



SLOVENSKÁ AKADÉMIA VIED

PRESEDNÍCTVO

Vážený pán
Ing. Vladimír Cambel, DrSc.
riaditeľ
Elektrotechnický ústav SAV
Dúbravská cesta 9
841 04 Bratislava

Bratislava 10. februára 2017
Číslo: Ú SAV-0363/2017

Vážený pán riaditeľ,

na základe uznesenia Predsedníctva SAV č. 1212.C zo dňa 9. februára 2017 sa zaraďuje Elektrotechnický ústav SAV do kategórie s charakteristikou:

Výskum je viditeľný na európskej úrovni.

Organizácia dosiahla hodnotné príspevky v danej oblasti v rámci Európy.

Organizácia patrí do skupiny pracovísk SAV s vynikajúcimi výsledkami v tejto kategórii.

The research is visible at the European level.

The institute has made valuable contributions in the field in Europe.

The Institute belongs to the group of outstanding performers in this category.

S pozdravom

prof. RNDr. Pavol Šajgalík, DrSc.
predseda SAV

Poučenie o odvolaní: Podľa čl. IV ods. 6 Zásad pravidelného hodnotenia vedeckých organizácií SAV za obdobie 2012 - 2015 sa proti rozhodnutiu Predsedníctva SAV môžete odvolať do 21 kalendárnych dní od doručenia tohto rozhodnutia na Predsedníctvo SAV (sekretariát predsedu SAV).

Príloha: Hodnotiaci protokol
(META-PANEL ASSESSMENT REPORT OF SAS RESEARCH INSTITUTE)

META-PANEL ASSESSMENT REPORT OF SAS RESEARCH INSTITUTE

Period January 1, 2012 – December 31, 2015

According to § I, section 15 and 16 of Principles of periodic assessment of SAS research institutes adopted under the regulation of § 10, section 5, letter d) Act No. 133/2002 Coll. on Slovak Academy of Sciences and approved by the SAS Assembly on 22. 3. 2016, the member of Panel of evaluators/ Invited external remote expert issues the report with following evaluation and proposal for Institute rating.

Name and address of SAS Institute	Institute of Electrical Engineering (IEE/ELU) Slovak Academy of Sciences Dúbravská cesta 9 841 04 Bratislava, Slovak Republic Webpage: www.elu.sav.sk
Date of site visit/ Date of interview	November 11, 2016

Scientific quality and productivity

Comments, including strengths and weaknesses	Rating*
<p>The focus of ELU is quite broad, spanning nano-scale physics and technology, superconductor physics, microelectronics and sensors, optoelectronics, cryoelectronics, thin oxide films, semiconductor technology and diagnostics, superlattices, and generally materials and electronics devices. In addition to their R&D activities, they provide training for doctoral studies as an external educational establishment in collaboration with the Slovak University of Technology and Comenius University (19 theses currently). These research activities are addressed through 4 departments with differing levels of staff and an overall number (60 research positions/50 FTEs plus 16 PhD students in 2015) that is essentially constant since 2012, despite an apparent increase of the activities and number of international collaborations. Is the share of “Other salary budget” with respect to “Institutional salary budget” (46%) in line with the PhD vs. Institutional positions ratio? In any case the salary budget is also essentially constant since 2012 in both its components, raising the same question.</p> <p>The Institute carries out R&D in electrical engineering, automation and controlling devices, physical sciences and technology and research on semiconductors and superconductors and their applications. Besides these research aspects the Institute advertises that it carries out consulting activities and production/distribution of materials (e.g. cryogenic media) at local/regional and international level, although neither the material provided nor the Institute’s web site provide hard evidence to support this assertion – at least the financial information provided for contracts with industry and others is fairly small. Based on the research activity described in detail throughout the report however, it appears that the Institute is quite active at national and international level.</p> <p>Although somewhat difficult to assess based on written/web material (site visits and interviews with key will be needed), it seems that the institute’s infrastructure was able to upgrade to Western European standards in terms of equipment and facilities, essentially due to the use of EU structural funds (10 million € received) during the assessment period. The number of long-term visitors/users appears to have increased significantly as a result. Certainly the laboratory equipment looks impressive and at par with other international facilities.</p> <p>Although a lot of the partnerships established by ELU remain national and regional (Slovakia, Czech Republic, Poland, Bulgaria; also use of grants provided by the VEGA Fund – ca.100 projects during the assessment period) the tendency since 2011 has been to expand these at the international level through participation in various EU activities, e.g. FP7 (5 projects), COST (8 actions) or H2020/EURATOM (1), ENIAC (1) or EMRP (1). This demonstrates a real vitality and capacity of the Institute in engaging with the international community.</p> <p>In terms of publications and research impact, the report is quite detailed and provides good metrics analysis. Overall the publication level is a bit low: roughly 1 CC publication per FTE in 2015, and no clear change in this publication rate in the past 10 years.</p>	B

<p>Although varying significantly the numbers could even be read as slightly decreasing – this is the case in the 2013-2015 period. The Institute's arguments that the decrease in the rate of Institute's 1st author papers can be attributed to growing international collaboration is difficult to judge and probably hardly relevant statistically. Overall the publication quality is not high, essentially proceedings and low-impact factor journals. Nevertheless the quality has been growing recently, in particular as a result of the Institute's policy to reward its researchers who choose to publish in higher-impact international journals through salary increase. Citations (WoS) increased three-fold between 2004 and 2014.</p>	
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Societal, cultural, or economic impact

Comments, including strengths and weaknesses	Rating*
<p>As all research institutions in Central and Eastern Europe, ELU needs to fight the brain drain. Countries in that region have developed mechanisms to try and alleviate this problem, e.g. Slovakia's SASPRO scheme, funded in collaboration with MSCA and the Slovak Academy of Sciences, to attract international young scientists to Slovakia. ELU received 4 such ASPRO projects in 2015 and 2016. Without comparative data it is hard to judge whether this puts ELU above or below average for Slovakia, although the desire to support this effort is in line with the above mentioned will to further engage in international cooperation.</p> <p>Some data are provided regarding patents (3) and patent applications (2) that are however lacking financial information (potential revenues). This makes it hard to judge the engineering effort and impact in areas that have obvious market potential.</p> <p>The Institute also appears strongly engaged in educational and outreach activities at national level. They have encountered difficulties with the Visa implementation for certain countries (e.g. Indian scholars) and this needs to be resolved. The formal review system for managing performance in terms of research outputs seems to be an example for others to follow.</p>	B

Future prospects (development potential)

Comments	Rating*
<p>The self-evaluation report provides a large body of detailed factual information in terms of projects' scope and budget, engagement with partners, equipment & facilities, educational and outreach activities, HR policy, etc. It also addresses the way they took previous recommendations into account, which is always a good sign that the evaluation process is taken seriously by the management.</p> <p>The report also provides elements for future strategic directions, taking account of their positioning at national and international level. The strategy developed by ELU is not generic and goes into a level of details concerning the R&D topics to be carried out, but also managerial, HR and structural issues.</p>	B

*Rating in scale from A to D where A is excellent B is very good C is good and D is weak

OVERALL ASSESSMENT

Comments on the past performance

IEE seems to have achieved a better visibility in recent years through its partnerships with international players. Outward looking management and good staff combined with the investment in infrastructure from the structural funds have positioned the Institute very well for the future. This positioning is supported by the attraction of a significant number of international researchers and groups. The number of international projects it is engaged in is still moderate but there is a clear tendency and strategic wish to increase it in the next period. The self-evaluation report is notable for its completeness and level of details and contains a clear strategic view of the future direction the Institute wants to take. They await results on a H2020 submission, MicroTherm.

Their engagement in PhD studies seems exemplary, with good mobility and international mix. They manage internal seminars with guest lectures open to all Institutes and offer specialist training in topics like Research Data Management.

Comments and recommendations for further improvement of the institute

In addition to the general comments that apply to all institutes to a varying extent, the following specific recommendations and comments are made:

This Institute has benefited greatly from the investment of structural funds and is now well positioned to drive that investment towards achieving greater research outputs and impact.

The strategic direction to strengthen international partnerships is the right one and should be reinforced; as well as central administrative support (e.g. in relation to winning H2020 proposals) it would be very desirable to institute an external advisory Board with formal inputs at set intervals.

This Institute is very well positioned to be a star amongst the Slovak Institutes considering the alignment between their work and the potential international interest. They may wish to consider the name and branding of the Institute, since the title might not resonate with many in the international community of interest.

Proposal of overall institute rating: B

The research is visible at the European level. The institute has made valuable contributions in the field in Europe.

The Institute belongs to the group of outstanding performers in the category B.

January 20, 2017

On behalf of the Meta-Panel
Prof. Marja Makarow

