

EDITORIAL

Dear Readers,

Welcome to our second issue of TANOCOMP Newsletter that we would like to present to you! With our semi-annual newsletters we will keep you regularly updated with the progress of our project and make you aware of news related to TANOCOMP, the plastics industry and nanotechnology, which we hope will be of interest to you.

In this second issue, we are presenting the progress of our project, focusing mainly on the creation of Stakeholders networks in the participating countries, i.e. Spain and Greece. This issue also presents the outcomes of TANOCOMP needs analysis performed in all partner countries.

The overall TANOCOMP Stakeholders Network will play a significant role in the validation and the development of our e-Learning modules. The identification of the Stakeholders needs will be the basis of our training content. The first interaction with the Stakeholders network will take place at a Workshop in Germany. In addition, this issue contains suggestions on conferences that might be of interest to you. Moreover, we kindly invite you to also regularly consult our website:

www.tanocomp.eu

We are happy to invite you to follow our activities with this newsletter and we are looking forward to your feedback.

Yours sincerely,

The TANOCOMP consortium

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TANOCOMP ID

Title

Training on the nANOTEchnology aspects of plastic COMPosites with enhanced properties for use in high-strength applications

Programme

Leonardo Da Vinci Transfer of Innovation Project, Lifelong Learning Programme

Project No.

147426

Duration

01/10/2011-30/09/2013

Main objective

TANOCOMP aims at developing an e-Learning training for small and mediums sized enterprises (SMEs) on the compounding and processing of carbon nanotubes in polymers and plastics.

Partner countries

Germany, Greece, Spain and Cyprus

Overview of TANOCOMP Workshops and Seminars for Stakeholders

- 30th October 2012:** TANOCOMP Content Validation Workshop in Stuttgart, Germany
Workshop in which the first version of e-Learning content is presented
- 11th December 2012:** TANOCOMP Content Validation Workshop in Zaragoza, Spain
Workshop in which the updated and improved version of e-Learning content is presented
- March 2013:** TANOCOMP Seminar on didactic and functional aspects in Athens, Greece
Seminar to validate the tools, didactic aspects and functionalities of the e-Learning training
- April 2013:** TANOCOMP Seminar on didactic and functional aspects in Nicosia, Cyprus
Seminar to validate the tools, didactic aspects and functionalities of the e-Learning training
- Mid of 2013:** Simultaneous pilot testing in all partner countries

The first Workshop on the Validation of Contents will be held in Germany on 30th October 2012

While the Greek project partner Glonatech and the Spanish project partner aiTIIP are currently focusing on the creation of TANOCOMP e-Learning content, the German project partner Steinbeis-Europa-Zentrum is highly involved into the preparation of the first TANOCOMP Content Validation Workshop. This workshop will take place on 30th October 2012 at the premises of Steinbeis-Europa-Zentrum in Stuttgart, Germany.

During the event, a preliminary version of the e-Learning training content will be presented and participants will have the opportunity to give feedback on the content of the training modules and exchange opinions with the project consortium. The workshop is addressed to German-speaking TANOCOMP Stakeholders and is

expected to bring together plastics processors, plastics producers as well as representatives of associations and networks or research experts. Many of them had participated in the users' needs analysis on which content of the training is based.

The Content Validation Workshop is the first of two workshops of its kind within TANOCOMP project and it is also a good opportunity for participants to meet and exchange information with each other. The input collected will be considered for the further content optimization of the training modules. On 11th December 2012 the second Content Validation Workshop will take place in Zaragoza, Spain. At both workshops the TANOCOMP Consortium will be present. Translations will be provided at both workshops.

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News and Events

- 1. MATERIALICA 2012 - Lightweight Design for New Mobility**
23 Oct - 25 Oct, 2012
<http://www.materialica.com/>
- 2. NanotechItaly 2012 - International Showcase for Nanotechnologies**
21 Nov - 23 Nov, 2012
<http://www.nanotechitaly.it>
- 3. Plast Eurasia Istanbul**
29 Nov – 02 Dec, 2012
<http://www.plasteurasia.com/>
- 4. 2nd International Conference on Nanotek and Expo**
03 Dec - 05 Dec, 2012
<http://www.omicsonline.org/nanotek2012/>
- 5. INTERPLASTICA 2012**
29 Jan - 01 Feb, 2013
<http://www.interplastica.de>
- 6. nano tech 2013 - The 12th International Nanotechnology Exhibition & Conference**
30 Jan - 01 Feb, 2013
<http://www.nanotechexpo.jp/>

STAKEHOLDERS NETWORK

The Stakeholders network constitutes the basis for setting up the project's workshops. The latter are being organized based on the interest that has been expressed by the various organisations contacted, as well as the needs that were recorded in their questionnaires they filled out. The final target of the workshops is the validation and finalisation of the e-learning modules.

STAKEHOLDERS NETWORK IN GREECE

Glonatech has developed a significant network of stakeholders for the project TANOCOMP, diffusing material and information utilizing various means.

Initially, Glonatech located contacts associated with the Athens Chamber of Commerce & Industry and Hellenic Plastic Producers Association, who informed us of the Industry Department, which provided us with available lists of Greek manufacturers. In addition, research centers, associations and public centers assisted GLONATECH's effort in collecting a large number of manufacturers.

Glonatech organized meetings with plastic manufacturers to present them potential services and joint projects through TANOCOMP. The dissemination of project information has taken place through a variety of methods:

- Glonatech website: There is reference for TANOCOMP at RESEARCH area including project information. Many of the companies had visited http://www.glonatech.com/?page_id=53 collecting relevant data regarding the program.
- The TANOCOMP's site: www.tanocomp.eu.

- Social Media: Reference had taken place on twitter regarding the research program and its applications.
- Direct contact: Glonatech's Marketing Department contacted a large number of companies via email, mail and calls asking for their R&D department. Many companies did not own an R&D department and they had serious doubts in participating in the program until the first meeting.

Glonatech participated in many workshops, conferences and seminars where many leaflets and pertinent material of TANOCOMP were distributed. After these actions, Glonatech disseminated questionnaires to the companies who accepted to participate in the program and many useful results arose. The questionnaires were completed in Hellenic by the stakeholders in order to avoid any misinterpretations and then translated to English and transferred to the consortium's SurveyMonkey account. The results designated in detail the level of the Hellenic plastics manufacture sector.

STAKEHOLDERS NETWORK IN SPAIN

For its role as a Technology Centre, AITIIP has an important and continuing relationship with companies, associations, research organizations, public agencies, etc. Therefore, in the development of a stakeholders network for the project TANOCOMP, AITIIP started from the extensive network of contacts on which the centre could count.

Information on TANOCOMP and the opportunity to participate in the project was communicated to TANOCOMP stakeholders through various means:

- **Business Services.** AITIIP holds regular meetings with client companies, concerning the possibility to give them services or to develop joint

projects. In these meetings AITIIP informed them about TANOCOMP and benefits entailed by being part of its development.

- **Attendance at fairs, workshops, conferences.** AITIIP presented TANOCOMP to various contacts that met at these events in order to involve companies and other organizations in the project.
- AITIIP develops **regional and national R&D projects** involving many companies (especially SMEs), but also technology centers, clusters, associations, etc. AITIIP knows the needs of these entities and knew which of them could be interested in a project like TANOCOMP.

- **Memberships in platforms, partnerships, clusters.** AITIIP belongs to various agencies of its kind and has a good relationship with both coordinators and partners of various associations, leveraging these channels to transmit information about TANOCOMP.
- **AITIIP website.** The project's information and the opportunity to participate in it was introduced in the centre's website: <http://www.aitiip.com/noticias/formacion-e-learning-gratuita-sobre-nanotecnologia-aplicada-a-plasticos.html>
- **Mailing.** AITIIP has a database with customers and partners information that facilitated the prepa-

ration of a general mail informing them about the project and the opportunity to participate.

To get greater access to stakeholders and more information, the questionnaire was translated into Spanish. One of the pending issues of Spanish companies and especially SMEs, is the lack of other languages knowledge and wanted to avoid misinterpretations or vitiate the uptake of information. Also as a means for facilitating collaboration, "Google docs" was used.

The results exceeded all expectations, achieving the participation of almost 50 stakeholders some of whom have expressed interest in participating in the project after the completion of the questionnaire.

IDENTIFYING STAKEHOLDERS NEEDS

The TANOCOMP partners collected all the necessary information for defining the training needs of the stakeholders in order to provide the best possible training course in the use of nanotechnology to those involved in the production of plastics. Several organizations and SMEs established in Germany, Spain, Greece and Cyprus active in the field of plastic processing and plastic compounding were contacted. Ninety two questionnaires were completed in all countries. Taking into consideration the differences in the technological advances between the partner countries, the consortium analyzed the data in such a way that all countries could benefit the most from the courses. Most organizations participating in the stakeholder's network work on automotive, aeronautics, packaging and household products. The plastics used by the majority of the involved organizations in the survey are PVC, ABS (Acrylonitrile - Butadiene - Styrene), Biopolymers, PET and other thermoplastics while the majority of companies are using more than one component.

In general, only the 50% of the polled organizations own an RTD department, a first difficulty that TANOCOMP has to confront, as RTD activities are necessary for continuing the efforts in using nanotechnology for producing plastics. However, all the organizations have admitted that attention must be given to the mechanical properties, surface quality, high-strength, wear resistance, electrical and thermal conductivity, density, scratch and chemical resistance. Almost half of the companies tried in the past to modify their compounds with several additives while the same percentage claims

that they are aware of some potential applications of nanotechnology in plastics. However, only 4% answered that they are very familiar with nanocomposites used in plastics, 40% that they are just familiar and 40% that are not familiar at all. Most Spanish companies admitted that their source of information is technical/specialized literature review, 10% through participation in survey/studies, while the Spanish and German companies declared that 25% of the information was acquired through contact with other companies, organizations or professionals.

In Greece and Cyprus there is a huge lack of information in the field. Moreover, companies admitted that it is rather difficult to find any suitable information or training possibilities on the use of nanocomposites (35%) while they express interest in producing thermoplastic composites reinforced with nanostructured carbon for structural or other type of applications. Finally, almost 50% of the companies believe that in-house training specialization is useful, 22% very useful, 13% fairly useful and 3% state that it seems not useful at all. Almost the same percentages are encountered when referring to online training and the self-training procedure after the implementation of the didactic period. Having a tutor or experienced teaching staff in this topic is also important while they believe that a well-designed e-learning tool which will provides a wide platform of information and networking with other EU countries for the exchange of good practices and information would be of a great benefit for any organization.