

# **Acoustic Detection - Towards a Joint Research Activity**

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# Disclaimer:

- All that follows is a personal point of view and is designed to stimulate discussion

# Towards an acoustic JRA

- Do we need a JRA in acoustic detection?
  - The status of acoustic detection is well-matched to (what I believe to be) the rationale behind a JRA (R=Research)
  - As such an EU FP7 JRA should help to focus European activities in a number of key areas where there is already expertise
  - Of course we could always ask whether this should be inside an I3 or , in some way, “stand alone”
- What will the goals of such a JRA be?
  - Need to prove, unambiguously, the potential of the technique
  - Continue R&D activity towards the definition of a large-scale acoustic detector(s) that will form an integral part of a second generation optical Cerenkov telescopes

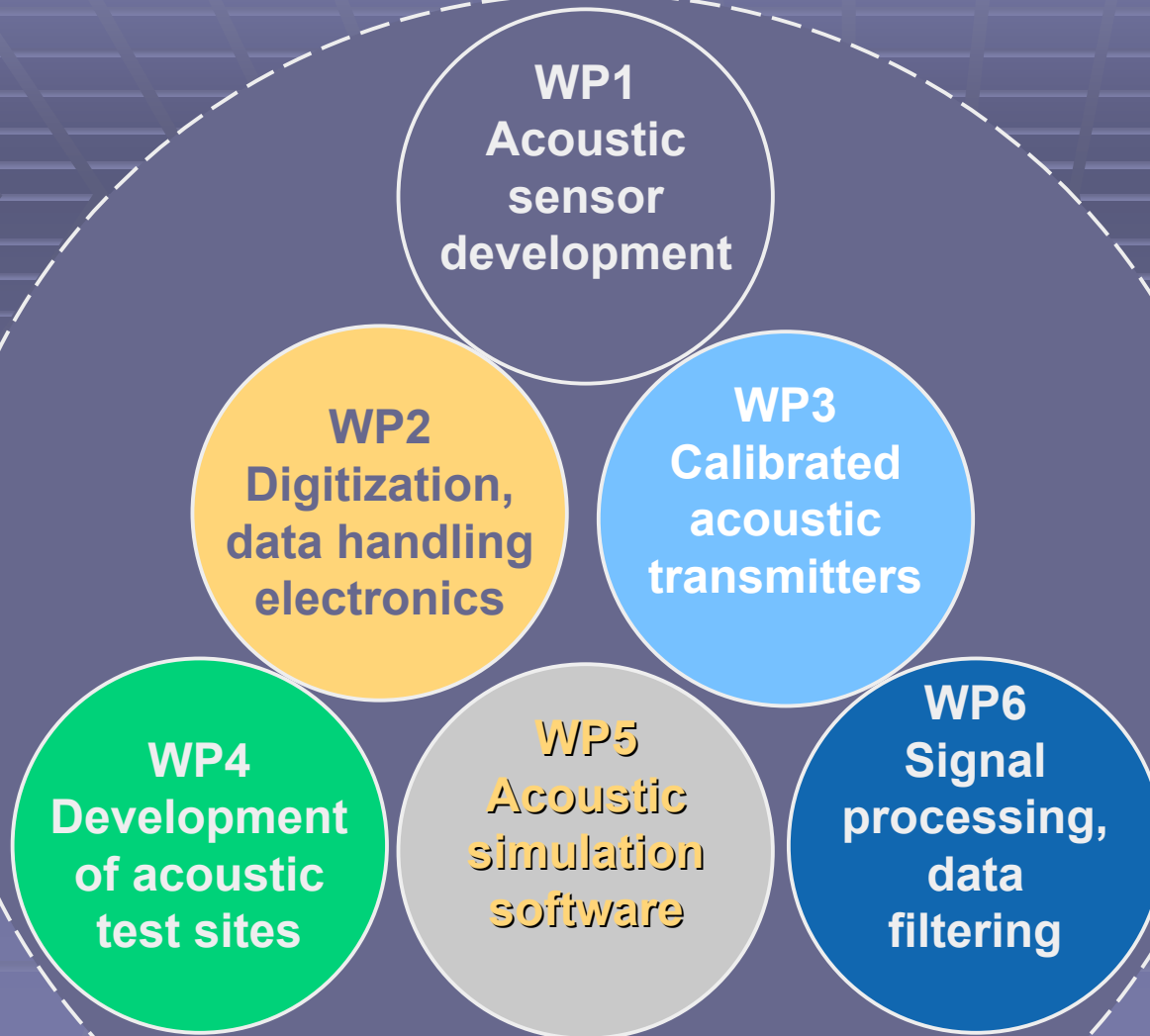
# Towards an acoustic JRA

- Note: one question I am not addressing here is whether there should be 2 JRAs (radio, acoustic) or 1 joint JRA - leave this until after the radio session
- A JRA would naturally be composed of a number of workpackages - what would these be?
- On demonstrating the feasibility of the technique:
  - We need to continue to conduct experiments and take data at sites such as SPATS, ACORNE, ANTARES, NEMO, etc.
  - Also important here is to continue to develop data analysis techniques using, e.g. signal processing tools
  - This would feed into software development and sensitivity calculations

# Towards an acoustic JRA

- In preparing for the “next step” we need to foresee potential issues and prepare for them, e.g.
  - Digitization and data handling - intelligence at the sensor - implies filtering
  - Developing “home grown” acoustic sensors - cheaper, better matched in frequency?
  - Developing calibrators - the ability to inject a neutrino-like signal into a medium, simulation of the acoustic “pancake”

# Possible JRA structure



- EU acoustic activities appear to be well aligned to a Joint Research Activity type structure within an I3

- Such a JRA could comprise a number of Work Packages as illustrated here
- Important to stress the synergy with CRs, other HE v