



# PICASSO Project

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

**5G, Big Data, Internet of Things and Cyber Physical Systems  
for smart cities, smart transport and smart energy**

## Project Overview

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

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



# PICASSO initiative in brief

- > **Coordination and Support Action**, funded by the European Commission/DG CONNECT
- > **Start:** January 1, 2016 - Duration: 30 months (until June 30, 2018)
- > **Target groups:** ICT RDI Stakeholders and networks | ICT companies / industry | Policy Makers
- > **Target countries:** European Union, United States of America
- > **Mission:** Enhance EU-US ICT research and innovation collaboration responsive to the societal challenges and industry needs, supported by harmonious policies, to enable economic growth in both the EU and US

# PICASSO priorities at the heart of EU orientations

*“On its Strategy to create a Digital Single Market and digitise European industry, the European Commission focuses on accelerate standard setting and related enabling technologies, such as 5G, cloud computing, internet of things, data technologies and cybersecurity.”*



Andrus Ansip , Vice-President EC for Digital Single Market  
Günther Oettinger, Commissioner for Digital Economy and Society

## Unique feature of PICASSO:

### Synergy between ICT policies and ICT technologies

- > reinforce EU-US collaboration in ICT pre-competitive R&I in **key enabling technologies related to societal challenges: 5G Networks, Big Data, Internet of Things, Cyber Physical Systems**
- > support EU-US ICT policy dialogue creating a forum for discussion and contributing to the debate on **privacy, security, interoperability, ethics...** in PICASSO “domains”



# PICASSO: Objectives and Activities

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

- > Analyse industrial drivers, societal needs and barriers to exploitation
- > Promote mutual funding opportunities
- > Develop and promote success stories/ good practices
- > Outline and provide all collaboration opportunities, especially for the industrial sector

## Contribute the EU-US policy dialogue

- > Discuss policy-gaps 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

- > Put forward and promote strategic initiatives for EU-US ICT collaboration
- > Start the implementation of selected strategic and agreed initiatives
- > Explore options and propose and promote topics for EU-US collaboration under joint or coordinated schemes

# Expert Groups

## 3 Technology Groups

*on Strategic ICT Technology areas in relation to Societal Challenges*

**5G Networks**

**Big Data**

**IoT/CPS**

**Synergies between policy and technology groups**

## 1 Horizontal Group

*on ICT Policy*

Policy issues:  
**Privacy and data protection | Cybersecurity | Standards and Interoperability | Ethics ...**

**+25 Experts in total across all groups**

# Objectives of the Expert Groups

- Identify **gaps, (technical and societal) needs, drivers, and opportunities** in ICT research, innovation, and policy
- Analyze the **potential and the challenges for EU-US collaboration**
- **Contribute to the Opportunity Report “Towards Enhanced EU-US ICT Pre-competitive Collaboration”**
- **Propose new avenues for EU-US ICT collaboration and pave the way** to strategic initiatives and actions
- **Support links** between EU and US networks (PPPs, ETPs, H2020 projects, associations) and contribute to PICASSO **outreach**
- **Distribute information on cross-Atlantic funding and collaboration opportunities**



# What's in it for you?

*available!*



Public Project Reports

- > [“Panorama of ICT landscape in EU and US: ICT Policies, regulations, programmes and networks in EU and US”](#)
- > [“Analysis of Industrial Drivers and Societal Needs: towards new avenues in EU-US ICT collaboration”](#), including initial proposals for collaboration opportunities which will be discussed, refined and prioritised by the Expert Groups in the next stages of the project.
- > Opportunity report [“Towards Enhanced EU-US ICT Pre-competitive Collaboration”](#) and Recommendations; focus on 5G, big data, IoT/CPS



- > [“Overview on ICT – related access opportunities in EU and US”](#): guide for European/US academic or industrial researchers or innovators, interested in increasing their knowledge or in expanding their network

# What's in it for you?

*available!*

## Policy Briefs

- [PICASSO Policy Paper 1: Privacy and Data Protection](#) (November 2016)
- [PICASSO Policy Paper 2: ICT Security issues affecting EU/US ICT development collaboration](#) (May 2017)
- **Upcoming:** Policy brief on Standards

## PICASSO Webinars

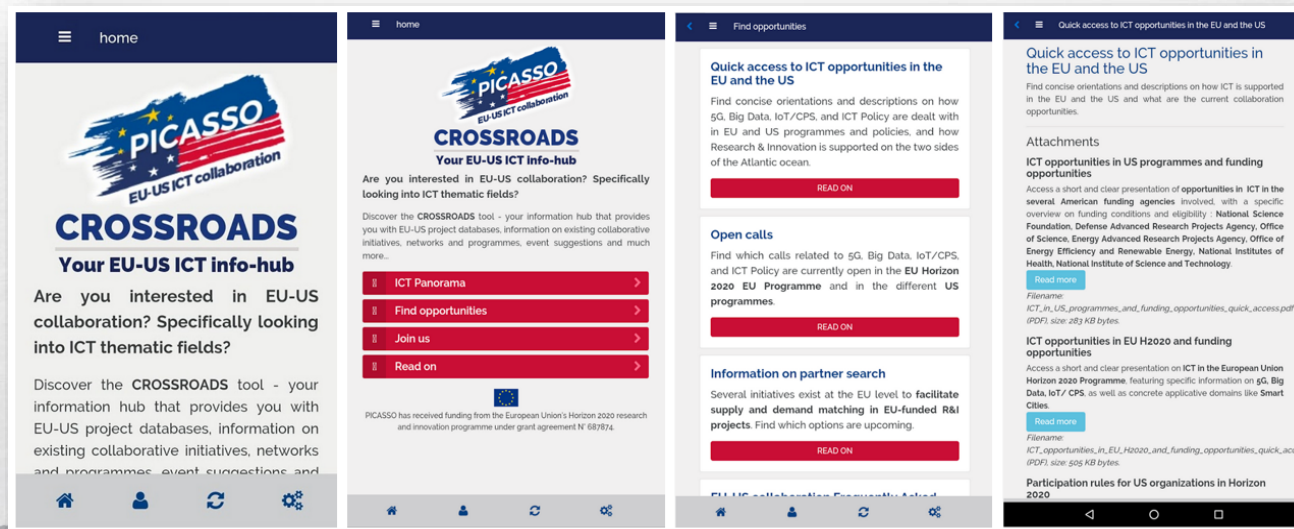
- [EU-US collaboration on 5G funding opportunities in Horizon 2020](#) (Sept 2016)
- [EU-US policy recommendations on Data Protection and Privacy](#) (Oct 2016)
- [“Towards EU-US Collaboration on the Internet of Things & Cyber-Physical Systems”](#) (Feb 2017)
- [“Cybersecurity and its impact on EU-US ICT collaboration”](#) (May 2017)
- **Upcoming** webinar on Policy gaps, and on upcoming funding opportunities



# What's in it for you? *available!*

## CROSSROADS - your EU-US ICT info-hub

- Available as mobile app (Android and iOS) but also as dedicated section on the [project website](#)
- Easy-to-use tool and “one stop entry point” to access information and data on programmes, projects, initiatives, events, reports and much more, to facilitate collaboration activities in the field of ICT between the EU.
- Target: industry stakeholders involved in EU-US collaboration, technical experts/researchers from the public and private sector, industry representatives and policy makers from the EU and the US.



# Technology Expert Group

5G  
NETWORKS

**Chair:** Prof. Gerhard Fettweis, Vodafone Chair, TU Dresden

## Objectives:

- Analyze technological & economic drivers and obstacles to innovations in EU and US;
- Sharpen vision on 5G and identify joint US/EU research items
- Identify economic impact

## Scope:

- Tactile Internet (for non-critical as well as mission-critical applications), mobile broadband (incl. millimeter-wave communications), and ubiquitous IoT- sensor networking;
- Possible areas for the Strategic Roadmap : Application and service attractiveness, Technological and economic capabilities, Network effects, Key enabling technologies (incl. standardisation timeline), open technological challenges

## Expected results:

- Vision paper with emphasis on NEW opportunities for EU-US collaboration in 5G
- Opportunity report with analysis/recommendation of topics for joint EU-US research
- Analysis of economic innovation impact of (joint) research

# Technology Expert Group



BIG  
DATA

**Chair:** Dr Nikos Sarris – Athens Technology Centre

## **Objective:**

- Charting a high level status of the Big Data (BD) sector in Europe, the US and worldwide;
- Charting of the greatest opportunities for collaboration between EU and US;
- Bring together major Big Data associations from both regions
- Identify joint US/EU research topics

## **Possible areas for the Strategic Roadmap:**

- Software Engineering for Big Data and Big Data for Software Engineering
- Infrastructure – Current situation and critical needs to go forward
- Application areas that present the greatest challenges and opportunities
- Big Data from and for Internet of Things
- Research greatest achievements and current promising areas

## **Expected Results:**

- Opportunity report with analysis/recommendation for joint EU-US collaboration
- Connecting research/practitioner networks

Proposal for strategic initiatives



# Technology Expert Group

IoT/CPS

**Chair:** Prof. Sebastian Engell, TU Dortmund, Germany

**Co-chair:** Prof. Tariq Samad, Technological Leadership Institute,  
University of Minnesota, US

## Technological Scope:

- The intersection of IoT and CPS - “closing the loop” in cyber-physical systems from a myriad of sensors to the way the systems are operated and also to the demands of the users
- Improved monitoring, management, efficiency, quality, safety, reliability for socio-technical systems (e.g. electrical grids, transportation, smart cities, production)

## Objectives and Results:

- Comprehensive analyses of (societal) challenges, drivers, RDI priorities, barriers
- Common understanding of EU and US stakeholders of challenges, drivers, priorities
- Technological and strategic proposals for future EU-US collaboration actions on IoT/CPS

## Identified Technology Themes for Collaboration:

- Closing the loop in IoT-enabled CPS
- Model-based systems engineering
- Trust & (cyber-)security
- Integration & interoperability
- Autonomy & humans in the loop
- Situational awareness & prognostics

# Horizontal Expert Group

POLICY

**Chair:** Maarten Botterman – GNKS

**Vice Chair:** Dave Farber, CMU

## **Objective:**

- Identify ICT-related policy gaps in relation to the PICASSO domains
- Bring forward relevant policy recommendations likely to improve EU/US ICT collaboration

## **Scope:**

- Initial domains: Privacy and Data Protection; Security; Standards
- Two further policy areas yet to be determined

## **Expected Results:**

- Five thematic policy papers touching on EU-US collaboration in 5G, big data, IoT/CPS
- Five related webinars
- White paper with recommendations for specific EU-US policy initiatives related to the PICASSO domains

# 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

**Project Coordinator: Svetlana Klessova, inno TSD, France**



[s.klessova@inno-group.com](mailto:s.klessova@inno-group.com)



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



@picasso\_ICT



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

# Disclaimer

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*PICASSO has been financed with support from the European Commission. PICASSO brings together prominent specialists willing to contribute to enhancement of EU-US ICT collaboration. PICASSO does not represent EU or US policy makers, and the views put forward do not necessarily represent the official view of the European Commission or US Government on the subject. PICASSO cannot be held responsible for any use which may be made of information granted*