

## Introducing the Report

*Politehnica* University of Timisoara (UPT) is more than a simple teaching institution, it stands as a bastion of knowledge, a university of advanced research and education, which undertakes with devotion its goal to fulfill the requirements for competences of the societal environment by ensuring superior professional training for students and graduates.

The present document gathers the main results obtained through the research activities carried out within the university, *Politehnica* being renowned as a remarkable actor on the stage of scientific research, both at national and international level. Our research activity is facilitated by the existence of twenty-five research centres specialized in fields that are capital for the sustainable development of any modern society. Each of these research centres brings together various prestigious researchers, whom, by their effort and vision, provide UPT with the incentives needed to contribute to the progress of our society.

Most of the research activity carried out by our institution is financed through external sources, obtained either from national and international calls for projects, or through agreements with private companies. This represents a confirmation of the superior quality of the research, but also of the prestige and professional deontology of the researchers affiliated to our institution. *Politehnica's* reputation as an institution of advanced research is emphasized also by the patents obtained by its researchers, by the medals and prizes obtained in both national and international competitions, and by the collaborations with important research centres and institutes from Romania and from abroad.

Each year, we select the most talented young researchers for our doctoral school, providing them with the opportunity to transform their knowledge and ideas into the innovations of tomorrow. Many of them take part in peer learning programs consolidating the relationship between our university and similar partner institutions. They strive for becoming doctors in science and for making the world a better place.

This report is divided into ten sections, each one presenting a specific component of the research activity performed within the institution. Therefore, we will start by presenting the research infrastructure, comprising the twenty-five research centres hosted by the university. The order in which they are presented is given by the research fields.

The second and third sections include the research projects implemented by the university. The second section includes the projects supported by public funds, both national and international, while the third one includes the projects supported by private funds awarded by companies. For the purposes of this report, we have chosen the most relevant projects for our research capacity, encompassing 42 public funded projects and 36 private funded ones. Within each section, the projects are arranged by research fields.

In 2012 our institution was awarded five patents, having also submitted applications for another seven. Besides these twelve patents, some of our researchers have been nominated inventors as part of research projects carried out within other institutions and for which there have been submitted applications for patents. All these will be presented in the fourth section.

The fifth section presents two of our honorary members, one that has been awarded the *Professor Honoris Causa* recognition and one that has become *Honorary Professor*.

Section six and seven include habilitation theses and PhD theses. In 2012, four of our colleagues became habilitated, while 109 of our PhD research students became doctors.

Section eight presents an overview of the most relevant scientific conferences and events that brought together professionals from Romania and from abroad, hosting and encouraging the dialogue, exchange of ideas and the opportunity for new collaborations.

The ninth section gathers the scientific journals that have been edited by our institution. This category includes 12 journals specialized in various fields like computer science, chemistry and environmental engineering, electronics and communications, electrical engineering, hydrotechnics, physical education and sport, modern languages etc.

And, finally, the tenth section includes a bibliographic list of the ISI publications that were realized in 2012, comprising the results obtained by our researchers in several fields, papers that obtained recognition from some of the most prestigious journals, both from Romania and from abroad.

Through research we generate ideas, through ideas we generate innovation and through innovation we contribute to the improvement of the quality of life; this is why research is our priority.