Road2CPS

Strategic action for future CPS through roadmaps, impact multiplication and constituency building

Introduction to 1st Roadmapping Workshop

Meike Reimann
24/06/2015
Paris
Steinbeis-Europa-Zentrum

- Technology transfer centre within the Steinbeis Network
- Founded in 1990 as the Office of the Commissioner for Europe of the Ministry of Economic Affairs Baden-Württemberg

- In 2014 SEZ was involved in 45 projects with 384 partners from 41 countries
- 54 members of staff: multidisciplined (natural sciences, economic and social sciences, humanities, law, ... multicultural (12 countries)

- Technology transfer
- Strategy development & Innovation management
- Roadmapping
- Clustering activities
- Project management
- Coordination of CPS related Roadmaps Road2SoS, Road4FAME, Road2CPS
- Active in other ICT-1 Projects CPSElads(IA), TAMS4CPS(CSA)

Road2CPS - Strategic action for future CPS through roadmaps, impact multiplication and constituency building
Roadmaps present today

FP7 – CPS related Roadmaps
- CyPhERS
- CPSoS
- Road2SoS
- T-Area-SoS
- COMPASS

ARTEMIS
- ARTEMIS SRA
- ProcessIT

Factories of the Future
- Road4FAME
- sCorPiuS

H2020 – ICT1 – CSAs
- Road2CPS
- TAMS4CPS

Industry view (manufacturing and IoT)
- Industry 4.0
- ATOS Vision

Road2CPS - Strategic action for future CPS through roadmaps, impact multiplication and constituency building
Road2CPS

Strategic action for future CPS through roadmaps, impact multiplication and constituency building
Road2CPS in a nutshell

- **Road2CPS**: Strategic action for future CPS through roadmaps, impact multiplication and constituency building

- Support Action, co-financed by the European Commission, DG Connect ICT 1-2014: **Smart Cyber-Physical Systems**

- 7 Partners from 4 European countries

- Coordinator: Steinbeis-Europa-Zentrum, Germany, Dr. Meike Reimann

- Project duration: February 2015 - January 2017, 24 months

- Total EC contribution: EUR 832,894

- GA No.: 644164

---

**Steinbeis-Europa-Zentrum**

Germany

(Coordinator)

---

**Loughborough University**

United Kingdom

---

**Newcastle University**

United Kingdom

---

**Commissariat à l'énergie atomique et aux énergies alternatives**

France

---

**Fraunhofer Institute for Manufacturing Engineering and Automation**

IPA, Germany

---

**AnySolution S.L.**

Spain

---

**ATOS Spain SA**

Spain
Road2CPS Consortium

- Atos (LI)
- AnySolution (start-up)

Industry perspective

CPS Application

- AnySolution (smart cities)
- CEA (transport & energy)
- Fraunhofer IPA /Steinbeis (smart factories)

R&I CPS concepts

Roadmapping Dissemination/ Tech-Transfer

- Loughborough University
- University of Newcastle
- Fraunhofer IPA
- CEA

- Steinbeis-Europa-Zentrum
- AnySolution
- ATOS

Road2CPS - Strategic action for future CPS through roadmaps, impact multiplication and constituency building
Road2CPS - Aims and Objectives

Road2CPS - Objectives

Impact analysis & Dissemination
- Impact analysis
- Identify & bridge gaps
- Disseminate programme achievements
- Raise awareness of CPS
- Identify business opportunities

Roadmapping & Recommendations
- Develop roadmap for CPS
- Perform case studies
- Give recommendations for future research priorities and implementation strategies

Constituency building & Task forces
- Build a CPS constituency and bring key players together
- Build a bridge between domains, actors along the value chain, industry and academia
- Build task forces and derive an action plan

Road2CPS - Strategic action for future CPS through roadmaps, impact multiplication and constituency building
Road2CPS - Expected Outputs

- CPS research and innovation roadmap
- Recommendations for research priorities and innovation strategies
- Catalogue future business opportunities
- Impact assessment & gap analysis report
- Report on programme achievements & exploitation opportunities
- Community building, task forces and clustering events
Road2CPS – Priority themes

- Ubiquitous autonomy, forecasting
- Modelling, simulation & architectures
- Big data, smart sensors and sensor data fusion
- Human & machine awareness
- Resilience and fault tolerance and
- Safety, security, and privacy
Road2CPS – Task forces

1. CPS business models, regulations and service enablers
2. CPS awareness and education
3. CPS technology and platforms
4. CPS connection – with ICT-1, Artemis/ECSEL, Industrie 4.0

You are invited to join our experts group!
Road2CPS – Upcoming Events

- Roadmapping Workshop in Paris (June 2015)
- Constituency Building Workshop in Lisbon (? October 2015)
- CPS-projects clustering events Brussels (January 2016/2017)
- More Roadmapping and Constituency Building WS 2016

You are invited to join our events!
Roadmapping Workshop Methodology
Road2CPS – Upcoming Events

- Roadmapping Workshop in Paris (June 2015)
- Constituency Building Workshop in Lisbon (? October 2015)
- CPS-projects clustering events Brussels (January 2016/2017)
- More Roadmapping and Constituency Building WS 2016

You are invited to join our events!
AGENDA - morning

9:30 Welcome and Introduction, Meike Reimann, Coordinator Road2CPS, Steinbeis-Europa-Zentrum

9:45 Short Roadmap Presentations I
- ARTEMIS SRA, Ad ten Berg, Artemis-IA
- ATOS Vision, Nuria de Lama, Atos Spain
- CPSoS Roadmap, Christian Sonntag, euTeXoo GmbH
- CYPHERS, Saddek Bensalem, Verimag/UJF

10:45 Coffee Break

11:00 Short Roadmap Presentations II
- Road2SoS/Road2CPS Roadmap, Meike Reimann, Steinbeis-Europa-Zentrum
- T-Area-SoS/TAMS4CPS Roadmap, Murray Sinclair, Loughborough University
- COMPASS Roadmap, Claire Ingram, Newcastle University
- Road4FAME Roadmap, Carsten Rückriegel, Steinbeis-Europa-Zentrum
- sCorPiuS Roadmap, Giacomo Tavola, Politecnico di Milano
- ProcessIT Roadmap, Pär-Erik Martinsson, Lulea University
- Industry 4.0, Daniel Stock, Fraunhofer-IPA

12:00 Coffee Break

12:15 Short Domain Presentations
- Manufacturing Domain, Daniel Stock, Fraunhofer-IPA
- Energy and Transport Domain, David Servat, CEA
- Smart City Domain, Jean-Pierre Euzen, Former EC and Dolores Ordóñez, AnySolution

12:30 Lunch
AGENDA - morning

9:30 Welcome and Introduction

9:45 Short Roadmap Presentations I
- ARTEMIS SRA
- ATOS Vision
- CPSoS Roadmap
- CYPHERS

Coffee Break

11:00 Short Roadmap Presentations II
- Road2SoS/Road2CPS Roadmap
- T-Area-SoS/TAMS4CPS Roadmap
- COMPASS Roadmap
- Road4FAME Roadmap
- sCorPiuS Roadmap
- ProcessIT Roadmap
- Industry 4.0

Coffee Break

12:15 Short Domain Presentations
- Manufacturing Domain
- Energy and Transport Domain
- Smart City Domain

12:30 Lunch

Please stay within your speaking time!
AGENDA afternoon

13:30 Elaboration of Priority Matrix
- elaboration of research, engineering & implementation priorities
- prioritisation of topics, invest
- discussion of matrix

14:30 Elaboration and prioritisation of Barriers and Funding Strategies
- Elaboration and prioritisation of barriers
- Elaboration and link of suitable funding instruments & strategies

15:00 Coffee Break

15:15: Topic Exploration
- group work: in depth exploration of research and engineering priorities
- elaboration of call themes
- presentation of elevator pitch

16:45: Final Discussion, Conclusion & Feedback

17:00: Close
Post-it protocol

Capture the idea in brief, clear description
WRITE CLEARLY

Ranking of topic

Indicate Research Priority

Write your initials (so we can check for clarification or expansion)

Road2CPS - Strategic action for future CPS through roadmaps, impact multiplication and constituency building
Prioritisation of topics

**Voting:**

- Review the matrix
- Select the Topics you believe are very important
- Place your dots on those Topics on the chart
- Do not use more than 1 vote per Topic

**Colour code:**

- yellow - academia
- red – large enterprise
- grün – SME

Add domain perspective (M/E/T/C/H)
<table>
<thead>
<tr>
<th>Topic Description</th>
<th>Team members:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact</td>
<td></td>
</tr>
<tr>
<td>Gaps &amp; Barriers</td>
<td></td>
</tr>
<tr>
<td>Research &amp; Development</td>
<td></td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
</tr>
<tr>
<td>Proposed EC Activity</td>
<td></td>
</tr>
</tbody>
</table>
Thank you!

Road2CPS - Strategic action for future CPS through roadmaps, impact multiplication and constituency building