

The second France-China Leaders High-Level Meeting for Business Leaders will take place on

13th & 14th November 2014 in Bordeaux

Plenary Session B "Smart Economy" : 2 - 3 PM

Workshop B-1 "Smart Innovation & Technology" : 3.15 - 4.45 AM

Workshop B-2 "Smart Partnership" : 3.15 - 4.45 AM

## Public Private Partnership in the domain of Internet of Things and Smart Cities

S. Chaumette, [serge.chaumette@labri.fr](mailto:serge.chaumette@labri.fr)

Pr., LaBRI, University of Bordeaux

Co-founder NFC-Interactive





# Goals of our research group at LaBRI (Bordeaux Computer Science Reserach Lab.)

- contribute to define and provide systems that make it possible to take advantage of the mobile resources of a wireless network to achieve a job/mission (degraded mode of operation)
- develop scenarios / applications on top of these resources

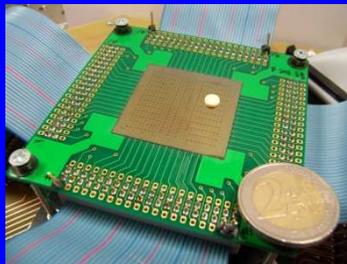
## Target systems

Secured fleets/swarms of autonomous communicating mobile terminals



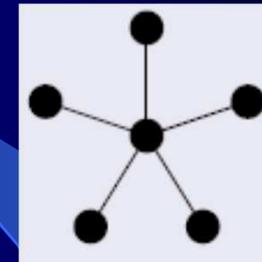


# Physical systems/fleets

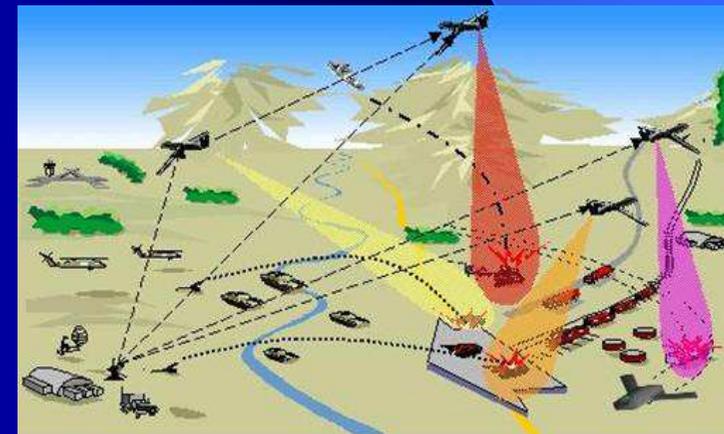


(image courtesy the  
Smart Surface project)

# Underlying dynamic graphs



# *Dream target*

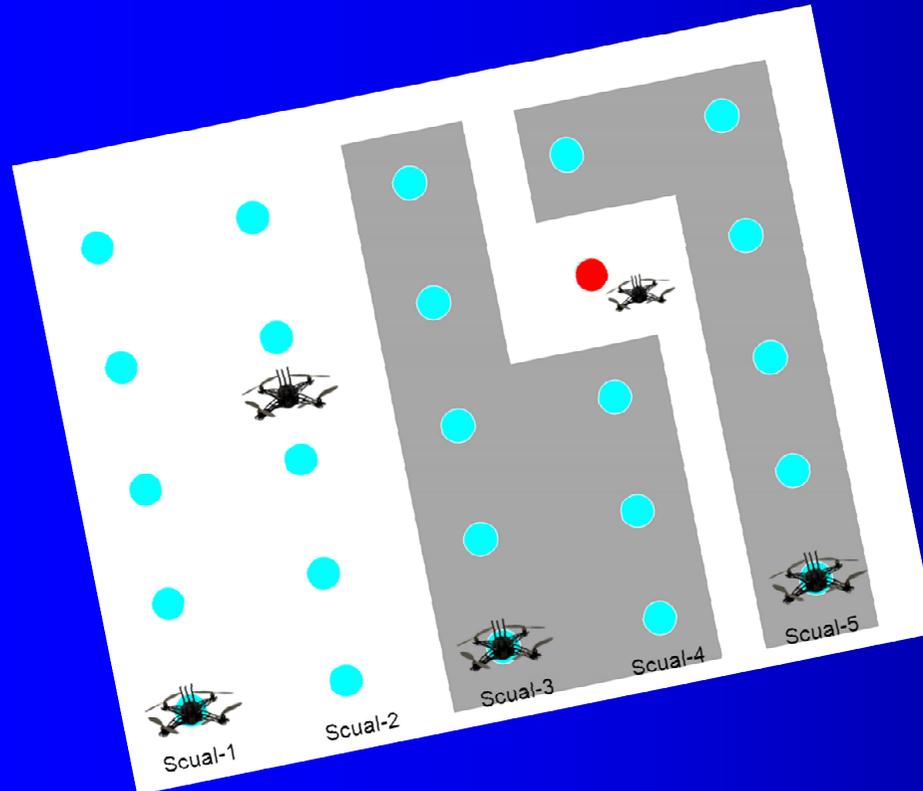


Source : <http://www.cds.caltech.edu/~murray/projects/darpa01-mica/>

Ref : 0006@2014-nov-14@14-50-CET@1-1-1 ; From-ref: previous talks + new material; Author: Serge Chaumette



# A project must address a scientific/technological issue



## Scenario 1: CARUS

*Cooperative*  
*Autonomous*  
*Reconfigurable*  
*UAV Swarm*

Investigate: swarming, construction of a global view from local views, retasking





# A successful project (seen from the Univ.) must show all the following results

**MILCOM 2011**  
Networks... Attaining the Value

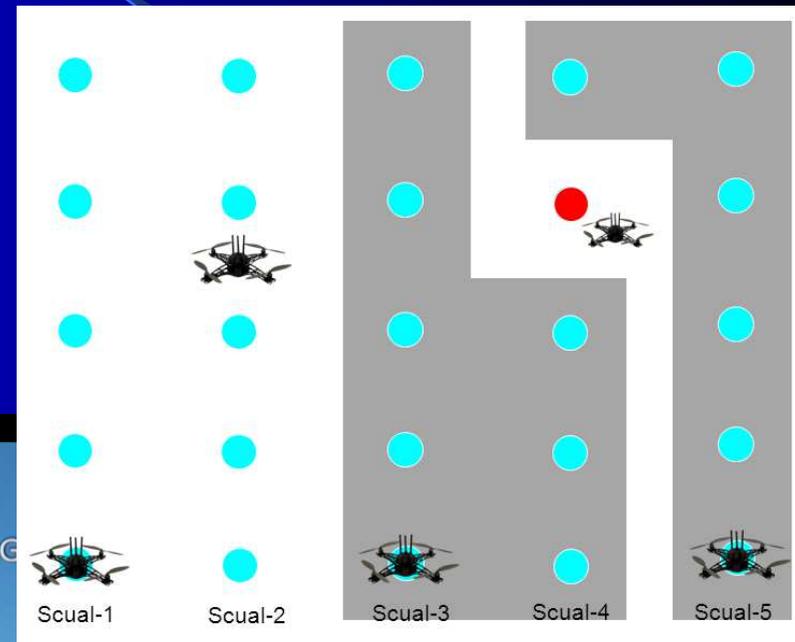
**CARUS, an Operational Retasking Application for a Swarm of Autonomous UAVs: First Return on Experience**

S. Chaumette<sup>1</sup>, R. Laplace<sup>1</sup>, C. Mazel<sup>2</sup>, R. Mirault<sup>2</sup>, A. Dunand<sup>3</sup>,  
Y. Lecoutre<sup>4</sup>, J-N. Perbet<sup>5</sup>

<sup>1</sup>LaBRI - Unive  
<sup>4</sup>Thale



**CARUS :**  
COOPERATIVE AUTONOMOUS RECONFIGURATION  
UAV SWARM





# A project must be supported, funded, technically led and have a coordinator



LaBRI







# From a PPP project to the creation of a company

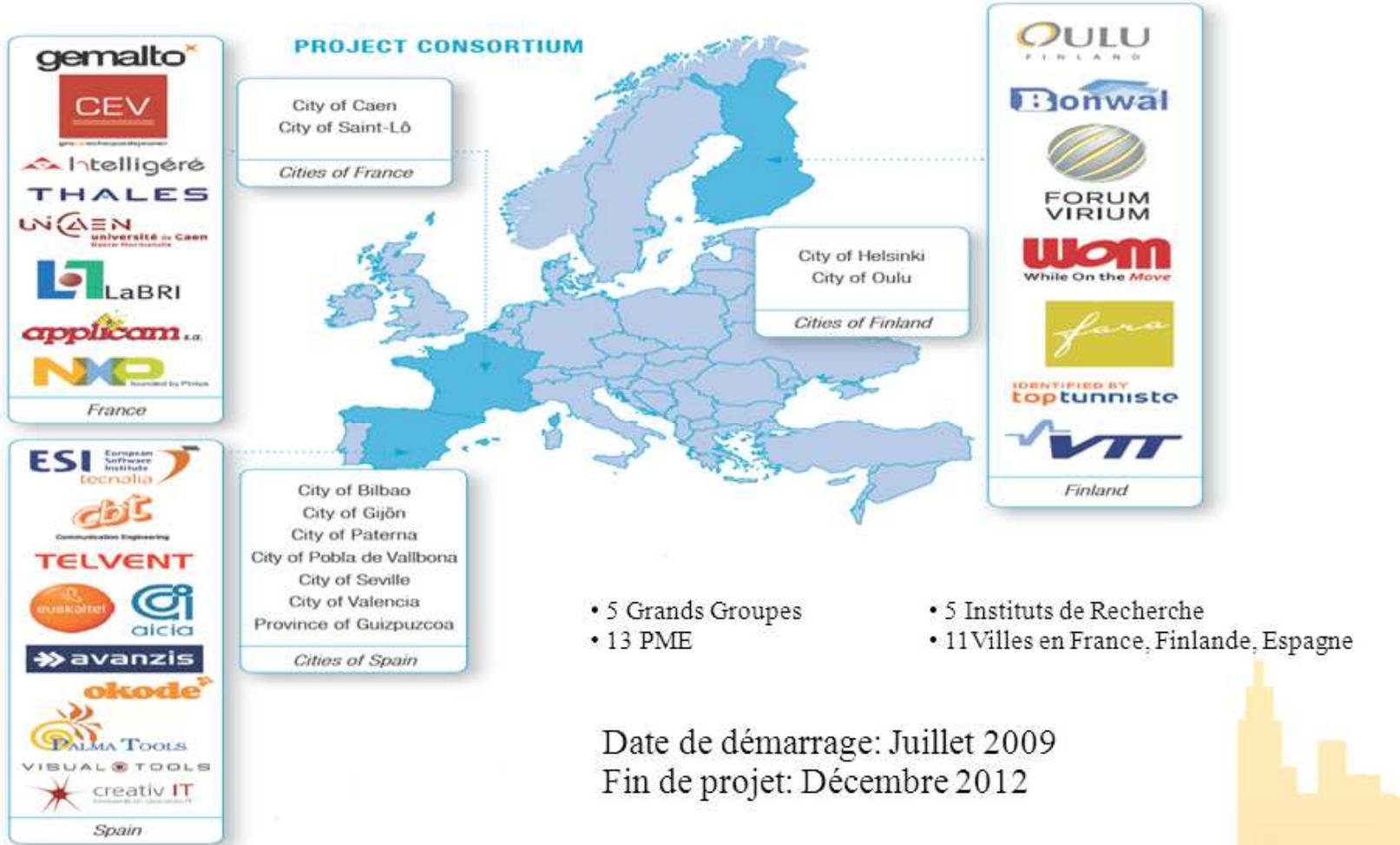


The slide features the 'smart urban spaces' logo at the top left, which consists of a stylized city skyline in orange and yellow. The main title 'Smart Urban Spaces' is centered in a large, bold, orange font. Below the title, project details are organized into three columns: Call Identifier, Project Duration, Coordinator, Project Start, Project Budget, Partners, Project End, and Funded by. The background of the slide is a light blue gradient with a faint globe and binary code.

<b>Call Identifier:</b> ITEA2-IP-08010	<b>Project Duration:</b> 3 years	<b>Coordinator:</b> Gemalto France
<b>Project Start:</b> 1-7-2009	<b>Project Budget:</b> ~19,5 M Euros	<b>Partners:</b> 25
<b>Project End:</b> 30-6-2012	<b>Funded by:</b> ITEA2	<b>Countries:</b> 4



# Consortium



- 5 Grands Groupes
- 13 PME
- 5 Instituts de Recherche
- 11 Villes en France, Finlande, Espagne

Date de démarrage: Juillet 2009  
 Fin de projet: Décembre 2012

Assises de l'Embarqué- Paris, 28 Octobre

Smart Urban Spaces

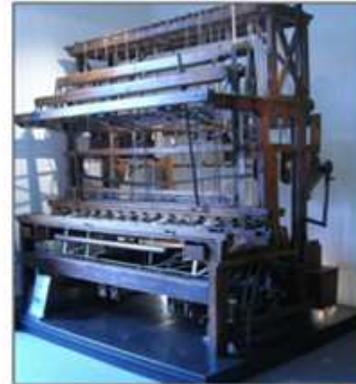


# Example: Museum Quest, an interactive quiz to support museum visits

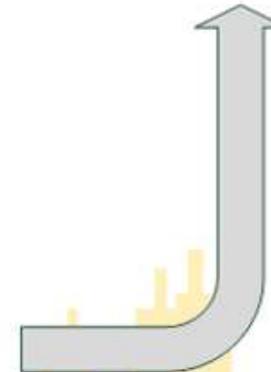
Mobile Device



Clue



Piece of Art



CAEN

Musée de Normandie

Château de Caen



Assises de l'Embarqué- Paris, 28 Octobre

Smart Urban Spaces



# From a PPP project to the creation of a company

- Bring the products closer to the market and manage the IP
  - SATT Aquitaine (AST) mandated by the University of Bordeaux
- Transform the project into a company
  - above entities + IRA (Incubateur Régional d'Aquitaine), pépinière éco-créative, etc.
- Put the product on the market
  - above + AEC, ADI, etc.
- Set bridges with the industry
  - above entities + Clusters, Fondation Université de Bordeaux, etc.
- Someone to be the CEO → Nicolas Bournet
  - One cannot be on the business and the technical sides at the same time
- Funding
  - Founders, AST, IRA, BPI, Région Aquitaine, etc.

# Creation of a start-up: NFC-Interactive



<http://www.nfc-interactive.fr/>

- Co-founders : N.Bournet, S. Chaumette, D. Dubernet & J.Ouoba
- Four initial products:  
 Museum Quest, City Visit, Small Event Ticketing, ZekMop (Smart Poster)  
 + NFC consultancy based on the expertise acquired during the project
  - Creation: June 2014
- *Other products: student card, NFC wristband, private purse, maintenance, dematerialization of communication tools, etc.*



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# Questions ?

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