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GOVERNMENT OF ROMANIA



SERBIAN GOVERNMENT



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**ENVIROBANAT**  
Common History, Common Future

# LOGISTIC SUPPORT IN REALIZATION OF THE PROJECT FOR MONITORING DISTRIBUTION OF AIR AND WATER POLLUTION IN BANAT REGION

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**Romania-Serbia**

Common borders. Common solutions.

- TFZ has one monitoring station for air AIRPOINTER (2D) and one more device for air quality measuring TESTO 340.
- Airpointer is a compact mobile multi-gas system on modular platform for monitoring air quality. It contains several sensory modules for measuring up to seven air pollutants (CO, NO/NO<sub>2</sub>/NO<sub>x</sub>, O<sub>3</sub>, SO<sub>2</sub>, H<sub>2</sub>S, VOC with the addition of PM10 and PM2.5), it works without any special software.

- TESTO 340, manual portable device is practical and very simple analyzer for measuring the emission of CO, NO/NO<sub>2</sub>, SO<sub>2</sub>, with special sensor for O<sub>2</sub>, graphic display, its own software Easy Emission, it operates at temperatures from -5°C to +50°C, it has 960 gram weight , dimensions are 283 mm · 103 mm · 65 mm. Optional scope of measuring for all sensors, with data transfer in “real time” and control through Bluetooth module.

- Our business partner, has the following licensed software:
- Phoenics/Flair is CFD (Computational Fluid Dynamics) special software for modelling and simulation of particle dispersion in the air and in water, fire, etc.  
CHAT UK
- Ansys Fluent, is CFD software with similar possibilities except for fire.

- It should be mentioned that both software are based on the numeric solving of partial differential equations of the second order: in the first order of Navier-Stokes' equations and other equations as well, depending on the studied phenomenon.
- AERMOD View (AERMOD, ISCST3 and ISC-PRIME), are intended for gas dispersion, based on Gauss model. (It supports GIS maps), recommended by EPA,
- Austal, Lakes Environmental Software, is graphic user interface, similar to the above mentioned, supported by German Federal Agency for air protection.

# Spectrophotometer



- There are many producers all over the world, such as: Analytik Jena AG Germany (we prefer high quality, picture 1a.Specord 250), Angstrom Advanced Inc.USA, Cecil UK (Picture 1b.), Konica Minolta Japan, Jenway UK, Angstrom Advanced Inc.USA, Hach Lange LTD UK, Dynamica Switzerland, Indiamart, Mepcco, ECM ECO Monitoring and many others.

- including several software modules with extensive methods for collection and distribution of data operating at the required wavelength range from 190 nm to 1100 nm ( $\text{nm}=10^{-9}$  m) and spectral range of 0,2/0,5/1/2/4 nm.
- Quantitative data analysis with statistical functions is very simple, since the spectrophotometer automatically performs: addition, subtraction, search, flattening of values at interactive lengths, as well as normalization of measurement.



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- It possesses „formula editor“ for modelling individual modules for the automatic measurement. It possesses tools for quantification of nucleic acids and proteins, for different bio methods, such as Warburg Christian-, Scopes-, Kalb-and Bernlohr and other models (with more than 167 Test kits and reagens)

# Weather station

- Also, planed one station: with satellite wireless communication GSM/GPRS, and/or internet with display software, EtherNet/IP protocol, central data base, control system and automatic control (Pict.2.).
- We are analized: G. Lufft Mess- und Regeltechnik GmbH Nemačka, Vaisala Finland, Davis Instruments USA, CAO s.p.a. Italy, Cambell Scientific Ltd UK, OTT Hydromet GmbH Germany, Pulsonic France i dr.
- All have same characteristics but prices are very different

## NETWORKING AND SOFTWARE SUPPORT

- After analysis software best suited Phoenics (Fluid flow simulation and/or Ansys Fluent),
- parallel processing (20 processors), due to limitations, solutions 2 +4 +6 +8 +12 ..... etc.
- saving time up to 8 times on large projects,
- each processor works independently from the base of project,
- integrated management of all measuring devices through a single compliant LIMS (Labor.Info.Man.System).

- The second type of program, which is based on the Gaussian distribution, the college will also provide: special integrated interface, complete and powerful software, recommended by the EPA, the air dispersion modeling and to assess pollution concentration and deposition from a variety of sources. The simulation software has several functions

Simulation software has several functions:

- completely integrated graphic interface, with easy to use graphic tools, automatically controlled formation and display of results,
- for inputs/outputs, simple MS Excel tables are used regardless of its number and size,
- it enables parallel processing without additional costs,
- automatic field data downloading, using standard database formats,
- outputs have more realistic picture of where and in which amount the pollutants will affect surrounding area,

- To use this software, it is necessary to determine the level of detail maps of Serbia and/or areas of digital, vector or raster format in which research is conducted,
- WebGIS, working with digital mapping and geographic data in a standardized raster format.
- Nekoliko primera primene Phoenics/Flair

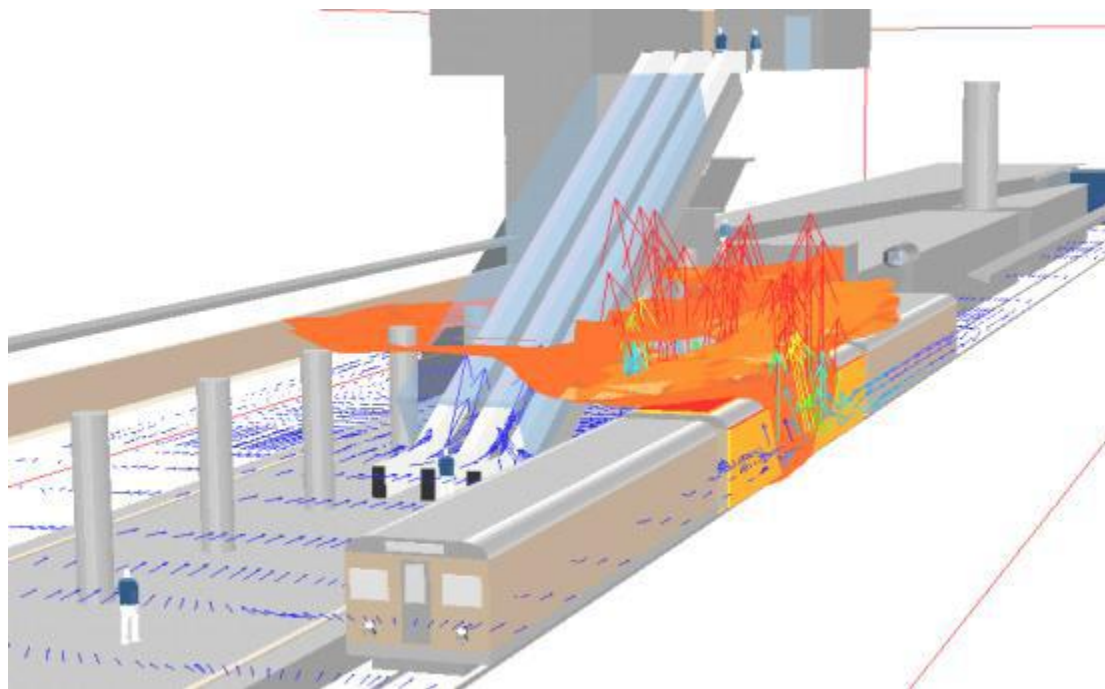


CROSS  
BORDER  
COOPERATION

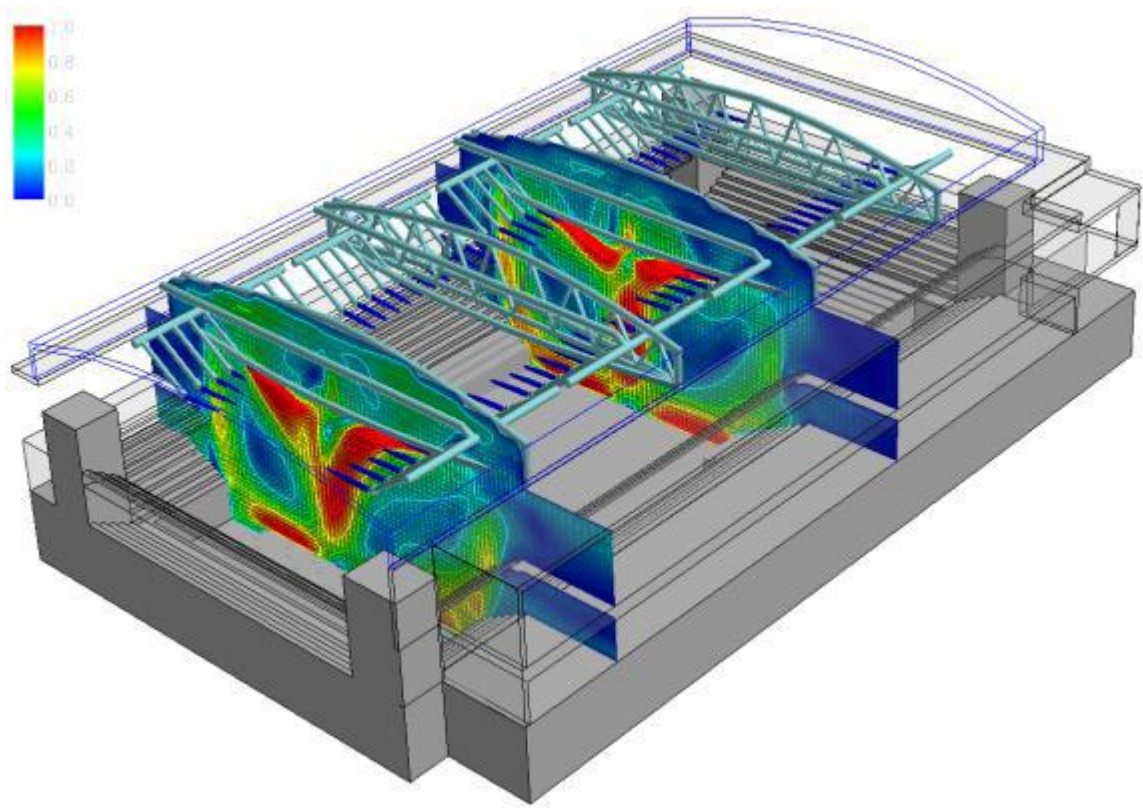
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Thank You for attention

Supplements: PDF

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