World Class Standards

Session III: New ETSI Model on Wideband Speech and Noise Transmission Quality Phase I

Goals and Background

ETSI Workshop on Speech and Noise in Wideband Communication

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France Télécom

Session III Agenda

- **09:00 - 10:50**

Session III: New ETSI Model on Wideband Speech and Noise Transmission Quality Phase I
Chaired by Vincent Barriac - France Télécom

Phase I, goals and Background
V. Barriac - France Télécom

Initial Recordings (based on STF 273)
H. W. Gierlich and S. Poschen - Head Acoustics

Noise Reduction
C. Marro - France Télécom

IP transmission simulation
J. Aguiar - Universidad de Valladolid
I. Ordás - Telefónica

Subjective Test Plan
J. Holub - Mesaqin

Phase I Results
V. Barriac - France Télécom

Terms of reference of the project

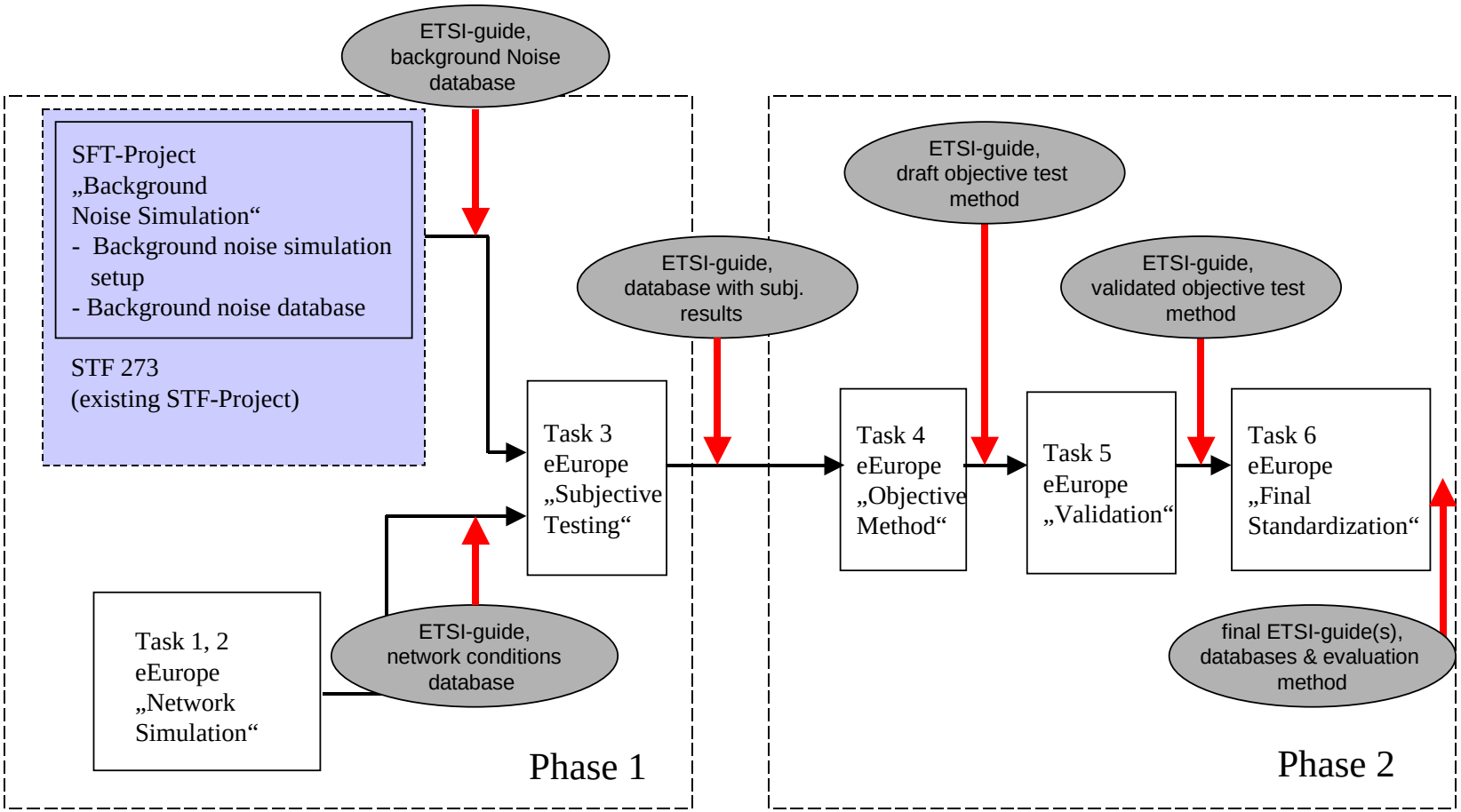
- Capability to support high quality wideband speech, especially with hands-free operation, is essential in new multimedia services
- Background noise is a problem in mostly all situations and conditions and needs to be taken into account in both terminals and networks
- But knowledge is lacking
- The aim of this work is to find methods for background noise transmission quality evaluation for real life network scenarios
- In order to conduct the work the following work has been performed:
  - Phase 1
    - Setup and verification of a transmission network simulation environment using realistic network scenarios for laboratory use;
    - Setup of a database containing the relevant transmission network models and traffic patterns that would be used for subjective and objective evaluation;
    - Subjective tests forming the basis for objective evaluation procedures, using the background noise database developed in ETSI STF 273;
  - Phase 2
    - Evaluation and validation of background noise transmission evaluation procedures.

Goals of the project

- To encourage the development of new terminal and network equipment providing excellent speech quality under background noise conditions for use in new applications;
- To develop ETSI Guides containing detailed specifications to address the requirements for seamless interworking of the new generation terminals and systems in the various acoustical environments they will be used in;
- To promote a common approach for manufacturers, service providers and network operators for taking into account the critical system performance under the conditions of background noise with respect to the communicational speech quality;
- To actively involve all relevant stakeholders, and in particular the representatives of the manufacturers and provider of new services and systems into the standardisation process.

- STF 294 is focused on objective and automated testing, which is faster and cheaper than subjective testing, which involves humans.

Generic workflow of the project



Tasks of Phase 1

- Task 1: Transmission network simulation
  - Evaluation of simulation methodologies and tools
  - Choice of the best simulation methodologies and tools
  - Setup of simulation environment in the laboratories of the STF experts
  - Validation of the simulation environment

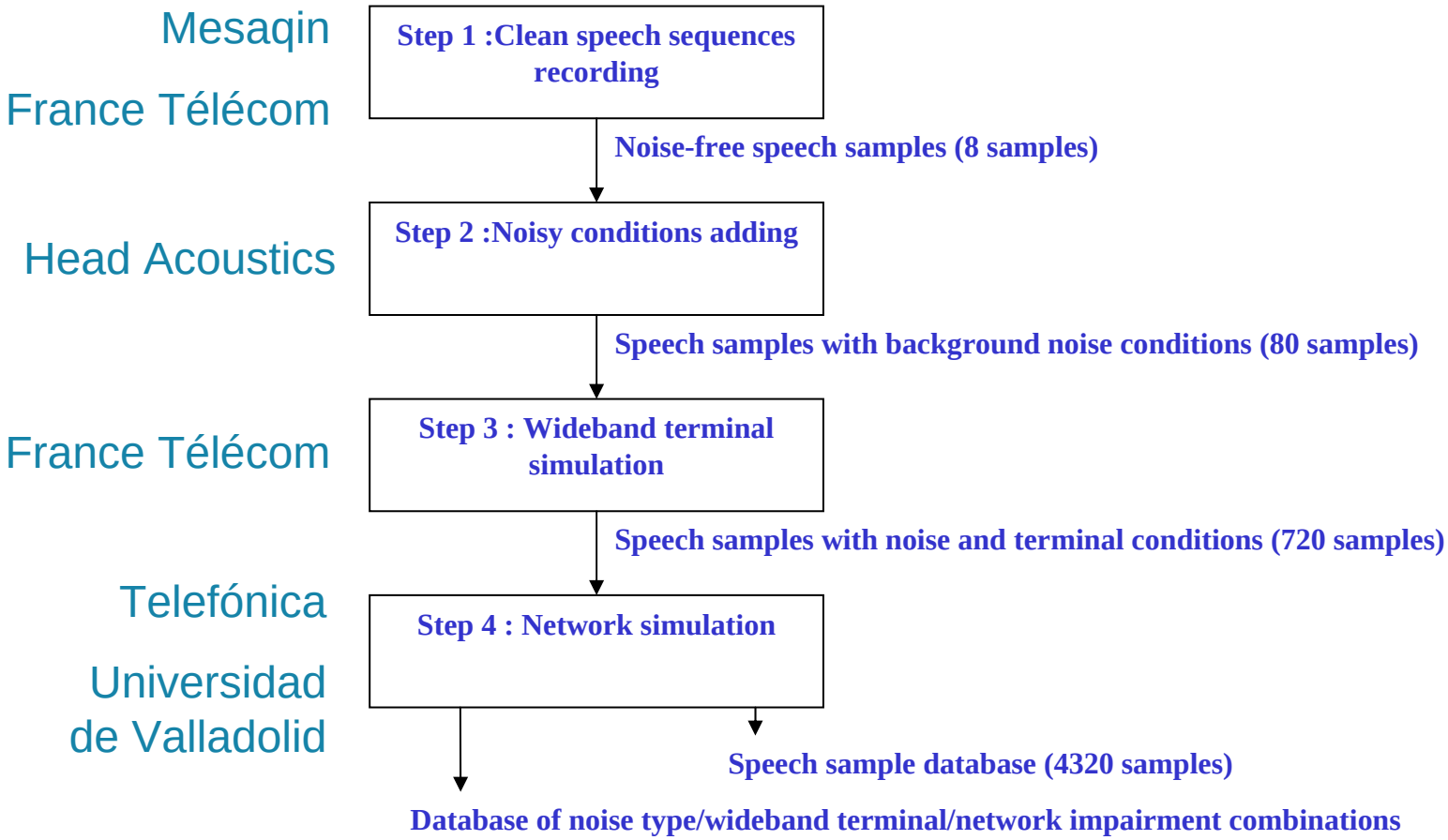
- Task 2: Database for transmission networks and conditions evaluation/simulation
  - Definition of the different network scenarios and conditions to be recorded
  - Preparation of the simulation recordings
  - Editing and preparing the data base
  - Description of the data base (Milestone A)

- Task 3: Subjective tests
  - Preparation of the test material
  - Conducting experts tests
  - Evaluation of the experts test results
  - Preparing test material for naïve listeners tests
  - Conducting naïve listeners tests (2 languages : French and Czech)
  - Evaluation of the results
  - Statistical analysis
  - Description of the test results (milestone B1)

List of deliverables for phase I (ETSI document references)

- DEG/STQ-00038-2 after task 2 (Milestone A, Sept. 2005)
- revised version of DEG/STQ-00038-2 after task 3 (Milestone B1, Nov. 2005)
- Final reference of the deliverable : ETSI EG 202 396-2 v1.1.1
- Interim report (Milestone B2, Dec. 2005)

Responsibilities for steps of task 2



And now the presentations !