



# PICASSO Project

**Towards new avenues in EU-US ICT collaboration**

**EU-US Expert Group Meeting - Big Data Expert Group  
Hosted by NIST at the Department of Commerce  
20 May 2016**

Nikos Sarris, ATC

**ICT Policy, Research and Innovation  
for a Smart Society**

[www.picasso-project.eu](http://www.picasso-project.eu)



# Objectives and Activities

- > **Coordination and Support Action**, funded by the European Commission/DG CONNECT
- > **Start:** January 1, 2016 - Duration: 30 months (until June 30, 2018)

## Enhancing Cooperation focusing on pre-competitive R&I

- > Analyse industrial drivers, societal needs and barriers to exploitation
- > Promote mutual funding opportunities and develop the “ICT Industry Toolkit”
- > Develop and promote success stories/ good practices
- > Prepare an *Opportunity Report*

## Contribute the EU-US policy dialogue

- > Pin-point and argument policy-gap or overregulation targeting core policy issues: Standards; Privacy; Cyber Security.
- > Prepare Policy Brief and propose ways forward
- > Analyse the areas with the highest potential for EU-US ICT collaboration

## Outline new avenues and develop strategic initiatives

- > Investigate, put forward and promote strategic initiatives for EU-US ICT collaboration
- > Start the implementation of selected strategic and agreed initiatives, e.g. on regulation /de-regulation needs, standardization...
- > Explore options and propose and promote topics for exclusive EU-US collaboration under joint or coordinated schemes and in the field of core ICT technological areas and societal challenges.

# Expert Groups

## 3 Technology Groups

*Strategic ICT  
Technology areas in  
relation to Societal  
Challenges*

## 1 Horizontal Group

*ICT Policy*

**5G Networks**

6 EU/US Experts

**Big Data**

6 EU/US Experts

**IoT/CPS**

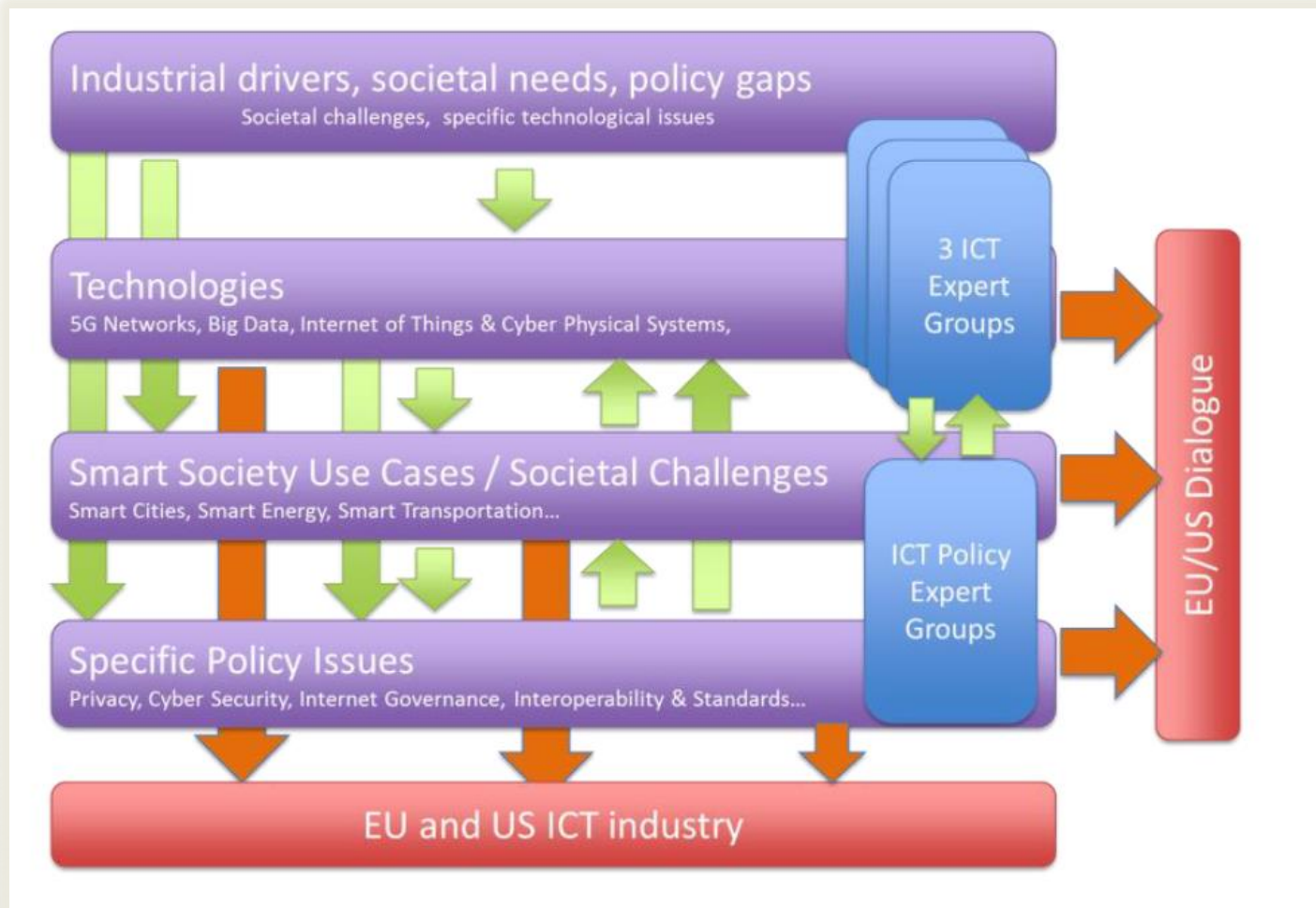
6 EU/US Experts

**Internet Governance | Cybersecurity | Standards and  
Interoperability | Data Privacy | Ethics**

6 EU/US Experts

**Synergies between policy and  
technology groups**

# Expert Groups in the project scheme



# Technology Expert Group on Big Data

## Objective:

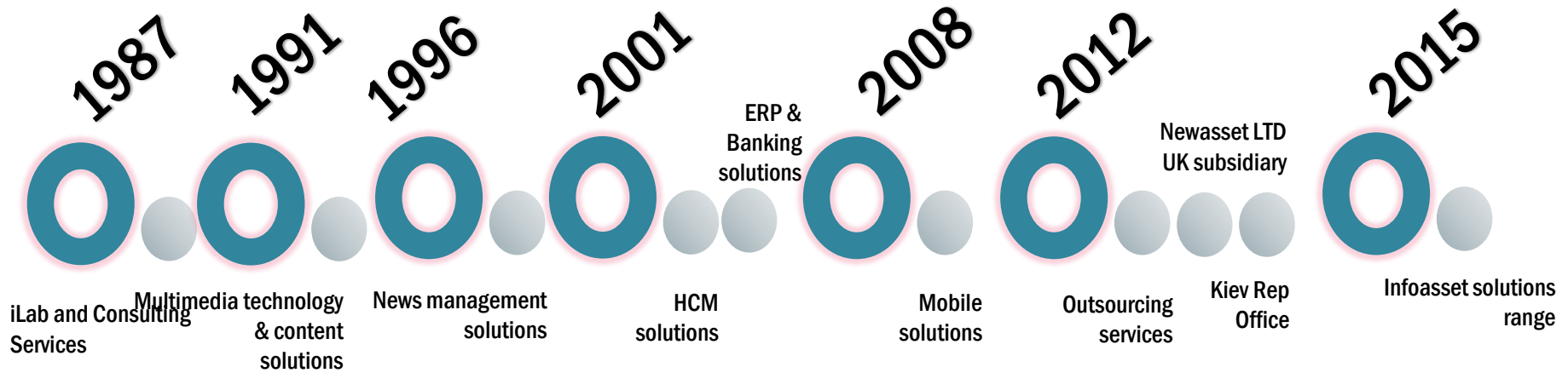
- > Charting a high level status of the Big Data sector in Europe, the US and worldwide
- > Charting of the greatest opportunities for collaboration between EU and US utilizing the most competitive strengths of each side
- > Outlining a list of the most competitive achievements, challenges and opportunities
- > In what way do privacy and data protection affect EU-US collaboration? Barriers and opportunities.
- > What other EU and/or US policy issues have an important impact on EU-US collaboration? Barriers and opportunities.

## Nikos Sarris - ATC, Greece

- > Head of the ATC Innovation Lab
- > Member of the Big Data Value Association
- > Member of the Steering Committee of the NESSI ETP



# ATC - History in brief



- ATC designs, develops and supports innovative software applications , providing high technology, end-to-end solutions to Government entities and Private sector around the globe

newsasset  
family of  
solutions for  
the media  
industry

## newsasset Publishing

- end-to-end editorial & news distribution system for Publishers

## webasset

- advanced, flexible CMS platform for creating and managing web portals

## adasset

- ad booking & account management

## newsasset Agency

- fully integrated multimedia news management system handling all News Agencies operations

## mobileasset

- newsreaders and other native applications
- mobile web

....and much more

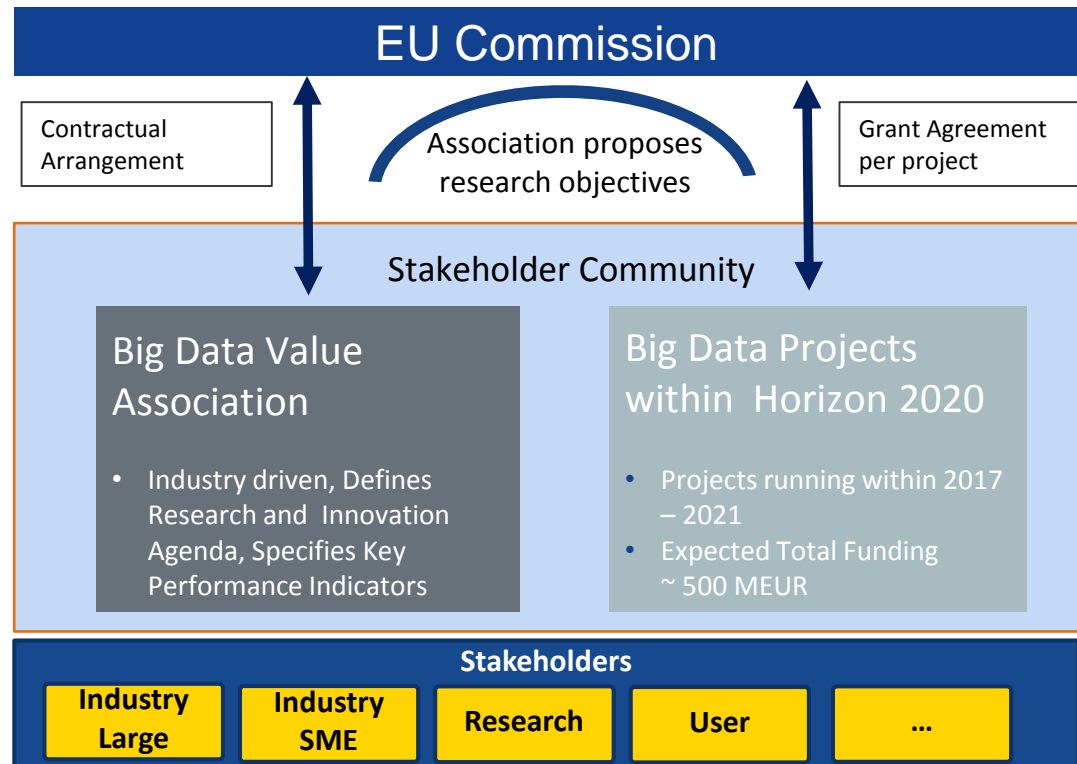
- classified ads management
- digital signage interface

## R&D in Social Media Verification



# Big Data Value cPPP Structure

EU and Industry agree on a cPPP to conduct strategic Big Data research and innovation projects  
This requires the setting up of an association with the involvement of a broad stakeholders community























[www.bdva.eu](http://www.bdva.eu)



# BDVA Currently

- 135 Members  
2/3 Full, 1/3 Associate
- 50:50 Industry/Academia
- The European Commission and Europe's data industry have committed to invest €2.5 billion
- €500 million of investment over 5 years (2016-2020) from Horizon 2020

|   |   |   |
|---|---|---|
|    |    |    |
|    | <b>PHILIPS</b>  |    |
|    |    | <b>Atos</b>   |
|    | <b>SIEMENS</b>  |    |
|    |    |    |
|    |    |    |
|  | <b>TERRASIGNA</b>   |  |
| <b>NOKIA</b>  |  |  |
|   |  |   |

# NESSI is the European Technology Platform for the new Digital Information Society and Economy 2.0

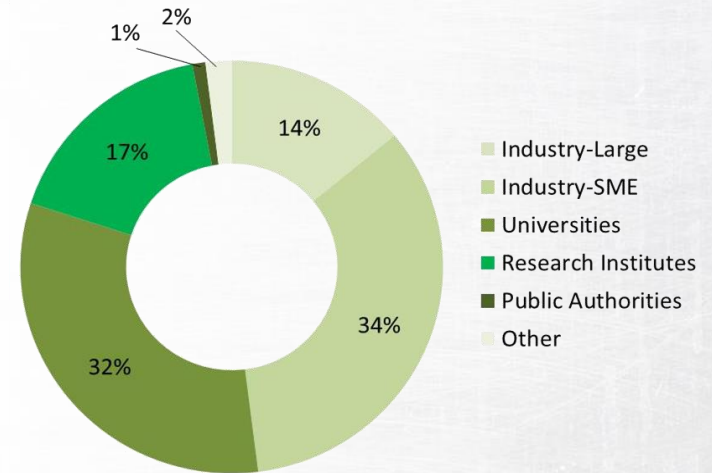
The Challenge: to promote the importance of Software and Services eco-system and innovations for Europe's competitiveness

➤ NESSI has more than 450 members

## Focus Areas

- Big Data
- Cloud Computing
- Cyber Physical Systems
- Everything as a Service

All underpinned by Software Engineering



# The semantic layer of Big Data

- > Adding a semantic layer to Big Data technology
- > Integrating Linked Data and Big Data technology
- > Towards Enterprise Knowledge Graphs and Data Spaces
- > Applications in Manufacturing, Cultural Heritage, Finance

## Prof. Dr. Sören Auer - University of Bonn, Germany

- > Head of the Enterprise Information Systems group
- > Member of the leadership council  
of Fraunhofer-Institute for Intelligent Analysis and Information Systems
- > Coordinator of the '*Big Data Europe*' Coordination and Support Action
- > Member of the Big Data Value Association



# Big Data Software Engineering

- Big data for software engineering
  - Big data for run-time monitoring and adaptation of software systems
  - Big data for software quality assurance and diagnosis
  - Mining user needs, experience and software requirements
- Software engineering for big data
  - Software architectures and languages for big data
  - Quality assurance for big data software
  - Big data engineering methods and frameworks

## Dr Andreas Metzger - University of Duisburg-Essen, Germany

- Head of Adaptive Systems and Future Internet Applications
- Chief technical architect of the European Future Internet PPP project on transport, logistics and agri-food
- Deputy General Secretary of the Big Data Value Association
- Vice Chair of the the Steering Committee of the NESSI ETP



# Moving to Big Data Generation II

- Understanding Application Opportunities using Big Data
- Big Data Lifecycle Processes and Tools
- Systems Engineering and Big Data (the impact of IoT is not only scale of data)
- IEEE Big Data Initiative

## Dr David Belanger - Stevens Institute of Technology, NJ, USA

- Senior Research Fellow, Co-Leader IEEE Big Data Initiative
- Member of the Board of Advisors
  - IEEE Transactions on Big Data
  - IEEE Transactions on Internet of Things



# Infrastructure challenges for Big Data

- > System Architecture Directions
- > Cloud challenges
- > Two case studies:
  - Ingesting the twitter firehose
  - Analyzing mobile phone call data

## Michail Bletsas – Massachusetts Institute of Technology, MA, USA

- > Director of Computing at the MIT Media Lab
- > Head of the Network Computing Systems (NeCSys) group



# Big Data Architectures and Infrastructure

- Challenges:
  - Heterogeneous computing platforms - Specialized analytics tools - Diversified datasets
- Opportunities:
  - Standardize secured architecture, interfaces and data infrastructure
- Joint Research Opportunities between EU-US
  - EU Big Data Value Association - US NSF Big Data Hubs - NIST Big Data Public Working Group - ISO/IEC JTC 1/WG 9 Working Group on Big Data
- Collaboration Focus Areas
  - Standard reference architecture development - Standard interface development - Standard data plumbing infrastructure development

## Wo Chang, National Institute of Standards and Technology, USA

- Digital Data Advisor for the NIST Information Technology Laboratory
- Convener of the ISO/IEC JTC 1/WG9 Working Group on Big Data
- Co-chair of the NIST Big Data Public Working Group



# Consortium



**Coordinator**  
inno TSD, France



Honeywell International INC (HON),  
United States



Technische Universität  
Dortmund (TUDO), Germany



GNKS Consult BV, (GNKS), The Netherlands



THHINK Wireless Technologies  
Limited (THHINK), United Kingdom



Technische Universität Dresden  
(TUD), Germany



Athens Technology Center (ATC),  
Greece



Florida International University, (FIU),  
United States



Agency for the Promotion of the  
European Research (APRE), Italy



Regents of University of Minnesota, (TLI),  
United States



# Contacts

**Chair of Big Data Expert Group:** Nikos Sarris, ATC, Greece



[n.sarris@atc.gr](mailto:n.sarris@atc.gr)



[www.picasso-project.eu](http://www.picasso-project.eu)



@picasso\_ICT



PICASSO – EU/US ICT research, innovation and policy collaboration