



eltic-Plus⁺

Smart Connected World



Proposers Day
18 November 2014, Basel

SPECMORE

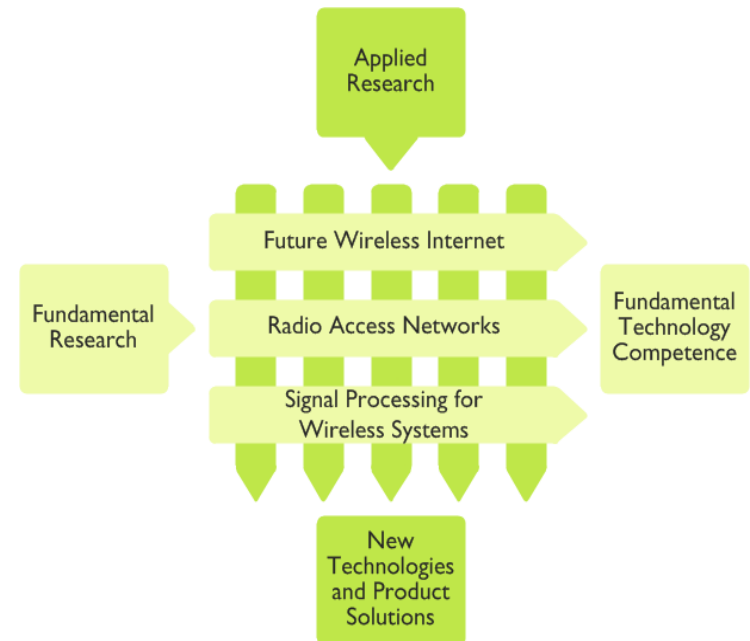
Spectrum Efficiency and Coexistence for Mobile Radio Emergency Systems

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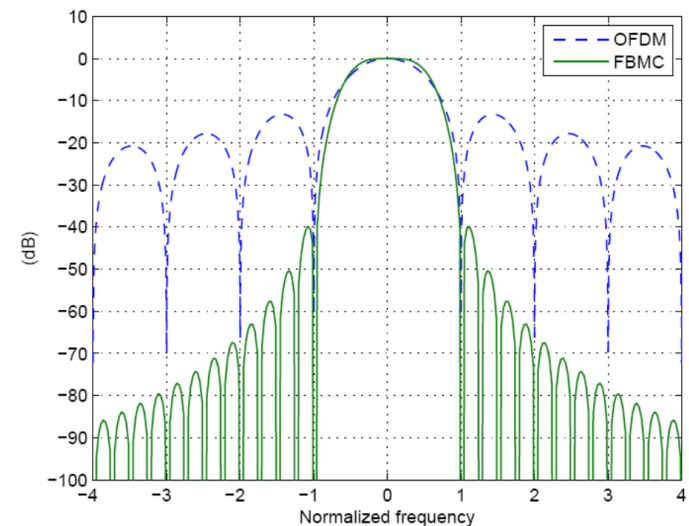
- Research and teaching staff: ~ 120
- Total funding ~ 8 M€ / year:
 - 75% external research funding
 - 25% university budget funding
- Research organised under the Centre for Wireless Communications (CWC):
 - Provide an international research and working environment
 - High-quality theses and dissertations
 - Peer-reviewed publications
 - Research results to be utilised by research partners in their R&D
 - IPRs
- Master- and doctoral-level training in Wireless Communications Engineering

Research Division



Proposal Introduction (1)

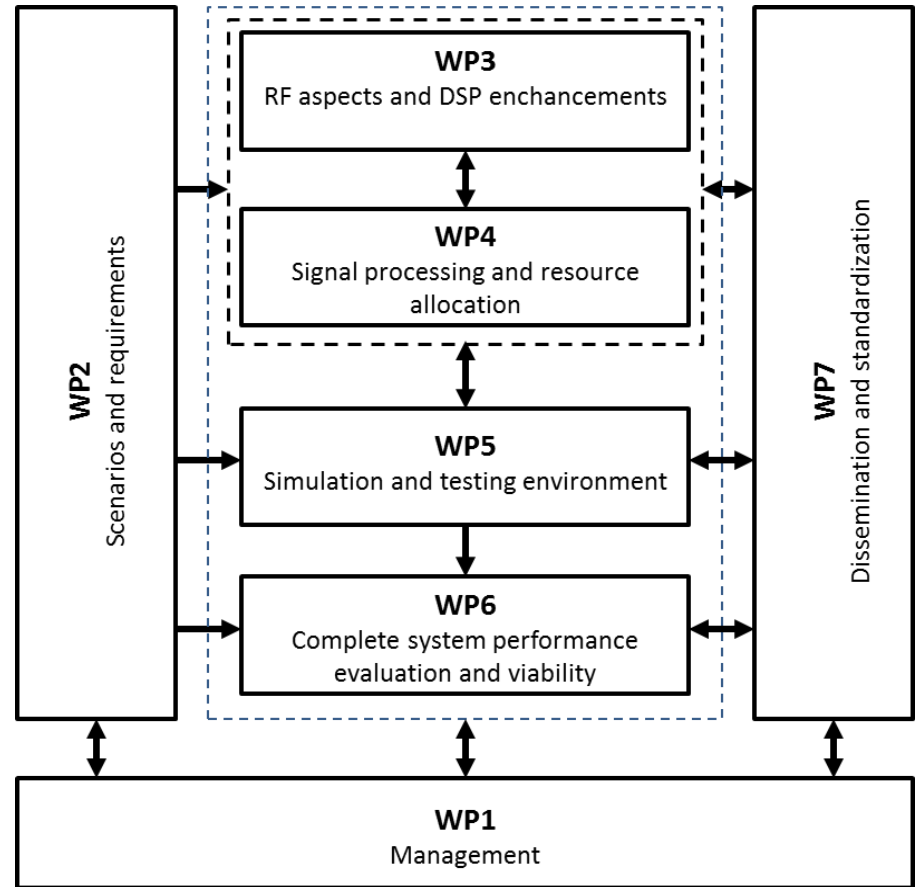
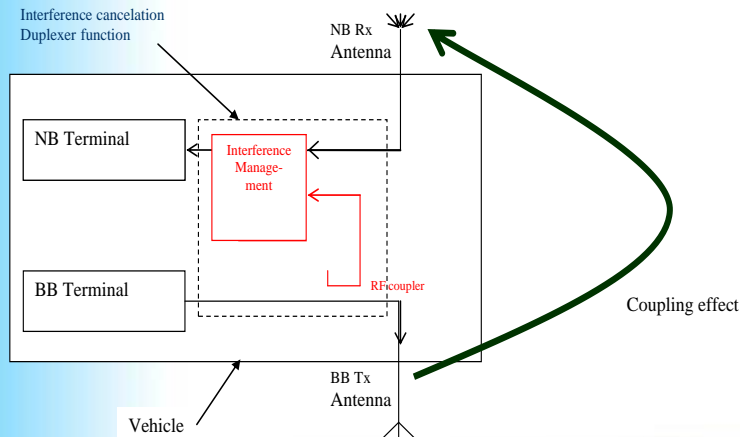
- The problems are:
 - Increasing the spectrum efficiency using Filter-Bank approach
 - Better frequency localization compared to classical OFDM
 - Improve the RF coexistence using advanced Duplexing techniques:
 - Particularly between Broadband transmissions and Narrowband transmissions in the same band
- The domain of application is PMR (Professional Mobile Radio) for Public safety
- The approach consists in shutting down a part of BB spectrum on frequencies where NB is present
 - Constraint is to preserve NB transmission from interferences
 - The classical OFDM approach as in LTE, is not providing a high level on protection on adjacent frequencies due to the slow decay of its spectrum
 - The FB-MC approach offers a much better protection o adjacent frequencies.



RF coexistence situations

- Interference between Narrowband and Broadband PMR communications in the same band or in close band
 - 1st case: Co-located NB & BB Terminals: e.g. in the same vehicle
 - 2nd case: Strong but distant interference (non co-located case)

Co-Located case: Interference cancellation:
Subtraction of interfering Tx signal into the Rx signal



Current identified partners

Country	Name	Type
Finland	University of Oulu	Academia
	Tampere University of Technology	Academia
	CoreHW Oy	Industry
	AIRBUS Defence and Space (ex-CASSIDIAN) (CAS FI)	Industry
Germany	Technische Universitaet Ilmenau	Academia
Spain	Centre Tecnologic de Telecomunicacions de Catalunya (CTTC)	Research Inst.
France	AIRBUS Defence and Space (ex-CASSIDIAN) (CAS FR)	Industry
	Conservatoire National Des Arts Et Metiers (CNAM)	Academia

Looking for

- Interested partners into the SPECMORE proposal
- Especially industrial partner from Germany and Spain

Contact Info

For more information and for interest to participate please contact:



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