

# An inspiring success story from Serbia:

## Research and Development Institute RT-RK

The success story of R&D RT-RK Institute dates back to 7<sup>th</sup> of April 2005 when it was founded as a company with only 3 employees, while by the end of 2008 it had 40 employees. Micronas NIT was founded in 2001 as a spin-off company from the Faculty of Technical Science, University of Novi Sad with 94 employees. It ceased to exist when its partner company Micronas sold its consumer electronics division to Trident Microsystems, Inc. in 2009. From this difficult turn over point it was recognized that the company has to grow and survive in difficult global market conditions using knowledge and innovation as a foundation of future products as well through diversification and expansion of its customer base.

Research and Development Institute RT-RK was founded and accredited on 28<sup>th</sup> of December in 2010 and reflects cross-fertilization between the commercial company and research and development institution which places innovative solutions at a heart of its progress. Today it employs over 300 hundred people who are actively working on commercial and innovative projects. RT-RK is focused on research and product development in fields of consumer electronics, communications and multimedia. It offers number of services, such as Embedded System Design, Mobile Software Development, TV Software Development, Digital Signal Processing, FPGA Based Rapid Prototyping, Hardware Development, Small Scale Production and products, such as: Testing Solutions, Audio/Video Capture Devices, Connected TV Software and Microphone Array Technology. Product and services are developed for leading world companies, for example RT-RK is established as a Cirrus Logic Design Centre, while other customers were, namely: Bosch, Germany; ABB, Switzerland; Micronas, Germany; The University of Sheffield, United Kingdom; Dmist Technologies, United Kingdom; Openwave, USA; Nuance, USA; Sagem, France; Purple Labs, France; NEC Laboratories, USA etc. RT-RK's testing solutions have been developed since 1995 and used to test software of today's biggest iDTV manufacturers, including Samsung, LG, JVC and Panasonic. They have been sold in more than twenty locations worldwide, and used by IC vendors like Zoran, SmarDTV, Cirrus Logic, Marvel, ST, Micronas and Trident, as well as OEMs like Vestel, Loewe, Philips, General Satellite and Kethrein.



In addition, the company is constantly involved in developing new innovative solutions for new line of products. As an example, Oblo Ecosystem is a set of hardware and software components which enables remote light control, as well as power consumption monitoring in a Smart Home concept, through the TV, PC, mobile phone, from home or any other place with access to the Internet (<http://www.rt-rk.com/new/oblo>).



Roadnail product offers road marking based on sensors, wireless connectivity, energy harvesting and light marker as well as local intelligence. It is used to make visible the edge of the road in the front view of a moving car. The system does not need any equipment in the car and therefore works with current car fleet. It is powered autonomously by solar cell on the top of each devices (<http://www.rt-rk.com/new/roadnail>).

The RT-RK Institute invests into development of young researchers through their involvement in cutting edge technology and taking part in national and international conferences. It was involved in hosting and organization of 19th Annual IEEE International Conference and Workshops on the Engineering of Computer Based Systems (<http://tab.computer.org/ecbs/2012/organization.html>) in Novi Sad.

Transfer of knowledge and technology is actively pursued through close ties with the Faculty of Technical Sciences at University of Novi Sad. This special relationship with the University also ensures that the students apart from sound technical background acquire necessary technical and commercial skills, which enables them to easily find employment after completion of their studies.

Today, RT-RK R&D Institute is a young and vibrant institution with number of nationally and internationally funded innovative projects. We are coordinators of FP7 project 'Embedded Computer Engineering Learning Platform' (FP7-ICT-2011-8) and in process of writing other European project grant proposals. The Ministry of Education, Science and Technological Development of the Republic of Serbia is funding four projects from 2011 to 2014, namely: (i) TR-36029 'Autonomous Sensor Network with Distributed Control' (ii) TR-32041 'Intelligent Service Development for Home Devices' (iii) TR-32029 'Video Quality Assessment Methodology Development for Video Monitoring in Multimedia Systems' (iv) TR-32030 Platform for Education in the Field of Embedded Systems Engineering. Also EUREKA Projects are run each year in collaboration with our industrial partners which help our company to further develop and commercialize our innovative solutions. Provincial Secretariat for Science and Technological Development is funding projects which are in the areas of medicine, digital television and intellectual property rights.

Another aspect of RT-RK envisaged future is formation of a patent group which deal with commercial projects for foreign partners in the area of technical patent analysis as well as it provides support

internally through number of activities, such as: organizing workshops regarding patents, research of the prior art, patent drafting and preparation of patent application, submitting and managing of patent application on national and international ó PCT level. Overall 25 patent application has been submitted in the last three years, all in one aim ó to protect our innovative solutions and enable our expansion to other markets, while at the same time increasing company value.

This article gives an overview of the development of a company which started off based on knowledge and enthusiasm of few individuals from the University of Novi Sad, who had a vision and drive to build a base which is to keep our best students and experts in their native country, to continue and strive to produce excellence and know-how for generations to come.

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