

*MEDIS: A Methodology for the Formation of Highly Qualified
Engineers at Masters Level in the Design and Development
of Advanced Industrial Informatics Systems*

WP7: Dissemination



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MEDIS: A Methodology for the Formation of Highly Qualified Engineers at Masters Level in the Design and Development of Advanced Industrial Informatics Systems

WP7: Dissemination

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Context

WP 7	Dissemination
WPLeader	Al-Farabi Kazakh National University (KazNU)
Task 1.1	Design AIISM - Structure of the AIISM courses
Task Leader	KazNU
Dependencies	UPV, USTUTT, TUSofia, MDU, UP, PSU, NTUU-KPI, ONPU, SPBSPU, PetrSU

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History

Version	Date	Author	Comments
0.90	31/01/2014	KazNU Team	Initial draft
1.0	31/10/2016	KazNU Team	Final draft

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1 Executive summary

This deliverable presents the report on the dissemination of the MEDIS Project results.

2 Dissemination Plan

During the GB in MDU and the GA in TUS was defined a dissemination plan, which includes a set of actions to make MEDIS project visible. Dissemination plan consist of:

1. All universities have to put the logo of Tempus on the front page of the university website. When a user clicks on the logo, the page with a very detailed information about the project should appear. This is a requirement of any TEMPUS project. Deadline: December,1 2014.
2. Each university should give a talk at least at three educational conference. Deadline: May, 2015.
3. Each university should publish news about tempus projects in their universities in local newspapers or local news websites. Deadline: May, 2015.
4. Publish a video on YouTube.
5. Each university should publish at least three papers in journals related to education. Deadline: May, 2016.
6. Each university should publish 3 articles in newspaper. December, 2015

3 Conferences and Journals

3.1 UPV

1. Houcine Hassan, Juan M. Martínez, Carlos Domínguez, Angel Perles, Juan V. Capella, José Albaladejo (2015). “m-IC: a Mobile Device based Multimedia Learning Methodology for Industrial Computing”, INTERNATIONAL JOURNAL OF ENGINEERING EDUCATION, Journal Citation Reports. Accepted for publication, May, 2, 2015.
2. Book (2015): “Engineering Experiences in the Design of Advanced Industrial Informatics Systems”, ISBN: 978-84-606-9807-4, Authors: J.V. Busquets, J. Albaladejo, A. Perles, J.V. Capella, C. Domínguez, J.M. Martinez, H. Hassan, Mário Sousa, Luis Almeida, Paulo Portugal, Armando Sousa, Slobodanka Cenevska, Mahnaz Malekzadeh, Abhilash Thekkilakattil and Radu Dobrin, Michael Seyfarth,

Yessengaliyeva Zhanna, Mussiraliyeva Shynnar, O.N. Galchonkov, N.V. Loziienko.

3. J. Albaladejo, H. Hassan, J.V. Busquets, C. Domínguez, A. Perles, J.V. Capella, J.M. Martinez, Metodología Activa para el Desarrollo de Sistemas Informáticos Industriales Avanzados, Proceedings of 23 Congreso Universitario de Innovación Educativa en las Enseñanzas Técnicas, ISBN: 978-84-606-5611-1, Valencia 15-17 July 2015.
4. J.V. Busquets, J. Albaladejo, A. Perles, J.V. Capella, C. Domínguez, J.M. Martinez, H. Hassan, Using Industrial Computers to Design Advanced Industrial Informatics Systems, Proceedings International Workshop Medis (isbn: 978-84-606-9807-4), Saint Petersburg, 21-22 May 2015.
5. C. Domínguez, J.M. Martinez, H. Hassan, Industrial Computers Module - on Selection Problem for Conducting a BPL Methodology-based Course, International Workshop Medis, Saint Petersburg, 21-22 May 2015.

3.2 USTUUTT

Michael Seyfarth, A learning module for simulation based programming of microcontrollers within production systems, Proceedings International Workshop Medis (isbn: 978-84-606-9807-4), Saint Petersburg, 21-22 May 2015.

3.3 MDU

Slobodanka Cenevska, Mahnaz Malekzadeh, Abhilash Thekkilakattil and Radu Dobrin

A learning module for control of embedded systems through mobile devices, Proceedings International Workshop Medis (isbn: 978-84-606-9807-4), Saint Petersburg, 21-22 May 2015.

3.4 UP

Mário Sousa, Luis Almeida, Paulo Portugal and Armando Sousa, Teaching Industrial Networks with a Problem-Based Learning Approach, Proceedings International Workshop Medis (isbn: 978-84-606-9807-4), Saint Petersburg, 21-22 May 2015.

3.5 TUS

1. E. Markov, V. Gueorguiev, I. E. Ivanov, Program Generation Approach to Semi-Natural Simulators Design and Implementation, SIMUL 2014 “The Sixth International Conference on Advances in System Simulation”, Nice, France, 2014, ISBN: 978-1-61208-371-1
2. V. Gueorguiev, Improving Simulators Quality Using Model and Data Validation Techniques, SIMUL 2014 “The Sixth International Conference on Advances in System Simulation”, Nice, France, 2014, ISBN: 978-1-61208-371-1

3.6 KazNU

1. Yessengaliyeva Zh., Mussiraliyeva Sh. (2015) “A Methodology for the Formation of Highly Qualified Engineers at Masters Level in the Design and Development of Advanced Industrial Information Systems”. Proceedings of the conference “Integration of education, science and business as the basis of innovation development of economy”, Almaty, Kazakhstan, 2015.
2. Yessengaliyeva Zhanna, Mussiraliyeva Shynar “Implementation a Methodology for the Formation of Highly Qualified Engineers on the Information Systems Department at al-farabi Kazakh National University”, Book (2015): “Engineering Experiences in the Design of Advanced Industrial Informatics Systems”, ISBN: 978-84-606-9807-4o, p. 32-36.
3. Mussiraliyeva Sh. (2016) Implementation a Training Methodology for the Formation of Engineers at Masters level in the Development of Advanced Industrial Informatics Systems”. Proceedings of the 46-th educational conference “Integration of education, science and business as the basis of innovation development of economy”, Almaty, Kazakhstan, 2016.
4. Mussiraliyeva Shynar, Pilot implementation of Tempus Medis master courses at Information System department for Automation and Control specialty, Book(2016). ISBN 978-601-04-2547-7, Proceedings of the workshop “Preparing ICT specialists for company NPIID-2”, Almaty, Kazakhstan, 2016.
5. B.Belgibayev, M. Berik, Automate the system of control fluid level in the storage tank drip irrigation process with LOGO! Microcontrollers. (based on the experience of the participating in the TEMPUS MEDIS project). Book(2016). ISBN 978-601-04-2547-7, Proceedings of the workshop “Preparing ICT specialists for company NPIID-2”, Almaty, Kazakhstan, 2016.
6. M.Berik, A.Karimov, B.Belgibayev. Automatization on the basis of microcontrollers of processes of a drop irrigation of a city mini-hotbed as subtasks of the Clever House project. (based on the experience of the participating in the TEMPUS MEDIS project). Book(2016). ISBN 978-601-04-2547-7, Proceedings of the workshop “Preparing ICT specialists for company NPIID-2”, Almaty, Kazakhstan, 2016.
7. Azanov Nikolai, Zhaitemirova Aigerim. Development and Implementation of a conveyor control system using induction motor and microcontroller. (based on the experience of the European universities participating in the TEMPUS MEDIS project). Book(2016). ISBN 978-601-04-2547-7, Proceedings of the workshop “Preparing ICT specialists for company NPIID-2”, Almaty, Kazakhstan, 2016.
8. Mussiraliyeva Shynar, Application of MEDIS project methodology for Automation and Control specialty at Information Systems department. Proceedings of the 47-th educational conference “Increasing the competitiveness and export potential of educational programs”, Almaty, Kazakhstan, 2017.

3.7 PSU

1. N.E. Pfeifer, G.S. Jarassova, N.A. Ispulov, N.N. Ospanova (2014) Structure of Educational Program "Industrial Informatics", ISSN 1811-1831, p. 150-158 Pavlodar, Kazakhstan, 2014 [In Russian].
2. Sultanova M. Zh, Daikenova A. E. (2015) Modeling the Microcontrollers of Industrial Processes // Materials of the International Scientific – Practical Conference «Science and Education: No language barriers», ISBN 978-601-238-523-6, p. 331-335, Pavlodar, Kazakhstan, 2015.
3. G.S. Jarassova, E.N. Beisekeyev Socket Programming in Android and Java (2015) // Materials of the VII International Scientific- Practical Conference «Mathematical Modeling and Information Technologies in Education and Science», ISBN 978- 601-298-446-0, p. 75-77, Almaty, Kazakhstan, 2015 [In Russian].
4. Assainova A. Zh., Jarassova G.S. Structure of the modular educational program of Master's "Computer science" // Bulletin of the ENU named after L. N. Gumilev. - № 3 (106). - Astana. - 2015. - P. 128-135.
5. Ospanova N.N., Muratbekova A. Computer Coach: industrial process efficiency and security // International scientific and practical conference // International Scientific and Practical Conference "VII Toraigyrov Readings. Quality of life in the Pavlodar region. State and Prospects ", dedicated to the 55th anniversary of the Pavlodar State University. S.Toraigyrova. Pavlodar, 2015. Volume 6. 107-110 bb.
6. Ospanova N.N., Bazarkanov S. Modern intellectual systems for controlling industrial processes in industry // "BilimBerudegi Innovation: Dissemination of Knowledge", "Halyaraly", "Yellow-Practical" Conferences. 2014, yellow sour. I volume. 377-380 bb.
7. Ospanova N. N., Muratbekova A. Important to develop production processes for computer trainers // "Satpayeva after the XV readings" of young scientists, students and schoolchildren in the international scientific conference. 21 vol. Pavlodar, 2015. 151-154 BB.
8. Jarassova G., Assainova A., Ispulov N. Practice-Oriented Training of IT Masters. PROCEEDINGS of the first international practical workshop on preparing ICT specialists for company NPIID-2. Печать Al Farabi Kazakh national University, Almaty, p. 22-24. ISBN 978-601-04-2547-7 4

3.8 NTUU-KPI

1. Yevgeniya Sulema, Olena Temnikova, "Application of MEDIS Project Methodology in DSP Course at NTUU KPI", Almaty, Kazakhstan, 2016.
2. Yevgeniya Sulema, Olena Temnikova, "Knowledge Transfer via International Collaborative Work within TEMPUS Project «MEDIS»", in Proceedings of XII

(XXIV) Scientific-practical conference “International Scientific and Technical Cooperation: Principles, Mechanisms, Efficiency”, 2016, Kiev, Ukraine, p. 76.

3. Yevgeniya Sulema, Olena Temnikova, “Intellectual Tutoring System for Implementation of MEDIS Project Problem-Based Learning Methodology”, in Proceedings of the 15th International Scientific Conference named after T. A. Taran “Intellectual Analysis of Information”, 2015, Kiev, Ukraine, pp. 240-244.

3.9 ONPU

1. Galchonkov, O., Loziienko, N. (2015) .Advanced problem-based learning. The experience of the European universities participants to the TEMPUS MEDIS project. Pr. Odes. Politechn. un-tu 2, 195-200. Retrieved from <http://pratsi.opu.ua/articles/show/1167>
2. Galchonkov O., Nevrev A., Loziienko N. (2016) Real Problem-Based Learning: specific features of the training method for creation of modern industrial control systems (based on the experience of the European universities participating in TEMPUS MEDIS) // Scientific Journal “Science Rise” Pedagogic education #2/5 (19) – 2016, P. 25-29
3. Galchonkov O., Nevrev A., Loziienko N. (2016) Enhanced functions of the teacher when problem-based learning evolution (based on the experience of the European universities participating in the TEMPUS VI “MEDIS” project) // Scientific Journal “Science Rise” Pedagogic education #4/5 (21) – 2016, P. 30-34
4. Galchonkov O., Nevrev A., Loziienko N. (Odessa, May 2016) Changes in teacher functions at different stages of the problem-based learning development of industrial control systems design (based on the experience of the European universities participating in the TEMPUS MEDIS project) // Materials of the seventh international scientific practical conference “Contemporary research in the social sphere”. Odessa: Bukaev B., 2016. – P.174-178
5. Publication in the Book of articles from St-Petersburg Training session (May 2015): O.N. Galchonkov, N.V.Loziienko. Advanced problem-based learning: special features of the modern industrial control systems development training (based on the experience of the European universities participants to the TEMPUS MEDIS project).
6. Publication in the Book of articles from the Almaty Meeting (June 2016): Galchonkov, N.V.Loziienko. Joining efforts of universities and industry to increase efficiency of teaching students to construct modern industrial management systems (basing on experience of European universities participating in TEMPUS MEDIS Project)

3.10 SPBSPU

1. International Polytechnic Week, 20-23 of May, 2015.

Supporting document: inform_letter.pdf, forum_IPW_2015_programme(1).pdf, dsc_0061, dcs_0092, dsc_0112, img_8558

2. International conference Network Cooperation in Science, Industry and Education, 4-6 July 2016, St. Petersburg, Russia <http://ncsie.spbstu.ru>.

The results of MEDIS project will be presented within the round table session “Educational programs and standards in engineering education.

Supporting documents: information letter conf16(1).pdf

3. MEDIS conference in Almaty, Kazakhstan, June, 2-3, 2016

4. Sergey A. Yerofeyev, Oleg S. Ipatov, Sergey A. Markov, Vyacheslav V. Potekhin, Angelina S. Sulerova, Viacheslav P. Shkodyrev “Adaptive Intelligent Manufacturing Control Systems”, 1877-7058 © 2016 The Authors. Published by Elsevier Ltd., Peer-review under responsibility of DAAAM International Vienna.

Supporting documents: procedia_eng_acknowledgement.pdf

5. Publication in Collection of materials of the conference “Network Cooperation in Science, Industry and Education, 4-6 July 2016”.

3.11 PetrSU

Members of the project team from PetrSU participated in the IT Conference in SPB (21-24 May 2015)

Big internal conference “Automation 2016” will be held in Moscow (27-29 November 2016) we will present our experience and first results of ASIIM implementation after the completion of the pilot course (June 2016)

Since 2014 two webinars were held on the basis of Institute of International programs, during the webinar we discussed progress of the project, advantages for the local educational system, experience of the ASIIM implementation. Total number of people involved in these webinars – 24, number of Partners – 8.



4 Design Leaflets and writing reports

4.1. UPV

The Leaflet of MEDIS project was developed by UPV's team. It is available on the next link:

<https://www.dropbox.com/home/Tempus-MEDIS-shared-data/work-packages/WP7-Dissemination/Posters%20and%20Leaflets>



MEDIS project addresses curriculum adaptation at Masters level of engineering schools of PC universities to incorporate into their curricula Advanced Industrial Informatics Specialization Modules (AIISM) for the efficient control of distributed and complex industrial processes.

This reform will allow formation of highly qualified engineers that will be easily integrated in the labour market. Moreover, the incorporation of these engineers to the industry would achieve greater productivity, increasing competitiveness of companies, and benefiting the development of the whole society.

FOR MORE INFORMATION VISIT OUR SITE: www.medis-tempus.eu



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The Poster of MEDIS project also was developed by UPV's team. It is available on the next link:

<https://www.dropbox.com/home/Tempus-MEDIS-shared-data/work-packages/WP7-Dissemination/Posters%20and%20Leaflets?preview=POSTER+MEDIS.docx>

4.2 KazNU

6 posters were edited during the project: 3 posters according UPV design and 3 developed by KazNU's team as shown on the pictures:



The template Leaflet has been translated into Kazakh and Russian languages and adapted to the local audience needs by KazNU's team and 300 booklets were printed during first year of project.



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MEDIS бейімдеу жобасы күрделі өндірістік үрдістерді тиімді басқару, олардың оқу бағдарламаларын өндірістің алдыңғы қатарлы мамандандыру модуліне (AIISM) қосу, инженерлік мектеп-университеттердегі магистрлік деңгейде оқу бағдарламасын қарастырады.

Бұл реформа еңбек нарығында интеграцалануға оңай болады және жоғары білікті инженерлерді дайындауға мүмкіндік береді. Сонымен қатар, осы инженерлерді өнеркәсіпке енгізу арқылы бұрал қоғамның дамуына, илгіліне, компанияларды бәсекеге қабілеттілігі арттыру, үлкен өнімділікке жетуге мүмкіндік береді.

Осы мақсаттағы MEDIS-тің басты мақсаты: жоғары білікті инженерлер қалыптастыру үшін өнеркәсіп технологиясы интеграцалық магистратура деңгейіндегі микрокомпьютерлер, өнеркәсіптік компьютерлер, ұялы және бағтты есептеу платформасына негізделген озық өнеркәсіптік информатика жүйелерін дамытуға арналған оқыту әдістемесі болып табылады.

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Проект MEDIS направлен на адаптацию учебных магистерских программ инженерных специальностей университетов-партнеров ЕС (Россия, Украина, Казахстан) посредством включения в их программы Модулей Специализации по Передовой Производственной Информатике (Advanced Industrial Informatics Specialization Module - AIISM) направленных на подготовку инженерных специалистов в области проектирования и разработки промышленных информационных систем с использованием микрокомпьютеров, промышленных компьютеров, мобильных и платформ облачных вычислений, для контроля децентрализованных и комплексных процессов управления. Такие курсы будут способствовать формированию высококвалифицированных инженеров, которые легко смогут интегрироваться на рынке труда. Более того, привлечение таких инженеров на производство поможет повысить производительность и конкурентоспособность компаний, способствуя таким образом, развитию всего общества.

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Leaflets with another design were developed by KazNU's team in Russian, Kazakh, English languages. And were printed about 300 booklets.

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MEDIS бейімдеу жобасы күрделі өндірістік үрдістерді тиімді басқару, олардың оқу бағдарламаларын өндірістің алдыңғы қатарлы мамандандыру модуліне (AIISM) қосу, инженерлік мектеп-университеттердегі магистрлік деңгейде оқу бағдарламасын қарастырады.

Бұл реформа еңбек нарығында интеграциялануға оңай болады және жоғары білікті инженерлерді дайындауға мүмкіндік береді. Сонымен қатар, осы инженерлерді өнеркәсіпке енгізу арқылы бүкіл қоғамның дамуына, игілігіне, компаниялардың бәсекеге қабілеттілігін арттыру, үлкен өнімділікке жетуге мүмкіндік береді.

Осы мақсаттағы MEDIS-тің басты мақсаты: жоғары білікті инженерлер қалыптастыру үшін өнеркәсіп технологиясы интеграциялық магистратура деңгейіндегі микрокомпьютерлер, өнеркәсіптік компьютерлер, ұялы және бұлтты есептеу платформасына негізделген озық өнеркәсіптік информатика жүйелерін дамытуға арналған оқыту әдістемесі болып табылады.

A Methodology for the Formation
of Highly Qualified Engineers
at Masters Level in Design and Development of
Advanced Industrial Informatics Systems

VISIT OUR SITE: www.medis-tempus.eu



Co-funded by the
Tempus Programme
of the European Union



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Казахский Национальный Университет
им. Аль-Фараби

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Проект MEDIS направлен на адаптацию учебных магистерских программ инженерных специальностей университетов-партнеров ЕС (Россия, Украина, Казахстан) посредством включения в их программы Модулей Специализации по Передовой Производственной Информатике (Advanced Industrial Informatics Specialization Module - AIISM) направленных на подготовку инженерных специалистов в области проектирования и разработки промышленных информационных систем с использованием микрокомпьютеров, промышленных компьютеров, мобильных и платформ облачных вычислений, для контроля децентрализованных и комплексных процессов управления.

Такие курсы будут способствовать формированию высококвалифицированных инженеров, которые легко смогут интегрироваться на рынке труда. Более того, привлечение таких инженеров на производство поможет повысить производительность и конкурентоспособность компаний, способствуя таким образом, развитию всего общества.

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Booklets, pens, pads, bags with Medis logo were distributed during workshops, exhibitions, meeting and etc.



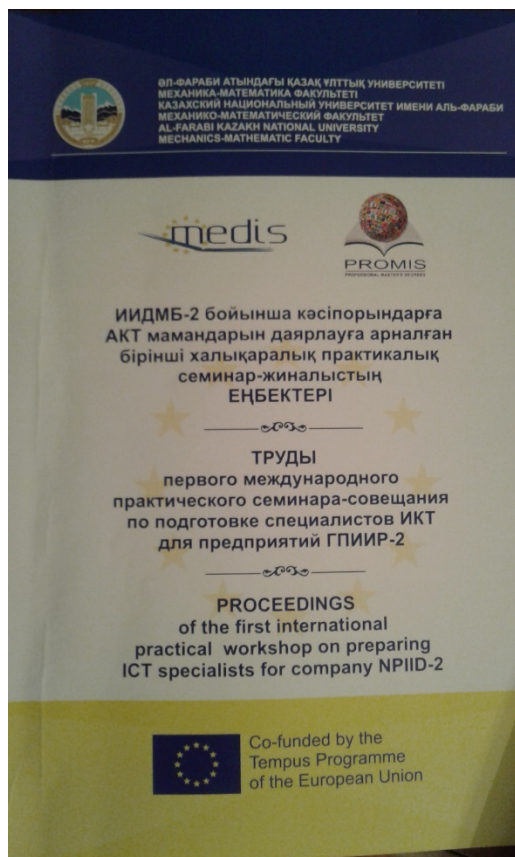
Here Faculty leaflets with Medis logo and some information about Medis lab room in Russian and Kazakh.



Medis project work team organized the Workshop “**Formation of highly qualified engineers within IIDSP-2**” (Industrial and Innovative Development STATE PROGRAM -2) to discuss results of project. It was hosted by the al-Farabi Kazakh National University and had taken place on June 1-5, 2016. The results of workshop were published.

Book(2016) Proceedings of the first international practical workshop on preparing ICT specialists for Company NPIID-2, ISBN 978-601-04-2547-7, Almaty, Kazakhstan, 2016

<https://www.dropbox.com/home/Tempus-MEDIS-shared-data/work-packages/WP8-Exploitation/Workshop-KazNu?preview=book+Medis+Almaty+WorkShop.pdf>



Tempus programme logos we put on all equipment used in the project.



4.3 PSU

Leaflets, posters and other things the same as for KazNU's version. KazNU and PSU developed these items and attended the same events.

4.4 NTUU-KPI

The template Leaflet has been translated into Ukrainian language and adapted to the local audience needs by KPI's team:




www.medis-tempus.eu



КОНТАКТНА ІНФОРМАЦІЯ

Координатор проекту:
Universitat Politècnica de València
 Email: medis@upv.es
 Телефон: +34 96 387 75 78

Координатор проекту під Україну:
Національний технічний університет України «Київський політехнічний інститут»
 Email: sulema@pzkz.frm.kpi.ua
 Phone: +38 044 204 99 44




Методологія підготовки висококваліфікованих інженерів магістерського рівня в галузі проектування та розроблення сучасних промислових інформаційних систем



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Проект MEDIS – *Методологія підготовки висококваліфікованих інженерів майстерського рівня в сфері проектування та розроблення сучасних промислових інформаційних систем* (544490-TEMPUS-1-2013-1-ES-TEMPUS-IPCB) є багаторічним ініціативним проектом, присвяченим реформі навчальних програм. Проект виконується 3 роки (2013-2016) за фінансової підтримки Європейського Союзу в рамках програми TEMPUS. Цільовою групою проекту MEDIS є студенти, викладачі та адміністрація університетів. У проект беруть участь 11 університетів з 8 країн.

Основною метою проекту є інтеграція методології проблемно-орієнтованого навчання (Problem Based-Learning – PBL) в інженерні магістерські програми в країнах-партнерах з метою підготовки висококваліфікованих інженерів з розроблення сучасних розподілених промислових інформаційних систем на основі мікроконтролерів, промислових комп'ютерів, мобільних та хмарних комп'ютерних платформ.

At Methodology for Formation of Highly Qualified Engineers at Masters Level in the Design and Development of Advanced Industrial Informatics Systems

Напрями діяльності за проектом:

- Розроблення AIISM-PBL-методології.
- Розроблення навчальних ресурсів для AIISM.
- Адаптація AIISM до специфіки навчальних планів у країнах-партнерах.
- Підготовка викладачів та персоналу
- Впровадження та супровід AIISM.
- Оцінка якості застосування AIISM.
- Розповсюдження досвіду та результатів проекту.

Результати проекту:

- Розроблена AIISM-PBL-методологія.
- Розроблені навчальні матеріали з дисциплін, що включені до AIISM:
 - Проєктування промислових комп'ютерів;
 - Програмування промислових контролерів та симуляторів;
 - Програмування мікроконтролерів;
 - Мобільні та хмарні освітні онлайн платформи;
 - Проєктування промислових мереж;
- Документація щодо адаптації AIISM до специфіки навчальних програм в країнах-партнерах.
- Розроблені навчальні курси.
- Матеріали для поширення результатів проекту, включаючи публікації в журналах та на конференціях, звіт для поширення серед зацікавлених сторін, статті на web-сайті та у соціальних мережах.

Партнери



• **Universitat Politècnica de València**
Contact: Housine Hassen



• **Al-Farabi Kazakh National University**
Contact: Zhanna Yesengaliyeva



• **Pavlodar State University**
Contact: Nurlybek Ignatiev



• **Petrzskiy State University**
Contact: Lyudmila Kolchukovskaya



• **St. Petersburg State Polytechnical University**
Contact: Olga Emelianova



• **Odessa National Polytechnic University**
Contact: Nataliya Lucenko



• **National Technical University of Ukraine - Kiev Polytechnic I**
Contact: Yevgeniya Sulema



• **University of Porto**
Contact: Mario de Sousa



• **University of Stuttgart**
Contact: Michael Sayfarth



• **Technical University of Sofia**
Contact: Valeri Madanov



• **Milanand University**
Contact: Dobrin Radu

4.9 ONPU

4.10 SPBSPU

4.11 PetrSU

- 400 copies of information brochures were printed during 2014-2016 and were distributed via Russian and International students of PetrSU.
- 20 posters were printed and mounted in 10 university buildings.



Usage of TEMPUS visual identity

- Tempus programme logos, MEDIS project logos were used in all printing materials (posters, brochures)
- Tempus programme logos were put on all equipment used in the project.



5 Medis website and Social Media

5.1. UPV

The Website of MEDIS project was developed by UPV's team which provides updated Information of the progress of the project.

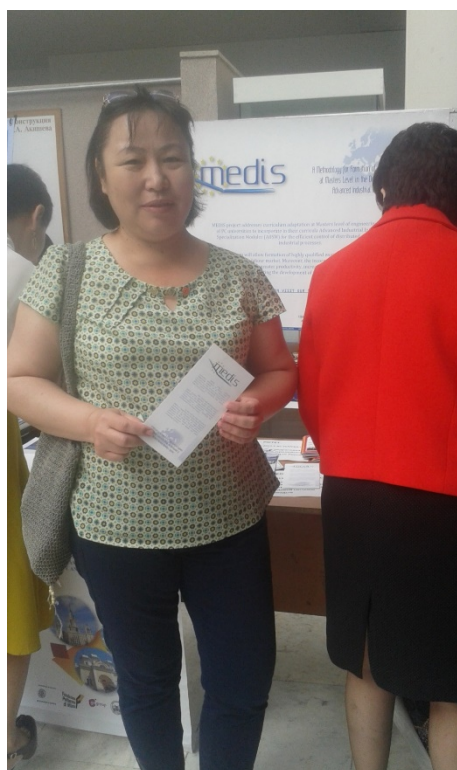
<https://www.medis-tempus.eu/tempus/>

5.2 KazNU

Official link from university website <http://icd.kaznu.kz/3/Main/RightNodeBrowser/72>

Fair of Tempus IV projects in Astana, Kazakhstan in June 2015. This exhibition attended two representatives of MEDIS from Pavlodar PSU and KazNU and had a stand to show the project.





Fair of Tempus IV projects in Almaty, Kazakhstan in October 2016. This exhibition attended two representatives of MEDIS from Pavlodar PSU and KazNU and had a stand to show the project. Representatives from Erasmus + Office attended Medis Lab room too.



The video about MEDIS project lessons has been created by KazNU's team. It is available in YouTube channel

<https://www.youtube.com/watch?v=mE0FVjX2nc>

The summer training course “Industrial computers” by support of European Tempus project “A Methodology for the Formation of Highly Qualified Engineers at Masters Level in the

Design and Development of Advanced Industrial Informatics Systems” (MEDIS) was hosted by the al-Farabi Kazakh National University from 5-th till 17-th of June, 2016. The purpose of this training to provide sustainability of Medis project and disseminate results of project for regional universities of Kazakhstan.

The news about this event may be found from the link

<https://www.facebook.com/photo.php?fbid=844904442325871&set=a.690207124462271.1073741828.100004189692086&type=3&theater>

<https://www.facebook.com/nurlybek.ispulov/posts/1378507468863807?pnref=story>

https://www.facebook.com/permalink.php?story_fbid=840918416057807&id=100004189692086&pnref=story

https://www.facebook.com/permalink.php?story_fbid=836918396457809&id=100004189692086&pnref=story



5.3 PSU

Web-page on the official website PSU

http://psu.kz/index.php?option=com_content&view=article&id=4831:metodologiya-formirovaniya-vysokokvalifitsirovannykh-inzhenerov-na-urovne-magistratury-po-razrabotke-i-razvitiyu-peredovoj-sistemy-proizvodstv&catid=274:tempus&Itemid=646&lang=eng

Official web-site of PSU–News:

http://www.psu.kz/index.php?option=com_content&view=article&id=4959:informatsionnaya-sessiya-programmy-erazmus-proshla-v-pgu&catid=106:news&Itemid=163&lang=eng

http://www.psu.kz/index.php?option=com_content&view=article&id=5577:uspehnaya-integratsiya-vuza-v-mezhdunarodnoe-obrazovatelnoe-prostranstvo&catid=280:smi-onas&Itemid=780&lang=eng

http://www.psu.kz/index.php?option=com_content&view=article&id=5837:osnovnye-napravleniya-oboznacheny-kazakhstanskaya-pravda-16-01-2015&catid=280:smi-onas&Itemid=780&lang=eng

http://www.psu.kz/index.php?option=com_content&view=article&id=6498:vnedrenie-anglijskogo-yazyka-v-kurs-it-distiplin&catid=106:news&Itemid=163&lang=eng

http://www.psu.kz/index.php?option=com_content&view=article&id=5271:uchenye-pgu-prinyali-uchastie-v-ocherednoj-vstreche-ispolnitelej-programmy-tempus&catid=106:news&Itemid=163&lang=eng

http://www.psu.kz/index.php?option=com_content&view=article&id=6592:realizatsiya-programmy-tempus&catid=106:news&Itemid=163&lang=eng

News on Papers

<http://www.kazpravda.kz/pdfs/>

(The republican newspaper "Kazakhstanskaya Pravda" from 1/16/2015 y.)

MEDIS video – in Class

https://youtu.be/_QzXagR9iK8

Presentation of MEDIS during "Exhibition of the TEMPUS projects", of June 8-9th 2016, Astana.

<http://www.erasmusplus.kz/index.php/ru/new/item/42-64>

5.4 NTUU-KPI

1. There is MEDIS project's banner at the home page of the official web-portal of the Faculty of Applied Mathematics (FAM) of the National Technical University of Ukraine "Kyiv Polytechnic Institute" (NTUU "KPI") <http://fpm.kpi.ua>

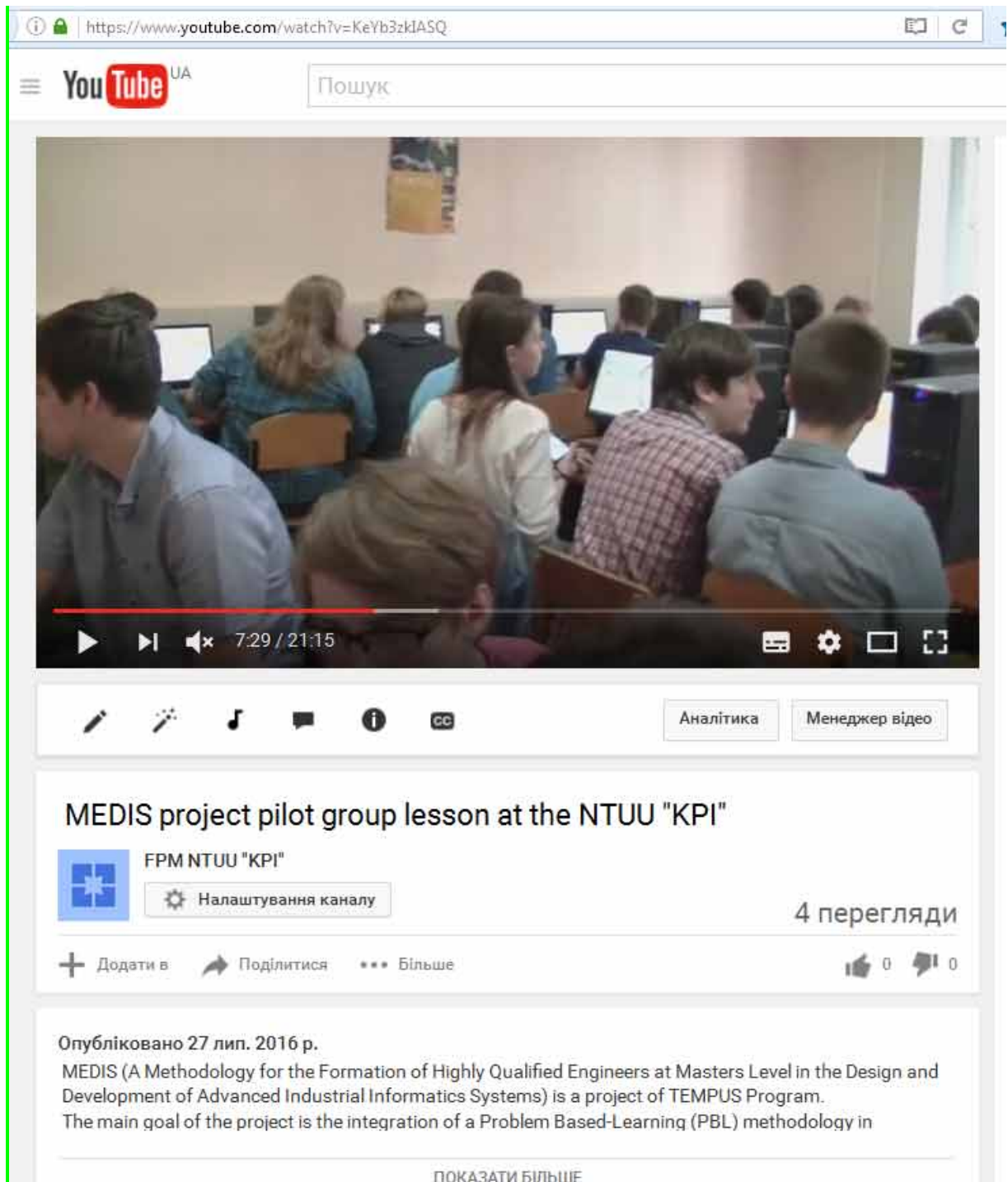


2. The detailed information about MEDIS project is available at the web-site of the International Office of the FAM of the NTUU "KPI"

http://interoffice.fpm.kpi.ua/?page_id=1946&lang=en



3. The video about MEDIS project lessons has been created by KPI's team. It is available in YouTube channel <https://www.youtube.com/watch?v=KeYb3zkIASQ>



5.5 ONPU

Web-page on the official website ONPU

http://opu.ua/eng/inter_coop/internationalprograms/projects/project3/medis

Official web-site of ONPU - News:

<http://mip.opu.ua/projects/tempus/medis>

<http://opu.ua/eng/news/conference/654>

<http://opu.ua/eng/news/conference/456>

http://opu.ua/eng/new_news/145

<http://summerschool.opu.ua/eng/news/other/1804>

News on Facebook

<https://www.facebook.com/groups/1482457508724571/permalink/1509233462713642/>

MEDIS video

https://www.facebook.com/jorjjetta/videos/1096994257000777/?autoplay_reason=gatekeeper&video_container_type=0&video_creator_product_type=2&app_id=2392950137&live_video_guests=0

Presentation of MEDIS during "European Cooperation Day", of September 18th 2015.

<http://opu.ua/eng/news/general/976>

MEDIS movie, shot during the laboratory work on microcontrollers, carried out in the frames of implementation of the MEDIS project (by Galchonkov O.N., Loziienko N.)

<https://drive.google.com/file/d/0B2n2jL6D7XmcMDM2QVZuSG12NVE/view?usp=sharing>

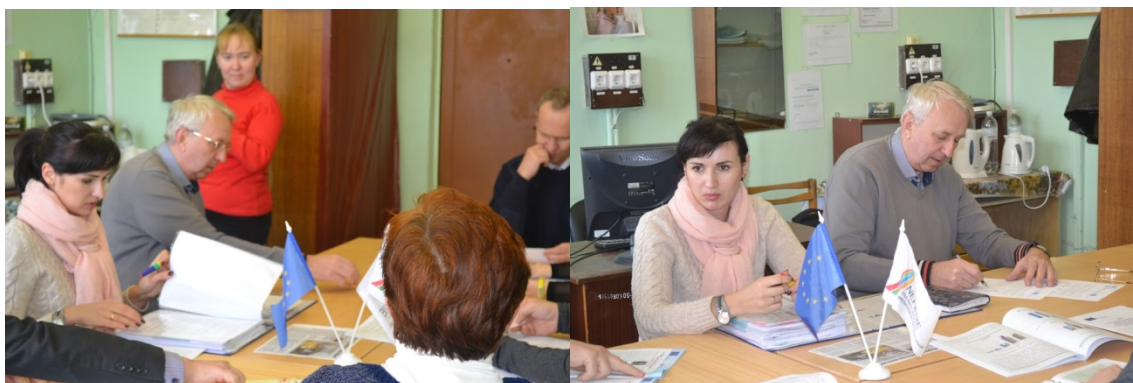
Official Event "European Cooperation Day", which was carried out in ONPU on 18th of September 2015. Loziienko N. has prepared informational presentation on MEDIS project

<http://opu.ua/eng/news/general/976>

Projects' leaflets were distributed during this event among teaching staff of ONPU.



The meeting of three Tempus project's Teams. Exchange of capability and experience
<http://tempus.nung.edu.ua/news/tempus-projects-nefesie-buseeg-medis>
 on Facebook <https://www.facebook.com/nefesie/posts/948416875233708>,
<https://www.facebook.com/groups/1482457508724571/permalink/1509233462713642/> ,
 on official web page of NCP ERASMUS+ Ukraine <http://erasmusplus.org.ua/en/news/1212-tempus-project-nefesie-and-the-ukrainian-association-of-the-student-governmenttogether-for-support-innovation-activities-of-university-students.html>



5.6 SPBSPU

Logo

<http://english.spbstu.ru/international/collaboration/projects/current-projects/methodology-formation-highly-qualified-engineers/>

Articles in newspapers

1. Newspaper “Polytechnic”

http://www.spbstu.ru/upload/polytechnic/2015/politex_2015_18-19.pdf

Supporting document: article_polytechnic1.pdf, medis_article-translation.docx

2. Newspaper “VESTNIK VYSHEY SHKOLY” (“news of high schools”), issue from 4th of July

Internet links, information about the project

http://nstar-spb.ru/higher_school/print/article/trening-i-rabochiy-seminar-po-proektu-tempus-medis-v-spbpu/?sphrase_id=61815

<http://english.spbstu.ru/international/collaboration/projects/current-projects/>

<http://www.spbstu.ru/international-cooperation/international-activities/international-project/framework/>

<http://www.spbstu.ru/international-cooperation/international-activities/international-project/framework/methodology-of-training-of-highly-qualified-engineers-at-masters-level-in-the-development-of-advance/>

<http://www.spbstu.ru/media/announcements/conference/international-polytechnic-week/>

5.7 PetrSU

- Information about MEDIS project was distributed in 15 local SMM groups (total coverage - more than 12 000 people in the Republic of Karelia)
- 2 info messages devoted to MEDIS project were sent via local service “Infoservis” (coverage area – all PetrSU stuff)
- News devoted to meetings and trainings in Porto, SPB, Sofia were published on the PetrSU web site.
- 3 press releases were sent to major Karelian electronic and paper newspapers as well as to local university newspaper “Petrozavodsk State University.
- News “flashes” were sent monthly to PetrSU academic stuff to inform tutors and administrative stuff from the Faculty of Mathematics and PetrSU departments about progress of the project.
- General information about TEMPUS project was published on the web site of the Barents EU Centre.

http://petrozavodsk.bezformata.ru/listnews/novie_kursi_po_proektu_medis/3277996/



ЭКОНОМИЧНЫМ!

БЕЗФОРМАТА.RU Петрозаводск ▼ Главные новости ▼
Лента | Архив | Источники | Новостройки

Новые инженерные направления в рамках проекта TEMPUS MEDIS

3 и 24 октября в Техническом университете Софии (Болгария) прошла рабочая встреча участников проекта MEDIS «Методология формирования высококвалифицированных инженеров-магистрантов по разработке передовых промышленных информационных систем» (544490-TEMPUS-1-2013-1-ES-TEMPUS-JPCR). Со стороны ПетрГУ во встрече приняли участие декан математического факультета А.Г.Барфоломеев и сотрудник ИМП А.А. Рогозин. Проект MEDIS финансируется программой «TEMPUS» Европейского Союза и направлен на модернизацию учебных программ инженерных направлений магистратуры в странах-партнерах ЕС (Россия, Украина, Казахстан). Модернизация состоит во внедрении цикла курсов по промышленной информатике, знакомящих студентов с современными средствами автоматизации сложных производственных процессов. Такие курсы будут способствовать формированию высококвалифицированных инженеров, которые легко смогут интегрироваться на рынке труда. Более того, привлечение таких инженеров на производство поможет повысить производительность и конкурентоспособность компаний, способствуя таким образом развитию всего общества. По замыслу проекта уже в сентябре 2015 года в ПетрГУ планируется внедрение пяти новых курсов по промышленной информатике на английском языке, помимо этого, будет приобретено все необходимое для этих курсов оборудование. В качестве пилотного факультета для внедрения курсов выбран математический факультет ПетрГУ.

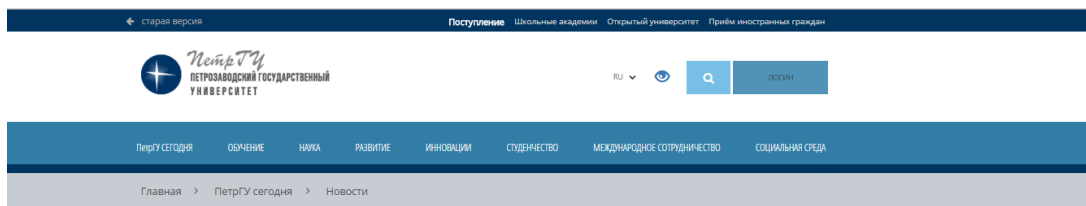
Петрозаводский государственный университет

Источник: [ИА Карелинформ](#) 27.10.2015 14:01

Подписаны 2 976 человек

Подписаться на новости

<https://petsru.ru/news/2014/21512/novye-inzhenernye-ku>



Новые инженерные курсы на английском языке

30 октября 2014 года



участие декан математического факультета А.Г.Барфоломеев и сотрудник ИМП А.А. Рогозин.

Проект MEDIS финансируется программой «TEMPUS» Европейского Союза и направлен на модернизацию учебных программ инженерных направлений магистратуры в странах-партнерах ЕС (Россия, Украина, Казахстан). Модернизация состоит во внедрении цикла курсов по промышленной информатике, знакомящих студентов с современными средствами автоматизации сложных производственных процессов.

Такие курсы будут способствовать формированию высококвалифицированных инженеров, которые легко смогут интегрироваться на рынке труда. Более того, привлечение таких инженеров на производство поможет повысить производительность и конкурентоспособность компаний, способствуя таким образом развитию всего общества.

По замыслу проекта уже в сентябре 2015 года в ПетГУ планируется внедрение пяти новых курсов по промышленной информатике на английском языке, помимо этого, будет приобретено все необходимое для этих курсов оборудование. В качестве пилотного факультета для внедрения курсов выбран математический факультет ПетГУ.

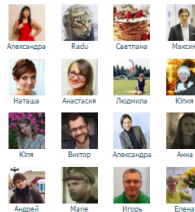


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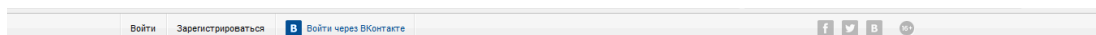


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В 2014 году ПетГУ начал серию мероприятий по проекту Европейской комиссии TEMPUS 544490-TEMPUS-1-2013-1-ES-TEMPUS-JPCR «Методология обучения высококвалифицированных инженеров магистерского уровня в области разработки передовых промышленных информационных систем». Целью данного проекта является

u.ru/en/medis.html

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MEDIS Project

MEDIS project addresses curriculum adaptation at Masters level of engineering schools of PC universities to incorporate in their curricula Advanced Industrial Informatics Specialization Modules (AIISM) for the efficient control of distributed and complex industrial processes.

This reform will allow formation of highly qualified engineers that will be easily integrated in the labour market. Moreover, the incorporation of these engineers to industry would achieve greater productivity, increasing competitiveness of companies, benefiting the development of the whole society. To this end the wider objective of MEDIS is: Integration of a Problem Based-Learning methodology in Industrial Technology Masters Degrees for the Formation of High Qualified Engineers in the design of Advanced Industrial Informatics Systems based on Microcomputers, Industrial Computers and Mobile and Cloud Computing Platforms.

The specific Objective are:

- Propose the PBL methodology and develop resources for teaching AIISM
- Integrate AIISM in the specific curricula of PC
- Design training courses and perform formation of PC teachers, technicians and administrative staff
- Implement AIISM-PBL in PC and assist them during deployment
- Assess the implementation of AIISM
- Disseminate and exploit AIISM results among stakeholders

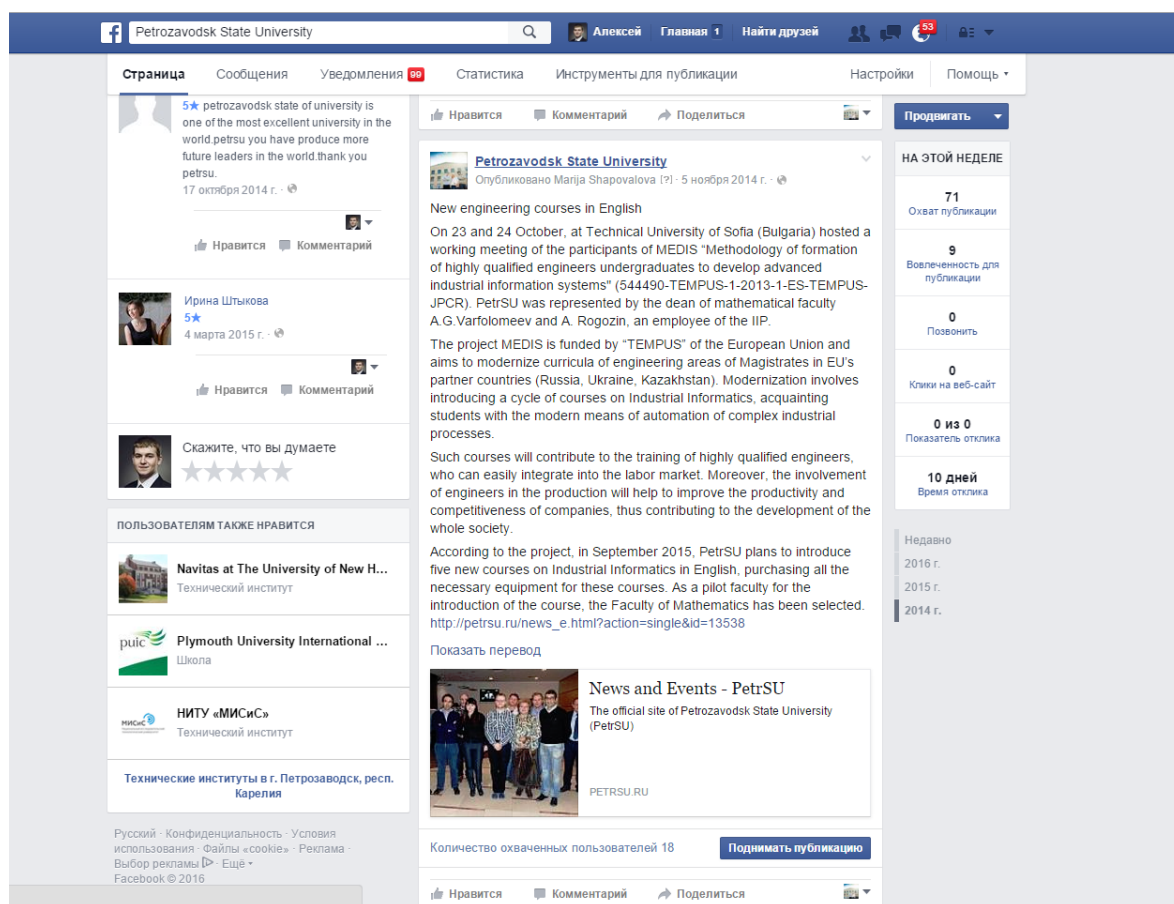
The principal outcomes and outputs are:

- Documentation of the design of AIISM-PBL methodology
- Documentation of AIISM teaching resources
- Documentation of AIISM Adaptation to specific curricula in PC
- Documentation of the training courses Report of AIISM implementation and assistance
- Report of the list of quality criteria and evaluation results
- Report of dissemination plan, articles in journals and conferences, report to distribute among stakeholders, articles for Website and social networks
- Report of sustainability and exploitation plan, network of stakeholders established
- Governing board and agreements established, financial reports, operative Website

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6 Supporting documents

All supporting documents were downloaded to the next link:

<https://www.dropbox.com/home/Tempus-MEDIS-shared-data/work-packages/WP7-Dissemination>

7 Conclusion

Short video reports

- Short video reports of all PC partners published on Youtube and social networks. Video reports are be in a form of interview and will cover tutors' and students' experience.

Scientific publications

- The majority of publications were made at the final stage of the project and in these publications we cover best practices, our experience and lessons learned.

All other parts of dissemination activities were implemented successfully.