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PRESS RELEASE

UX-1: hardware, software and data analysis know advancements

UNEXMIN is an EU-funded ambitious project that is developing a new multi-robotic submersible system for surveying and exploration of flooded mines. This project will lead to the development of a robotic explorer (UX-1) that will autonomously map flooded mines, which will bring valuable geological information that cannot be obtained in any other way. Ultimately, this information could open new exploration scenarios on the re-opening of Europe's abandoned mines.

The UNEXMIN consortium partners got together in Madrid (in the facilities of Universidad Politécnica de Madrid), during 25th and 26th of October to discuss the current situation and advancements on software and hardware decisions related to the UX-1 robot development. The post-processing data analysis and respective database were also discussed in this meeting. This second follow-up UNEXMIN workshop (coming after the first workshop follow-up meeting held in Porto in July), brought some light to the discussion and development of the project.

Discussions on the Work Package 3 (Autonomy for mine exploration and mapping), Work Package 4 (Multi-robot platform development) and Work Package 6 (Post-processing and data analysis functions) were also held during this meeting. These three Work Packages will start now and are very important for the development of UX-1: they will develop many of the tools that the robot will use when autonomously mapping the flooded mines and communicate.

The first mechanical model is already being designed and produced by TUT (Tampere University of Technology), the first prototype will have a close frame approach (integrated pressure hull) with space for a lot of the necessary scientific instruments that are being developed by UNIM (University of Miskolc) and also for other subsystem components, such as propulsion, perception, pendulum, ballast, computer and power supply. This approach will allow the most useful weight for the given weight and space available in the robot. This first prototype design will be finished by February.

The robot prototype that is being developed right now will have a spherical shape with a diameter, which fits to the sometimes narrow mine corridors and have an operation depth of 500 m. These characteristics, together with the scientific and subsystems equipment, will allow the robotic explorer to do the 3D mapping of flooded mines in an autonomous manner, the best way possible.

Work will now continue with the designing and producing of the first prototype, the testing of scientific equipment, the development of the many subsystems and with the developments offered by the three Work Packages above described.

MORE INFORMATION

http://www.unexmin.eu/

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