

TECHNOLOGICAL EDUCATION INSTITUTE OF PIRAEUS

Department of Electronics Engineering

*Involvement in Research and Development Projects
co-funded by EU/ESF and Greek National Funds
Years 2000-2011*

1. **“EUDOXUS: Tele-training of secondary education teachers on East Aegean Islands”**, *tender*: University of Piraeus / Greece and Aegean University / Greece. *Funding*: greek Ministry of Education and E.U./European Social Fund, Operational Programme “EPEAEK-I” (1999). Research engineer: Maria Rangoussi, Dept. of Electronics Eng., TEI Piraeus.
2. **“Flexible wireless network for process automation and control”**, *tender*: National Center for Scientific Research “Demokritos” *partner*: Department of Electronics Engineering, TEI Piraeus, *Funding*: General Secretariat for Research and Technology, Ministry of Development, call “PENED 1999”.
3. **“Digital System for Automatic Surveillance of TV and radio content”**, *tender*: Image, Video and Multimedia Lab, National Technical University of Athens, *partner*: Dept. of Electronics, TEI Piraeus, *funding*: General Secretariat for Research and Technology, greek Ministry of Development & MDM S.A., Greece, framework “PABE’99”, (1999-2000). Project leader for TEI Piraeus: Maria Rangoussi.

Call “ARCHIMEDES-I”, Operational Programme “Education”, greek Ministry of Education and E.U./European Social Fund, (2004 – 2006).

4. **“Electrically conductive fabrics”**, *tender*: Dept. of Electronics Eng., TEI Piraeus, *partners*: Dept. of Mechanical Eng., National Technical University of Athens, Dept. of Electrical and Computer Eng., Aristotle University of Thessaloniki, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Programme “EPEAEK-II”, call “Archimedes-I” (1/2004 – 12/2006). Budget: 50,000 euro. Project leader: Maria Rangoussi, research engineers: Savvas Vasiliadis, Nikolaos Stathopoulos, Kleanthis Prekas, Athanasios Peppas.

Call “ARCHIMEDES-II”, Operational Programme “Education”, greek Ministry of Education and E.U./European Social Fund, (2005 – 2008).

5. **“Noise pollution suppression in work/public environments using a digital active noise control system”**, *tender*: Dept. of Electronics Eng., TEI Piraeus, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “EPEAEK-II”, call “Archimedes-II-Environment” (1/2005 – 8/2008). Budget: 50,000 euro. Project leader: Stylianos Savaidis, research engineers: Stelios M. Potirakis, Maria Rangoussi, Efstathios Kyriakis-Bitaros, Apostolos Kokkosis.
6. **“Development of novel technologies for the spectrum control of Organic Light Emitting Diodes and applications in advanced optoelectronic devices”**, *tender*: Dept. of Electronics Eng., TEI Piraeus, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “EPEAEK-II”, call “Archimedes-II-Technology” (1/2005 – 8/2008). Budget: 50,000 euro. Project leader: Nikolaos Stathopoulos, research engineers: Maria Rangoussi, Evangelos Voglis, Ioannis Kostis.

Call “PYTHAGORAS-II”, Operational Programme “Education”, greek Ministry of Education and E.U./European Social Fund, (2005 – 2008).

7. **“Data analysis for the NA49/SPS experiment and development of electronic sub-systems for the TPC/TRD detectors of the ALICE/LHC Experiment,”** *tender*: Dept. of Physics, National and Kapodistrian University of Athens, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Programme “EPEAEK-II”, call “Pythagoras-II” (1/2005 – 12/2006). Budget: 80,000 euro (total budget). Research engineers for Dept. of Electronics, TEI Piraeus: Stelios M. Potirakis, Maria Rangoussi.
8. **“Telecontrolled intelligent robot in a mixed reality environment,”** *tender*: Dept. of Electrical and Computer Eng., Aristotle University of Thessaloniki, Greece, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “EPEAEK-II”, call “Pythagoras-II” (1/2005 – 12/2006). Budget: 130,000 euro (total budget). Research engineers for Dept. of Electronics, TEI Piraeus: Maria Rangoussi, Kleantith Prekas.

Call “ARCHIMEDES-III”, greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, (2007-2013).

9. **“MULTI-ERM: Multifunctional Fabric Structures with Conductive Polymers and Incorporated Electrorheological Materials”**, *coordinator*: Dept. of Electronics Eng., TEI Piraeus, *partners*: National Technical University of Athens, Department of Mechanical Engineering, Centre for Materials Research and Innovation / Bolton University, UK, greek Institute for Research and Technology (FORTH), *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “Archimedes-III” (submitted: Phase 1 (in greek) 9/2009, Phase 1 (in english) 9/2010, Phase 2 (in english) 4/2011, under evaluation). Budget: 100,000 euro. Project leader: Savvas Vassiliadis, research engineers: Maria Rangoussi, Kleantith Prekas, Athanasios Peppas, Ioannis Paraskevas.
10. **“ESOUNDMAPS: A distributed microelectronic system for environmental monitoring with emphasis on sound mapping,”** *coordinator*: Dept. of Electronics Eng., TEI Piraeus, *partners*: National and Kapodistrian University of Athens, Department of Informatics and Telecommunications, University of Patras, Department of Electrical and Computer Engineering, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “Archimedes-III” (submitted: Phase 1 (in greek) 9/2009, Phase 1 (in english) 9/2010, Phase 2 (in english) 4/2011, selected for funding: 10/2011). Budget: 100,000 euro. Project leader: Maria Rangoussi, research engineers: Stelios M. Potirakis, Efstathios Kyriakis-Bitzaros, Nicolas-Alexander Tatlas, Ioannis Paraskevas.
11. **“RF-PSS: RF powered smart wireless sensor system”**, *Coordinator*: Dept of Electronics, TEI of Piraeus, Budget: 100,000€. Funding: Greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “Archimedes-III” (under evaluation). Project leader for TEI Piraeus: Efstathios Kyriakis-Bitzaros.
12. **“OSPWSN: Development of an Open-Source Platform for Education and Research on Wireless Sensors Networks”**, *coordinator*: Dept. of Electronics Eng., TEI Piraeus, *partners*: Department of Informatics and Telecommunications, University of Athens, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “Archimedes-III” (submitted: Phase 1 (in greek) 9/2009, Phase 1 (in english) 9/2010, Phase 2 (in english) 4/2011, selected for funding: 10/2011). Budget: 100,000 euro. Project leader: Panagiotis Papageorgas.
13. **“NH_yOPV: Novel and highly efficient Hybrid organic photovoltaic cells (HyOPVs)”**, *coordinator*: Dept. of Electronics Eng., TEI Piraeus, *partners*: Institute of Microelectronics,

National Center for Scientific Research “Demokritos” and Department of Electronics Engineering Educators in the School of Pedagogical and Technological Education (ASPETE) *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “Archimedes-III” (submitted: Phase 1 (in greek) 9/2009, Phase 1 (in english) 9/2010, Phase 2 (in english) 4/2011, selected for funding: 10/2011). Budget: 100,000 euro. Project leader: Stylianos Savaidis, research engineers: Nikolaos Stathopoulos, Ioannis Kostis, Stephan R. Yesayan.

14. “**NHyOLED**: Novel low power consumption Hybrid OLEDs with improved operational characteristics”, *coordinator*: Dept. of Electronics Eng., TEI Piraeus, *partners*: Institute of Microelectronics, National Center for Scientific Research “Demokritos” *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “Archimedes-III” (submitted: Phase 1 (in greek) 9/2009, Phase 1 (in english) 9/2010, Phase 2 (in english) 4/2011, selected for funding: 10/2011). Budget: 100,000 euro. Project leader: Nikolaos Stathopoulos, research engineers: Stylianos Savaidis, Ioannis Kostis.
15. “**NPQFM**: Model Development for Power Quality assessment in Electric Networks using Fuzzy Logic and Analytic Measurements,” *coordinator*: Dept. of Electronics Eng., TEI Piraeus, *partners*: National Technical University of Athens, Center for Renewable Energy Sources (CRES), *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “Archimedes-III” (submitted: Phase 1 (in greek) 9/2009, Phase 1 (in english) 9/2010, Phase 2 (in english) 4/2011, selected for funding: 10/2011). Budget: 100,000 euro. Project leader: George Vokas, research engineers: Malatestas Pantelis, Rangoussi Maria.

Call “THALES”, greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, (2007-2013).

1. “**ALMI**: Advanced RF Localization systems for Multipath propagation Indoor environments”, *coordinator*: Dept. of Electronics Eng., TEI Piraeus, *partners*: Dept. of Computer Science and Technology, University of Peloponnese and Institute of Informatics and Telecommunications, National Centre for Scientific Research “Demokritos”, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “**Thales**” (submitted: Phase 1 (in greek) 2/2010, Phase 1 (in english) 9/2010, Phase 2 (in english) 5/2011 – under evaluation). Budget: 600,000 euro. Project leader: Stylianos Savaidis, research engineers: Evangelos Voglis, Maria Rangoussi, Stylianos Potirakis.
2. “**DAPHNE**: Novel Technologies for High Resolution Multichannel Digital Audio Processing, Enhancement, Amplification and Direct Emission”, *coordinator*: Dept. of Electrical and Computer Eng., University of Patras, *partners*: Dept. of Physics, Aristotle University of Thessaloniki, Dept. of Electronics Eng., TEI Piraeus, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “**Thales**” (submitted: Phase 1 (in greek) 2/2010, Phase 1 (in english) 9/2010, Phase 2 (in english) 5/2011 – under evaluation). Budget: 600,000 euro. Project leader: Prof. John Mourjopoulos, project leader for TEI Piraeus: Maria Rangoussi, research engineers: Nicolas-Alexander Tatlas, Stelios M. Potirakis, Efstathios Kyriakis-Bitzaros, Savvas Vasiliadis, Kleanthis Prekas, Apostolos Kokkosis.
3. “**URANUS: Ultra-Fast True Random Number Generators With Applications To Cryptography**”, *Coordinator*: Dept of Informatics, National & Kapodistrian University of Athens. Budget: 600,000 euro. *Funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “**Thales**”. Project leader for TEI Piraeus: Efstathios Kyriakis-Bitzaros (under evaluation).

4. “**ANEMOS**: Analytical and Numerical Electromagnetism with Applications in Photonics and Nanodevices”, *coordinator*: Dept. of Electrical and Computer Eng., National Technical University of Athens (NTUA), *partners*: Dept of Mathematics, University of Patras, Dept of Applied Mathematics, University of Crete, Dept. of Computer Engineering & Informatics Dept. of the University of Patras, Mechanical and Aerospace Engineering, University of Patras, Department of Electrical & Computer Engineering, Aristotle University of Thessaloniki, Dept. of Electronics Eng., TEI Piraeus, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “**Thales**” (submitted: Phase 1 (in greek) 2/2010, Phase 1 (in english) 9/2010, Phase 2 (in english) 5/2011, selected for funding: 10/2011). Budget: 600,000 euro. Project leader: Prof. Kyriakos Hitzanidis, project leader for TEI Piraeus: Nikolaos Stathopoulos, research engineers: Stylianos Savaidis.
5. “**PHOTOPOLIS**: Polymeric photonic systems for application in information technologies”, *coordinator*: Dept. of Materials Science, University of Patras, *partners*: Dept. of Electrical and Computer Eng., National Technical University of Athens (NTUA), Dept of Physics, University of Patras, Dept of Telecommunication Science and Technology, University of Peloponnese, Dept of Informatics and Telecommunications, National Kapodistrian University of Athens, Dept of Informatics and Telematics, Harokopion University, Institute of Microelectronics, National Center for Scientific Research “Demokritos”, Dept. of Electronics, TEI Piraeus, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “**Thales**” (submitted: Phase 1 (in greek) 2/2010, Phase 1 (in english) 9/2010, Phase 2 (in english) 5/2011, selected for funding: 10/2011). Budget: 600,000 euro. Project leader: Prof. Nikolaos Vainos, research engineers for TEI Piraeus: Nikolaos Stathopoulos, Ioannis Kostis.

Call “EXCELLENCE” greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, (2007-2013).

1. “**FIF-EQ**: Fracture induced fields: investigation of earthquake precursors in the laboratory and validation by field observations”, *coordinator*: Dept. of Electronics Eng., TEI Piraeus, *funding*: Greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “Aristeia (Excellence)” (submitted: Phase 1 (in english) 1/9/2011). Budget: 600,000.00 euro. Project leader: Stelios M. Potirakis, research engineers for Dept. of Electronics: Nicolas-Alexander Tatlas, Stelios Mitilineos.
2. “**RF-CLOWN**: Smart RF Framework for Cross-Layer Optimization in Wireless Networks”, *coordinator*: Dept. of Electronics Eng. TEI of Piraeus, *partners*: Institute of Informatics and Telecommunications, National Centre for Scientific Research “Demokritos” and Dept. of Informatics and Telecommunication, National Kapodistrian University of Athens, *funding*: : greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “Aristeia”– submitted 8/2010, Under Evaluation. Budget: 600.000euro (total budget). Project leader for TEI Piraeus: Stylianos Mitilineos, research engineers: Nikolaos Stathopoulos, Stylianos Savaidis, Maria Rangoussi, Panagiotis Papageorgas, Efstathios Kyriakis-Bitzaros, Dimitrios Pyromallis.
3. “**Optimum Multimedia Delivery over Fourth Generation Broadband Wireless Networks**”, *coordinator*: Dept. of ECE, National Technical University of Athens, *partner*: TEI Piraeus, *funding*: Greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “Aristeia (Excellence)” (submitted: Phase 1 (in english) 1/9/2011). Budget: 600,000.00 euro. Project leader: Prof. D. Kaklamani, research engineer for Dept. of Electronics: Charalampos Patrikakis.

European Space Agency Call, 2011.

1. “**Flexible Galileo/GPS Textile Antennas**”, *coordinator*: Dept. of Electronics Eng., TEI of Piraeus, *partners*: Textile and Fibre Technological Development Company (CLOTEFI S.A.) and Costas Siamidis S.A., *funding*: European Space Agency, Announcement of Opportunity AO/1648/10/NL/CBi, 3rd Call for Outline Proposals Under the Greek Industry Incentive Scheme– submitted 2/2011, not funded. Budget: 180,000 euro (total budget). Project leader for TEI Piraeus: Stylianos Savaidis, research engineers: Nikolaos Stathopoulos, Efstathios Kyriakis-Bitaros, Savvas Vassiliadis, Stylianos Mitilineos.

Call “COOPERATION-2009” for Universities and SMEs, greek Ministry of Education (GSRT) & E.U./European Social Fund, (2007-2013).

1. “**PIMACTex: Applications of textile products based on smart materials on the monitoring, display and control of physiological parameters**”, *coordinator*: Dept. of Electronics Eng., TEI Piraeus, *partners*: CLOTEFI S.A. and two SMEs, *funding*: General Secretariat for Research and Technology, greek Ministry of Development and E.U./European Regional Development Fund, Operational Programme «**Competitiveness and Entrepreneurship**» (OPCE II), call “COOPERATION 2009” – submitted 11/2009, funded. Budget: 584,213.18 euro. Project leader: Savvas Vasiliadis. Project leader for TEI Piraeus: Stelios M. Potirakis. Research engineers for Dept. of Electronics, TEI Piraeus: Nikolaos Stathopoulos, Maria Rangoussi, Kleonthis Prekas, Stylianos Savvaidis.

Call “SME groups” for Universities and SMEs, greek Ministry of Education (GSRT) & E.U./European Social Fund, (2007-2013).

1. “**SoundSignage: Intelligent system for stereoscopic audiovisual public information**”, *coordinator*: Ergologic S.A., Greece, *partners*: BlueDev Ltd., Greece and Dept. of Electronics, TEI Piraeus, *funding*: General Secretariat for Research and Technology, Ministry of Development and E.U./European Regional Development Fund, Operational Programme «**Competitiveness and Entrepreneurship**» (OPCE II) – submitted 6/2010, selected for funding 10/2011. Budget: 500,000 euro (total budget). Project leader for TEI Piraeus: Maria Rangoussi, research engineers: Nicolas-Alexander Tatlas, Stelios M. Potirakis, Ioannis Paraskevas.

Call “COOPERATION-2011” for Universities and SMEs, greek Ministry of Education (GSRT) & E.U./European Social Fund, (2007-2013).

1. “**BIOSENSOR: A Biometrics monitoring system using textile antennas and body sensors**”, *coordinator*: Microwave and Fiber Optics Laboratory of the National Technical University of Athens, *partners*: Dept. of Electronics Eng., TEI of Piraeus, Costas Siamidis SA, Greek Geeks, Akatt, Joe Weider Fitness Gyms, *funding*: greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “COOPERATION 2011 – Partnerships of Production and Research Institutions in Focused Research and Technology Sectors” – submitted 8/2010, Under Evaluation. Budget: 1,031,000 euro (total budget). Project leader for TEI Piraeus: Charalampos Patrikakis, research engineers: Nikolaos Stathopoulos, Stylianos Savaidis, Stylianos Mitilineos, Savvas Vassiliadis.
2. “**SENSING: Development of sensorized composite structures for continuous structural monitoring of vehicles during operation**”, *coordinator*: Hellenic Aerospace Industry,

partners: National Technical University of Athens, National and Kapodistrian University of Athens, Dept. of Electronics Eng., TEI of Piraeus, Private sector companies (ENVAC, HSTECH), *funding:* greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “COOPERATION 2011 – Partnerships of Production and Research Institutions in Focused Research and Technology Sectors” – submitted 8/2010, Under Evaluation. Budget: 1,745,170euro (total budget). Project leader for TEI Piraeus: Maria Rangoussi, research engineers: Stylianos Potirakis, Savvas Vassiliadis, Nikolaos Stathopoulos.

3. **“BRITE-GREEN: Energy autonomous smart greenhouse”**, *coordinator:* KlimaLeviTechniki S.A., *partners:* Brite Hellas S.A., BlueDev S.A., FORTH-ICEHT, NAGREF, Dept. of Electronics Eng., TEI of Piraeus, TEI of Patras, *funding:* greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “COOPERATION 2011 – Partnerships of Production and Research Institutions in Focused Research and Technology Sectors” – submitted 8/2010, Under Evaluation. Budget: 2,454,401euro (total budget). Project leader for TEI Piraeus: N.-A. Tatlas, research engineers: Maria Rangoussi, Stylianos Potirakis.
4. **“EG-Author Easy-to-Use Authoring Tool for 3D Educational Games”**, *coordinator:* Athens Institute of Technology, *partners:* Dept. of Electronics Eng., TEI of Piraeus, *funding:* greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, call “COOPERATION 2011 – Partnerships of Production and Research Institutions in Focused Research and Technology Sectors” – submitted 8/2010, Under Evaluation. Budget: 1,087,000euro (total budget). Project leader for TEI Piraeus: Charalampos Patrikakis, research engineers: Demetrios Metafas, Maria Rangoussi.

Call “Seminars for curriculum update of Alumni,” greek Ministry of Education and E.U./European Social Fund, Operational Program “Education and Life-Long Learning (EDULLL)”, (2007-2013).

The Department of Electronics Engineering is the coordinator in one and a partner in three more proposals submitted under this call in 1/2012 – currently under evaluation. Subjects are:

1. Electronic Communication Systems and New Generation Networks
2. Photovoltaics and Wind Energy Systems
3. Digital and Embedded Systems – Cutting edge industrial applications
4. Wideband Communications
5. Optimization of the efficiency of energy systems

Call “ACADEMIC OPEN COURSES,” greek Ministry of Education (GSRT) & E.U./European Social Fund, (2007-2013).

The Department of Electronics Engineering is participating in the proposal submitted by TEI Piraeus under this call in 2011 (departmental project leader: D. Goustouridis, funded – 12/2011). The core subject of the proposal is the web publishing of open academic courses for the public, under Creative Commons licensing.