NTSE: Nano-Tech in Science Education
Project number: **511787-LLP-1-2010-1-TR-KA3-KA3MP**

WP8 – Exploitation of Project results

1. Starting point

Exploitation Work Package has officially started in Month 17 (May 2012), with a 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 below.

2. Main directions of the exploitation strategy

The agreed *exploitation strategy* foresees:
a) *measures* for exploitation of results during and beyond the lifetime of the project;
b) *timing*;
c) *target groups* (final end-users).
However, the strategy is defined and carried out in a very close relation with the dissemination activities. In this respect, the *final exploitation report* will incorporate all *exploitable* results recorded from the evaluation and dissemination. Also, it will form the basis for further development of the outputs and will include measures to ensure that the benefits of the project will endure beyond the lifetime of the project.

3. Description of the exploitation strategy

a) As presented in the Project proposal (page 102), the main channel for exploitation is represented by *the use* of the *virtual laboratory* (created in the frame of the project), 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). Anyway, the Project partners have (first) the task to exploit the *virtual laboratory* in their own institution, within *teaching programs*, *workshops* and/or *science events*. At the same time, the Project partners will encourage educational institutions / organizations and/or individual learners to apply the *virtual laboratory* in different educational settings.

b) As a main outcome of the Project, the exploitation strategy involves the designing of the *Nano-Tech Annual for Nano-Tech readers* that represents a printed volume which will record, highlight and illustrate the main results of the project, including relevant facts and statistics. It will be printed in 1500 copies - EN version - and dispatched to schools, directorates, public

libraries, teacher training centers, research institutions. The Annual will be launched at each partner before the Dissemination Seminars (autumn 2013) and also distributed during the International Congress on Advances in Applied Physics and Materials Science, which have a special section dedicated to Nanotechnology (October 2013). In addition, after the end of the project, editions of the Congress will be organized, having Nanotechnology as a clear specific section.

c) Exploitation of the project results will be clearly emphasized during the *Nano Science Camp* (July 2013). Beside students and teachers who will participate to presentations, hands-on demonstrations & various activities related to nanotechnology, learners of vocational and general schools, LLP project participants will be also invited. Editions of the *Nano Science Camp* will be organized yearly, after the end of the project.

4. Deliverables

a) *Exploitation Strategy*
b) Annual: *Nano-Tech Annual for Nano-Tech readers*
c) *Exploitation Report*

a) The *Exploitation strategy* contains the main aspects of the exploitation activities, the activities that each partner is committed to carry out, the envisaged target groups, the means to be adopted and the expected results of the strategy. This document establishes the *Exploitation strategy* in general lines.

b) The *Annual* will include: a) description related to *virtual laboratory*; b) guidelines related to the usage of *virtual laboratory*; c) good practices and statistics related to the implementation of *virtual laboratory*.

c) The *Exploitation Report* released at the end of the project will collect the results of all the activities carried out by the partnership. It will contain a qualitative analysis of the results obtained and will focus mainly on the sustainability opportunities created by the exploitation strategy. It will describe the on-going and future exploitation of the main result of the project - the *virtual laboratory* - by the consortium and beyond. The target groups reached in terms of numbers and the educational settings, in which the *virtual laboratory* has been involved, will be also presented.

5. Tasks

UVT coordinates and monitors the *Exploitation Work Package* and reports its results. The *virtual laboratory* will 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) will be trained related to the use of *virtual*

laboratory in various training programs. The feedback of trainees will be collected and analyzed and the results will be presented in the *Exploitation Report*.

Doga has the task to exploit the project results in various local events (Seminars, Conferences with around 200 participants - 2013), but also will organize visits of pupils and teachers to the real laboratories and encourage them to use the *virtual laboratory*. It is proposed to be organized a teaching program for science teachers. Doga is also responsible for releasing the *Nano-Tech Annual for Nano-Tech readers*.

Fondazione has the task to organize activities with teachers, tutors, science communicators and learners (approximate 1000 participants) and encourage the teachers to use the *virtual laboratory*. At the same time, the project results will be proposed as a topic for discussion in relevant conferences and meeting at national and European level.

FORTH has the task to use the *virtual laboratory* (2013 and beyond – 200 participants). The results of those implementations will be communicated to educational policy makers (around 100 participants) in 2013 and beyond, encouraging so the application of the *virtual laboratory* in schools.

SIRMA will exploit the results of the project as topics for discussion in relevant conferences and meeting at national and European level, particularly in science network (ECSITE, ESOF PCST conferences, specific nanotechnology networks). *SIRMA* will relate (through social networks and forums) the Project results with other similar running projects.

CCTA has the task to facilitate the use of Project results for formal and informal school activities in Bulgarian general and vocational schools. At the same time researchers from the *Bulgarian Academy of Sciences* will take note about Project outputs and also include them in their studies.

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.