	Andreas Gondikas Chemical Engineer, Environmental Engineer, PhD	
Title:	Project manager, AXIA Innovation	
Presentation title:	**Intelligent Bulk Materials for a Smart Transport Sector (MASTRO project)**	

MASTRO Project overall objective is to develop intelligent bulk materials for smart applications in the transport sector incorporating several self-responsiveness properties aiming at increasing consumer safety, component life-span and performance while reducing maintenance and manufacturing costs and also through-life greenhouse gas emissions. Self-responsiveness functionalities will be achieved by incorporating electrical conductive nanomaterials like carbon nanotubes (MWCNTs) and graphite-based nanomaterials into smart lightweight polymer composites together with asphalt and concrete formulations. These self-responsive functionalities are based on three physical phenomena: piezoresistivity (variation of the electrical resistivity of a material when mechanical strain is applied), Joule's first law effect (the relationship between heat generated in a conductor and electrical current flow, resistance, and time) and electrostatic dissipation (to protect a material from electrostatic discharge). The functionality of the intelligent bulk materials will be incorporated into different critical transport sector components such as wing leading edge in aircrafts, car bumpers and pavements, and demonstrated under relevant conditions at prototype level for the aerospace, automotive and transport infrastructure sectors. These developments will be supported by theoretical predictive modelling material models and an ICT platform for smart monitoring and control. The outputs of the Project will consist of numerous applications in the mentioned sectors. Then, nanotechnologies and advanced materials will be the basis for next generation of high added value products, boosting EU market opportunities. The research is completed by applying its findings to a lighting proposal of the fortification settlement of Folegandros Castle, a very interesting public space where no cars are allowed, focusing on the highlighting of the monument and the district around it.

CV:

Andreas is a chemical engineer (National Technical University of Athens, Greece), with a Masters in engineering management and a PhD in environmental engineering from Duke University (USA). He is currently project manager for EU funded projects at AXIA Innovation, Germany.

Experience
1/2018 – current Project manager, AXIA Innovation (Germany)
9/2016 – 12/2017 Researcher, Gothenburg University (Sweden)
5/2012 – 8/2016 Researcher, University of Vienna (Austria)
6/2005 – 6/2006 Project Engineer – Consulting, MacConnell & Associates, P.C. NC, USA

Education
2006 – 2012 PhD. Pratt School of Engineering, Duke University, U.S.A.
2004 – 2005 MSc. Engineering Management, Duke University, U.S.A.
1999 – 2004 MSc. and BSc Chemical Engineering, Nat. Tech. University of Athens, GR