A Presentation of the future Reconfigurable Radio Systems Standardisation Mandate

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Disclaimer: the views expressed are those of the author and cannot be regarded as stating an official position of the European Commission

Assessment of the current situation (1)

- Commercial domain
  - Different RRS technology approaches proposed for increased efficiency and flexibility of radio frequencies usage
  - Examples of RRS are cognitive radio systems communicating with GLDBs like White Space Devices or other systems working as LSA (Licensed Shared Access)
  - USA and other countries are moving ahead with regulatory steps
  - Regulatory uncertainties make the EU less attractive

Assessment of the current situation (2)

- Civil security domain
  - Lack of interoperability
  - Lack of broadband connectivity
  - Lack of economic sustainability
- Military domain
  - Drive for SDR standardization through US JTRS program
  - SCA de-facto standard reference for military SDR architecture
  - SCA-Next soon to be released

R&D Environment (1)

- Commercial domain
  - Framework Programme 5 and FP6 projects for SDR and CR
  - QoSMOS (Quality of Service and MObility driven cognitive radio Systems)
  - Saphyre (Sharing Physical Resources – Mechanisms and Implementations for Wireless Networks)
  - COGEU (COgnitive radio systems for efficient sharing of TV white spaces in EUropean context)
  - SACRA (Spectrum and energy efficiency through multi-band cognitive radio)
  - Faramir (Flexible and spectrum-Aware Radio Access through Measurements and modelling In cognitive Radio systems)
  - Samurai (Spectrum Aggregation and Multi-User MIMO: Real-world Impact)
  - QUASAR (Quantitative Assessment of Secondary Spectrum Access)
  - OneFit (Opportunistic networks and Cognitive Management Systems)
  - ACROPOLIS (Advanced coexistence technologies for radio optimisation in licensed and unlicensed spectrum)

R&D Environment (2)

- Civil security domain
  - Several FP7 projects: WINTSEC, HELP, EULER
  - EULER specifically addressed the issue of SDR standardisation
- Military domain
  - ESSOR (Finland, France, Italy, Poland, Spain and Sweden)
  - SVFuA (Germany)

Objectives (1)

Objective A (Commercial domain)

- Facilitate compliance of CRSs with EU and national legislation on the placing on the market and the use of radio equipment, in particular with the Directive on Radio Equipment & Telecommunications Terminal Equipment (R&TTE Directive)
- To ensure that implementation of CRS technologies does not create barriers to the Single Market
- To ensure that standardisation of CRS technologies happens timely in Europe in order to lead or keep pace with global developments

Objectives (2)

Objective B (Civil security and military domains)

- Development of suitable SDR architecture(s), ideally through a single architecture fulfilling requirements of both domains
- With following goals:
  - Facilitate waveform portability
  - Support coordination on SDR architectures with other similar initiatives (notably US JTRS)
  - Identify validation and measurement procedures

Objectives (3)

Objective C (Synergies, commercial/civil/mil)

- Dynamic use of spectrum resources among commercial, civil security and military domains for disaster relief
- Reconfigurable mobile device architecture for commercial and civil security applications
- Other potential synergies to be identified

Mandated Work (1)

- Objective A (Commercial)
  - Interim report on the progress of the tasks:
    - Within 7 months from acceptance
  - Delivery of the draft-harmonised standard(s):
    - Within 12 months from acceptance
  - Delivery of a list of harmonised and European standards:
    - Within 24 months from acceptance

Mandated Work (2)

- Objective B (Civil security and military)
  - Phase 1: Definition of standardization Work Programme
    - Within 12 months from acceptance
  - Phase 2: Execution of the Work Programme
    - Within 42 months from acceptance

Mandated Work (3)

- Objective C (Synergies commercial/civil/mil)
  - Phase 1: Feasibility study
    - Within 12 months from acceptance
  - Phase 2: Proposal of a Work Programme
    - Within 24 months from acceptance
  - Phase 3: Execution of the Work Programme
    - Within 42 months from acceptance