0<br>% of Total: 0.00% (0) | $0.00<br>% of Total: 0.00% ($0.00) |
| | 11. es | 2 (0.74%) | 50.00% | 1 (0.52%) | 0.00% | 1.00 | 00:00:30 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 12. es-es | 2 (0.74%) | 100.00% | 2 (1.04%) | 50.00% | 2.50 | 00:00:20 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 13. fr | 2 (0.74%) | 100.00% | 2 (1.04%) | 0.00% | 2.00 | 00:00:13 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 14. it-it | 2 (0.74%) | 100.00% | 2 (1.04%) | 50.00% | 4.50 | 00:00:30 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 15. nl-nl | 2 (0.74%) | 100.00% | 2 (1.04%) | 0.00% | 12.00 | 00:01:58 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 16. de-de | 1 (0.37%) | 100.00% | 1 (0.52%) | 100.00% | 1.00 | 00:00:00 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 17. es-mx | 1 (0.37%) | 100.00% | 1 (0.52%) | 100.00% | 1.00 | 00:00:00 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 18. fr-fr | 1 (0.37%) | 100.00% | 1 (0.52%) | 0.00% | 4.00 | 00:00:25 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 19. hu-hu | 1 (0.37%) | 100.00% | 1 (0.52%) | 0.00% | 5.00 | 00:00:45 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |
| | 20. pl | 1 (0.37%) | 100.00% | 1 (0.52%) | 0.00% | 3.00 | 00:02:15 | 0.00% | 0 (0.00%) | $0.00 (0.00%) |

Show rows: 10 ▾ Go to: 11 11 - 20 of 21 ‹ ›

This report was generated on 4/20/16 at 7:43:13 PM - Refresh Report
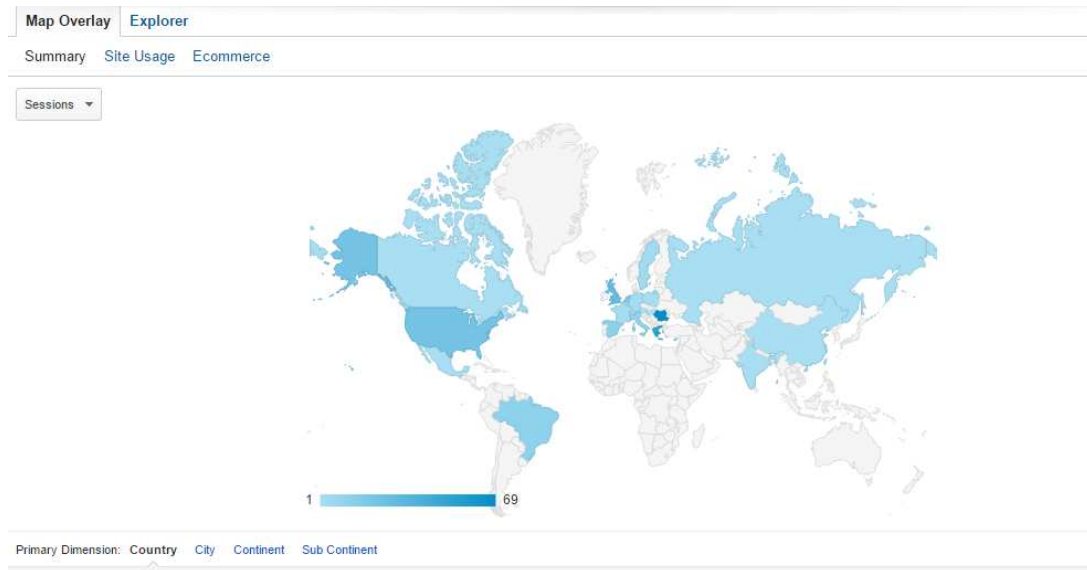
**Figure 3 Language of visitors**

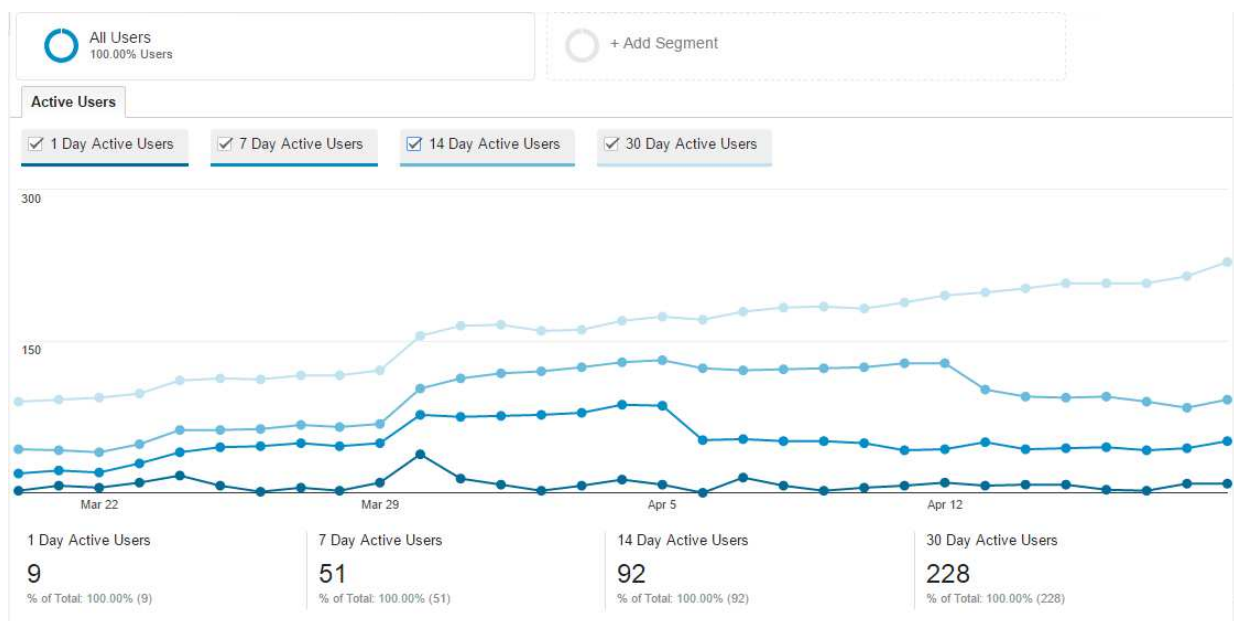**Figure 4 Number of sessions per country**



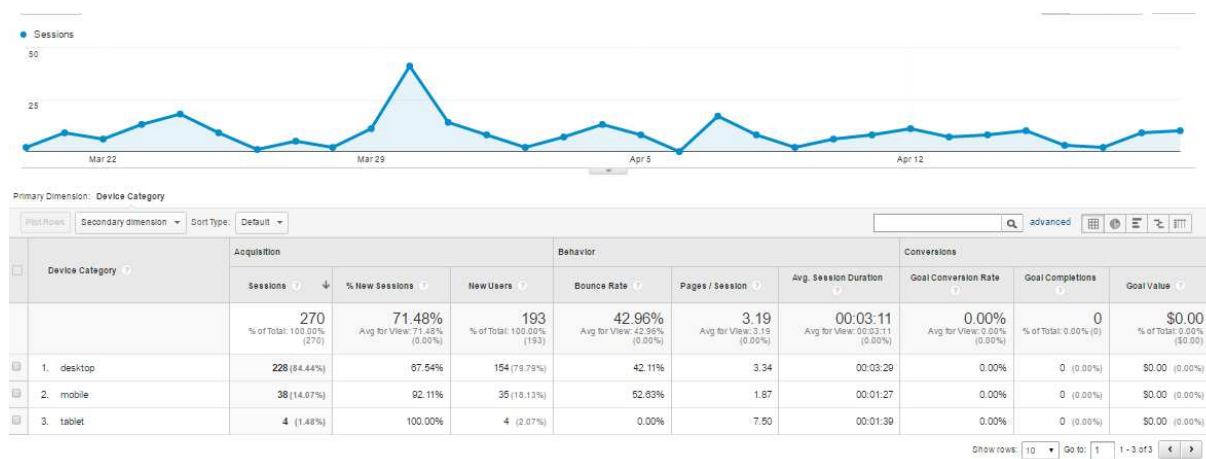**Figure 5 Number of active users for several periods of time**

**Figure 6 Number and kind of device used for browsing**

Based on the above figures, we observe a diversity in the operating systems and web browsers used to visit it, which proves that the website is accessible for different kind of devices. Furthermore, the number of visitors per country shows a satisfactory number of visitors and an increasing interest which we aim at augmenting even more by our planned dissemination actions.

## 4 ReCRED in the media

ReCRED has acquired presence in media and has risen public interest. More specifically, it has appeared in a high circulation Cypriot newspaper named Fileleftheros. ReCRED's technical manager Michael Sirivianos was interviewed about ReCRED, where he explained how the project addresses access control in a privacy-preserving manner. The interview took place on March of 2016. The corresponding link is the following:

http://www.recred.eu/sites/default/files/20160120_141136.pdf

The target audience of the interview is the General public, the industry and the scientific community.

Figure 7 ReCRED presented in the newspaper Fileleftheros

## 5   ReCRED in social media

ReCRED has appearance on social networking services such as Facebook and LinkedIn. The corresponding snapshots of both ReCRED's facebook page and LinkedIn's group are presented below.
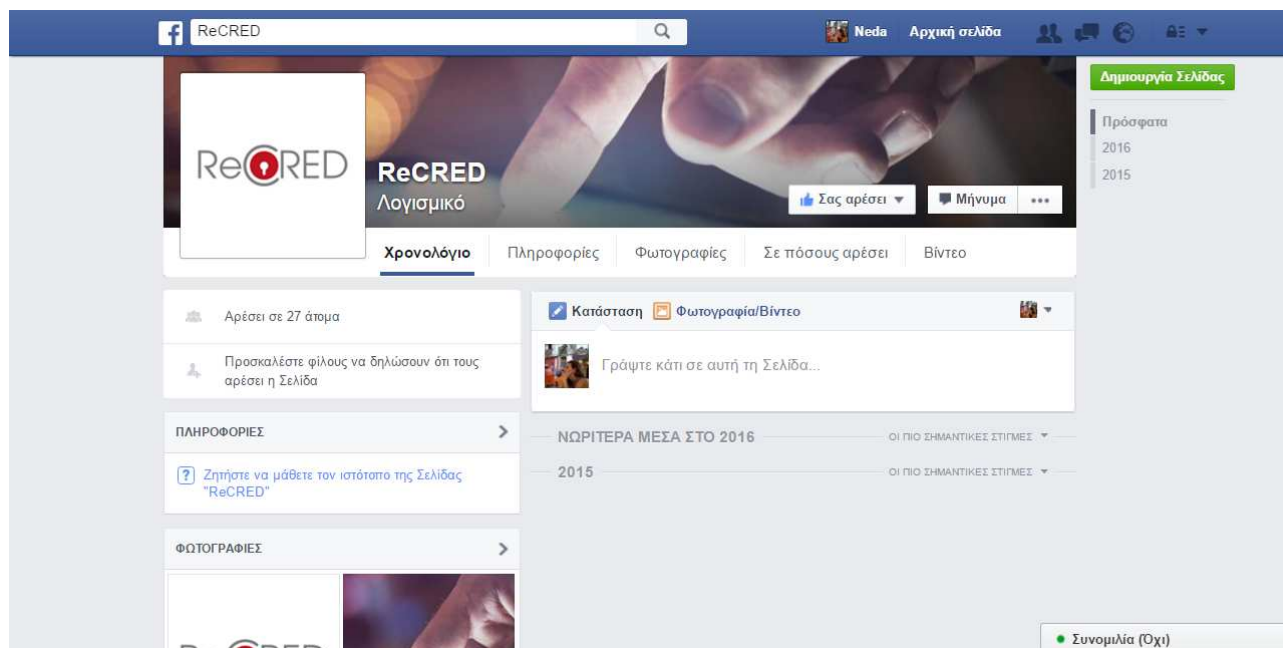


**Figure 8 ReCRED's facebook page**
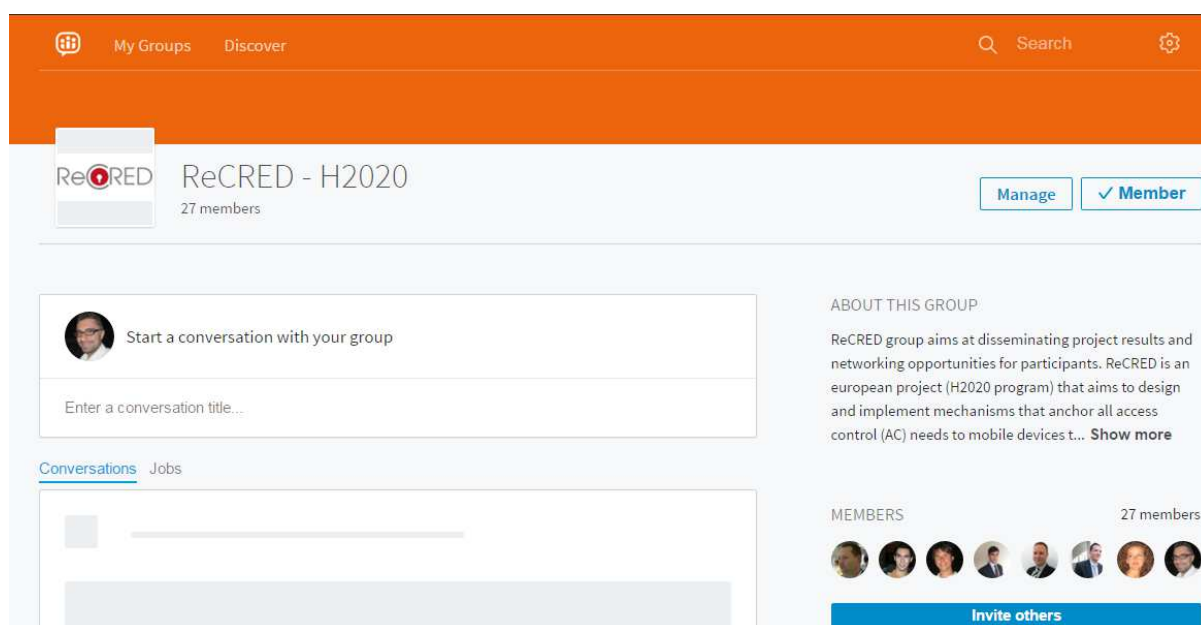


**Figure 9 Linkedin group**

Furthermore, ReCRED has appearance on the Twiter account @ReCRED_H2020.

# 6  ReCRED in corporate websites

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The consortium is communicating the project to its customers, the academic community and its associates, aiming to create potential for collaborations and of course to rise interest to possible partners.

**Wedia**'s blog has presented ReCRED, explaining its cause, its functionality and its benefits for the users and the overall technology ecosystem. The corresponding link is the following:

http://blog.wedia.gr/en/wedia-horizon-2020

and the corresponding snapshot can be found below.



**Figure 10 ReCRED's presentation in WEDIA's blog**

The target audience of WEDIA was mainly its customers and collaborators, as well as random website visitors.

Furthermore, ReCRED was published on **EXUS Innovation website**. The corresponding link is the following:

http://www.exusinnovation.co.uk/#!recred/c1ey8
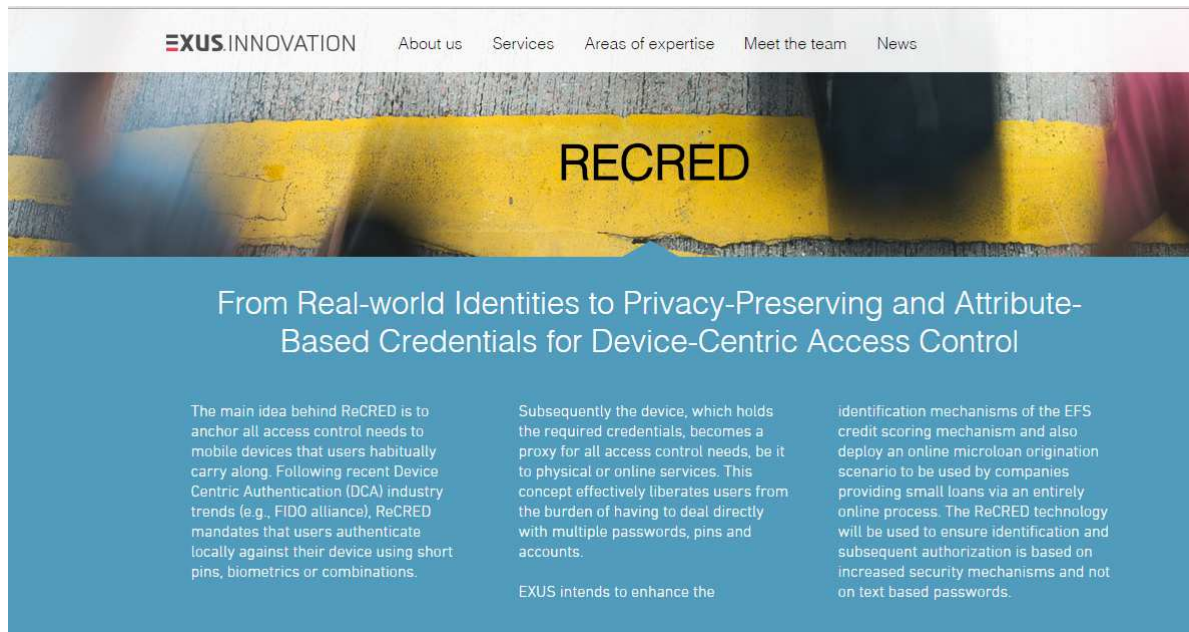
**Figure 11 ReCRED's presentation in EXUS' website**

The target audience of the publication was the general public, EXUS customers, Scientific and industrial communities.

The **University of Cyprus** has as well published an article in its website. The corresponding link is the following:

https://www.cut.ac.cy/news/article/?contentId=125678&languageId=1



**Figure 12 ReCRED's presentation in CUT's website**

The target audience of the website article was the General public the industry and the scientific community.

**IMDEA** has as well presented ReCRED to its website. The corresponding link can be found below:

http://www.networks.imdea.org/research/projects/recred



**Figure 13 ReCRED's presentation in IMDEA's website**

Furthermore IMDEA has made a press release for the project on the corporate website in their news report, which can be found on the following link:

http://www.networks.imdea.org/whats-new/news/2015/recred-project-takes-device-centric-access-control-future
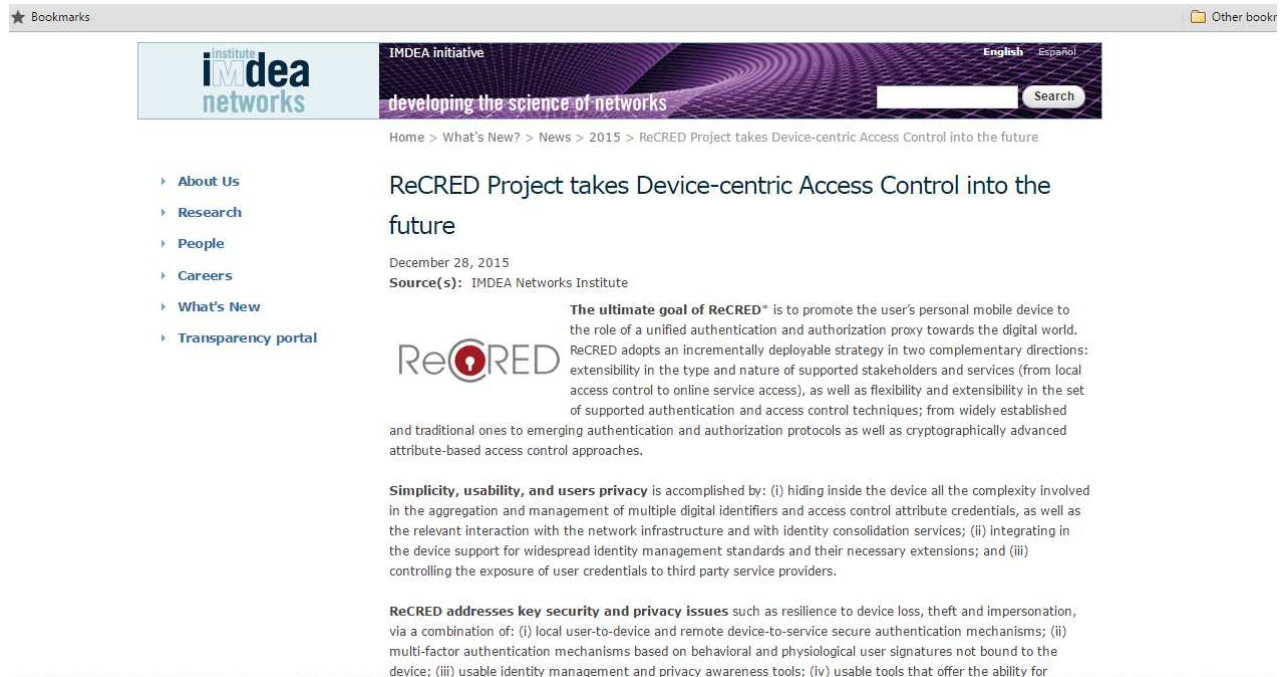
**Figure 14 IMDEA's press release on the corporate website**

IMDEA has published as well a press release in Alpha Galileo News Service and in the website phys.org.

The corresponding links are the following:

http://alphagalileo.org/ViewItem.aspx?ItemId=160040&CultureCode=en

and

http://phys.org/news/2016-01-recred-device-centric-access-future.html

The corresponding snapshots are presented below.
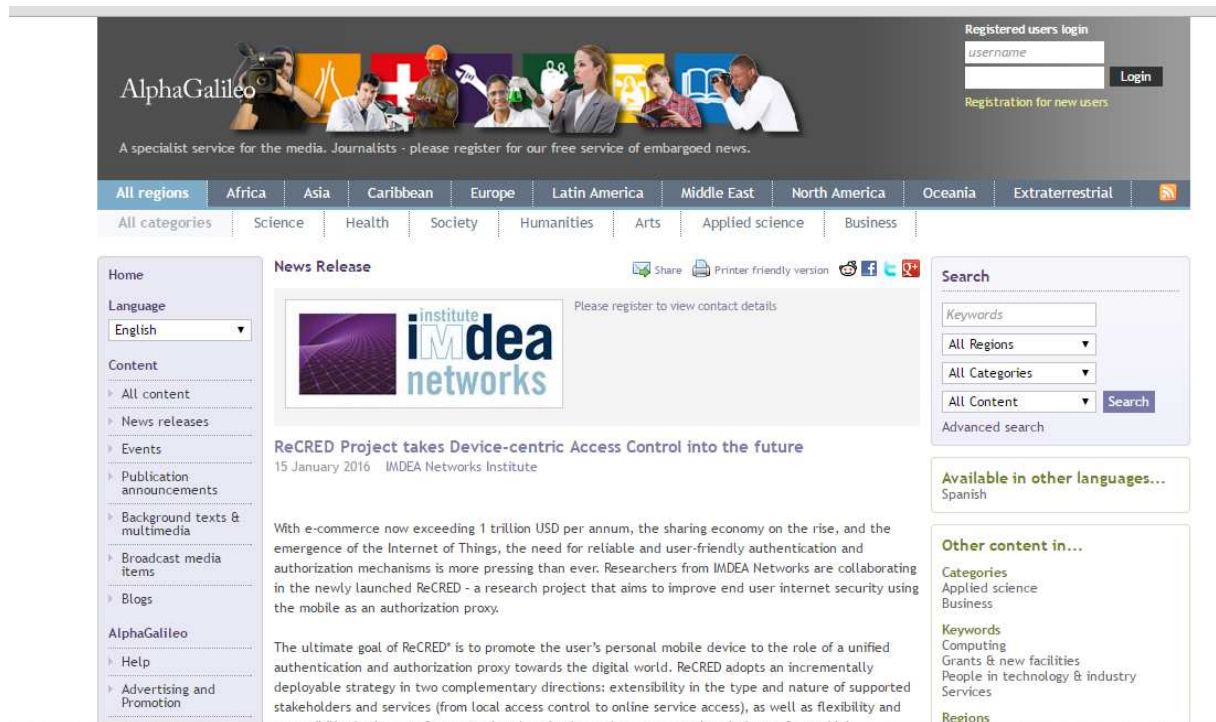
**Figure 15 Press release of ReCRED from IMDEA to Apha Galileo's news service**
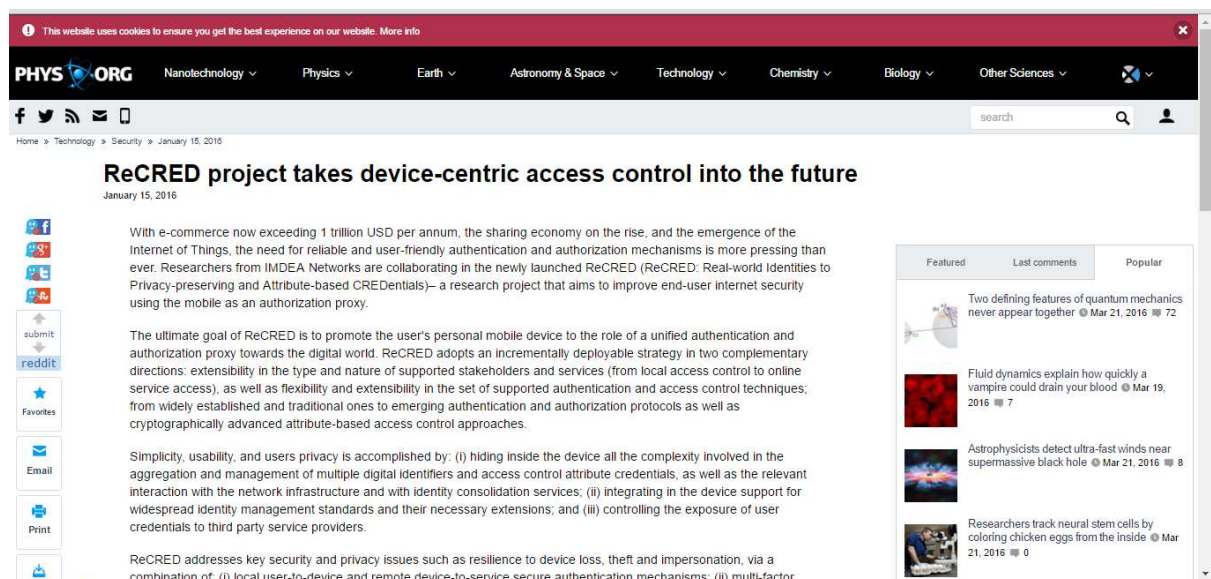


**Figure 16 Presentation of ReCRED from IMDEA to phys.org**

UPCOM has included a dedicated page to ReCRED in the new version of its corporate website, which is due to go live shortly. Furthermore, it has announced Workshop on Future Access Control, Identity Management and Privacy Preserving Solutions in Internet Services (FASES 2016) in the news section of its website, which can be found on the following link:

https://upcom.eu/workshop-on-future-access-control-identity-management-and-privacy-preserving-solutions-in-internet-services-fases-2016/

**Verizon** is in the process of publishing the announcement of Verizon`s participation to ReCred project in Verizon corporate website as well as the list of the workshops/conferences/webinars.

# 7 Leaflet and flyer

A leaflet and a poster have been created by EXUS and WEDIA and they are going to be distributed during conferences, workshops and any other social event where members of the consortium will participate and where, according to their judgement, it is relevant to distribute the project in order to reach parties that would be interested in it.

www.recred.eu

## Project Purpose

ReCRED's ultimate goal is to promote the user's personal mobile device to the role of a unified authentication and authorization proxy towards the digital world

ReCRED adopts an incrementally deployable strategy in two complementary directions: extensibility in the type and nature of supported stakeholders and services (from local access control to online service access), as well as flexibility and extensibility in the set of supported authentication and access control techniques; from widely established and traditional ones to emerging authentication and authorization protocols as well as cryptographically advanced attribute-based access control approaches.

## The Objectives

The objective of the ReCRED project is to design and implement mechanisms that anchor all access control (AC) needs to mobile devices that users habitually use and carry.

1) It aims to build an **integrated next generation access control (AC) solution** that solves problems deriving from current authentication methods:

A) **password overload**, referring to the inability of users to remember different secure passwords for each one of their accounts;

B) **identity fragmentation**, stemming from the fact that independent identity providers (email, social networks, etc.) create disjoint identity realms, making it difficult for end users to prove joint ownership of accounts

C) **lack of real-world identity** binding to an individual's legal presence, e.g., id number, passport, etc.; and

D) **lack of support for attribute-based access control** (ABAC), which facilitates account-less access through verified identity attributes (e.g., age or location).

2) It is aligned with current **technological trends and capabilities**

3) It **offers a unifying access control framework** that is suitable for a multitude of use cases that involves **online and physical authentication and authorization via an off-the-shelf mobile device**

4) It is **attainable and feasible to implement in the existing products** under the scope and timeframe of the project

## Pilots and evaluation

## Expected Impact

Main Benefits for end users includes:

- **Solution** to the **password overload problem**
- **Solution** to the **single point of failure problem**
- **Solution** to the **identity fragmentation problem**
- **Account and attribute based access control** in one architecture

Large scale pilots with end-users in operational environments

**Pilot 1:**
Device-centric campus Wi-Fi and web services access control

**Pilot 2:**
Student Authentication and Offer

**Pilot 3:**
Attributed-based age verification Online Gateway

**Pilot 4:**
Microloan origination
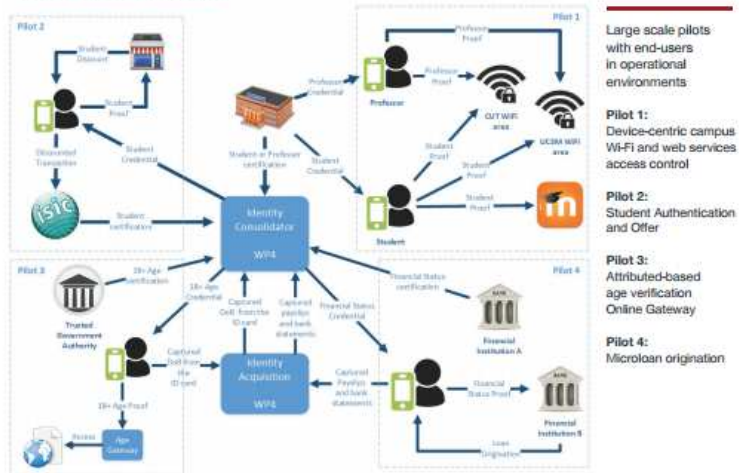
Figure 17 ReCRED's leaflet

Figure 18 ReCRED's Poster

# 8 Dissemination workshops and presentation on events

The project has been disseminated to a number of workshops and events by the consortium. In the following chapter these efforts are presented.

## 8.1 ReCRED Presentation at the "Workshop On Federated Identity And (OpenStack) Cloud Services"

A talk on the ReCRED project (an overview) was held at the "Workshop on Federated Identity for Cloud Services" hosted at the SWITCH headquarters in Zurich on January 21st and 22nd 2016.

The target audience of the activity were the National Research and Education Networks (NRENs) and Research Organizations.

As far as the feedback is concerned, declarations of Interest on the outcome of ReCRED have been received. More specifically, two people in the audience just after the talk expressed their interest on it, but no concrete follow-ups have taken place yet.

Links relevant to the workshop can be found below:

http://services.geant.net/clouds/Activities/Pages/Workshop-on-Federated-Identity-for-Cloud-Services.aspx

https://wiki.geant.org/display/gn41sa7/Agenda

## 8.2 Open Identity Exchange Workshop

The Open Identity Exchange (OIX) is a technology agnostic, non-profit, trade organization of leaders from competing business sectors, focused on building the volume and velocity of trusted transactions online. OIX enables members to expand existing identity services and serve adjacent markets. Members advance their market position through joint research and engaging in pilot projects to test real world use cases. The results of these efforts are published via OIX white papers and shared publically via OIX workshops.

An OIX/OIDF Workshop was held on the 24th of March 2016 in Amsterdam and was hosted by Verizon, an executive member of the OIX and a ReCRED partner. Christos Xenakis from UPRC was invited to participate in the Case Study Panel where current and future projects were discussed. There was a brief presentation regarding the ReCRED Research Project and the progress made so far.

The OIX enables the expansion of online identity services and adoption of new online identity products and works as a broker between industries, designing and testing business, legal and technical concepts, as well as developing pilot projects to test real use cases. OIX addresses and impacts the business industry, government agencies and the scientific community working on the field.

ReCRED's presentation attracted the panel's attention, especially due to the employment and integration of important technologies, such as FIDO, OpenID Connect, Idemix and Mobile Connect. The presentation was followed by a very interesting discussion among the panel members, regarding ReCRED and the aforementioned technologies that are expected to lead the Authentication field in the coming years.

Related material can be found at the following links:

https://www.eventbrite.co.uk/e/oixoidf-workshop-24th-march-2016-amsterdam-hosted-by-verizon-tickets-20600562838

and

http://oixuk.org/wp-content/uploads/2014/05/2016-03-24-oix-MLP-Amsterdam-Workshop-Report-FINAL.pdf

**Figure 19 ReCRED's presentation in OIX/OIDF Workshop, Amsterdam 2016**

## 8.3   Infocom Security 2016

Infocom Security Conference is regarded nowadays as the most important annual event on Information Security in Greece and a reference point for the evolution in the field. Every year, since 2011, it has demonstrated a steady growth depicted by the attendance statistics, as well as the general acceptance by IT market professionals and the scientific and tech communities. The conference attracted more than 1500 attendees last year and was gladly supported by 45 sponsors.

The 6th Infocom Security Conference took place in Athens, on the 6th & 7th of April 2016,  under the motto "Upgrade your Knowledge – Protect Your Business" and aimed at highlighting the need for extroversion and boosting of the general knowledge in the field of IT Security.

UPRC supported the event and Christos Xenakis participated in the conference where he presented the ReCRED project and informed the audience regarding its concept and current state.

The Infocom Security Conference included presentations directly concerning all those working or interested in the field of Information Security, those working as executives or members of the staff in in-house ICT departments of enterprises or organizations, IT professionals or academics and researchers focusing on Information Security.

The audience's response to ReCRED was very positive. Over 500 people attended the presentation, including Information Security specialists, business professionals and young researchers who expressed their interest on the project asking several questions regarding its purpose and functionalities. Related material can be found on the following link:

http://www.infocomsecurity.gr/en/

and

http://www.infocomsecurity.gr/presentations/2016/day2/xenakis.pdf



**Figure 20 ReCRED's presentation in Infocom, Athens 2016**



**Figure 21 Over 500 people attended ReCRED's presentation at Infocom**

## 8.4   ARES Workshop 2016

The ReCRED consortium will co-organize along with the TYPES (Towards Transparency and Privacy in Online Advertising Business – EU-2020) consortium the "Workshop on Future Access Control, Identity Management and Privacy Preserving Solutions in Internet Services"-FASES 2016. The workshop will be held in conjunction with the 11th International Conference on Availability, Reliability and Security (ARES 2016), August 31 to September 2, in Salzburg, Austria.

The goal of this symposium is to organize a set of technical sessions covering topics of interest for ReCRED and TYPES projects. The organizers plan on using use some time to present the goals and current achievements of both projects. Christos Xenakis and Nikos Passas from UPRC will lead the presentation, as the workshop chair and co-chair respectively, on behalf of ReCRED.

The symposium will be open to any researcher interested in the topics of the workshop, beyond the members forming the consortium of ReCRED and TYPES projects.

## 8.5   Lesson on Cloud computing

A lesson on cloud computing was held at the Master's program on Digital Economy organized by the University Bocconi (Milan, Italy), in collaboration with Studio Professionale Associato a Baker & Mckenzie (BAK) and Google. During the lesson the ReCRED project has been presented to the audience.

The target audience of the course and the presentation consisted mainly by managers from Digital, Legal and Tax Departments of companies; consultants and industry community.

Regarding the feedback we received from this dissemination activity, there were declarations of Interest on the ReCRED project from the audience.

## 8.6   Talk in Harvard University

A talk entitled: "Understanding the detection of fake-view fraud in Video Content Portals" was given at the Harvard University by members of Universidad Carlos III de Madrid (UC3M) during the 17th of November of 2016. The talk was mainly about the design of measurement tools to collect data from Internet services and it was loosely related to the project. Its target audience was the security and networking academia.

## 8.7   Participation in Technical Program Committees of Scientific Conferences

UC3M has also participated in the technical committee of the following scientific conferences: ICWSM 2016, IFIP Networking 2016, ITC 2016, WONS 2016, IFIP Networking 2015, CNCTV 2015, GI 2016, GI 2015, WONS 2015. In this framework the partners reached out to stakeholders with similar scientific interests. The Networking and CS Conferences have a high relation to ReCRED project. The networking

community has as one of its main goals the definition of communication protocols for different purposes. In ReCRED we will define different communication protocols that are then aligned with the interests of the networking community. Moreover the design of novel access control solutions is of interest of both CS and networking communities. Thus, results from ReCRED are of interest for both communities. The target Audience of this dissemination activity was the scientific community.

## 8.8 Participation in Board of Industrial Events

UC3M has participated in the Data Science Hackaton, I-COMM 2016 (Global Forum for Marketing Data and Measurement), where it presented Marketing Data and Measurements. The material of the presentation was highly related to the project. The hackathon required the analysis of social networks data and among other things the identification of user profiles, in particular influential users. This is very related to the work on online identity matching of ReCRED WP4. In addition UC3M won the scientist level and the audience award. The target audience of this action was the industry.

## 9 Planned future actions and conclusions

The dissemination strategy will continue throughout the project. Our future activities include but are not restricted to more publications, the implementation of workshops, talks and lectures and the participation in panels.

Some of the partners have shown interest in organizing demonstrations and students' offers to promote ReCRED as well as mobile connect authentication newsletters and blogs.

In addition the consortium members will continue participating in trade fairs. After the implementation of the pilots their demonstration will take place in conferences and companies. These pilots will present to the potential industrial users the full power of the results obtained and the system developed in ReCRED. A video clip will be implemented as explained in the DoW and finally, the consortium will continue the search for interaction and coordination with other projects of the same call.