D9.3 ROXANNE'S DISSEMINATION & EXPLOITATION PLAN

Grant Agreement:	833635
Project Acronym:	ROXANNE
Project Title:	Real time network, text, and speaker analytics for combating organised crime
Call ID: **Call name:**	H2020-SU-SEC-2018-2019-2020, Technologies to enhance the fight against crime and terrorism
Revision:	V10.0
Date:	18 February 2020
Due date:	01 February 2020
Deliverable lead:	TRI
Work package:	WP9
Type of action:	RIA

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Project co-funded by the European Commission within the H2020 Programme (2014-2020)		
Nature of deliverable:	R	
Dissemination Level		
PU	Public	☒
CO	Confidential, only for members of the consortium (including the Commission Services)	☐
EU-RES	Classified Information: RESTREINT UE (Commission Decision 2015/444/EC)	☐
* 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

Revision	Edition date	Author	Modified Sections / Pages	Comments
V1.0	09/01/2020	Shivam Garg (CAP)	All	First Draft
V1.0	10/01/2020	Theoni Spathi (KEMEA)	All	First revision of the document and feedback
V1.0	13/01/2020	Petr Motlicek (IDIAP)	All	Revision
V1.0	16/01/2020	Xenia Burlaca (INTERPOL)	Some	reviewed and individual input added
V1.0	20/01/2020	Dawei Zhu and Michael Hedderich (USAAR)	Some	Reviewed; added and changed content for USAAR
V1.0	22/01/2020	Francesco Calderoni (UCSC)	Some	Reviewed added a few parts relevant to UCSC
V1.0	22/01/2020	Sergej Zerr (LUH)	Some	Reviewed added a few parts relevant to LUH
V1.0	23/01.2020	Theoni Spathi (KEMEA)	Some	Reviewed and added few parts relevant to KEMEA
V1.0	23/01/2020	Honza Cernocky (BUT)		Added a few parts relevant to BUT, see below.
V1.0	23/01/2020	Michael Hedderich (USAAR)	One	Adapted statement about one of the ISO standards
V1.0	24/01/2020	Francesco Calderoni (UCSC)	Some	Reviewed entire documents, added a few parts and comments when relevant for UCSC activities and scientific/academic activities in general
V1.0	31/01/2020	Erinc Dikici (SAIL)	Some	Added information on SAIL's plans
V1.0	03/02/2020	Stéphan Brunessaux (Airbus)	Annex	Added questionnaire on Exploitation.
V1.0	03/02/2020	Costas Kalogiros (AEGIS)	Some	Reviewed; added and changed content for AEGIS
V1.0	03/02/2020	Farhan Sahito (CAP)	Some	Reviewed the draft
V1.0	03/02/2020	Aayushi Gupta (CAP)	Some	Reviewed the draft
V1.0	03/02/2020	Romaios Bratskas, Asimoula Kasioni (ADI)	Some	Reviewed entire documents, added a few parts and comments
V1.0	06/02/200	Joshua Hughes (TRI)	Some	Inserted information on dissemination and exploitation.
V1.0	06/02/2020	Wauter Bosma (NFI)	Some	Reviewed the draft
V1.0	07/02/2020	Stéphan Brunessaux (Airbus)	Section 5.1	Added Airbus' Exploitation Plan
V1.0	10/02/2020	Romaios Bratskas, Asimoula Kasioni (ADI)	One	collective exploitation
V1.0	11/02/2020	Vidmantas Vaitekūnas (LTEC)	Some	Reviewed the draft, added information on dissemination
V7.0	11/02/2020	Francesco Calderoni (UCSC)	All	reviewed the entire draft
V7.0	12/02/2020	Nikos Nikolaou (ITML)	Section 4.2	Individual exploitation plan Ideas regarding the content/structure of deliverable based on exploitation plans (individual and non-individual) and market analysis
V7.0	12/02/2020	Michael Hedderich (USAAR)	Some	exploitation (individual + overall)

V7.0	12/02/2020	Marek Kovac (PHO)	Section 5.1	added PHO exploitation
V7.0	12/02/2020	Katja Prinz (SAIL)	Some	Added SAIL's exploitation plan
V7.0	12/02/2020	Theoni Spathi (KEMEA)	Some	Added KEMEA's exploitation plan and updated Dissemination plan.
V7.0	12/02/2020	Stéphan Brunessaux (Airbus)	Section 4.1, 4.2 and 4.3	Final editing of these sections
V8.0	14/02/2020	Shivam Garg (CAP)	Entire draft	Final Editing and formatting changes
V8.0	16/02/2020	Petr Motlicek (IDIAP)	All	Finall editing, providing missing info
V8.0	17/02/2020	Michael Hedderich (USAAR)	Conferences	Updated descriptions for USAAR's conferences
V8.0	17/02/2020	Evangelos Dragonas (HP)	Some	Added HP's dissemination plan
V9.0	18/02/2020	Shivam Garg (CAP)	Entire draft	Final Editing and formatting changes
V10.0	18/02/20	Ian Singleton (PSNI)	Section 2.6.1	Added PSNI dissemination plan

S.No.	Partner	Detailed description of activities on document
1	IDIAP	• First reading • re-structuring into sections • added links to other projects • individual dissemination plan • exploitation plan updates, help with coordination
2	TRI	• Reviewed document. • Inserted planned journal publication and conference attendance • Inserted other projects which TRI works on • Inserted dissemination plans • Inserted Exploitation plans
3	BUT	• updated own dissemination plans • added info on Interspeech 2021 • updated synergetic projects by ATCO2 and WELCOME • updated speech journals and conferences. • updated events.
4	PHO	• Reviewed the document and made some comments • Updated targeted conferences • Other projects update - project BISON • Dissemination plan • exploitation
5	SAIL	• Inserted SAIL's conference interests and dissemination plan • Added SAIL's exploitation plan
6	CAP	• Created the initial draft and revised versions • Inserted dissemination and exploitation plan
7	INTERPOL	• reviewed the document and made some comments • added links to other projects • provided the individual dissemination plan
8	USAAR	• reviewed the document and provided feedback • added personal dissemination plan • updated list of target conferences and added more details • updated list of journals • updated information on participation in ISO • exploitation (individual + overall)
9	KEMEA	• Reviewed the document and provided feedback • Added parts relevant to KEMEA
10	LUH	• reviewed the document on 22 Jan 2020 • added dissemination activities by LUH • described journals and conferences in SNA
11	UCSC	• reviewed the document on 22 Jan 2020 and 24 Jan • added dissemination activities by UCSC • added and checked conferences and publications in criminology
12	AEGIS	• Comments to methodology/document • Individual exploitation plan • Dissemination plan
13	AIR	• Conference • Proposed a 3-page questionnaire on exploitation • Individual and collective exploitation plan
14	PCR	• added dissemination plan on 8 Feb 2020
15	MIA	• Reviewed document • Added parts relevant to MIA
16	LTEC	• reviewed the document • added dissemination plan • added conferences
17	PSNI	• small updated provided
18	ADITESS	• First review / Reviewed the document and provided feedback (basic on

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		document structure and ToC) • individual dissemination plan • individual exploitation plan • List of targeted Conferences • Collective exploitation
19	MUP	• dissemination plan updated
20	NFI	• Reviewed the document • Added conferences and journals
21	ITML	• Comments/remarks on Section 2.2; 2.3 and subsection 2.4.3. • Comment/remark on Task numbering • Contribution on Links with Projects Table. • Dissemination per partner. • individual exploitation plan • ideas regarding the content/structure of deliverable based on exploitation plans (individual and non-individual) and market analysis
22	MOPS-INP	• Reviewed the document • Added known attendance in conferences (known to this date)
23	HP	• Reviewed the document • added dissemination plan
24	AGS	• Proofreading

Executive Summary

This deliverable D9.3 (**ROXANNE's dissemination & exploitation plan** [M5]) is prepared in response to T9.5 (**Prepare and use dissemination and communications materials** [M1-M20]). It describes and elaborates on the project's exploitation, and dissemination plan as the project progresses.

Objective:

ROXANNE's Dissemination and Exploitation Plan defines the activities to be performed and the medium to be leveraged to disseminate the project and its results while enabling the exploitation of the project's results.

Significance:

This document contains planned activities and means to ensure optimal dissemination and promotion of all the relevant knowledge emerging from the project while keeping in mind the privacy and confidentiality of these results. Some of the prime terms used in this document are defined as following:

a) Dissemination – To raise awareness about the project, its significance, its objectives, its consortium, progress and results. It deals with reaching the right stakeholders who can best make-use of the project results. Some examples are books, reviewed papers, presentations on scientific conferences and in social events.

b) Exploitation and Impact – To enable effective knowledge transfer, resulting in exploitation by different end-users who can provide measurable impacts of the project while ensuring that Intellectual Property (IP) of the project is properly managed in line with the exploitation plan prepared by the consortium. Some examples of such efforts can be relevant use of datasets, indices, standards, software, benchmarks and training workshops which are part of project's output.

ROXANNE is ensuring maximum reach and impact while considering the cost and reach optimization aspects in line with the KPI's mentioned in this document. This document has been drafted by Capgemini; however, all project partners are actively involved in the dissemination and exploitation aspects and efforts in order to increase awareness, and ensure impact from project results, especially in their own communities and domains.

The next versions of this document are pending in M18 and M36.

Table of Content

1. Introduction

The objective of this project is to develop an analytical platform which enhances investigation capabilities for criminal cases while improving identification of person of interest by developing an interface on top of multi-modal (speech/text and video processing) technologies. This would also incorporate elements of network analysis to reduce the network size. The idea is to then create an optimal dashboard for this platform while complying with legal and ethical norms of EU and INTERPOL.

This Dissemination and Exploitation Plan is drafted at initial stage of the project and the steps referred to in it shall be implemented immediately after the start of the project. This plan will be revised and updated on a regular basis throughout the life of the project to ensure that it remains appropriate for use.

Capgemini, together with all project partners, is implementing efficient measures for effective dissemination, exploitation, impact creation and maximum outreach. This is helping in ensuring that any useful information produced in the project is established and not only made available but also passed to potential end-users.

Through the activities and initiatives outlined in this document, we are attempting to target key stakeholders and end users while also reaching out to other projects with which we anticipate a successful partnership.

Specific objectives of this plan are to:

- Manage intellectual property rights (IPR) to optimally exploit project results;

- Identify and enable smooth exchanges within targeted stakeholder groups;

- Promote the project actions and findings to the scientific community, industry stakeholders, policy makers and society beyond the consortium;

- Capture appropriate and synthesized key messages on results for active knowledge transfer through communication tools and training.

Each beneficiary has an obligation to protect, disseminate and exploit results it has generated through ROXANNE, in line with the articles 27, 28 and 29 as in Grant Agreement. More details on the same can be found in the ANNEX I.

2. Dissemination activities in ROXANNE

Dissemination has been recognised as one of the top priorities by the EC. Dissemination of results is also a contractual obligation for each of the ROXANNE project participants. Dissemination deals with what, where, how and why should be publicly disclosed to the relevant audience keeping in mind its reach and impact.

Following text details some of the tools through which the consortium intends to disseminate the project results. Most of these tools are also used for the purpose of communication and hence are part of the communication plan too.

2.1. Target Audience

As mentioned earlier in D9.2 (Communication Plan), ROXANNE targets a wide community including:

- LEAs - Law Enforcement Authorities (European and non-European, especially through the global network of INTERPOL with access to 194 INTERPOL member countries) and Europol

- Public and private organisations (through an extensive list of industry and SME project partners)

- Local and regional government, operators & policy makers

- The academic and industrial R&D community

- European Network of Forensic Science Institutes (ENFSI), European institutions and NGOs

- Developers, other SMEs and Innovation Communities

- Policy makers

- Media

- Others (This category will be further defined upon completion of stakeholder contact list)

A detailed stakeholder contact-sheet (As mentioned in Section 2.4.1 - Stakeholder Contact List, of D9.2 - Communications Plan) is enabling the communication with all the stakeholders involved in the project by collating their contact details (Based on consent or legitimate interest assessment) and classifying them according to their category among above mentioned categories. Depending on the same, different effective engagement and exploitation strategies might be employed in order to maximum reach and impact.

The efforts of dissemination and exploitation can further be segmented into internal and external:

Internal Efforts:
The internal dissemination activities are being carried out among consortium partners. This dissemination is playing a key role in smoother project execution, exploitation of potential synergy and ensuring building on complementary strengths of the consortium. In carrying out internal or external dissemination operations, all consortium members are required to contribute and follow the specified procedures. The main task in this area is to establish the content's level of privacy and, once this work is done, further dissemination actions will be carried out subsequently.

External Efforts:
External dissemination efforts take different forms based on the content being transmitted and the audience being addressed. The consortium has segmented the public according to the goals and objectives while keeping in mind the potential relationship to be sought with the stakeholders.

2.2. What/When/Who/How

The general framework of the ROXANNE dissemination (and communication) activities is illustrated below:
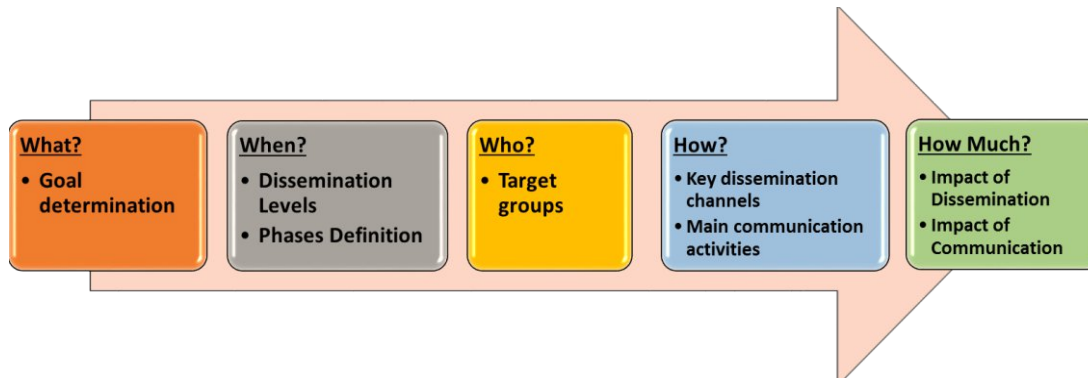
Goal determination: The goal of the dissemination strategy is to raise awareness among the target groups, get actionable inputs and insights from them, connect with a sufficient number of ROXANNE stakeholders for the development of the pilots at a national or end-user representative level, and prepare the ground for the exploitation of the achieved results.

Phase definition: To achieve the project objectives from a dissemination point of view, the dissemination and communication strategy will follow the three phases shown in table below, discussing also methods how to reach these objectives, and their status:

	Objective	*Methods*
Year 1	**Awareness-oriented phase** This phase starts from the beginning of the project and runs until its completion, so as to raise awareness of the project, its objectives and activities.	- Visual Identity of the project [Completed in D9.1] - Set up the project website [Completed in D9.1] - Distribute leaflets, brochures [In Progress] - Launch ROXANNE social media [Completed in D9.1] - Promotion in conferences and events [In Progress] - Consolidation of the stakeholders' community [In Progress] [Mentioned in D9.2] - Evaluation of dissemination activities (WP9) [In Progress]
Year 2	**Output-oriented phase** *(mainly 2ⁿᵈ and 3ʳᵈ year)* This phase starts as soon as the first outputs of ROXANNE are available and aims to promote them so as to allow stakeholders and final beneficiaries to get to know the projects achievements and the related benefits.	- Presentation of the ROXANNE ecosystem, tools and elements and first demonstration results in main conferences and events, press releases (task T9.6) - Wide dissemination in pilots - Continuously updating the project website and continuing the social media activity - Submit papers to academic journals and conferences (T9.8) - Involve decision makers in dissemination activities
Year 3	**Exploitation-oriented phase** This phase starts through preparatory activities that will contribute to the actual exploitation of the project results after its completion. Dissemination in this respect aims to support the overall exploitation activities by promoting to potential stakeholders.	- Presentation of the ROXANNE results in relevant conferences - Publications in scientific journals (targeting A*/A ranked) - Final year conference (task T9.7) - Creation of the exploitation and sustainability plans - Presentation of market testing output and business models

2.3. Communication & Dissemination KPI's for ROXANNE

The following table provides a quantification of the project's dissemination activities, already prepared during the proposal phase of the project and specified in Grant Agreement of the project. This table denotes project's KPI for all three years starting from M1. This will be used as a basis for verifying whether the project dissemination objectives have been met:

Channel	Activity	KPI
Project website*	Web access to deliverables, technical results and presentation materials of ROXANNE	2500 visitors throughout the lifespan of the project
Push announcements*	Regular push announcements through social media (Twitter, LinkedIn, ResearchGate etc.)	Twitter followers: <100 – poor, 100-250 – good, 250+ - excellent LinkedIn Followers: <100 – poor, 100-250 – good, 250+ - excellent
Newsletter*	Regular bi-annual newsletter with the technical activities of ROXANNE	≥6 newsletters
Flyer/Brochure*	High–quality electronic brochure with the technical approach and activities of ROXANNE	≥500 hard copies distribution in ≥ 10 events
Project video*	3 project videos	≥1'000 views
(ii) Scientific and technical publications		
Journal publications	Publications in international peer-reviewed journals in network analysis, speech, text, video, and multi-modal data related subjects	≥6 publications
Magazine publications	Publications in international (printed or online) magazines in network analysis, speech, text, video, and multi-modal data related subjects	≥6 publications
Conference publications	Publications in international referred technical conferences in network analysis, speech, text, video, and multi-modal data	≥12 publications
Special issues	Preparation of special issues in international referred technical journals and magazines	≥1 ≥10 selected papers/issue
(iii) Organization of project related events		
Conference organization	Organization of final international conference in network analysis, speech, text, video, and multi-modal data related subjects	1 event ≥100 attendees
Workshops	Organization of workshops	2 workshops ≥30 attendees (each)
Field Test event	3 field test events	1 event per year
Meetings	Ethics board meetings, stakeholder board meetings; conference calls and face-to-face	1 meeting per quarter
(iv) System-level demonstrations		
Exhibition demonstrations	Major fairs and exhibitions such as TWENTY2X , Milipol	≥2 demos
EU demonstrations	Major EU events such as meetings and workshops	≥1 demo
Conference	Major conferences such as Interspeech, EISIC.	≥2 demos

demonstrations

*These KPIs deviate from what were originally mentioned in the grant agreement in order to use more appropriate metrics. We believe that this will ensure much more relevant reach and impact.

2.4. Online Dissemination

The several online dissemination strategies are considered in ROXANNE and some of them have already been mentioned in some of previous deliverables, and/or already implemented by ROXANNE partners.

A set of graphical elements has been designed (As mentioned in Section 1- Visual Identity, of D9.1 - Creation of the project's identity, website and online accounts) in order to give an identity to the ROXANNE project. The designed elements are the ROXANNE logos and templates for reports, minutes, agenda, and acknowledgment, as well as private and public presentations. Assets including the project logo and templates that were duly submitted in D9.1 - Creation of the project's identity, website and online accounts.

2.4.1. Assets for distribution

Leaflets and Brochures:
We have created an initial draft of leaflets for the project while professional brochures, leaflets and posters are being designed as per the project timeline.

Following are images of one of the draft brochures:

About ROXANNE

ROXANNE (Real time network, text, and speaker analytics for combating organized crime) is a research and innovation EU funded collaborative project, aiming to unmask criminal networks and their members as well as to identify 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 supporting 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-FCT02-2018-2019-2020 (Technologies to enhance the fight against crime and terrorism)
Grant Number:	833635
Total Cost:	7 M Euros
EC Contribution:	7 M Euros
Start Date:	September 2019
End Date:	August 2022
Duration:	36 Months
Project Coordinator:	IDIAP, Switzerland
Project Website:	ROXANNE-euproject.org

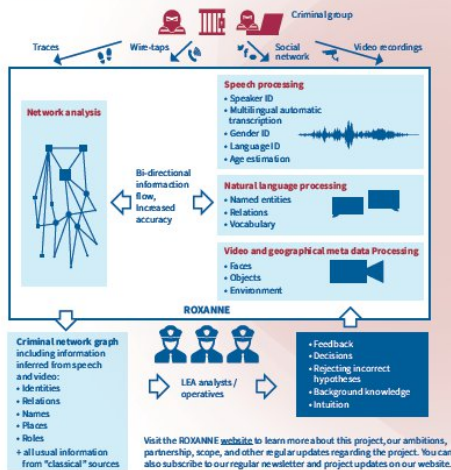**Underlying Technologies**

Speech Data Mining 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 (NLP) to identify entities such as locations, persons and companies from multilingual textual input

Video and Geographical Meta-Information 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 (relation) Analysis (NA) 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 bi-directional interface between multimodal (speech/text and video processing) technologies

3. Enhance criminal network analysis technology to significantly reduce network size towards actionable 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, adopt the technology by LEAs in their daily work

6. Comply with EU and INTERPOL legal and ethical frameworks: External Ethics and large Stakeholder Boards established

Overall Framework

Traces · Wire-taps · Social network · Video recordings · Criminal group

Network analysis

Bi-directional information flow, increased accuracy

Speech processing
- Speaker ID
- Multilingual automatic transcription
- Gender ID
- Language ID
- Age estimation

Natural language processing
- Named entities
- Relations
- Vocabulary

Video and geographical meta data Processing
- Faces
- Objects
- Environment

ROXANNE

Criminal network graph including information inferred from speech and video:
- Identities
- Relations
- Names
- Places
- Roles
- all usual information from "classical" sources

LEA analysts / operatives

- Feedback
- Decisions
- Rejecting incorrect hypotheses
- Background knowledge
- Intuition

Visit the ROXANNE website to learn more about this project, our ambitions, partnership, scope, and other regular updates regarding the project. You can also subscribe to our regular newsletter and project updates on our website.

2.4.2. Website

The project's public website has been registered at: http://www.roxanne-euproject.org/. In order to ensure an online presence from the inception of the project, initially the project identity is developed with a beta version of the website platform containing preliminary information about the project aims, partners and funding information. A more detailed and sophisticated website (uniquely supporting a secured communication under https:) is currently under the development, incorporating the ROXANNE graphic identity, additional content and functionality, such as social media buttons, newsletter sign-up, blogpost, etc.

As mentioned in D9.1, the final version of the website is right now under the construction by web administrators at IDIAP and will extend the website's capabilities and functionalities.

2.4.3. Social Media

For this project, we are reaching out to relevant and significant stakeholders using LinkedIn and Twitter as the primary mediums for social media dissemination and communication. LinkedIn is helping us connect with relevant stakeholders and audience while Twitter is helping us drive the information related to project with a less targeted mode of communication. More details can be found in a preceding deliverable D9.1.

2.4.4. Newsletters & Blogs

ROXANNE will have a dedicated project newsletter, which will be bi-annual in nature. The ROXANNE newsletter will highlight project results and updates on project news and other relevant information. The newsletter will be sent out to partners, connected stakeholders, relevant contacts, and any other individuals who have expressed interest. The ROXANNE project website and the collaborative platform will also have

an archive of newsletters for access.

The blogs, however, are updated on project website on monthly basis by a variety of partners focusing on different aspects and areas of the project. The first blog was uploaded in December 2019 and was drafted by ITML. The topic for the same was data fusion bus. This initiative would lead to regular updates and better connect with our target audience. We have 4 blogs posted on the website as on date. The same are promoted through official handles of the project.

These assets would further be promoted on social media accounts through official handles and by partners through various dissemination channels including digital but not limited to dissemination on platforms such as email, websites (Including partner websites and intranets such as that of INTERPOL and IDIAP) and social media handles.

2.4.5. Project Videos

We intend to produce project videos which are promotional as well as documentary based in nature.

The initial video will focus on the ROXANNE project, providing a clear concise overview and explanation of the project, its objectives and relevance and impact for the wider society. The final video will focus on the results of the project.

All videos will be available on the ROXANNE website and promoted through our social media accounts. 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.

TRI would be responsible for the creation of 3 of these videos. A video will be produced every 12 months and will be available by M12, M24 and M36, however some flexibility may be considered in relation to how the project and research outputs are delivered.

2.5. Scientific Dissemination

2.5.1. Publications

When project results become available, consortium partners will be encouraged to publish results in high-impact and scientific (peer reviewed) publications and journals. The ROXANNE consortium will comply with the rules mentioned in the GA related to publications. All publications (final articles or manuscripts accepted for publication) will be properly edited and their security would be ensured subject to the confidentiality of the document. To promote open access publishing within the consortium, a budget has been allocated for publications containing project results.

Some of the other targeted dissemination channels identified by the consortium are as follow:

1. List of Scientific Publications (journals, letters, transactions, etc.)

S.No.	Journal/Magazine	Description	Lead Partner
1	Journal of International Journal of Police Strategies & Management	a quarterly peer-reviewedacademic journal covering the study of policing.	
2	Science and Justice	Journal of the forensic science community	NFI

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3	Crime Prevention & Community Safety	Crime Prevention and Community Safety	
4	Speech communication	*Speech Communication* is a publication of the EURASIP and ISCA. It is well perceived journal related to speech and signal processing oriented research.	IDIAP, BUT, USAAR
5	IEEE/ACM Transactions on Audio, Speech, and Language Processing	"The" IEEE journal for speech processing.	IDIAP, BUT, USAAR
6	Speech and Language Processing	IEEE/ACM Transactions on Audio, Speech and Language Processing (TASLP)	IDIAP, BUT, USAAR
7	IEEE Signal Processing Letters	Fast turnover IEEE journal for short papers on signal, audio and speech processing topics.	IDIAP, BUT, USAAR
8	Computer Speech and Language,	Elsevier journal, official publication of the International Speech Communication Association (ISCA), publishes a number of special issues related to ROXANNE topics, such as speaker verification.	IDIAP, BUT, USAAR
9	Transactions of the Association for Computational Linguistics (TACL)	MIT Press journal in the areas of areas of computational linguistics and natural language processing	USAAR
10	ACL Anthology	Open Access platform for Proceedings belonging to the Association for Computational Linguistics and related organizations.	USAAR
11	Social Network Analysis and Mining	Social Network Analysis and Mining (SNAM) is a multidisciplinary journal serving researchers and practitioners in academia and industry. It is the main venue for readers from computer science, network science, social sciences, etc. It is soliciting experimental and theoretical work on social network analysis and mining using a wide range of techniques.	LUH
12	ACM Transactions on Social Computing	ACM Transactions on Social Computing (TSC) seeks to publish work that covers the full spectrum of social computing including theoretical, empirical, systems, and design research contributions.	LUH
13	ACM Transactions on the Web	ACM Transactions on the Web (TWEB) is a journal publishing refereed articles reporting the results of research on Web content, applications, use, and related enabling technologies.	LUH
14	ACM Transactions on Information Systems	The ACM Transactions on Information Systems (TOIS) publishes papers on information retrieval (such as search engines, recommender systems) that contain new principled information retrieval approaches such as models or algorithms and development of content (text, image, speech, video, etc.) analysis methods to support information retrieval and information seeking	LUH

15	Forensic Science International: Digital Investigation	Journal on crime and security throughout the computerized world. The primary pillar of this publication is digital evidence and multimedia, with the core qualities of provenance, integrity and authenticity.	NFI
16	European Journal of Criminology	A refereed journal published by SAGE publications and the European Society of Criminology.	UCSC
17	Global Crime	Francesco Calderoni from UCSC is Associate Editor of the journal	UCSC
18	European Journal on Criminal Policy and Research	Ernesto U. Savona from UCSC is Editor-in-chief of the journal	UCSC
19	Trends in Organised Crime	Francesco Calderoni from UCSC is in the journal's Editorial Board	UCSC
20	Crime Science	A 100% open access journal published by Springer Nature.	UCSC
21	Policing	A leading policy and practice publication aimed at connecting law enforcement leaders, police researchers, analysts and policy makers.	UCSC
22	IEEE Journal of Selected Topics in Signal Processing	Prestigious IEEE journal, with the highest impact factor (almost 6.7) in the field.	IDIAP, BUT, USAAR
23	International Journal for Crime, Justice and Social Democracy	Leading international open access academic journal specialising in the study of crime, criminal justice and society.	TRI
24	Policista	Journal on public security and police work. It is being published by the Ministry of Interior of the Czech Republic.	PCR
25	Drugs & Forensics Bulletin	Journal of National Antidrugs Central of the Police of the Czech Republic.	PCR
26	Policija i sigurnost (Police and Security)	The journal "Policija i sigurnost" (Police and Security) publishes reviewed scientific and professional papers from the field of police science and law enforcement, criminal investigation, substantive criminal law, criminal procedure law and correctional law, international public and criminal law, national security, criminology, penology, victimology, forensic medicine, forensic psychology and psychiatry and related fields (the history of the police, forensic anthropology, criminal investigation statistics etc.). The journal also publishes papers in the columns: From practice to practice, Police procedures and Court practice, Views and Opinions, Reviews and Comments and Student's papers. Before scientific and professional articles are published, they are subjected to double-blind peer review process. Articles are published in Croatian and English.	MUP

2.5.2. Conferences and Events

ROXANNE partners have already started participating in multiple events and conferences relevant to the domain of the project. The project is presented on these platforms with an intention to raise awareness, disseminate project results and connect with other relevant stakeholders who can be continually updated on the progress of the project. These events would be national and international in scope. The participation by consortium partners would further be highlighted through social media handles, blogs and/or the recurring newsletter to stakeholder contact-sheet.

So far 4 events have been organized/attended by consortium partners. More information on the same can be found in the Section 4 - "Reporting on dissemination activities". Some of the avenues identified and targeted by consortium are as following:

1. **List of targeted conferences:**

S.No.	Conference (insert a link)	Description/What to publish	Lead Partner
1	ISS World MEA	The world's largest gathering of Regional Law Enforcement, Intelligence and Homeland Security Analysts, Telecoms as well as Financial Crime Investigators responsible for Cyber Crime Investigation, Electronic Surveillance and Intelligence Gathering. We will inform about Roxanne project at the event and share everything on Roxanne and PHO social media.	PHO
2	IEEE International Conferences on Intelligence and Security Informatics (ISI)	.The annual IEEE ISI is the leading conference in security informatics domain, combining academic researchers in information technologies, computer science, public policy, bioinformatics, medical informatics, and social and behavior studies as well as local, state, and federal law enforcement and intelligence experts, consultants and practitioners. We plan to communicate and disseminate project activities in this conference.	SAIL
3	IEEE International conference on acoustic speech and signal processing (ICASSP)	Major IEEE international conference in which speech is the majority part. Co-organized by BUT in 2011 in Prague. Czechia. We plan to publish the results of speech data mining techniques	IDIAP, BUT, PHO, USAAR SAIL
4	ISCA Interspeech	One of the most important speech related international conference, organized annually. We plan to publish their research achievements on these conferences. BUT is the main organiser of Interspeech in 2021.	IDIAP, BUT, PHO, USAAR SAIL
5	ISCA Odyssey: The Speaker and Language Recognition Workshop	Small but important ISCA workshop on speaker recognition, language recognition and diarization. We plan to publish results in these areas. Biannual, organized by BUT in 2010 in Brno, Czechia.	BUT, IDIAP
6	IEEE Automatic speech recognition and understanding workshop (ASRU)	Small and very selective workshop on speech recognition and understanding. Biannual, organized by BUT in 2013 in Olomouc, Czechia. We plan to publish results in these areas.	BUT, IDIAP, USAAR
7	IEEE Spoken Language Technology conference (SLT)	IEEE conference on speech technologies, complementing ASRU and Odyssey, more technologically oriented. We plan to publish results in speech data mining. Biannual.	BUT, IDIAP, USAAR
8	World Wide Web Conference (WWW)	The leading conference on Web research	LUH
9	Annual Meeting of the Association for Computational Linguistics (ACL) or their local chapters European Chapter of the	This series of conferences comprises some of the leading conferences in computational linguistics. It covers a wide range of topics with a strong focus on machine learning driven natural language processing , like the work	USAAR

	ACL (EACL), North American Chapter of the ACL (NAACL) and Asia-Pacific Chapter of the ACL (AACL)	performed by USAAR.	
10	International Conference on Computational Linguistics (COLING)	Major conference in natural language processing that covers information extraction.	USAAR SAIL
11	SIGNLL Conference on Computational Natural Language Learning (CoNLL)	Being the origin of the first big breakthroughs in named entity recognition and organized by the ACL special interest group on natural language learning, this is a top conference for natural language processing.	USAAR
12	Conference on Empirical Methods in Natural Language Processing (EMNLP)	Organized by the ACL special interest group on linguistic data and corpus-based approaches, this is one of the leading conferences for machine learning and deep learning based natural language processing.	USAAR SAIL
13	International Conference on Machine Learning (ICML)	One of the major conferences on machine learning. With its coverage of both general machine learning techniques as well as applications, it is suited for the more general results of USAAR's research on low-resource machine learning.	USAAR
14	Conference on Neural Information Processing Systems (NeurIPS)	Being one of the leading conferences in neural information processing, it is of interest to USAAR for its machine learning research. It's Expo day also connects academia and industry.	USAAR
15	AAAI Conference on Artificial Intelligence	Top conference on artificial intelligence organized by the Association for the Advancement of Artificial Intelligence. One of its main fields of interest are machine learning techniques, including applications on natural language processing.	USAAR
16	International Joint Conferences on Artificial Intelligence (IJCAI)	Major conference on artificial intelligence including machine learning.	USAAR
17	International Conference on Learning Representations (ICLR)	One of the leading conferences for research on deep learning. In 2020, it also hosts workshops on low-resource machine learning and natural language processing.	USAAR
18	International Conference on Language Resources and Evaluation (LREC)	Top conference in natural language processing organized by the European Language Resources Association focusing on language resources and data. Platform for new language resources and emphasis on low-resource scenarios.	USAAR BUT SAIL
19	The International ACM Conference on Information and Knowledge Management (CIKM)	Major conference for knowledge management, combining information retrieval, and database communities.	LUH
20	The International AAAI Conference on Web and Social Media (ICWSM)	ICWSM is one of the world's premier conferences and publication venues in computational social science.	LUH
21	The international conference series on Advances in Social Network Analysis and Mining (ASONAM)	This interdisciplinary IEEE conference brings together researchers and practitioners from a broad variety of fields in the area of social network analysis and mining	LUH SAIL
22	ISS World Asia	The world's largest gathering of Regional Law Enforcement, Intelligence and Homeland Security Analysts, Telecoms as well as Financial Crime Investigators responsible for Cyber Crime Investigation, Electronic Surveillance and Intelligence Gathering. We will inform about Roxanne project at the event and share everything on Roxanne and PHO social media.	PHO

23	ISS World Europe	The world's largest gathering of Regional Law Enforcement, Intelligence and Homeland Security Analysts, Telecoms as well as Financial Crime Investigators responsible for Cyber Crime Investigation, Electronic Surveillance and Intelligence Gathering. We will inform about Roxanne project at the event and share everything on Roxanne and PHO social media.	PHO MUP MOPS-INP
24	ISS World Latin America	The world's largest gathering of Regional Law Enforcement, Intelligence and Homeland Security Analysts, Telecoms as well as Financial Crime Investigators responsible for Cyber Crime Investigation, Electronic Surveillance and Intelligence Gathering. We will inform about Roxanne project at the event and share everything on Roxanne and PHO social media.	PHO
25	European Intelligence & Security Informatics Conference (EISIC)	European Conference on Counterterrorism and Criminology	AIR SAIL AEGIS
26	Illicit Networks Workshop	Workshop on criminal networks	UCSC
27	Annual meeting of the American Society of Criminology (ASC)	Largest conference of criminology worldwide	UCSC
28	Annual conference of the European Society of Criminology (ESC)	Largest criminological conference in Europe	UCSC KEMEA
29	Stockholm Criminology Symposium	Important annual research and policy conference, where the Stockholm Prize in Criminology is awarded	UCSC
30	Expo Seguridad Mexico	The largest exhibition for security products and solutions in Latin America. It is the place where manufacturers, distributors, integrators, and end users meet.	PHO
31	Socio-Legal Studies Association	Leading conference dealing with law and society	TRI
32	Nicosia Risk Forum	An innovative event for the area of South-Eastern Europe, which brings together academic, industrial, governmental, and other societal stakeholders with a significant interest in the theory and applications of risk.	ADITESS
33	International Symposium on Foundations of Open Source Intelligence and Security Informatics (FOSINT-SI)	Open source intelligence for cyber situational awareness related to concepts, models and methods for cyber threat intelligence in tactical, operational and strategic levels are central to the scope of this event. SAIL plans to attend.	SAIL
34	Conference on Counterterrorism, Crime Fighting, Forensics, and Surveillance Technologies (SPIE)	This conference brings together emerging technologies for countering terrorism and crime and providing support to forensics, surveillance, security and defence forces. It addresses the big issue of maintaining security and safety by detecting and identifying dangerous, hidden and camouflaged materials and recognizing suspicious behavior from video imagery, all the while working within a legal and moral framework that respects individuals' rights.	SAIL
35	International Conference on Speech and Computer (SPECOM)	SPECOM is an interdisciplinary scientific event combining researchers, linguists and engineers working in the areas of speech science, speech technology, natural language processing and human-computer interaction. SAIL plans to attend and disseminate in this conference.	SAIL
36	International Conference on Applications and Systems of Visual Paradigms (VISUAL)	This conference focuses on visual services and applications, such as visual analysis of big data, visual forensic analytics, visual reasoning Systems, visual	AEGIS

		exploration of data sets, interactive visual profiling; activity recognition by visual analytics; visual causality analysis, and Visual correlation analysis.	
37	International Conference on Forensic Inference and Statistics (ICFIS)	This conference unites lawyers, statisticians and forensic scientists in their interest in optimal reasoning concerning forensic evidence.	NFI
38	CYSEC, Croatia	The thematic framework of the conference among others covers also the following research areas: – Cyber security in context of terrorism, threats and solutions; – Situational awareness and security metrics; – Investigation and digital forensics; – Cyber terrorism and cyber crime	MUP
39	International Congress "Criminalistics and Forensic Expertology: Science, Studies, Practice"	Main topics of the Congress are tactics of criminalistics, cybernetic security, modern tendencies in criminalistics, methods of crime investigation. 16th Congress wil be held in Bratislava, Slovakia	LTEC
40	Audio Engineering Society (AES) International Conference on Audio Forensic		LTEC
41	Zagreb, Police College Research Days	The aim of this conference is to address numerous security challenges on a global level and to gather experts from various interdisciplinary fields which cover different aspects of security. The conference will provide the opportunity to discuss security issues, practice-based and scientific experiences, take a stance and eventually find answers to questions on how to deal with security challenges now and in the future	MUP

2.6. Organization of Scientific Events

Our goal will be to enhance the visibility of our contributions at all possible levels. In 2021, BUT will organize Interspeech[1], the most important conference for speech processing community, with attendance reaching over 2000 participants. The International Speech Communication Association (ISCA)[2] has evaluated the BUT bid and decided to schedule 2021 Interspeech in Brno after Hyderabad (India), Graz (Austria) and Shanghai (China). The ROXANNE project will be publicized in the conference presentations and posters will be used. Also, we will evaluate a possibility of having ROXANNE booth in the exhibition area.

2.6.1. Workshops and Surveys

The consortium is making dissemination efforts in close collaboration with policy-makers and other stakeholders, primarily via one-to-one sessions, interviews, workshops and conferences among partner networks and other relevant stakeholders including members of stakeholder board and ethical advisory board. Surveys would further be used to collect information on requirements of end-users and their response to various aspects of the project. To this end, INTERPOL will circulate the survey on end-user requirements to its global LEA network in 194 member countries.

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[1] https://www.interspeech2021.org/
[2] https://www.isca-speech.org/iscaweb/index.php/conferences

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We will organize open project workshops (i.e. especially targeting end-users) along with the last field test, to disseminate high-quality information, with a high level of audience involvement of the targeted LEAs (and industries). The organisation will be aligned with 3 field-tests. The objective of these workshops will be to raise users' participation and awareness, while also approaching new potential end-users and beneficiaries. At the same time these workshops will provide opportunities for disseminating and exchanging views on the best practices and results based on the ROXANNE pilots.

Some of the targeted workshops are as following:

S.No.	Workshop	Description	Lead Partner
1	Innovation Lab at Europol	The focus of the Innovation Lab at Europol will be to identify, promote and develop concrete innovative solutions in support of the operational work of the EU MS. The Lab will be composed of four components, each of which seek to deliver on one or more of the four tasks given to Europol by the Ministers. – Pilot Projects (developing common technological solutions for member states in the field of internal security) – Observatory for Innovation Foresight (monitor new technological developments and drive innovation) – Networks of Innovators (ensure alignment and cooperation of all relevant actors, including other relevant research bodies and EU agencies) – Forum for Innovation in the field of Internal Security (FIRIS) (ensure alignment and cooperation of all relevant actors, including other relevant research bodies and EU agencies, and to avoid duplication of existing structures)	MUP
2	Internal police meetings and workshops	Project ROXANNE will be presented and discussed on various internal police meetings and workshops.	PCR MOPS-INP
3	UK National Working Groups/Projects	Project ROXANNE will be promoted across a series of UK steering/working groups and projects. Attendees will include all UK LEA, interested government departments and the UKIC.	PSNI

2.7. System-Level Demos

ROXANNE will organize one major conference (around M35) in the core R&D areas of the project. Our goal will be to enhance the visibility of our contributions at all possible levels.

2.7.1. Demonstrations in fairs and exhibitions

ROXANNE will aim to organize at least two demonstrations of the project technical results in major international fairs and exhibitions, such as NATO, Cebit, ISS, Milipol or INTERPOL's events.

2.7.2 Demonstrations in EU related events/forums

ROXANNE will aim to organize a demonstration of the project technical results for the large LEA community. The demonstration event will be aligned with the last field-testing (M30). We plan to invite all relevant stakeholder partners (i.e. from the external stakeholder board of ROXANNE) as well as other LEAs, EU policy makers or other interested partners through the Europol and INTERPOL invitations.

2.7.3. Demonstrations in major international conferences

ROXANNE will aim to organize demonstrations of the project technical results in major international conferences, such as EISIC, ICASSP or Interspeech.

2.7.4 Internal Scientific Community

All the project partners will present the results internally in their organization, giving boost to internal dissemination. In any case efficient dissemination (by the consortium organizations) requires internal knowledge of the project results.

2.8. Press Releases

News of the project is being disseminated on regular basis, while leveraging a variety of publications and services. Press releases will be issued via relevant media outlets (trade press, journals and web portals) to ensure that industry, civil society, policy-makers, relevant stakeholders and the wider community are aware about the progress and role of the project, its objectives and, later in the project, its results. The strategy intends to make sure that there is optimum media coverage and reach at local, national and European level. Consortium partners are a part of several existing channels and mediums for disseminating news which will ensure a boost in awareness of the project across the range of relevant European stakeholders. Currently, multiple press releases by various partners have already been published and shared via a variety of platforms. More details about this can be found in the section "Reporting on dissemination activities".

2.9. Links with other projects

A special attention has been paid during the drafting of the ROXANNE proposal to avoid duplication of effort with current or recent programs and to ensure synergy with existing projects. ROXANNE strives to establish effective connection with such projects and initiatives which are directly or indirectly relevant, to build on complementary aspects and to avoid overlap. We have been actively involved in looking for such relevant projects or initiatives which will help us create impact and bring greater value to community as a whole.

Project name (http in footnote)	Description (Status of the project, reasons for synergy)	Partner
SIIP (Speaker	Already finished FP7 H2020 project (2014-2018).	INTERPOL, IDIAP,

Identification project)[3]	The project developed a first platform to pre-process large amounts of voice recordings from LEAs for automatic identification of criminals from voice. Some of LEAs involved in SIIP were invited to join the stakeholder board (BKA, Police Judiciaire Portugal, ...) and to follow the current work in ROXANNE	Airbus, SAIL
TITANIUM	This project is researching and developing tools for investigating virtual currency transactions in underground markets.	INTERPOL, TRI
INSPECTr	The principal objective of INSPECTr will be to develop a shared intelligent platform and a novel process for gathering, analysing, prioritising and presenting key data to help in the prediction, detection and management of crime in support of multiple agencies at local, national and international level. This data will originate from the outputs of free and commercial digital forensic tools complemented by online resource gathering.	TRI
C4IIOT	The C4IIoT project aims to design, build and demonstrate a novel and unified Cybersecurity 4.0 framework that implements an innovative Internet-of-Things (IoT) architecture paradigm to provide an end-to-end holistic and disruptive security-enabling solution for minimizing the attack surfaces in Industrial IoT systems. C4IIoT bridges cyber assurance and protection, machine (deep) learning, edge/cloud computing, blockchain and Big Data technologies to provide a viable scheme for enabling security and accountability, preserving privacy, promoting reliability and assuring trustworthiness within evolving IIoT applications and processes in the automotive domain. H2020-SU-ICT-2018-2010 (IA)	ITML, AEGIS
I-BiDaaS	I-BiDaaS aims to empower IT and non-IT big data experts to easily utilize and interact with big data technologies. It is proposing a unified solution that significantly increases the speed of data analysis and facilitates cross-domain data-flow towards a thriving data-driven EU economy. H2020-ICT-16-2017 (RIA)	ITML, AEGIS
THREAT-ARREST	THREAT-ARREST aims to develop an advanced training platform incorporating emulation, simulation, serious gaming and visualization capabilities to adequately prepare stakeholders with different types of responsibility and levels of expertise in defending high-risk cyber systems and organizations to counter advanced, known and new cyber-attacks. THREAT-ARREST fills in the gap for an advanced security training framework implemented within any organization type, helping	ITML

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[3]https://www.interpol.int/en/Who-we-are/Legal-framework/Information-communications-and-technology-ICT-law-projects/Speaker-Identification-Integrated-Project-SIIP

	them to cope with the ever-expanding landscape of cyber-attacks and protect effectively and efficiently their ICT cyber-systems. H2020-DS-07-2017 (IA)	
COLLABS	COLLABS will develop, validate, demonstrate, and support a comprehensive cyber-intelligence framework for collaborative manufacturing, which enables secure data exchange across the digital supply chain while providing high degree of resilience, reliability, accountability and trustworthiness, and addressing threat prevention, detection, mitigation, and Realtime response. H2020-ICT-2018-2020 (RIA)	ITML
TENSOR	The main objective of the TENSOR project (Retrieval and Analysis of Heterogeneous Online Content for Terrorist Activity Recognition) is to provide a powerful terrorism intelligence platform offering LEAs fast and reliable planning and prevention functionalities for the early detection of terrorist organised activities, radicalisation and recruitment. FCT-06-2015 - Law Enforcement capabilities 2: Detection and analysis of terrorist-related content on the Internet) (H2020)	KEMEA
ASGARD	ASGARD (Analysis System for Gathered Raw Data) has a singular goal, to contribute to Law Enforcement Agencies Technological Autonomy and effective use of technology. Technologies will be transferred to end users under an open source scheme focusing on Forensics, Intelligence and Foresight (Intelligence led prevention and anticipation) FCT-01-2015 - Forensics topic 1: Tools and infrastructure for the extraction, fusion, exchange and analysis of big data including cyber-offenses generated data for forensic investigation) (H2020)	KEMEA, NFI
ATCO2	H2020 CleanSky project "Automatic collection and processing of voice data from air-traffic communications" aiming at obtaining and processing data for air-traffic controller - pilot communication. While the application domain is different (air travel versus criminal networks), ATCO2 and ROXANNE share the interest in data in order to train better performing and more robust speech data mining systems. JTI-CS2-2018-CfP09-LPA-03-16	BUT, IDIAP
WELCOME	The goal of H2020 "migration" project "Multiple Intelligent Conversation Agent Services for Reception, Management and Integration of Third Country Nationals in the EU" is to research and	BUT

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	develop intelligent technologies for support of the reception and integration of migrants in Europe. If successful, it will (among others) contribute to lowering the number of crimes committed by migrants, thus complementing ROXANNE that is law-enforcement oriented. H2020-SC6-MIGRATION-2018-2019-2020	
BISON	The BISON project focuses on major innovations in three areas: 1) core speech data mining technologies, business results of data mining from speech, contact center support systems. project output will include the full range of capabilities and be fully integrated with contact center hardware and software infrastructure. The main results of the project are here: www.bison-project.eu.	PHO
COPKIT	The project addresses the problem of analysing, preventing, investigating and mitigating the use of ICTs by organised crime and terrorist groups.	TRI
PREVISION	The project aims to empower LEAs with tools and solutions not commercially available today, to handle and capitalize on the massive heterogeneous data streams that must be processed during complex crime investigations and threat risk assessments.	TRI
CC-DRIVER	The project aims to understand the technical and human drivers of cybercrime and how to use that knowledge to reduce cybercrime and to deter young people from a life of crime.	TRI, MOPS-INP
PHOENIX	The PHOENIX project aims to improve the cyber security of the European electrical power energy systems (EPES), i.e. the so called Smart Grid. PHOENIX aims to offer a cyber-shield armour to European EPES infrastructure enabling cooperative detection of large scale, cyber-human security and privacy incidents and attacks, guarantee the continuity of operations and minimize cascading effects in the infrastructure itself, the environment, the citizens and the end-users at reasonable cost.	CAP
ILEANET	ILEAnet aims to build a sustainable organisational Law Enforcement Agency (LEA) practitioners network focused on research & innovation addressing LEA challenges, together with a community of individuals interested to exchange and collaborate in this area. By encouraging such discussion between practitioners and experts from academia and industry, the project will stimulate LEA capabilities to influence, develop and take up research, development and innovation (RDI) that is useful and usable for LEAs, and thus help them to tackle the major challenges they face.	MIA
MIRROR	The MIRROR (Migration-Related Risks caused by misconceptions of Opportunities and Requirement) project aims to develop an integrated platform, a set of tools, as well as a systematic methodology for	LUH, SAIL

	the comprehensive inter-media analysis of the perception of Europe, the detection of discrepancies between perception of and reality in Europe, and the creation of awareness for the impact of such misconceptions and resulting threats. H2020-SU-SEC-2018-2019-2020		

2.10. Standardization and Open Source Engagement

Standardizing processes and procedures are essential to achieve effective cooperation in cross-border and cross-community environments. The number of standards development organizations and the number of published information security standards have increased in recent years, creating significant challenge.

ROXANNE has identified a set of standardization bodies and EU directives that have to be closely monitored during the project lifetime, while in part of them, specific contributions are envisaged to be provided. These bodies and announced strategies include:

- NIST (U.S. National Institute of Standards and Technology) – ROXANNE will especially follow the development and adoption of "Data Format for the Interchange of Fingerprint, Facial & Other Biometric Information" standard –ANSI/NIST-ITL 1-2011.
- ISO IEC (JTC 1/SC 37) standardization of generic biometric technologies on Biometry – e.g. biometric data exchange formats, biometric testing and reporting.

2.11. Dissemination per partner

This section highlights individual dissemination plans by individual consortium partners:

S.No.	Partner Name	Planned Dissemination Activities
1	IDIAP	Besides the conference and journal submissions, Idiap will also target several workshops organised nationally (at Switzerland) or at EU level to disseminate results from the ROXANNE project. Usual conferences related to speech processing are Interpseech, Icassp, ASRU and Odyssey. They are routinely followed by the speech and audio processing community worldwide. In case of journal submissions, we aim focusing on TASLP, Speech communications and Signal processing letters. Hackathon !!!!
2	TRI	TRI will attend conferences to present papers about work done on ROXANNE and publish these papers in leading journals. TRI will also be writing blogs about its work on ROXANNE, in addition to sharing information about it through its social media channels.
3	BUT	BUT will be active in academic dissemination, mainly in respected **journals**: Speech Communication, IEEE/ACM Transactions on Audio, Speech, and Language Processing, IEEE Signal Processing Letters, Computer Speech and Language, IEEE Journal of Selected Topics in Signal Processing, and at **conferences and workshops**: ISCA Interspeech, IEEE International conference on acoustic, speech and signal processing (ICASSP), IEEE Automatic speech recognition and understanding workshop (ASRU), IEEE Spoken Language Technology conference (SLT), ISCA Odyssey: the speaker and language recognition workshop. As BUT is an educational institution, it will promote ROXANNE as part of activities of the BUT speech group.
4	PHO	We have created a section at our official website in section Projects and grants with link to ROXANNE project official web page. Phonexia will also present dissemination results from ROXANNE projects at multiple conferences and exhibitions all around the world. We are connected with ROXANNE project via our social media accounts such as LinkedIn, Twitter and Facebook and we want to follow, share and mention activities of official accounts. We also plan to prepare our own tweets once anything interesting happens.
5	SAIL	SAIL will feature project-related news and activities on its website and customer newsletters, disseminate the project results at the conferences, trade shows and exhibitions, and communicate about the project through its Twitter and LinkedIn accounts.
6	CAP	Capgemini will be actively promoting the project on various social media platforms. We will also be publishing information about this project on our website to ensure greater reach. Other than that, we would be presenting the project in internal group conferences as well as external events to highlight the significance and impact of the work being done. We have also presented this project in Analyst and advisory day event at Capgemini premises (on 4th and 5th December 2019) which has seen participation from key industry players. Further, we have designed a brochure (with support of all the project partners) for the project and we intend to spearhead dissemination activities throughout the project's duration.
7	INTERPOL	INTERPOL created a project dedicated page on its official website, it will be regularly updated with project milestones, press releases and other significant events and activities. In addition, it provides project updates to its member countries through internal communication channels such as the intranet, its regular institutional events i.e. yearly Heads of National Central Bureaus conference, social media channels (LinkedIn, Twitter), etc.
8	USAAR	USAAR will present their research achievements related to ROXANNE at conferences and in publications. Additionally, it will present ROXANNE to the general public and technical experts through press communications and participation in suited events.
9	KEMEA	KEMEA aims to support ROXANNE's consortium dissemination strategy, defining and

		executing also its own dissemination plan. With regard to the former, KEMEA aims to complement in the following activities: • Regularly disseminate the project website and social media pages, as well as upload relevant material on them • Organise and actively participate in dissemination events • Prepare informative material for dissemination to the media, along with scientific journals and conference presentations • Raise awareness among the targeted stakeholders As far as the individual dissemination plan is concerned, KEMEA, with respect to the consortium's outreach strategy, having strong links under its constitutional law with end users from LEA communities as well as with all supervised by the Hellenic Ministry of Citizen Protection Agencies, will bring and promote ROXANNE solutions to the attention of: • End Users Communities in the prevention domain as a division of a LEA • Industry and technical experts acting in cybersecurity industry • Academia with interest in the cyber-domain • Policy Makers at national level • Related research projects. KEMEA dissemination strategy plans to gradually utilize all the dissemination tools that will become available from the ROXANNE consortium, promoting the tangible results of the ROXANNE project within its professional network, thus maintaining their interest in the project's scope active, and engaging them in future activities.
10	LUH	As an academic partner, LUH will use its position in the academic community to disseminate research and technology results into other fields of application and thus generate a multiplier effect for the further development of the worldwide state-of-the-art. With regards to partnering for commercial exploitation, technologies developed by or in collaboration with LUH can also be made available as open source software.
11	UCSC	UCSC will present the research based on ROXANNE at criminological conferences and in scientific publications as listed in the sections above. Furthermore, UCSC will contribute to the general dissemination of the final results of ROXANNE with articles and posts disseminated though traditional media and social media channels
12	AEGIS	AEGIS raises awareness of ROXANNE project by including a webpage, under Research projects subsection, about its ambition, objectives and approach, as well as about the role of AEGIS in the consortium. Furthermore, AEGIS communications team is engaged with ROXANNE social media activities in a bi-directional way; by following ROXANNE accounts and extending their reach to the extensive affiliate network of AEGIS, by reading new posts authored by other partners and commenting on their novelty, by sharing interesting project results and demonstrating their importance for LEAs and other stakeholders, by disseminating project results to key industry fora and workshops.
13	AIRBUS	A dedicated page describing the project is already published on the intranet, this will allow ROXANNE to benefit from Airbus marketing and communication actions. Airbus will present intermediate and final results through internal and external demonstrations during dedicated events. Airbus will make the ROXANNE project benefit from its proximity to defense and security customers in order to carry out dissemination actions with high impact directly on the relevant market segment.
14	PCR	Police of the Czech Republic (PCR) will post an article about the project on the intranet website. The Police intranet is a widely used communication network by police officers and employees of PCR. It has got a potential of around 50 000 viewers.
15	MIA	National level dissemination with other colleagues and police practitioners will be pursued.
16	LTEC	LTEC will publish actual information about ROXANNE project on their official website. Also, we will present ROXANNE achievements at the meetings with police and other LEAs within Lithuania, as well as at the international congress "Criminalistics and forensic expertology: science, studies, practice" held by Lithuanian criminalist's association.

17	PSNI	National level dissemination with other colleagues and police practitioners will be pursued.
18	ADITESS	ADITESS will give contribution on the scientific dissemination of the project with supporting the preparation of papers targeting international conferences and journals. ADITESS will support the online dissemination strategy as well through use of social media and online news portals. Dissemination of printed version of brochures, newsletters on conferences, workshops, meetings with subjects potentially interested on the project' outputs. ADITESS will organise several meetings with potential end-users at local level in order to create a target group interested in the project development, and to receive relevant feedback. Such meetings will be held anytime, and potential stakeholder will be contacted in the future. Important dissemination tool that could be combined with exploitation activities is the relationship of ADITESS with key stakeholder players in Cypriot Market. These relationships will have a high impact in the dissemination and exploitation of the project's solution in the Cypriot environment. • Cyprus Police: ADITESS has a previous successful collaboration relationship with Cyprus Police. The promotion actions with this stakeholder could generate revenue, so this action is related as well with exploitation of the project. • Academic Institutions: ADITESS has a previous successful collaboration relationship with different Universities in Cyprus. The possibility of co-organizing a promotional workshop by the end of the project will increase the promotion of the project's solution to the Cypriot stakeholders. • (Combination of dissemination & exploitation actions) Enterprise Europe Network Cyprus (http://www.bsccyprus.org.cy part of www.een.ec.europa.eu). ADITESS will present the project's solution to the Cyprus Research Promotion Foundation which is the coordinator of the EEN Cyprus. ADITESS has an experience in using all the tools of EEN in order to best exploit the project's solution in all the countries that EEN offer its services. Through the use of the EEN network is expected the offer of collaboration, commercialization possibilities, potential joint ventures with other stakeholders and immediate interested parties that could help in the expansion of the project's solution' commercialisation. Moreover, services, tools and funds from the Cyprus Research Promotion Foundation will be used in order to nationally or Internationally patent the parts of project's solution that can be patented.
19	MUP	MUP will promote ROXANNE project at web page of Ministry of Interior for at least once per year. We will also write an article for Police and Security Journal during 2021 and present the work at annual Croatian Police College conference. Additionally, we will have poster presentation at CYSEC conference. Other ways of dissemination are among the Croatian Police College students, once we will have something practical to present. Members of Croatian team will share posts on their Twitter, LinkedIn and Facebook accounts.
20	NFI	NFI will promote ROXANNE at police and other LEAs within the Netherlands, via the professional network of members of the ROXANNE team at NFI, as well as meetings (conferences, symposia) with investigators, data scientists, forensic specialists and decision makers. NFI will contribute to the scientific community by publishing in scientific journals, and we will attend international conferences. NFI will target the general audience via our own communication channels, including @NFI, the corporate magazine of NFI.
21	ITML	• In our official website and in the section Current R&D Projects, we have created a subsection for ROXANNE project including Summary; The Role of ITML; Link to ROXANNE project official web page. • We are connected with ROXANNE project via our social media accounts (LinkedIn, Twitter, Facebook) by sharing, following the activity of official accounts or by mentioning them. • We have produced and printed leaflet about our current R&D projects. In that, ROXANNE is presented in terms of both project description and our activities. (QR code included)

22	MOPS-INP	National level dissemination with other colleagues and police practitioners will be pursued.
23	HP	Concerning the dissemination activities of ROXANNE, HP plans to implement the following actions: • HP will place a permanent banner on Hellenic Police's website main/home webpage, which links to another webpage with the logo of the ROXANNE program. Clicking the logo will redirect to a webpage with the project's description and link to its official website. The descriptions will be available in both Greek and English languages. • HP will also publish a 1-2 page article on the Hellenic Police's official magazine "Hellenic Police Review". • HP will issue a statement about the participation in ROXANNE, which will be uploaded on Hellenic Police's website. As a secondary communication channel, HP shall post relevant announcements on the Official Social Media accounts of Hellenic Police.
24	AGS	National level dissemination with other colleagues and police practitioners will be pursued.

3. Reporting on current dissemination activities

3.1. Dissemination by Official Handles of the Project As on 13th Feb 2020

Platform	No. of Posts/Blogs	Reach
LinkedIn	6	56 page views and 54 connections
Twitter	10	11,307 tweet impressions; 60 total followers
Website	4 Blogs & 294 Pageviews	Traffic Details

3.2. Dissemination by Consortium As on 13th Feb 2020

Summary

Type of Activity	No. of Instances
Conference (organised)	2
Workshop (organised)	0
Conference (attended)	3
Workshop (attended)	0
Other event (attended)	1
Press release	2
Scientific and Peer-reviewed publication	0
Non-scientific and non-peer-reviewed publication (popularised publication)	0
Exhibition	0
Distributed flyers	0
Training	0
Social media	38
Communication campaign (e.g. Newsletter, Radio, TV)	3
Brokerage event	0
Pitch event	0
Trade fair	0
Participation in activities organized jointly with other H2020 projects	1
Other	1

Detailed Dissemination Report

Conferences organized:

Partner	Event title	Date	Link	Reach

BUT	Interspeech 2021	09/2021 Brno, Czech R.	https://www.interspeech2021.org/	2000
PHO	Interspeech 2021	09/2021 Brno, Czech R.	https://www.interspeech2021.org/	2000

Conferences attended:

Partner	Event title	Date & Place	Link	Reach
SAIL, BUT, IDIAP, PHO	Interspeech 2019	15-19.09.2019 Graz, Austria	https://www.interspeech2019.org/	50-100
CAP	Analyst & Advisor Day at Capgemini	04.12.2019 Paris, France	-	15-17 industry players
USAAR	Germany International Symposium on Text-mining for Police Analysts	27.11.2019 Ulm	https://www.presseportal.de/blaulicht/pm/110979/4452414	65 police analysts and industry

Other events attended:

Partner	Event title	Date	Link	Reach
IDIAP	Armausisse (Poster presented)	11/11/2019	https://www.ar.admin.ch/fr/aktuell/veranstaltungen1.detail.event.html/ar-internet/events/events_w-t/2019/swiss_ecosystem_defence_innovation.html	
BUT	Seminar "Speech technologies"	22/8/2019	Seminar organized by Czech LEAs and intelligence agencies, no public web page	50

Press Release:

Partner	Event title	Date	Link
USAAR	German Newspaper - "Researchers want to make it easier to eavesdrop on calls"	7.11.2019	https://www.sueddeutsche.de/wissen/wissenschaft-saarbruecken-forscher-wollen-das-abhoeren-von-telefonaten-erleichtern-dpa.urn-newsml-dpa-com-20090101-191107-99-616897
INTERPOL	Real Time Network, Text, and Speaker Analytics for Combating Organized Crime (ROXANNE) project	3.10.2019	https://www.interpol.int/News-and-Events/News/2019/Real-Time-Network-Text-and-Speaker-Analytics-for-Combating-Organized-Crime-ROXANNE-project

Non- Scientific publications:

Partner	Event title	Date	Link	Reach
BUT	Svedu vedu	13/6/2019	https://www.hvezdarna.cz/?p=7951 mentioning ROXANNE as part of Brno speech research presentation (publicity before the start of project)	100

Social Media:

Partner	Date	Platform	Link
AEGIS	10/4/2019	Twitter	https://twitter.com/AegisITResearch/status/1180058106035933185
SAIL LABS	8/10/2019	LinkedIn	https://www.linkedin.com/posts/sail-labs_kick-off-of-the-roxanne-project-activity-6585892946309193728-6gfs
IDIAP	10/1/2019	Web	https://www.idiap.ch/en/scientific-research/projects/ROXANNE
IDIAP	10/1/2019	Web	https://www.idiap.ch/en/allnews/police-forces-plan-to-use-artificial-intelligence-to-speed-up-their-investigations
MUP	30/10/2019	LinkedIn	https://www.linkedin.com/posts/damirosterman_lawenforcementagencies-industry-academia-activity-6595223748461281280-NX2a
SAIL LABS	8/10/2019	Twitter	https://twitter.com/saillabs/status/1180125367706804224
MUP	14/11/2019	Twitter	https://twitter.com/DamirOsterman/status/1194983110838018048
IDIAP	01/10/20119	Web	www.roxanne-euproject.org
INTERPOL	3/10/2019	Web	https://www.interpol.int/News-and-Events/News/2019/Real-Time-Network-Text-and-Speaker-Analytics-for-Combating-Organized-Crime-ROXANNE-project
SAIL LABS	8/10/2019	Web	https://www.sail-labs.com/2019/10/02/kick-off-of-the-roxanne-project/
KEMEA	16/10.2019	Web	http://www.kemea.gr/en/news/latest-news/769-real-time-network-text-and-speaker-analytics-for-combating-organized-crime-roxanne-project-kick-off-meeting
MUP	15/10/2019	Web	https://mup.gov.hr/vijesti-8/ministarstvo-unutarnjih-poslova-zapocelo-je-s-aktivnostima-u-sklopu-projekta-roxanne/285871
IDIAP	17/10/2019	Web	https://www.idiap.ch/en/allnews/police-forces-plan-to-use-artificial-intelligence-to-speed-up-their-investigations
IDIAP	17/10/2019	LinkedIn	https://www.linkedin.com/posts/idiap-research-institute_h2020-policeforce-interpol-activity-6590521642462642176-mCZi
LTEC	22/11/2019	Web	Official website post - http://www.ltec.lt/index.php?id=1088 - "We started another EU-funded project"
ADITESS	11/1/2019	Web	https://aditess.com/main/2019/12/04/aditess-part-of-roxanne-project-regarding-technologies-that-fight-crime-and-terrorism/
ADITESS	4/11/2019	Twitter	https://twitter.com/aditesscy/status/1202131031211552768?s=20
UCSC	11/11/2019	Twitter	https://twitter.com/transcrime/status/1193858883216924673
UCSC	11/11/2019	LinkedIn	https://www.linkedin.com/posts/transcrime_activity-6599634839572492288-8NzT/
INTERPOL	3/9/2019	Web	https://www.interpol.int/News-and-Events/News/2019/Real-Time-Network-Text-and-Speaker-Analytics-for-Combating-

			Organized-Crime-ROXANNE-project
ITML	9/12/2019	LinkedIn	https://www.linkedin.com/feed/update/urn:li:activity:6577819331172802560
ITML	9/12/2019	Twitter	https://twitter.com/ITMLGR/status/1172058618067410944?s=20
ITML	9/12/2019	Facebook	https://www.facebook.com/itmlsolutions/posts/1627787100684702
INTERPOL	17/12/2019	Web	https://www.interpol.int/Who-we-are/Legal-framework/Information-communications-and-technology-ICT-law-projects/ROXANNE
AEGIS	20/12/2019	Twitter	https://twitter.com/AegisITResearch/status/1207985849369018370
ADITESS	19/12/2019	Twitter	https://twitter.com/aditesscy/status/1207672664543956993?s=20
ADITESS	23/12/2019	Twitter	https://twitter.com/ROXANNE_project/status/1209082667548983298?s=20
ADITESS	14/1/2020	Twitter	https://twitter.com/aditesscy/status/1217000063051931648?s=20
ADITESS	16/1/2021	Twitter	https://twitter.com/ROXANNE_project/status/1216762250771533824?s=20
UCSC	13/01/2020	Twitter	https://twitter.com/ROXANNE_project/status/1216762250771533824
AEGIS	24/01/2020	Twitter	https://twitter.com/AegisITResearch/status/1220668513347608577
ADITESS	31/01/2020	Twitter	https://twitter.com/aditesscy/status/1223143265848975363?s=20
ADITESS	31/01/2020	LinkedIn	https://www.linkedin.com/feed/update/urn:li:activity:6628921729555193856
ADITESS	31/01/2020	LinkedIn	https://www.linkedin.com/feed/update/urn:li:activity:6628927550657748992
ADITESS	31/01/2020	LinkedIn	https://www.linkedin.com/feed/update/urn:li:activity:6628947893426413568
ITML	28/01/2020	LinkedIn	https://www.linkedin.com/feed/update/6627887778204000257
ITML	28/01/2020	Twitter	https://twitter.com/ITMLGR/status/1222120842294853632?s=20
ITML	28/01/2020	Facebook	https://www.facebook.com/itmlsolutions/posts/1775893509207393
PHO	29/01/2020	Twitter	https://twitter.com/ROXANNE_project/status/1222563836538105861?s=20
MIA	10 02 2020	LinkedIn	https://www.linkedin.com/posts/claudiuchiriac_speechrecognition-naturallanguageprocessing-activity-6630451992504348673-qagY
MIA	17 11 2019	LinkedIn	https://www.linkedin.com/posts/activity-6594217668260184064-vQd1

Communication Campaigns:

Partner	Topic and purpose of campaign	Date	Link
SAIL	Newsletter	17/10/2019	Digital Means

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USAAR	Radio Interview	11/1/2019	Press release to DLF: (https://en.wikipedia.org/wiki/Deutschlandfunk)
USAAR	Radio Podcast	02/01/2020	Radio interview with SWR podcast "Netzagenten" (https://www.ardaudiothek.de/netzagent/mit-spracherkennung-gegen-das-organisierte-verbrechen/70468096)

Activities with other H2020 projects:

Partner	Date & Place	Type of other activity	Name of other project/s involved	Reach
SAIL, LUH	20-21/11/2019 Malta	Consortium meeting	H2020 MIRROR	10-15

Others:

Partner	Date	Type of activity	Reach
INTERPOL	19/11/2019	Permanent publication presenting the ROXANNE project goals and link to official project website	Posted information on internal dashboard - accessible to all 194 NCBs
MIA	21 11 2019	Updating own website with link to ROXANNE project (http://www.cercetare.mai.gov.ro/cercetare-dezvoltare-si-inovare/orizont-2020/)	Link to official page

4. Exploitation Plan

Exploitation is about the use of results in further research other than those included in the related activity or in the production, creation and promotion of a product or process or in the creation and delivery of a service or in standardization activities. The aim is to make concrete use of the outcomes of the project. This could be the companies outside the project that are part of the collaboration as well as user groups.

Currently ROXANNE project is in its preliminary stage which has more to do with spreading awareness about the project and creating valuable assets and outcomes which can later be exploited in varied manner. The exploitation will primarily take place in Year 3 of the project.

Going forward we intend to take following steps to ensure timely exploitation of project outcomes:

1. Mapping of exploitable project results

2. Listing key barriers, obstacles and strategy to overcome them

3. Finalising access to project outcomes

4. Mapping exploitable results to each partner

5. Creating business plan while addressing IPR (Intellectual Property Rights) of the project

All the dissemination tools and activities mentioned above will further come in handy to ensure optimised and comprehensive exploitation of the project's results.

The preliminary business and exploitation plan proposed is as follows:
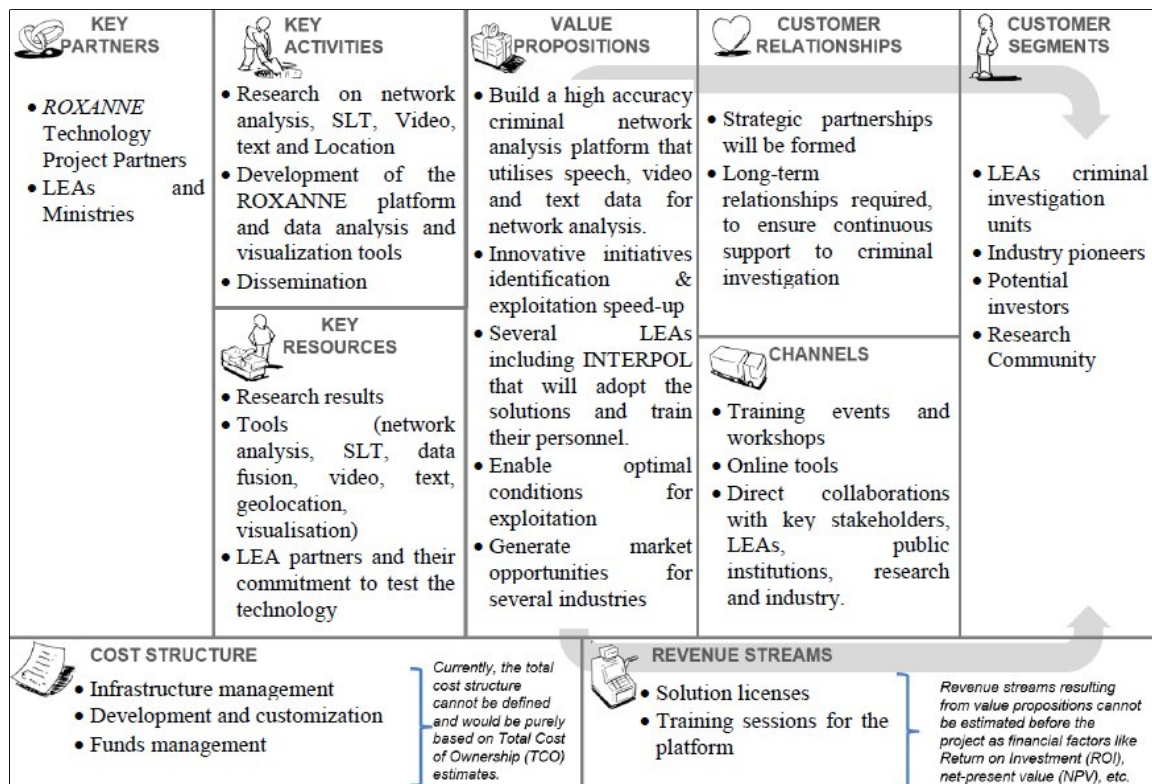
4.1. Intellectual properties per partner and planned commercialization

The following table gives an overview of the IPRs which have been set before the project start.

Partner with IPR (planned protection)	Background	Envisioned Exploitable Foreground	Potential product/ service	Market segment	Time to market	Plans for commercialisation
IDIAP ©	DBOX, Malorca ASR system, EMIME text-to- speech	Multilingual ASR system incl. domain/speaker adaptation	Adaptable speech-to- text engine	Voice search and transcription	Ready to use in general domain	Non-exclusive license
ADITESS ©	Data management and fusion (aditess-CMS), Security enforcement for data integrity	Further enhancement of the already implemented tool for enhanced fusion and connection to external repositories	New plugins for data fusion and external interfaces	Real time data correlation, data integration and portability	Ready to use in general domain	Non-exclusive license
AEGIS ©	Forensics visualization toolkit (FVT); Forensics services.	Digital investigation, analysis of digital evidence and advanced visualizations for combating organized crime	Enhancing FVT	1) cyber forensics experts doing post-incident analysis, 2) Professionals and SMEs that handle sensitive data (doctors, lawyers), 3) IT security experts who monitor company's critical infrastructure (e.g., large industries and governmental organizations)	Fine-tuning is needed according to the domain	Non-exclusive license and open source
AIRBUS ©	WebLab, Fortion Media Mining	Specific development on top of WebLab / Fortion Media Mining Development of video processing	Integration platform. Component for video processing.	Intelligence market. Integration in airbus' fortion family of products, video analytics.	Ready to use in general domain	Non-exclusive license and open source
BUT	Framework for multi-lingual ASR	Multi-lingual ASR system, adaptation to new languages	Speech data mining applications	Speech data mining for investigation	Ready to use in general domain	Non-exclusive license
BUT	BUT DNN SID. Bayesian speaker diarisation	Increasing robustness of SID and diarisation	Speech data mining applications and services	Speech data mining for investigation	Ready to use in general domain	Non-exclusive license

ITML ©	Data Fusion Bus (DFB)	Modality sensitive autonomous fusion agents for data aggregation	Scalable multi-stream data fusion services for sentiment analysis, forensic analytics and reputation management	Data processing, social media analysis, sensor data platforms	Ready to use in general domain	Non-exclusive license
LUH ©	Stanford's and Apache NLP libs for text processing; SNAP network mining; social influence analysis; entity resolution and link discovery; Gephi libs	ROXANNE network construction, networks' community detection, profiling, and monitoring, influencer identification and tracking	Novel methods, algorithms, and components for multilayer, multimodal, and heterogeneous structural network analysis and mining	Social network and social influence analysis	Ready to use in general domain	Non-exclusive license and open source
Phonexia	Phonexia Speech Engine (SPE)	Specific development on top of SPE	Integration platform. Component for audio processing.	Intelligence market. Integration in integrator's (airbus) product, audio analytics.	Ready to use	Has to be licensed by phonexia, based on phonexia's pricing
SAIL	MMS, Media Mining Feeder Media Mining Indexer (ASR, NED, Topic Detection, Sentiment Analysis	Multilingual ASR models, CAVA (continuous adaptive vocabulary and language model adaptation - dynamic, semi-automatic adaptation of ASR models)	Model which are re-published and updated on a continuous basis. Downloadable by clients on a subscription basis	Technical departments of existing clients (sail already offers training for the creation/adaptation of models via an existing toolkit	Toolkit in alpha- state	Yes, within 6 months
SAIL	ASR components	ASR engine and models for multiple languages, domains	Offering of asr technology (engine and models) for weblab	All markets addressed by weblab. All customers employing asr technology customers with requirement of asr	Immediately upon successful integration within weblab	Yes, gradually as models get developed, staged-roll-out depending on progress
USAAR ©	RelationFactory	ROXANNE Relations extraction module	Key component for information extraction/retrieval system	Multiple market segments, e.g. Analytics, opinion tracking, etc.	Ready to use in general domain	Non-exclusive license
USAAR ©	Saarland NER	ROXANNE Entity recognition and extraction module	Key component for information extraction/retrieval system	Multiple market segments, e.g. Question answering or search	Ready to use in general domain	Non-exclusive license
USAAR ©	Distant Supervision NER Labeler	Production of NER training data based on unannotated text and entity lists	Providing of training data for low-resource entity recognition	Low-resource markets with need of entity	Ready to use in general domain	Non-exclusive license

4.2. Individual Exploitation Plan

This section reviews the individual exploitation plan of the partners of the ROXANNE consortium. Partners except for IDIAP (the project coordinator) are listed by alphabetical order.

4.2.1 IDIAP

Idiap is a non-profit research institute, and thus does not aim to commercialize the technology developed in ROXANNE directly. Nevertheless, one of main Idiap's motivation is a technology transfer. We aim at maximising the possibility that the ROXANNE platform will be offered to industry, all together with background technology as well as jointly developed modules in the project.

We therefore will target several following directions:
  o supporting any industrial partner to deploy the developed ROXANNE technology to its commercial portfolio, with long-life duration, making it attractive for LEA customers
  o proposing the technology developed in ROXANNE to turn it into an open source code to be freely available to any European LEA. This steps have already been partially discussed with other technical partners, and we indicated several challenges to make it possible (e.g. code maintenance after the end of project).
  o cooperating with many Swiss or international companies such as Uniphore (U.S.), Recapp (CH), Crealogix (CH), etc. to offer the technology to them.
  o a researcher working on ROXANNE project at Idiap to build a start-up with some of the technology developed in ROXANNE for LEAs. One of potential direction is a forensic speech processing, which is of larger and larger interest among LEAs. This activity could be supported by several initiatives such as ICC[4] (International Create Challenge), a long duration event (e.g. such as a week-long hackathon) to implement some of the ideas generated from the project into a simple/preliminary product. ICC has been organised at Idiap from 2012, and many start-ups were originated from this event.

Idiap comprises a unit fully dedicated to technology transfer - with experienced developers which can turn a research idea into a useful SW which can be shared with others (e.g. interested industrial partner).

With respect to IPR, Idiap is open for any reasonable cooperation. Although it is not practical to support a long-term maintenance of the developed SW, Idiap fully supports non-exclusive IPR with various simple contracts (e.g. payment only in case of livable product, etc.).

4.2.2 ADITESS LTD

ADITESS the previous years has invested in R&D in the topic of the project. This has resulted in participating in the consortium of EU project "Cyprus Cybercrime Center of Excellence-3CE" (http://www.3ce.cy/en/) as well as in different collaboration projects with Cyprus Police. ADITESS is a sponsor and member of European Neighbourhood Watch Association (EUNWA). The EUNWA' Platform will be used to introduce the project's solution to end users as well as make potential pilot testing. Exploitation actions are described as combined action in the Individual Dissemination Plan of ADITESS.

ADITESS is interested in:
  o keeping the ownership of any results generated exclusively from ADITESS IP and from work performed exclusively by ADITESS and have joint ownership regarding results which are generated by ADITESS in collaboration with one or more other partners. Moreover, ADITESS will improve the expertise in areas such as
  o Create patents to protect the foreground IP of the consortium where possible.
  o After the project is completed, exploit the results and generate revenue by commercialising the project's solutions by having the option to deploy the full system without restrictions in

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[4] http://www.createchallenge.org/

cooperation with other partners, based on a previously-agreed contract and licensing agreement.

All the above, will increase the ADITESS' position in Cypriot market as well as will introduce ADITESS as an innovative company expert in her field that provides state of art solutions. This aspect will help in the better commercialization of all ADITESS product/services in Cypriot market as well as in other areas that ADITESS operates e.g. Balkans and Middle East. Moreover, an increase in the revenue from these product/services' commercialization is expected to help the company expand her scientific and business competences.

4.2.3 AEGIS

AEGIS IT RESEARCH is a research and development company based in Germany developing and managing innovative IT solutions for numerous business sectors. AEGIS' main areas of expertise include, Forensic Digital Investigations, adaptive Big Data visualization systems, Geographical Information Systems, secure embedded platforms, access control and network security systems, privacy preserving systems, enterprise web applications and all the lifecycle of IT systems (design, development, deployment, optimisation and maintenance).

AEGIS has a long-term involvement in security solutions offering:
  o Forensics digital investigation (e.g. consultation, collection and analysis of digital evidence; analysis of Critical Infrastructures);
  o Forensics services (e.g. Preconfigured views and Timeline analysis) that are based on AEGIS backend framework empowered with correlation algorithms;
  o AEGIS Forensics Visualization Toolkit; it has already been operated for forensics digital analysis and investigations, and big data advanced visualizations;
  o Consulting services (e.g. penetration testing, design and implementation of secure network solutions, etc.) and
  o Systems such as the virtual firewall and the secure gateway.

Forensics Visualisation Toolkit (FVT) is an extensible software (TRL 6) with a wide application scope, ranging from Digital Forensic Analysis to Big Data Analytics. The toolkit has been successfully used in analysing digital evidence of security incidents and is currently being further developed in the context of research projects so as to offer better visualisation capabilities in various domains.

A business model canvas of FVT, providing key information about the short-term individual exploitation plan of AEGIS, is shown in the figure below.
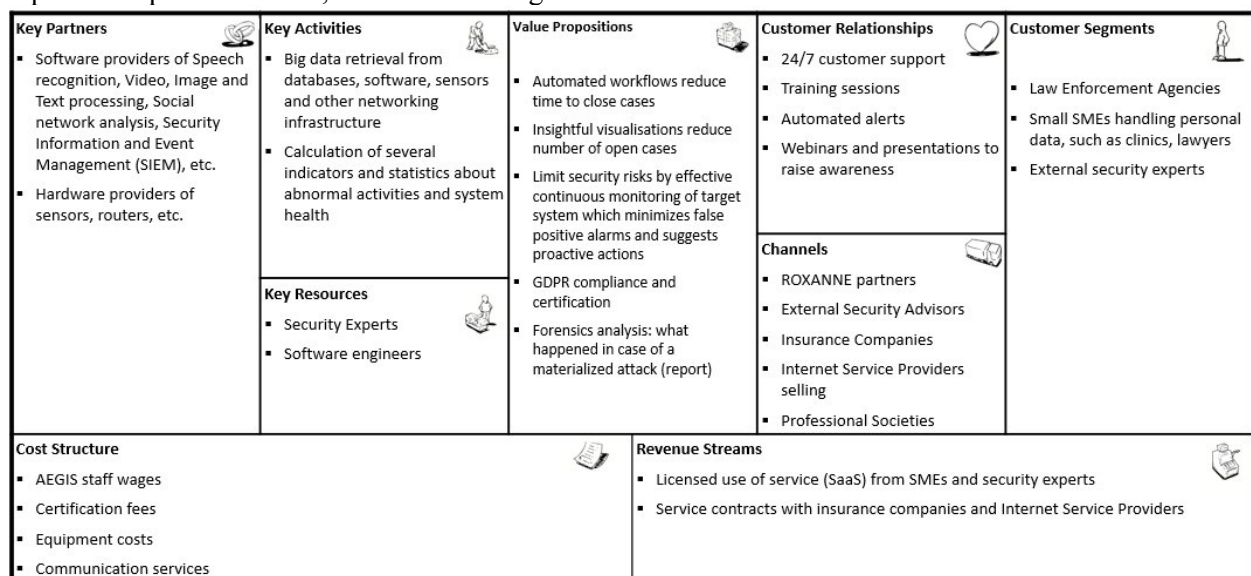

Figure: The Business Model canvas for AEGIS Forensics Visualisation Toolkit

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4.2.4 AIRBUS

Among the various divisions of Airbus Defence and Space, Intelligence delivers value added solutions to customers in 100+ countries. In a context where data are exploding and human resources limited, Airbus has been developing a specific solution to support and improve the efficiency of analysts of different domains (defence, security, international organisations, etc.). This solution allows for more flexibility and the automation of manual activities so that the analysts can focus on value added tasks. Typical use cases include counterespionage, post operation situation analysis, natural disaster monitoring & response, critical infrastructure monitoring, radicalisation & terrorism threats, mission preparation.

The Massive Intelligence solution provides a multi-INT, multi-source platform combining Open Source Intelligence (OSINT), Geo-Spatial Intelligence (GEOINT), Communication Intelligence (COMINT), Human Intelligence (HUMINT), Cyber Intelligence (CYBERINT), Image Intelligence (IMINT), Electronic Intelligence (ELINT) and Environment data. This scalable modular platform can be tailored and adapted to the needs of the targeted analyst. The platform is able to collect/ingest massive amount of data from multiple sources, process the data thanks to various AI-based analytics (e.g. transcription, translation, predictive analysis, week signal detection, etc.), and make automatic fusion and correlation of multi-source information. Additional exploitation tools (e.g. maps, statistics, visualisation/dashboard, knowledge database) are integrated to support the analyst as well as alert mechanisms and reporting tools.

The technologies developed with the Roxanne project perfectly fit with the business and the technology roadmaps of the Massive Intelligence solution. Our OSINT- based service relies on the Fortion® Media Mining tool (aka WebLab) and our COMINT-based service relies on the Fortion® Comint Analyst product. Both these tools can directly benefit from the developments being made in Roxanne. Airbus will seek commercial agreements to integrate, either in the Massive Intelligence solution or in the Fortion® family of tools, new disruptive analytics solutions being developed by the Roxanne partners.

4.2.5 BUT

In the direct commercialization of ROXANNE results, BUT mainly relies on its expertise in producing quality R&D results in speech data mining. As a laboratory capable of turning speech and language data into models for speech data mining, it is, and it will continue to produce algorithms and models for automatic speech recognition (ASR) and speaker recognition (SR). The commercial and legal frameworks for this activity rely either on R&D contracts or licensing the technology.

So far, such contracts and licensing have mainly taken place with BUT's spin-off Phonexia, this implies strong influence of BUT on the ROXANNE outcomes. Via ROXANNE, BUT is also maintaining its close cooperation with the customers of speech data mining technologies (LEAs, integrators), thus maximizing the impact its research is doing for the real application world.

Phonexia is however not the only commercial partner of BUT and activities are running with other companies, for example Raytheon BBN (USA) and banking security consultancy companies (data, models and consultancy on speaker verification systems). BUT had also research contracts with Ericsson (Sweden) and NTT (Japan) and Google (USA), and is negotiating others - these are and will be profiting from core speech data mining technologies ROXANNE helped to develop.

BUT will make use of ROXANNE results to further promote its results, within Horizon 2020 (after the launch of ROXANNE, two other H2020 projects have started with the BUT Speech@FIT group participation), and in national and broader international context (U.S. funding agencies).

4.2.6 Capgemini

Capgemini works closely with various industry partners and institutions across the globe. We intend to take the learnings from the project to find its application in various other sectors where speech analytics might help and try to connect the stakeholders with the consortium partners to perform market analysis and analysis of competitors. The detailed individual exploitation plan will be published at a later stage in the project.

4.2.7 ITML

ITML will actively participate to deliver advancements in the multi-disciplinary technological field which contributes in the fight against crime and investigation. ***ROXANNE*** offers the opportunity work with law enforcement agencies and to explore thoroughly the field of data collection tools. *ITML*'s main goal is to work extensively on publicly available sources. These sources can be anything from websites, blogs, forums and most of all social media. Collected data in the format of text, audio and video and must be stored in an appropriate digitized format for further analysis to face and investigate incidents of possible criminal character. *ITML*'s effort and contribution will target on the identification of the most suitable framework that would be easily embedded in the stand-alone Data Fusion Bus (DFB) platform. During ***ROXANNE*** project, DFB platform will be used and tested via social media data ingestion and further development will take place while trying to identify patterns that describe possible criminal networks and express relations. The latter analysis is well-known as Social Network Analysis (SNA) and ITML is extremely interested on it. This collaborative work will extend the expertise of *ITML* in Data Analysis and particularly in a landscape where all involved partners try to identify and investigate physical and/or cyber-attacks. Simultaneously, we are extremely sensitive on privacy issues and always deliver evaluation of relevant factors beginning from data collection and ending to data analysis. The outcomes of ***ROXANNE*** will be exploited by *ITML*, by reaching better spot in the EU market and environment of big data analytics and machine learning. Moreover, *ITML* will exploit the project's outcomes by trying to build new collaborations and partnerships in the research domain of Europe but also working at the intersection of academic world and technological industry, bridging the gap between them inside ***ROXANNE***.

4.2.8 KEMEA

KEMEA is a scientific, consulting and research agency, whose purpose is to conduct theoretical and applied research and to perform studies, particularly at the strategic level, on security policies. Being a member of several European associations and organizations it represents the Greek Government as a member of the **"European Security Research and Innovation Forum (ESRIF)"**. Amongst other associations and organizations, KEMEA is a member of the "**Public Safety Communication Europe Forum (PSCE)**", the "**European Association of Research and Technology Organizations**" and has signed a Memorandum of Understanding (MoU) with the **ENLETS** community (European Network of Law Enforcement Technology Services). Since 2016, KEMEA **is a Framework Partner of CEPOL** for the coordination and implementation of training activities and learning products. KEMEA is also a **founding member of the European Organisation for Security (EOS)**, which was created in 2007 by European private sector providers from all domains of security solutions and services. Its members represent all relevant domains of the economy (ICT-Information and Communication Technologies, civil security, energy, transport, finance, services and research) across 13 different European countries. In addition to that, since 2016, KEMEA is a member of the **European Association of Research and Technology** organizations (**EARTO**), which is a non-profit international association established in Brussels that represents the interests of Europe's RTO community towards European institutions and offers its members opportunities for networking and professional improvement. The members of EARTO make a major contribution to strengthening economic competitiveness and social development in Europe by supporting product, process and service innovation in all branches of industry and services, public and private. KEMEA is involved in the activity of the Security Research Working Group of the Association (EARTO

SRG) joining forces to promote joint initiatives in the field of Homeland Security research programming and innovation strategies with the largest and most prominent European research institutions. Finally, KEMEA is a member of the **European Cyber Security Organisation (ECSO) ASBL**, which is a fully self-financed non-for-profit organisation under the Belgian law, established in June 2016. ECSO represents the industry-led contractual counterpart to the European Commission for the implementation of the Cyber Security contractual Public-Private Partnership (cPPP). ECSO members include a wide variety of stakeholders such as large companies, SMEs and Start-ups, research centres, universities, end-users, operators, clusters and association as well as European Member State's local, regional and national administrations, countries part of the European Economic Area (EEA) and the European Free Trade Association (EFTA) and H2020 associated countries.

With regards to ROXANNE project, KEMEA will bring into the attention of all the aforementioned organizations the final results of the project as well as the developed platform for future exploitation opportunities. Finally, KEMEA will exploit the ROXANNE platform and all its components to enhance its research expertise, consultancy services and portfolio in the relevant security domain.

4.2.9 LUH

As an academic partner and public institution, LUH will not perform commercial exploitation of the project's results. LUH will reuse developed algorithms, software and findings acquired during ROXANNE to strengthen own research on social network analysis as well as to support the academic community. Scientific findings within ROXANNE will be reused in lectures and seminars at the University such as "Information Retrieval" and "Advanced Information Retrieval". LUH employs M.Sc. Eric Hoang as a full time doctoral student the outcomes from ROXANE will directly contribute to his doctoral training, and ultimately to the successful completion of his Doctoral thesis on the topics of uncertainty reduction in social networks using graph embeddings. ROXANNE employs also a post-doc, Dr. Tuan-Ahn Hoang, whose work have been a great contribution for academic and industrial partners involved in the projects on topic modelling and social network analysis. For exploitation purposes LUH will propose a number of ROXANNE-related topics for Masters' and Bachelors' theses. We believe that passing and explaining ideas behind ROXANNE to younger students will secure the future development of the project and increase the awareness of the project goals.

In addition, LUH as an organisation offers various programmes, coaching and financing opportunities for spin-off and start-up companies, with which a spin-off can be created on the basis of the technology results produced in the ROXANNE project.

4.2.10 PHONEXIA

Phonexia as technological vendor builds speech technologies that helps to Government and commercial market entities.

We perceive that the amount of traffic increases over time for most of governmental customers. They need to investigate through the bigger network and spend more of their funds on manual processing and analysis. The automation of the current processes is needed to help end-users in their analytical roles.

Phonexia customers are in governmental sector. We recognize these entities LEA, MI/CI, forensic labs. Phonexia main business focus in Roxanne project are LEAs.

LEA invest a high capacity to creation of crime organizations structure, inspect links between members of criminal organization, put enormous time to listening of case audio recordings. Investigations last for years. Investigators can miss some information like speakers, content of speech etc. in large amount of data. Phonexia's expectations are that Roxanne project will lead to creation and industrialization of a new application. Such application should allow automatic filtering of the high load to some reasonable amount for processing by human analytic; finding the content or speaker of interest.

Creating link analysis of an organized crime. Building such structure should be supported by automatic processing of speech, texts, pictures and videos.

Technologies implemented in the application are supposed to be licensed and price of licenses should be later on discussed within Roxanne consortium. It is expected that the type of licensing will be "Price per lifetime license" and there should be set amount audios processed per day.

Price should cover licenses, services (training), maintenance, support, technology adaptation and calibration.

These are achievements Phonexia consider as doable:

at the end of Roxanne project:

- first sales qualified lead (high tens)
- first opportunities with defined opportunity amount, no expected close date (high units)

During the Roxanne realization, we consider project/services outputs as prototypes (beta versions). We will include (if technically doable) prototypes to our production level components (i.e. new languages of STT) so it can be easily integrated by partners in project. Roxanne project is understood to proof prototypes production readiness. When it is done (expected end of Roxanne) we will consider conversion to production stage (product/service).

Phonexia anticipate these risks:

- Technical: Too big dependency on third parties' libraries, change of licensing policy, input audio data quality, training data close to real cases, low accuracy of results on customer data, too complicated/laborious integration on customer side, too complicated to use product/GUI
- Mitigation: careful SW/UX design, detailed technical discussion, good level field test, agile partners, careful data sanitization.
- Business: uncompetitive price, unbalanced business partnership conditions
- Mitigation: business discussion in advance

So far Phonexia does not have business plan ready. It strongly depends on progress of Roxanne project and technological developments. We will reuse new and updated Technologies – mainly new models and new features in Phonexia Speech Platform based on LEA user requirements. All of enhanced or modified models are intellectual property of Phonexia.

4.2.11 SAIL LABS

With the help of ROXANNE, SAIL will diversify its portfolio, open up new markets and market segments in the fields of crime fighting. New markets include law enforcement, border security and critical infrastructure protection organizations and authorities both, on a national and international level, as well as policy makers, governmental institutions, and NGOs.

Within the project, SAIL will integrate ASR, named entity detection, topic detection, sentiment (polarity) detection as core technological components. For optimal results within ROXANNE, these components are adapted towards issues relevant for crime fighting and criminal network analysis. In addition, they are designed to be highly flexible as they are supported by semi-automatic mechanisms to adjust quickly to newly emerging topics, customer needs or markets which eases future exploitation.

For these technologies and focused on the above-mentioned markets, SAIL expects to win approximately 5 to 7 new customers in the first three years after ROXANNE, resulting in an average increase of about 5 % of annual revenue and up to 20 to 40 days of customization and training services associated.
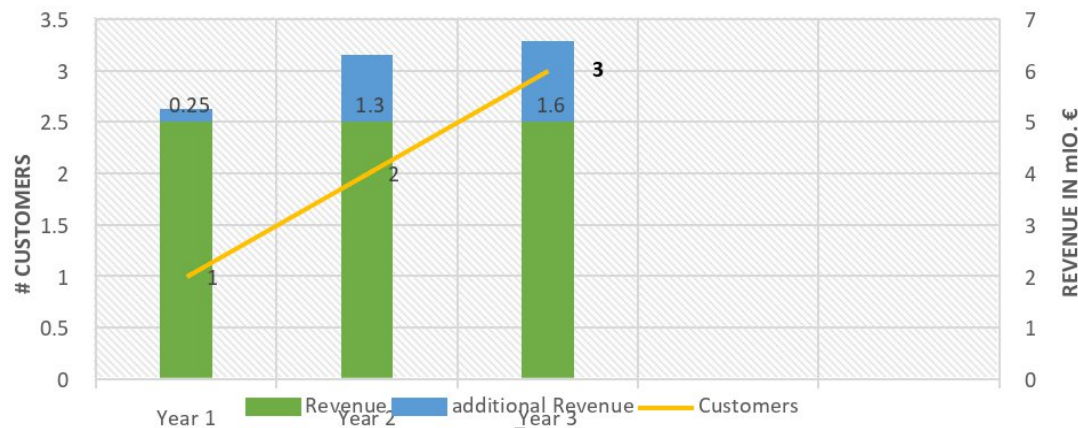
SAIL plans to re-invest part of the earnings to further improve and adjust components and models, thus boosting further commercial activities. Through its close association with Law Enforcement Agencies in ROXANNE, additional network effects and positive exploitation impacts are expected. SAIL plans to offer mutual licenses as well as free trial offers to consortium partners at preferred conditions

4.2.12 Trilateral

Trilateral works on ethical issues across a number of different security projects. It intends to use the results and experience from ROXANNE to feed into improving the ethical analysis and processes it can offer in the future. It is also looking into developing a suite of Ethics Tools which could provide examples of best practice gathered from its work in ROXANNE and other similar projects. These tools will help ensure future research complies with ethical and legal standards, and common societal values. These tools will incorporate concepts related to privacy-by-design and ethics-by-design so that they can be used in future projects. The nature of these tools, and the business model for exploiting them are still under discussion by Trilateral.

4.2.13 USAAR

Saarland University will exploit its developed code and expertise in the areas of natural language processing and machine learning obtained in the ROXANNE project. Being a university, this will mainly occur in the established ways for academic partners in the form of academic publications, patents and follow-up projects.

Saarland University offers many possibilities for start-ups and spin-offs in the form of its "Gründer-Campus Saar" and "EXIST" initiatives as well as the KWT and WuT partners. Due to the attractive job market based on the current AI boom, it is, however, not probable that a company will directly be founded as there are many attractive job offers for graduates of the institute. Instead, Saarland University targets an indirect commercial exploitation in the form of licensing agreements with the ROXANNE partners. Additionally, the institute has intensive contacts to other companies in the language processing sector that would allow such a future exploitation.

4.2.14 USCS

USCS as an academic partner and public institution will not perform commercial exploitation of the project's results. USCS will reuse, expand and adapt the developed algorithms, software and findings acquired during ROXANNE to strengthen own research on the analysis of criminal networks as well as to support the academic community.

4.3. Collective Exploitation Plan

Unlike individual exploitation plans given in Section 4.2, this section describes first steps toward a collective exploitation of ROXANNE results. The discussions on collective exploitation have started recently, on carefully preparing a questionnaire (see its template provided in Annex I, Sec 6.2) to be distributed among all technical project partners. The questionnaire poses principal questions related to market analysis, needs of ROXANNE aimed solutions, investment necessary after the end of ROXANNE project, required maintenance, etc.

As analysing these questions requires sufficient time and better understanding on a platform to be developed and implemented, this section comprises only first ideas. We aim to continue in regular discussions with all technical partners so that a solid understanding and commitment from partners can be ready for M18 (an update of exploitation plan).

The technology developed in ROXANNE has a great commercial potential. Either as a new platform built on standard APIs (i.e. RESTful api) supported by AIRBUS, or its integration with existing platforms already used by various LEAs, we aim to find an optimal solution based on collection of feedback from ROXANNE technological partners, and especially from internal and external (stakeholder board) LEAs.

Potential constraints such as the ownership rights, agreements, contracts and licenses in place will be discussed to explore possible directions to allow a smooth commercial operation.

ROXANNE also has partially analysed and proposed a range of options to manage an IP ownership rights, such as agreements, contracts and licenses. We note that the Consortium Agreement (and the EC rules) stipulate that (in simple words) for the performance of the project, everyone has to provide everything the other partner needs. For commercial exploitation, however, the CA states in article 9.4.1 that "Access Rights to Results if Needed for Exploitation of a Party's own Results shall be granted on Fair and Reasonable conditions", i.e. that the partners need to negotiate the business terms among the producers of results and their users. As stated above, these terms need to be negotiated beforehand, so that the entity commercializing a result will be in a safe position to have any subsequent financial, legal, or other claims of an entity acting as a supplier. The IPR rules of the CA have been discussed in D8.4, Section 7.3.1.

A poll was organised among the ROXANNE partners to ask about their intent to participate in individual exploitation and/or collective exploitation. The results are summarized below:

Partners	Individual Exploitation	Collective Exploitation
IDIAP	Yes	Yes
ADITESS	Yes	Yes
AEGIS	Yes	Yes
AIRBUS	Yes	Yes
BUT	Yes	Yes
CAPGEMINI	Yes	Yes
ITML	Yes	Maybe
KEMEA	Yes	Maybe
LUH	Yes	Yes
MUP	Yes	Maybe
PHONEXIA	Yes	Yes
SAIL LABS	Yes	Yes
TRILATERAL	Yes	Maybe
UCSC	No	Yes
USAAR	Yes	Maybe

In addition, below are some opinions/visions on collective exploitation provided by project partners:

- **IDIAP**: as already stated in a section above, IDIAP will fully support a collective exploitation of ROXANNE project. We will participate on analysis of market, collection of feedback from internal and external LEAs on what type of technology can be viable and industrialized into a profitable product, possibility to offer a part of platform or the full version as free SW to LEAs, etc. All pathways will be carefully analysed, including analysis of IPR schemes to be agreed among all technical partners.

- **AEGIS** : Apart from the plans for individual exploitation described above, AEGIS is actively exploring schemes for combining the Forensics Visualization Toolkit (FVT) with other complementary ROXANNE tools, including the option of a joint venture, the possibility to include FVT as a "white label" software to the solution of ROXANNE partner, the online distribution to customers via a marketplace operated by a ROXANNE partner, etc. Furthermore, AEGIS team can offer a number of supporting services to LEAs (the main target customer) such as integration with existing solutions, configuration / customization, training and consulting. In order to better understand what activities LEAs are currently performing and how effective these are today, what activities they would like to perform but are not supported today, what existing solutions are used today and how satisfied they are, AEGIS is involved in the preparation and analysis of end-user requirements survey.

- **AIRBUS**: in addition to the incorporation of new analytics in its Intelligence portfolio, Airbus is also committed to study the possibility of a collective exploitation of the Roxanne platform as a whole. To that end, Airbus has proposed to all Roxanne partners a questionnaire (see Annex I) to investigate the feasibility of such an approach both from a legal, technical and business perspective. Airbus has started and will continue leading a series of exploitation workshops with the Roxanne partners to address the questions listed in Annex I and try to find a sustainable approach allowing over a short period of time after Roxanne project completion for a profitable exploitation of the platform and all its components.

- **BUT**: BUT fully supports the collective exploitation plan. BUT's contributions to the ROXANNE platform can include scientific approaches and algorithms for improved speaker identification (both alone and in combination with network analysis), algorithms and models for automatic speech recognition, as well as modules for pre-processing of the speech signal and its low-level processing such as voice activity detection and diarization. BUT is also active in the creation of simulated data-set (inspired by a real case provided by LEA partner) - this data-set will not be exploited directly but will be very useful when demonstrating the capabilities of the ROXANNE platform, as well as related outputs.

- **CAPGEMINI**: The industry partners must take the necessary steps of protecting the IP generated as part of their individual exploitation efforts. The consortium will define and implement a set of tools and activities to exploit the project results and will perform field tests for interested end-users and industry stakeholders during project events specifically aiming into helping them exploit the results of the project. The project team will inform the target stakeholders about the project developments and foster the creation of synergies and will encourage the target stakeholders to provide inputs regarding the project outcomes and results. The consortium will also investigate the market and economic benefits from the impact of the research results of the project.
  The consortium must create a business case for the ROXANNE platform taking into consideration the suitable solutions available right now, USP of this product, the need for end-users and the possibility of integration with other tools and services. Capgemini would be assisting other partners in building a business case as and where required.

- **ITML**: D9.3 at M5 consists an interim version of dissemination and exploitation plans which will be updated at M18 and M36. Therefore, we need a preliminary analysis regarding our exploitation plans in terms of our outputs. At this particular time, we can describe in detail our (individual) plans and start building our collaborative activities and related outputs month by month. We should mention that *ROXANNE*'s outputs will be tangible (*ROXANNE* platform) but also non-tangible (dels., methodology). We should not underestimate this work (intellectual). The outputs of *ROXANNE* can be many things listed/grouped in tech categories as for example: tools, apps, SW, methods. Behind

these tech categories a joint exploitation plan may exist and hopefully revealed as time goes by. The outputs of **ROXANNE** can be divided in short-term and long-term ones, with the latter describing at M18 (M36) our overall vision. In that direction, for the structure of D9.3 we need a strategy or in another words an approach that consists of:

Statement of individual interests inside **ROXANNE** based on the content that will be exploited and how this is relevant to **ROXANNE** (**ROXANNE** platform) [AGREED]

- o Examination of possible joint exploitation plans inside **ROXANNE**
- o Description of the opportunities, obstacles and threats for **ROXANNE** project and its platform
- o Record of the need of market analysis (*SLT, NLP, VA and NA tools and services especially oriented for investigations*) and a short description of it (competitors, trends, customer, jobs, etc.)

We can describe how and when (M18) due to D9.5 we will deliver this market analysis. The market analysis will be helpful for all of us but mostly for CAP/TRI (leaders of dissemination, exploitation and communications activities). In that approach there is an opportunity to specify the areas of technology that **ROXANNE** will have most of the opportunities to succeed. Market analysis connected with our offerings (outputs) should describe the technological factors (pros & cons) and how we can create enlargement of the overall gain (out of pros) and shrinkage of problems (out of cons). Our output(s) (e.g. tools, apps, SW, methods and **ROXANNE** platform) must also be connected with the financial factor including possible customers and jobs. The summary of tech and financial factors may lead to a profitable business. An extra option is that this analysis can be targeted in country level or more general in a European level.

- **LUH**: There is mutual exploitation benefit between LUH and ROXANNE. On the one hand, LUH will provide novel methods for social network analysis and take part in research with other technical partners on novel speech recognition methods. On the other hand, LUH will use ROXANNE partner network for accessing data and use cases from security community. ROXANNE will support the opening of other interdisciplinary collaborations - for example, with social scientists, as well as contacts with law enforcing organizations.

  In terms of technological transfer of research into law enforcement, LUH expects to be involved in the future with consultancy activities to stakeholders for adopting, implementing and using the innovative techniques and algorithms developed within the project.

- **SAIL:** In addition to the individual exploitation plans described in Section 4.2.12, SAIL also sees mutual benefit in collective exploitation of the project results, in particular, the ROXANNE platform. In this regard, SAIL will participate in the analysis of market and economic benefits and will share its experience in software/hardware installation and operability. We also intend to actively take part in exploitation of the platform by supporting PoC's or other pre-procurement activities.

  Depending on the end-user needs and commercialization agreements, SAIL may integrate its audio and text processing technologies into the final product. The prerequisite of this, as anticipated, is a safe legal framework comprising the intellectual property rights of the partners' background technologies. SAIL has no objections to offering the foreground to the end-users of the ROXANNE consortium for favorable terms and conditions or for extended trial periods. However, open sourcing of the SAIL technologies and components as part of the platform is not possible from SAIL's perspective. We believe that the leverage effect of the ROXANNE consortium members and their influence and expertise in their respective areas would place the platform to a favorable position in the criminal investigation software market.

- **TRILATERAL**: due to the nature of the work Trilateral does in ROXANNE being legal and ethical analyses, Trilateral are still considering whether it would be possible to join collaborative exploitation. Trilateral will keep up with the discussion on collaborative exploitation and will engage with it if it becomes feasible for Trilateral to do so.

- **USAAR**: We can provide licensing of our technology to other companies. Saarland University offers support for academic spin-offs in general, but due to the current job boom in the AI sector, an USAAR spin-off is unlikely. Exploitation in the form of follow-up (research) projects is possible and welcome. The open-sourcing of technology, as mentioned by CAP, is possible from our side.

- **UCSC**: There is mutual exploitation benefit between UCSC and ROXANNE. UCSC will contribute in the assessment of the added value of network analysis performed on the additional relational information derived from ROXANNE compared to traditional analysis of criminal network (i.e. mostly derived from meetings, telephone calls and contact logs). Furthermore, UCSC will exploit ROXANNE as an important opportunity to access data and contacts for future cooperation for research projects, fostering collaboration among technical partners, social scientists and the law enforcement community.

5. Annex I - Roxanne Exploitation Plan Questionnaire

5.1. Introduction

This questionnaire was proposed by Airbus in order to stimulate an early discussion on the exploitation of the Roxanne project results.

Every partner interested in exploitation was requested to fulfil the questionnaire.

Two options were envisaged:
- Individual exploitation
- Collective exploitation of the Roxanne project results.

These options are not contradictory one with the other.

Individual exploitation refers to one Roxanne partner deciding to exploit for its own benefit some of the results of the Roxanne project either by adding new product(s)/service(s) to its catalogue of solutions or by improving its existing solutions. Note that one partner can decide to exploit its own development (easiest case) but may also be willing to exploit the results developed by other partners (or the overall project results). In that case, this partner will have to agree on the commercial terms with the owners of the other results.

Collective exploitation refers to several Roxanne partners deciding to join in some form of contractual cooperation, for instance by deciding to invest in a new company and commit to further develop the results of the Roxanne project so that they can be commercialized as new product(s)/service(s). This form of exploitation requires partners to agree on the effort they are willing to do before an expected return on investment. Depending on the scope, contractual negotiations may have to be made with the partners that would decide not to be part of the project if the results they own were necessary for the commercial exploitation of the new product(s)/service(s).

5.2. The questionnaire

Vision
What is our/your vision?
How do we/you see the market and the customer needs in 2024 (or later) and why?
Do we/you have figures (market growth, etc.) to confirm these views and what are the trends?

Customer
Who is our target customer?
What is the problem that we solve?
Why is this problem among the top-3 priorities of our target customer?

Product/Service
What do we/you (want to) sell?
Why does it solve our target customer's problem?

Competition
Who are the competitors and what is their offer (price, quality criteria of their products/services, etc.)?

How do/will we compare with these criteria?

Marketing

What is our marketing plan to get our product/service known and loved by our target customers?

What are the key dates/events?

Price

How do we intend to sell our product/service?

What will be the price?

What will be covered by the price?

What will be not covered by the price?

Cost structure

What will be the cost structure?

What will be the recurring and the non-recurring costs?

Achievements

What can we expect to have achieved at the end of the Roxanne project?

- any commercial achievements (first contracts, etc.)?
- what Roxanne project results?

Can we expect any extra funding?

Any other expected achievement?

Team

Who will be part of the exploitation structure?

Who is will be leading?

Any steering committee?

Partnerships?

Project Roadmap

What is our/your exploitation roadmap – from Roxanne prototype/component to commercial product/service?

When do we/you expect to have our first contract with an external customer?

Risks

What are our main risks and how can we mitigate them?

Risks can be technical, industrial, business, etc.

Funding

How do we intend to fund the industrialization of Roxanne project results?

How much money do we need?

What are the possible sources of funding?

Costs and revenues

What are the costs and revenues, cash flows and cumulated cash flows for the first years, until the ROI >15%?

What is our/your business plan?

Intellectual Property Rights
What do we/you reuse?
How are IPR issues addressed?

6. Annex II - EC Rights and Obligations with Respect to the Results

6.1. Ownership of results

Results will be owned by the partner generating them. In case of a result being owned by a multiple partners of beneficiaries, all should come to an agreement in writing. (More details on this in Article 26 of GA). All arrangements must be made to ensure compliance to the Grant Agreement.

In case no results are protected in nature, the ownership might be assumed by the European Commission. (More details on this in Article 26 of GA).

6.2. Protection of results

Each beneficiary has an obligation to protect project's results (More details on this in Article 27 of GA).

6.3. Exploitation of results

Each beneficiary has an obligation to exploit project's results for up to four years after GA is signed while taking contracted measure. (More details on this in Article 3 and Article 28 of GA).

If a beneficiary is unable to fulfil any of the obligations under this Article, the grant for the said beneficiary may be reduced in accordance with Article 43 of the GA.

6.4. Dissemination of results

Each beneficiary must disseminate their results as quickly as possible. However, possible protection of the asset is to be kept in mind before disseminating any information (More information on paragraph 2.2 of the GA).

6.5. Open Access (OA) of publications

For Horizon 2020 projects, ensuring open access (free online access for external users) to project publications is an obligation for all the grants. Each beneficiary must ensure open access (OA) of all the peer-reviewed and scientific publications related to the results of the project (More details on this in Article 29.2 of GA).

For any more details on open access, please refer to the 'Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020' (http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf)

6.6. Obligation & rights to use the EU emblem

Any dissemination of results must display the EU emblem and include the following text unless the Agency requests or agrees otherwise or unless it is impossible:

> This project has received funding from the European Union's Horizon 2020 Work Programme for research and innovation 2018-2020, under grant agreement n°833635