



**and Social Media Intelligence**

***From crisis management to crime threat detection***

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# Presentation synthesis



***... that is***

**how to analyse  
video, audio, exotic languages  
to detect  
current terrorist threats  
to our *well-being***

# SOTERIA project

- SOTERIA (Online and Mobile Communications for Emergencies) is a research project funded under the FP7 programme (€4M EC contribution) running from 9/14 to 2/17.
- Its goal is to develop software and recommendations for the use of information published on social media during **emergency situations**.
- SOTERIA aims to improve:
  - The use of all communications channels available, including **Twitter, Facebook, YouTube**..., for the benefit of citizens;
  - The exploitation of mobile platforms to locate (and communicate with) citizens in danger;
  - The *situational awareness* of crisis management authorities, by using techniques, such as **text and video mining**, applied to the information retrieved from social media.

# SOTERIA consortium





# SOTERIA consortium

- 18 partners from all over Europe, including end-users, research centres, large industrial companies and innovative SMEs.
- Amongst the end-users: **law enforcement** (GNR, NYPA) and **emergency** (AAHD, HUS, PSPELA, ESC, POLAMK, PPSL) agencies.





# Zanasi & Partners

# Zanasi & Partners



- Research and advisory company, specialised in security and intelligence.
- Active in Europe and ME (Saudi Arabia) NA (Algeria).
- Clients: national (MoI) and international (ESA, FRONTEX, EUROPOL...EC DG ENT, HOME, JRC...) public institutions.
- Our professionals' background:
  - ESRAB/ESRIF members (European Commission Security Advisory Boards);
  - Carabinieri officers (scientific investigations; operations in Kosovo, Albania, France);
  - Academic researchers (Paris/King's College London/Plymouth/Bologna universities);
  - IBM researchers (Paris and San Josè research centres);
  - Masters and PhDs in Nuclear Engineering, Robotics and Security Studies.

# Zanasi & Partners' mission

Zanasi & Partners' mission is two-fold:

1. to develop cutting edge **research** in the context of national security, to help strengthening internal/external security while preserving citizens' rights;
2. to provide **advisory** services to LEAs, government agencies and private companies, helping them reaching their objectives.

Domains:

- Big Data analytics
- Border control
- CBRNE
- Risk management



- During an emergency, a huge volume of information is produced by citizens and shared on the Internet through social media platforms such as **Twitter, YouTube, Facebook**, etc.
- This information may prove extremely useful if made immediately available to the organisations in charge of crisis management and search & rescue efforts.
- SOTERIA creates a platform to automatically collect, analyse and transmit this information to authorities by relying on both existing (proprietary and open source) and new technologies specifically developed during the project.
- ***Zanasi & Partner's role in SOTERIA focuses on the automatic analysis of information by means of multi-language Text Mining.***

# SOTERIA findings: *crisis management*



# SOTERIA findings: crisis management

**AVAILABLE  
TO LEAs**

**1) RETRIEVE  
TWEETS**

**2) ANALYSE  
(CLUSTER,  
CATEGORISE,  
TRANSLATE)  
TWEETS**

**3) LOCATE  
THE  
SENDER**

**4) EDIT  
DETAILS,  
REFINE,  
TRANSLATE**

**5) GENERATE  
ALERTS**

Retrieve emergency tweets,  
cluster them, detect the important  
ones and locate the sender

# SOTERIA findings: *crime threat detection*



# SOTERIA

findings and experience allow us  
to improve

***crime/terrorist threat detection***  
through communication analysis.

# Through automatic analysis of huge volume of text data...



SUPPORT FROM ROME!!

#حملة\_المليار\_مسلم\_لنصرة\_الدولة\_الإسلامية  
#AllEyesOnISIS >

View translation

Reply Retweet Favorite More



RETWEETS 3 FAVORITES 3

3:22 AM - 20 Jun 2014



# ...multi-language content analysis...

General information

Number of documents1464

Unclassified documents0

Root cluster

- + قتيلا; الأقل
- + الفلسطينية; غزة
- + بغداد; الشرطة
- + جاكرتا; جزيرة
- + العراق; الانتخابات
- + صفر; م
- + دولار; مليون
- + الرياض; السعودية
- + ياتوكوفيتش; كيف
- + السودان; دارفور
- + المنتخب; م
- + بوش; بول
- + المياه; البحر
- + القدس; اسرائيل
- + مدريد; لوكسمبورغو
- + الجزائر; الجزائرية
- + تركيا; وفاة
- + بوينس; ايريس

TEXT MINING SOLUTION

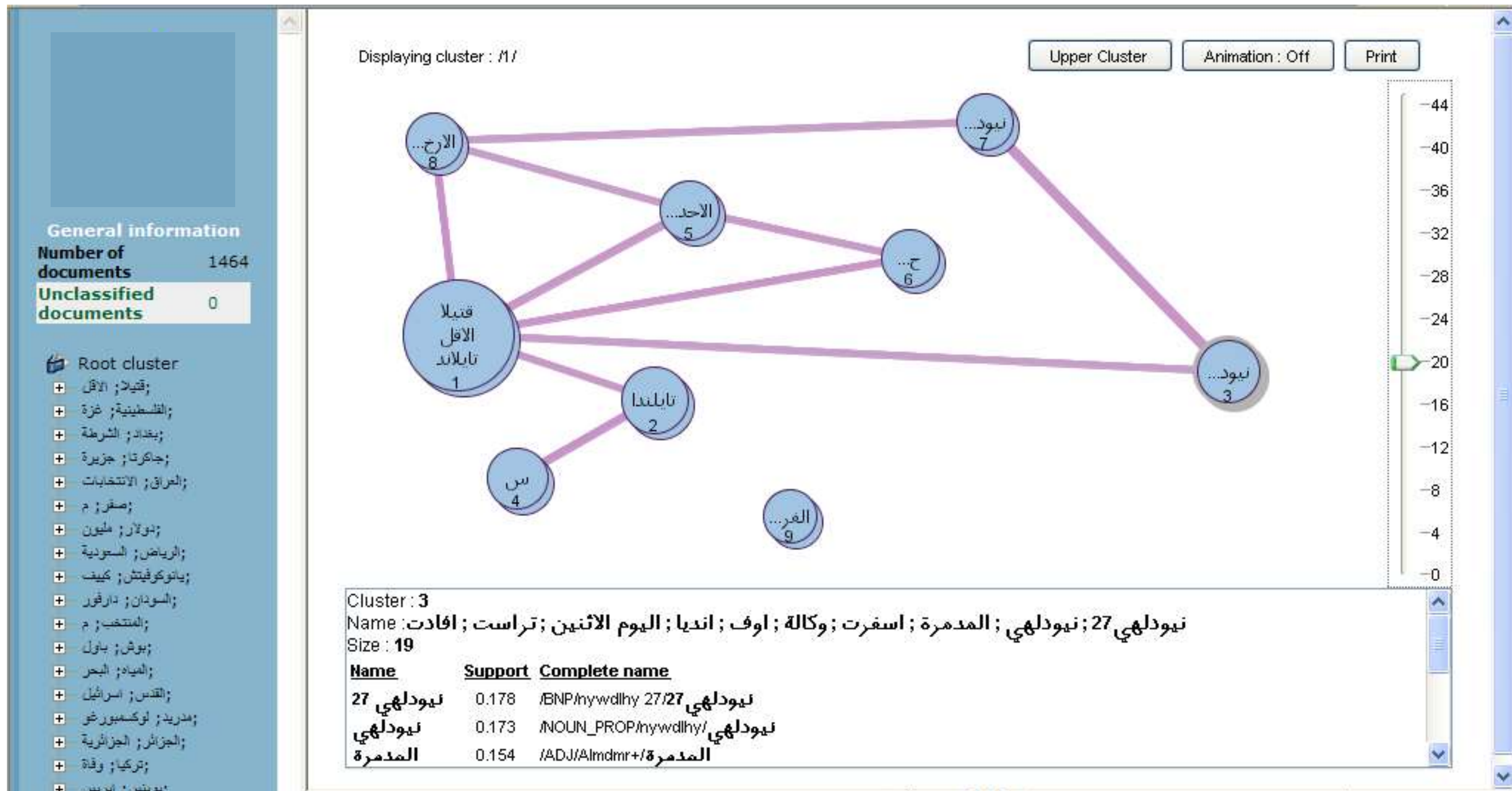
Cluster /1/196 documents

Id	Descriptors	Documents	Sub clusters	Cumulated ratio
/1/1	قتيلا; الأقل; تايلاند; علي; الأقل; جزيرة; اندونيسيا; الي; عدد; حسب	73	6	37%
Best links				
/1/2	تايلندا; بانكوك; اسك; اسك; فائع; نغا; إقليم; جنوب تايلندا; س; س ع	24	2	49%
Best links				
/1/3	نيودلهي 27; نيودلهي; المدمرة; اسفرت; وكالة; اوف; انديا; اليوم الاثنين; تراست; افلات	19	2	59%
Best links				
/1/4	س; س ع; بانكوك; ع; عسكريون; جراء المد; وان; جدس; 4857 شخصا; وفتردون	17	2	68%
Best links				
/1/5	الاحد الماضي; ج; التايلاندية اليوم; الاربعاء; الماضي; اثر; اليوم الاربعاء; ج; لا; اعلنت	16	2	76%
Best links				
/1/6	2; اسيا			
Best links				
/1/7	ية; تيت			
Best links				
/1/8	الولاية			

/1 Casualty: overseas; India, Sri Lanka, Thailand, at least  
/2 Palestinian; betray ; trick/hoax; quality; Abbas; Name: UNS (might be United Nations ...); sector; Israel; the Israel; Gaza;  
/3 Baghdad; police; alarms (fire/police)  
/4 Jakarta; tidal wave; Sumatra  
/5 Iraq; election; Iraq; Syria; Iraqi

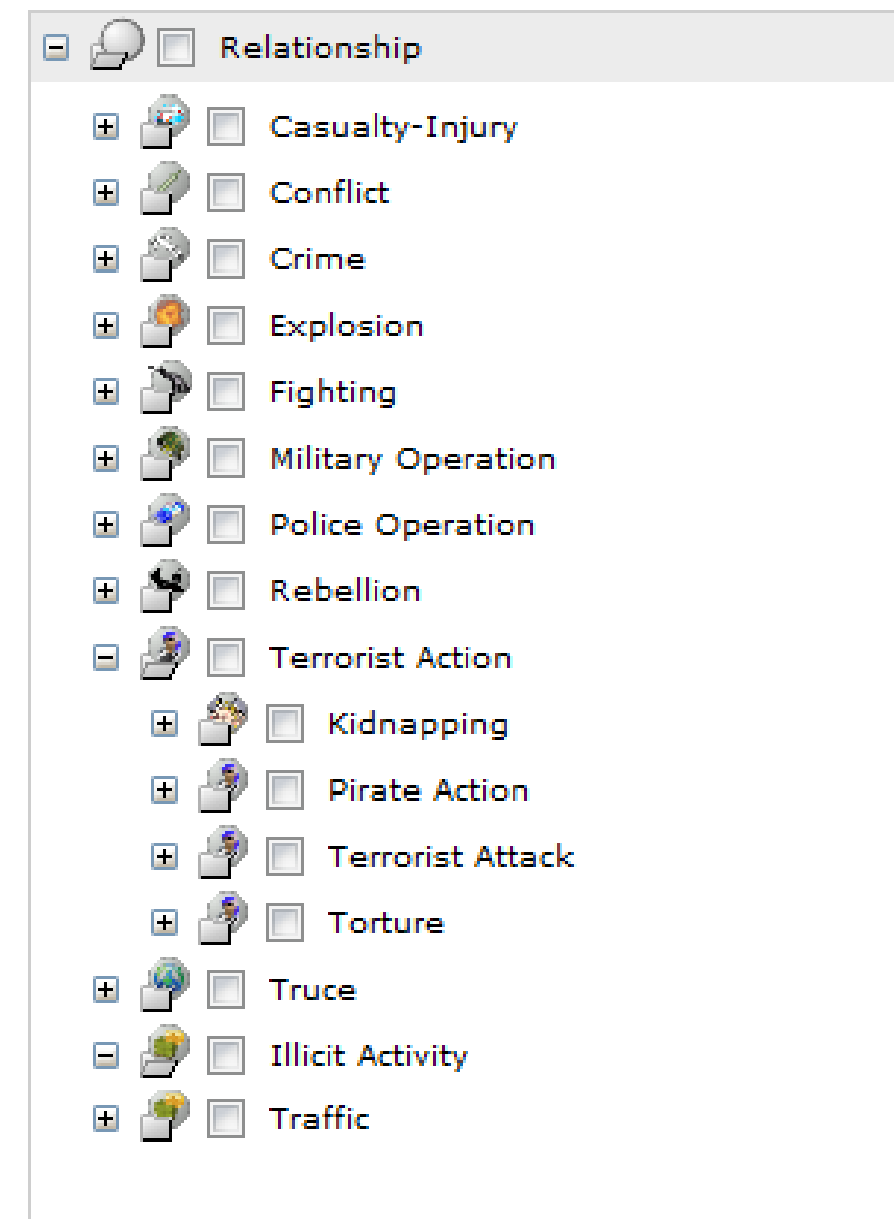
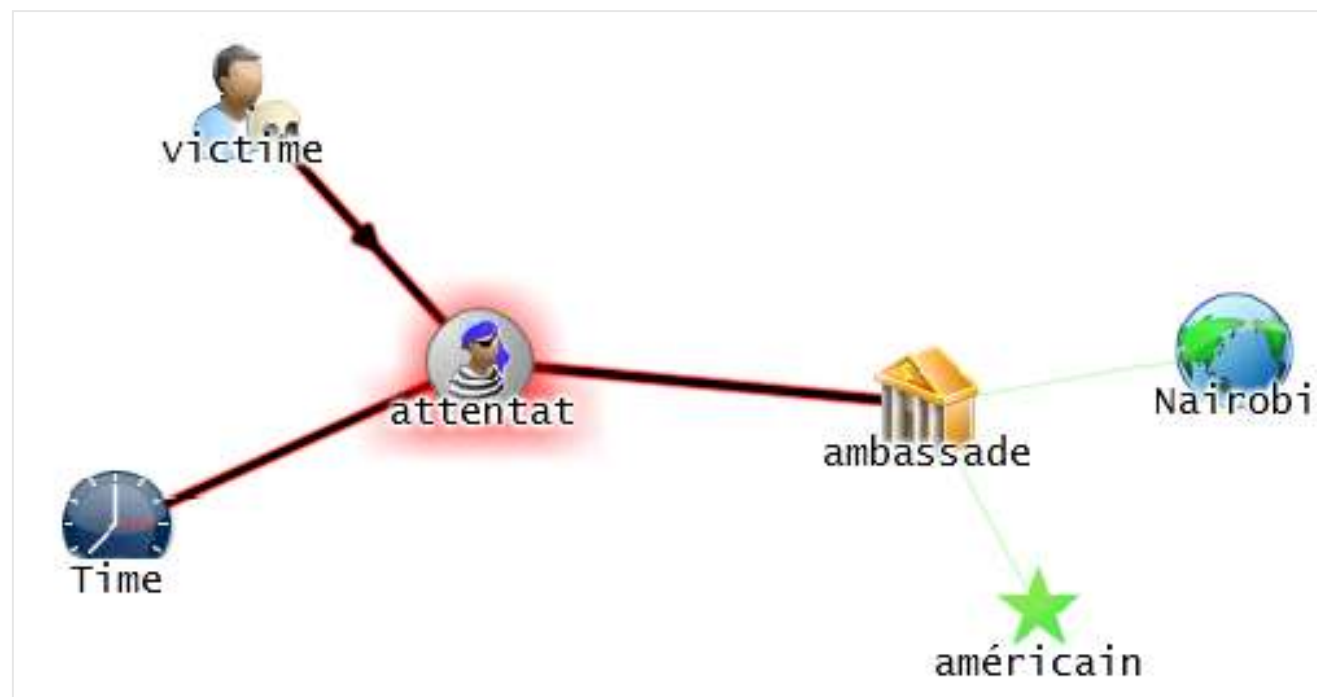


# ...and clustering of similar contents...



# ...we can detect and extract info pertinent to threat.

Selon Paris, l'attentat contre l'ambassade américaine de Nairobi a fait 213 morts en août 1998.



- Information extraction in multiple languages
- Entities and events in their **REAL** (politics/crime/terrorism) **context**
- Strategic foundations for additional insights

# Contacts

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