



Co-funded by the  
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# MECA PROJECT

## TRAINING WORKSHOP FOR TEACHERS ON JOB-LINKED EDUCATION

Institut National d'Énergie Solaire  
Le Bourget du Lac, France

### Participants

See the list of participants.

### DAY 1: 7<sup>TH</sup> June

Presentation of INES and the most innovative projects on renewable energy, Magali ROUE





## WP4 Organic & Perovskite solar cells for new applications and new generation of PV technology, Solenn BERSEN



The videorecord of the lecture is published on the project Web site.

## WP4 Discussion on the implementation of project-based education in mCloud .

Four of the business partners developed job-related courses:

- INOMA on : “Electronics maintenance in Renewable energies”
- AMG Technology: “Design, Prototype Fabrication and Challenging Applications of Silicon Microsystems with Piezoresistive Feedback”
- INES: “Silicon Homojunction Solar Cells ”
- ASTEL created a Video Lesson about main criticisms in handling semiconductor devices manufacturing. In this course the design of an optical inspection station of semiconductor wafers is presented.

Vladimir Stavrov, Paolo Astengo and Francisco Javier Leal Juarez performed practical training to the course developers and teachers on how to develop job-related courses. They demonstrated their courses and provided examples from their experience in staff training.



TRAINING OF TEACHERS ON JOB-LINKED EDUCATION  
Bucharest 30<sup>th</sup>-31<sup>st</sup> October 2017

## DAY 2: 8<sup>TH</sup> June

W4 Visit of research institution of INES and all laboratories and training on the newest development in the use of solar energy by Mr. Philippe MALBRANCHE



Solar panels on the road – for charging the electrical cars in movement.

WP4 Development of job-specific training modules. The courses in the Educational Cloud, Oliver

Oliver has shown the status of educational cloud with the courses. Not all courses are open educational resources and some are only PDF files.



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| No. | Title   | Developed by           | Style                     | OER? |
|-----|---|------------------------|---------------------------|------|
| 1   | Design for Manufacturing of Microsystems                            | UPB-CETTI              | PDFs                      | Yes  |
| 2   | Electronic Packaging and Assembling Technologies of Microsystems    | UPB-CETTI              | PDFs                      | Yes  |
| 3   | Technology of Electronics Products                                  | BME-ETT & Lightware    | HTML + flash              | Yes  |
| 4   | Assembling and Inspection Technologies                              | BME-ETT & Lightware    | HTML + flash              | Yes  |
| 5   | Virtual Laboratory Support for Microelectronics Packaging Education | BME-ETT & Lightware    | HTML + flash              | Yes  |
| 6   | Multi-Media Enhancement of Teaching Sensors and MEMS                | BME-ETT & Lightware    | HTML + flash              | Yes  |
| 7   | Silicon Homojunction Solar Cells                                    | INES-LITEN CEA Tech    | Video presentation of ppt | Yes  |
| 8   | Electronics Maintenance in Renewable Energies                       | INOMA Renovables, S.L. | moodle based              | Yes  |
| 9   | Electromagnetic Compatibility of Integrated Circuits                | INSA Toulouse          | ppt                       | Yes  |
| 10  | Nano CMOS Cell Design with Microwind                                | INSA Toulouse          | ppt                       | Yes  |
| 11  | Design and Realisation of Micro-Nano-BioSensors                     | POLITO                 | moodle based              | Yes  |
| 12  | Modelling and Design of ULSI Circuits and Systems                   | POLITO                 | moodle based              | Yes  |
| 13  | Effective Communication with Groups, Presentation Techniques        | TUB Berlin             | PDFs                      | Yes  |
| 14  | Project Management for the 21st Century                             | TUB Berlin             | PDFs                      | Yes  |
| 15  | Superconductive Materials   | TUB Berlin             | PDFs                      | Yes  |
| 16  | The Importance of Soft Skills at the Labour Market                  | TUB Berlin             | PDFs                      | Yes  |
| 17  | Nanomaterials for Electronics                                       | TUS Sofia & MASHO      | Moodle                    | Yes  |
| 18  | Design of Nanoscale MOS ICs   | TUS Sofia & MASHO      | Moodle                    | Yes  |
| 19  | MEMS Sensors and Actuators  | UKIM Skopje            | Moodle                    | Yes  |
| 20  | Semiconductor Device Modeling                                       | UKIM Skopje            | ppts within moodle        | Yes  |
| 21  | Integrated Circuits and Design                                      | UNED-DIEEC             | Moodle                    | Yes  |
| 22  | Microelectronics Literacy and Technologies                          | UNED-DIEEC             | Moodle                    | Yes  |





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|    |   |                |        |     |
|----|---|----------------|--------|-----|
| 23 | Design, Prototype Fabrication and Challenging Applications of Silicon Microsystems with Piezoresistive Feedback | AMG Technology | Moodle | Yes |
|----|---|----------------|--------|-----|

### WP4 Projects, real cases from the industry

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### WP1 ToDo List

- Contracts between HEIs and business – continuous
- To develop assignments for different student’s activities (projects) for interactivity of courses.
- Plan for the field trial by each university – 15 June 2018
- Plan for sharing resources and free software – Suggestion by each HEI – next virtual meeting
- Next virtual meeting on 12th July 2018 at 11:00 CET for planning the hardware and software sharing and accepting the template CloudStack (Adobe Connect, Appear.in ).
- Next training seminar for teachers – in Skopje on 8th – 9th October 2018