

## JAVELIN awarded

**JAVELIN** is a unique project used for introducing Internet to schools in Ghana by means of the MORSE system. The general idea behind the project is the use of a slower, but more reliable and continuously running Internet connection via RACOM radio modems.

The heart of JAVELIN is the server on which an email server runs, selected www page images and scanned textbooks are locally stored. The www pages are regularly updated and emails are continuously sent and received – all via the MORSE network. Generally, a school's LAN with tens of computers is connected to the server. The Tech Museum of Innovation, San Jose, California, an international Awards program that honors innovators from around the world who are applying technology to benefit humanity chose JAVELIN out of 951 projects in 98 countries to receive an award. The award was accepted in November 2006 in San Jose by Kwaku Boadu, the director of Arrow Network Systems. Bill Gates asked for the project to be explained to him on the occasion of handing out the award.



Bill Gates in a discussion with Kwaku Boadu, the director of Arrow Network Systems



JAVELIN in use

## DNP3 success story

In cooperation with our partner from Indonesia, the company PT. Bina Selaras Bersama, we managed to implement another protocol on the serial interface, DNP3, into the MORSE network. This means that 73 protocols are now supported in the MORSE network.

The actual implementation of the new protocol itself was nothing unusual for RACOM. However, in this particular case, we managed to implement the protocol "remotely". Every-thing was prepared at RACOM headquarters and then using remote access we were able to test and debug at our partner's office in Jakarta. A Jin Kwang LBS RTU FRTU-P100 PLC and MR400 radio modems were used for testing purposes.

Remote access from RACOM to PT.BSB's offices is currently enabled via the Internet using an MServer installed with RANEC supervisory software. Testing was completed in October of last year and currently the first 10 stations are running live in the network of the power distribution company PLN Bangka.

**Andreas Yufrizal, the director of PT.Bina Selaras Bersama, added:** "We have been on the radio modem market now for many years and we have a great deal of experience, for example, with distributing Trio radio modems. We appreciate our cooperation with RACOM primarily thanks to the flexibility and technical capabilities of the MORSE system. In addition, using RANEC software we are able to offer our customers services with added value, such as remote supervision of radio networks, preliminary calculations of signal coverage when designing networks, etc. Thanks to the excellent work of RACOM specialists we now have the DNP3 protocol available in the MORSE system, opening up the doors to many new projects in Asia. Like many times in the past remote access from RACOM has again proven successful during the implementation and testing of the new protocol and as usual we very much welcome the manufacturer's perfect technical support."

## International conference 2007

**The traditional date of the annual international conference** – the third Thursday in May – is almost upon us! This time we shall meet in Prague and we have a number of surprises in store for you. We hope that you can all make it – both new and long-term partners. We will provide you with further details as soon as possible.  
**We look forward to seeing you!**

Issued in February 2007 by RACOM.

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# 4/07

# RACOM NEWS

Information bulletin of RACOM company



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JAVELIN awarded

Dear friends,  
for this first issue of **RacomNews** in 2007 we have prepared a surprise for you, something you have probably noticed already: **RACOM starts to use a new graphic design. This design is in official use from 1st March 2007.**

It's never simple for a company to take such a step, and if the truth be known, we also took a very long time in seeking the answers to questions such as how will RACOM benefit from this, and how will customers react to the change, etc.

The deciding factor was finally the fact that RACOM has been on the radio modem market for 16 years and still ranked amongst the world leaders in this field and it was felt that this also needs to be presented graphically. And this is why we not only innovated the logo, but also the whole graphical design of the web pages. As part of globalisation and due to the Czech Republic's accession to the European Union we also decided on using the domain **www.racom.eu**, and we have completely reworked the web pages making them more user friendly, and in addition we have translated them into six languages.

Another first is the **multimedia presentation** we have prepared for you. You will find 6 video clips on **www.racom.eu** which give an introduction to RACOM and its products and also some of our major reference projects.

We have also prepared a printed catalogue, or rather **Company profile**, which contains general information about the company and its production programme. We believe that our new design is not just a change for the sake of change, but that it will bring you many positive benefits.

**Let's hope the new bat in our logo will always bring out the best!**

Martin Lácha  
Sales and Marketing Director

## Development of wideband radio modems finished

**RACOM endeavours to satisfy those customers for whose applications a high data transfer speed is one of the deciding parameters. The new range of wideband radio modems with a 200 kHz bandwidth supplements the existing range of narrowband models and significantly expands the capabilities of the MORSE system.**

The mechanical design as well as the modular concept remains the same as with narrowband radio modems.

As is customary in RACOM the technical parameters are again on the border of physical possibilities:

- transfer speed of 133 kbps in the 200 kHz channel
- switching time for half-duplex < 0.5 ms.



The extremely high speed on the radio channel means that RACOM wideband radio modems can be used in applications where standard radio modems have rarely been used: backbone IP networks and Internet access in inaccessible areas are just some examples of where wideband radio modems can be used.

Half-duplex (MW160) and full-duplex (MX160) models for the 160 MHz band in versions 5 and 25 watt are currently in serial production.

## Opening new doors

**Thanks to the dynamic growth of our company our network of foreign partners is continuing to expand. From this point of view we can consider the last quarter of 2006 as particularly successful as we were able to take on board several major new contacts.**

### Spain

During the autumn of 2006 RACOM entered into cooperation with another major player – **Ingenieria Y Control Remoto S.A.** ICR is a company with experience of not only system integration in SCADA systems and telemetry, but also has 12 years of experience with radio data networks. RACOM modems are now being tested at ICR's head office and we expect that during the course of the second quarter of 2007 the first joint project based on the MORSE communication system will come into being.

### Canada

In November we were visited by **Mr. Jerzy Prekurat**, the director of the development department of the **Canadian Bank Note company of Ottawa, Canada.** CBN is a prestigious company with a tradition of more than one hundred years, and amongst other things prints the full range of Canadian currency bank notes as well as various other stamps and coupons for many countries. CBN's activities cover the world market for lotteries, identification and payments systems.

At the joint meeting tests were carried out in the presence of RACOM technical support technicians to verify the possibilities for using our products for CBN's requirements. The tests were successful and currently RACOM radio modems are undergoing integration tests at CBN's headquarters.

The next step will be to follow up with pilot installation into the lottery system, probably in the state of Honduras.

### Ecuador

Thanks to our cooperation with VAE Controls Ostrava, a long-term RACOM partner, Ecuador became the 47<sup>th</sup> country on RACOM's reference list. In the autumn of 2006 we trained two employees of Interagua in the Czech Re-



public who subsequently installed a MORSE radio network in the Guayaquila of Ecuador. The network is designed for transferring data for the SCADA system of the water distribution network. The control system was supplied by our partner VAE Controls.

## On the waves of the Atlantic Ocean

**Over the last few months RACOM, in cooperation with the Spanish company ISURKI, has participated in the development of a unique sea-borne GPS positional system using the unparalleled properties of MORSE communication. The application is based on MR160 radio modems with an integrated GPS module and an output power of 25 W. Minimum energy consumption is ensured by making use of our radio modems' "sleep" mode. Buoys equipped with this solution shall be used, for example, for monitoring the size and movement of crude oil spills.** The integrated GPS module inside the radio modems periodically every 5 minutes sends the coordinates of the buoys to a ship which monitors their movement. The maximum deployment time of the buoys was one of the basic application requirements, which in practice meant finding an energy saving solution. Thanks to the use of the

"sleep" mode the radio modem only consumes current for the necessary period of transmitting information (approx. 5 % of the time in each cycle). A reduction in energy demand was also achieved thanks to the use of the GPS module. The solution therefore significantly extended the period of use of the whole system when supplied by batteries. Another important factor is that RACOM radio modems are constructed to withstand the most demanding of environments, which is particularly important for sea-borne applications. Thanks to a combination of all the mentioned factors it is a great honour for us that RACOM again has managed to prove its ability of being able to find a solution fulfilling the customer's very specific individual requirements.

We hope that similar solutions will significantly help to stabilise the standing of the MORSE system in maritime communication.



## Contract with Telenor fulfilled

**At a meeting held on January 17<sup>th</sup> 2006 in Oslo Telenor took delivery of RACOM's largest order in 2006.**

Together with LMC, RACOM's exclusive partner in Norway, RACOM supplied an infrastructure for 50 base stations of a VHF Data network as well as a number of special software and hardware upgrades (see RacomNews 10/05 for more detailed information). The VHF Data network is now ready for commercial operation which should begin in the 2<sup>nd</sup> quarter of 2007.

