

VICTORIA

VIDEO ANALYSIS FOR INVESTIGATION OF
CRIMINAL AND TERRORIST ACTIVITIES



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Mounting the project: lessons learnt

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IDEMIA: LEADER IN DIGITAL SECURITY AND IDENTIFICATION TECHNOLOGIES

Result of merging **Safran Identity & Security (Morpho)** and **Oberthur Technologies** (1 June 2017)


€2.8 Billion
in sales


14,000+ Employees
including 2,000+ in R&D


More than
80 Nationalities



An innovative & end-to-end set of solutions


2015 R&D spend
€200M
& close to 1,400 patents


Large scale card production


3B+
identity documents issued WW


1.2B
SIM cards shipped in 2016


690M+
payment cards shipped in 2016


250M+
embedded Secure Elements deployed WW


20+
Subscription Manager solutions delivered WW



Well positioned in our markets

#1 in police biometric systems

Trusted by **1,800** financial institutions

#1 in civil identity solutions

Trusted by **500+** mobile operators

Trusted by **major** industrial OEMs

#1 in US driver's license issuance



IDEMIA: LEADER IN DIGITAL SECURITY AND IDENTIFICATION TECHNOLOGIES

Area of expertise

- **Technology:** Biometrics, Identity Management, Data & Video analytics, IoT, Secure elements, Cryptography, data privacy and digital security, CNN / deep learning, mobility / embedded data processing
- **Equipment:** enrolment of persons, on-the-fly capture of biometrics, access control, e-gates (border control), gaming, speed metering
- **Systems:** Automatic Fingerprint Identification Systems (AFIS), Passenger Name Records (PNR), Entry/Exit (border control), Video analytics, Card management, Remote Provisioning, Identity Management

Successful experience in mounting collaborative projects

Funder	As coordinator	As partner	Total
European projects (FP7, H2020)	6	38	44
French / bi-national projects	15	46	61



VICTORIA IN A NUTSHELL



THE VICTORIA PROJECT IN A NUTSHELL

- European project: H2020 Secure Societies programme
- Managed by the Research Executive Agency of the European Commission
- Topic:
 - SEC-12-FCT-2016-2017: Technologies for prevention, investigation and mitigation in the context of fight against crime and terrorism
 - Sub-topic 3: Video analysis in the context of legal investigation
- Duration: 3 year project (May 2017 – April 2020)
- Funding: 5 007 125 €
- Consortium: 14 partners from 7 countries



THE VIDEO DILEMMA

- Videos are very useful for LEAs criminal and terrorist legal investigations
- Amount of video data continuously increases
- Time: a precious factor for LEAs
- Completeness / Accuracy: required for a complete judicial procedure
- Merah Case (2012): 35TB of video footages, 10 000 h. of recordings → 2 person-years
- Need for efficient tools assisting LEAs in their daily video investigation tasks



STATE OF THE ART AT THE TIME OF THE PROPOSAL

Law Enforcement Agencies (LEA) diagnostic:

- Few investigation tools available on the market
- Available tools are vendor-closed systems, error prone and counterproductive
- Innovation in video investigation tools remains limited
- No real commercial/existing products widely used by the LEAs community
- Lack of representative data for R&D purposes



THE PROJECT AND ITS CHALLENGES

Main challenge: to develop technologies meeting real operational needs of the end users (LEA investigators):

- **Operational scenarios:** 6 operational scenarios, representative of legal investigations: environment, events / persons / objects have been selected,
- **Analytic tools:** the video analytics to be developed are selected according to these operational scenarios, in order to be able to detect all targets,
- **Ground truth for video data:** a set of real and synthetic videos with ground truth data are produced to serve as reference for the developments and tests.

Moreover:

- **Creation of the Community of Video-Analysis-For-Investigation (VAFI) experts:** An on-line platform is provided for hosting professional communities related to research and innovation domain:
<https://www.victoria-project.eu/join-the-victoria-community/>



LESSONS LEARNT



Strong asset of VICTORIA: 9 practitioners (LEA) from 8 countries

		INDUSTRY	SME	ACADEMIC	LEA	Total
Consortium	Austria			1		1
	Belgium			1		1
	France	2	2	1	1	6
	Germany			2		2
	Romania				1	1
	Spain			1	1	2
	United Kingdom				1	1
	Sub-total	2	2	6	4	14
Advisory board	Europe				2	2
	Germany				1	1
	Greece			1		1
	Italy				1	1
	Netherlands				1	1
	Switzerland			1		1
	Sub-total			2	5	7
	Grand total	2	2	8	9	21



Strong asset of VICTORIA: 2 practitioners (LEA) are leading 2 WP's !

	WP LEADERS
INDUSTRY	4
ACADEMIC	4
LEA	2
Total	10



Moreover:

- Most LEA's were involved at a very early stage of the project to define the needs and use cases
- Various contacts with other practitioners not involved in the project in order to define the needs



GENERAL RECOMMENDATIONS

<i>Managing the proposal time</i>	<ul style="list-style-type: none">▪ 8-9 months is a minimum to build a consortium and a proposal▪ Addressing all administrative issues as soon as possible▪ Keep the momentum through weekly consortium meetings (phone / face-2-face)▪ Testing the EC portal as soon as possible (e.g. loading a draft proposal)▪ Managing the summer vacations !
<i>Using consultants</i>	<ul style="list-style-type: none">▪ ARTTIC was involved in the management of the proposal – Fruitful collaboration and useful to cope with internal resource issues▪ Various financial agreements are possible
<i>Internal sponsorship</i>	<ul style="list-style-type: none">▪ Ensuring that the proposal is with the company strategical roadmap▪ Ensuring full support from top management / stakeholders (bid/no bid process)
<i>Building the consortium</i>	<ul style="list-style-type: none">▪ Right balance between industrials, academic, SME, practitioners▪ Right balance between competencies and European countries▪ Hard point: succeeding to have numerous practitioners (LEA) in the proposal
<i>Exclusivity</i>	<ul style="list-style-type: none">▪ Request to partners to work exclusively for the consortium (except for LEA)▪ Confidentiality agreements are preferable



GENERAL RECOMMENDATIONS

<i>Proposal objectives</i>	<ul style="list-style-type: none">▪ Having clear objectives → on VICTORIA: 5 main objectives, 17 sub-objectives▪ Having clear criteria of success for each objective with KPI when possible <p><u>Examples:</u></p> <ul style="list-style-type: none">▪ Development of TRL-6 open platform for video analysis▪ Training of 60 LEA investigators, including the delivery of full training materials
<i>Proposal ambition</i>	<ul style="list-style-type: none">▪ Having a clear description of the State of the Art related to the subject▪ Explaining in what areas and why the project will go beyond the State of the Art▪ Highlighting the innovations brought by the project
<i>Implementation</i>	<ul style="list-style-type: none">▪ Defining operational, useful scenarios with the practitioners → 6 for VICTORIA▪ Ensuring that the scenarios will be tested in field environments▪ Ensuring that test data with ground truth will be available → on VICTORIA, use of real data taking into account GDPR, use of synthetic data (innovation)▪ Ensuring that the implementation of each WP are well balanced across partners



SOME KEY CRITERIA FOR THE EUROPEAN COMMISSION

<i>Sustainability - Business value</i>	<ul style="list-style-type: none">▪ Creation of a TRL-6 open platform for video analysis▪ Commitment to push standards in the area of video data and metadata, video analytics modules, and in other area of video management▪ Creation of a business model and ecosystem allowing the video investigation field to grow and prosper
<i>Usability</i>	<ul style="list-style-type: none">▪ Significant improvements of video analysis tools for legal investigations▪ Training of 60 LEA investigators in the use of the advanced video investigation tools developed by VICTORIA
<i>Legal, Ethical and Privacy</i>	<ul style="list-style-type: none">▪ Ensuring that VICTORIA will be in line with the EU Legal-Ethical-Privacy rules including General Data Protection Rules (GDPR)▪ One partner and one member of the Advisory Board are dedicated to supervise the proper management of data and of all legal, ethical and privacy regulations.



Finance: the heart of the matter (“le nerf de la guerre”) !

Various strategies are possible – My recommendations (ideally !):

- Initial framing provided to all partners (done by the coordinator), with 10-15% reserve
- Request to provide detailed “person-months” (PM) / Euros per work package and per task ! (*)
- Open communication on finance with all partners
- 1-to-1 negotiations to understand the reasons for exceeding the framing
- No hesitation in cutting down significantly some budgets if the coordinator believes they are overestimated
- Well balanced budget between the partners given their role in the project and the work packages
- At the end, a rule of three can be used for a last adjustment

Ultimately, partners have to understand that either all win or all loose !

(*) Also useful for managing the project after award

		PARTNERS			
WP #	Task	P1	P2	...	Total
WP1	T1.1				
	T1.2				
	...				
	Total 1				
WP2	T2.1				
	T2.2				
	...				
	Total 2				
...					
Grand total					



WRITING THE PROPOSAL

<i>Consistency of the consortium</i>	<ul style="list-style-type: none">▪ The role of each partner must be clearly defined▪ The added value of each partner must be clearly defined▪ Roles of the partners are complementary
<i>Consistency of the proposal</i>	<ul style="list-style-type: none">▪ The proposal must not look like the mere juxtaposition of every partner know-how and technology▪ The “story” must be consistent, strong, easy to grasp, flowing, ...▪ Avoid repeating the same arguments again and again just to fill in the pages!
<i>Follow the rules</i>	<ul style="list-style-type: none">▪ There are administrative rules for writing the proposal: follow them very strictly!▪ Example: do not exceed the 70-page limit.
<i>Quality control</i>	<ul style="list-style-type: none">▪ Identify senior persons not involved in the proposal to read and assess the quality of the proposal▪ Plan for at least 3-4 weeks to write, rewrite and re-rewrite the proposal until it becomes a text that is pleasant to read, well structured, well thought out!



Last but not least: cross your fingers or light a candle!





More information on VICTORIA



www.victoria-project.eu



[@H2020Victoria](https://twitter.com/H2020Victoria)



<https://www.linkedin.com/groups/12091342>



<https://www.victoria-project.eu/join-the-victoria-community>



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