



D9.9 THE PROJECT'S COMMUNICATIONS PLAN UPDATE M18

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PU	Public	<input checked="" type="checkbox"/>
CO	Confidential, only for members of the consortium (including the Commission Services)	<input type="checkbox"/>
EU-RES	Classified Information: RESTREINT UE (Commission Decision 2015/444/EC)	<input type="checkbox"/>
* R: Document, report (excluding the periodic and final reports) DEM: Demonstrator, pilot, prototype, plan designs DEC: Websites, patents filing, press & media actions, videos, etc. OTHER: Software, technical diagram, etc.		



Revision history

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Executive summary

The ROXANNE communication plan outlines the strategy for developing content and deploying communication channels in order to reach the identified stakeholder groups efficiently, convey the project's key messages, and achieve the expected impact. It defines the key messages, the target audiences, the means, and channels we will use to engage them and when.

The strategy is based on the following goals:

- Efficient communication of the project and its results through a number of channels in order to reach all the relevant stakeholder communities (as noted in the plan).
- Monitoring of the communication activities results to effectively assess the progress and implementation of the communication strategy.
- Raising awareness and promoting ROXANNE's actions and results to the wider community, including the general public.

The communication plan includes:

- A communication strategy that considers objectives, stakeholder engagement, and key messages
- Defined communication tools and how they will be used for stakeholder engagement
- Processes to implement, monitor, and evaluate communications and KPIs

Month 18 revision notes

This document provides an update on the communications plan at the midpoint of the project (month 18 out of 36). Overall, the plan set out in D9.2 submitted at M4 of the project remains appropriate to meet the goals set when the plan was originally written and submitted. This document contains clarifications on any changes in the plan and progress updates on each activity.

Some sections have been added, including updates on the delivery of all the communication tools throughout section 3 with reflection of activities that have already been carried out. A Conclusions section has been added to summarise the updated document. We have also made some editorial corrections and added screen shots where appropriate to show the development of the project.

Table of contents

Disclaimer	2
Copyright notice	2
Revision history	3
Executive summary	4
Month 18 revision notes	4
Table of contents	5
Tables	7
Figures	7
1. Introduction	8
1.1. Background	8
2. Communication Strategy	9
2.1 Stakeholder engagement	9
2.2 Communications objectives	10
2.3 Identify a diverse audience and define key messages	10
2.3.1 Key messages	10
2.3.2 Define communications formats and channels	12
M18 Update:	13
2.3.3 Crisis communications strategy	13
2.4 Building a network	13
2.4.1 Stakeholder contact list	13
2.4.2 Media list (list of journalists and press interested in this subject)	14
3. Implementation of the communication activities	15
3.1 Defining a visual identity	15
3.2 Project website	15
M18 Update:	15
3.3 Social media	16
3.3.1. Social Media Strategy	17
M18 Update:	17
3.4 Press releases	18
M18 update:	18
3.4 Blog articles	19
M18 Update:	19
3.5 Project brochure or flyer	20
M18 Update:	21
3.6 Project videos	24
M18 update:	24
3.7 Newsletter	25

ROXANNE | D9.9: The project's communications plan update M18

M18 Update:.....	26
4. Define processes to implement, monitor and evaluate communications.....	28
4.1 Work package meetings.....	28
4.2 Project KPIs and success indicators.....	28
4.3 Monitoring communications.....	30
5. Conclusion.....	31

Tables

Table 1 Stakeholder segmentation and key messages.....	12
Table 2 - Press releases	19
Table 3 - Press articles.....	19
Table 4 - Communication outputs and KPIs for ROXANNE project.....	30

Figures

Figure 1 The project's official website, Roxanne-euproject.org.....	16
Figure 2 - ROXANNE Twitter profile.....	17
Figure 3 - ROXANNE LinkedIn profile.....	18
Figure 4 - Website blog section.....	20
Figure 5 - Flyer front and back pages	21
Figure 6 - Flyer middle pages.....	22
Figure 7 - ROXANNE poster 1	23
Figure 8 - ROXANNE poster 2	23
Figure 9 - Image of ROXANNE video as displayed on ROXANNE website homepage.....	24
Figure 10 - Screenshot from IDIAP's ROXANNE video	25
Figure 11 - Screen shot from AEGIS ROXANNE video	25
Figure 12 - First ROXANNE newsletter.....	26
Figure 13 - Second ROXANNE newsletter.....	27

1. Introduction

This deliverable D9.9 provides an update on D9.2 which was submitted in M4. It outlines the Communication Strategy for ROXANNE and its development during the first 18 months of the project. This deliverable, in the same manner as the original plan in D9.2, focuses on the appropriate channels and key messaging used to promote the ROXANNE projects' results among its identified targeted stakeholder groups and the general public.

The communication strategy aims to spread awareness of the project's research activities and results to the wider public, including non-specialists, in a clear, digestible approach.

The strategic approach is supported by the implementation plan, detailed in this report, which structures key processes and schedules for the ROXANNE consortium in order to:

- Build a digital presence
- Build a project network consisting of stakeholder and media lists
- Schedule processes for monitoring and evaluating communications

1.1. Background

Organized crime is the most challenging type of crime for Law Enforcement Agencies (LEAs) to investigate, and a substantial threat for modern societies as well as to national and international security. The ROXANNE project aims to enable LEAs to discover criminal networks and identify their members by combining the capabilities of speech and language technologies, visual, and network analyses. ROXANNE focuses on privacy-aware link analysis and speaker data mining to provide LEAs with a legal framework as well as the technical tools to track and uncover criminals.

ROXANNE aims to maximize the speed and quality of the investigations by advancing privacy-aware network analysis and speech/text/video data mining to provide LEAs with a legal framework as well as the technical tools to track and uncover criminals.

2. Communication Strategy

The ROXANNE communication strategy is comprised of four main elements:

(i) Outreach, communication, and engagement of LEAs and public bodies

Developing an approach to effectively and efficiently reach the target audience of LEAs and public bodies so that they engage not only in learning, but also in providing feedback about, and experimenting with ROXANNE offerings.

(ii) Outreach and communication to broader communities

Business and policymakers: the provided information will help policymakers to understand ROXANNE's research approach and the implications that it has for the sustainability of these systems and the value they bring to the economy, without delving into the technical details of the approach. Emphasis should be placed on benefit factors and implications at the policy level.

(iii) Outreach and communication to EU, National, Regional and Local authorities (NRLAs)

ROXANNE's communication will also be aimed at helping NRLAs to understand how the ROXANNE approach could affect the way crime investigation operates using the ROXANNE platform and the benefits that will be sustained in the long term.

(iv) Outreach and communication to the general public and media

The project's communication also aims to communicate the project effectively to the media in order to raise awareness of the project to potential stakeholders beyond the ones identified and targeted by the project team. Many of the communication tools are also aimed at informing the general public about the project, to highlight the importance of the work that is produced through H2020-funding and the general benefits to society.

2.1 Stakeholder engagement

Partners on the ROXANNE project will work together to develop an approach to effectively and efficiently reach relevant stakeholders and partners, who may contribute to further enhance the scope of the ROXANNE platform. This will help create a self-sustainable future environment involving end-users that will continue attracting the attention of LEAs, entrepreneurs and researchers.

Within this context, the main communication challenges consist in:

- Defining distinct messaging that will be engaging for LEAs, policymakers, SMEs, innovators, and the general public in a way all audiences are able to understand and digest, in order to maximise engagement and therefore impact.
- Targeting the appropriate messaging to each specific stakeholder group in a way that is easily digestible and encourages them to engage with the project and employing the right communication channel/s to do so.

2.2 Communications objectives

ROXANNE's communications aim to:

1. Draw the attention of relevant stakeholders, including the media and public, to the issues raised by intelligence-led policing, highlighting the benefits of these new technologies and what they will bring to policing.
2. Build a rich network of stakeholders, including the media and the public.

2.3 Identify a diverse audience and define key messages

ROXANNE's communications are reaching out to a diverse audience with the objective of raising awareness about the project and achieved results. When addressing the general public, the tone of voice of the communications and the messages are defined by exploring how the innovative impact of the project addresses general societal needs and how the project's topic has engaged public interest along with the general and specialised media's interest.

2.3.1 Key messages

The communications plan sets out to address all target groups for ROXANNE with relevant messages and information. All communications will be tailored to the specific group according to the specific message to be conveyed, summarised in the table below:

Stakeholder	Communication Objective	Key message
LEAs	<p>To help LEAs understand the additional capabilities offered by ROXANNE with respect to existing solutions. LEAs can contribute through strategic trainings, technical exercises, testing international collaboration frameworks, and relationship building with colleagues. LEAs can also help guide the development of viable and sustainable ROXANNE tools that respond to their needs (technical, operational, etc.). They can also shed some light on the procurement procedures LEAs usually follow, which is important for exploitation planning activities.</p>	<p>The ROXANNE project is combining existing technologies into one toolset that will enable LEAs to investigate criminal networks faster and with greater ease and accuracy to help the fight against crime and terrorism.</p> <p>The toolset combines speech and language technologies and visual analysis with network analysis. The tool will find new connections between results and produce easy to interpret insights, ultimately saving LEAs time and money.</p> <p>The ROXANNE project will offer advantages over existing solutions, that have been developed working in close communication with LEAs.</p> <p>ROXANNE will be accompanied by a training tool for LEAs to</p>

ROXANNE | D9.9: The project's communications plan update M18

Stakeholder	Communication Objective	Key message
		implement ROXANNE into their current systems.
Public and private organisations	To make these organisations aware of the project as potential customers of the ROXANNE solutions. Let them know the progress of the project and how they can contribute to the battle against crime.	The ROXANNE solution offers LEAs and investigators an enhanced and faster way to identify criminal networks.
The academic and industrial R&D community	Make them aware of the project results and potentially incorporate them as part of a more complex/complete solution or product. Academics and researchers can contribute to research and development, research from postgraduate students, resource development, providing a teaching platform, raising awareness among other fields, increasing collaboration. IPR permitting, their involvement would also contribute to validating technical results, such as the robustness of built computer models.	<p>The ROXANNE project is working with a range of new technologies to build a unique toolset for LEAs that will improve the investigation process.</p> <p>The ROXANNE project is developing innovative ways of combining speech and language technologies and visual analysis with network analysis.</p>
EU, National, Regional and Local authorities (NRLAs), government workers, operators, and policymakers	The provided information should help NRLAs to understand how the ROXANNE approach could affect the way crime investigation operates and the benefits that will be sustained in the long term. Emphasis should be placed on cost and benefit factors and implications at the policy level. They can contribute through strategic training, testing policies and laws, testing international collaboration frameworks, raising awareness among the public sector. They can also be made aware of any policy and legal challenges encountered by security projects such as ROXANNE in their research work i.e., obstacles to data collection and sharing.	<p>ROXANNE is an EU-funded research and innovation project underpinned by a strong legal framework.</p> <p>The ROXANNE project will develop a toolset that will improve the resources available for LEAs to fight organised crime and terrorism.</p>
General public and user groups	To understand why the ROXANNE approach is needed in crime investigation and highlight the potential benefits it can bring to wider society. The provided information should help LEAs and Ministries inform the European citizens to understand the main concepts and approach of ROXANNE and the implications that it has for the general feeling of security and justice in the EU, without delving into the full technical details of the approach. Communicating the underlying legal safeguards implemented in ROXANNE should also contribute to increased public trust and acceptance of new technologies.	<p>This is a multi-disciplinary and multi-national project with a consortium of 24 organisations including 11 LEA partners.</p> <p>The project is underpinned by strict ethical and legal requirements meaning that data privacy is an essential part of the tool.</p>

Stakeholder	Communication Objective	Key message
	Support from the media can help to improve the awareness of ROXANNE to other relevant stakeholders.	
European Network of Forensic Science Institutes (ENFSI), European institutions, and NGOs	To understand how the ROXANNE approach could affect the way crime investigation operates using the ROXANNE platform and the benefits that will be sustained in the long term, as well as the additional capabilities offered by the project with respect to existing solutions.	The ROXANNE project will develop a toolset that will improve the resources available for LEAs to fight organised crime and terrorism.
Developers, other SMEs, and Innovation Communities	Make them aware of the project results and to potentially incorporate them as part of a more complex solution or product. They may offer new ideas for product development. These groups can contribute through beta-testing products, testing tools in a complex environment, marketing platforms to specialists, selling products.	The ROXANNE project is developing innovative ways of combining speech and language technologies and visual analysis with network analysis, with the aim of providing LEAs with better resources for investigating criminal networks.

Table 1 Stakeholder segmentation and key messages.

In summary, the main objectives of ROXANNE's communications will aim to promote the project's research outputs and raise awareness about the project's objectives and achievements. However, partners will also create engaging content aimed at the general public, aimed to inform and engage them with the research topic. Therefore, the project's key messages will also include real-life case studies and media examples.

ROXANNE aims to communicate how the use of innovative technology will advance the identification of criminal networks. The benefits of developing advanced investigative resources will be portrayed by using success stories in the news and specialist media, such as highlighting cases in the public domain that demonstrate the success of using artificial intelligence methods, like automatic speech recognition and natural language processing to combat criminal activity. ROXANNE also aims to show the impact of transnational crime and complex criminal networks on international security, highlighting the importance of the project and of innovation in the research and development of progressive tools and platforms.

2.3.2 Define communications formats and channels

The communication formats will vary in relation to the different communication channels. ROXANNE will develop a digital presence, via:

- ROXANNE's website, including blogs and guest-blogs
- Social media accounts (Twitter and LinkedIn)
- Bi-annual newsletters

ROXANNE | D9.9: The project's communications plan update M18

- Videos

and printed dissemination material to support the promotion of the project among stakeholders but also to a non-specialist audience when participating or organising conferences.

M18 Update:

2.3.3 Crisis communications strategy

In case of events that may damage the reputation or brand of the project, there is a crisis communication strategy in place to ensure that the team responds in the most appropriate and effective way. Key to this strategy is that all actions will be carried out quickly and efficiently.

If any partner becomes aware of any criticism about the ROXANNE project, they will first inform the coordinator and the dissemination and communication leader (CAP).

This team can then include any other ROXANNE partners who may contribute in the assessment of the situation and the source of the crisis. The partners will then evaluate and agree internally the best course of action.

The ROXANNE team will adopt a proactive approach by ensuring that the project website is transparent regarding the goals of the project, the research methodology and the ethical approach. The level of transparency provided is adopted as a measure to pre-empt baseless claims and contribute to build positive narratives about the projects, based on its vision, objectives and ethical commitment.

If appropriate, content can be added or changed on the website to address a specific situation. Similar positive messages that respond indirectly to the crisis but regarding specific issues can be shared on social media.

Anything that could potentially affect the project negatively or that may require a direct response can be escalated to be taken forward to the ethical committee and/or the project officer.

2.4 Building a network

2.4.1 Stakeholder contact list

ROXANNE partners will work with the WP9 leader to build a stakeholder contact list, containing contacts from each stakeholder segment for the distribution of newsletters and press releases. Each partner will be expected to share a minimum of 20 business contacts from their networks. To balance the distribution of contacts, each partner is asked to contribute contact information of:

- 5 LEAs
- 5 Policymakers

ROXANNE | D9.9: The project's communications plan update M18

- 5 media contacts
- 5 industry or civil service organisations

To leverage on the network of all partners, each partner will be encouraged to share their list of relevant stakeholders to be added to the project contact list. These contacts can be collected on the basis of legitimate interest. The legitimate interest assessment developed by Trilateral Research (TRI) partner has been confirmed with the DG JUST at the EC as the lawful basis for building a stakeholders list within EU projects. Partners are encouraged to share their contacts, referring only relevant business contacts, using organisational emails only (not personal emails).

For each communication sent from ROXANNE channels, we will give the contacts the option to opt-out from any other future communication (for example when sending the newsletter, they will be provided with an unsubscribe option). The project's [privacy policy](#) will specify how the consortium is going to use these contacts and that these contacts will be used only within the remit of the project and not re-purposed for other purposes.

All contacts will be saved in one central repository, in a file located on SWITCH drive¹. D9.2 stated that this would be accessible to all partners, but after further consideration, the full contact list is now only accessible to IDIAP, CAP, and TRI (who all require access to the list for communication purposes) to help maintain our stakeholders' privacy. Moreover, the project's contact list also includes all those contacts that register via the ROXANNE website in order to receive the project's newsletters and updates. This list will be used to circulate the project's bi-annual newsletter and to keep those relevant stakeholders informed about the goals and progress of the ROXANNE project.

A current update and analysis of the stakeholder contact list can be found in D9.4 (M12) and D9.13 (M18).

2.4.2 Media list (list of journalists and press interested in this subject)

Media contacts will be separated from other stakeholders of the project, with the intention of leveraging these contacts to expose the project to more media coverage from relevant publications. Partners will identify specialised media contacts across predominately European countries, and each contribute approximately 5 contacts to help build the media network. Media contacts will be sent the project's press releases and significant updates/project outputs with the intention of potentially securing a publication feature.

¹ << ROXANNE-edit / WP9/ communications /[Stakeholders_Contacts_RXNN_v1.0.xlsx](#)>>

3. Implementation of the communication activities

3.1 Defining a visual identity

ROXANNE's visual identity is its physical presence, in the form of its logo, colour scheme, templates which distinguish it from other projects and organisations in a way that is easily recognisable. In order to remain uniform in its communications, all partners will follow the graphic standards and templates in all project material as identified in Deliverable D9.1. All ROXANNE materials, both online and offline, will include EU funding acknowledgement and the project's grant agreement number in the footer of its material.

3.2 Project website

ROXANNE's project website (<http://roxanne-euproject.org/>) will be the primary channel for dissemination. The web content will be written to engage both expert and non-specialised audiences. The website will host all of the key information about the project; background information, objectives, partners, and contact details. It will also host blog posts, news and updates about the project's research progress.

CAPGEMINI, as WP9 leader, will maintain the website and coordinate the production of content working with all partners in order to publish regular updates including blog posts, guest blogs, news, and event highlights. It will be maintained and updated regularly (at least once a month) throughout the project's lifecycle. Visits to the website will be monitored to keep track of the number of visitors and evaluate the effectiveness of dissemination. The website's analytics will be monitored through Google Analytics.

M18 Update:

The website has been regularly updated with new content and has exceeded the KPIs by attracting 4902 visitors. In addition, many of the partners have set up pages on their own organisations' websites promoting their involvement in the ROXANNE project. See for example web pages by:

- [INTERPOL](https://www.interpol.int/Who-we-are/Legal-framework/Information-communications-and-technology-ICT-law-projects/ROXANNE) (<https://www.interpol.int/Who-we-are/Legal-framework/Information-communications-and-technology-ICT-law-projects/ROXANNE>)
- [ITML](https://www.itml.gr/projects/roxanne) (<https://www.itml.gr/projects/roxanne>)
- [TRANSCRIME](https://www.transcrime.it/en/projects/roxanne/) (<https://www.transcrime.it/en/projects/roxanne/>)
- [AEGIS](https://aegisresearch.eu/research/projects/roxanne-project/) (<https://aegisresearch.eu/research/projects/roxanne-project/>)
- [ADITESS](https://aditess.com/main/?s=roxanne) (<https://aditess.com/main/?s=roxanne>)
- [IDIAP](https://www.idiap.ch/en/scientific-research/projects/ROXANNE) (<https://www.idiap.ch/en/scientific-research/projects/ROXANNE>)

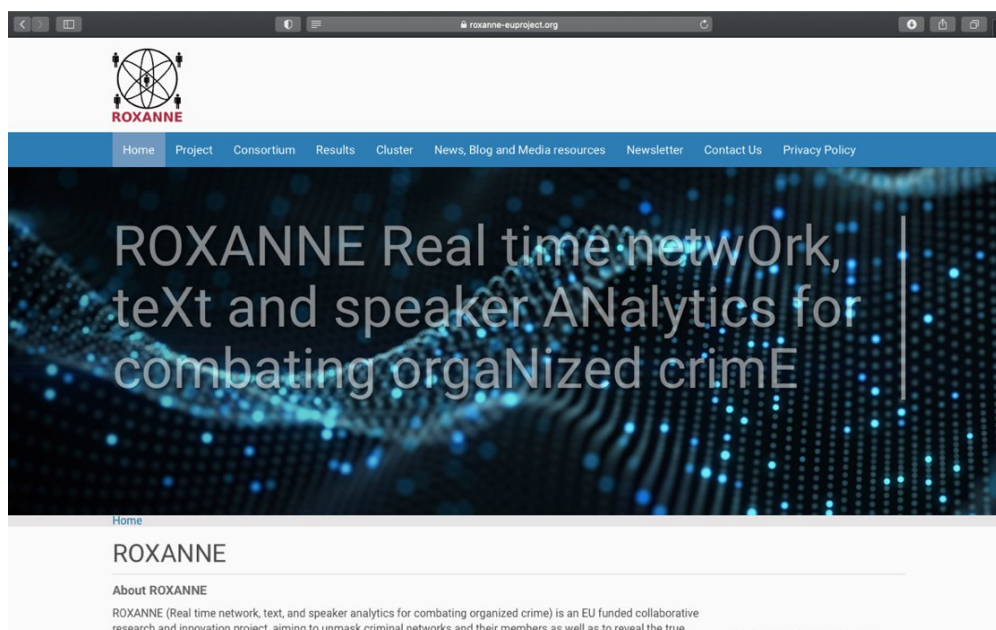


Figure 1 The project's official website, [Roxanne-euproject.org](https://roxanne-euproject.org)

3.3 Social media

ROXANNE's social media channels serve to disseminate the latest project news via posts from the website or updates from partner activities. Partners are encouraged to interact with ROXANNE social media platforms, either with personal or their organisation's accounts, as often as possible, to maximise the reach of the project to relevant audiences.

ROXANNE will operate the following social media platforms, set up and managed by Trilateral Research (TRI) in M2 (October 2019):

Twitter: [@ROXANNE_project](https://twitter.com/ROXANNE_project)

LinkedIn: <https://www.linkedin.com/in/roxanne-project-4aa524195/>

Twitter

Twitter is a platform commonly used by EU projects due to its widespread use by policymakers, European projects, researchers, influencers, and other stakeholders. To grow and appeal to the relevant audience, a mixture of popular and niche hashtags such as #voicebiometrics, #naturallanguageprocesssing, #criminalnetwork, along with the project hashtag #ROXANNEProject will be used on posts. To gain and maintain momentum on Twitter, the project Twitter account should post 2-3 times a week.

LinkedIn

LinkedIn social media posts will echo the content of the project's Twitter posts, with more detail added if available, due to the lack of restriction on character lengths. LinkedIn can be exploited as a powerful tool to gather followers from academia, industry, or the public sector that may have a legitimate interest in the project and may be interested in future collaborations. The LinkedIn account will publish content at least twice a week.

3.3.1. Social Media Strategy

The primary purpose of ROXANNE's social media accounts is to disseminate key project outputs, updates, project news, events and other key information. The social media also serves to bring context and relevancy to the project by linking the project to real-world news and events, highlighting the importance of analysing criminal networks to the wider public. The project's LinkedIn and Twitter will echo each other in content and will be optimised and adapted for each platform. By using both platforms, the consortium will reinforce messaging and increase the reach of the project by expanding the reach of its online network. Social media content will be provided to the work package leaders from each partner, in the form of one post per month. This post will either contain an update of what the partner has been working on in the project that month, or relevant news to the project. Partner social media content will be stored on Switch drive² and uploaded/approved by CAPGEMINI and TRI.

M18 Update:

Both the Twitter and LinkedIn accounts are set up and used to post project updates minimum three times a week. With 281 Twitter followers and 215 LinkedIn connections, the accounts have already reached the 'good' and 'excellent' markers outlined in the KPIs (see Table 4).

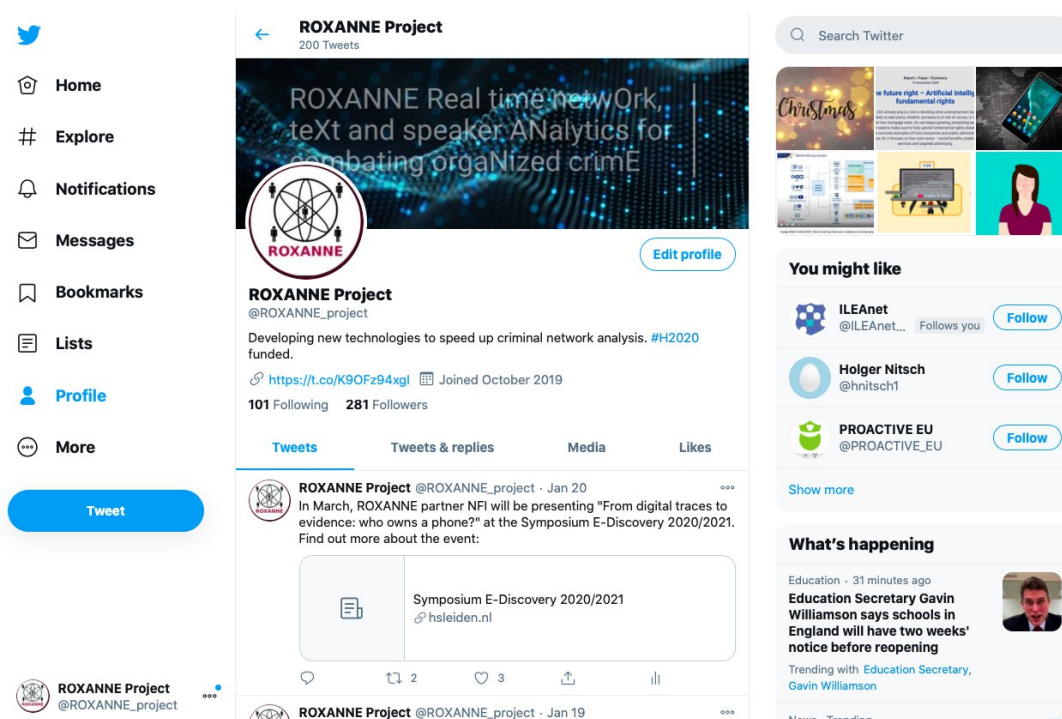


Figure 2 - ROXANNE Twitter profile

² ROXANNE-edit / WP9-Dissemination>Communication /SocialMedia_ContributionTracker_RXNNE

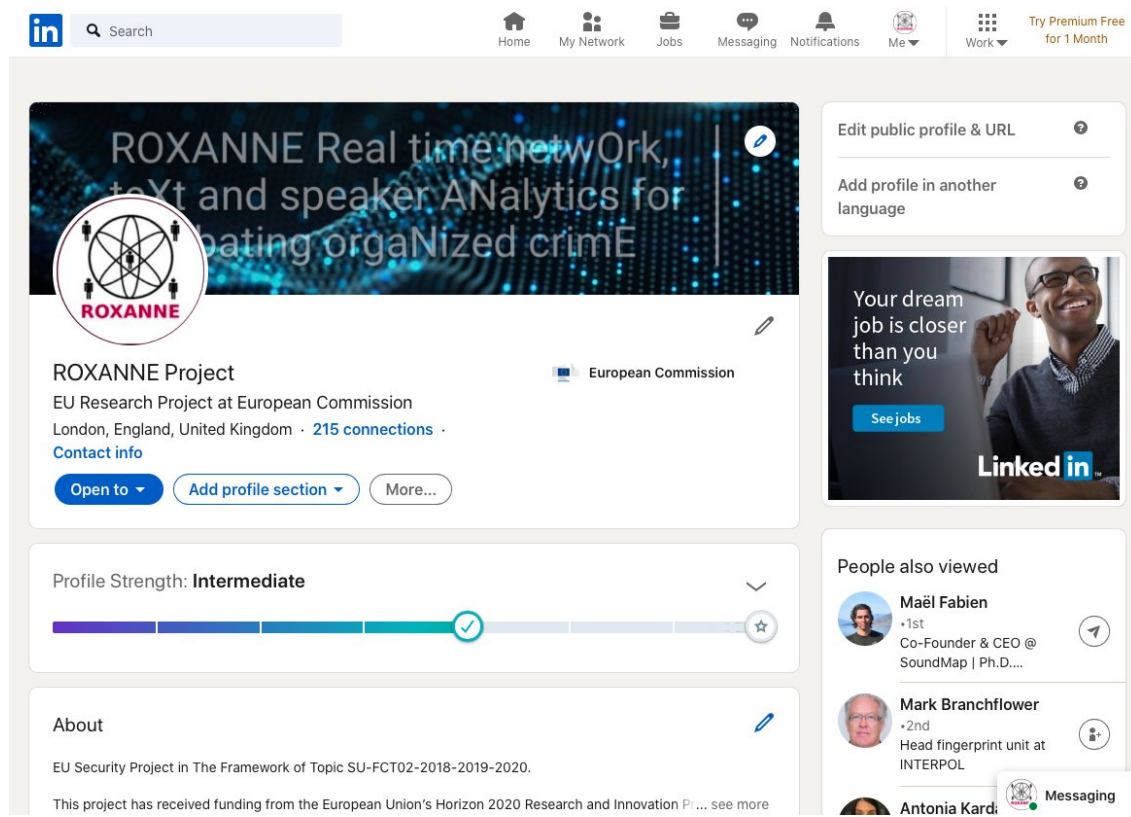


Figure 3 - ROXANNE LinkedIn profile

3.4 Press releases

Press releases will be one of the main formats to inform the media and achieve a wide dissemination and communication of results, especially to the public, and ultimately increase interest in ROXANNE and the topics it covers both at the local and European/global levels. Press releases will be produced upon key milestones and events during the project. ROXANNE is expected to produce at least 10 press releases, to be published on its website, shared on its social media and distributed to its media list. Where possible, press releases will be re-published by relevant platforms and publications to achieve greater exposure. Recording and monitoring of press release coverage will be recorded in the shared monitoring document. ROXANNE partners are encouraged to translate project press releases in local language for ease of sharing among native media and also encouraged to publish on their respective organisation platforms.

M18 update:

There have been two press releases for ROXANNE and four press articles in national press that have significantly referred to the ROXANNE project. Each have been published through different platforms based in different countries. The tables below provide links to each article:

Date	Title	Publication
03.10.2019	ROXANNE focuses on privacy-aware link	Interpol website

	<u>analysis and speaker data mining to help police track and uncover criminals</u>	
01.11.2020	<u>ADITESS part of ROXANNE project regarding technologies that fight crime and terrorism</u>	ADITESS website

Table 2 - Press releases

Date	Title	Publication
07.11.2019	<u>Researchers want to make it easier to tap phone calls</u>	<u>Süddeutsche Zeitung (DE)</u>
10.07.2020	<u>We owe games to higher computer performance, porn for speed, says a speech analysis expert. Teaching robots to "understand".</u>	<u>Denikn (CZ)</u>
22.11.2020	<u>Snoop job unites gardai and PSNI to crack down on gangs</u>	<u>The Sunday Times (UK)</u>
08.06.2020	<u>Community ties: Project Unity strengthens connections between Croatian Police and diverse communities</u>	<u>Policing Insight (UK)</u>

Table 3 - Press articles

3.4 Blog articles

Each month, one ROXANNE partner will contribute a blog post to be published on the project website. Organisation of the schedule and posting of a monthly blog post will be co-ordinated with the work package leader CAPGEMINI. The short articles will be related to each partner's research and contribution to the project. In this way, the ROXANNE website will be able to offer an account of the diverse approaches and perspectives talking to the various stakeholder communities represented by the partners; while being able to engage and being accessible to the interested non-specialised reader, belonging to the general public.

M18 Update:

Blogs have been written by many of the consortium partners and are now available to read on the ROXANNE website (see Figure 4). At least one new blog is published per month. New blogs and news items are posted from the social media accounts to keep project stakeholders informed. The list below provides links to all of the blogs published so far:

- Project kick-off meeting
- Analysis of streaming data for security by ITML
- Dissemination & Exploitation Aspects of ROXANNE
- A Generic and Flexible Platform for ROXANNE Systems Development
- Artificial Intelligence Adoption in Law enforcement
- Web based Training (WbT) for the engagement of technology providers and LEAs through EU Funded Projects
- Combination of Speech and Text Technologies with Criminal Network Analysis: Steps Toward First Field-Test Event of ROXANNE Project
- ROXANNE platform & network analysis

ROXANNE | D9.9: The project's communications plan update M18

- Forensics Visualizations as a catalyst for fighting organized crime
- Legally compliant state-of-the-art capabilities to fight and prevent transnational crimes
- Automatic Speech Recognition: Setting, Benefits and Limitations
- Forensic Automatic Speaker Recognition (FASR) : Problems and prospects
- Overview of LTEC Voice Databases & ASR System Training
- Ethically developed technologies for safer societies – The ROXANNE project case study
- Link prediction algorithms to enhance criminal network analysis
- Ethics Oversight in ROXANNE
- Technology to enhance forensic speaker analysis

Blog

 [Technology to enhance forensic speaker analysis](#) – by Garg, Shivam – last modified Dec 23, 2020

Law enforcement agencies investigate criminal networks to find participants, understand their role in the network and, eventually, collect evidence for prosecution. Opportunities to identify criminals often lie in the traces that their communication leaves behind. A cell phone leaves many different traces, but the availability and usability of these modalities may vary. Therefore, it is worthwhile to invest in multiple modalities, increasing the chance of a useful result.



[Ethics Oversight in ROXANNE](#) – by Garg, Shivam – last modified Nov 20, 2020

Ethics oversight in ROXANNE exists across four levels: the European Commission Ethics Checks; the External Ethics Board; the Internal Ethics Board; ethics-focussed work within the project. Overall, the ROXANNE project is in a positive position in terms of meeting the strict ethical requirements from the Commission. So far, the project is also fulfilling the recommendations generated within the project to ensure compliance with ethical, societal, and legal standards. The strict oversight that the ROXANNE project is subject to ensures that none of these standards are violated in the work of the project. The ROXANNE consortium is committed to ensuring that the ROXANNE project is carried out in a responsible way, and that the technologies developed are used in an ethical and lawful manner.



[Link prediction algorithms to enhance criminal network analysis](#) – by Garg, Shivam – last modified Oct 29, 2020

Roxanne project will include link prediction algorithms to enhance criminal network analysis by law enforcement agencies. A recent study shows that link prediction can predict links among criminals, although the effectiveness and accuracy of the prediction may be affected by the amount of unknown information and the specific type of relational data under analysis



[Ethically developed technologies for safer societies – The ROXANNE project case study](#) – by Garg, Shivam – last modified Oct 20, 2020

In order to implement an approach that incorporates ethical and legal concerns in ROXANNE, there are two research focuses that specifically deal with ethical and legal concerns which are led by Trilateral. The first area of focus ensures that the research carried out during the ROXANNE project abides by the standards of research ethics and that data protection legislation is applied to training algorithmic models used in the platform. A second research focus considers the issues which ROXANNE could raise in terms of ethics, societal values, fundamental rights, and applicable law if it is used in real investigations.



[Overview of LTEC Voice Databases & ASR System Training](#) – by Garg, Shivam – last modified Oct 05, 2020

The main problem in the application of ASR systems in forensics is the accuracy and reliability of the results of such system. The accuracy of identification methods depends on a number of factors that cannot always be assessed. Since it is very difficult to assess the impact of all the factors encountered in forensic speaker examinations, the performance of such systems can best be determined using voice databases developed on the basis of audio recordings submitted for examinations. Despite the variety of created voice databases that attempt to record voices under a variety of conditions, forensic investigations still

Figure 4 - Website blog section

3.5 Project brochure or flyer

As WP9 leader, CAPGEMINI will design, print, and distribute project flyers to the partners who need them. The flyers will be used as promotional tools during face-to-face meetings, networking, and events. The flyer contents should include the project objectives, key messages, and general information as an overview/introduction to the project.

ROXANNE official flyers are to be prepared in the project working language (English). Translations or light alterations will be available at the discretion of CAPGEMINI. Electronic versions of the flyer will also be available for download and local print if requested by partners.

ROXANNE | D9.9: The project's communications plan update M18

M18 Update:

The flyer has been designed as well as two posters. Although there have been no recent face-to-face meetings due to COVID-19 restrictions, the materials are available online so that they can be downloaded and distributed by partners and interested stakeholders. They are also used on social media as visual posts.



Figure 5 - Flyer front and back pages

ROXANNE | D9.9: The project's communications plan update M18

About ROXANNE

ROXANNE (Real time network, text, and speaker analytics for combating organized crime) is an EU funded collaborative research and innovation project, aiming to unmask criminal networks and their members as well as to **reveal the true identity of perpetrators** by combining the capabilities of speech/language technologies and visual analysis with network analysis.

ROXANNE collaborates with Law Enforcement Agencies (LEAs), industry and researchers to develop new tools to speed up investigative processes and support LEA decision-making. The end-product will be an advanced technical platform which uses new tools to uncover and track organized criminal networks, underpinned by a strong legal framework.

The project consortium comprises **24 European organisations from 16 countries** while 11 of them are LEAs from 10 different countries.

H2020 ROXANNE: Project at a glance

Title:	Real Time Network, Text, And Speaker Analytics For Combating Organized Crime
Type of Action:	Research & Innovation Action
Topic:	SU-4CT02-2018-2019-2020 (Technologies to enhance the fight against crime and terrorism)
Grant Number:	833635
Total Cost:	7 M €
EC Contribution:	7 M €
Start Date:	September 2019
End Date:	August 2022
Duration:	36 Months
Project Coordinator:	IDIAF, Switzerland
Project Website:	ROXANNE-euproject.org

Underlying Technologies

Speech processing which will involve multiple technologies: (i) **Speaker Identification** to establish relations between different audio sources and to potentially determine whether a speaker is among a set of known individuals, (ii) **Multilingual automatic speech recognition** for rapid and accurate speech-to-text processing of raw audio materials.

Natural language processing to identify entities such as locations, persons and companies from multilingual textual input.

Video and geographical meta-data processing to make use of other visual and spatial information (such as identifying faces, places, backgrounds or a geographical position) which may accompany the auditory and textual data.

Network analysis to establish connections of these results, enrich them with data from other available sources and a priori knowledge, and analyse the final network for sense making of the cases.

Disclaimer: This text and its contents reflect only ROXANNE's view. The EU is not responsible for any use that may be made of the information it contains.

Objectives of ROXANNE

1. Develop a ROXANNE analytics platform enhancing investigation capabilities especially for large criminal cases.
2. Improve identification of persons of interest by developing a two-way interface between multimodal (speech/text and video processing) technologies and criminal network analysis.
3. Enhance criminal network analysis technology to significantly reduce network size and to aid decision making by police practitioners.
4. Develop a dashboard for visualisation of investigation output and integrate with existing tools.
5. Deploy and evaluate the ROXANNE platform on real criminal cases, help the LEAs adopt the technology in their daily work.
6. Comply with EU and INTERPOL legal and ethical frameworks through internal expert analysis and external ethics and stakeholder boards.

Overall Framework

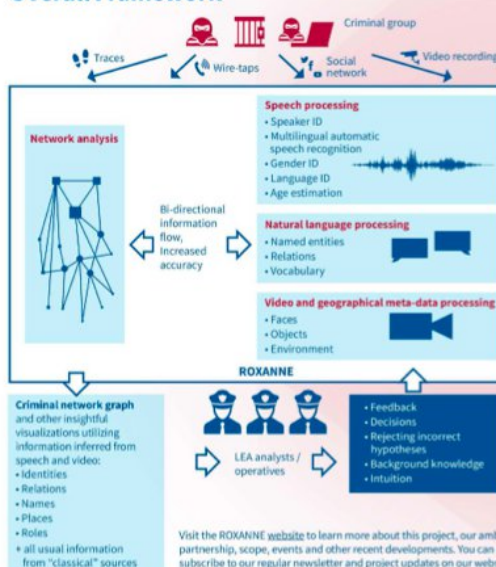


Figure 6 - Flyer middle pages

ROXANNE | D9.9: The project's communications plan update M18



ROXANNE - Real time network, text and speaker analytics for combating organized crime

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What is ROXANNE?

ROXANNE project combines the strengths of **speaker data mining**, **network analysis** and **video analysis** to provide Law Enforcement Agencies (LEAs) an efficient tool to track and uncover criminals and terrorists using:

- **Conversational nature of speech data.** If A speaks often to B, then detecting A on one side of the call will automatically increase the prior probability of B.
- **Call content.** Standard text-independent speaker identification ignores the content of the call, while a simple sentence "Peter speaking" can completely change the game. Speech-to-text engines will be deployed to generate relevant content information and combine it with acoustic speaker information.
- **Meta-information in link analysis.** Phone, IMEI numbers, geographical information, time-stamps of phone calls are available meta-information, but can be falsified (prepaid SIM cards, Internet anonymization services, etc).
- **Video and geographical meta-data processing.** Make use of other visual and spatial information (such as identifying faces, places, backgrounds) which may accompany the auditory and textual data.
- **Time-relation analysis.** The problem of a suspect not producing enough speech in a call can be turned into an advantage, as this speaker can be identified by the fact that he is speaking little. Hierarchy and trust can be also partially inferred from this analysis.

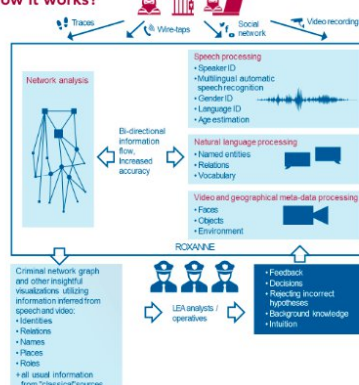
Keywords

Speech and speaker recognition (ASR, SRE), Natural Language Processing (NLP), Network Analysis (NA), Video Analysis (VA)

Common objectives

Deploy and evaluate the ROXANNE platform on real criminal cases, help the LEAs adopt the technology in their daily work, and comply with EU and INTERPOL legal and ethical frameworks through internal expert analysis and external ethics and stakeholder boards.

How it works?



Current state

- Built V0 of the platform
- Created simulated data to evaluate our systems
- Most technologies are integrated in the current platform
- Research on SRE & Network Knowledge, Authorship Attribution on ASR transcripts, Topic Detection in Graphs, place and face diarization on videos...
- First field test with LEAs

Next steps

- Adding more languages to speech engines
- Add/fine-tune technologies
- Evaluate the performance of ROXANNE on real LEA data
- Cross-disciplinary work on network analysis
- Prepare platform V1
- Additional research on technology fusion



Coordinated by Idiap, from 2019 to 2022
24 partners, 17 countries, 7M € budget



Figure 7 - ROXANNE poster 1

ROXANNE - Real time network, text and speaker analytics for combating organized crime



Petr Moticek (project coordinator)
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moticek@idiap.ch



INTRODUCTION:

This ROXANNE project combines the strengths of **speaker data mining** and **network analysis** to provide LEAs an efficient tool to track and uncover criminals and terrorists. The project will not process speaker data separately, but:

- **Make massive use of conversational nature of speech data** - in case we know that A speaks often to B, then detecting A on one side of the call will automatically increase the prior probability of B even if the acoustic evidence is not reliable.
- **Use of call content.** Standard text-independent speaker identification ignores the content of the call, while a simple sentence "Peter speaking" heard on two different calls can completely change the game. Speech-to-text engines for commercially available languages will be deployed to generate relevant content information and combine it with acoustic speaker information.
- **Meta-information is crucial for network analysis.** Some of it is available (phone and IMEI numbers, geographical information, time-stamps) but the targets are aware such information is collected and have developed ways to falsify or obscure it (one-shot usage of prepaid SIM cards, use of Internet anonymization services, etc). Significant amount of meta-information can be automatically extracted from the speech signal.
- **By time-relation analysis,** a classical problem of speaker recognition (speaker speaking very little in a call) can be turned into an advantage, as this speaker can simply be identified by the fact that he is speaking little. Hierarchy and trust can be also partially inferred from this analysis.

KEYWORDS:

Speech and speaker recognition (ASR, SRE), Natural language processing (NLP), Network analysis (NA), Video analysis, Law enforcement agencies (LEAs)

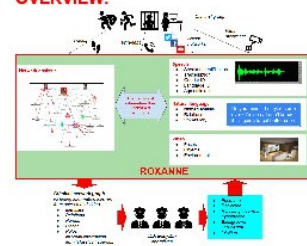
PROJECT DETAILS:

Large EU Security project:
Technologies to enhance the fight against crime and terrorism
Research and innovation action EC, coordinated by Idiap
24 partners, 17 countries, budget 7M EUR, duration 2019 - 2022

PARTNERS:



OVERVIEW:



EVALUATION PHASES:



PROJECT WEBSITE:

<http://www.roxanne-euproject.org/>

Figure 8 - ROXANNE poster 2

3.6 Project videos

Partners will collaborate to produce two project videos aimed at firstly introducing the project and also explaining the key outputs of the project to a wider audience. The project videos serve to raise awareness about the project, its mission, and the need for new technology for LEAs to stay ahead of organised crime. The first video will focus on the ROXANNE project, providing a clear and concise overview and explanation of the project, its objectives and relevance, and its impact on the wider society. The second video will focus on the results of the project. Both videos will be available on the ROXANNE website and promoted through our social media accounts and project partner websites.

M18 update:

The first video offering an overview of the project and its societal impact has been developed and disseminated by TRI. The video features on the homepage of the website and is shared via the social media channels. It is hosted on Vimeo and YouTube and can be viewed here:

<https://www.youtube.com/watch?v=iTfO1xbSYGU>



Figure 9 - Image of ROXANNE video as displayed on ROXANNE website homepage

In a second video created by IDIAP, Maël Fabien from Idiap Research Institute talks about the ROXANNE project's first field test. In this video, Maël presents the key components of building a platform to fight organised crime: <https://vimeo.com/470938546>

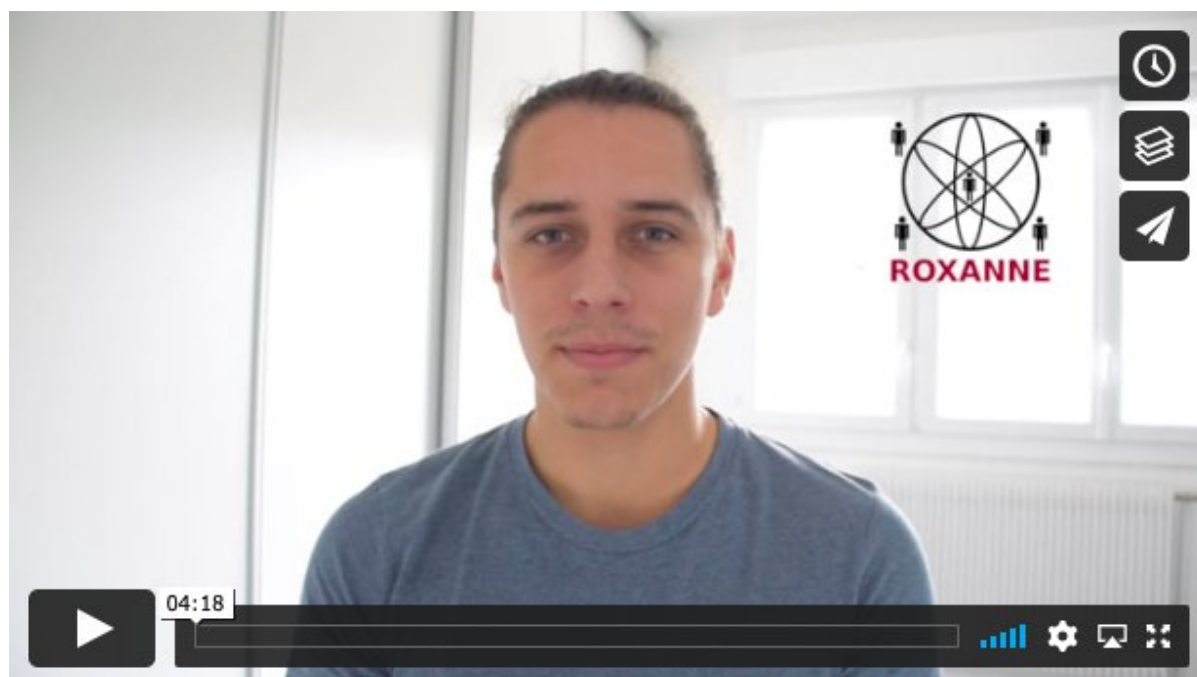


Figure 10 - Screenshot from IDIAP's ROXANNE video

In addition, ROXANNE partners AEGIS also created and shared a video that gives a different overview of the ROXANNE project: <https://www.youtube.com/watch?v=-6n2AYHErjE>



Figure 11 - Screen shot from AEGIS ROXANNE video

3.7 Newsletter

ROXANNE | D9.9: The project's communications plan update M18

ROXANNE will produce a project newsletter every 6 months to engage and update its stakeholder audience with key information from the project. The newsletter will be hosted on email marketing platform MailChimp and be an interactive communication with live links to blog posts, news, media updates previously published on the ROXANNE website. Proactively reaching out to the relevant stakeholder communities will raise awareness about the project inviting the project's stakeholders to explore the project's website and to engage with the research outputs made available.

M18 Update:

ROXANNE has published 2 newsletters so far and will publish a third in February 2021. For this and subsequent issues, the newsletter will be transferred to a European hosting platform (www.moosend.com). All newsletters can be found on the ROXANNE website [here](http://roxanne-euproject.org/newsletter) (roxanne-euproject.org/newsletter). The newsletters have been disseminated via the mailing list and through partners' own contacts and websites. The first project newsletter was opened 799 times, and the second newsletter showed substantial growth with 1104 opens, with an average of an 11.5% click through rate which took readers to various parts of the website and social media. This highlights the improvement from growing our network and we expect a further increase in readers for the third newsletter.

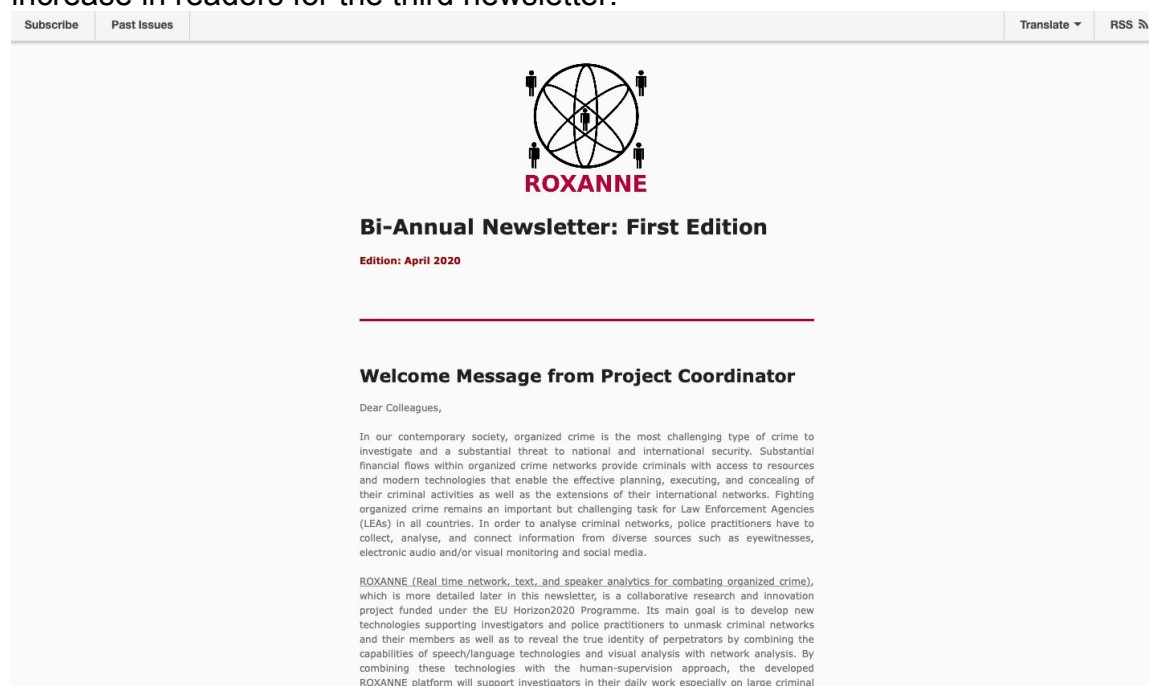


Figure 12 - First ROXANNE newsletter



Figure 13 - Second ROXANNE newsletter

4. Define processes to implement, monitor and evaluate communications

4.1 Work package meetings

A WP9 meeting schedule has been established, including all ROXANNE partners, that meet once a month with the aim to identify, plan, highlight and deliver relevant content and monitor the dissemination and communications activities.

4.2 Project KPIs and success indicators

The KPIs for ROXANNE's communication activities provide a reference point for partners to track and evaluate the effectiveness of the communication tools and activities and redirect their effort in the most appropriate way.

A crucial tool in the monitoring process is the monitoring sheet used to track the communication activities and to quantify their impact specifying the types of audiences and an estimate of the amount of people reached.

Table 4 below shows the KPIs outlined for the communication activities. It has been updated for the M18 report to show how far the consortium is in reaching its KPIs at this midpoint of the project. In some cases, the KPIs have already been reached and the expected impact should continue to grow. A few of the activities still have to increase their output in order to match the KPIs but they are still on track for achieving this during the next 18 months of the project. COVID-19 restrictions have impacted some aspects of the project including with regards to communication activities. We have been able to adapt to an almost entirely virtual way of working for the last 12 months and many of the events that consortium members were planning to host or attend were moved to an online platform. Due to this, some of the KPIs have been altered to reflect what has been realistically achievable over the past six months. For example, we have been able to distribute flyers physically at an event, but they are available to view online, and online events have been included although they were intended to take place in person. Any changes have been noted in the final column.

Communication Channel	Activity	KPI	Progress at M18
Project website	Web access to deliverables, technical results and presentation materials of ROXANNE	2500 visitors throughout the lifespan of the project	✓ 4902 visitors on project website until now.
Social media posts	Regular posts on social media (Twitter, LinkedIn, ResearchGate)	Twitter followers: <100 – poor, 100-250 – good, 250+ - excellent LinkedIn Followers:	✓ Twitter followers: 281 (excellent) ✓ LinkedIn connections: 215 (good)
Newsletter	Regular bi-annual newsletter with the technical activities of	≥6 newsletters	✓ On target: 2

ROXANNE | D9.9: The project's communications plan update M18

Communication Channel	Activity	KPI	Progress at M18
	ROXANNE		published, next to be published February 2021.
Flyer	High-quality electronic brochure with the technical approach and activities of ROXANNE	2 designs	✓ 1 flyer and 2 posters designed and distributed
Project video	2 project videos	Number of views: <100 – poor, 100-250 – good, 250+ - excellent	✓ 3 project videos completed, main project overview video with 116 views on YouTube and 46 on Vimeo (162 total = good)
(ii) Scientific and technical publications			
Journal publications	Publications in International referred technical journals in network analysis, speech, text, video, and multimodal data related subjects including publications in international technical conferences	≥8 publications	✓ 4 accepted and/or published and further articles in development
Conference publications	Articles that have been published based on a paper given at a relevant conference following the peer review process.	≥6 publications	✓ 25 accepted and/or published
Magazine publications	Publications in International (printed or online) magazines in network analysis, speech, text, video, and multimodal data related subjects	≥6 publications	✓ 3 (non-scientific publications), on target to achieve 6 by M36
(iii) Organization of project related events			
Conference organization	Organization of final international conference in network analysis, speech, text, video, and multimodal data related subjects	1 event ≥30 attendees	Planned for 2022
Workshops	Organization of workshops	2 workshops ≥30 attendees (each)	✓ 3 have taken place
Field Test event	3 field test events	1 event per year	✓ First field test event took place in

Communication Channel	Activity	KPI	Progress at M18
			2020 attended by over 90 participants (virtually and slightly delayed due to COVID-19)
Meetings	Ethics board meetings; conference calls and face-to-face	1 meeting per quarter	✓ Achieved and ongoing, although face-to-face moved to online meetings due to COVID-19 restraints. Project now has an internal ethics board and an external ethics board that both meet regularly

Table 4 - Communication outputs and KPIs for ROXANNE project

4.3 Monitoring communications

All partners are required to log their social media posts in the social media contribution tracker. In addition, all partners have access to the project's communications monitoring sheet, which is continuously updated to reflect communications efforts made by partners.

5. Conclusion

The communication plan defines the required measures and tools to implement for promoting the project and its findings. It documents the channels and tools to be used when communicating project information. This document also provides the consortium partners with guidelines on how to communicate the results of the projects and the knowledge gathered during the process. The partners will evaluate their communication plans at the next annual review meeting (month 24) and again at the end of the project. All communication actions will continue to be monitored and accordingly updated to reach the defined objectives and audiences.