



Phoenix Systems – a global innovation case study from Poland

Phoenix Systems

by dr Jacek L. Madajczyk, vice president and co-founder, Phoenix Systems

Poland is generally perceived as a country of well-educated people but innovation, especially on the global scale, has not necessarily been part of this image.

Phoenix Systems and other high-tech companies prove this perception can be changed quiet soon.

It all started back in 2001 when a group of graduates from the Department of Electronics and Information Technologies of Warsaw University of Technology headed by Pawel Pisarczyk established IMMOS to confront their programming skills with real world technology challenges. Pawel Pisarczyk was already the author of the operating system written from scratch as part of his master's thesis.

The most challenging project successfully completed by IMMOS was development of the control software for Automated Dicing Saw robot used in production of silicon chips. What's amazing was the robot's cutting precision of 1µm. These robots are still working until today on the south of France.

Later, in 2003 Pawel Pisarczyk joined ATM company, where he met Jacek Madajczyk and initially they were active designing and delivering first supercomputing installations in Poland. Then the R&D Center (then CBR ATM-lab) was created and they both got involved in acquiring EU funds and coordinating various R&D projects (in total more than €1m for five projects). In 2009 CBR ATM-lab was transformed into ATM Software (now Atende Software) to commercialize results of the above-mentioned R&D projects. Atende Software, which is a subsidiary company of Atende, was an immediate success with break even after the first year and in 2014 it was nominated to the prestigious title of *Gazeta Biznesu* for the most dynamically developing small and medium-sized businesses.



Phoenix Systems was established by Pawel Pisarczyk and Jacek Madajczyk in December 2011 as a technology start-up. Its strategic goal from the beginning was to design and build

embedded systems software around the proprietary Phoenix-RTOS real-time operating system. Initially it was co-financed by EU via the Operational Programme Innovative Economy. Since 2013, the Warsaw Stock Exchange-listed company Atende, through a controlled company Atende Software, became a major shareholder in Phoenix Systems.

The headquarters and engineering team is based in Warsaw but from the outset it was deemed to be important to be visible on the broader European level. To achieve this, Phoenix Systems became a member of the prestigious SETsquared Business Accelerator Centre in Bristol, also opening its UK office in Bristol.

In the meantime Atende Software became a key player in Poland, and one of the largest in Europe, implementing smart grid technology for Energa Operator, a major Polish energy distributor. Atende Software developed and implemented AMI (Advanced Metering Infrastructure) application gathering, analysing and managing the measurement data for currently more than half a million of smart meters deployed in several cities in northern Poland.

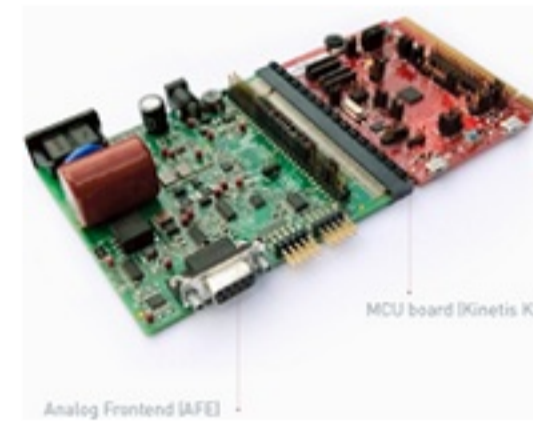
Based on this experience, Phoenix Systems decided to strongly focus on developing software for the smart grid market – rapidly growing globally, especially in Europe and Poland. In 2013 the global smart grid market was estimated at \$36.5 billion with a strong upward trend (the market doubled in size in just three years).

Phoenix Systems' decision was backed by the creation of a new semiconductor company Omnichip in 2013 specialising in designing the integrated circuits specifically for the smart grid market.

Within the group, Phoenix Systems Omnichip and Atende Software are able jointly to cover every aspect of smart grid technology – starting from the integrated circuits design provided by Omnichip, through the level of embedded systems software covered by Phoenix Systems and concluding with the MDM (Meter Data Management) applications delivered by Atende Software.

The first project showcasing the synergies between Phoenix Systems, Atende Software and Omnichip is currently being realised within the Demonstrator+ programme co-financed by the EU and coordinated by PARP, the Polish agency for enterprise development. This will be the first time Phoenix-RTOS operating system will be used in smart meters supported by specific software applications built around it.

UK office and cooperation with global partners



To be successful on the highly competitive smart grid market, the key element is cooperation with large semiconductor companies. And at this point, Phoenix Systems' strategy to be visible on the European level via its UK office in Bristol proved very effective. One of the largest US-based semiconductor companies, Freescale

Inc, contacted Phoenix Systems office in Bristol interested in our Smart Grid software solutions. The final effect of the cooperation between Freescale and Phoenix Systems is the first pure software implementation of the PRIME smart grid communication protocol popular in Europe. Phoenix Systems developed the Phoenix-PRIME software layers on hardware delivered by Freescale. Now the reference board has been certified as required by the PRIME Alliance. After completion, Freescale and Phoenix Systems will offer it jointly to the smart grid infrastructure manufacturers all over the world.

At the end of 2013, a major European semiconductor company also contacted Phoenix Systems office in Bristol and currently the negotiations are being finalised to license Phoenix-PRIME for its hardware platform.

Tech Match Poland project to support start-ups with a global potential

In December 2013 a Tech-Match Poland project was announced by the Polish Ministry of Economy and Polish Embassy in Washington. Within the project, almost 100 Polish start-ups with a global potential were reviewed and ten were selected to go to Silicon Valley. The visit was organised by the US Market Access Center providing an opportunity to meet potential investors, as well as future business partners. Phoenix Systems was selected to participate in Tech-Match Poland and visited Silicon Valley (first San Francisco and then Mountain View) for one week in December.

During the visit the meetings with leading US-based companies have been arranged by the US Market Access Center. These companies have been especially interested in the potential of Phoenix-RTOS real-time operating system and software applications built around it in smart devices infrastructure of the rapidly-growing Internet of Things (IoT) market (global IoT market in 2013 is estimated at \$4.8 trillion, and is much larger than the smart grid market). That interest stimulated Phoenix Systems' decision to intensify R&D work to make Phoenix-RTOS a perfect tool for the IoT market.

Going global

During the Tech-Match Poland programme, the US Market Access Center arranged some meetings to discuss opening a Phoenix Systems office in the Silicon Valley to access the US market with our Smart Grid and IoT products. The next step would be to establish Phoenix Systems USA Ltd company for a local presence.

When entering the global market, the key issue becomes protecting the company's intellectual property rights. Hence, we decided to patent our core technologies not just in Poland but globally including the US. We also applied and received co-financing from the EU to cover the patent costs.

So what next? The short answer is going global. Becoming one of the first global high-tech companies in Poland. And making our proprietary Phoenix-RTOS operating system play the same role in the IoT world as Android plays now in the smartphone world.