

SEE- Award (name “Herman Potočnik – Noordung Award” proposed by MHEST) for Research Infrastructure Donations within the Framework of RTDI Collaboration with West Balkan Countries

Research Infrastructure needs

- Application form for Scientific & Research Institutions from West Balkan Countries

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| Section A – General information |
| A.1 Contact details |
| Name of applicant/(institution) Faculty of Electrical Engineering of Sarajevo, Department of Automatic Control and Electronics |
| Legal status / Type of organisation: GOV |
| Address (Street name, ZIP code, town): Zmaja od Bosne bb, 71000, Sarajevo |
| Telephone no.: ++387 33 25 07 25 Fax no.: ++387 33 25 07 25 e-mail: samim.konjicija@etf.unsa.ba web address/url: www.etf.unsa.ba |
| represented by (name of person <u>legally responsible</u>) Prof. Kemo Sokolija, Dean. |
| Name of the contact person Samim Konjicija |
| Address (if different from address stated above) |
| Telephone no.: Fax no.: e-mail: web address/url: |
| A.2 Applicant (Institution) profile (half page A4) |
| <p>Faculty of Electrical Engineering of University of Sarajevo, was established 46 years ago, in the year 1961. Department of Automatic Control and Electronics is a part of the Faculty of Electrical Engineering at the University of Sarajevo. The Department was founded in 1964. The department has a highly qualified technical staff. The staff and student are knowledgably in relevant scientific disciplines as mathematics, electronics, control, computer sciences, communication, etc. The academic staff of the Department has 17 professors and 20 teaching and research assistants (PhD students) will successfully complete its assigned and granted projects at high scientific and professional standards and levels of quality.</p> <p>Faculty of Electrical Engineering introduced changes in its curricula, making adjustments in conformance with the Bologna Declaration. In this sense, one of the main goals is to strengthen development of applicable knowledges of students, in order to enable them to cope with real-life problems, which they will surely meet in industry. Therefore, a number of new courses have been introduced, focusing on practical and problem-solving approach. The laboratories are reasonably equipped with basic equipment and software for electronics and control. Unfortunately, the Faculty, and especially the Department of Control and Electronics lacks modern equipment and facilities for more advanced courses and work on research projects.</p> |

Section B – Description of the research infrastructure requirements/needs

B.1 Please list your research infrastructure requirements – the most urgent equipment you would need.

1. DSP2 Module, 5 pcs.

The module is based on Texas Instruments' DSP TMS320C32-60MHz, and FPGA Xilinx Spartan Family XCS40- 4PQ240C. It contains 256KB Flash memory, 128KB SRAM, 4 12-bit A/D channels, 2 12-bit D/A channels, RS232, RS485, RS422, CAN, and tri-phase synchronous PWM. Besides, a library for Matlab/Simulink/RealTime Workshop has been developed for this module, what extremely simplifies prototype development, testing of algorithms and application in education.

Manufacturer and distributor:

Institute for Robotics

University of Maribor

Smetanova 17

SI-2000 Maribor

Slovenia

Phone: +386 2 2207 300

+386 2 2207 315

<http://www.ro.feri.uni-mb.si>

2. Keil PK166 Professional Developer's Kit

Integrated development environment for development of microcontroller-based applications for various families (Infineon, Atmel, ARM, Altium, Analog Devices etc.). Contains IDE, debugger, simulator, C compiler, assembler, real-time kernel.

Manufacturer and distributor:

Keil - An ARM Company

Bretonischer Ring 15

D-85630 Grasbrunn

Germany

Phone: ++49 089/45 60 40 0

Fax: ++49 089/46 81 62

Sales: sales.intl@keil.com

Support: support.intl@keil.com

<http://www.keil.com>

3. Proteus PCB Design Level 2

Software for design in electronics. Contains the module for schematics, simulation (including mixed analog-digital circuits), multi-layer PCB design (with auto-router and analyzer of the PCB) and project documentation preparation. Specific feature of this product compared to other similar products represents the ability to combine microcontroller components with other electronic components in simulation, where the microcontroller software is also simulated.

The product can be purchased modularly, and the following components are necessary for us:

a) basic module (schematics, simulation, PCB upto 4 layers and 1000 vias)

b) microcontroller module for the Atmel family (full version) - Proteus VSM for Atmel AVR
(Complete)

c) microcontroller module for the Microchip family (full version) - Proteus VSM for Microchip PIC

Bundle (PIC10, PIC12, PIC16, PIC18, PIC24)

Manufacturer and distributor:

Labcenter Electronics

Address:53-55 Main Street

Grassington

North Yorkshire

BD23 5AA

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| <p>England Telephone:+44 (0)1756 753440 Fax:+44 (0)1756 752857 Email:info@labcenter.co.uk http://www.labcenter.co.uk</p> |
| <p>B.2 Describe the relevance of the requested research infrastructure for the work of your institution and the potential impact of receiving the items listed above (B.1).</p> <p>The new study programme at the Faculty of Electrical Engineering, University of Sarajevo is intended to bridge the gap between theoretical study and practical application of this theoretical knowledge. During the three-year study, the students should acquire enough practical skills, to be ready to cope with tasks in industry and services. Therefore, hands-on experience becomes of crucial importance. Having in mind very dynamic technological changes in information technology, electronics, and generally technical fields, the industry needs skilled workers with uptodate knowledge, capable of using modern equipment and technology. Although our Department of Control and Electronics managed to equip basic laboratories both for electronics and for solving control tasks, it still lacks more advanced tools necessary to illustrate the new approach to development of solutions for industry. The situation for work on research projects is even more difficult, since such work is almost impossible without more advanced equipment.</p> <p>The listed equipment would improve the current situation at the Faculty of Electrical Engineering, resulting in better effects of the courses taught, and give better chance to the Faculty in its applications for research projects, since one of basic limitations represents this lack of advanced and modern tools.</p> |
| <p>B.3 Please indicate the potential users of the requested equipment.</p> <p>The potential users of this equipment are the students, professors, researchers. The equipment is intended to be used for educational (courses and projects) as well as research purposes.</p> |
| <p>B.4 Please describe the training needs of your institution related to the requested equipment</p> <p>No external training is needed.</p> |
| <p>B.5 Please indicate if there is assistance needed with regard to the transportation and maintenance related to the requested equipment</p> <p>Yes, we need assistance regard to transportation and maintenance related to the requested equipment.</p> |
| <p>B.6 Additional Comments</p> <p>We have no additional comments.</p> |

Please fill in and return the form by email to the contact person in your country (see appendix 1)
 Place, date: **Sarajevo, November 11, 2007.**



Signature and Stamp of applicant

[Handwritten signature in blue ink]

3 | Page

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 DANA, 13.11. 2007