Social Media in a safer Europe: expectations and outlook in the next years

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1. State of the play

(credit ©iStock)

Social media refer to internet based applications such as, for instance, social networks, blogs, multimedia content-sharing sites and wikis.
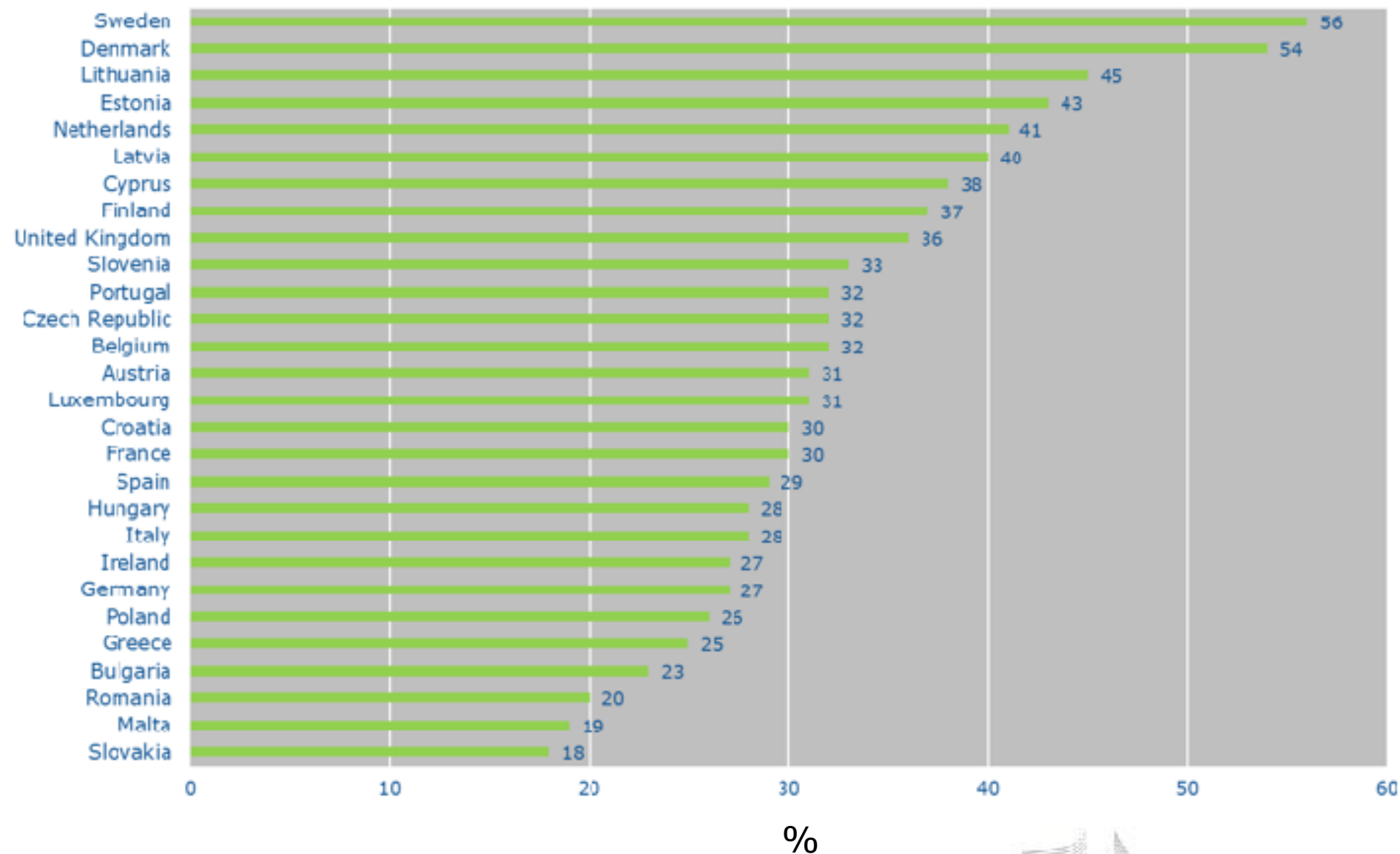
Source: <u>Eurostat, 2016</u>

The most common social media tools are very recent (examples):

Facebook – founded in 2004
Twitter – founded in 2006
WhatsApp – founded in 2009
Instagram – founded in 2010
Snapchat – founded in 2011

Percentage of individuals who have uploaded text, games, images, films or music to websites (e.g. to websites for social networking), 2013
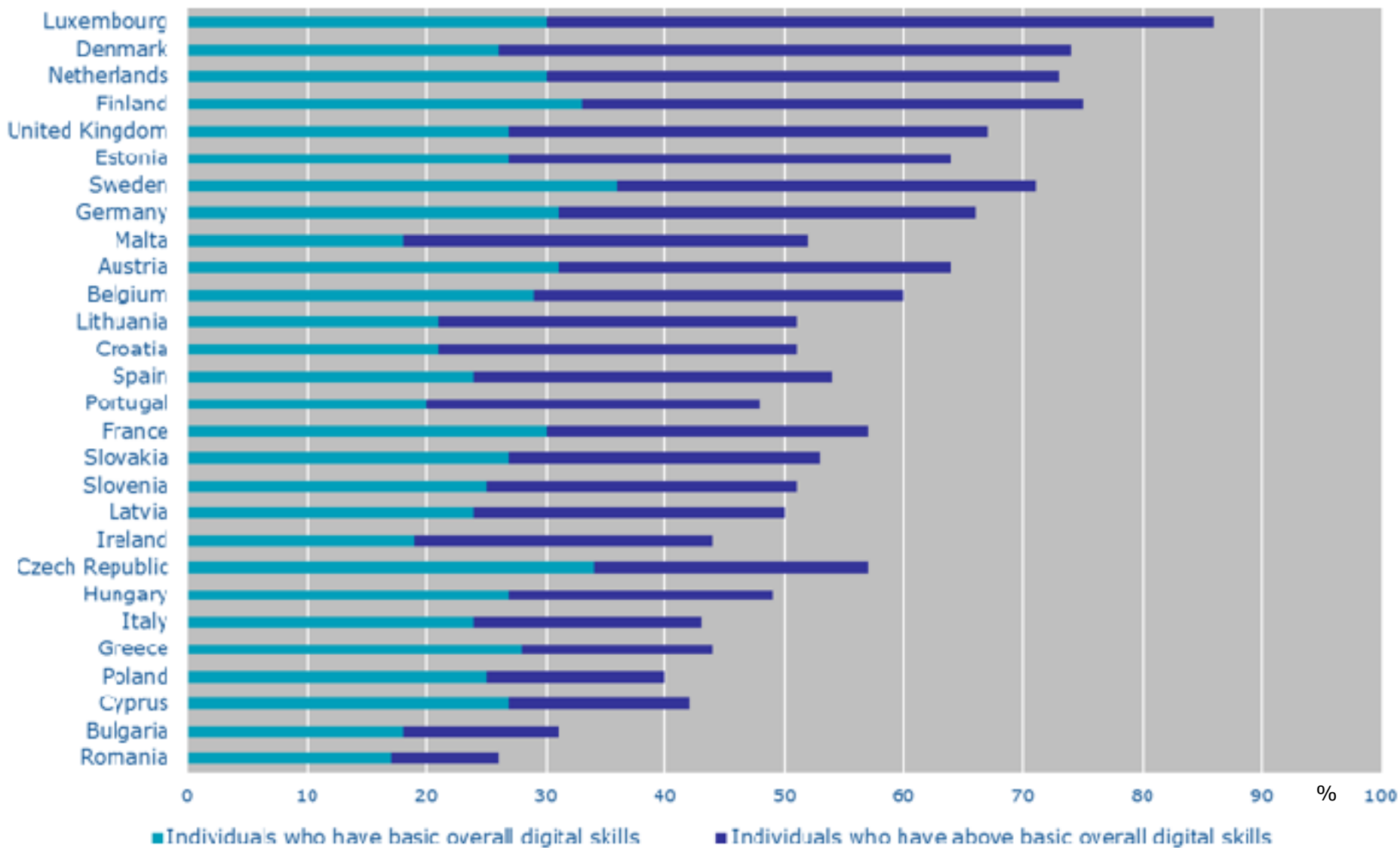
Country	%
Sweden	56
Denmark	54
Lithuania	45
Estonia	43
Netherlands	41
Latvia	40
Cyprus	38
Finland	37
United Kingdom	36
Slovenia	33
Portugal	32
Czech Republic	32
Belgium	32
Austria	31
Luxembourg	31
Croatia	30
France	30
Spain	29
Hungary	28
Italy	28
Ireland	27
Germany	27
Poland	25
Greece	25
Bulgaria	23
Romania	20
Malta	19
Slovakia	18

%

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Individuals' level of digital skills, per EU member state, 2015

Source of data: EUROSTAT (isoc_sk_dskl_i)

London riots, United Kingdom - 2011

BBC 🔵 Sign in   News   Sport   Weather   Shop   Earth   Travel   M

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English riots: Social media were 'force for good'

By Gavin Stamp
Political reporter, BBC News

🕒 15 September 2011 | UK Politics

Hurricane Sandy, USA - 2012

Lessons Learned: Social Media and Hurricane Sandy

Virtual Social Media Working Group and
DHS First Responders Group

June 2013

🛡 Homeland Security
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Progressive use of Social Media in Emergencies

1ˢᵗ phase: Initially, when an emergency occurred, social media were used by citizens:

    - to communicate with their family and friends (need of connectivity);

    - to search for further information (reduction of uncertainty).

2ⁿᵈ phase: Later, emergency responders started using social media, as an **additional** communication channel, because information sharing and communication are fundamental in emergency management.

Progressive use of Social Media in Emergencies

This results from the acknowledgment that by using social media:

- the impact of loss of communication networks could be minimised;

- citizens could help in the situational awareness reports (e.g. "civilian journalism", crowdsourcing);

- real time information could be disseminated quickly and in a simpler way;

- information exchanged in social media would persist in time;

- citizens engagement with public authorities could increase and be capitalised for preparedness activities.

However, this represented a **paradigm shift** since emergency responders were used to **unidirectional communication** and had to adapt to **two-way communication** and the inherent challenges.

Challenges posed by the use of social media in emergency management:

Technical	Monitoring flows of big data from several social media platforms during short and stressful periods Analysing and structuring information, by identifying quickly the most relevant (adoption of semantic technologies)
Data quality	Disinformation (spread of rumours), false negatives Inaccuracy (e.g. use of local vs official toponymy) Validation of information
Institutional	Specific training (digital media literacy of staff) Definition of new procedures, work practices and processes (e.g. which information should be shared and through which channels), supported within the legal/institutional framework Ensure interoperability, coordination and support between different emergency response authorities
Cultural	Language and cultural barriers when communicating (e.g. misinterpretation)
Ethical	Protection of Users' Privacy (e.g. dissemination of pictures, personal data)

Opportunities created by the use of social media in emergency management:

-Digital volunteers and crowdsourcing mapping (e.g. the ['iVolunteer'](#) initiative promoted by the Kenya Red Cross, or the ['Decode Darfur'](#) initiative promoted by Amnesty International)

-Early detection of emergencies (e.g. H1N1 outbreaks could be tracked in Twitter prior to detection by official health surveillance systems)

-Improve preparedness to emergencies (e.g. development of a social media strategy that informs citizens on how to react to emergencies)
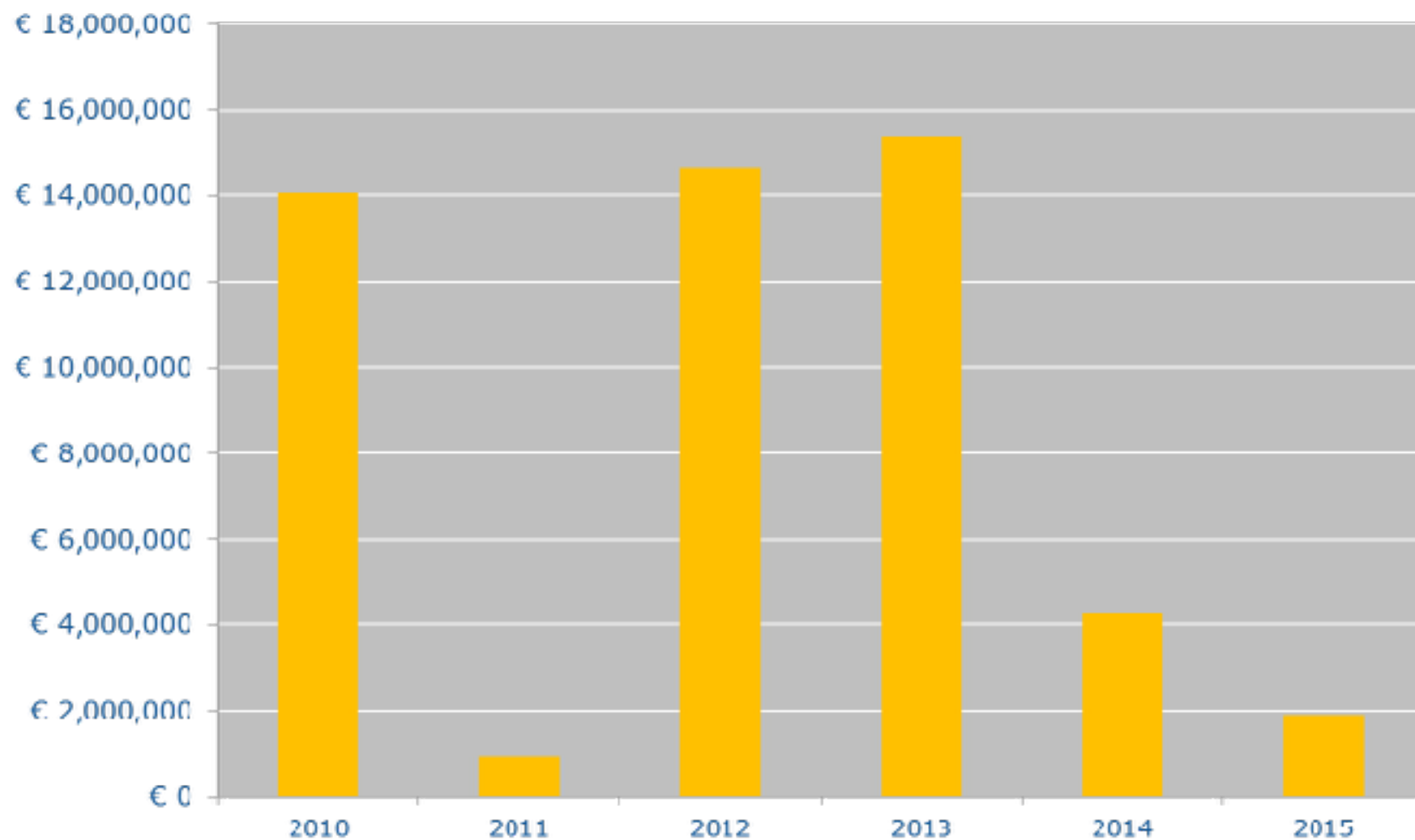
2. Analysis of funded Projects' Portfolio

*Since 2010, Security Research co-financed **18** projects dealing with social media in crisis:*

- *16 FP7 Projects*
- *2 H2020 Projects*

Different types of funding schemes:
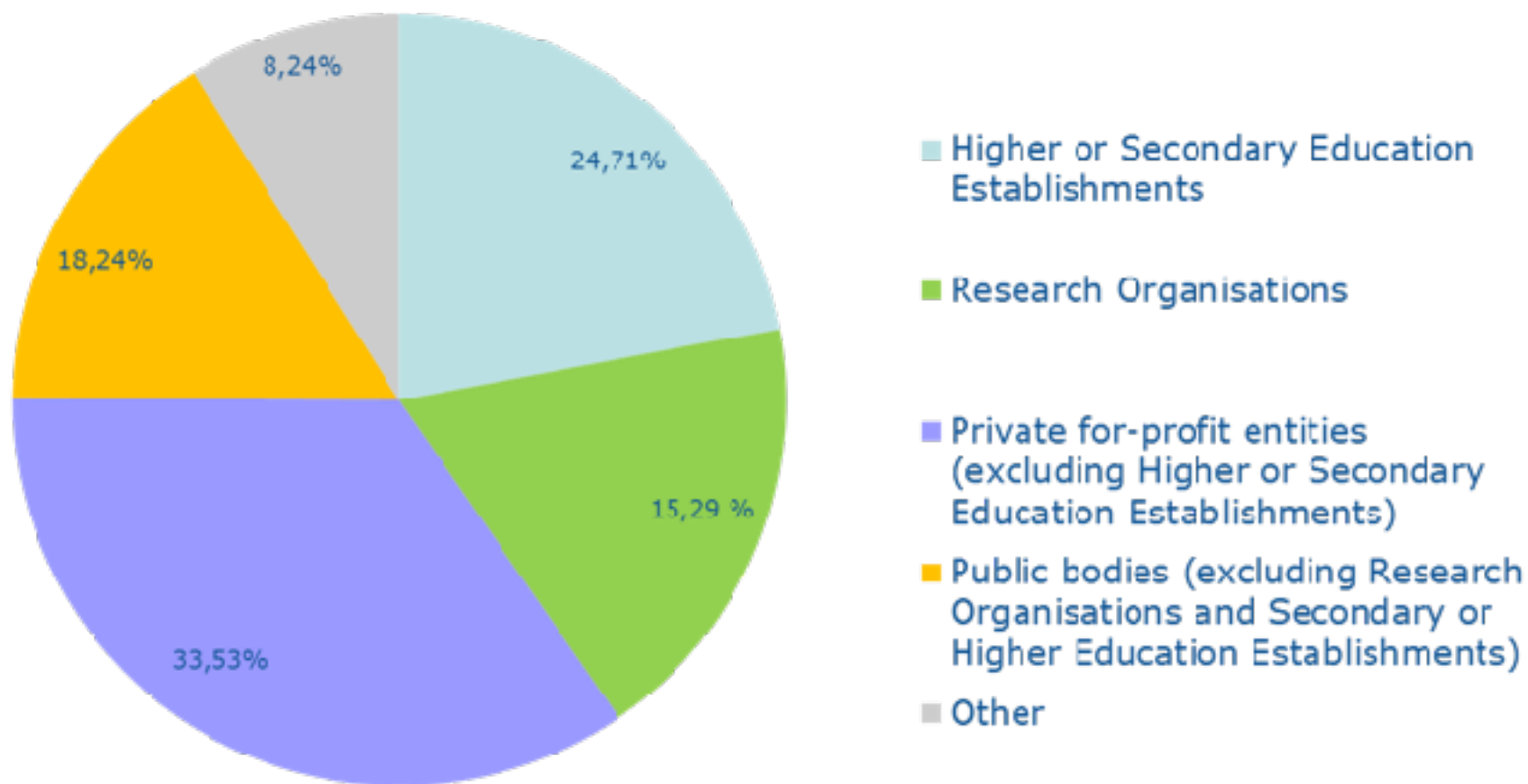
- *11 CP-FP*
- *6 CSA*
- *1 RIA*

Total EC Maximum Contribution, per year

Total 2010-2015: € 51.212.531,90
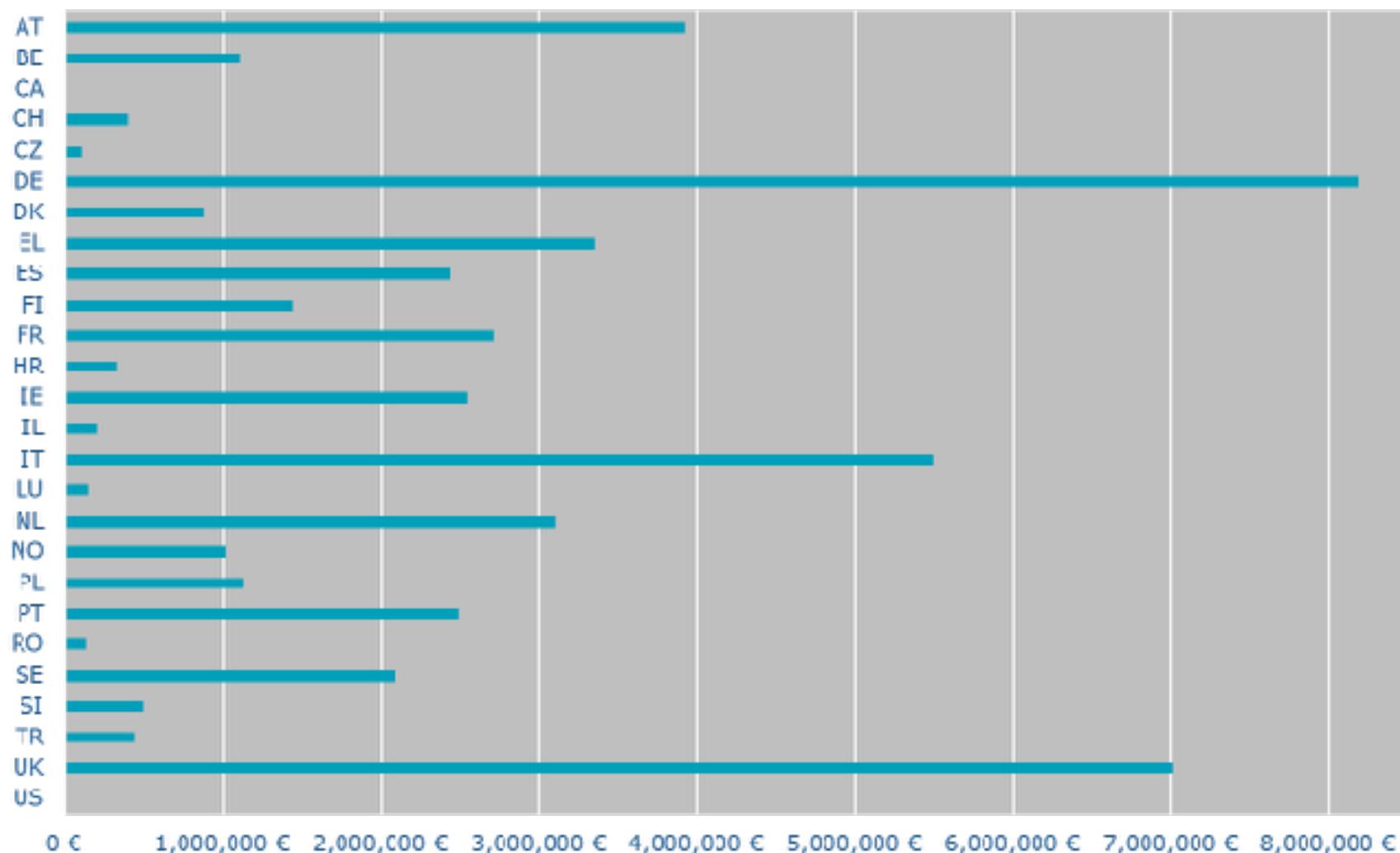
Source of data: CORDIS

Organisation activity type, in the 18 projects

- Higher or Secondary Education Establishments — 24,71%
- Research Organisations — 15,29 %
- Private for-profit entities (excluding Higher or Secondary Education Establishments) — 33,53%
- Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments) — 18,24%
- Other — 8,24%

Source of data: CORDIS

Source of data: CORDIS

Year	Topic	Projects funded
2010	SEC-2010.4.2-1 Interoperability of data, systems, tools and equipment	**IDIRA**
	SEC-2010.4.3-1 **Alert and communication, including the role of media, towards the population in crises management**	**A4A** **OPTI-ALERT**
2011	SEC-2011.4.2-4: Enhancing crisis response abilities of the public	**PEP**

Year	Topic	Projects funded
2012	SEC-2012.4.1-2: Psycho social support in Crisis Management	**OPSIC**
	SEC-2012.4.2-3: Post crisis lesson learned exercise	**ELITE**
	SEC-2012.4.3-1: Next generation damage and post-crisis needs assessment tool for reconstruction and recovery planning	**DESTRIERO**
	SEC-2012.6.1-3: **Use of new communication/social media in crisis situations**	**ATHENA COSMIC iSAR+**
2013	SEC-2013.4.1-5: Preparing societies to cope with large scale and/or cross border crisis and disasters	**POP-ALERT TACTIC**
	SEC-2013.6.1-1: **The impact of social media in emergencies**	**SUPER SOTERIA EmerGent Slandail**

Year	Topic	Projects funded
2014	FCT-14-2014: Ethical/Societal Dimension Topic 2: Enhancing cooperation between law enforcement agencies and citizens - Community policing	**Trillion**
2015	FCT-15-2015: Ethical/Societal Dimension Topic 3: **Better understanding the role of new social media networks and their use for public security purposes**	**Media4sec**

3. Future Funding Opportunities

Horizon 2020 Work Programme 2016 – 2017

Secure societies – Protecting freedom and security of Europe and its citizens

Calls Opening: 01 March 2017
Calls Closure: 24 August 2017

(European Commission Decision C(2016)4614 of 25 July 2016)

CIP-01-2016-2017: Prevention, detection, response and mitigation of the combination of physical and cyber threats to the critical infrastructure of Europe

Innovation Action (different CI types) | Indicative budget: 20.00 EUR million

"(…) Proposals should cover: prevention, detection, response, and in case of failure, mitigation of consequences (including novel installation designs) over the life span of the infrastructure, with a view to achieving the security and resilience of all functions performed by the installations, and of neighbouring populations and the environment. They should not only address in details all aspects of both physical (e.g. bombing, plane or drone overflights and crashes, spreading of fires, floods, seismic activity, space radiations, etc.) and cyber threats and incidents, but also systemic security management issues and the combinations of physical and cyber threats and incidents, their interconnections, and their cascading effects. **Innovative methods should be proposed for sharing information with the public in the vicinity of the installations, and the protection of rescue teams, security teams and monitoring teams.** *(…)"*

DS-08-2017: Cybersecurity PPP: Privacy, Data Protection, Digital Identities

Innovation Action (different strands) | Indicative budget: 17.60 EUR million

"Privacy-enhancing Technologies (PET)

Novel designs and tools to provide users with the functionality they require without exposing any more information than necessary, *and without losing control over their data, to any third parties. PET should be available in a broad spectrum of products and services, with usable, friendly and accessible safeguards options. PET should be developed having also cost effective solutions.*

Comprehensive and consistent Privacy Risks Management Framework should be available, in order to allow people to understand their privacy exposure (i.e. helping people to understand what happens to their data when they go online, use social networks etc).

Open source and externally auditable solutions are encouraged in order to maximise uptake and increase the trustworthiness of proposed solutions."

Horizon 2020 Work Programme 2018 – 2020

Secure societies – Protecting freedom and security of Europe and its citizens

Under preparation

In the scope of the work programme 2018-2020, **'Secure and Resilient Societies'** are considered a key area of activity. The guiding principles underpinning the definition of the calls are:

•*Further development of a network of security practitioners and first responders*
•*Calls should be designed to adapt research priorities to changing circumstances*
•*Reduction of barriers to cross-border cooperation – of Member States, industry and practitioners – which are higher-than-average in the security field*
•*Expand collaboration between the public and private sectors.*

Strategic recommendations for Secure Societies theme in Horizon 2020
Produced by the Secure Societies Advisory Group - December 2015

SOCIETAL SECURITY AND TRUST OF THE CITIZEN
      Public Perception of Security and Citizens Awareness of Risk

"Specific requirements will be:
(…)
- the need for policy makers to understand and respond to citizens' concerns, but not be driven by beliefs that may be misguided, and **the role that media and social media play in creating the common perception and understanding of security***;*
(…)
- **examining the social trends (e.g. social media) in the context of security and the ways they are used and how they influence the shape of the modern society***. This shall lead to establishing a common understanding of the security within the different stakeholders groups and to a stronger engagement of the citizens in the security processes. It may also lay down the foundations for the longer term 'closer to market' innovation strategy;"*

Thank you!

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Twitter:
@EUHomeAffairs
@EUScienceInnov

Facebook:
https://www.facebook.com/EUScienceInnov/

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Alert for All (A4A)

Start:	End:	Website:		EC Funding:
16/03/2011	15/12/2013	*http://www.alert4all.eu/*		€3.497.469,45

Project Objectives:

The project aimed to improve the Common Operational Picture (COP) for authorities and responders and to address the impact of dissemination of alert messages on the population and the role of social media during a crisis.

Main Results:

A novel communication system to improve how citizens are alerted about disaster situations was created, based on a 'what-if' simulation tool, which was also designed for screening social media.

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Opti-Alert

Start: 01/01/2011	**End:** 30/04/2014	**Website:** *http://www.opti-alert.eu/*	**EC Funding:** €2,531,122.71

Project Objectives:

The project aimed to increase the efficiency of alerting systems during crisis situations, through socio-cultural sensitive and personalised communication taking place across multiple channels (including social media).

Main Results:

An integrated alerting toolsuite was developed, including two alert message generation tools and four distribution systems. The alert messages can be tailored for different target groups. Simulation tools were also created to analyse the effect of an alert on the population.

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IDIRA

Start: 1/05/2011	End: 30/04/2015	Website: *http://www.idira.eu/*	EC Funding: €2,531,122.71

Project Objectives:

The project aimed to improve the interoperability of data and procedures in large-scale multinational disaster response actions, contributing to a more effective and efficient management of response actions.

Main Results:

The project designed novel technologies and implemented a system for the exchange of the most relevant information during crises aftermath - among them information on incidents, alerts, resources, missing persons and urgent needs, improving the situational awareness by a delivering a common operational picture. The modular system integrates information from various sources, including social media.

PEP

Start:	**End:**	**Website:**	**EC Funding:**
01/01/2012	31/12/2014	*https://wwww.projectPEP.eu*	€ 950,023.00

Project Objectives:

The project addressed future directions for research to enhance public resilience to bring a European 'enabled public' closer. To be more effective, crisis management should be seen as coproduced with citizens, applying public empowerment policies which also utilise human technology.

Main Results:

The project clarifies best practices and shows guidelines in the form of an accessible tool, the 'Crisis communication WIKI for professionals'.

The project PEP also focused on policy recommendations. The report 'Roadmap public empowerment policies for crisis management'.

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ATHENA

Start:	End:	Website:	EC Funding:
01/12/2013	30/11/2016	http://www.projectathena.eu/	€ 2,631,592

Project Objectives:

The ATHENA project brings together major user communities with world leading experts in crisis management and experts and technology developers of mobile and social media use and development. The goal of the ATHENA project is to deliver two major outputs:
• A set of best practice guidelines for LEAs, police, first responders and citizens for the use of new media, supporting tools and technologies in crisis situations,
• A suite of prototype software tools to enhance the ability of LEAs, police, first responders and citizens in their use of mobile and smart devices in crisis situations.

Main Results:

-To provide the emergency services with new real-time intelligence from crowd-sourced information, assisting in decision making and making search and rescue more efficient.
-To create a fundamental and permanent shift in the way crisis situations are managed, by empowering the public and helping them become a part of the crisis team.
-To develop an orchestrated cycle of data, information and knowledge during a crisis.

COSMIC

Start:	End:	Website:	EC Funding:
01/04/2013	31/03/2015	*http://www.cosmic-project.eu/*	€ 997,040.20

Project Objectives:

- To identify the most effective ways to utilise new information and communication technologies (ICTs) in crisis situations for the protection of ordinary citizens.
-To ensure better linkages between prevention, detection, reporting and rescue in crisis situations as well as assist officials and first responders (i.e. police, law enforcement agencies, search and rescue and medical personnel) in using new ICTs and applications to be more effective and efficient during crises.

Main Results:

COSMIC highlights the use of citizen-generated data via social media as an indicator of where specific emergency resources or search and rescue operations are necessary.

COSMIC offers expert-validated advice and guidelines on how new media technologies and applications can best be used for rapid response to crises, validated through a series of workshops and a final conference.

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iSAR+

Start:	End:	Website:		EC Funding:
01/01/2013	30/06/2015	*http://isar.i112.eu/*		€3,839,491.65

Project Objectives:

- Development of effective Guidelines to enable the new media users to contribute to crisis response efforts and search and rescue actions and best practices to contribute to crisis response and search and rescue actions
- Develop an iSAR+ Platform for experimentation and validation purposes, meeting the PPDR Organisations & Users needs and in line with the EU Ethical and Legal Framework
- Integrate iSAR+ in the existing PPDR toolkit for crises
- Actively involve a wide community of end-users from all over Europe

Main Results:

iSAR+ innovates the approach to the dynamics between citizens and PPDRs in crises, allowing (i) the leverage of PPDRs' levels of shared awareness and performance, benefiting from citizens' published information, (ii) the exploitation of mobile platforms' ubiquity to search, locate and effectively communicate with citizens and (iii) the redirection of citizens' large energy and information flow into PPDRs platforms.

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DESTRIERO

Start: 01/09/2013	End: 31/08/2016	Website: *www.destriero-fp7.eu/*	EC Funding: €2,933,015.58

Project Objectives:

Improve damage assessment by integrating satellite data, aerial photos and data from the field (e.g. from mobile devices) into a coherent information management tool.

Main Results:

The DESTRIERO project developed a prototype of post-crisis needs assessment tool for reconstruction and recovery planning phase, including
- novel data and information interoperability across organizations and systems in combination with
an advanced multi-criteria decision analysis tool
- structural damage assessment (on buildings, bridges, dams) through advanced remote sensing
enriched by in-field data collection and data integration and analysis, based on international standards

ELITE

Start:	End:	Website:		EC Funding:
01/01/2013	30/06/2014	*https://www.elitesproject.eu*		€ 940,418

Project Objectives:

The overarching objective of the ELITE – Elicit to Learn Crucial Post-Crisis Lessons project is to improve European emergency preparedness, response and recovery from disasters. These include natural disasters such as floods, large scale forest fires and earthquakes.

Main Results:

The ELITE project has created a living document containing lessons learned publicly available web solution which comprises a "living" repository of best practices and guidelines as well as social media features. The living document evolves collection of lessons learned nurtured by a Community of Practice (CoP) for mutual learning and information sharing.

OPSIC

Start: 01/02/2013	End: 31/01/2016	Website: http://opsic.eu/	EC Funding: €3,333,918

Project Objectives:

- To provide overview of existing guidelines for psychosocial support (PSS) in crisis management and compare these in terms of key points addressed and gaps.
- To translate PSS best practices and guidelines into a generally accessible, coherent operational guidance and information system.
- To integrate COMPASS information system into existing end-user protocols

Main Results:

OPSIC developed an web based comprehensive operational guidance system that will operate as a common shared platform and single point of reference for PSS in crisis management.

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SUPER

Start:	End:	Website:		EC Funding:
01/04/2014	31/03/2017	*http://www.super-fp7.eu/*		€3,117,318.00

Project Objectives:

The main objective of SUPER project is to research and introduce an integrated framework that comprise tools, techniques, policies and best practices for exploiting social media in the scope of the management of security incidents and emergency situations.

It will emphasize on the advancement and use of leading edge social media processing algorithms, as a means of understanding people attitudes against security events and emergencies, while at the same time it will leverage real-time event detection in order to boost security/emergency management operations.

Main Expected Results:

If successful SUPER will produce security and emergency management tools which will leverage latest advances in social media information gathering, processing, analysis and incident identification. At the same time, SUPER will significantly advance knowledge associated with citizens behaviours/attitudes in emergency situations. The SUPER platform and services combined with the tools currently used by security forces and civil protection agencies are expected to enhance the level of security offered to the citizens.

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SOTERIA

Start:	End:	Website:		EC Funding:
01/09/2014	28/02/2017	*http://soteria.i112.eu/*		€3,971,177.60

Project Objectives:

The SOTERIA Project aims to research and develop recommendations and an associated toolbox that leverage the positive impact of social media in emergencies, enabling public safety organisations (PSOs) and citizens using new mobile and online social media technologies to communicate before, during and after an emergency event, and exchange critical information for the PSOs' intervention in emergency, law enforcement and medical assistance situations.

Main Expected Results:

SOTERIA will innovate the approach to the dynamics between PSOs and citizens in emergencies, allowing (i) the understanding of the impact social media entails in emergency management systems, (ii) the use of all communication channels in emergency situations, including social media, to the benefit of PSOs and citizens, (iii) the exploitation of mobile platforms' ubiquity to locate and effectively communicate with citizens in distress, and (iv) the leverage of PSOs' levels of shared awareness and performance, benefiting from citizens' social media information.

EmerGent

Start: 01/04/2014	End: 31/03/2017	Website: *www.fp7-emergent.eu/*	EC Funding: €3,331,184

Project Objectives:

The main objective is to understand the impact (positive as well as negative) of social media in emergencies, and for this purpose in particular to analyse:
•the communication behaviour of citizens via social media in different emergency situations,
•the preferred types of social media used in crisis situations and
•the consequences thereof for emergency management by public authorities

Main Expected Results:

Enhancement of safety and security of citizens in the context of emergencies through
•Reinforcement of the communication between crisis communities (citizens) and emergency managers (public services) by developing stronger communication tools
•Development of a novel emergency management concept based on new methods for mining and routing relevant information from social networks
•Preparation of guidelines for emergency management services

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SLANDAIL

Start: 01/04/2014	End: 31/03/2017	Website: *http://slandail.eu*	EC Funding: € 2,942,445

Project Objectives:

Project Slándáil aims to demonstrate a cost-effective and ethically-correct way in which social media information can be used by an emergency management system.

Main Expected Results:

A prototype of an emergency management system that takes its feeds from emergency operatives, social media feeds and formal media feeds. The system will have a novel self-learning component that will update the emergency management systems knowledge base through the life cycle of a disaster.

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TACTIC

Start:	End:	Website:		EC Funding:
01/05/2014	30/04/2016	*https://www.tacticproject.eu/*		€999,083.52

Project Objectives:

TACTIC's main objective was to develop an online platform together with practitioners which can improve community preparedness to cross border and large scale hazards.

Main Results:

•A self-assessment for organisations engaged in the management of floods, earthquakes, terrorism and/or epidemics. This self-assessment allows responsible organisations to assess their risk communication activities (including social media) and develop a comprehensive risk communication strategy

• A feedback report for such organisations that outlines their strengths as well as the aspects that could be improved in the future.

• A structured library of good practices, that allows organisations to learn from more examples, linking specific practices with the specific needs of organisations.

• A self-assessment for the general public, which is exposed to the risk of flooding, earthquakes, terrorism and epidemics. This preparedness-check for the general public delivers a short feedback report and selected links to useful websites. The preparedness assessment also allows responsible organisations to evaluate how effective their communication activities (including via social media) are and how they influence residents' knowledge, motivation, networks, etc.

• Recommendations for future research in the area of community preparedness

POP-ALERT

Start: 01/04/2014	End: 31/03/2016	Website: *http://www.pop-alert.eu/*	EC Funding: €998,848.38

Project Objectives:
• Identify and gain insight into population understanding of and willingness to prepare to large scale disaster events,
• Study the best ways to blend contemporary tools (including social media) with the existing practices identified, for preparing and alerting the European population in the event of a crisis situation, taking into account social and cultural differences;
• Design and run pilot studies to assess best practices for population alerting in both rural and urban settings.

Main Results:
• Survey dataset generated from desktop and online research on awareness and preparedness for disaster scenarios of the EU population.
• A set of case studies identifying best practice in specific disaster scenarios.
• A proposed common alerting scheme incorporating an alert sound, pictograms and a message model.
• An information framework, realised as an online dashboard, incorporating both traditional and new media, in an effort to ensure the broadest possible coverage.
• A further dataset, realised from the POP-ALERT pilots in Lisbon and Corsica. This dataset was derived from pre and post event questionnaires and question feedback generated within the Pandora+ training tool was used by the project for the trials.
• A set of recommendations to key stakeholders and EU decision makers.

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Trillion

Start:	End:	Website:	EC Funding:
01/09/2015	31/08/2018	*http://trillion-project.eng.it/*	€4,263,408

Project Objectives:

Promoting community policing in terms of trustful collaboration between citizens and law enforcement agencies (LEA) by
•implementing bi-directional communication channels over social networks with regard to
•enhancing the discovery of relevant information for public security and
•speeding up the detection of emerging risks

Main Expected Results:

Development of a fully-fledged platform for cooperation between citizens and LEA, including:
•trust-building mechanisms to motivate cooperation
•including mobile applications for real-time collaboration
•both during on-going crisis as well as for early identification of risks

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Media4sec

Start:	End:	Website:		EC Funding:
01/07/2016	31/12/2018	*http://media4sec.eu/*		€1,902,006

Project Objectives:

The project aims to understand better the opportunities and challenges of social media for public security while fully respecting privacy, legislation and ethics. The focus is on social media in relation to specific topics such as:

- Riots and mass gatherings
- Citizens supporting police investigations
- Use of information of the dark web for policing purposes
- Innovative market solutions

Main Expected Results:

- Provision of an evidence base and roadmap for improved policing involving social media
- Preparation of best practice
- Compilation of a catalogue of social media technologies
- Training options on the use of social media for public security
- Ethical awareness raising

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