

# Climatic chambers, incubators and refrigerated vehicle characterization at ISSeP in Liège (Belgium)



**Incubator Characterization**  
(Notice temperature sensors in Petri box)

## **Project :**

Develop an application for automated characterization of climatic chamber, incubator or refrigerated vehicle in respect to reference standard NF-X15-140.

## **Solution :**

Agilent VEE Pro graphical programming environment was essential to develop such an application. Ease to use and high productivity in development was allowing a just in time finalization of project.

Moreover, it was very easy to move data logger very close to climatic chamber, or refrigerated vehicle with integrated LAN controlling instruments tools from VEE Pro.

For new test system projects, ISSeP is now using VEE Pro release 7 with Microsoft NET framework enhancements (interaction with OS, easy connection with spreadsheet and databases, email...)

**The Company :** “Institut Scientifique de Service Public” (ISSeP) is a Belgian organization, under direct supervision of the Walloon government.

ISSeP employs approximately 250 people, located on two sites: Liege -where is also located Headquarters- and Colfontaine. Its competence and know-how in environmental measurements and characterization of industrial hazards confers to ISSeP a role of interface between private and public sectors. ISSeP acts as a privileged interlocutor for the implementation of Walloon policies.

ISSeP is at the same time:

- Characterization and expertise center
- Development and research center
- Reference Organization

**The Quality insurance:** Metrology Service of ISSeP ensures verification and metrological traceability for equipments monitoring the environment with respect to accredited methods and standards. For example, it concerns climatic chambers, incubators and refrigerated vehicles used by the various ISSeP's services.

**Climatic system characterization and verification bench:** The bench object is to characterize climatic systems in accordance to NF X15-140 (Oct 2002) standard.

Basically, the procedure consists to check temperature stability over time for various points

inside the climatic system, all that for each applicable consign value. Then compares results against standard in four dimensions.

**Instrumentation:** Temperature probes (platinum sensor) are positioned in various points of the system to check and connected to Agilent 34970A data acquisition and switch unit.

The 34970A is linked with an Agilent E5810A LAN/GPIB gateway via GPIB bus; this gateway is connected to Local Area Network (see picture).

The operator can't stay inside experiment room during the test. He drives the experiment from VEE Pro application running on a PC located anywhere in the building via any network access point.

**The application:** ISSeP with Agilent VeePro developed it.

In addition to its basic functionalities of driving Agilent 34970A, maintaining metrological traceability of temperature sensor, data logging and displaying measurements, the application object is:

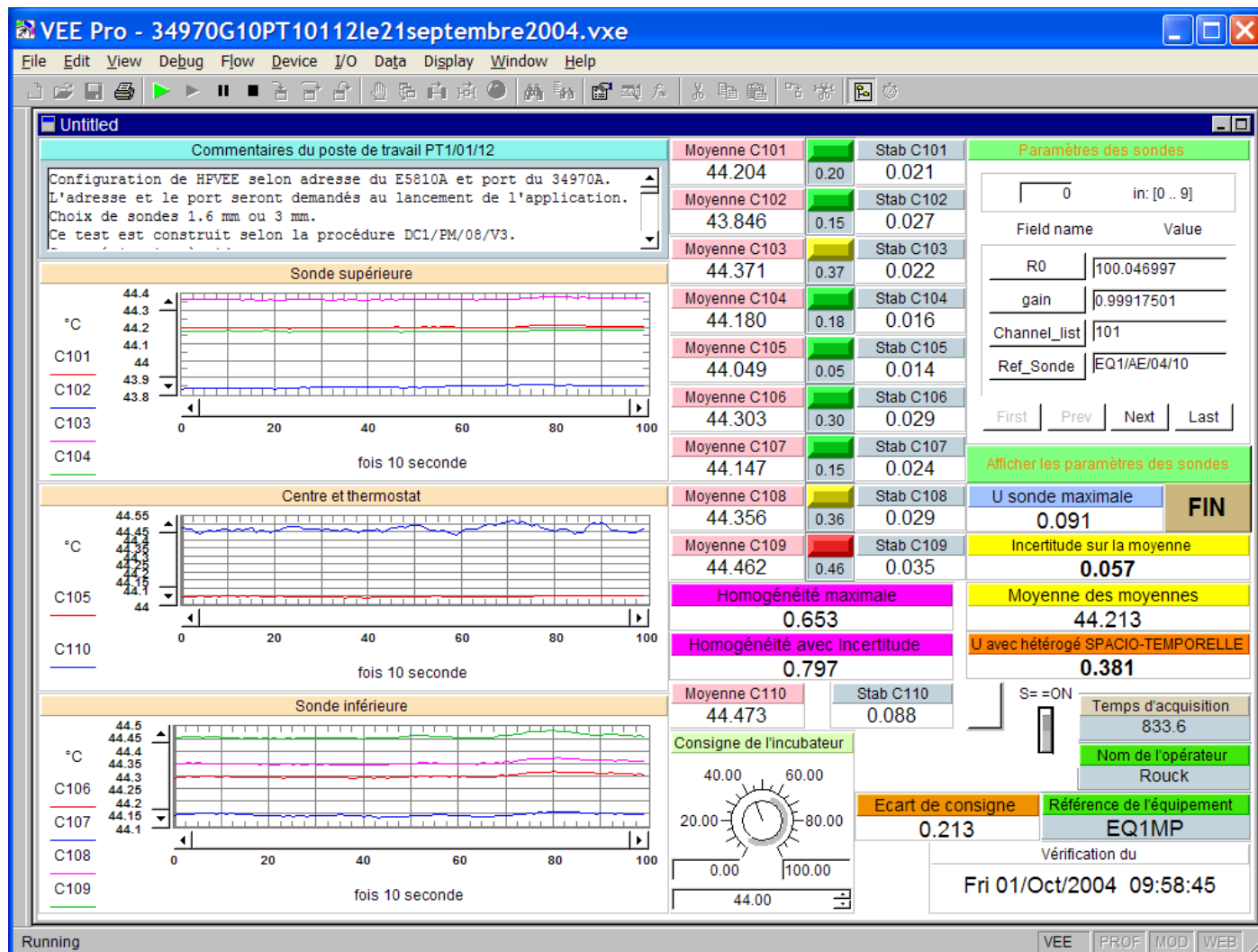
- to guide the operator during the characterization of the equipment without need of any additional reference documentation
- to provide as quickly as possible an information if the test goes wrong.
- to provide full formatted test report, on end of the characterization.

**The Agilent VEE Pro Choice:** ISSeP uses many Agilent instruments as reference equipment. The graphical programming language Agilent VeePro was selected since 1999 for its easy learning and inherited tools enabling quick program development. Panel drivers are well suited for prototyping and validation of new measurement procedures.

New developments integrate VXI PnP driver and do use intensively VeePro interaction facilities with other software like MS/Excel, databases or mailers.

For example, another VeePro application centralizes and stores data from Institute supervision system. This system handles ten data logger in charge of monitoring various physical parameters (temperature, moisture...) from different points of Institute buildings. VEE Pro application uses an Active X component to send an email to the right person when any preset threshold is exceeded.

Contact  
[j.rouck@issep.be](mailto:j.rouck@issep.be)



ISSEP - Agilent VeePro Application : Incubator Characterization

