Community Talk with:
Erik Abenius

ITEA is a kind of facilitator or enabler that can help get SMEs to the bigger arena

This issue sees Erik Abenius take up Medur Sridharan's invitation to give an insider view of the ITEA projects community. Erik holds an engineering science Master's degree and a PhD in which his thesis in numerical solutions to Maxwell's equations was part of a national Swedish project GEMS. This collaborative initiative aimed to develop a state-of-the-art suite of solutions for electromagnetic issues such as integrated antennas and the compatibility of different electronic equipment as well as stealth and radar signature prediction. Following his PhD, Erik worked with a start-up medical imaging company for a short time before seizing an opportunity in 2006 to co-found a company to work on the software he co-developed during the GEMS project geared to producing realistic electromagnetic simulation, for example, for an antenna in an aeroplane or on a satellite. In other words, a perfect marriage for Erik of academic research and industrial application.

Fast forward to 2011 and a major event in Erik's career happened when his company, Efield, was acquired by the ESI Group, a French-based global Virtual Product Engineering company. "With an increasing amount of work now being done within the smart and connected community, we have an important role in addressing new requirements. Take the modern car, for example. Much of the simulation done in the past has involved passive safety but now demand is increasing for tools like ADAS – Advanced Driver Assistance Systems – that can predict active safety performance and interact with other cars and surrounding infrastructure. This is a trend being pushed by almost every automotive OEM and the first automated cars driving on public roads is not such a fancy anymore nor is it too far off. With the modern car containing so many sophisticated sensors and antennas, the need for accurate simulation tools is crucial to the design of these sensors.

"My role now in the ESI Group has shifted from development, training and support to the business development for electromagnetic products, an activity in which I work closely

with end users and customers across the transport range and in the telecom sector to help solve problems they encounter. And this is, of course, what motivates me in my work. And indeed, what motivates me in respect of ITEA projects. I first became acquainted with ITEA in 2009 when, still as an SME, we were invited by another Swedish SME that had co-authored the H4H project proposal that was dealing with high-performance computing in hybrid systems, combining multicore CPUs and GPUs."

Erik looks back on the three-year project as an enriching experience in which he was able to both gain and give significant input. "This project gave us a good opportunity to work with other European experts from the academic world to large and small companies, and gave us a perfect platform to take our software to a new level of technology. Our role in the project was to test and use the platforms, the performance-tuning tools that govern how we write our simulation software to get the best out of it. We were, if you like, end users of these tools developed within the project so this helped us in directing the developments within the project and therefore making the tools much more accessible for software editors. And this is not something we could really have achieved on our own as an SME, especially in terms of getting access to all the hardware and initiating a project with the top European players."

Erik regards ITEA as a kind of facilitator or enabler that can help get SMEs to the bigger arena. "This is where ITEA is at its best. As an SME, of course, one of the benefits is the additional funding and support you can get that can act as a kind of springboard to become bigger and better. Now, as part of the ESI Group, the incentives are somewhat different. What becomes more important, as a larger company, is what you can gain from the collaboration. It helps maintain the focus on what you can do to improve your product. So the impact of companies in ITEA, and vice versa, differs according to the situation. In general, one could say that SMEs benefit from the experience and contacts, across the academic research and industrial application spectrum. I must admit to a bit of apprehension in the beginning at being 'directed' too much within a project but this was certainly not the case because there are actually no shackles and the somewhat loose structure allows for plenty of freedom and, therefore, innovation."

When he considers the maxim of 'seizing the high ground', the first thing that sprang to Erik's mind was 'playing King of the Hill'. He explains. "I grew up in the north of Sweden and this was one of the main activities during the winter. But one of the lessons you learn from this game is that it's a struggle to reach the top but it's perhaps even more of a challenge to stay there. Everyone wants to topple you. I think this has a parallel with science and technology in society. You have to stay on your toes in this competitive environment. Europe may be on the high ground in software innovation but there is strong competition from Asia and the US. So ITEA is key to helping us keep the high ground we have reached. And will be so over the next decade."

Erik is also convinced of the power of happiness as a driver for success. "It is often the difference between the mediocre and the exceptional. It is related to the softer values like team spirit and common purpose. It is a very important factor in producing innovation and to establishing a creative environment. And it makes me very happy to see that this aspect is recognised by ITEA."