

## **Panta rhei – in life and science**

Business needs in Informatics change almost every ten years drastically, We are again in a phase where such a change is about to happen. Instead of taking applications to Computers, applications come to where the computers are. Since more than 20 years I have the pleasure to have good relationship with the faculty of Varazdin within the University of Zagreb. Shortly after the war in former Yugoslavia, the minister von Trotha of Baden-Württemberg and Rector Jeren of Zagreb asked me if I would be interested to contribute to good scientific relationships between Germany and Croatia. I was happy to do so, and it has turned out to change my life as well. In the meantime more than 20 students from Croatia have come to Freiburg, I was more than ten times in Croatia as was the faculty of FOI in Freiburg. Croatia and its struggle to Europe and independence has become close to my heart.

Technically, our first phase was the discussion of security in the context of access control. The methods were directed to protect valuable resources from unwanted access. Our relationship is so old that internet was not yet the normal means of communication. It was just about to become the “lingua franca” worldwide. The focus of security changed. Authentication and E-Commerce became our topic. Now, we are entering the clouds. The success of upcoming computing modes, such as cloud and service computing, again depends on reliable and secure computer-supported workflows, i.e. programs that formally describe business processes for automated, distributed execution. Reliability is the guarantee to continuously deliver correct services and security is a composite of the protection goals confidentiality, integrity, and availability. Workflows satisfying reliability and security requirements are dependable. Despite the growing expenses in research and deployment of advanced tools for dependable workflows, an exponential growth of dependability incidents persists. One explanation for this fact is that traditional mechanisms based on access control models fail to enforce security properties unless they are fully known at design time. A second reason for the exponential growth arises from the interoperation of workflows. Incompatibilities in communicating workflows impede the provision of trusted services and, together with vulnerabilities, give rise to unexpected information flows.

The problem is unsolved. I conclude from this fact, that our relationship is still dynamic and alive. We have a new topic and new reason to keep going as we have done so successfully the past 20 years. We need to design and develop novel mechanisms in a constructive manner to repair workflows and prevent deviations, thereby guaranteeing a reliable and secure world. We should keep not trusting our judgement too much; we should keep an eye open for the wonderful wine and food of Croatia as well as for its cultural assets. If we keep this in mind and stay curious for new directions, our collaboration may last forever.