

Lifelong Learning Programme
Information and communication technologies - ICT (KA 3)

Nano Tech Science Education
Grant Agreement No 2010-4223/001-001



**D23. FIRST INTERIM REPORT ON
DISSEMINATION ACTIVITIES**

FIRST INTERIM REPORT ON DISSEMINATION ACTIVITIES

The dissemination of the project was initiated with the 1st Project Meeting and it was carried out through the project by the partners. Doga was the leader of the dissemination work package and Turkish partner defined the dissemination strategy of the project and the project outputs to the target groups in partners' countries and other European countries.

During the project, the project partners aimed to raise awareness about the use of Nano technology in science education, present the educational tools in the virtual lab to have the impact on potential users: learners aged 13-18 in General & Vocational School, science teachers of lower secondary and upper secondary stage and prospective teachers and university students at science education faculty. The project was initiated through presenting the project content and outcomes to the potential users.

-As a first step the project web site was set up by DOGA (please see <http://www.ntse-nanotech.eu/>) and translated in partners languages.

-The dissemination of the project was initiated from the beginning of the project through workshops, seminars and school visits in PMs to reach target groups in partner groups. The partners planned workshops and seminars to present the project & outcomes and test the nano experiments for general secondary and vocational school teachers and students. DOGA invited students from upper elementary (22 students) and high school (6 female students) to present the project and to test how to design the educational tools for virtual lab for different grade and engage them in explorative and amusing science learning through applying two Nano-tech experiments in March 2011 in Yakacık Doga Nano Bio Tech Laboratory (please see <http://www.ntse-nanotech.eu/dissemination.asp?lang=EN>) In addition to this in September 2011, 3 day local workshop was designed for science teachers from elementary and secondary schools (about 22 teachers) to make the teachers aware of how to integrate Nano technology in science education through using ICT.

-Fondazione Idis conducted informative session about the content of the NTSE project addressing the teachers and people from education in October 2011. During the 3rd PM in Sofia the project partners visited "John Atanasov Vocational School" on 08.December 2011 and the same school was invited to the video- conference session with the TR school in the beginning of December 2011. The video conference session between TR and BG was held among three different schools to test the efficiency of the experiments in the virtual lab. The main purpose was to test the efficiency of the educational tools on the learners through posing encouraging questions to provoke their curiosity about science and nanotechnology including more than 40 students from secondary school in May 2012 (please see <http://vlab.ntse-nanotech.eu/NanoVirtualLab/podcastingroom/list?page=1&size=5>)

-Sirma Media (P3) had an opportunity to present the project and virtual laboratory workshop and seminars organized for teachers, school administrators, methodology and pedagogy specialists addressing more than 200 people in London in January, 2012.

-Forth (P4) presented the NTSE Project to 6 science teachers in Heraklion in April 2012 and also registered the NTSE project to the STENCIL Catalogue (<http://www.stencil-science.eu>), the portal for the science teachers and policy makers to reach more target groups.

-CCTA also presented the project content and outputs during the final meeting of Key TTT (504605-LLP-1-2009-1-BG-COMENIUS-CMP) addressing 16 representatives of the international partners' institutions from: TR, NO, PL, IT, BG and 86 Bulgarian participants of the final conference, among which representatives from the Bulgarian Ministry of Education, from regional stakeholders, as well as teachers in science subjects in December 2011.

-The project presentation was also realized by CCTA (P5) in December 2011 addressing 140 participants including teachers, scientists and university staffs in Robotics Conference in IT.

-In BG, TR, IT and RO interviews were realized and uploaded to the podcasting room with a successful Bulgarian female Physician, an Italian female Scientist, Romanian Scientist and a Turkish female journalist as role models for girls to solve the problems with gender inequality in science education.

-A portal system in the lab was set up to enable the implementers to share knowledge about the implementations and potential users e-mail lists including the teachers, prospective teachers and universities students were provided to FORTH to let them exchange their opinion about the use and place of Nanotechnology in science education and it would be used by the wider educational community to discuss project related issues.

-The promotional leaflet explaining the project aims & outputs was designed in EN and 1500 copies were printed to disseminate during the International seminars and conferences and printable version was uploaded to the collaborative web space to share with the partners. These leaflets were disseminated in Applied Physics and Material Sciences Congress in Antalya, TR in May 2011 and the poster sessions were done with the participation of the project partners from BG, EL and TR.

-CCTA also presented during the poster sessions by Mladen Matev (pls. see <http://www.ntse-nanotech.eu/dissemination>) addressing 120 participants from BG and 10 international participants in Nanotechnology and Education National Conference in Sofia BG.

Please see <http://www.ntse-nanotech.eu/docs/NTSE%20Poster%20in%20Sofia%20BG.pdf>

-Later the promotional leaflet explaining the project aims & outputs was designed in EN and translated in all partners' languages to disseminate during the International seminars and conferences and printable version was uploaded to the collaborative web space to share with the partners. These leaflets were disseminated in different International Seminars such as Applied Physics and Material Sciences Congress in Antalya, TR in May 2011 by P1, – 4th World Conference on Educational Sciences (WCES 2012) in Spain in Feb 2012 and 11th WSEAS International Conference on Applied Computer and Applied Computational Science (ACACOS'12) in Finland in April 2012 by P5, Robotic Conference in Italy in December 2011 and Nanotechnology and Education national Conference in Bulgaria in November 2011 by P6. Moreover, the project partners to reach the target groups in a European context realized the poster sessions and presentations.

-The list of the planned dissemination activities was uploaded to the web site and collaborative web space to reach possible target users of virtual laboratory and the lists of the potential users were provided to FORTH to add the contact list and engage them to the project process through sending the invitations about the experiments and the content of the video conferences.

-Each partner organized local workshops or seminars to reach the science teachers to encourage them to test the experiments in the VL. Nano-tech academicians of DOGA arranged 3 day local workshops for the implementer teachers to raise their awareness about Nano-technology and the integration to the science education. Later students from upper elementary and secondary schools were invited to Yakacik Doga Nano- Bio Tech Laboratory to test the nano-tech experiments and the perception of the students and teachers towards the use of Nano –tech in science education. FONDAZIONE (P2) conducted an informative session about the contents of NTSE carried out in the framework of 3 GIORNIPERLASCUOLA a national convention addressing to teachers and people engaged in educational activities on 13 October 2011 in Naples, IT. Also during the 2nd PM in Naples, the partners were involved in a workshop including educational activities of the Nano-Kit from time for Nano project illustrated by Ilenia Picardi, physicist and scientific journalist. http://www.ecsite.eu/activities_and_resources/projects/time-nano

P3, SIRMA participated in workshop „IT tools in education” for the presentation of the project with 60 participants from the following cities: Vraca, Vidin and Montana /teachers, head teachers, primary and secondary school teachers, school heads. FORTH (P4) presented NTSE Project to the science teachers of Experimental High School of Heraklion including their students. UVT (P5) held a local workshop with university students and prospective teachers are coming from Physico-Chemical Methods of Analysis for Monitoring the Quality of Environment and Life - master studies (many of them are already teachers) to present the draft of repository and the virtual lab to get their feedback on the efficiency of them in science education and also to engage them as the implementers of Virtual lab / repository in their schools.

- On 14 May 2012, multi- videoconference session was held among three schools from BG & TR through testing the same experiments and applying the Nano –activities.

-From the beginning of the project, the partners used the opportunity to use the press to disseminate the project in different ways. The interview with Bulgarian scientist, which was broadcasted by Radio Bulgaria (the international department of the Bulgarian National Radio) in 5 languages and translated in 4 languages (apart from Bulgarian) and broadcasted to the territories of Turkey, Russia, France and Serbia. Furthermore, the text of the broadcast is available on the web site of the BNR-Radio

http://bnr.bg/sites/radiobulgaria/Lifestyle/ScienceAndNature/Pages/Young_scientists_in_BG_090512.

Exploitation Work Package of the project has officially started in Month 17 (May 2012), with partners’ discussions held during the 4th Transnational Meeting, in Sinaia, Romania. This was the first *exploitation session*, which had as a main topic for discussions how to guarantee the transfer of project results in time and beyond its life. For this purpose, an all-inclusive exploitation strategy has been established. The content of the strategy is presented in our exploitation plan prepared by UVT (please see <http://www.ntse-nanotech.eu/dissemination.asp?lang=EN>) in a very close relation with the dissemination activities. Also, it formed the basis for further development of the outputs and included measures to ensure that the benefits of the project endured beyond the lifetime of the project. The main channel for exploitation was the *virtual laboratory* (created in the frame of the project) and represented as an *educational testing environment*, in-time but also beyond the lifetime of the project. In this sense, starting with June 2012, the *virtual laboratory* will be introduced to the decision-makers using direct meetings or through mass-media (TV programs, newspaper articles).

UVT coordinates and monitors the *Exploitation Work Package* and reports its results. The *virtual laboratory* was be integrated in training activities for chemistry and physics students (around 50 participants) and web-technologies students (around 25 participants), during the 2012-2013 university year. At the same time, student teachers / practicing teachers (around 30 participants) / teachers (around 20 participants) were trained related to the use of *virtual laboratory* in various training programs. The feedback of trainees were collected and analyzed and the results were presented in the *Exploitation Report*.

Generally, through *Exploitation process*, the outputs will be available so that they become replicable and usable by others. For this purpose, the Project outputs will be promoted through the different educational, professional, and school / academic networks of which the partners are members.

Annex 1: for details of the dissemination activities in the partners’ countries.

http://www.ntse-nanotech.eu/docs/D23.NTSE_Summary_of_Dissemination_activities.pdf