

Keynote: Yao-Hua Tan and Gerwin Zomer

“Improving Security of Supply Chains Through Visibility”

We will discuss (research) challenges to make global supply chains safer and more secure by developing new ICT innovations. In particular, we propose a radical shift from the traditional “information push” model where business have the burden to provide customs clearance data to the Customs administration to an innovative “information pull” model. In the new approach, trusted traders (like Authorized Economic Operators), which can ensure that they are in control of their supply chain operations do not need to submit any information to the authorities any more for import or export of their goods. Instead interested governments get 24/7 secured access directly to the enterprise information systems of the supply chain partners and via a Single Window “pull” information when needed. This approach is called the Piggy-Back Principle. This approach to develop electronic customs builds on innovative technologies like Web Services, Service-Oriented Architecture, RFID, smart container seals and open data and message standards (WCO, UNCEFACT, GS1 etc.). The piggy-back principle cannot only be applied to provide government control agencies such as the Customs or Food Inspection agencies access to business data of companies they have to control, but it can also be applied at a more sophisticated level. Currently, many businesses apply themselves sophisticated risk analysis software tools, based on business intelligence and data mining, to optimize their own business processes. We discuss how government agencies can piggy back on these risk analyses and reuse the results of these analyses to do their own risk analysis on companies for, for example fiscal fraud or food safety. In this way piggy-back can provide many benefits for government inspection agencies. In return business can benefit by getting in return a “green lane” treatment by governments, which means that governments do much less inspections on businesses that make their enterprise information systems accessible for government agencies. We also discuss how the development of these ICT innovations can be realised by public-private partnerships between governments and businesses. This research is conducted in various national research projects, such as Extended Single Window, and international EU-funded projects such as CASSANSRA, INTEGRITY, ITAIDE and SMART-CM.

About the authors:

Prof. Yao-Hua Tan (y.tan@tudelft.nl) is professor of Information and Communication Technology at the ICT Group of the Department of Technology, Policy and Management of the Technical University Delft and part-time professor of Electronic Business at the Department of Economics and Business Administration of the Vrije University Amsterdam. He was also Reynolds visiting professor at the Wharton Business School of the university of Pennsylvania. His research interests are service engineering and governance; ICT-enabled electronic negotiation and contracting; multi-agent modelling to develop automation of business procedures in international trade.

Gerwin Zomer holds a MSc in Industrial Engineering and Management at the University Twente (the Netherlands). In 2007 he joined TNO Mobility & Logistics as a senior logistics and transport consultant. Before he worked several years as consultant in redesign of business processes and ERP implementation processes in several trade and production companies. As from 2000 he is involved in European research project in transport logistics and ICT and has built experience in managing large European projects. Gerwin also advised the Commission on a number of relevant Evaluations and Impact Assessments of EC policy initiatives, like the Marco Polo Programme evaluation, Logistics Action Plan, the European RFID policy, a new ITS Deployment Programme and on Interoperability of Electronic Fee Collection.