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NANOTEC
Ecosystems Technology and Design for Nanoelectronics

Coordination Action
Information and Communication Technologies

Deliverable No 6.5: "Yellow pages on Nanoelectronics in Europe to the public"

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Revision [ ]

Approval

WP Leader	☒		**Coordinator** ☒

Project co-funded by the European Commission within the Seventh Framework Programme (2007-2012)		
Dissemination Level		
PU	Public	
PP	Restricted to other programme participants (including the Commission Services)	x
RE	Restricted to a group specified by the consortium (including the Commission	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Partner	Please, give a short description (1-3 sentences) of partners contribution to this deliverable
ECN	Specified and programmed the "Yellow Pages" and took all effort to foster the Yellow Web Pages of Nanoelectronic technology for the European nanoelectronic technology landscape to the public
All partners	Help on the specification of the taxonomy and check and correction of the Yellow pages' content and functionalities

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1. Aim of this study

This document reports what has been done and achieved concerning this deliverable, which was to foster the 'NANO-TEC Yellow Pages' (YP) to the public.

2. Work performed

The improved implementation of the 'NANO-TEC-Yellow Pages' (see first and second periodic report in Task 2.2) has been checked by all partners, who also inserted recent information and corrected the existing content again. ECN created a guideline document regarding how to deal with the YP which has been put onto the Yellow Pages homepage. Furthermore ECN wrote a press release concerning the opening of the Yellow pages to the public which has been revised by core project partners.

Finally the press release (see part 4 in this document) has been published by ECN while simultaneously several partners distributed the information via email to more than 4000 people in the communities of technology and design in nanoelectronics.

All experts from the communities of technology and design in nanoelectronics now have the opportunity to join, check and improve the YP. It has been observed that the access on the NANO-TEC website has risen after the press release and the mailing have been sent out but this has not been examined yet.

3. Guidelines: How to deal with the 'NANO-TEC-Yellow Pages'

3.1. What the 'NANO-TEC-,Yellow Pages' are…

The NANO-TEC project has established an information repository called 'NANO-TEC-Yellow Pages' (YP), which offers search for and access to experts, institutions, projects, working groups and results in the field of future nanoelectronics, as in Beyond CMOS, in Europe.
The European Commission ICT theme of the 7th Framework Programme is funding a Coordination Action project entitled "ECOSYSTEMS TECHNOLOGY and DESIGN for NANOELECTRONICS" (NANO-TEC, ICT-2010-257964). The project started in September 2010 and its aims are to identify the emerging generation of device concepts and technologies for ICT, as well as to build a joint technology-design community in order to coordinate research efforts in nanoelectronics in the European research area.
Therefore the NANO-TEC consortium has developed a state-of-the-art web platform for working groups, facilitating discussions, meetings, communications and recently offers access to an information repository called 'NANO-TEC-Yellow Pages' at www.fp7-nanotec.eu/search_yp. While the whole platform offers an interface to disseminate the project results to the public and to experts in the field, the "Yellow Pages" will help experts in nanoelectronics, who will gather in specialist groups, thus becoming a reference point to examine achieved results, existing competences and contact information in the field of future nanoelectronics in Europe.
Within the YP the nanoelectronics technology specific content has been organized along categories such as 'expert', 'institution', 'project', 'result' and 'working group'. Additionally, a five-level taxonomy of technical terms in micro- and nanoelectronics as well as in economy and funding has been defined. The YP's taxonomy allows classifying semantically the YP's categories. The following table gives an impression of the nanoelectronics part taxonomy spread only in two levels:

First Level	Second Level
Characterization	structural, electronic, optical, chemical, device, processes
Devices	Memories, Junction FETs, T FETs, X FETs, Photonics, Sensors, Nanowire FETs
Fabrication	Nanometrology, Beam-based, 3D Integration, self-assembly, heterogenious integration
Materials	Si, IV, III - V, Carbon, Polymers, Quantum Dots, Nanowires, Superconductors
Simulation & Modeling	Continuum modeling, ab initio / DFT, Monte Carlo, Molecular Dynamics
Theory	

Table 1: Nanoelectronics part of the YP's taxonomy in order to semantically classify the YP's categories. Categories and taxonomy have been implemented within the open source CMS system Drupal to form an information repository which enables the NANO-TEC web platform to store technical information in repositories in a structured and semantically order that can be used as Yellow Pages.

3.2. How to search in the NANO-TEC-‚Yellow Pages' (YP)

1) At www.fp7-nanotec.eu/search_yp you reach the first page of the NANO-TEC-‚Yellow Pages' (YP), which is embedded in the NANO-TEC-Homepage:

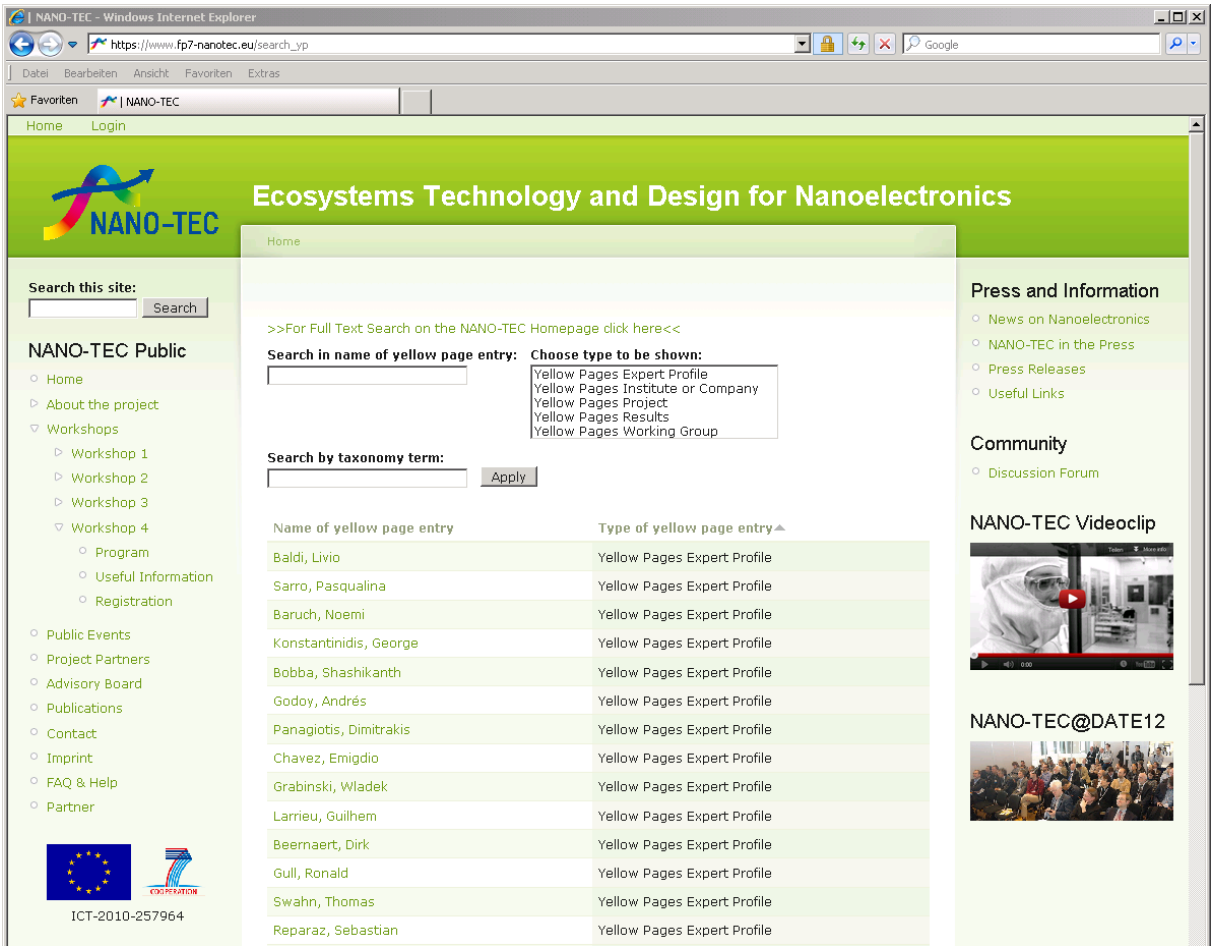

Figure 1: First screen of the NANO-TEC-‚Yellow pages'

The NANO-TEC homepage is divided into four areas: title, a left and a right menu and the content. At the top of the content area a search mask with three fields is shown. A search can be performed on either the name of the YP entry or using the taxonomy terms. By pressing the “Apply” button, the specified search will be performed. To concentrate a search on a certain type of YP data the type can be chosen from a list. For example if you insert “NANO-TEC” followed by “Apply” you get:

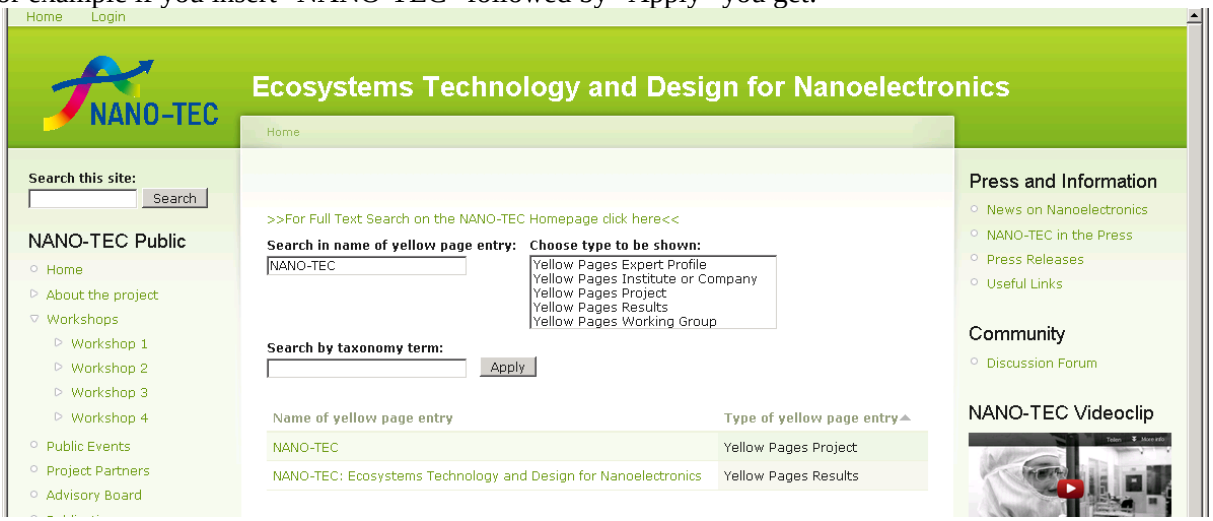

Figure 2: Result for a search on “NANO-TEC”

The shown result comprises the NANO-TEC project and a result that came out of it. By clicking the result you get the following YP entry:

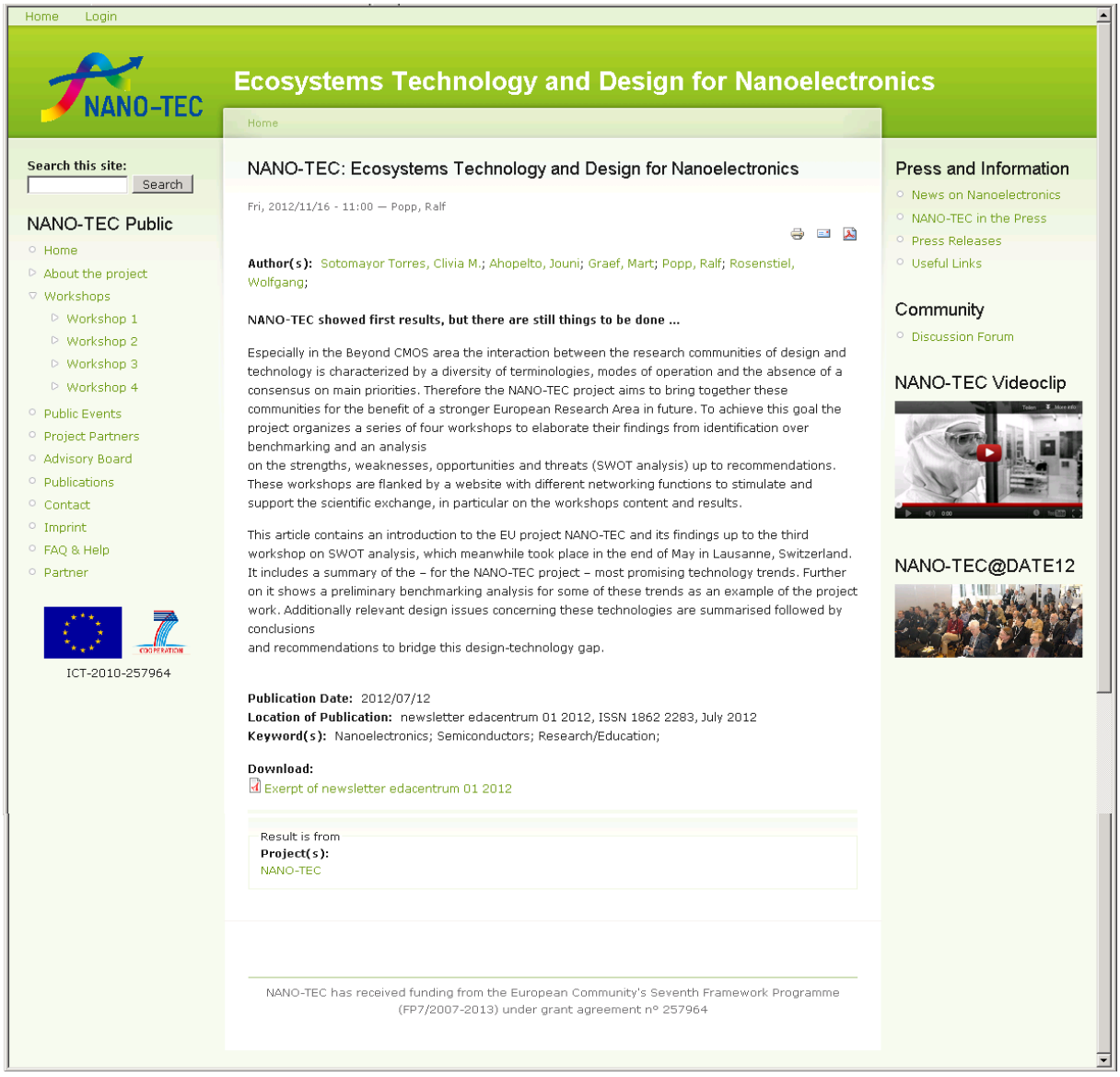

Figure 3: YP entry of a result of the NANO-TEC project

The content of the result comprises several fields, i.e., a title, authors, an abstract, the bibliographic data, a link to download the result and the link to the expert, the institution, the project or the working group to which the result is linked to in the YP data structure.

3.3. How to insert new data in the 'NANO-TEC-,Yellow Pages'

To insert data into the yellow pages you need to login or, if you are not registered yet, you need to register first. This can be done by clicking on the Link "Login" at the top of the page (see figure 4) and following the instructions given there.
Once you are logged in you will get a different screen at www.fp7-nanotec.eu/search_yp where you find links on the top of the page which will you enable to add experts, institutions, projects, results and working groups (see figure 4):

To login or register, click here.

Figure 4: Top of the YP homepage after login of a registered user

The procedure to add new entries to the YP is near the same as to edit data and can be derived from the instructions of the following chapter, which describes how to edit existing data.

3.4. How to edit data in the 'NANO-TEC-,Yellow Pages'

To edit an entry you first have to find the data. Therefore perform a search as described above. For example if you are looking for an expert called Eric Example you have to type his name into the first field followed by clicking "Apply". Figure 5 shows what you will get:

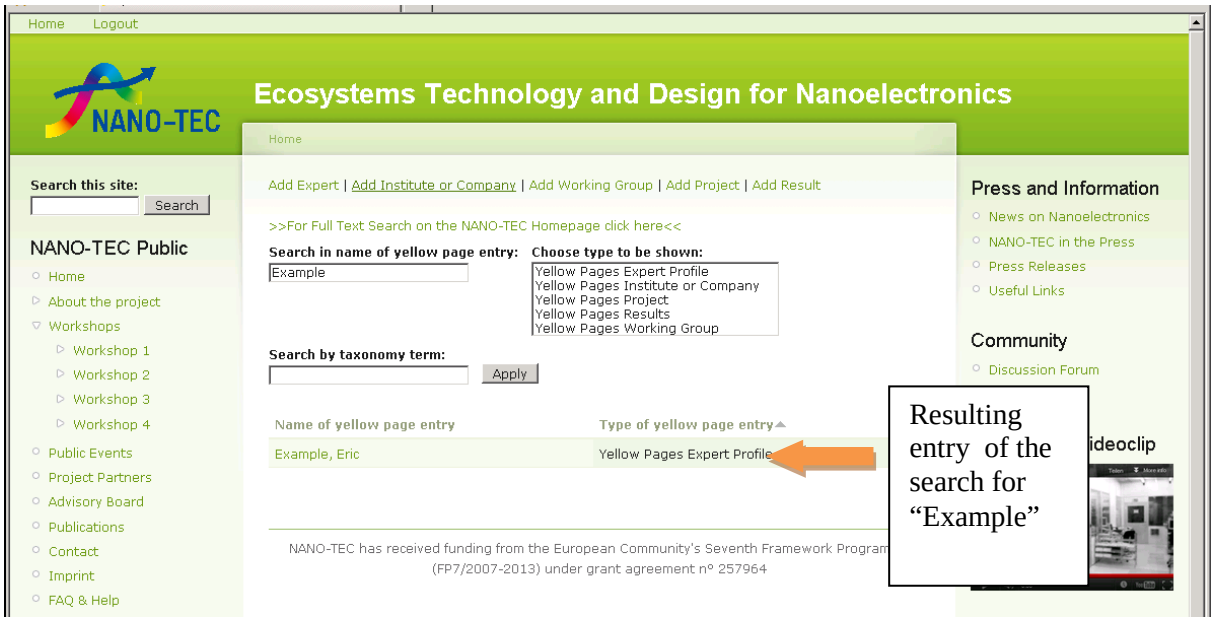

Figure 5: YP resulting from a search on "Example" in the "name" field of the yellow page entry

The result of the search is an "Expert profile" of "Eric Example" which can be seen after clicking on it as shown in figure 6.

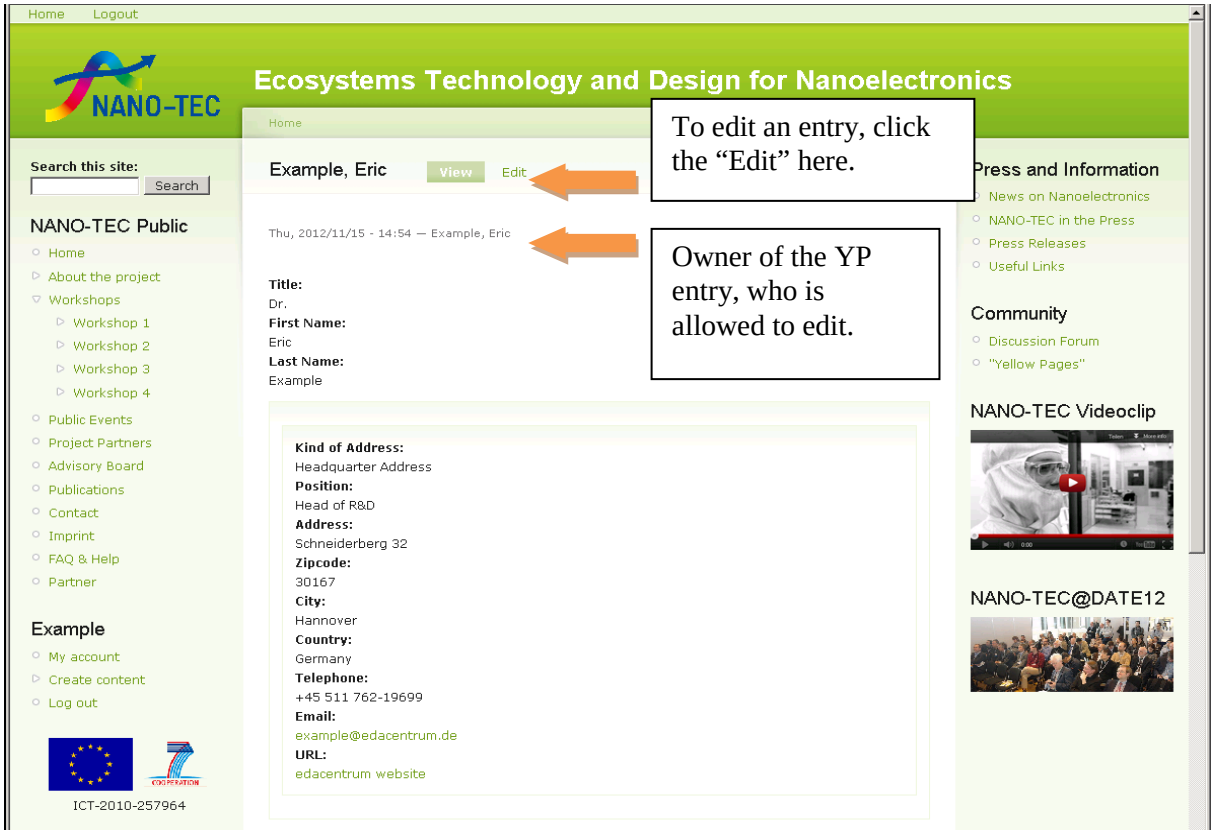

Figure 6: Top of the YP of the (fictive) expert "Eric Example" shows his contact details

If you are the owner of an entry in the YP, which is shown on the top of the data (see figure 6) you are allowed to edit the entry, which can be done after clicking the edit button. The following figure shows the top of the edit page of Eric's YP entry wich shows several of the editable fileds, in particular title, first name, last name and the taxonomy.

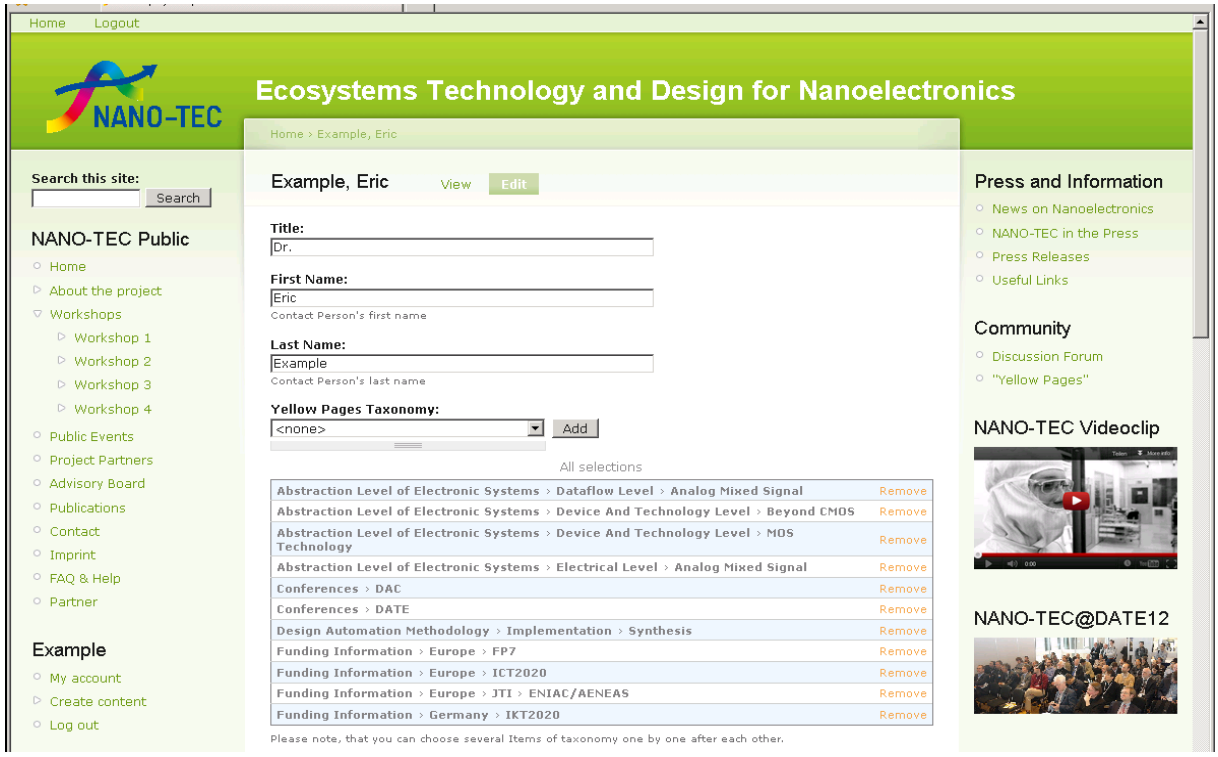

Figure 7: Top of the edit page of Eric Example's YP entry shows his title, name and taxonomy

As taxonomy is the core information for the YP to organize the different entries with respect to their context, it is of an enormous importance. The taxonomy data of each entry allows to classify it within its scientific, technical, funding or management context. The insertion of the applicable taxonomy is very simple and self-explaining following the drop-down menu. Once you have chosen a first taxonomy term (i.e. "Simulation and Modeling") from the menu, a new drop-down menu appears which allows to classify the first term, as shown in figure 8:

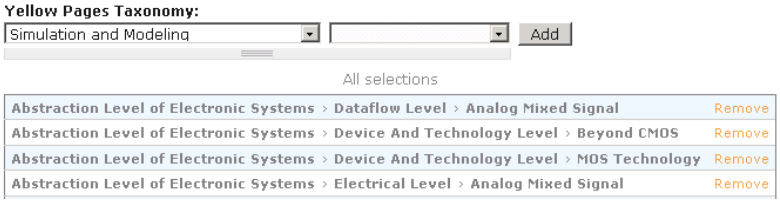

Figure 8: Illustration how to add a taxonomy term

After choosing again a taxonomy term a further drop-down menu appears until the last level of the chosen taxonomy is reached. The choice of terms can be stopped by pressing the "Add"-button at any time, which leads to a new entry in the list of taxonomy terms shown below the drop down menu. Any entry can be removed again at any time as well as any choice can be changed before pressing "Add".

At this time it has to be indicated, that each change on the edit page has to be saved by pressing the "Save"-button at the bottom of the mostly very long page, before a change becomes valid.

If you scroll down along the edit page you will see other editable fields (s. figure 8), in particular fields to insert the applicable contact information, which can be split up to several adresses by clicking on "Add more values".

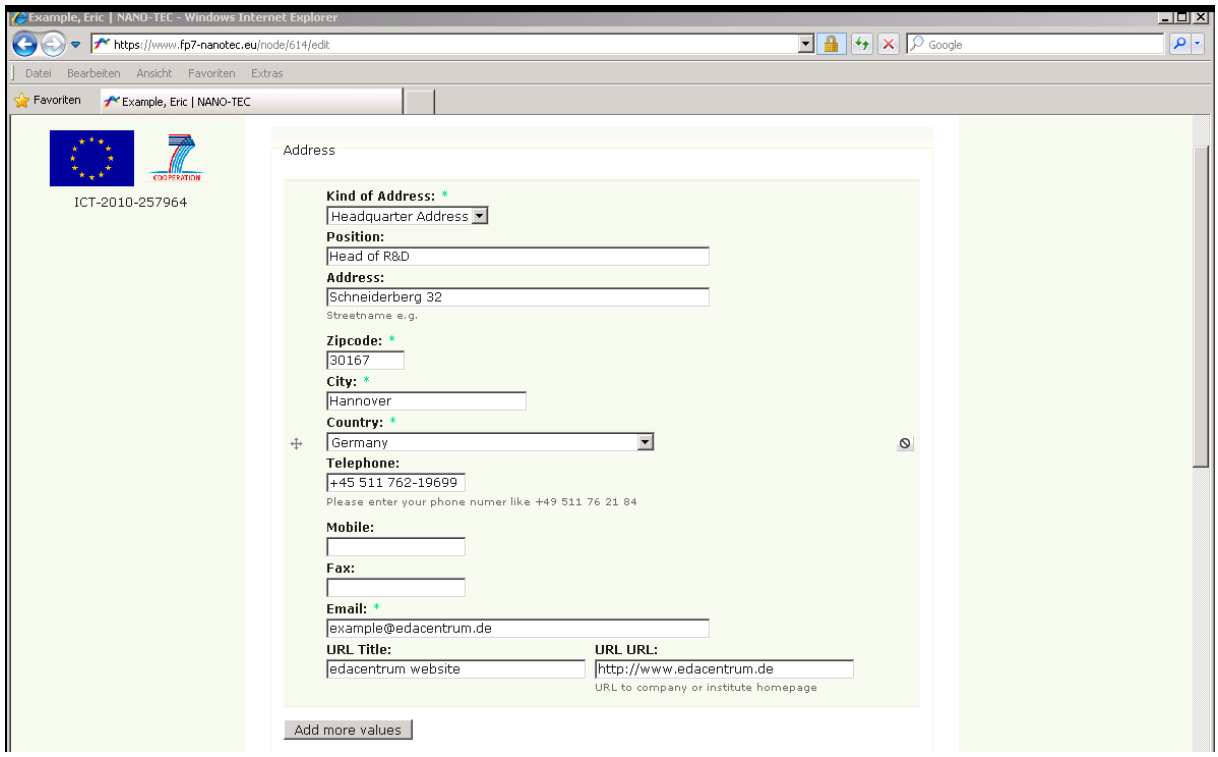

Figure 9: Editable fields to insert the expert's contact information

After scrolling down along the edit page again you will see an area of editable fields allowing to insert different employments during the expert's curriculum vitae, which is shown in figure 9.

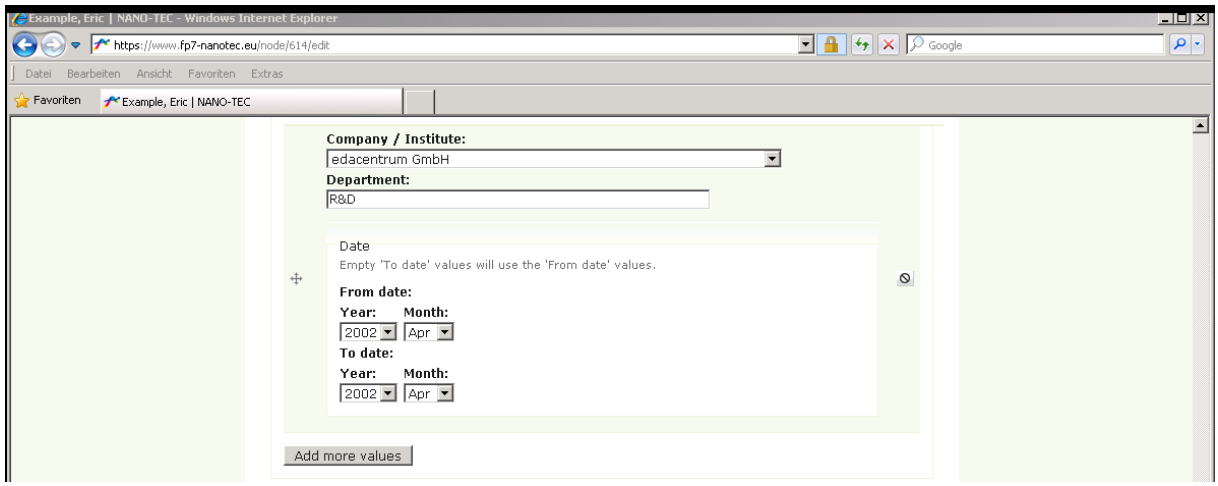

Figure 10: Editable fields to insert the expert's employment information over the years

The insertion of different employment institutions allows to link an expert to several companies or institutions without a conflict in the recent contact information. After inserting the current employment with the companies name from the drop-down menue, followed by a department and the time information of the employment, further employments can be inserted after clicking on "Add more values".
In this context it has to be mentioned, that you can only chose those institutions from the "Company / Institute" drop-down menu that have been added to the YP first.

At the end of the edit page you will reach the area to insert and/or edit interests and a bio (in plain text) and the very important area of links to other YP entries like projects, results and working groups followed by the very important buttons to save, to preview or to view changes.

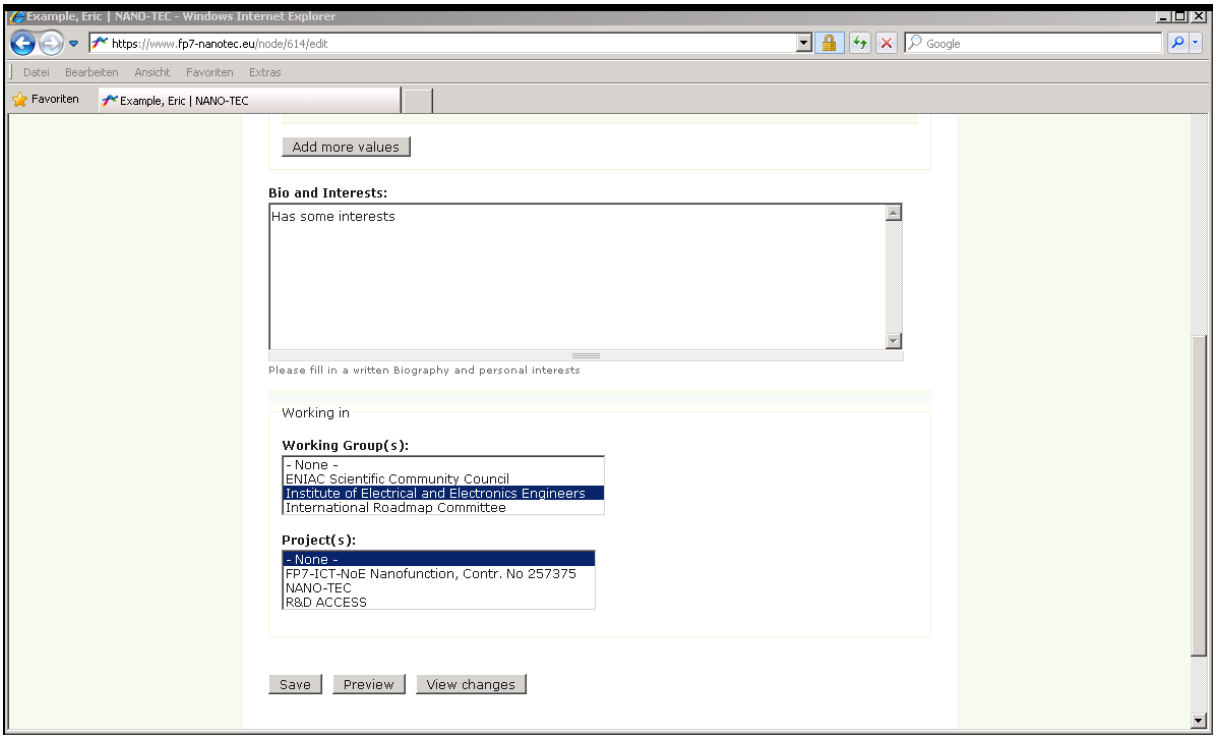

Figure 11: Editable fields to insert the expert's interests and bio and the links to other YP content

To edit YP data of othe YP categories act according to the edit process of the expert.
For questions please contactyellow-pages@fp7-nanotec.eu

4. Press Release

Yellow Pages on European Competences in Future Nanoelectronics available

NANO-TEC project helps to find experts, institutions, projects, and result in nanoelectronics

The NANO-TEC project announces its 'Yellow Pages' (YP) to be publicly available. The Yellow Pages comprise an information repository which offers search for and access to experts, institutions, projects, working groups and results in the field of future nanoelectronics, as in Beyond CMOS, in Europe.

The European Commission ICT theme of the 7th Framework Program is funding a Coordination Action project entitled "ECOSYSTEMS TECHNOLOGY and DESIGN for NANOELECTRONICS" (NANO-TEC, ICT-2010-257964). The project started on 1st September 2010 and its aims are to identify the emerging generation of device concepts and technologies for ICT, as well as to build a joint technology-design community in order to enhance research efforts in nanoelectronics in the European research area.
Therefore, the NANO-TEC consortium has developed a state-of-the-art web platform for working groups, facilitating discussions, meetings, communications and recently offers access to an information repository

called ‘NANO-TEC-Yellow Pages‘ at www.fp7-nanotec.eu/search_yp. While the whole platform offers an interface to disseminate the project results to the public and to experts in the field, the “Yellow Pages” will help experts in nanoelectronics, who will be able to gather in specialist groups, thus becoming a reference point to examine achieved results, existing competences and contact information in the field of future nanoelectronics in Europe.

Within the YP the nanoelectronics technology specific content has been organized along categories such as ‘expert’, ‘institution’, ‘project’, ‘result’ and ‘working group’. Additionally, a five-level taxonomy of technical terms in micro- and nanoelectronics as well as in economy and funding has been defined. The YP’s taxonomy allows to classify semantically the YP’s categories.
Categories and taxonomy have been implemented within the open source CMS system Drupal to form an information repository, which enables the NANO-TEC web platform to store technical information in repositories in a structured and semantically order that can be used as Yellow Pages.

About NANO-TEC
The EU FP7 ICT project NANO-TEC seeks to build a community of academic researchers in nanoelectronics, addressing specifically research in Beyond CMOS from the combined technology and design perspectives. A methodology for consultation and analysis of research needs and trends was developed. The main activity has been a workshop series with invited experts from academia research organisations and industry, preceded by a methodology contents preparation phase and subsequent analysis and documentation, both by the consortium. Apart of identifying main trends in Beyond CMOS devices and design, benchmarking and SWOT analyses were performed. The recommendations of these combined efforts will be made public early 2013.

NANO-TEC is led by the Catalan Institute of Nanotechnology and comprises 10 other partners who are the Valtion Teknillinen Tutkimuskeskus VTT from Finland, the German edacentrum and the Foschungszentrum Juelich GmbH, Chalmers Technical University of Sweden, the Polish Institute of Electron Technology, Delft University of Technology from the Netherlands, the Greek National Centre for Scientific Research “Demokritos”, Tyndall National Institute from Ireland, the Ecole Politechnique Fédérale de Lausanne and the French Centre National de la Recherche Scientifique CNRS. The consortium is assisted by an Advisory Committee of global experts with representatives of CEA-LETI, IMEC, Politecnico de Torino and AENEAS-CATRENE, who have global expertise and strong links to industry. Thus, the findings and activities of NANO-TEC ensure a broad coverage of its topic at European level.

More details on the project can be found at the project website: www.fp7-NANO-TEC.eu

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Pictures
Logo and a Screenshot of the Homepage of the ‘NANOTEC Yellow Pages’:

Links
http://www.fp7-nanotec.eu/search_yp NANO-TEC-Yellow Pages
http://www.fp7-nanotec.eu NANO-TEC project homepag

5. Conclusions and recommendations

The NANO-TEC consortium has developed a state-of-the-art web platform for working groups, facilitating discussions, meetings, communications and recently offers access to the information repository called 'NANO-TEC-Yellow Pages' (YP) at www.fp7-nanotec.eu/search_yp. While the whole platform offers an interface to disseminate the project results to the public and to experts in the field, the YP will help experts in nanoelectronics, who will gather in specialist groups, thus becoming a reference point to examine achieved results, existing competences and contact information in the field of future nanoelectronics in Europe. Within the YP the nanoelectronics technology specific content has been organized along categories such as 'expert', 'institution', 'project', 'result' and 'working group'. Additionally, a five-level taxonomy of technical terms in micro- and nanoelectronics as well as in economy and funding has been defined. The YP's taxonomy allows to classify semantically the YP's categories.

6. Bibliography

NANO-TEC web page: www.fp7-nanotec.eu
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