

ANNEX IV

Final Report on implementation of the project (FR) **Summary report for publication and** **Financial Statement**

T E M P U S I V **(Sixth Call for proposals EACEA no. 35/2012)** **Joint Project / Structural Measure**

543861-TEMPUS-1-2013-BG-TEMPUS-JPCR / 2013 -4516 / 001 -001

(Project No. / Agreement No.)

<u>FINAL REPORT</u>	<u>DEADLINE</u>
<ul style="list-style-type: none">• Final Report on implementation of the project (FR)• Summary report for publication• Financial statement including request for payment and the financial tables for each budget heading• an external audit report on the action's financial statements and underlying accounts	<u>Two months after the end of the eligibility period</u>

Structure of the Report

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One original (with copy of supporting documentation) and two copies (one of which with copy of supporting documentation) are to be sent by the deadline by registered mail (date as per postmark) to:

Education, Audiovisual and Culture Executive Agency (EACEA)
Erasmus+ : Higher Education - International Capacity Building (Unit A4)
Mr Klaus Haupt
Head of Unit
BOUR 02/17
1, Avenue du Bourget
BE-1049 Brussels

Please also send an electronic version to: eacea-tempus-project-management@ec.europa.eu when submitting the paper version of the Final Report.

We kindly ask you to enclose with your report, a sample of the most important promotion materials produced during your project (such as publications, brochures, leaflets, reports, etc.) which can provide clear evidence of the outcomes of your project.

DECLARATION

This declaration should be completed and signed by the following people:

1. the contact person at the co-ordinator (institution);
2. the person who is legally authorised to represent the co-ordinator (institution).

We, the undersigned, certify that we have submitted all the required documentation, including the documents listed in the checklist.

Furthermore, we certify that the information given in this final report and financial statement is correct to the best of our knowledge and complies with the requirements of the provisions of Article I.4 and II.23 (Annex VI) of the grant agreement.

We are aware that amendments to these documents will not be accepted after the date of submission.

Name of the co-ordinator (institution): Technical University of Sofia

Name of the contact person: Slavka Tzanova

Function: Professor, project manager

Done at: Sofia

Date: 20.07.2017

Signature: 

Name of the legal representative: Georgy Mihov

Function: Rector

Done at: Sofia

Date: 24.07.2017

Signature: 

Seal of the co-ordinator (institution):



FINAL REPORT ON IMPLEMENTATION OF THE PROJECT

PART I: ACTIVITIES CARRIED OUT

For each section indicated below, please provide a **short description** of the **activities carried out** since the submission of the Intermediate Report and describe the main changes that have occurred in the plans described in the Intermediate Report.

Development of programmes and courses

Please indicate which activities have been carried out for the development of the new teaching/training programme(s).

Through domain/job analysis the necessary knowledge, skills and competences in nanotechnologies were defined in terms of learning outcomes. A survey on the necessary competencies was developed by SNI and evaluated by the partners first, on-line, and then peer-reviewed during the second project meeting. The survey was distributed to 140 Nano-companies and researchers in order to meet the industry employment needs and the needs of the researchers/teachers to help provide students with the most relevant skills and competencies in this field. To facilitate the mobility of students between institutions in Israel and Europe, to each course credits had to be provided, compatible with European Accreditation Transfer System (ECTS) requirements. Training of course developers and teachers was performed on the Bologna process and ECTS. A Competence Matrix served as the starting point for innovating the educational programmes and facilitated the demand-based and competence-oriented process for designing the courses. The core work tasks were identified in the professional context and the courses designed in the learning outcomes approach in order to facilitate transparency.

According to the need analysis and towards the learning outcomes defined, syllabi of the 24 courses were designed and credits for each course were determined. The courses were developed with three different foci. First are full-semester academic courses, which will allow different universities access to the same class. These courses had to be approved by each academic program individually, and they cover introductory topics, such as physics of nano-systems, basic biology for physics students, basic photonics for non-engineering students, etc.

The second class of courses are full academic courses focusing on technology. These courses are similar to courses already existing in most universities, but they complemented and enhanced by documented demos, which will allow improved learning for students. These courses should be extremely valuable to people from the industry.

The third type of courses are of a small scope, covering a particular topic. They are used as introductory courses for graduate student training, or for people from the industry. Those courses will be most valuable in enhancing the training of users in new technologies.

For e-learning courses developments and towards the third project objective, the Tel Aviv University Computing Division organised two training workshops on the video-recording technique and course development in EduNano Moodle environment. The contents for the defined learning outcomes were designed and the video-recording of lectures and practical work in the Nano laboratories of partner institutions was done.

The EduNano platform address is: <http://edunano-lms.tau.ac.il/>

The access as a guest:

username: demouser

password: user1-Demo

Restructuring: university management and governance

Please provide information on the activities carried out during this period relating to the introduction of institutional changes in the partner country beneficiaries (institutions) or at national level (capacity, management, governance, quality assurance, links with labour market, etc.).

Though the project objectives do not target directly the institutional and national changes, the training seminars on Bologna process were organised and the new courses developed through learning outcomes definition, credits according ECTS and implementation of courses with recognition of credits between Israeli and EU universities is a step towards introduction of the credit system in Israeli institutions.

Bologna Process Training was done by Prof. Aaron Palmon and Dr. Tatiana Gornostaev at the Hebrew University of Jerusalem.

The 1999 Bologna Declaration established a common platform aimed at integrating and standardizing the higher education curriculum and improving students' mobility between institutions. Based on the Bologna Process guidance, and on the experience they have gained during the implementation of its principles in the Hebrew University, Prof. Aaron Palmon and Dr. Tatiana Gornostaev prepared for the EduNano partners 5 presentations. The details are described in the next point "Mobility and training activities"

On sequel summary meeting and followed by further correspondences, the problems, which partners encountered during the process of writing the syllabi, were discussed and possible solutions have been proposed. In this way,

partners could also broaden their perspective on syllabi writing, by the experience gained by all partners as a group. Further consultation meetings were on demand throughout project time by individual partner request. In summary, Israeli partners participating in the EduNano project were familiarized with the Bologna Process in general by both workshops and individual consultation meetings, and prepared syllabi to the proposed courses in particular.

Mobility and training activities for staff and students

Please provide a description of the activities carried out in order to train staff and/or students from the partner country participating institutions along with an outline of the staff/student mobility scheme implemented in this period.

- Bologna Process Training Seminars

To facilitate the mobility of students between institutions in Israel and Europe, to each course credits had to be provided, compatible with European Accreditation Transfer System (ECTS) requirements. To achieve these goals HUJI organized two meetings of institutional representatives including Bologna Process consultant and module coordinators. The first meeting introduced the Bologna process principles by the consultant. By the end of this meeting a general module plan was introduced. In the second meeting lead also by the consultant, each participant introduced his module structure and its logic was discussed. In addition more detailed discussions about grading system, diploma supplement and quality assurance were performed.

Prof. Aaron Palmon and Dr. Tatiana Gornostaev lead the meetings. The training was on 5 topics focused on:

1. Introduction to Bologna Process.
2. Learning Outcomes (definition, logic for change, Bloom's Taxonomy, guidelines, benefits).
3. European Credit Transfer and Accumulation System - ECTS (characteristics, planning, Workload, Bologna cycles).
4. Practical guidelines for syllabi writing.
5. Critical review and common problems in writing EduNano project syllabi.

After presentation #4, the partners were asked to prepare syllabi for the courses of the EduNano project.

Syllabi sent to the Bologna Process consultant have been examined, and partners have received feedback and proposals for amendments. This process was carried out on individual consultation meetings.

On sequel summary meeting (presentation 5) and followed by further correspondences, the problems, which partners encountered during the process of writing the syllabi, were discussed and possible solutions have been proposed. In this way, partners could also broaden their perspective on syllabi writing, by the experience gained by all partners as a group.

- E-learning materials development

TAU Computing Division organised two training workshops on the video-recording technique and course development in EduNano Moodle environment - 2014-05-15 Video recording and Moodle workshop

To support the partners in creating the e-learning materials additional three virtual meetings were held with Scopia: on 2014-12-25, 2015-01-20 and 2015-02-23.

- Students and high school teachers mobility for training

As a result of the introduction of the ECTS approach in the new courses, 48 Israeli students could perform a short term (one week) mobility in CIME Nanotech and in Polito for intensive practical training. Practical training in France was organised also for 8 high school teachers from Israel. From July 7th to July 12th 2016, 25 Israeli students from the six partner universities performed a mobility for intensive practical training in the clean rooms in Grenoble. In December 2016 eight Israeli high school teachers attended the sessions on electrical characterization, photovoltaics, scan probe microscopy, nanobiotechnology and clean room processes.

23 Israeli students attended the practical training at Polito in two sessions, 18/07/2016 – 22/07/2016 and 25/07/2016 – 29/07/2016. The results from the survey on their attitudes towards the new courses and the practical training are very encouraging. The detailed reports on the mobility for intensive training are given in the Implementation report. Student mobility feedback summarised from the post-mobility survey:

“Torino Program

The course topics were highly innovative and were orientated to students from various disciplines with little experience in the research field but needing to understand the field more in depth.

The lecturers were extremely vivid and kept the audience captivated.

The host Prof. Danilo Demarchi was extremely pleasant. He and his team took great care of the students and spent quality time with them. They formulated interactions between the group which was beneficial both on a social and academic level. The Tempus project facilitated better acquaintance for internal collaborations and with other universities in Israel and in Europe. One student noted in particular that this type of intense interaction is far more powerful than any conference because the student has more time to interact with other researchers and exchange ideas in various topics. “

Grenoble Program

Bio-technology Session

“Excellent training on AFM. The guide was full of knowledge and willingness to teach and give in-depth answers to all questions. Preparation of the DNA microarrays was organized very professionally. There was an opportunity to be exposed to equipment that was unfamiliar to some students and help to better understand the preparation process and try it.

The opportunity to meet other researchers in the field was important and allows for collaboration and consulting. Beyond the educational aspect, the planning and timetable were well planned and the reception was warm and inviting.”

Clean-room and Fabrication Session

“This session included fabrication of MOS field-effect-transistors and characterization of their electrical properties. Over the sessions students were exposed to a huge variety of a high standard equipment. The multiple stage process was very inspiring and opened their minds to new techniques useful for their current research. In addition, the interaction with skilled professionals from other institutions who guided us along the workshop and taught us about the facilities and mechanisms that were required to the fabrication process (and also the alternatives techniques, at specific stages) was very enlightening. Even students who had previous experience in clean room environments found that this experience was really extraordinary due the really high quality process and the endless options of fabrication and research.“

Equipment

Please provide an outline of the equipment purchased and explain how it has been used during the project lifetime and who has access to it.

TAU conducted the long derogation process of equipment purchase of items that does not apply the rule of origin and needed for the project. After obtaining the permission to buy the equipment on 18/12/2015 TAU purchased all the equipment needed for the video streaming, storage and Learning Management system and completed the setup of all needed infrastructure for the project. TAU also purchased almost all need equipment for the course recordings and already is using them for content production: 2 servers for video streaming and Learning management infrastructure, 2 laptop computers for the lecturers, 2 laptop computers + 2 video cameras + 2 sound wireless microphones + 2 HDMI2USB video devices + 2 tripodes for courses recordings, and video editing software.

Additional equipment such as: video editing software, video editing computer and wireless sound system also purchased after the midterm to enlarge and improve video recording and processing capacity.

The equipment affiliated to the online infrastructure such as servers, storage backup used by all partner to upload share and disseminate their content.

Video recording and editing equipment was used (and still in use) by TAU to produce the courses of TAU and in addition used to produce course by partners who were not allowed to purchase equipment such the industrial company from Israel “Elbit” and EU partners POLITO, CIME and TUS

TECH: The equipment required for filming two courses during the coming summer has been purchased.

WEIZMANN: First phase of equipment for video-recording of the two courses was purchased.

BIU: The equipment required for filming the courses was purchased.

HUJI: Equipment required for video-recording the courses was purchased: video camera, laptops and accessories for videotaping, computers for dissemination purposes. Staff and students have access to them.

BGU: The equipment for video-recording was purchased.

Dissemination and sustainability

Please describe the actions that have been carried out to disseminate the results of the activities and in order to ensure the future sustainability of these results.

The first dissemination activity was the creation of the project Web-site, hosted by TUS. The information on the project objectives and results are published on it. On the project Web page the minutes of the meetings, the presentations, the reports and deliverables are also available in the corresponding sections:

<http://edunano.eu/>

Short project websites on each partners' extranet in the language of the country. Links to the Web pages on partner's domain:

TAU: <https://www3.tau.ac.il/edunano/index.php/en/>

WEIZMANN: http://stwww.weizmann.ac.il/g-chem/TEMPUS/index_eng.html

Technion website: <http://rbni.technion.ac.il/?cmd=students.490>

Samuel Neaman Institute Webpage on Tempus:

<http://www.neaman.org.il/Neaman2011/Templates/ShowPage.asp?DBID=1&LNGID=1&TMID=580&FID=964&ID=1366>

INNI helped us distribute the need analysis survey: <http://www.nanoisrael.org/article.aspx?id=24137>

HUJI: Website for the TEMPUS EduNano Project: http://www.nano.huji.ac.il/page/E_Learning_Courses

The project Learning Management System (LMS) is hosted by TAU and there are uploaded the recorded lectures,

laboratory practices, e-learning materials for the courses:

<http://edunano-lms.tau.ac.il/>

It can be visited as a guest with:

Username: demouser

Password: user1-Demo

YouTube: All the dissemination and open course videos are in this channel. 30 video clips and 2140 views:

<https://www.youtube.com/channel/UCaee8oK8eiOMF8XvE1cPgkQ>

Facebook

<https://www.facebook.com/profile.php?id=100009816422168>

We have a lot of support by the Israel Nanotechnology Initiative (INNI). They disseminate our project activities on their pages/newsletter: [tp://www.nanoisrael.org/article.aspx?id=24137](http://www.nanoisrael.org/article.aspx?id=24137)

Ron Blonder and Sidney Cohen presented the project activities and results in working group at NSF workshop on Nanoeducation in Arlington to researchers and teachers from USA, Sweden, Portugal, Singapore, Australia, China, UK, Israel. Slavka Tzanova presented the project activities and the courses under development to the consortiums of two Leonardo da Vinci projects in which TUS is involved: OrthoBioMed (2013-1-BG1-LEO05-08711) and EvEnEf (2013-1-FR1-LEO05-48182) with partners from Greece, Italy, Spain and Bulgaria and to the new Erasmus+ projects in which TUS is involved: DOCMEN (561627-EPP-1-2015-1-PL-EPPKA2-CBHE-JP-ERASMUS+CBHE) and (MECA 562206-EPP-1-2015-1-BG-EPPKA2-KA).

We presented the project results on different conferences we have had the following publications:

- Chapter 6 by Sidney R. Cohen, Ron Blonder, Shelley Rap, and Jack Barokas in a book: "Global Perspectives of Nanoscience and Engineering Education", Eds. K. Winkelmann, B. Bhushan, Springer, 2016, pp. 171-194.
- Tzanova S., Barokas J., Demarchi D., Tempus Project "Education in Nanotechnologies", Proc. of 9th International Conference of Education, Research and Innovation ICERI, Sevilla, Spain, 14th-16th November, 2016, pp. 6373-6378.
- Tzanova S., Barokas J., Demarchi D., Euro-Israeli Cooperation for On-line Education in Nanotechnologies, Proc. of The Online, Open and Flexible Higher Education Conference, 19-21 Oct. 2016, Rome, Italy, pp. 881-892.
- Blonder, R. (March, 2016). A lecture about the EduNano Tempus project in a conference organized by the Council for Higher Education in Israel (MALAG).
- EduNano Symposium for high school students (September, 2015). 33rd Israel Vacuum Society Meeting, Rehovot Israel
- Ron Blonder and Sidney R. (July 2014) "Education in Nanotechnologies: Improved Accessibility for Nanoscience Instruction: A General Program and its Implementation. International Conference on Nanoscience and Technology", Cohen, ICN&T 2014, Vail Colorado USA.
- Blonder, R. (May 2017). Nano goes to school: Bridging the gap between contemporary research and school science. 3rd International Symposium: Nanotechnology from Academia to Industry 2017, NTAI 2017.

TAU took part in large dissemination activities, including giving talks in two EU projects: Introducing EduNano in MMATENG coordination meeting TAU (<https://youtu.be/-qu0Pc4n0Fc>); introducing EduNano in SESREMO project meeting (<https://youtu.be/jG08o9WZnRE>), introducing EDUNANO on CLINAM summit 2016 Basel (<https://youtu.be/yAteM0-VR18>); IVS - TEMPUS EduNano seminar (<https://youtu.be/ObCkIW0dPZM>).

Meeting with leading industrial company's representatives to engage them to use and provide content to the project also after the funded live cycle of the project:

2016-10-10 Meeting Guy Rosental from TEVA Pharma Company

2017-01-29 Meeting on exploring cooperation options between Edunano and Tower Jazz

2017-04-24 Meeting Yakov Rosin from Tower Jazz semiconductors Israel

Meeting of the university management for supporting the sustainability of the developed programmes: 2015-10-21

Meeting TAU rector, vice rector and academic secretary introducing TEMPUS ERASMUS+ and EDUNANO

2016-10-05 Meeting Prof. Iris Ginsburg regarding developing course for EDUNANO (TAU Management school)

TAU also Presented EDUNANO project to Israel Higher Education Consul in several occasions including in a meeting at Israeli Console of Higher Education (Jerusalem) introducing EduNano to representatives of the financial comity (16 May 2015).

HUJI: "The materials produced (courses/recordings) are already being used as platforms for future courses. HUJI is now undergoing a strong transition to international teaching and collaboration. Thus this English language material, of high quality, is of great use for this initiative. We intend to give these courses and expand the student base further, to reach most of our Physics (PhD level) students (with the " Macroscopic Quantum Coherence in Engineered Nano-Systems" course) and to extend and reach also international students coming each year to HUJI, with the "Nano in service of humanity" course."

PART II: PROJECT OUTCOMES AND IMPACT

By responding to the following questions, please provide an overview of the overall project achievements, demonstrating how the objective of the project has been met and the impact of the project outcomes.

Overall achievement level and impact

- Please indicate which national/regional priorities have been addressed by the project (as outlined in the Call for proposal and original application) and describe the main results achieved by the project in addressing these priorities.
- Has the project achieved its set objective and does it match the needs identified in the original application? If yes, could you please describe how? If not, could you explain the reasons why?
- Please describe any positive changes, as a result of the project, in terms of institution management, individual behaviour, teaching methodology, course content, teaching/learning processes and any benefits to managers, teaching staff, students and other target groups.
- Please describe the opportunities that are being created by the project beyond the specific objectives in particular in relation to graduate employability and/or increased cooperation between university(ies) and the non-academic sector.
- Please describe the impact of the project on the reform of higher education in the partner country(ies).
- Please describe the impact of the project on the economic and/or social reforms in the partner country(ies).

National/regional priorities: "Modernisation of curricula in:

- Physical science;
- Engineering and engineering trades;
- Teacher training."

Curricula in physics, engineering, chemical engineering, bio-engineering were modernised through development of new courses in corresponding nanotechnologies, based on ECTS and for the learning outcomes defined. University teachers were trained in learning outcomes definition, credit system in HE, e-learning courses development. High school teachers from the entire country were trained in nanotechnologies and some of them had practical training in the clean rooms at CIME-Nanotech in Grenoble, France. The results were so encouraging that practical training of other group of teachers is planned for September-October 2017.

The project has reached its objectives.

Through domain/job analysis the necessary knowledge, skills and competences in nanotechnologies were defined in terms of learning outcomes. A survey on the necessary competencies was developed by SNI and evaluated by the partners first, on-line, and then peer-reviewed during the second project meeting. The survey was distributed to 140 Nano-companies and researchers in order to meet the industry employment needs and the needs of the researchers/teachers to help provide students with the most relevant skills and competencies in this field. To facilitate the mobility of students between institutions in Israel and Europe, to each course credits had to be provided, compatible with European Accreditation Transfer System (ECTS) requirements. To achieve these goals HUJI organized two meetings of institutional representatives including Bologna Process consultant and module coordinators. The first meeting introduced the Bologna process principles by the consultant. By the end of this meeting a general module plan was introduced. In the second meeting lead also by the consultant, each participant introduced his module structure and its logic was discussed. In addition more detailed discussions about grading system, diploma supplement and quality assurance were performed.

According to the need analysis and towards the learning outcomes defined, syllabi of 20 courses were designed and credits for each course were determined. With these activities the first project objective was achieved. Later on, satisfied by the first practices with ECTS, additional 4 courses were developed.

To achieve the second project objective, the TAU Computing Division organised two training workshops on the video-recording technique and course development in EduNano Moodle environment. The contents for the defined learning outcomes were designed and the process of video-recording lectures and practical work in the Nano laboratories of partner institutions started. More than the planned 18 courses were developed and the process continues after the end of the project. The last three months a new course on entrepreneurship in new technologies was delivered on-line.

Towards the third project objective Moodle learning environment was created on the TAU server (<http://edunano-lms.tau.ac.il/>) and two HTM courses and 22 videorecorded lectures and laboratory practical works in clean rooms were developed and are available to all partner teachers and students on-line and free of charge. It is important to mention that the courses were developed to satisfy the needs of the industry according the need analysis done and that the very big Israeli company Elbit, partner in the project has also developed a full course delivered in the EduNano learning environment.

The pilot test was performed during the last 18 months of the project lifetime with 20 courses. The new four courses will be delivered from next academic year. 549 students and 90 high school teachers studied the new courses. 48 students who performed very well on the tests and with corresponding credits had a short term mobility in CIME

Nanotech and in Polito for intensive practical training. Practical training in France was organised also for 8 high school teachers from Israel. From July 7th to July 12th 2016, 25 Israeli students from the six partner universities performed a mobility for intensive practical training in the clean rooms in Grenoble. In December 2016 eight Israeli high school teachers attended the sessions on electrical characterization, photovoltaics, scan probe microscopy, nanobiotechnology and clean room processes.

23 Israeli students attended the practical training at Polito in two sessions, 18/07/2016 – 22/07/2016 and 25/07/2016 – 29/07/2016. The results from the survey on their attitudes towards the new courses and the practical training are very encouraging.

The details of the pilot test and the reports of each institution are given in the Implementation report.

The positive changes may be summarised as:

- ECTS training and introduction of the system by project members at their institutions to relevant authorities
- Building course lecture video recording capacity in the member institutions units where it was not available previously and enhancing this capacity by learning from each other course production methodology
- Establishment of common inter university Learning Management infrastructure and exploring mutual/shared usage of the infrastructure
- The way that students from different EduNano partner universities students took courses, not only developed at their own institutes but also in other institutes, can be a test case or a model for further cooperation and share of courses among universities

The project created new opportunities for collaboration in the Israeli priority area of nanotechnologies in two directions: between the universities and industry and between the universities and high schools. The modernisation of curricula was done with regard to the need of the industry and survey of SNI with which started the project was continued after the delivery of new courses. It has proven that the needs identified at the beginning were really met. The other aspect was the new collaboration between high schools and universities, the training and motivation of high school teachers to prepare the future students in sciences for the universities.

The impact could be measured through the number of students and teachers involved in the training (639) and through their satisfaction expressed in the survey.

With regard to the impact on national level, Israel has dedicated very significant resources to the development of nanoscience and technology (~250,000,000 Euros nationally over the past decade). This is a central priority of university and industry training for the future as well. Subsequently, the development of an integrated training program is vital to such a training in the future. Thus our array of courses represents a web of knowledge that Israeli and European partners now have access to online. This has already started to create a new way of teaching – that is not strictly frontal lecturing – but more interactive and open to student skills and needs.

Obstacles and shortcomings

Please describe any obstacle and/or shortcoming experienced during the project lifetime and the measures taken by the project team to address them.

- The delayed purchase of the equipment.

TAU conducted the long derogation process of equipment purchase of items that does not apply the rule of origin and needed for the project. They contacted all Israeli providers if computing and video recording equipment and collected the necessary information on the rules of origin of the necessary for the project equipment, the EU partners helped them as well with the information from their countries. The derogation was approved on 18/12/2015 and all partners purchased the equipment but the recording of lectures might be delayed.

- Inclusion of new partner because Technion Institute of Technology uses the services of an external private company TRDF for the administrative and financial management of the projects.

This exceptional case caused a lot of additional work for the project co-ordinator but thanks to Tempus project adviser a solution was found – to include TRDF as a project partner. The project coordinator collected acceptance letters from all partners, required a mandate letter from TRDF and prepared the e-mail for inclusion of TRDF and an addendum to the project contract was signed on 23/02/2015. The partners from Technion started working actively on the tasks only after the inclusion of TRDF, i.e. – 15 months after the start of the project.

- The change of contact person from CIME delayed their courses development.

The project co-ordinator had to travel twice to CIME to discuss the project tasks with the new contact person, with the course developers and to support them and the accountant of CIME (which is also new because of the retirement of the previous one).

Because of these obstacles and mostly because of the late equipment purchase, the course development was delayed and all project activities as well. In order to perform the pilot test we needed six more months and an amendment to the project agreement was signed with EACEA to extend the project duration until 31 May 2017.

- Limitation of staff costs to 40% of direct costs.

A lot activities planned for subcontracting as translation, editing the learning contents etc. were performed by the staff of the beneficiary institutions. That is why staff costs are more than 40% in the financial report (~28 000 EUR). ~30 000 EUR from the planned other costs and ~12 000 EUR for printing and publishing costs have not been used. Unfortunately, the beneficiaries performed all planned tasks but will lose all three amounts from the project.

Curricular reform

- With regard to new/restructured programmes/courses, please indicate:
 - the level of the programme/course implemented (Bachelor, Master, Doctorate, continuing education, further education, upgrading, etc.); the type of course (mandatory course in a regular programme or an optional course); the language of the course;
 - whether the newly developed course is structured according to the three cycle system and using the ECTS;
 - whether a double, multiple or joint degree has been established;
 - whether recognition arrangements between higher education institutions in the EU and in the partner countries have been established;
 - the target group (students, university staff, managers of education systems, public civil servants, employees in private sector, etc.) and if relevant, the approximate number of students who already attended;
 - whether the programme/course was formally recognised, the level (institutional, national, etc.) and the form of recognition (certificate, diploma, degree);
 - the teaching material produced and the method (translated, adapted, developed by the beneficiaries, etc.);
 - whether teaching methods have been reviewed and are appropriate for the new/restructured programmes/courses;
 - whether assessment measures have been introduced for the new courses (by students for instance);

The new courses are structured according to the three cycle system and using the ECTS and recognised by the university delivering the course and university which students are enrolled to the course. 6 courses for BSc degree, 11 – for MSc, 10 – for PhD students, 5 – could be used by industry, 5 – for high school teacher training and 2 – for high school students. The total of courses is 24 but most of them are suitable for MSc and PhD level, or BSc and high school teachers etc. The contents are based on recorded lectures, quizzes, exams and interactive forums within the Moodle framework. Two of the courses are e-learning courses in HTML format. Each course undergoes student evaluation via the standard Israeli universities evaluation process which is compatible with the written examination in EU universities. The students who passed the tests including the Israeli students who had a training mobility in France and Italy received certificates with corresponding credits.

The list of courses per partner institutions, the level in the three cycle system and the number of students who have already attended it given in brackets is the following:

BIU: 'Nanoscience and nanotechnology. Why is 'nano' different and how is it useful?' (10) - MSc, PhD
'Kinetics of Materials' (15) - MSc, PhD

BGU: 'Nanotechnology journey through time and space towards the future drugs' (18) – high school students, Basics
'Advanced topics in electro-optics and photonics' (19) – MSc PhD, suitable for industry

WEIZMANN: a course for chemistry high school teachers to disseminate nanotechnology in their chemistry lessons: 'Into materials and nanotechnology' (90), and an advanced course in the field of nanotechnology focusing on the 'SPM technique and its applications in research and in nanotechnology industry (8)'; MSc, PhD, suitable for industry

HUJI: 'Microscopic quantum coherence in engineered nano-systems' (47) – MSc and PhD
'Nanotechnology in service of humanity' (108) – BSc and general public including humanity students and social sciences and general public.

TECH: 'Quantum mechanics for the nano-programme' (4) MSc, PhD

'Fundamentals of nano-biotechnology' (31) – MSc, PhD

TAU: 'Atomistic Simulation of Materials' (11) for MSc students

'Introduction to Surface Science' (34) for BSc students

'Micro-Nano Technologies' (89) for MSc students

Hi-Tec Entrepreneurship – additional extra course (to once indicated in the submission) ongoing and recorded during current semester

Fabrication of Microelectromechanical System (MEMS) Devices – repository of recorded procedures in the clean room – for professionals from industry, MSc and PhD students

The Micro Nano Electronics course authors from TAU, POLITO and EPFL conducted many online video conference meetings to coordinate the joint course and its live webcast so students could attend on real time

Elbit developed a course for industry training 'Advanced Materials and Nanotechnologies for Electrochemical Energy Storage Systems' – training professionals.

POLITO: 'Bio-nanoelectronic devices for biosensing' (29), 'Molecular electronics for the realization of novel nanoelectronic devices' (17), the Nano/microelectronic interfaces being part of this course and 'CAD for Microsystems' (80) for PhD students and for MSc students, specialised technological courses

TUS: 'Nanomaterials for electronics' (9) – MSc and PhD students

'Design of nanoscale MOS ICs' (20) - BSc, MSc, suitable for industry

CIME: 'Biotechnologies' (37)– Engineering schools MSc and PhD,

'Spintronics' (42) PhD and MSc, suitable for industry

Governance reform

Were changes at institutional level introduced (establishment of units, new faculties, international relations offices, etc.)? If so, what is the statute of the new unit(s) within the institution(s) concerned? What kind of financial support and staffing arrangements will be provided in the future? Did the project introduce any reforms in university governance (i.e. decision process, autonomy, accountability)? If yes, please describe these reforms and the institutional support given by academic and local authorities.

Were changes in the national higher education structure and system supported by the project (establishment of representative bodies, associations, agencies for quality assurance, development of roadmaps for national reforms, national certification and qualification systems, etc.)? If yes, please describe the project contribution to the reforms and the involvement and support given by local authorities.

N/A

Links with society

Did the project help to strengthen the role of higher education institutions in society at large (contributing to the development of lifelong learning, addressing the knowledge triangle, establishing links with the labour market, etc.)? If yes, please describe how these links have been institutionalised.

The course nanotechnology in Service of Humanity is a direct outreach course to society. The students are not scientist or engineers. They are humanities and social science majors (Bachelors). Thus their knowledge of nanoscience and technology is a public service in awareness of the forefront and centrality of nano in all future physical and medical science.

The project LMS and some of its content is now in use by ELBIT (the industrial partner).

The Open University of Israel (the largest university in Israel) signed memorandum of understanding on sharing the TAU course "Introduction to Surface Sciences" developed in the framework of the project and other content developed by the Open University of Israel.

Mobility and training activities for staff and students:

- Please describe how the mobility and training activities have contributed to the achievement of the project objectives.
- Please describe the selection criteria used for mobility and training and indicate how the home institutions evaluated and recognised this mobility or took it into consideration, once it had been carried out.
- In the framework of student mobility and with regard to the recognition of study periods abroad, have agreements been signed between the universities? Was the mobility part of a credit transfer system comparable to the ECTS

system? Was it in the framework of a double, multiple or joint degree? If yes, please provide details. If it was not, please indicate on what basis the results achieved by the students were officially recognised?

- Please comment on the assessment of the students' performance by the hosting universities/enterprises and on how the students assessed their stay at the host institution.

The staff mobility included: attending project meetings, training seminars on ECTS and e-learning materials development and mobility for video-recording of lectures and training events.

The contact persons of the partners' institutions travelled for the project meetings to 1) Tel Aviv University for the project kick-off meeting; 2) Politecnico di Torino for the need analysis report and peer review of syllabi; 3) Bar Ilan University for co-ordination of project activities at the midterm of the project and for the intermediate report. The co-ordinator travelled to Grenoble for management purposes: to involve the new contact person of CIME in the project, to discuss the financial rules with the accountant of CIME and to support the partners from CIME in the syllabi development.

In addition to the contact persons, in the project meetings some teachers and managers from partners' universities participated, e.g. the presidents of Tel Aviv university, the rector and the financial director of the Technical University of Sofia; the head of Bar Ilan Institute of Nanotechnology & Advanced Materials; representative of Finance Dept from BIU; representative of the International relations office BIU.

In the two training seminars on ECTS in Israel, the teachers/course developers from all Israeli nanocenters participated.

In the seminar for video-recording and the software for editing the records and the presentations all representatives of the nanocenters took part except a representative of Technion.

Students' mobility:

In three weeks different groups of students from Technion, the Weizmann Institute, Tel Aviv University, Bar Ilan University, the Hebrew University of Jerusalem and Ben Gurion University attended practical works on the clean room facilities at CIME nanotech and in the laboratories of Polito and one week training was performed at CIME for a group of Israeli high school teachers. All courses were designed for corresponding credits and are part of the regular curriculum the university delivering it or formally recognised by the other universities which students enrolled in the course, e.g. students from Weizmann, BIU, Polito were enrolled for a course delivered by TAU. All Israeli students who performed the practical training in Grenoble and Torino have followed the corresponding to the practical training on-line course and after successfully passing the tests could perform the mobility. The courses were mutually recognised by the Israeli and European HEIs.

The students undergoing the training submitted a project and/or underwent a written exam. They also submitted an evaluation of the projects undertaken and the effectivity of the time spent on-location during their travel/training. The students received ECTS recognized academic points, accredited to their MSc or PhD degrees.

The students and high school teachers were very impressed and expressed appreciation for the teaching conditions and high level of training received. The visited institutions were very positive about the high level of our students, and their active participation in the courses. There are agreements between CIME and Weizmann for further training of Israeli high school teachers in Grenoble after the project end.

Equipment

- How has the equipment been used during the project lifetime and how has it contributed to the project outcomes?
- What are the future plans for the use, maintenance and insurance of all the equipment purchased in the framework of the project?

The equipment was used for video recording lectures, laboratory practice in clean rooms (very expensive with limited access for students), for creating e-learning courses and delivering them. On the second term of the project additional equipment has been purchased to enlarge and improve recording and processing capacity: video editing software, video editing computer, wireless sound system.

The equipment is in continuing use for creating new courses but the problem is that the computers and the videorecording equipment are getting old very fast and they should be changed every 2-3 years.

Unfortunately, because of the long derogation procedure, the purchase of equipment was delayed and some of the Israeli universities could not use their entire budget for equipment.

Academic and administrative management of the project

- Could you please describe to what extent the institutions from the European Union and partner country(ies) participating in the project were involved and the support they provided, be it academic or administrative?
- Did you encounter any difficulties in the management of the project? If yes, please indicate the type of problems and the solutions identified to address them.

All partners had administrative support in the project implementation. Moreover, some of the heads of the institutions were directly involved in the project activities. The president of TAU and the rector of TUS, attended the kick-off project meeting at TAU; the financial director of TUS attended the third PSC meeting where financial guidelines and reporting were discussed; the head of the Institute for Nanotechnology and Advanced materials at BIU attended the second and third project meetings and he was involved in course development. National authorities from the Israel Nanotechnology National Initiative – also support the project activities through publishing the project survey on nanotechnology education on their site, taking part in the project meetings and evaluation of syllabi and courses.

The decision making in the EduNano project was done by the Project Steering Committee (PSC) composed by the contact persons of each partner institution from EU countries and Israel. All decisions were taken by consensus. The PSC had seven face-to face meetings and four virtual meetings. The co-ordinator had very helpful support by the experts from the Tempus Executive Agency, Ms. Tiberi and Ms. Mc. Cabe, on all administrative issues, problem solving, clarification of financial rules and guidelines, helping with the solution of the problems with “rule of origin” for equipment purchase.

Mr. Jack Barocas from TAU is the Israeli national coordinator of the project and he took care of the communication between Israeli partners on daily bases. As a local coordinator of the project, TAU was very frequently in touch with the partners, assisting them on local administration problems as well as content production and working with the partner from the industry. The Israeli ERASMUS+ office was always available for assistance by mail and phone for supporting help on a short notice.

In the project there are co-ordinators of specific academic tasks related to the project objectives. The partners from SNI co-ordinated the need analysis in Israel and EU countries and prepared the report. The partners from HUJI were responsible for the training on Bologna process and ECTS and they organised two seminars on these topics and together with TUS provided feedback on the pedagogical issues in learning outcomes definition and syllabi. TAU was responsible for training on videorecording and implementation of e-learning materials in Moodle environment.

The project Web-site is hosted by TUS. All deliverables are published on it. The main communication tool was Internet (e-mail addresses: edunano@ecad.tu-sofia.bg and for the contact persons only eu-edunano-content@listserv.tau.ac.il and Skype) and videoconferencing (four Web meetings). The list of project meetings is: kick-off meeting 2-3 March 2014; EduNano web meeting 9 April 2014; Edunano video recording and Moodle workshop 15 May 2014; ECTS workshop (HUJI) 26 May 2014; Web meeting on ECTS 10 July 2014; Torino meeting 15-16 September 2014; Second ECTS seminar in Jerusalem 22 October 2014; Web meeting on equipment purchase 25 December 2014; Web meeting on 20 January 2015; Bar Ilan meeting 19-20 April 2015.

Agreements between the coordinator and partners, with tasks, budget and arrangements for conflicts resolving were concluded during the first months of the project. To avoid reporting illegible costs at the end of the project, financial reporting with copies of invoices and other documents were required from partners for the first advance of 40% and the next 20% were transferred to those institutions which reported their expenditures.

The financial management was done by the corresponding financial structures/departments at each beneficiary institution. There was only one exception. The Technion Institute’s administration and financial management of all projects is done by one external organization TRDF. This fact was an impediment for the implementation of tasks by Technion and created management problems. The advance of the grant of Technion could not be transferred to the account of one external private company TRDF. The problem was solved thanks to the support by the Tempus project adviser, Ms. Alba-Chiara Tiberi who was helping the project management in all problematic issues or questions raised about the implementation. With consensus and signed agreements by all Contact persons from the beneficiaries’ institutions, an amendment to the project was prepared for the inclusion of TRDF as a project partner. All these problems and procedures for inclusion of additional partner caused more than a year delay of the course development by Technion.

A common problem was that the Israeli partners did not have experience with Tempus projects although some of the Israeli universities are involved in other Tempus projects and the financial rules and reporting are new for them, most of their financial departments consider the guidelines for FP7 applicable to the Tempus project. It causes additional non-planned workload for the coordinator and communication with each partner on daily bases. Thanks to the support by Israeli local co-ordinator, the Israel Erasmus+ office and mainly to the support provided by Ms. Tiber from the Tempus Executive Agency all problems, including the purchase of equipment, were solved and all tasks of the project done.

Unfortunately, the problem with collection of financial reports and reporting documents was very hard by the end of the project when all documents should be collected by the co-ordinator and presented to the auditors.

Dissemination and Sustainability

- How did you achieve a multiplier effect of the project? Do you think that the successes will go beyond the immediate target group, for example to the wider education system, local economy and society?
- Do you think that the beneficiaries (institutions) will be able to sustain and develop the achievements of the project? If yes, what measures were set up or are planned to support this continuation? What obstacles were there and what measures were taken to address them?
- Do you foresee any future co-operation between the beneficiaries of your project?
- How do you plan to use the results of the project in the future?
- What measures have been taken to formalise or institutionalise links with local non-university partners?

To make our project sustainable, we continue the delivery of the e-learning courses, the collaborative use of the e-learning materials by the Israeli universities and high schools and the collaboration with the EU universities, including the students' mobility. To insure the sustainability of project results the following measures have been taken:

- The courses are designed for the learning outcomes defined as a result of the need analysis. But nanotechnologies are developing very rapidly and in order to meet the users' needs (mostly of the industrials – the future employers of students) the survey used for the analysis is still active on the INNI Web site and it will be maintained till the end of the project.
- In the course development, the students are involved from the first prototypes development and in all stages. Even the videorecording of lectures is done during the real classes, in face-to-face sessions. At the project meetings some decision-makers from the sector (e.g. from Elbit) participated as well the national training organisations and social partners (INNI).
- Because of the nature of these fast developing sciences, the courses will be regularly updated during and after the end of the project as well. The ICT-based content has two main advantages for the sustainability of the results: a) the students could access the courses from their countries, i.e. it insures virtual mobility without additional financing; b) the content is easily changeable and upgrade-able what is mandatory for the fast developing nano-technologies.
- All courses for university students are academically credited given on a regular basis in the corresponding departments. The innovation is the e-learning and the possibility for common use of educational resources. There is research and development in nanotechnologies in pharmacology, medicine, electronics, chemistry, physics. So, not all courses will be used by each university but only those corresponding to the scientific area of the corresponding curriculum.
- After the project end, the courses are integrated in the daily educational and training activities of the partner institutions in accordance with the second programme of INNI. The Moodle learning environment will be maintained on the server of TAU three years after the project end. By the end of the project, we established a business model with the support of INNI (www.nanoisrael.org) to fund and maintain the project by the partners and we signed an exploitation agreement, so it will remain functional after the end of the funding of the project. In the worst case, the Moodle environment is easily transferable and it could be installed with all developed courses on each beneficiary's server.
- The ECTS is not used in Israel but applied in our courses it has facilitated the exchange of students between Israel and EU universities. Because of the differences of national laws in each country, we considered that at this stage planning accreditation of joint or multiple MSc degrees is not realistic. Each course is designed for specific learning outcomes, with credits for each course unit to be assigned after assessment, and adopted by the partner institutions delivering the corresponding curriculum. These credits were used for students' mobility in Europe and when the credit system will be adopted in Israel – they will be used in the regular credit transfer system of the country.

With regard to the future cooperation: TAU, POLITO and EPFL already cooperated in Micro Nano electronics course developed in the frame work of the project. The 3 professors of the course are now working for new joint course (which will be developed after the funded life cycle of the project).

The purchased video recording equipment, learned experience by partners on lecture video recording and integrating all learning resources on project LMS enables them now to produce more courses or content, some of the partners already are making use of this capacity to produce educational content

HUJI is now undergoing a strong transition to international teaching and collaboration. Thus this English language material, of high quality, is of great use for this initiative. They intend to give these courses and expand the student base further, to reach most of our Physics (PhD level) students (with the " Macroscopic Quantum Coherence in Engineered Nano-Systems" course) and to extend and reach also international students coming each year to HUJI, with the "Nano in service of humanity" course.

Gender balance

Please explain to what extent the principle of equal opportunities has been taken into account in the project implementation (i.e. gender analysis carried out, presence of women in decision-making bodies, balanced percentage share of women among the teachers or the enrolled students, etc.). Describe how the project helped to promote gender balance and to identify and address factors influencing gender discrimination.

In the project management: Women are the co-ordinator and six of the ten members of the project steering committee (PSC): four from the Israeli universities and one of the two SMEs. So, six of the eleven partners contact persons are women.

The following table shows the number of men and women among the teachers and the involved in the pilot test students:

University/SME	Teachers		Students	
	Male	Female	Male	Female
BIU	3	2	19	6
POLITO	3	2	97	29
HUJI	2	2	116	174
CIME	4	4	57	24
TUS	2	6	20	9
BGU	5	5	20	17
Weizmann	1	1	19	79
Technion	2	1	18	17
TAU	3		104	30

Unexpected outcomes/ spin-off effects

- Did the project implementation produce any unexpected outcomes or spin-off effects, either positive or negative? If yes, please describe them.

The partners were so satisfied by the project activities and results that they decided to enlarge the collaboration with other Partner countries. The project results were disseminated to nanocenters and technical universities in China, India, Malaysia and South Korea. The teachers and managers from these countries appreciated a lot the activities and results of our tempus project and the core partners from EduNano (TAU, BIU, TUS and POLITO) together with 6 universities from China, India and Malaysia applied for a CBHE project on nanoelectronics (not all nanotechnologies) and the project started in October 2016. Unfortunately, the partners from South Korea who were very enthusiastic, could not be involved because the country is not eligible for CBHE project funding.

In the new project teachers with very different cultures and religions (Muslims, Jews, Buddhists and Christians including Catholic (Italy), Orthodox (Bulgaria) and Protestant (Norway) collaborate successfully in a friendly atmosphere for modernising the higher education in the partner countries.

In the EduNano project, the curricula in sciences have been modernized, in pharmacology, medicine, electronics, chemistry, physics. In the new project, the focus is on the most rapidly developing applied science – the nanoelectronics. The background of the new CBHE project are the good experiences in modernisation and internationalisation of curricula in Israel within the Tempus project and the fruitful collaboration of the partners from Bulgaria, Italy and Israel in developing e-learning systems for education and training in nanotechnologies. The rationale is to transfer all these experiences and successfully implemented innovations to the Asian partner countries – China, India and Malaysia and to modernize the curricula in nanoelectronics in all four Partner countries.

Statistics and Indicators

This section aims to gather statistical data and indicators of performance covering the entire project duration

Main targets

Please tick the appropriate box

Teacher training

Please indicate whether your project has links, targets or objectives related to teacher training

<i>YES</i>	<i>NO</i>	<i>N/A</i>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VET

Please indicate whether your project has links, targets or objectives related to Vocational Education and Training

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Education levels addressed by the project

Please indicate whether your project has links, targets or objectives related to programmes at :

- Bachelor level
- Master level
- Doctorate level

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Training and mobilities

Enter the code of the partner country concerned in the first lines and figures in the second and third:

Training of partner country staff and students

Number of academic staff from the partner country's Higher Education Institutions trained/retrained

Please indicate the number of teaching staff (professors, assistants with teaching tasks, etc.) trained and/or retrained during the project lifetime:

(Country of origin)

	Country Code: IL	Country Code:	Country Code:	Country Code:	Country Code:
Number Male	25				
Number Female	31				

Number of non-academic staff from the partner country's Higher Education Institutions trained/retrained

Please indicate the number University administrative staff (librarians, staff from the International Office, IT specialists, etc.) trained during the project lifetime:

	Country Code: IL	Country Code:	Country Code:	Country Code:	Country Code:
Number Male	5				
Number Female	5				

Number of staff from the partner country's non Higher Education Institutions trained/retrained

Please indicate the number of staff of non HEI (enterprises, NGOs, Chambers of Commerce, Government, local administration, etc.) trained during the project lifetime:

	Country Code: IL	Country Code:	Country Code:	Country Code:	Country Code:
Number Male	15				
Number Female	75				

Number of students from the partner countries who have attended programmes/courses developed in the framework of the project

Please indicate the number of students from the partner countries that have been trained and/or retrained in the programmes/courses developed by the project during the project lifetime:

	Country Code: IL	Country Code:	Country Code:	Country Code:	Country Code:
Number Male	303				
Number Female	415				

Academic/administrative Staff mobility

Number of partner country - EU mobility flows of more than 2 weeks

Please indicate the number of partner country staff mobility flows from the partner country to the European Union during the project lifetime:

(Country of origin)

	Country Code:	Country Code:	Country Code:	Country Code:	Country Code:
Number Male					
Number Female					

Number of EU - partner country mobility flows of more than 2 weeks

Please indicate the number of European staff mobility flows from the European Union to the partner country during the project lifetime:

(Host country)

	Country Code:	Country Code:	Country Code:	Country Code:	Country Code:
Number Male					
Number Female					

Number of partner country – partner country mobility flows of more than 2 weeks

Please indicate the number of staff mobility flows within the same partner country during the project lifetime:

(Country of origin)

	Country Code:	Country Code:	Country Code:	Country Code:	Country Code:
Number Male					
Number Female					

And between two different partner countries:

Number Male					
Number Female					

Student mobility

Number of partner country - EU mobility flows of more than 2 weeks

Please indicate the number of partner country student mobility flows from the partner country to the European Union during the project lifetime:

Remark: Because of the specificity of the training in clean rooms, we had approved mobility for intensive training for one week in EU partners' laboratories.

(Country of origin)

	Country Code: IL	Country Code:	Country Code:	Country Code:	Country Code:
Number Male					
Number Female					

Number of EU - partner country mobility flows of more than 2 weeks

Please indicate the number of European student mobility flows from the European Union to the partner country during the project lifetime:

(Host country)

	Country Code:	Country Code:	Country Code:	Country Code:	Country Code:
Number Male					
Number Female					

Number of partner country – partner country mobility flows of more than 2 weeks

Please indicate the number of student mobility flows within the same partner country during the project lifetime:

(Country of origin)

	Country Code:	Country Code:	Country Code:	Country Code:	Country Code:
Number Male					
Number Female					

And between two different partner countries:

Number Male					
Number Female					

Links to European Higher Education policies

Please tick the appropriate box

Diploma supplement

Please indicate whether the project contributes to the introduction of procedures for the issuing of diploma supplements in the partner country university/ies.

YES	NO	N/A
		√

Adoption of a system based on three main cycles, undergraduate (Bachelor),

postgraduate (Master) and Doctorate

√		
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Please indicate whether your project contributes to the adoption of a system based on three main cycles.

Introduction of double/multiple or joint degrees

		√
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Please indicate whether in the framework of your project the institutions involved plan to develop/issue double/multiple or joint degrees.

Establishment of an ECTS system

√		
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Please indicate whether your project contributes to the introduction and/or development of the European Credit Transfer System at the co-beneficiary partner university(ies).

Promotion of quality assurance procedures at institutional or national level

		√
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Please indicate whether the project contributes to the enhancement of the partner country university/ies strategies for quality assurance. For information on the 'Standards and guidelines for quality assurance in the European higher education area': http://www.bologna-bergen2005.no/Docs/00-Main_doc/050221_ENQA_report.pdf

Qualification frameworks

√		
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Please indicate whether the project contributes to the development of national qualification frameworks and implementation at university level, in line with the European Qualification Framework's principles.

Lifelong learning policies and approaches

√		
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Please indicate whether your project contributes to developing lifelong learning approaches

Modular curriculum structure

√		
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Please indicate whether your project contributes to the promotion of modular curriculum structure.

New teaching and learning methods

√		
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Please indicate whether the project contributes to the development of new teaching/learning methods at the partner country university/ies.

E-Learning

√		
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Please indicate whether the project contributes to the development of an e-learning strategy at the partner country university/ies.

University/Enterprise cooperation

√		
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Please indicate whether the project foresees the implementation of co-operation activities between the partner country university/ies and the private sector.

Links to the labour market in degree programmes

√		
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Please indicate whether the new/restructured curriculum/curricula is/are being developed in order to respond directly to the needs of the local and national labour market, i.e. through internships, intensive training in the field, etc.

Links with other EU education programmes

	√	
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Please indicate whether your project is directly linked to EU educational Programmes other than Tempus such as Erasmus Mundus or the Life Long Learning Programme.

If yes, please indicate to which EU educational programme your project is linked:

Table of achieved results

<u>Title and reference number of the work package (WP)</u>	<i>WP 1 Management</i>
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<u>Indicators of achievement and or/performance as indicated in the project proposal</u>	Interim and final reports, financial reports delivered on time; with all tasks accomplished, results obtained and presented with the reports, project objectives attained.
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Activities carried out for the achievement of this result (over the entire project period):

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
1	Coordination of activities, monitoring progress, communication in EU countries	01/12/13	31/05/17	IL, BG, IT, FR	<p>Agreement between the co-ordinator and the partners and transfer of the 40% of the project grant.</p> <p>Set up of project steering committee (PSC) including the contact persons from each partner's institution; e-mail group with all partners, teachers, managers and e-mail group only with the PSC members.</p> <p>Collection of VAT declarations from the partners' universities for exemption certificate for the equipment purchase.</p> <p>Communication with the expert from the Tempus office for solving the problem with Technion; collection of acceptance letters by the partners for inclusion of new partner, TRDF, preparation of amendment to the project for their inclusion.</p> <p>Applying for extension of the project period because of the delayed purchase of equipment.</p>	<p>Agreements, bank transfer documents</p> <p>Exemption certificate (VAT) from the Agency.</p> <p>Amendment to the project for inclusion of TRDF as a new partner.</p> <p>Amendment to the project agreement for extension of the project period.</p>
1	Coordination of activities, monitoring progress, communication in IL	01/12/13	31/05/17	IL	<p>Co-ordination of activities of Israeli partners; organization of meetings including the virtual meetings; communication with the Israeli tempus office.</p> <p>Communication with partners for collection of information of their specific needs for recording and</p>	<p>Approval of the rule of origin of the specific equipment for videorecording and editing</p>

					multimedia creation equipment; study of the available equipment from EU and collection of offers and information of the origin of the equipment.	multimedia materials.
1	Reporting, attending Tempus meetings organised by the Executive Agency	10/02/14 20/04/15 30/04/17	11/02/14 28/05/15 31/05/17	Brussels, BE On-line	Partners from TAU and POLITO attended the Tempus project representatives meeting and distributed the guidelines and the presentations to the partners. They got feedback from the responsible Tempus expert on the questions of the coordinator, e.g. the agreements with the partners, grant transfer, the one-week practice of Israeli students in EU universities. Partners from Weizmann institute reported the tasks and expenditures for the first period and next 20% of the grand were transferred to them. Interim report is prepared with collaboration of all partners. The file is editable on-line in Google Drive and each partner provides her/his information and eventual opinions. Final report is prepared with collaboration of all partners.	Guide for management of the grant agreement and templates for reporting mobility and timesheets published on the project Web site. Interim report by Weizmann institute and documents for bank transfer. Interim report presented on-time with all deliverables and activities for the reported period done. Final report presented on-time with all deliverables and activities done.
1	Project steering committee meetings	03/03/14 15/09/14 19/04/15 15/07/15 01/02/16 19/09/16 28/02/17 08/05/17	04/03/14 16/09/14 20/04/15 16/07/15 02/02/16 20/09/16 01/03/17 09/05/17	Tel Aviv, IL Torino, IT Bar Ilan, IL Nessebar, BG Grenoble, FR Torino, IT Grenoble, FR Beer Sheba, IL	Kick-off meeting: specification of project activities, definition of working groups. Co-ordination of activities for the first project objective achievement; report on the need analysis; review of pedagogical issues of learning outcomes definition and syllabi design. Co-ordination of activities for the second project objective achievement: courses development, video-recording; discussion on the delay caused by the late purchase of the equipment and need of extension of the project duration. Workshop for evaluation of e-learning materials 4-th PSC meeting Co-ordination meeting for planning the pilot test and the implementation. Meeting on the pilot test implementation. Meeting on the field trial implementation. Open dissemination/demonstration workshop. Final project meeting	Lists of participants, minutes of the meetings

Changes that have occurred in this outcome since the previous approved report

Amendment for extension of project duration.
Final technical and financial reports.
Audit.

Please add as many tables as necessary

<u>Title and reference number of the work package (WP)</u>	WP2 <i>Quality assurance, evaluation</i>
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<u>Indicators of achievement and or/performance as indicated in the project proposal</u>	Quality assurance plan, evaluation report
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Activities carried out for the achievement of this result (over the entire project period):

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
2.1	Quality assurance plan development	02/12/13	23/12/13	NL	The external evaluator from Open University Netherlands designed the QA plan for the project. It was evaluated and accepted during the meeting in Torino	QA plan
2.2	Need analysis	02/01/14	30/09/14	IL, EU	Analysis of educational and training needs was done through a survey on the necessary knowledge and skills in nanotechnology distributed to 120 companies and educational HEIs in Israel and Europe.	Need analysis report
2.3	Formative evaluation	02/01/14	30/05/15	Torino Bar Ilan On-line	Survey for the need analysis peer review on the PSC meeting in Torino. Evaluation of the need analysis report on the meeting at BIU with recommendations to keep the questionnaire open till the end of the project in order to maintain the courses in line with labour market needs. Evaluation of the learning outcomes definition and syllabi design from pedagogical point of view (meeting at POLITO). Peer review of contents. Evaluation of the software for multimedia materials development and e-learning environments (meeting at BIU).	Oral reports – in the minutes of the meetings. Recommendations for improvement of syllabi design and templates provided by instructional designers.
2.3	Formative evaluation	01/06/15	31/05/17	IL, EU	Usability test of the e-learning materials; peer review of learning materials; pilot test; field trial.	Analysis of usability questionnaire, reports on the pilot test and field

						trial
2.3	Final evaluation report from external evaluator.	02/01/14	31/05/17		External evaluation of project activities and results.	Project evaluation report.
	Follow-up Need Analysis Survey				<p>We have collected 46 answers from industrials:</p> <ul style="list-style-type: none"> - 20 respondents (43%) are from 17 different industrial companies - 23 respondents (50%) are from academic institutes <p>The results of this survey represent mainly the opinion of companies' senior managers and academic institute researchers.</p> <ul style="list-style-type: none"> • In most of the courses, at least 70% of the survey respondents rated the proposed courses skills and competences as fulfilling average or high/mandatory needs. • Most of the courses are relevant to at least 75% of the survey respondents. 	

Changes that have occurred in this outcome since the previous approved report

Usability test of the e-learning materials;
Peer review of learning materials; pilot test; field trial.
External evaluation of project activities and results.

<u>Title and reference number of the work package (WP)</u>	WP3 Instructional design
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<u>Indicators of achievement and or/performance as indicated in the project proposal</u>	Learning outcomes defined, syllabi and content for at least 18 e-learning and practical courses designed with corresponding credits, videorecording scenarios
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Activities carried out for the achievement of this result (over the entire project period):

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
3.1	Definition of learning outcomes, credits, syllabi, content development for university students	01/02/14	31/07/14		Definition of learning outcomes, credits, syllabi, content development for university students on: 'Bio-nanoelectronic devices for biosensing', 'Molecular electronics for the realization of novel nanoelectronic devices', 'Nanomaterials for electronics', 'Design of nanoscale MOS ICs', 'Biotechnologies', 'Spintronics', 'Nanoscience and nanotechnology. Why is 'nano' different and how is it useful?', 'Kinetics of Materials', 'Advanced topics in electro-optics and photonics', 'SPM technique and its applications in research and in nanotechnology industry', 'Microscopic quantum coherence in engineered nano-systems', 'Quantum mechanics for the nano-programme', 'Fundamentals of nano-biotechnology', 'Introduction to surface science', 'Atomistic simulation of materials'.	Syllabi for university students
3.2	Definition of learning outcomes, syllabi, content for SMEs	01/02/14	31/07/14		Definition of learning outcomes, syllabi, content for SMEs on: 'Advanced materials and nanotechnologies for electrochemical energy storage systems', 'Design of nanoscale MOS ICs', 'Spintronics', 'MEMS fabrication', 'Advanced topics in electro-optics and photonics', 'SPM technique and its applications in research and in nanotechnology industry'.	Syllabi for training at SMEs. Some of the courses for MSc and PhD students are suitable for training at industry. The course 'Advanced materials and nanotechnologies for electrochemical energy storage' targets only professionals.

Changes that have occurred in this outcome since the previous approved report

24 instead of 18 courses are developed.

<u>Title and reference number of the work package (WP)</u>	WP4 E-learning courses development
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<u>Indicators of achievement and or/performance as indicated in the project proposal</u>	A common learning environment EduNano with at least 18 e-learning courses
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Activities carried out for the achievement of this result (over the entire project period):

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
4.1	Video records of lectures and practical work	01/03/15	30/11/15	On-line	Video records of lectures, laboratory practical courses in: 'Micro-Nano Technologies' – TAU 'Hi-Tec Entrepreneurship' – additional extra course ongoing and recorded current semester 'Simulation of Microelectromechanical System (MEMS) Devices. Hands on cleanroom procedures video recordings repository' - TAU 'Bio-nanoelectronic devices for biosensing' - TAU 'Introduction to Surface Science' - TAU 'Atomistic Simulation of Materials' - TAU 'Fabrication of Microelectromechanical System Devices' - TAU 'SPM technique and its applications in research and in nanotechnology industry' - Weizmann 'Into materials and nanotechnology' for high school teachers' - Weizmann 'Bio-nanoelectronic devices for biosensing' - Polito. 'Biotechnology and spintronics courses' - CIME 'Advance Topics in Electrooptics and Nano-Photonics' - BGU 'Molecular electronics for the realization of novel nanoelectronic devices' – BGU 'Nanotechnology- Journey through time and space towards the future drugs' – BGU are done and uploaded in EduNano platform.	Videos of 22 courses of lectures and the practical lessons including in clean rooms with PowerPoint presentations shown simultaneously.
4.2	e-learning courses	01/03/15	30/05/15	EN	The e-learning courses in 'Nanomaterials for electronics' and 'Design of nanoscale MOS ICs' - TUS are available on the EduNano platform.	HTML e-learning courses

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Changes that have occurred in this outcome since the previous approved report

As the videorecording for the courses started only in March because of the delayed purchase of equipment, the final versions of the e-learning courses was also postponed.

We developed 24 courses instead of the planned 18.

Please add as many tables as necessary

<u>Title and reference number of the work package (WP)</u>	WP5 Implementation, pilot test
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<u>Indicators of achievement and or/performance as indicated in the project proposal</u>	Common courses tested during last project year pilot test and implemented with corresponding credits.
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Activities carried out for the achievement of this result (over the entire project period):

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
5.1	Courses implemented	30/11/15	31/05/17	IL	Common courses tested during last project year pilot test and implemented with corresponding credits. Mobility for practical training of Israeli students	Results reported in the implementation report: with number of students in each course, student performance and assessment results, teachers' and other stakeholders' experiences.
5.2	Seminars on Bologna process and principles of course design	26/05/14 22/10/14 Continuous		HUJI HUJI HUJI	HUJI organized two meetings of institutional representatives and module coordinators. The first meeting introduced the Bologna process principles. In the second meeting ECTS system was explained and discussed and the principles for credits definition. Further consultation meetings were on demand throughout project time by individual partner request. In summary, Israeli partners participating in the EduNano project were familiarized with the Bologna Process in general by both workshops and individual consultation meetings, and prepared syllabi to the proposed courses in particular.	Training seminars for teachers on ECTS Consulting teachers in learning outcomes definition, syllabi design and ECTS implementation
5.3	Training seminar on e-learning materials development	15/05/14 20/04/15	15/05/14 20/04/15	TAU BIU	A video recording and EduNano Moodle workshop was held at Tel Aviv University. It was attended by the teachers-representatives of all Nanocentres except Technion. Training seminar on e-learning materials development: multimedia materials editing, development of courses in Moodle, development of on-line tests	Training seminar on videorecording Training seminar on e-learning materials development

Changes that have occurred in this outcome since the previous approved report

The pilot test started six months later when the courses will be ready because of the equipment purchase delay.
In the pilot test 639 students participated (180 planned in the proposal).

Please add as many tables as necessary

<u>Title and reference number of the work package (WP)</u>	WP6 Dissemination
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<u>Indicators of achievement and or/performance as indicated in the project proposal</u>	All reports and deliverables published in electronic form on the Web page. Prototypes of the courses and tests published for dissemination and evaluation by a larger audience. Papers in conference proceedings and reviews, project Web page with the demo courses, leaflet in English, Hebrew, Arabic, Bulgarian, Italian and French
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Activities carried out for the achievement of this result (over the entire project period):

Activity N°	Activity Title	Start date	End date	Place	Description of the activity carried out	Specific and measurable indicators of achievement
6.1	Project Web page	20/12/13	31/05/17	On-line	All reports and deliverables published in electronic form on the Web page: http://edunano.eu	Web page with project objectives, partners, planned activities, training seminars, workshops, all results.
6.2	Publications	01/06/15	31/05/17	EN	<p>Publications on conferences and in scientific reviews:</p> <ul style="list-style-type: none"> Chapter in a book: "Global Perspectives of Nanoscience and Engineering Education" by Sidney R. Cohen, Ron Blonder, Shelley Rap, and Jack Barokas Presentation of the project results on 9th International Conference of Education, Research and Innovation ICERI, Sevilla, Spain, 14th-16th November, 2016 and a published paper Presentation of the project results on the Online, Open and Flexible Higher Education Conference, 19-21 Oct. 2016, Rome, Italy and a published paper Blonder, R. (March, 2016). A lecture about the EduNano Tempus project in a conference organized by the Council for Higher Education in Israel (MALAG). EduNano Symposium for high school students (September, 2015). 33rd Israel Vacuum Society Meeting, Rehovot Israel Ron Blonder and Sidney R. (July 2014) "Education in Nanotechnologies: Improved Accessibility for Nanoscience Instruction: A 	<p>Papers in conference proceedings and reviews:</p> <p>Chapter 6 by Sidney R. Cohen, Ron Blonder, Shelley Rap, and Jack Barokas in a book: "Global Perspectives of Nanoscience and Engineering Education", Eds. K. Winkelmann, B. Bhushan, Springer, 2016, pp. 171-194.</p> <p>Tzanova S., Barokas J., Demarchi D., Tempus Project "Education in Nanotechnologies", Proc. of 9th International Conference of Education, Research and Innovation ICERI, Sevilla, Spain, 14th-16th November, 2016, pp. 6373-6378.</p> <p>Tzanova S., Barokas J., Demarchi D., Euro-Israeli Cooperation for On-line Education in Nanotechnologies, Proc. of The Online, Open and Flexible Higher Education Conference, 19-21 Oct. 2016, Rome, Italy, pp. 881-892.</p>

					<p>General Program and its Implementation. International Conference on Nanoscience and Technology” , Cohen, ICN&T 2014, Vail Colorado USA.</p> <ul style="list-style-type: none"> • Blonder, R. (May 2017). Nano goes to school: Bridging the gap between contemporary research and school science. 3rd International Symposium: Nanotechnology from Academia to Industry 2017, NTAI 2017. • BIU - Writing and co-ordination of the project newsletter • Bodner E., Presentation at IVS conference in Israel via booth describing the activities. • Presentation at NanoIsrael conference 2016 in Israel via booth describing the activities • Invited lecture by Dr. Efrat Bodner from BIU describing the project activities in the education session of NanoIsrael • Internal dissemination seminar of Erasmus+ projects at Bar-Ilan University to promote projects and collaborations amongst faculties at BIU. Dr. Efrat Bodner gave a lecture describing the activities of the EDUNANO project. 	<p>Ron Blonder and Sidney R. (July 2014) “Education in Nanotechnologies: Improved Accessibility for Nanoscience Instruction: A General Program and its Implementation. International Conference on Nanoscience and Technology” , Cohen, ICN&T 2014, Vail Colorado USA.</p> <p>Blonder, R. (May 2017). Nano goes to school: Bridging the gap between contemporary research and school science. 3rd International Symposium: Nanotechnology from Academia to Industry 2017, NTAI 2017.</p> <p>https://www.youtube.com/watch?v=rFNmkrZfOCK&list=PL6o3T12rPUVTuW6Z1-Lq9YM9KIj3IA9LB&t=12s&index=1</p> <p>Booth and poster developed by BIU</p>
6.3	Dissemination materials	01/06/15	31/05/17	IL, IT, FR, BG	<p>Publications in the newspaper of Israel Nanotechnology Initiative and in social networks and</p> <p>Dissemination in Facebook</p> <p>Web-based demos of courses in YouTube and dissemination videos in YouTube:</p> <p>Leaflet printed and distributed to all events at the partner universities, conferences, events organised by the Israeli Erasmus+ office and EACEA.</p>	<p>On-line publications, dissemination in the social networks</p> <p>https://www.facebook.com/profile.php?id=100009816422168</p> <p>YouTube: All the dissemination and open course videos are in this channel. 30 video clips and 2140 views:</p> <p>https://www.youtube.com/channel/UCaee8oK8eiOMF8XvE1cPgkQ</p> <p>Facebook</p> <p>https://www.facebook.com/edunano.lms</p>

						https://www.youtube.com/channel/UCaee8oK8eiOMF8XvE1cPgkQ Leaflet
6.4	National Web pages	01/06/15	30/11/16	On-line	<p>Web pages in the partner country language in each participating in the project country for dissemination of project activities and results to the larger audience in the country:</p> <p>https://www3.tau.ac.il/edunano/index.php/en/ http://stwww.weizmann.ac.il/g-chem/TEMPUS/index_eng.html http://rbni.technion.ac.il/?cmd=students.490 http://www.neaman.org.il/neaman2011/Templates/ShowPage.asp?DBID=1&LNGID=1&TMID=580&FID=964&IID=1366 http://nano.biu.ac.il/TEMPUS%20E-Learning%20Courses http://www.nano.huji.ac.il/page/E_Learning_Courses</p>	Short Web pages for the project on the servers of each partner's institution.
6.5	Open dissemination workshop	08/05/17	08/05/17	Beer Sheba, IL	<p>Project final workshop, open to a large audience of all stakeholders in Israel, including the H.E. ambassador of the European Union to state of Israel</p> <p>During the workshop the e-learning courses were demonstrated, the project results reported with focus on the results of the exploitation- pilot test.</p>	<p>Open dissemination workshop during the last project month. List of participants and minutes of the meeting.</p> <p>Speech of the ambassador of EU in Israel:</p> <p>https://www.youtube.com/watch?v=9tmVcdVqu4k&index=9&list=PL6o3T12rPUVQzx0fstNs9PeMZeuH8KnS.</p> <p>Life webcast and videorecord of the event in YouTube:</p> <p>https://www.youtube.com/playlist?list=PL6o3T12rPUVSkCkQmkBjz_ifutOwygRq</p>

Changes that have occurred in this outcome since the previous approved report

CDs are no more supported by new laptops and their use is very restricted to old computers. We considered that demonstration courses on nanotechnologies on old memory devices are not convenient and published them on Internet, in YouTube.

SUMMARY REPORT FOR PUBLICATION

Project title

Education in Nanotechnologies

Objectives (as indicated in the project proposal)

- To design syllabi and course content and assessment for regular and continuing education courses in nanotechnologies to meet the user needs and to determine the credits for each course unit, based on ECTS till September 2013.
- To select innovative content for the defined learning outcomes and video record lectures and practical work in the high-tech laboratories of partner institutions by July 2014.
- To adapt/develop new e-learning courses with modular structure for the innovated curricula of partner universities and to establish a platform and procedures for knowledge sharing inside Israeli academy, industry and students by the end of September 2014.
- To perform a pilot test and to start the implementation of the joint modules/courses delivery from October 2014 till September 2016.

Outcomes

- Interim and final reports, financial reports delivered on time; with all tasks accomplished, results obtained and presented with the reports, project objectives attained.
- Quality assurance plan
- Evaluation reports, recommendations for improvements. Final evaluation report from external evaluator.
- Learning outcomes defined, syllabi and content for 24 e-learning and practical courses designed with corresponding credits, videorecording scenarios.
- e-Learning environment with the courses delivered .
- Common courses tested during the pilot test and implemented with corresponding credits.
- Web page with project objectives, partners, planned activities, training seminars, workshops. Publications on conferences and one chapter in a book. Web-based demos of courses in YouTube. Leaflet in English and Hebrew.

Activities

- Management: planning, coordination of activities, monitoring their implementation, communication, reporting
- Quality assurance: quality plan development, need analysis, formative evaluation, summative external evaluation
- Development of syllabi and contents after learning outcomes definition and with corresponding credits with regard to ECTS
- Development of video and e-learning courses
- Exploitation: implementation of courses in corresponding partners curricula. Pilot test performed with a total of 628 students and 90 high school teachers
- Dissemination and further exploitation: Web page and repository (database) of videos and e-learning materials in nanotechnology, dissemination in high schools and enterprises, publications, dissemination workshop

Achieved results

Six curricula innovated with 24 new courses developed for specific learning outcomes defined with the involvement of employers and based on ECTS
Teachers of six Israeli universities trained on development of courses based on ECTS
Courses implemented with 628 students during the pilot test
Mobility of 48 students in French and Italian universities for practical training thanks to the introduced ECTS and recognition of credits between Israeli and EU universities
Mobility and training in CIME Nanotech of 8 high school Israeli teachers
High satisfaction of the training and common e-learning environment with shared courses expressed by students, teachers and industrials in the survey.
One chapter published in a book of Springer and 6 papers presented on conferences in Israel and Europe, project Web page and pages on partners' servers, leaflet in Hebrew and English, publications in INNI newspaper, posters, demo movies in YouTube, site in Facebook.

Future developments

Continuing course development and on-line delivery in the EduNano learning environment (the new course on entrepreneurship in high technologies has just been delivered on-line)
Enlarged collaboration: TAU, Polito and EPFL started the delivery of a common course; new CBHE project on nanoelectronics based on the success of EduNano.

Other remarks

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FINANCIAL STATEMENT

Instructions

In addition to this form, you are requested to fill in the Financial Statement and accompanying financial tables in the "Financial Statement" excel file published on the website.

Please note that the excel file is composed of 11 different excel worksheets. Please go through each one of these worksheets and fill in the financial tables. For each budget heading, you must declare all expenditure incurred by the project during the eligibility period, both paid by Tempus and co-financed.

The "Financial Statement" excel file is composed of the following excel worksheets:

Annex IV/13:	Financial Statement and Request of Payment of the balance
Annex IV/14:	Country codes
Annex IV/15:	Staff Costs
Annex IV/16:	Travel Costs and Cost of Stay
Annex IV/17:	Equipment Costs
Annex IV/18:	Printing and Publishing
Annex IV/19:	Other Costs
Annex IV/20:	Expenses > Euro 25,000
Annex IV/21:	List of Partners and Experts
Annex IV/22:	Indirect Cost
Annex IV/23:	Co-financing and exchange rate

The financial tables are protected and pre-formatted but you can insert rows according to your needs. Please note that the relevant information has to be encoded manually in the financial tables. Please avoid copy-paste. Please check the calculations carefully and ensure that the declared amounts are correct. Amendments to the declared amounts will not be accepted after submission of the report.

Please note that for invoices in a currency other than EURO the equivalent amount in EURO must be indicated on the invoice. Any conversion of actual costs into EURO shall be made by the co-ordinator at the monthly accounting rate established by the Commission and published on its website (<http://ec.europa.eu/budget/infoureuro>) applicable on the month of the first pre-financing until the second pre-financing is received, after which the rate of the month of the second pre-financing must be applied.

ACKNOWLEDGEMENT OF RECEIPT

Your name: Slavka Tzanova			
Complete address: Technical University of Sofia, FETT 8 Kliment Ohridski bul.			
BG	-	1000	Sofia
Country code		Postal code	City

This page of the form will be returned to you on receipt of your implementation report and financial statement. Therefore please enter your name and address in the box above. Please remember to send in this page with each of your reports.

For internal use only under the Tempus programme.		
<table border="1"><tr><td>Tempus Project No. 543861-TEMPUS-1-2013-BG-TEMPUS-JPCR</td></tr></table>		Tempus Project No. 543861-TEMPUS-1-2013-BG-TEMPUS-JPCR
Tempus Project No. 543861-TEMPUS-1-2013-BG-TEMPUS-JPCR		
Yours sincerely,		
Done at	Date	

CHECK-LIST

WHAT INFORMATION NEEDS TO BE SENT?



Declaration: duly signed by the contact person and the legal representative of the coordinator (institution) – Annex IV/2



Final report on implementation of the project – Annex IV/3-5



Statistics and indicators – Annex IV/6-8



Table of achieved results – Annex IV/10



Summary report for publication – Annex IV/11



Financial statement: Annex IV/13-23 (please complete the financial statement in the separate "Financial Statement" excel file: make sure that all excel sheets, if required, are duly filled in)



Supporting documents for expenditure ‘Paid from Tempus’ and/or ‘Co-financed’ only for equipment purchase and staff costs subcontracting where the total value of the purchase/subcontract is more than EUR 25 000 and for staff costs where a higher salary rate (see Annex 3 of the Guidelines) has been applied.



Acknowledgement of receipt – Annex IV/24