EUROTRAINING

EUROTRAINING - 316526

Deliverable Report

D3.2.1 – Webinar session I

WEBINAR

“Novel Technologies and Solutions for Electronics”

DATE	August 7th, 2014
PROJECT	EUROTRAINING – FP7 - 316526
START DATE AND DURATION	01/01/2013 - 36 months
ABSTRACT	This document describes the objectives, target group and content of the first Eurotraining webinar.
Dissemination level	PU
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1. Executive summary

The first webinar organised by the Eurotraining project has been released and the title is **Novel Technologies and Solutions for Electronics**.

In the webinar some of the novel nanotechnologies are analysed that are candidate to become part of the future of electronics.

The webinar contains some contributions received from two European projects, both FP7: the Erasmus project NanoEl (www.nanoel.eu) and the Leonardo project NanoSkills (www.nanoskills.eu).

The topics have been chosen taking into account the results of the survey performed in the previous months by Eurotraining and reported in D3.1.1 Report on EU companies' global training requirements.

The webinar has the aim to be an introduction to these new technologies, giving to the user the possibility of having spots from which in case of interest he can go in details. So it wants to be an enabler for the interest of professors and students, but in particular of industrial professionals, giving them enough information for understanding if the proposed solutions are of interest for their business.

In the webinar one section is devoted to the analysis of the limits that actual technologies, in particular CMOS, are reaching, and some keys of discussion are opened.

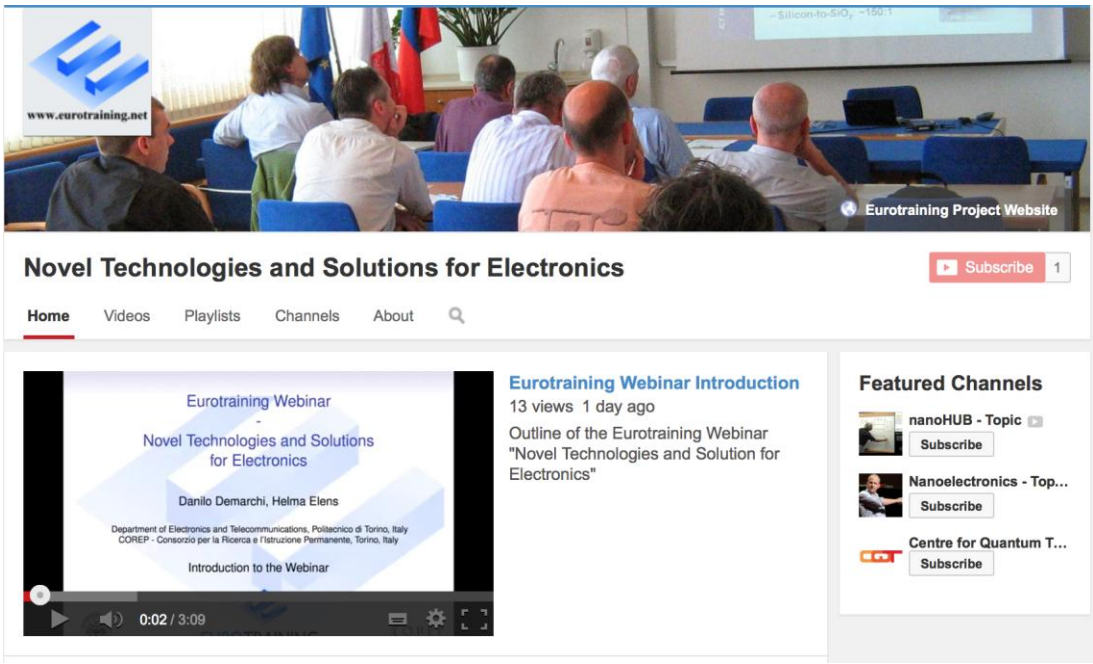
As publication channel YouTube has been chosen as, without any doubt, it gives the highest possible visibility and impact to the webinar. The webinar can be found at the address:

https://www.youtube.com/channel/UCQbYsyNONIk9hsBd-QQ_gPQ

A link to the webinar has been inserted on the Eurotraining website www.eurotraining.net together with a short description. The webinar will also be announced on the ET website news and the ET electronic newsletter.

The goal of the webinar was not only related to the contents themselves, but the action was done for showing a novel channel from which Eurotraining can serve its users, indicating the technological solutions for setting up an innovative and attractive course based on the most advanced web technologies.

2. Webinar Contents

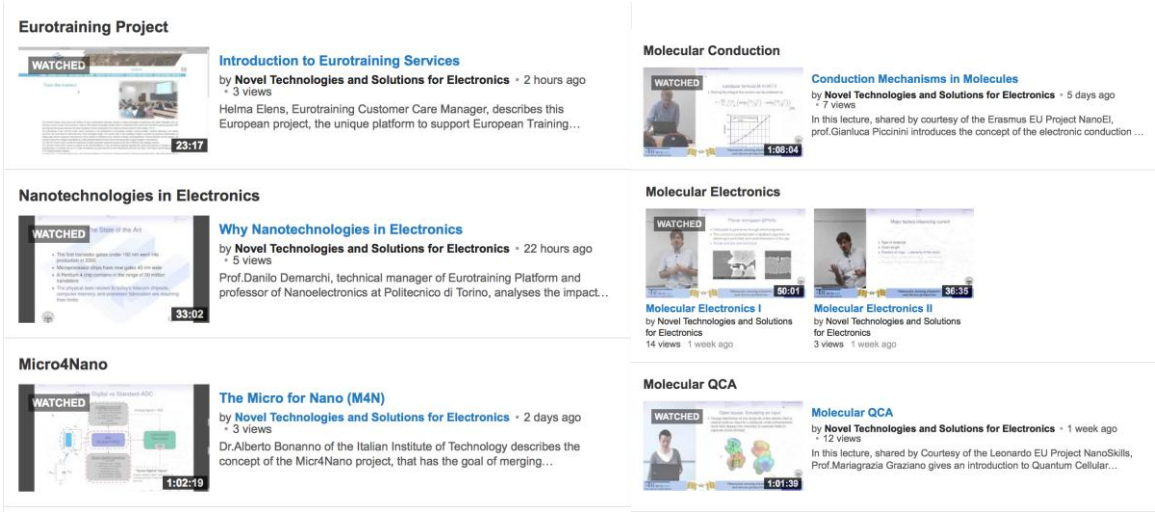


As shown in the figure, the user who enters for the first time has a short outline of the webinar, with a short video of about 3 minutes.

On the right are presented some YouTube channels (as for example NanoHub). They were selected because they can be of interest for the user.

From the menu it is possible to select:

- Videos, where the single videos of the webinar are present
- Playlists, where the videos, organised in playlists are shown
- Channels, where the list of the featured channels is presented
- About, where the project Eurotraining is quickly described



Then the Webinar is organised in 6 chapters:

1. Introduction to Eurotraining Services
2. Why Nanotechnologies in Electronics
3. The Micro4Nano
4. Molecular Conduction
5. Molecular Electronics
6. Molecular QCA

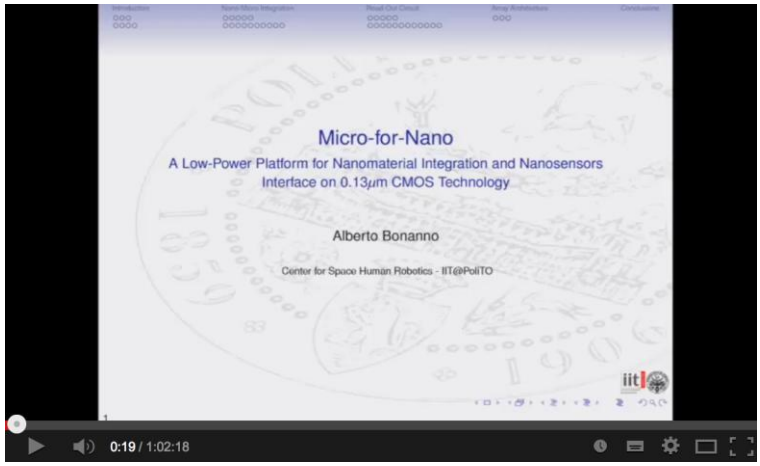
2.1 Introduction to Eurotraining Services

In this section Helma Elens, Eurotraining Customer Care Manager, describes this European project, the unique platform to support European training suppliers and training users in the field of nanoelectronics and nano systems.

2.2 Why Nanotechnologies in Electronics

In this section Prof. Danilo Demarchi, technical manager of the Eurotraining platform and professor of Nanoelectronics at the Politecnico di Torino, analyses the impact that nanotechnologies can have in electronics.

2.3 The Micro4Nano



In this section Dr. Alberto Bonanno of the Italian Institute of Technology describes the concept of the Micr4Nano project, that has the goal of merging nanotechnology with CMOS devices.

2.4 Molecular Conduction

In this lecture, shared by courtesy of the Erasmus EU Project NanoEI, prof.Gianluca Piccinini introduces the concept of the electronic conduction in molecules, giving the basic concepts for the design and realisation of molecular nanodevices.

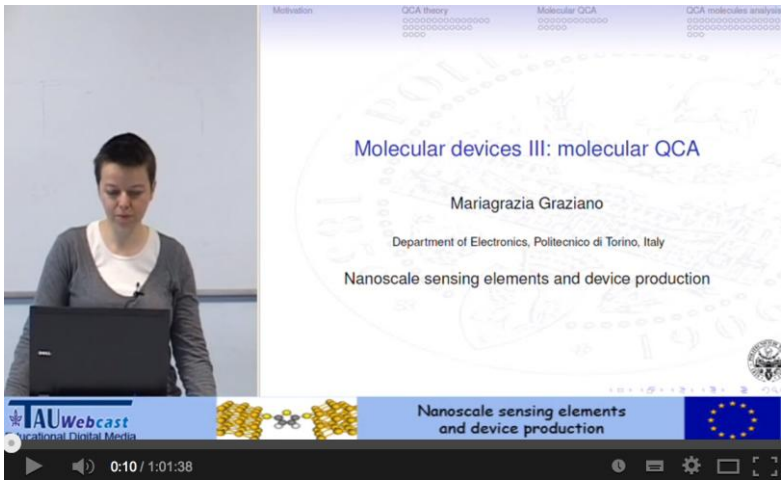
2.5 Molecular Electronics

Molecular Electronics I
by Novel Technologies and Solutions for Electronics

Molecular Electronics II
by Novel Technologies and Solutions for Electronics

In this section, split into two videos, shared by courtesy of the Erasmus EU Project NanoEl, Prof. Danilo Demarchi introduces the concept of using molecules inside nanocontacts, the nanogaps. Then the properties of organic molecules are analyzed, focusing the attention to their use for building nanodevices.The lecture finishes with a survey on the nowadays used families of molecules as OPE, OPV or OligoThiophenes.

2.6 Molecular QCA



In this lecture, shared by Courtesy of the Leonardo EU Project NanoSkills, Prof. Mariagrazia Graziano gives an introduction to Quantum Cellular Automata (QCA) and how, with the molecular approach, it is possible to build computational devices. In this section the goal is to show how interesting it can be to use the similar approach used for sensing for adding on the same device computational capabilities, too.

3. Conclusions

The first webinar elaborated by EuroTraining proved the technological possibilities of exploiting the YouTube service, with very interesting results and can be considered as an important step for inserting into the Eurotraining website the most advanced technologies of the WEB.

In terms of contents, Eurotraining included into the webinar some outcome received through the survey on the training needs of European companies having production or R&D in Far East, with the goal of presenting to a broad public the novel possibilities introduced by nanotechnologies.

Of course this webinar does not offer a full coverage of all the possibilities nowadays present in the state of the art, but the most important concepts were considered.

Another interesting result was the fruitful cooperation with other European projects from which some contents were taken, implementing a win-win solution by supporting also the dissemination of these projects.