

## **CoMoSef project Viveris activities**



14/12/2016

## L'INGÉNIERIE UN MÉTIER À VIVRE ENSEMBLE



www.viveris.fr



• Viveris presentation

• Viveris role in CoMoSef

• 802.11p communications

• Airbox industrialization





# **Viveris presentation**



#### **Viveris Technologies**

Belongs to Viveris, independent French group for Consulting & Computer Engineering (750 empl./53M€ Turnover)

Developing connected objects / IoT



#### • Technical skills



#### Electronics

Electronic modules development Industrialization, Qualification, Production



#### Embedded software

Robust and secured platforms Critical real time software DO178B, etc.)



#### **Network & Telecommunications**

Terrestrial and satellite platforms M2M communications optimisation & securisation



#### Test & Integration benches

Turn key benches (hardware, software) Test and real time simulation tools

#### **Connected Information Systems**

Design & Integration of high availability Information Systems



- Business name: Viveris Technologies
- Establishment date: 1988
- Workforce: 350 employees
- Capital: 97 831 euros
- SIREN: 501600761
- SIRET head office (Paris): 50160076100024
- 2013 turnover: 27M€





## **Viveris and Automotive**



● R&D project since 2004

GST, SafeSpot, Ranuter, PUMA, Score@F, CoMoSef, Scoop@F





# Viveris role in CoMoSef



## Viveris role in CoMoSef

## • Technical expertise

- Get the vehicle information : CAN bus
- Make the vehicles communicate between each others : 802.11p protocol

### Demonstration activities

- "Airbox" Onboard Unit prototyping (based on co-design UTC/Viveris)
- Test on vehicles

## Industrialization phase preparation

- Industrial process expertise
- Techno-economic study



# **IEEE 802.11p communications**



## 802.11p communications between vehicles

• State of the art of available products/chipset

#### • Purpose of this work

- Add 802.11p communication in Airbox
- Under acceptable economical conditions

#### • VTX communication units

Denso, NEC, Cohda Wireless, Unex/Autotalks, Hitachi/Renesas, KAPSCH, ARADA systems, Commsignia, Savari Networks, Componentality

#### Radio modules

Unex, Kapsch, Compex

Chipsets

NXP Roadlink, Autotalks, Redpine, Qualcomm Atheros, Ralink, etc.

Antennas



## 802.11p communications between vehicles

## Conclusions

#### • Mid-2015 (end of CoMoSef Celtic project)

- No available solution under acceptable economical conditions
- Unex/Autotalks solution to follow up

#### • Mid-2016

- Established relationship between Unex/Autotalks and Viveris
- Technical solution seems compliant with Airbox
- Economical conditions are acceptable

#### • Mid-2016

- Prototyping successful with Unex module, communications OK
- Modules purchased for Airbox next release





# **Airbox industrialization**



## "Airbox" evolution

- UTC brings "Airbox v3" into CoMoSef project
  - Hardware based on COTS components
  - Software based on Airplug distribution

## CoMoSef actions (UTC/Viveris):

• Airbox industrial prototype

- Software improved (UTC improvement + Viveris CAN interface)
- Design and prototyping of a single electronic board:
- Adapted to automotive market
- With all necessary features (resources, interfaces, functions) <u>BUT 802.11p still external</u> (Communications: CAN, 3/4G, 802.11p, 802.11b/g/n, Bluetooth,USB, Ethernet, GPS)
- Airbox v4 then v5 manufactured & tested

## ●Techno—economic study for an Airbox product

- Role models for industrialization & commercialization
- Definition of the final product features, price



## "Airbox" product, situation today:

• Electronic design finalized

- Internal 802.11p (based on Autotalks/Unex)
- Range of products to fit the price with different markets:
- Basic offer
- Option 802.11p
- Option Automotive connectors
- Option full interfaces

## Ready to manufacture

- Components purchased
- Manufacturing file ready
- First pieces Q1 2017

• First deployments in 2017





## Questions?

