

ECIS 2018 Track 30

Title of the Track

Big Data for Public Safety and Personal Security

Track Description

According to Forbes, Big Data & business analytics software worldwide revenues will grow from nearly \$122B in 2015 to more than \$187B in 2019, an increase of more than 50% over the five-year forecast period. Furthermore, IDC points out that industries that present the largest revenue opportunities are Discrete Manufacturing (\$22.8B in 2019), Banking (\$22.1B), and Process Manufacturing (\$16.4B) with special focus on public safety and security. Taking these issues into account the track aims to provide an outlook of the research on the connections between Big Data, public safety, security, and business models innovation as well as their challenges, such as, e.g., data quality.

Inspired by an upcoming Big Data Infrastructure that handles both structured and unstructured data from multitude domains and data sources (ranging from environmental and weather data to wearables, passenger vehicle sensors, financial and insurance institutions data streams, and social web data), the track will explore the benefits, advantages as well as the challenges, limitation and threats (at data security and privacy level) that emerge from a data value chain that delivers intelligence to support operations that are surrounding various aspects of human living. A special attention will be dedicated but not limited to the following areas:

- Automotive Safety Issues and quantified vehicles
- Smart Home and Assisted Living
- Asset Protection
- Public Safety Early Warning Systems
- Public Threat Identification, Pattern Recognition and Risk Mitigation Techniques
- Insurance Sector Fraud Detection
- Innovative meshed data services, and ecosystems for the automotive, smart home and insurance domains
- Ethical aspects of Big Data
- New sustainable business models for the automotive, smart home and insurance domains

The track's specific focus on the links between Big Data driven innovation and public safety as well as personal security makes it a key complement to other tracks on general or other aspects of Big Data and Analytics research organized at the European Conference of Information Systems (ECIS). In particular, it is worth noting that the track will investigate the topic of security from a social rather than technical perspective, with a specific focus on social value impacts of Big Data driven innovation in terms of capabilities and functionings enabled

by the emergent Big Data ecosystems. In particular the track refers to the constructs of the “capability approach” (Nussbaum, 2011; Sen, 1992) where the focus is on “human functionings”, that are the various states of human beings and the doings or activities that a person can undertake, and “capabilities”, i.e., the opportunities to achieve functionings as outcomes: for example, travelling is a functioning, and the real opportunity to have a safe and secure travel is the corresponding capability. Taking these issues into account Big Data and open linked data are a key resource for enabling capabilities, support decision-making on these issues, and develop appropriate policies and services (see, e.g., the examples provided by Viscusi et al. 2014). Furthermore, Big Data related phenomenon of the the *quantified self* as individuals self-tracking of any kind of biological, physical, behavioral, or environmental information (Swan 2013) has been recently associated to other subjects than human beings such as to cars and vehicles in general, which are actually able to capture sensory data about themselves and about their environment, thus becoming *quantified vehicles* (Stocker et al. 2017). Accordingly, the emergence of different *quantified subjects* raise questions on the role of Big Data for public safety and security as well as the need for understanding the consequent infrastructural challenges and designing new platforms and services.

The track dissemination and organization will be supported by the AEGIS EC H2020 Innovation Action, aiming at creating an interlinked “Public Safety and Personal Security” Data Value Chain, and at delivering a novel platform for big data curation, integration, analysis and intelligence sharing.

Publishing Opportunities in Leading Journals

Special issue on selected journals will be communicated with the call for papers.

Track Co-Chairs

1	Name - Surname (primary contact)	Christopher Tucci
	Title	Professor
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	Short Biography	Christopher L. Tucci is Professor of Management of Technology at the Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland, where he holds the Chair in Corporate Strategy & Innovation. He received the degrees of Ph.D. in Management from the Sloan School of Management, MIT; SM (Technology & Policy) from MIT; and BS (Mathematical Sciences), AB (Music), and MS (Computer Science) from Stanford University. Before returning for his PhD, he was an industrial computer scientist involved in developing Internet protocols and applying artificial intelligence tools to solve industrial problems. Professor Tucci joined EPFL in 2003 where he teaches courses in Technology and Innovation Management (TIM), Information Technology Strategy, and Research Methods. His primary areas of

		<p>interest are business models, open innovation, crowdsourcing, and dynamic capabilities. He is also studying how the popularization of the Internet affects firms in different industries. He has published articles in, among others, <i>Academy of Management Review (AMR)</i>, <i>Strategic Management Journal</i>, <i>Management Science</i>, <i>Research Policy</i>, <i>Communications of the ACM</i>, <i>Strategic Entrepreneurship Journal</i>, and <i>Journal of Product Innovation Management</i>. His 2012 article “Crowdsourcing as solution to distant search” won the Best Paper of 2012 for <i>AMR</i>, which is ranked the #1 scholarly journal in the categories of Management and Business. He was the TIM Department Editor for the <i>IEEE Transactions on Engineering Management</i> and is on the Editorial Board of <i>Organization Science</i>. In 2004, he was elected to the five-year division leadership track of the Academy of Management’s (AOM) TIM Division. In 2010, he was elected to the leadership track of the SMS’ Strategy & Entrepreneurship Division. In 2013, he was elected to the AOM’s Board of Governors.</p>
2	Name - Surname	Jim Dowling
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	Short Biography	<p>Jim Dowling is an Associate Professor at KTH - the Royal Institute of Technology, as well as a senior researcher at the Swedish Institute for Computer Science. He is a researcher in the area of distributed systems, where his main interests are in the areas of Big Data and large-scale decentralized computer systems. He coordinated the EU FP7 BiobankCloud project. He teaches courses in large-scale distributed systems and machine learning at KTH. He is the lead developer of the Hadoop Open Platform (www.hops.io), the world’s most scalable Hadoop distribution. He is a regular speaker at Big Data industry conferences.</p>
3	Name - Surname	Yury Glikman
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	Short Biography	<p>Dr. Yury Glikman is a project manager and the head of the Open Service Engineering group at Digital Public Services Competence Center at Fraunhofer FOKUS. In the past 16 years Yury was actively contributing and was leading technical activities in numerous international and national research projects, and in research projects in collaboration with Japanese industry. Yury was coordinating the Policy Compass FP7 project, which created an online platform enabling citizens and policy-makers better</p>

		<p>understand the impacts of policies based on available Open Data. Yury is the coordinator of the H2020 project AEGIS (Advanced Big Data Value Chains for Public Safety and Personal Security). Yury is leading the Fraunhofer's team responsible for development of the core part of the European Data Portal of the European Commission. Yury is an active member of the Open Source community and a Directors Board member of OW2 Consortium (www.ow2.org) - a global Open Source infrastructure software community including.</p>
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