Project Implementation for the Greek Regulator

«System for the Measurement and the Presentation of the Quality Indicators of the Electronic Communications Networks»
Project
System for the measurement and the presentation of the quality indicators of the electronic communications networks

Body
Hellenic Telecommunications & Post Commission (EETT)

Contractor
Union of companies:
- Vector Technologies Ltd (Distributor of Anite-Nemo products in Greece, Albania, Romania and Cyprus)
- Artemis ITS SA (Integrated Services provider for mobile and fixed telecommunication networks)
Subject of the Project

• Provision of the equipment for the measurement of the Quality Indicators of the Mobile Communications Network

  Delivered and Implemented by Vector Technologies Ltd

• Informative System for the Presentation of the Measurement Results

  Implemented by Artemis Integrated Technical Services SA
Purpose of the Project

- The healthy competition between the operators
- The development of reliable electronic communication networks
- The protection of the end users as consumers
- The provision of objective information to all regarding the entrepreneurship at the telecommunications sector
Benefits for the subscribers

• Objective information for the quality of the electronic services their operator provides
• Capability of objective comparison between each electronic service of the operators
• Capability of combining the two above with geographical criteria
• Objective information for the quality of services of all the operators regardless of technology
Benefits for the investors

• Objective representation of the size, the extension and the capabilities of the electronic communication networks per operator and technology.

• Information for the level of the quality of the provided electronic services at the Greek Territory in total.

• Information on the dynamics of the market of electronic communications as a sector of economic development.
Benefits for the HTPC (EETT)

• Transparency at the operators’ control data according to the terms of the general licenses per technology.

• Encouragement of the competition with expected benefits at the progress of broadband, due to the publication of the quality indicators. Providers are expected to respond by trying to upgrade the performance of their networks.

• Additional control mechanism.
Goals of the Project

• The increase in the number of users visiting the online platform of the HTPC (EETT) at which the quality indicators are presented.

• The increase of the control means of the general licenses of mobile communications operators.
System Architecture

- **Subsystem 1 - Category 1: Vehicle**
  Measurement equipment placed in a specially modified vehicle for drive-test measurements

- **Subsystem 1 - Category 2: Backpack**
  Measurement equipment placed in a specially modified backpack for indoor and outdoor measurements at places which the vehicle cannot reach

- **Subsystem 2: Probes**
  Transportable measurement stations (probes) placed at fixed positions, such as malls, hotspots, etc.

- **Subsystem 3**
  Web platform for the presentation of the measurement results
Compliance with the ETSI Standards and the ITU Recommendations

The measurement equipment delivered and the procedures being followed for the analysis of the measurement results comply to the following ETSI Standards and ITU Recommendations.

- ETSI TS 102 250-4
- ETSI TR 102 678
- ETSI TS 100 910
- ETSI TS 102 250-2
- ETSI TS 102 250-3
- ETSI TS 102 250-5
- ETSI TS 102 250-6
- ETSI TS 145 005
- ITU-T Rec. P.862 και Rec. P.863
Subsystem 1 - Category 1: Vehicle

Specially modified vehicle

- Measurement of 3 operators
- 3 devices for voice (free)
- 6 devices for data (3 for 2G/3G and 3 for 4G)
- Radiocoverage measurement with 3 scanners (one scanner per technology)
Subsystem 1 - Category 1: Vehicle Antenna System
Subsystem 1 – Category 1: Vehicle

Nemo Invex II System
Subsystem 1 - Category 1: Vehicle

Special Installation
Subsystem 1 - Category 2: Backpack

- Measurement of 3 operators
- 6 devices for data (3 for 2G/3G and 3 for 4G)
Subsystem 2: Probes

Explorer IV Measurement Station

- Measurement of 3 operators
- 3 devices for data (3 for 2G/3G or for 4G)
Subsystem 3: Web platform for the presentation of the measurement results

Objectives:

• Presentation of the quality indicators derived from measurements campaigns and operators’ metrics, in a user-friendly and functional operational environment for simple users
• Unification of all the mobile and fixed monitoring networks of the operators
• Analytical presentation and explanation of the web platform via Academy tab
Subsystem 3: Web platform for the presentation of the measurement results

- Campaign results presentation
- Bi-laguange
- Academic information
Subsystem 3: Web platform for the presentation of the measurement results

Nemo Analyze

Regulator review

Import at the portal

Review

Representation Activation
Subsystem 3: Web platform for the presentation of the measurement results

- Availability to chose the area of measurements and the quality indicator of interest
- Chose to see one or more (comparative view) providers
- See the improvement and/or development of operators’ networks
Subsystem 3: Web platform for the presentation of the measurement results

Interactive map: Zoom-in or out and see the results only in the area presented in the map
Subsystem 3: Web platform for the presentation of the measurement results

Line Chart and Bar chart graphs available
**Subsystem 3**: Web platform for the presentation of the measurement results

“mouse over” function for detailed information
**Subsystem 3: Web platform for the presentation of the measurement results**

Key-points

- Easy accessible – mobile user oriented interface
- Equipment and testing scenarios comply with ETSI Standards and ITU Recommendations - Avoid risk for objections about the integrity of the results
- Fully customized to meet any Regulator’s or market’s needs.
- Availability to be offered as a service. No need to invest in HW.
Thank you!