

**Project no.:** REGIONS-CT-2013-320043-CLINES

**Project full title:** Cluster-based Innovation through Embedded Systems technology

**Project Acronym:** CLINES

**Deliverable no.:** D4.1

**Title of the deliverable:** Regional Interest Group meeting reports

<b>Contractual Date of Delivery to the CEC:</b>	M16
<b>Actual Date of Delivery to the CEC:</b>	M16
<b>Organisation name of lead contractor for this deliverable:</b>	AAU
<b>Author(s):</b>	Peter Axel Nielsen, Arne Skou, Ivan Aaen, Mark de Colvenaer, Geert Adrians, Christian Thiel, Cristina Murillo, Nastaran Matthes
<b>Participants(s):</b>	P01, P02, P03, P05
<b>Work package contributing to the deliverable:</b>	WP4
<b>Nature:</b>	R
<b>Version:</b>	1.0
<b>Total number of pages:</b>	34
<b>Start date of project:</b>	01.09.2013
<b>Duration:</b>	36 months

**Abstract:**

For the participating regions (Bavaria, North Denmark, Flanders, Basque Country), a report from the initial meetings in the clusters' regional interest groups.

**Keyword list:** For the participating regions (Bavaria, North Denmark, Flanders, Basque Country), a report from the initial meetings in the clusters' regional interest groups.

# Table of Contents

<b>1</b>	<b>INTRODUCTION .....</b>	<b>3</b>
<b>2</b>	<b>REPORT FROM BAVARIA.....</b>	<b>4</b>
2.1	MEETING AGENDA.....	4
2.2	PARTICIPANTS OF THE REGIONAL INTEREST GROUP.....	5
2.3	POSTER SHOWROOM.....	6
2.4	TALKS .....	6
2.5	INTRODUCTION OF PARTICIPANTS / PARTICIPANTS STATEMENTS.....	10
2.6	BRIEF PRESENTATION OF THE CLINES PROJECT.....	10
2.7	DISCUSSIONS .....	10
2.8	FOLLOW UPS AND CLOSING REMARKS.....	11
2.9	ANNEXES .....	11
<b>3</b>	<b>REPORT FROM NORTH DENMARK.....</b>	<b>12</b>
3.1	MEETING AGENDA.....	12
3.2	PARTICIPANTS OF THE REGIONAL INTEREST GROUP.....	12
3.3	BRIEF PRESENTATION OF PARTICIPANTS AND THE CLINES PROJECT .....	12
3.4	‘SMART SPECIALISATION’ AND INNOVATION.....	13
3.5	BUSINESS MODELS AND APPLICATION TO REGIONAL CLUSTER.....	14
3.6	CURRENT REGIONAL TRENDS & SWOT ANALYSIS .....	14
3.7	PROJECT GOALS AND ‘JOINT ACTION PLAN’ .....	15
3.8	NEXT STEPS .....	16
<b>4</b>	<b>REPORT FROM FLANDERS.....</b>	<b>17</b>
4.1	FLEMISH RIG APPROACH .....	17
4.2	MEMBERS OF THE FLEMISH REGIONAL INTEREST GROUP .....	17
4.2.1	<i>Agoria – Freddy Vandaele.....</i>	<i>17</i>
4.2.2	<i>Smart Grids Flanders – Heidi Lenaerts .....</i>	<i>18</i>
4.2.3	<i>Energyville – Peter Verboven.....</i>	<i>18</i>
4.2.4	<i>Vito – Guy Vekemans.....</i>	<i>18</i>
4.2.5	<i>V-ICT-OR – Raf Buyle .....</i>	<i>18</i>
4.3	MEETING REPORTS .....	19
4.3.1	<i>Meeting Freddy Vandaele 30/7/14 .....</i>	<i>19</i>
4.3.2	<i>Meeting Heidi Lenaerts 06/08/14 .....</i>	<i>20</i>
4.3.3	<i>Meeting Report Peter Verboven 07/08/2014 .....</i>	<i>21</i>
4.3.4	<i>Meeting Report Raf Buyle 11/08/2014.....</i>	<i>23</i>
4.3.5	<i>Meeting Report Freddy Vandaele 7/10/2014.....</i>	<i>24</i>
<b>5</b>	<b>REPORT FROM BASQUE COUNTRY.....</b>	<b>25</b>
5.1	MEETING AGENDA.....	25
5.2	PARTICIPANTS OF THE REGIONAL INTEREST GROUP.....	25
5.3	BRIEF PRESENTATION OF PARTICIPANTS AND THE CLINES PROJECT .....	25
5.4	‘SMART SPECIALISATION’ IN BASQUE COUNTRY REGION .....	26
5.5	CASE STUDIES AND BUSINESS MODELS.....	27
5.6	CURRENT REGIONAL TRENDS AND THE SWOT ANALYSIS .....	28
5.7	NEXT STEPS .....	28
	<b>ANNEX 1: INVITATION: SMART CITY – INTEREST GROUP BAVARIA .....</b>	<b>30</b>
	<b>ANNEX 2: PHOTOS.....</b>	<b>31</b>
	<b>ANNEX 3: PRODUCT / TOPICS CATALOGUE OF THE PARTICIPANTS IN THE “SMART CITY – INTEREST GROUP BAVARIA” .....</b>	<b>32</b>

# 1 Introduction

In the CLINES project, four European research-driven regional clusters have joined forces to bundle their experience and track record in the CLINES domain of Embedded Systems for Smart Cities:

- BrainsBusiness/CISS, North Denmark
- DSP Valley, Flanders, Belgium
- BICCnet, Bavaria, Germany
- GAIA/Tecnalia: Basque Country, Spain

The clusters are committed to stimulate international co-operation and innovation between their combined members, creating a cross-border ecosystem active in Smart Cities powered by Embedded Technologies.

This deliverable reports from the first meetings in the Regional Interest Groups (RIG) in each of the four clusters. The Regional Interest Groups have the task and responsibility for discussing the Joint Action Plans when they are developed throughout the project. The RIG will provide background, and information, plus policy-making on which the Joint Action Plan can be evaluated. The group's goal is also to commit the relevant and interested stakeholders to the Joint Action Plans – and engage them in the ongoing implementation of these plans.

This deliverable therefore reports from each of the four regional clusters on how the Regional Interest Groups have been set up, what the agenda for the meetings were what was discussed, who participated, and what came out of these meetings.

## 2 Report from Bavaria

This section reports on the activities carried out by BICCnet during the first phase of the project as regards to the building of the regional interest group in Bavaria and its first meeting in November 2014. The BICCnet ecosystem includes strong research groups, more than 2000 companies and Bavarian regional authorities. The main goal of this activity is to inform the cluster ecosystem and key regional stakeholders about the CLINES project and invite them to participate in CLINES activities and pilot R&D projects.

Bringing stakeholders together in a local interest group - on a frequent basis- is very challenging. During the first project's phase we have presented the CLINES project to more than 20 actors in one-to-one physical and web meetings. In the preparation phase we were very successful and could win players in business, research and policy for the Bavarian regional interest group. 27 actors from 20 enterprises and organizations have participated in the kick-off meeting on 25<sup>th</sup> November 2014 in Garching.

This section reports on the activities carried out by BICCnet during the first phase of the project as regards to the building of the regional interest group in Bavaria and its first meeting in November 2014. The BICCnet ecosystem includes strong research groups, more than 2000 companies and Bavarian regional authorities. The main goal of this activity is to inform the cluster ecosystem and key regional stakeholders about the CLINES project and invite them to participate in CLINES activities and pilot R&D projects.

Bringing stakeholders together in a local interest group - on a frequent basis- is very challenging. During the first project's phase we have presented the CLINES project to more than 20 actors in one-to-one physical and web meetings. In the preparation phase we were very successful and could win players in business, research and policy for the Bavarian regional interest group. 27 actors from 20 enterprises and organizations have participated in the kick-off meeting on 25<sup>th</sup> November 2014 in Garching.

### 2.1 Meeting agenda

Meeting held at Technical University Munich, Garching on 25th November 2014, between 2:30 pm to –6:00 pm.

#### Agenda:

2:30 – 6:00 pm Showroom Poster: CLINES results so far

2:30 Welcome and opening remarks, Robert Stabl, BICCnet

2:40 Keynote Talks

1. Citizen 3.0 in a society 3.0; Professor Erich Ortner, TECHNUM
2. Direct marketing of energy through intelligent controlling of wind Farms;  
Dr. Niklas Nohlen, SWM
3. Home-Automation Status Quo; Oliver Gerum, HAGEMEYER Deutschland GmbH & Co. KG

3:30 Introduction of participants / participants statements

4:00 Coffee Break

4:20 CLINES project presentation, Stefan Eller

4:30 Discussions: Topics for the Interest Group Bavaria

The participants identify the issues and guiding topics to address in the Interest group Bavaria. If necessary the participants can build break-out groups based on the different topics

4:50 Follow-ups and closing remarks

5:00 Get together, Visiting Showroom

## **2.2 Participants of the Regional Interest Group**

### **Municipalities**

- Munich City, Dep. of Urban Planning
- Stadtwerke services GmbH, Munich (Munich municipal utilities)
- Munich Transportation Corporation (MVG), Munich

### **Enterprises**

- BMW Group, Munich
- Microsoft Germany GmbH, Munich
- Siemens AG, Munich
- HAGEMeyer Germany GmbH & Co. KG, Munich
- Europoles GmbH & Co. KG, Munich
- Oracle Germany GmbH, Munich
- Giesecke & Devrient GmbH, Munich
- OSRAM, Munich
- ZIM-Netzwerk " Fit for Smart Grid", Munich

### **SMEs**

- Future-Shape GmbH, Höhenkirchen-Siegersbrunn
- Setrix GmbH, Munich
- Cleverciti Systems GmbH, Starnberg
- KONUX GmbH, Garching

### **Research**

- Technical University Munich, I4 - Software & Systems Engineering , Munich
- Fortiss GmbH, Munich
- TECHNUM Steinbeis- Transfer Center, Konstanz
- Ostbayerische Technische Hochschule Regensburg (OTH), Regensburg
- Fraunhofer Institute for Embedded Systems and Communication Technology ESK, Munich

**Cluster**

- Medical Valley EMN e.V., Erlangen

The following members of the Regional Interest Group were not able to attend the kick-off meeting:

**Municipalities:** Regensburg City, Würzburg City

**Enterprises:** Siemens, Dep. of Innovative Mobility Solutions; T-Systems International GmbH, Dep. of Connected Car

**Clusters:** Sensorik Bavaria

**2.3 Poster Showroom**

During the meeting a poster showroom was hosted in the foyer. The posters included the results of Work package 2: Regional Competencies, CLINES and regional SWOT analyse and "Matchmaking Analysis" in Bavaria.

The four regional clusters in the CLINES project and their specializations were presented in two posters. Nastaran Matthes and Christian Thiel were present in the showroom during the event. They presented the results to the visitors and were available for questions.

**2.4 Talks**

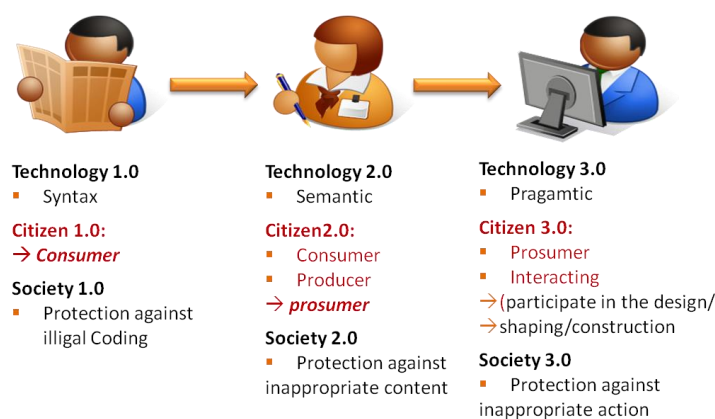
**1. Citizen 3.0 in a society 3.0; Professor Erich Ortner, TECHNUM**

Who talks nowadays about global issues "Smart City" usually puts the technological aspects in the foreground.

But the issues that deal with individuals (e.g. citizens) and communities (for example families, companies engaged or states) are important as well and increasingly becoming more important. Individuals and communities will live in the smart cities and smart city services should improve their life.

The keynote speech "the citizens 3.0 in a society 3.0" emblazed the important role of people and society and their exiting development.

A citizen 3.0 is someone who uses the corresponding platforms and smart city services creatively and interactively and thus is part of a society which could be called democracy 3.0.



*Figure 1. The digital citizen evolution*

## 2. Direct marketing of energy through intelligent controlling of wind farms; Dr. Niklas Nohlen, SWM: Stadtwerke München (Munich municipal utilities)

Dr. Nohlen presents the concept behind the “intelligent controlling of wind farms” and its implementation based on standard software by SWM.

Since 2008 SWM has been pursuing the goal that by 2025 as much green electricity will be produced as is consumed by all of Munich. A large proportion of the electricity demand is already produced from onshore and offshore wind farms.

The SWM undertakes the direct marketing of the energy produced for SWM. In addition, the direct marketing of wind farms is offered as a service. From the perspective of energy trading, it is desirable that the wind farms are adjustable. Munich municipal utility is the first German utility that has provided its wind farms with an intelligent control. All wind farms that are located in Germany are equipped with a remote control. The plants can now be turned down from Munich when prices turn negative. In such a case, the consumer must pay for the cost of the excess energy. Linux-based Raspberry PI and Java technology are the basis for this implementation. Additionally in the control room windows and java technology are in use. The user cockpit is implemented as a GUI that includes control components.

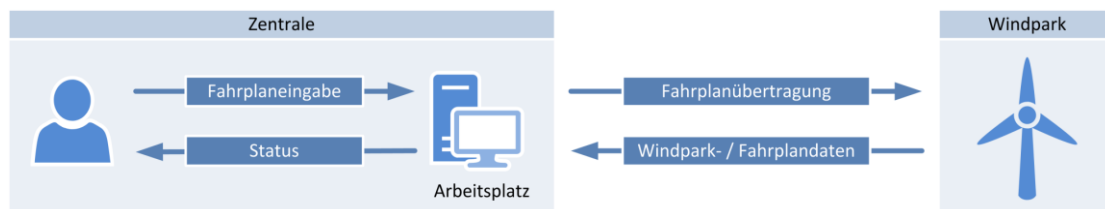


Figure 2. Timetable input and status visualization in the client cockpit

## 3. Home-Automation Status Quo; Oliver Gerum, HAGEMEYER Deutschland GmbH & Co. KG

Oliver Gerum reports about the trends and challenges in the Smart Home market.

Many studies see Home Automation and Home Energy Management as one of the fastest growth sectors in consumer electronics over the next 5 years. The volume of sales with Smart Home products in 2050 will be around 19 billion in Germany.

This is a challenging market, where numerous companies compete and co-operate to produce devices that will help consumers to achieve comfort. Safety, energy saving and demographic changes were initial drivers behind the Smart Home. But newer all-in-one systems give users real-time control over all systems in the house and are tailored to the homeowner’s lifestyle.

Open platforms, mature technology and a variety of solutions and products will continue to be short-term challenges for the Smart Home industry. These challenges are addressed by the German Smart Home Initiative. The initiative is a cross-trade interdisciplinary Federal Association with the main task of networking all participants in the value chain “Smart Home”: research, development, industry, wholesalers, retailers, craft, utilities, housing and social economy, planners and architects.

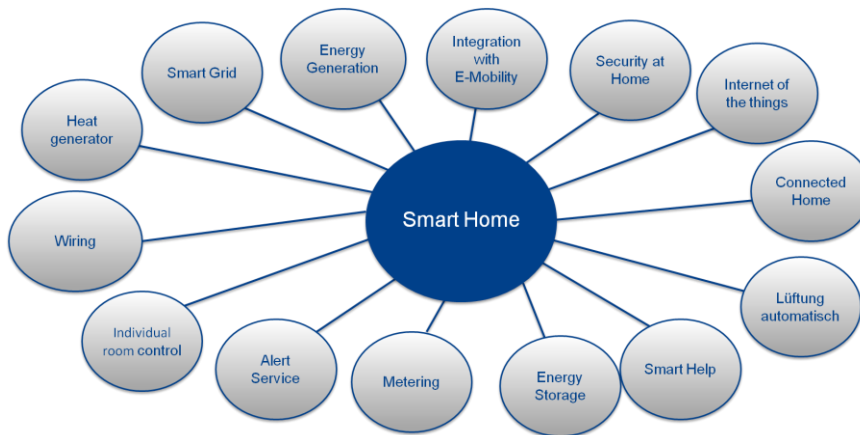


Figure 3. Smart Home Requirements

**4. Citizen 3.0 in a society 3.0; Professor Erich Ortner, TECHNUM**

Who talks nowadays about global issues "Smart City" usually puts the technological aspects in the foreground.

But the issues that deal with individuals (e.g. citizens) and communities (for example families, companies engaged or states) are important as well and increasingly becoming more important. Individuals and communities will live in the smart cities and smart city services should improve their life.

The keynote speech “the citizens 3.0 in a society 3.0” emblazed the important role of people and society and their exiting development.

A citizen 3.0 is someone who uses the corresponding platforms and smart city services creatively and interactively and thus is part of a society which could be called democracy 3.0.

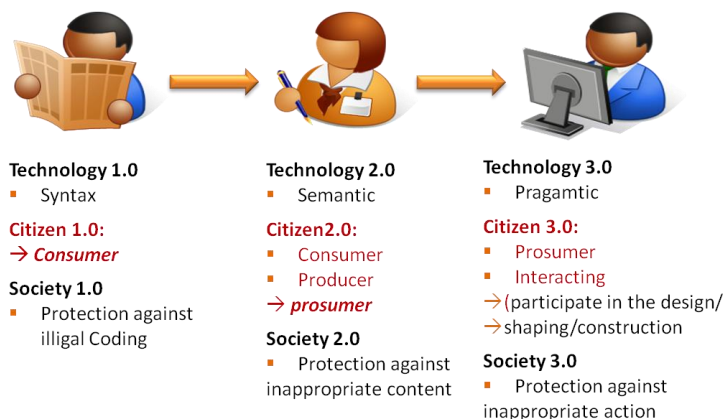


Figure 4. The digital citizen evolution

**5. Direct marketing of energy through intelligent controlling of wind farms; Dr. Niklas Nohlen, SWM: Stadtwerke München (Munich municipal utilities)**

Dr. Nohlen presents the concept behind the “intelligent controlling of wind farms” and its implementation based on standard software by SWM.



Since 2008 SWM has been pursuing the goal that by 2025 as much green electricity will be produced as is consumed by all of Munich. A large proportion of the electricity demand is already produced from onshore and offshore wind farms.

The SWM undertakes the direct marketing of the energy produced for SWM. In addition, the direct marketing of wind farms is offered as a service. From the perspective of energy trading, it is desirable that the wind farms are adjustable. Munich municipal utility is the first German utility that has provided its wind farms with an intelligent control. All wind farms that are located in Germany are equipped with a remote control. The plants can now be turned down from Munich when prices turn negative. In such a case, the consumer must pay for the cost of the excess energy. Linux-based Raspberry PI and Java technology are the basis for this implementation. Additionally in the control room windows and java technology are in use. The user cockpit is implemented as a GUI that includes control components.

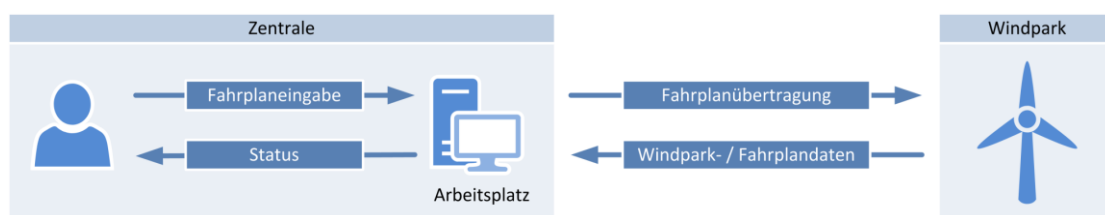


Figure 5. Timetable input and status visualization in the client cockpit

## 6. Home-Automation Status Quo; Oliver Gerum, HAGEMEYER Deutschland GmbH & Co. KG

Oliver Gerum reports about the trends and challenges in the Smart Home market.

Many studies see Home Automation and Home Energy Management as one of the fastest growth sectors in consumer electronics over the next 5 years. The volume of sales with Smart Home products in 2050 will be around 19 billion in Germany.

This is a challenging market, where numerous companies compete and co-operate to produce devices that will help consumers to achieve comfort. Safety, energy saving and demographic changes were initial drivers behind the Smart Home. But newer all-in-one systems give users real-time control over all systems in the house and are tailored to the homeowner's lifestyle.

Open platforms, mature technology and a variety of solutions and products will continue to be short-term challenges for the Smart Home industry. These challenges are addressed by the German Smart Home Initiative. The initiative is a cross-trade interdisciplinary Federal Association with the main task of networking all participants in the value chain "Smart Home": research, development, industry, wholesalers, retailers, craft, utilities, housing and social economy, planners and architects.

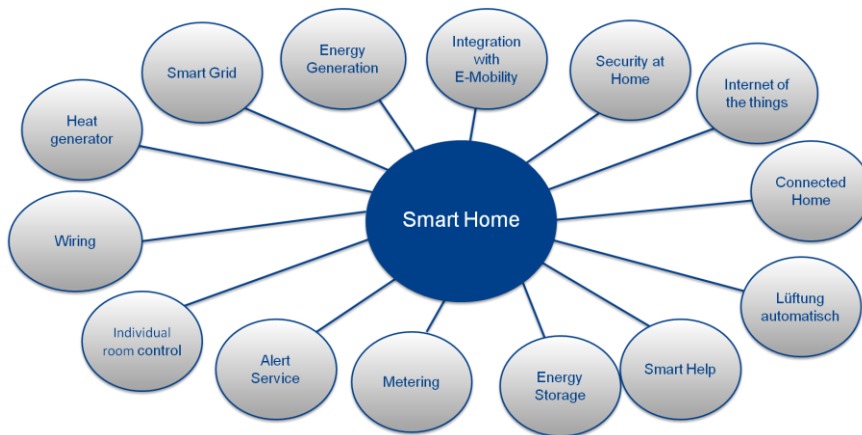


Figure 6. Smart Home Requirements

## 2.5 Introduction of participants / participants statements

The participants had briefly given an introduction into their backgrounds and their experiences and opinions on Smart City topics. All participants are currently involved in projects with strong relation to the smart city topics: smart mobility, smart energy, smart living and smart governance. (See annex 3)

The City of Munich is currently working on the conception of several smart city reference projects and the definition of areas of action in Munich.

## 2.6 Brief presentation of the CLINES project

Stefan Eller, Project Manager at BICCnet, gives a short overview about the CLINES -Project, CLINES-Partners and the project results so far. He invites the participants also to visit the presentation of the CLINES project results as poster in the foyer and on the CLINES web page, [www.clines-project.eu](http://www.clines-project.eu).

With the “Smart City – Interest Group Bavaria”, BICCnet together with the industry, research and politics in order to transform innovative ideas into the new projects. The group will act as a competent platform to develop the innovation potentials in Bavaria.

This project group will define areas of action for new reference projects and bring together individual projects and activities under the same umbrella.

## 2.7 Discussions

All participants agreed that in addition to the great importance of the technological possibilities of ICT, the enthusiasm of citizens for the success of the Smart City movement is especially crucial.

The City of Munich sees the Bavarian regional interest group as opportunity for accessing the CLINES ecosystem and exchanging ideas and providing feedback on needs and progress.

## **2.8** *Follow ups and closing remarks*

The regional interest group Bavaria will meet 2-3 times a year. The next meeting will be in January/February 2015.

We will also form sub-groups, where the participants discuss thematically focused topics.

The group is open to new members. The participants can suggest enterprises, SMEs, research institutes or cities that are involved in smart city topics as new members to BICCnet.

## **2.9** *Annexes*

- 1) Invitation
- 2) Photos
- 3) Product / Topics – Catalogue of the participants in the “ Smart City – Interest Group Bavaria”

## 3 Report from North Denmark

### 3.1 Meeting Agenda

Meeting held at Aalborg University 27<sup>th</sup> August 2014, 9am - noon.

#### Agenda:

- 1 Brief presentation of participants. (Arne Skou)
- 2 Presentation of the CLINES project and its purpose and contents (Arne Skou).
- 3 Presentation and discussion of the key concept of ‘Smart Specialization’ in innovation and examples of innovation activities (Ivan Aaen).
- 4 Business models (Christian Nielsen).
- 5 Current regional trends and the SWOT analysis (Christian Nielsen)
- 6 The CLINES project’s goals and the ‘Joint Action Plan’ (Peter Axel Nielsen)
- 7 Next step – including extension of participants in the regional interest group.

### 3.2 Participants of the Regional Interest Group

- Kim Houlberg, Head of IT and digitalisation, Municipality of Aalborg City.
- Mogens Nielsen, Head of IT and digitalisation, Municipality of Frederikshavn.
- Martin Jørgensen, Head of Business Development, Xtel.
- Thomas Kampmann, senior consultant, Region North Denmark.
- Daniel Lux, CEO, Seluxit.
- Christian Nielsen, professor, Center for Research Excellence in Business Models, Aalborg University.
- Peter Axel Nielsen, professor, software development, Department of Computer Science, Aalborg University.
- Ivan Aaen, associate professor, software innovation, Department of Computer Science, Aalborg University.
- Jens Erik Pedersen, senior consultant, Match-Making, Aalborg University.
- Charlotte Fonseca Holmene, Project & Innovation, Aalborg University.
- Arne Skou, associate professor, Center for Embedded Software Systems, Aalborg University.
- Members of the Regional Interest Group not able to attend the meeting were representatives of the harbours in Aalborg and Hirtshals.

### 3.3 Brief presentation of participants and the CLINES project

All participants presented themselves, their background and what they could bring to the Regional Interest Group.

Arne Skou presented the four regional clusters in the CLINES project and their specialisations:

- Bavaria, BICCnet, specialisation in automotive industries moving in the direction of energy
- North Denmark, Aalborg University/Brains Business, specialisation in embedded systems, data intensive systems, and software innovation
- Flanders, DSP Valley, specialisation in chip design and development

- Basque Country, GAIA/Technalia, competences in embedded systems.

(This was based on [CLINES Deliverable D2.1 Description of Cluster Competencies](#).)

The CLINES project was then presented as a strategic collaboration between these four regional clusters to improve competences and alliances across clusters.

The purpose with the Regional Interest Group was presented and discussed as the broad foundation and anchoring in the regional in private companies, public agencies, and knowledge institutions as the university as well as a forum for sparring, exchange of ideas, and feedback on needs and progress.

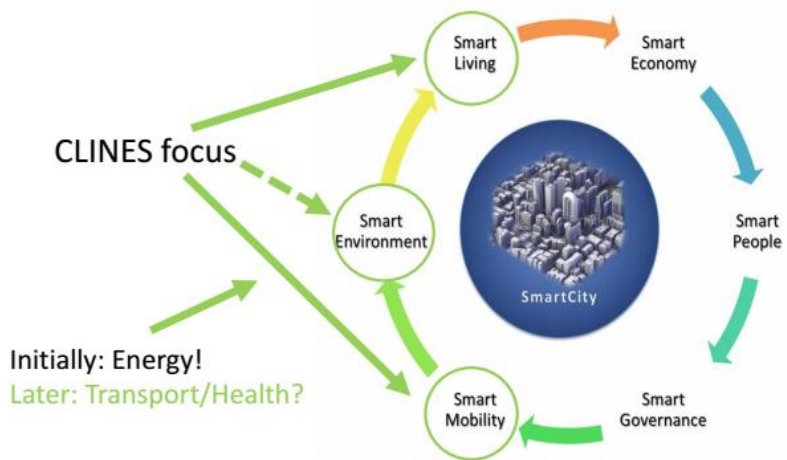


Figure 7. CLINES smart cities focus

### 3.4 ‘Smart Specialisation’ and Innovation

Ivan Aaen presented and facilitated the discussion.

Smart specialisation and innovation covers a broad field centred on the development of regional clusters. A basic idea here is the triple-helix pointing to collaborative efforts to bring public/private sectors and universities/knowledge institutions together for mutual benefit. Based on Godard’s *Universities and Regional Innovation: Building Collaborative Capacities* the purpose is to create evidence-based policies that support ‘smart’ innovation and growth. Its realisation depends on a learning process that incorporates a global perspective and the potential collaboration with other regional clusters.

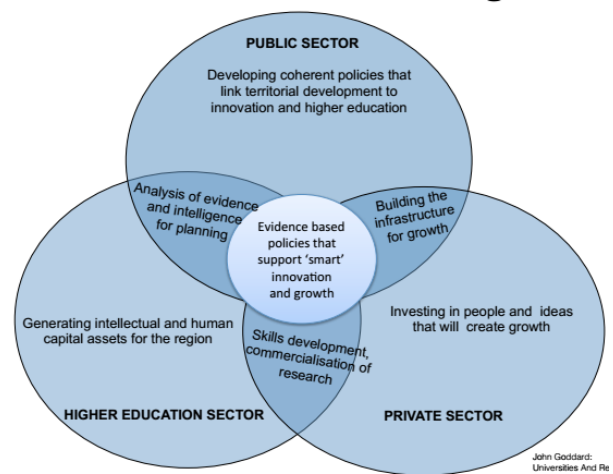


Figure 8. Smart specialisation

Smart specialisation assumes limited resources and is directed at lowering cost and increase income. It is henceforth relevant to ask: Which particular prerequisites do we have in this cluster? How can we do it better to further the smart specialisation in each cluster?

Ivan Aaen then presented and discussed an elaborate example of the quadruple-helix (the triple helix plus citizens) involved in the innovation of smart products for breast cancer patients’ rehabilitation.

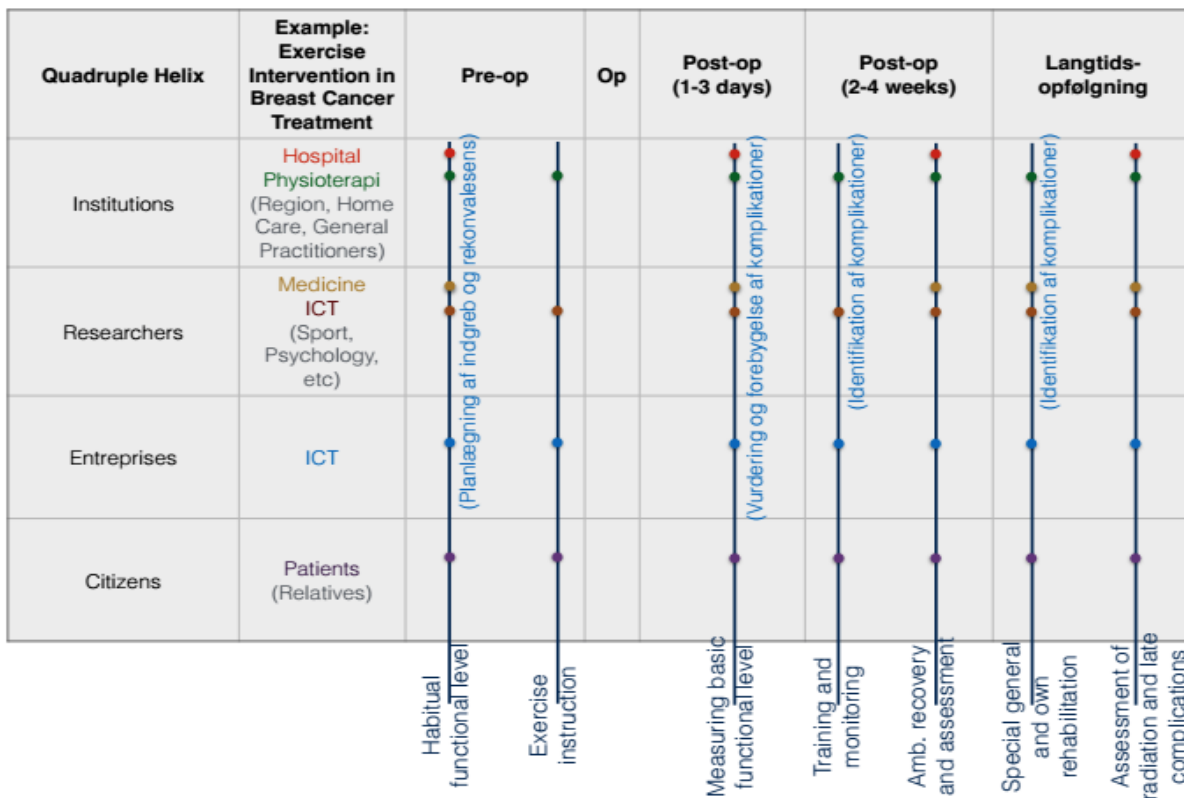


Figure 9. Quadruple helix - example

The main challenge is match-making – to find other capable actors. BrainsBusiness can and should play a particular role in creating the necessary connections.

### 3.5 Business Models and Application to Regional Cluster

Christian Nielsen presented and facilitated the discussion.

Business models are much more than simply explaining profit; and value creation is more than simply cost savings. Value creation comes from relationships and collaborations that in the end create a larger value. Value should be measured in more metrics than monetary metrics, e.g., quality of life. The value-creation is not limited to the product, but it can be embedded in customer relations, or in distribution.

A core element in a business model is the concept for how to run the business, and it is less about the value-chain. Business models requires re-thinking the business, e.g., Apple, Mobile tracking, Google, SkyWatch, Nilles. It is also interesting how a business can be made from selling data in addition to the traditional products. Consider: How can my customers gain added value?

### 3.6 Current Regional Trends & SWOT Analysis

Christian Nielsen presented and facilitated the discussion.

Three focus areas have been selected through the detailed analysis of the four regional clusters:

1. Smart environment (environment, garbage, buildings, ...)
2. Smart mobility (logistics, integrated solutions,...)

3. Smart living (broadly defined, health, interaction between citizens and public agencies, housing, ...)

(This was based on [CLINES Deliverable D2.2](#) Trend Roadmap, Summing up the Projected Development of Core (Converging) Fields, and of Business Needs Identified.)

Business opportunities have been identified and on that background a SWOT analysis has been made possible. The analysis was still in the making, and results on opportunities (O) and threats (T) were presented. (This was in part based on [CLINES Deliverable D2.3](#) *SWOT Analysis of Cluster Competencies in View of the Trend Roadmap*.) There are four opportunities for business:

- Based on indirect taxes
- Selling data
- Direct payment
- Advertisement payment

The purpose is to identify the low hanging fruits in Northern Denmark that companies and public agencies, can benefit from. The Canvas Method is used in this identification and detailing.

### **3.7 Project Goals and ‘Joint Action Plan’**

Peter Axel Nielsen presented and facilitated the discussion.

The CLINES project will develop a Joint Action Plan (JAP) as an overall strategic plan for how the regional clusters should develop and create synergy between them. As part of this there is a need to develop each of the clusters’ JAPs. That work will happen during 2015 February – May. The JAP will contain:

- Based on the analysis of the clusters:
  - Competencies
  - Innovation potentials
  - Internationalisation
  - Public & private funding
- Challenges faced by the cluster: both research and business
- Visions for the cluster:
  - Smart specialisation strategy
  - Business models and collaborative value-creation (network)
- Illustrative demonstrators:
  - Exemplars
  - E.g., breast surgery rehabilitation
- Governance of the strategy

There are already several regional and national initiatives, but the purpose of CLINES is to add and to strengthen the international dimension and through synergies with the other clusters to increase the capabilities.

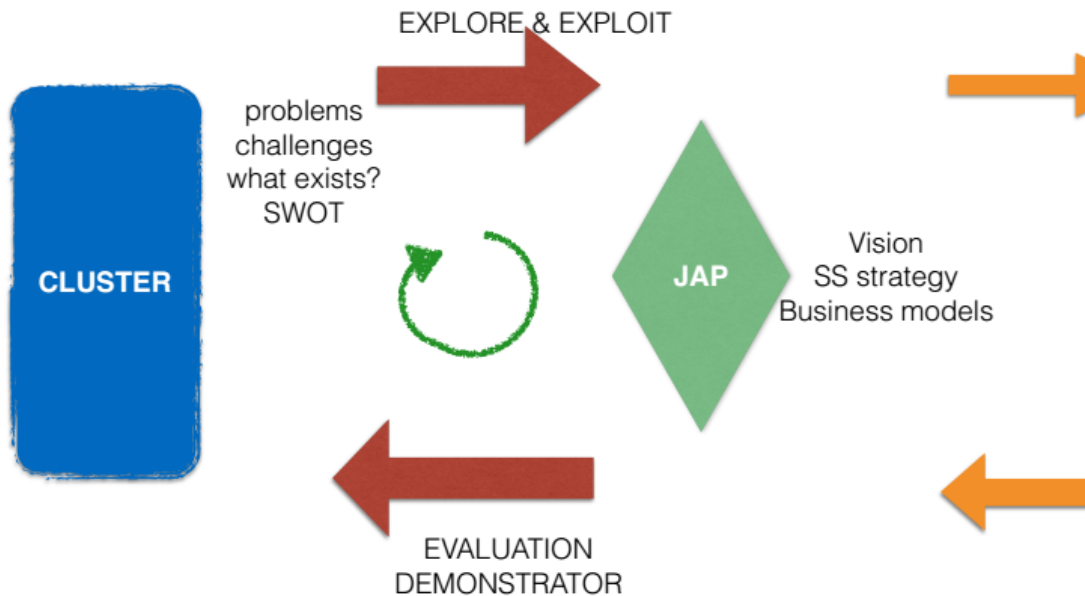


Figure 10. The Joint Action Plan connects the clusters

### 3.8 Next Steps

The discussion centres on how to select useful demonstrators to drive the process forward. Several options are discussed including:

- Aalborg City is already a declared smart city and Aalborg Airport could be a useful demonstrator concerning parking, tourism, accommodation, business and regional interest in attracting more visitors. This could connect to several application domains including: traffic, transport, energy, health; and IT as applied technologies.
- The two municipalities Frederikshavn and Hirtshals are interesting because of maritime businesses. It would be interesting to study transport and how different forms of transport connect and create mutual value.
- Welfare technologies are particularly interesting for the region and the municipalities.

The next meeting in February will focus on the particulars of the regional opportunities and trend-setting companies.



## 4 Report from Flanders

### 4.1 *Flemish RIG Approach*

The Flemish Regional Interest Group serves as a sounding board for CLINES. The RIG consists of Flemish Smart City experts from different domains. The Flemish RIG activities have the following objectives:

- Validation of CLINES deliverables
- Input for CLINES activities and deliverables
- Alignment of key stakeholders

To guarantee an open knowledge exchange, RIG activities are mainly face to face meetings with RIG members. Those expert meetings will continuously be organized throughout the CLINES Project. RIG members are also invited to CLINES activities such as the innovation workshops.

Topics which were/will be discussed with the RIG members are:

- SWOT Analysis
- Joint Action Plan
- Internationalisation Plan

### 4.2 *Members of the Flemish Regional Interest Group*

#### 4.2.1 **Agoria – Freddy Vandaele**

Agoria is the sector federation for the technology industry in Flanders. With more than 1700 member companies Agoria is the largest sector federation in Belgium.

Those members are active in 10 domains (Information and Communication Technology, Building Technology, Contracting, Materials Technology, Subcontracting, Production Technology & Mechatronics, Transport Systems & Solutions, Energy Systems & Solutions, Environment Systems & Solutions and Aeronautics, Space, Security, Defence Technology). Agoria supports the business development activities of its members, nationally and internationally.

Furthermore Agoria advises its member in issues related to innovation, energy, environment, talent and labour marketing, regulatory affairs.

Freddy Vandaele is responsible for the Building Technology group, composed of eight Business Groups: Elevators, Lighting, Home Automation & electrical installation, shop & office furniture & storage, Fire Technologies, Building construction, HVAC. Some 350 companies are active in those eight groups.

He is also Chairman of the Agoria Smart City community, and as such one of the top Belgian experts in the Smart City field. The Smart City community project has as mission to create a coherent ecosystem, to bring all stakeholders together around topics such as mobility, energy, communication, buildings. By doing so Agoria wants to support the realisation of ‘smarter cities’.

#### **4.2.2 Smart Grids Flanders – Heidi Lenaerts**

Smart Grids Flanders (SGF) is the Flemish cluster of companies, research institutions and other stakeholders (e.g. also cities) active in the field of Energy Networks of the future (Smart Grids). It has about 100 members, mostly in Belgium (plus a few in the Netherlands). Its activities include event organization for business & project collaboration between its members and contacts, focus groups (Grid Intelligence, Home Intelligence, eMobility), and a Smart Grid School (specific 3-day training in the domain). Recently, it has also extended its international scope, with participation in European projects and membership of the Global Smart Grid Federation as Belgian representative. SGF is closely linked to the Flemish Enterprise Network VOKA.

Heidi Lenaerts is General Manager for Smart Grids Flanders.

#### **4.2.3 Energyville – Peter Verboven**

EnergyVille unites the Flemish university KU Leuven with the strategic research centres VITO and imec for research on sustainable energy and intelligent energy systems. The researchers deliver expertise to industry and cities on energy efficient buildings and intelligent networks – such as smart grids and advanced heat nets.

EnergyVille strives to become one of the top five European institutes in innovative energy research. For that reason the centre was embedded in big national and international networks from the start. It gathers research, development, training and innovative industrial activities under one name and in close collaboration with local, regional and international partners.

Key contact person for smart cities is Peter Verboven: Innovation developer smart grids and smart systems.

#### **4.2.4 Vito – Guy Vekemans**

VITO is one of the Flemish strategic research centres. VITO provides innovative technological solutions as well as scientifically based advice and support in order to stimulate sustainable development and reinforce the economic and social fabric of Flanders.

Key contact person for smart cities is Guy Vekemans: Strategy Developer Smart Cities.

#### **4.2.5 V-ICT-OR – Raf Buyle**

V-ICT-OR vzw or Flemish ICT Organization is the membership organization for everyone within the local government involved in ICT and information management. V-ICT-OR provides a forum of IT best practices that improves the service of local government. Among the members are mostly IT and GIS managers across Flanders. But other stakeholders, such as secretaries of the municipalities and OCMW's (public social welfare centers), communication managers and municipality recipients, are involved.

V-ICT-OR has established partnerships with organizations in the Netherlands, Sweden, UK, New Zealand, US, and Canada. This global cooperation is structured in LOLA (Linked Organization for Local Authorities)

Key V-ICT-OR activities are related to knowledge sharing, project development and execution, service delivery, networking and cooperation. V-ICT-OR is not only representing the interests of

the local policy officers but is a catalyst for cooperation between (national and regional) government, industry and local government.

Key contact for V-ICT-OR is Raf Buyle: program manager.

## **4.3 Meeting Reports**

### **4.3.1 Meeting Freddy Vandaele 30/7/14**

Attendees:

- Agoria – Freddy Vandaele
- DSP Valley – Geert Adriaens
- DSP Valley – Mark De Colvenaer

Date: July 30, 2014

Topic: Validation Flemish Regional SWOT

Minutes:

- In the current SWOT the viewpoint has to be clarified. At this moment EU/Flemish & City perspective are mixed which can lead to misinterpretation
- How are big organizations such as IMEC looking at Smart Cities? It is interesting to have some regional ‘anchor’ organizations to drive smart city activities.
- Smart City Value Chain perspective: what weak links can be detected? What solutions can be found? This is a valuable exercise for the JAP.
- Very few cities are cooperating with each other to jointly develop smart city projects. Each city develops its own concept and does not reuse results from other cities.
- Start-stop projects: A lot of (pilot) smart city projects have funding for a limited period (e.g. 1 year). Limited budget is allocated to subsequent years. So, projects are not making it to the ‘exploitation mode’.
- Lack of vision in ALL cities, whether large or small. As such Flanders must be seen as one big city. Policy memoranda are the best source to gain insight in the vision of the cities. Ghent is the best performing Smart City in Flanders.
- Flanders is complex: e.g. Brussels is a combination of 19 communes, different levels in decision making (region, province, commune/city). Mobilizing and aligning smart city stakeholders on the different levels takes time.
- It is valuable to put a city in its environmental context. Smart City challenges and solutions cannot be limited to City borders. (e.g. mobility challenges are not limited to city borders, a holistic view is needed)
- The business case for Industry is not that clear in the region. It is amazing that big companies operate from Flanders/Belgium, and have major contracts with cities OUTSIDE Belgium, but not in Belgium/Flanders. As most smart city projects remain in pilot phase and do not make it to implementation phase the basis for sustainable business is not solid.
- The major ‘urban/city’ projects are granted to big multinationals (e.g. ABB, Siemens, IBM, Strabag) as they have the experience and financial basis to run large scale projects. Many big multinationals do contract SME’s for complementary expertise or local implementation

capacity. For local Smart City stakeholders it is of key importance to build solid relationships with those big multinationals.

- Large scale Smart City projects in Flanders focus on mobility, e.g.: multimodal traffic or new metro lines. Mobility is top priority in Flanders.
- Smart Cities require top down as well as bottom up initiatives. Government has to define the framework for smart cities and must facilitate the construction of ‘general purpose infrastructure’. Citizens, entrepreneurs and local policymakers, have to create solutions for local challenges (e.g. sharing of school infrastructure, sharing of ‘enterprise’ parking lot for private use after working hours.)
- A clear and stable legal framework is a key prerequisite for sustainable smart city business models. E.g. where to locate charging stations for electric vehicles? Can somebody build and exploit a charging station in front of his/her house? Quality & technical security framework for innovative solutions?
- Impact of innovative solutions on ‘behaviour’ of citizens must be taken into account: e.g. Analysis shows that use of renewables will lead to more energy consumption (because it is free and there is overcapacity).
- People have sometimes a negative perception about technology: e.g. home automation was perceived as being very expensive ("only for luxury villas"), today solutions are much cheaper. Technology is perceived as being very complex whereas user friendliness is much more taken into account nowadays.
- Market acceptance criteria have to be taken into account. E.g. People are reluctant to have outside people/organization interfering in their private life. Starting or stopping of washing machines by an ‘electricity distributor’ to keep the electricity grid balanced will be perceived as too intrusive. People still want to be in control.

#### **4.3.2 Meeting Heidi Lenaerts 06/08/14**

Attendees:

- Smart Grids Flanders – Heidi Lenaerts
- DSP Valley – Geert Adriaens

Date: August 6, 2014

Topic: Validation Flemish Regional SWOT

Minutes:

The discussion consisted of two parts, a mutual status update of organizations (DSP Valley and Smart Grids Flanders), and a short interview related to the trends and SWOTs as compiled by DSP Valley for CLINES (dimension Smart Environment including Smart Energy).

From the mutual status update, it was interesting to note that the SGF cluster is doing well and expanding its activities, both nationally and (more and more) internationally (with recent representation of Belgium in the Global Smart Grid Federation). As such, it means that the Energy topic is alive in Flanders, and that it finds the support from its members and the local government (who partly finance SGF: Enterprise Flanders, Flanders Investment & Trade).

As to the topics of CLINES, Heidi Lenaerts confirmed that the Smart Mobility dimension is very important, and is also actively pursued by SGF (eMobility). She also pointed at the importance of the "Proeftuin Elektrische Voertuigen" (Testbed Electrical Vehicles), stimulated by the Flemish government. As in the case of Agoria (Freddy Vandaele), she also confirmed that the rollout and the business models (e.g. related to charging stations) are not a simple matter (in general, or for cities).

As to Smart Energy, the smart meter issue is also a "never ending story". The advice of SGF would be to try and start with cheaper variants of these meters than the ones proposed by the incumbent energy network companies (like Eandis and Infrax), and roll those out. Problem remains that the government does not stimulate such a rollout. Technically, there is also a problem of the necessity of precision (related to billing), which makes the integration between different devices that need the same accurate information difficult. Economic models that try to prove the commercial viability and profitability of smart meters are very controversial, with everybody able to prove their point if they tweak the numbers to their advantage. Still, SGF believes in the potential of smart meters to help stabilize the energy networks and make sure energy provision keeps running smoothly. Advice would also be to roll out the smart meters for new houses and total renovations already in any case "to start somewhere".

As to Smart Cities, SGF does not believe in "microgrids", because they see it as an evolution "back in time" to where energy systems were not integrated and chaos reigned. Here again, the legal framework and the interaction between local and global grids will cause unsurmountable problems. On the other hand, systems where cities re-use remaining heat from e.g. industrial activity in their territory to heat the city seem to be promising, although again not always easy to roll out given the different stakeholders (incumbent energy providers, infrastructure providers, city representatives, etc.).

As to the dependency on foreign countries for our energy supply, SGF sees no reason why we could build energy plants in Belgium itself (also creating local employment, spreading risks, and reducing dependency). For solar panels and windmills, SGF also sees the potential of integrating them in a flexible way as buffer capacity, as long as they can get organized as "regular" market players with comparable conditions to the traditional players (see project META-PV).

### **4.3.3 Meeting Report Peter Verboven 07/08/2014**

Attendees:

- Energy Ville – Peter Verboven
- DSP Valley – Mark De Colvenaer

Date: August 7, 2014

Topic: Validation Flemish Regional SWOT

Minutes:

- Smart grids are currently the playing field of TSO's (e.g. elia) and DSO's (eandis, infrax, etc.). It is limited to the big energy infrastructure. Households are not yet relevant for smart grids. It will still take 8-10 years for 'smart grid' applications to enter the household market. Even then the applications will be limited to electrical vehicles and heating pumps.
- Demand response or matching demand and supply of energy is mainly relevant for bigger industrial consumers. Some companies (aggregators) are focusing on matching big

consumers and suppliers: Restore, actility, enernok, powerhouse, energypool, cybergrid (bought by toshiba), kiwipower (UK).

- The flagship project Linear is coming to an end. Some of the first results:
  - Some commercial solutions (e.g. fifthplay) were optimized.
  - Demand response in households is not yet relevant.
  - Infringement of comfort is not negotiable for end consumers. (e.g. Switch on/off household appliances by external party to match supply and demand of energy is not feasible)
  - One of the more successful European trials because demand response was (fully automated) tested on a relevant scale (100 households) and industrial companies were involved (e.g. Miele).
  - Due to the fact that only Flemish partners were involved the EEGI label was not granted.
- Quadratic, the follow-up project for Linear, was not launched due to lack of funding. This project was more smart city oriented and had as objective to look at energy supply and consumption in a more integrated way combining, electricity, heat, ICT and stakeholder involvement on a city district level. Quadratic was supported by relevant stakeholders: Belgacom, fifthplay, City of Antwerp, City of Ghent, Infracore, Eandis, Laborelec, and Vito. Quadratic followed a living lab approach to create bottom-up buy in.
- The quadratic concept is now reused as part of a Horizon 2020 proposal which has objective to set up a transatlantic lighthouse project together with US partners. The US is confronted with frequent 'black outs' due to unreliable infrastructure, weather conditions (e.g. Hurricanes) and a fragmented energy market. In some regions people have their own generators and fuel cells are evaluated as alternative to have a more reliable energy supply. Europe is more structured and can rely on a better infrastructure (meshed and resilient networks, renewables, and energy efficiency). From a business model perspective, the US is more advanced. Both the US and Europe have to upgrade their infrastructure and have to evaluate the most democratic approaches. The idea for this lighthouse project grew out of an existing collaboration between Flanders, the Netherlands and Texas.
- The Flemish Living Lab Electric Vehicles is finishing by the end of next year. Although the project runs according to expectations, no breakthrough results are expected.
- Self-sufficient & autonomous energy supply is important. Micro grids could be an opportunity for the future.
- Smart Energy requires a vision and a mission which is communicated top down to support bottom up implementations. Technical people have to include end users into their projects as they are an important source of innovative and demand-driven ideas.
- The role of clusters: matchmaking, structured communication between stakeholders (events, sig's, etc.), events related to specific opportunities, development of a vision, liaison between companies and policy makers, matching cluster member and smart city requirements, market intelligence. Clusters may not intervene in project development that is the business of the companies themselves.
- Smart city activities cannot be limited to Flanders. The scope must be international as Flanders is too small to develop smart cities on a sustainable scale.

#### 4.3.4 Meeting Report Raf Buyle 11/08/2014

##### Attendees:

- V-ICT-OR – Raf Buyle
- DSP Valley – Mark De Colvenaer

Date: August 11, 2014

Topic: Validation Flemish Regional SWOT

##### Minutes:

- Cities are not smart yet. Smart city initiatives are still in their infancy. Smart City insight and experience is very limited. This is, amongst others, caused by lack of ICT knowledge and time. Small villages only have 1 day ICT support per week. In medium sized cities it can range from 2 – 10 FTE's. The number of people working in the ICT department of cities is strongly related to the economic activity in that city.
- City budgets are limited and the 'freedom' to operate is not improving. Cities have to focus on their core business: service to their citizens. But cities are struggling with their own inefficiencies. They have a large number of products/services to offer and there is no clear approach to rationalize. The room for innovative smart city projects is very limited on city level.
- Scale for smart city initiatives has to be enlarged. This could be done in 2 ways:
  - Location based: bringing 'neighbouring' cities together in a 'structure' which has a large scale and higher potential for successful smart city initiatives. "Intercommunales" (e.g. Leiedal) could be an interesting level for Smart City developments.
  - Content based: clustering stakeholders who are focusing on specific topics (e.g. managers of industrial areas from different cities, managers of city centers, etc.). The idea could be to develop smart clusters rather than smart cities: clusters of people who can cooperate on specific themes regardless of the city where they live/work.
- Smart City Vision has to be developed on all levels (cities, regional, country level).
  - On a city level, one can start with screening the different policy memoranda of the cities and define smart city initiatives supporting the implementation of the policy memoranda. Relevant activities related to vision development could be case development, knowledge sharing, joint projects, and inspiration sessions.
  - On a regional/federal level improvement of cooperation between different administrations is a key priority. Administrations are silos and are not cooperating with each other. Administrations are 'monothematic whereas smart cities require a 'multi' thematic approach. Setting up a management to steer this cooperation could be an interesting scenario, but as a first step government has to do a (smart city) match analysis: are all stakeholders aligned and working towards the same smart city objectives.
  - There is no real 'hierarchical' relationship between local city governments and regional/federal government. No real incentives for regional/federal government to stimulate improvements on local level. Rather a customer/supplier relationship

(e.g. Cities have to give data to regional/federal government for 'policy' evaluation) (note: this proves relevance and reason of existence of ISO smart city standard 37120)

- Conclusion: Not technology but governance is the hurdle for successful smart city projects. Alignment, cooperation, integration, etc. is too limited. "Embedded systems are not the driver for successful smart city projects, embedded governance is."
- The EC has a specific 'standardization' program focusing on 'Interoperability Solutions for European public administrations' (ISA). The first ISA program is coming to an end on 31 December 2015. The new ISA<sup>2</sup> proposal is ready to be adopted by the European parliament. ([http://ec.europa.eu/isa/index\\_en.htm](http://ec.europa.eu/isa/index_en.htm)).

#### 4.3.5 Meeting Report Freddy Vandaele 7/10/2014

Attendees:

- Agoria – Freddy Vandaele
- Belfius Bank -
- DSP Valley – Jan Verlaak

Date: August 11, 2014

Topic: Funding Sources for Smart City projects in Belgium – the EIB – Belfius deal.

Minutes:

There are few financing products for Smart City projects in Belgium. The cooperation between Belfius and the European Investment Bank offers interesting opportunities for cities to fund their smart city projects.

It is argued that technology providers and industry are ready for the Smart Cities transformation in Belgium to face challenges related to ecology, mobility and attractiveness of central cities. However municipalities, cities, as well as contractors are confronted with funding constraints due to limited infrastructure budgets, limited federal and regional financial resources and traditional low solvency of contractors.

The recipe for a solution is to find financing tailored to the project, combining subsidies/grants from government with 'commercial' funding products.

- Potential commercial solutions: a loan, real estate credit, leasing, renting, promotion projects, energy efficiency through 3<sup>rd</sup> payer, public private partnerships.
- Potential subsidies/grants: ERDF, Interreg, H2020

Belfius Bank, together with the EIB, is launching the "Smart Cities and Sustainable Development Programme", designed specifically for the implementation of sustainable and smart projects in the areas of transport and mobility, urban development and energy efficiency. Under this programme, Belfius and the EIB are making a total of EUR 400m available to Belgian local authorities for the financing of these projects in the form of loans on the preferential terms linked to EIB funds. The objective is to minimize borrowing costs for municipalities in order to support their innovative and sustainable approach. The EIB and Belfius will each provide half of the funds. Recently, the



formula has also been opened to companies and associations but above modalities were not discussed.

## 5 Report from Basque Country

### 5.1 Meeting Agenda

Meeting held at GAIA 2<sup>nd</sup> October 2014, 15.30pm - 18:00pm.

#### Agenda:

- 1 Brief presentation of participants. (Cristina Murillo)
- 2 Presentation of the CLINES project and its purpose and contents (Cristina Murillo)
- 3 Presentation and discussion of the key concept of ‘Smart City’
- 4 Smart Specialization in Basque Country Region
- 5 Case- Studies and Business models (All)
- 6 Current regional trends and the SWOT analysis (Cristina Urtiaga)
- 7 Next step – including extension of participants in the regional interest group

### 5.2 Participants of the Regional Interest Group

- Josu Santa Cruz, chief information officer, Municipality of Bilbao City
- Mogens Nielsen, chief information officer, Municipality of Zamudio City
- Roberto García, manager director of Dinycon SME
- Carlos Cifuentes, manager director of Consultoría Lumínica SME
- Xabier García Kortazar, technical director of Hispavista SME
- Itziar Cuenca, Projects Officer of Ibermatica SME
- Aitor Alzaga, Projects Officer of IK4-Tekniker Research Center
- Carlos Iriondo, manager director of Masermic SME
- Jose Manuel Jiménez, manager director of SST SME
- Cristina Urtiaga, communication responsible of GAIA
- Cristina Murillo, Technology responsible of GAIA

### 5.3 Brief presentation of participants and the CLINES project

All participants presented themselves, their background and what they could bring to the Regional Interest Group.

Cristina Murillo presented the four regional clusters in the CLINES project and their specialisations:

- Bavaria, BICC Net, specialisation in automation moving in the direction of energy
- North Denmark, Aalborg University/Brains Business, specialisation in embedded systems, data intensive systems, and software innovation
- Flanders, DSP Valley, specialisation in chip design and development
- Basque Country, GAIA/Tecnalia, competences in embedded systems.

Also presented the smart CLINES focus, basically:

- Smart living (e-health...)
- Smart Environment
- Smart Mobility

The main objective of CLINES is to establish collaborations between these four regional clusters to improve competences and alliances across the clusters.

GAIA has identified many members for the Regional Interest Group but in the first meeting we choose this Regional Interest Group, because all of them are interesting in smart cities solutions, and they have some experiences in this area.

### 5.4 ‘Smart Specialisation’ in Basque Country Region

GAIA presented and facilitated the discussion. It started saying that in the D2.3 SWOT of GAIA report, were identified three relevant areas:

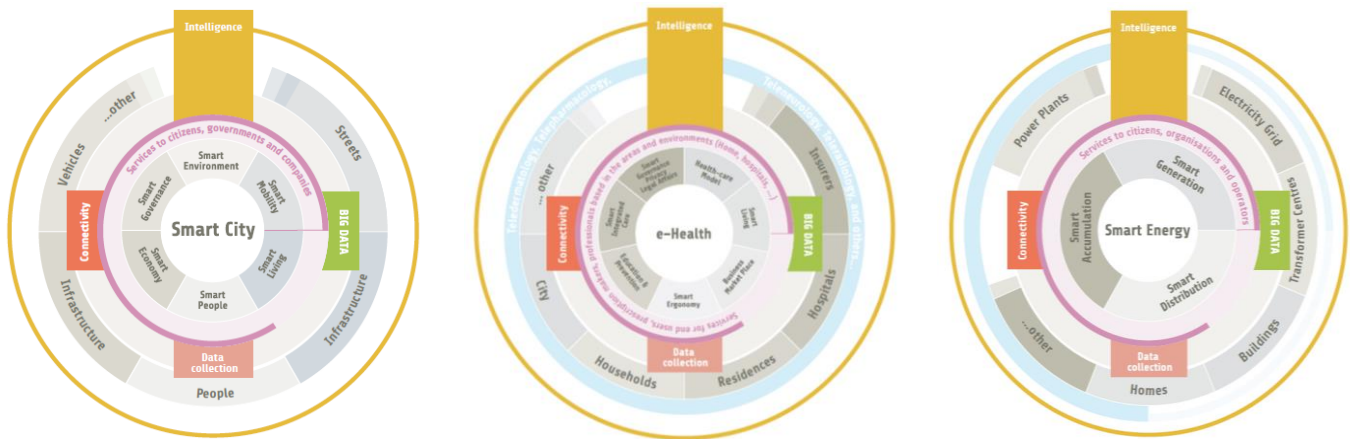


Figure 11. GAIA Smart specialisation

Smart specialisation covers a broad field and a long-term effort for development of a regional cluster. It comes from collaboration efforts to bring public/private sectors and universities/knowledge institutions together for mutual benefit.

GAIA is elaborating and making a reflexion of the public and private relationship involved in an analysis of value and dependencies for provide services to the smart products in Smart Cities area.

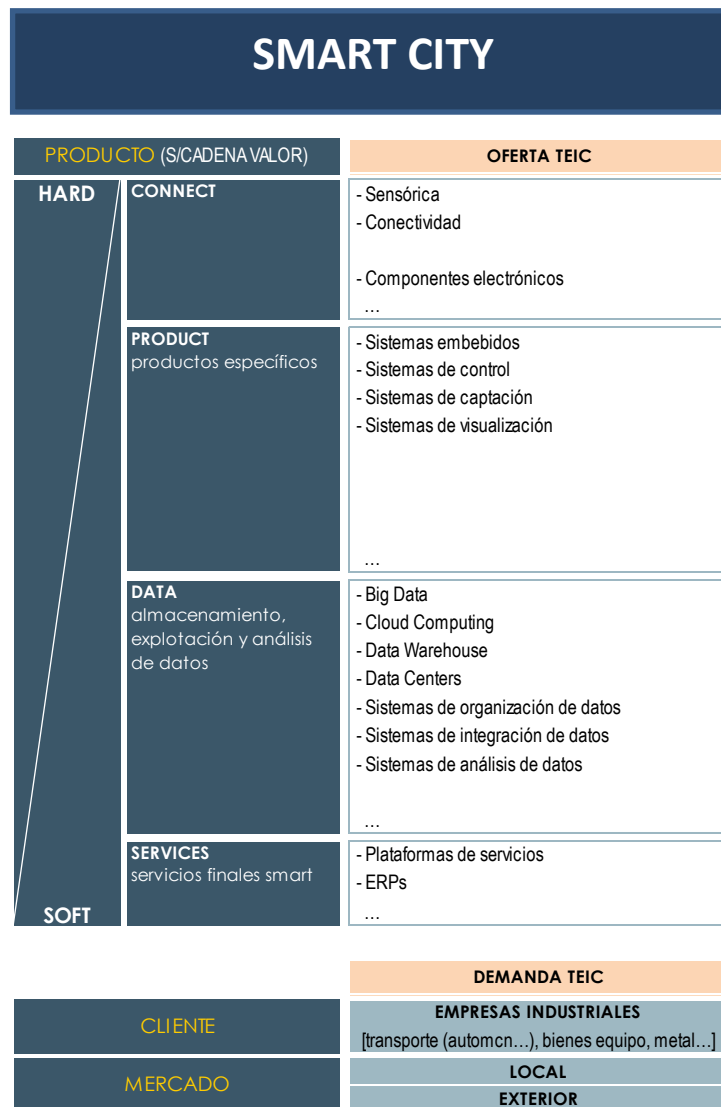


Figure 12. Smart Cities - Product - example

The main challenge is match-making – to find other capable actors. GAIA can and should play a particular role in creating the necessary connections.

### 5.5 Case Studies and Business models

GAIA presented and facilitated the discussion.

Case studies and business models are much more than simply reports and explaining profit; for us the real value comes from relationships and collaborations which in the end create a larger value. Value should be measured in more metrics than monetary metrics, e.g. quality of product or services. The value-creation is not limited to the product, but it can be embedded in customer relations, in distribution, etc.

A core element in a business model is the concept for how to run the business, and it is less about the value-chain. Business models requires re-thinking the business, e.g., how does a product you can provide service?

There are four elements to consider to deliver value to a product for business, as we can see in the figure 6:

- Connect
- Product
- Data
- Services

Now we are identifying in Basque Country which companies, research canters, etc. can offer and can benefit from.

## **5.6 Current Regional Trends and the SWOT analysis**

Three focus areas have been selected through the detailed analysis of the four regional clusters:

- 1) Smart environment (environment, garbage, buildings, etc.)
- 2) Smart mobility (logistics, integrated solutions, etc.)
- 3) Smart living (broadly defined, health, interaction between citizens and public agencies, housing, etc.)

(This was based on [CLINES Deliverable D2.2](#) Trend Roadmap, Summing Up the Projected Development of Core (Converging) Fields, and of Business Needs Identified.)

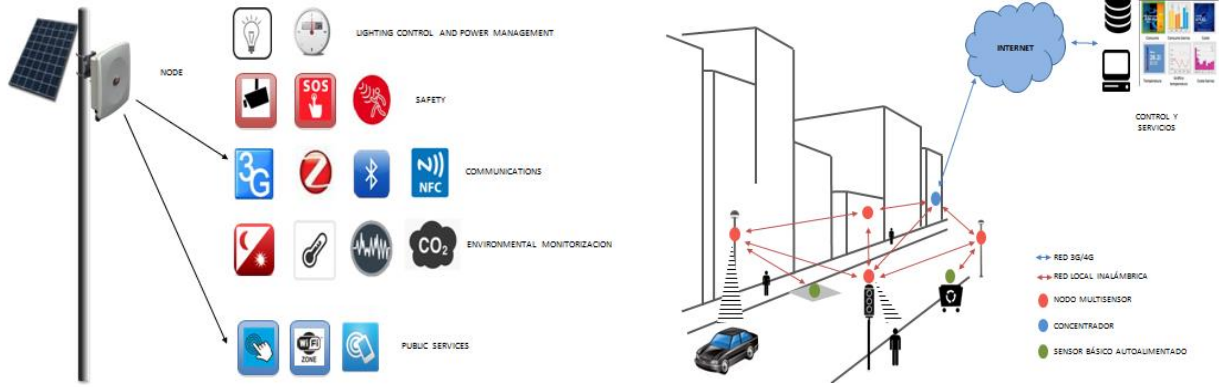
Business opportunities have been identified and on that background a SWOT analysis has been made possible. The analysis was still in the making, and results on opportunities (O) and threats (T) were presented. (This was in part based on [CLINES Deliverable D2.3](#) *SWOT Analysis of Cluster Competencies in View of the Trend Roadmap*.)

## **5.7 Next Steps**

The discussion centres on how to select useful demonstrators to drive the process forward. Several options are discussed including:

- Bilbao City is already a declared smart city and Bilbao could be a useful demonstrator concerning street lighting, rubbish collection, recycling, parking, tourism, public safety, etc. This could connect to several application domains including: streetlights, traffic, transport, energy, and IT as applied technologies.
- It is the same in Zamudio City.
- The two municipalities Bilbao and Zamudio have shown us their interest. It would be interesting to study street lighting and how different sensors we can connect to the streetlights and create mutual value.

We are defining working scenarios, as we can see in the image.



The next meeting in February will focus on the particulars of the regional opportunities and trend-setting companies.

# Annex 1: Invitation: Smart City – Interest Group Bavaria



25. November 2014 | 14:30 Uhr

## „Smart City – Interest Group Bavaria“ vernetzt die Akteure für Städte der Zukunft

Ort: Boltzmannstraße 3, 85748 Garching,  
Fakultät für Informatik der TU München, Raum 00.09.038

In den letzten Jahren hat das Konzept der „Smart Cities“ auf fast allen Kontinenten Fuß gefasst. Smarte Technologien bieten bereits innovative Lösungen für aktuelle und zukünftige Herausforderungen von Städten. Eine der Herausforderungen für die Umsetzung dieser Lösungen in einer Stadt ist die Komplexität der städtischen Wertschöpfungskette: wie eine Stadt finanziert, verwaltet, geplant und geregelt wird. Neben dem hohen Stellenwert der technologischen Möglichkeiten von Informations- und Kommunikationstechnologien ist die Zusammenarbeit und ein fortlaufendes Engagement zwischen verschiedenen Akteuren aus Stadt und Stadtentwicklung, aus der Forschung und aus der Industrie und Wirtschaft ausschlaggebend für erfolgreiche Smart City Projekte.

Deshalb bringen wir Akteure aus Kommunen, Wirtschaft und Wissenschaft in der Arbeitsgruppe „Smart City – Interest Group Bavaria“ zusammen.

Ziel ist der Aufbau eines regionalen Smart City Netzwerks. In diesem Netzwerk werden wir gemeinsam innovative Konzepte und Umsetzungsstrategien für Leuchtturmprojekte (in Bayern) entwickeln.

Diese Veranstaltung findet im Rahmen des EU-Projekts CLINES statt.

EU-Projekt CLINES: Die vier Regionen Nord-Jütland (DK), Flandern (BE), Baskenland (ES) und Bayern (DE) haben sich im EU-Projekt CLINES zusammengeschlossen, um ihre Firmen und Forschungseinrichtungen zu vernetzen und dann herausragende Lösungen für Smart Cities anzubieten. Weiterführende Informationen über CLINES finden Sie auf der Projektwebsite: [www.clines-project.eu](http://www.clines-project.eu)



### Agenda

14:30 Uhr

Begrüßung

Robert Stabl, Geschäftsführer, BICCnet

14:40 Uhr

Impulsvorträge

• „Bürger 3.0 in einer Gesellschaft 3.0“

Prof. Erich Ortner, TECHNUM

• „Direktvermarktung durch intelligente

Windparksteuerung“

Dr. Niklas Nohlen, SWM

• „Smart Home“

Oliver Gerum, HAGEMEYER

Deutschland GmbH & Co. KG

15:30 Uhr

Vorstellungsrunde/Teilnehmer-  
Statements

16:00 Uhr

Kaffeepause

16:20 Uhr

Das EU-Projekt CLINES:  
Projektvorstellung

16:30 Uhr

Diskussionsrunde:  
Diskussion der Schwerpunkte für die  
Interest Group, Vereinbarung von  
Folgeaktivitäten

17:00 Uhr

Get-together

### Anmeldung

Wir bitten um eine verbindliche Anmeldung per E-Mail an:

[clines@bicc-net.de](mailto:clines@bicc-net.de).

Ihre Teilnahme an der Veranstaltung ist kostenfrei.

## Annex 2: Photos



### Annex 3: Product / Topics catalogue of the participants in the “Smart City – Interest Group Bavaria”

Actor	Smart Governance Products /Topics
Giesecke & Devrient GmbH	Authentication; Authentication as a service
MVG	Understanding for urban functions
Stadt München	Access to Open Data; e/Open-Government; Online participation;
Microsoft	E-Government; E-Participation; Document Management; Floating file; E- Record; Citizen participation, Citizen forum
TU München, I4 - Software & Systems Engineering	Open Government; Data quality and best practices
TECHNUM	E-Democracy; Democracy Resource Planning Software; Society 3.0

Actor	Smart Mobility Products/Topics
Giesecke & Devrient GmbH	Payment & Ticketing
MVG	Multimodal mobile services; Public transport; E- Mobility products concepts & Services; Multimodal Mobility Management: Customer-focused, community-based concepts and services
Stadt München	Accessibility of transport; Shared systems; Distributed mobility support
Microsoft	Tablets; Apps; Tourism; Networking of branch offices
TU München, I4 - Software & Systems Engineering	Data uncertainty in open context, Management and characterization, processing for different application domains ( e.g. prediction of queries in car2x communications; Prediction of electric cars energy charge demand, Prediction of household energy demand)
TECHNUM	Technology 3.0
fortiss GmbH	Optimization of the vehicle fleet in multimodal environment
BMW	Standardized service integration; Mobility services marketplace; Location-based analytics plus security and privacy; Integration with public transport/infrastructure
Fraunhofer ESK	Intelligent, Networked vehicles; New mobility concepts; Safe, reliable and resource-efficient embedded systems; Adaptive systems and communication technology



Oracle Deutschland	Traffic optimization / Jam reduction; Improve the parking situation; Increase revenue; Integration Public-Private Transportation
Europoles GmbH & Co. KG	Provide street lighting network with additional functions; Charging stations E-mobility; Integration of sensors, metering, Data collection, WLAN; traffic control
Siemens AG	Integrated mobility services (platform); traffic management
Cleverciti Systems GmbH	Smart parking, Reducing search traffic and reducing CO2 emissions in cities, Smart parking management; Sensors to display free and used on-street parking spaces in the cities; Sensors to optimize the parking situation at rest stops

<b>Actor</b>	<b>Smart Environment Products / Topics</b>
Giesecke & Devrient GmbH	Security of critical infrastructures
MVG	In connection with mobility: mobility and energy (E-mobility); Mobility and energy consulting
Stadt München	Energy efficiency in the neighbourhood; Shared energy; Renewable non-fossil energy sources
Microsoft	Energy efficiency; Azure; 99% availability; Networking and collaboration
TECHNUM	Interactive applications
fortiss GmbH	Smart Grid; Virtual Power Plant EIT ICT SES smart prosumer experience; Stabilize (Smart Grid)
BMW	Interconnection with infrastructure - modules / buildings etc.; Energy Management (keyword e-mobility)
Fraunhofer ESK	Networking of industrial plants; Smart Grid
Europoles GmbH & Co. KG	Solar poles without grid connection optionally combined with windmill
OSRAM	Efficient Lighting; Resilient Lighting
SWM	Virtual Power Plant; Smart metering; Intelligent management of wind farms
TU München, I4 - Software & Systems Engineering	Smart Energy; Smart grid reference architectures; ICT Architectures for Smart Energy; Germany-wide view of the entire system; E-Energy
ZIM-Netzwerk "Fit for Smart Grid"	Smart Nano Grid; Inter-building energy optimization (Smart Microgrid); Virtual Power Plants ; Energy storage

<b>Actor</b>	<b>Smart Living Products / Topics</b>
Giesecke & Devrient GmbH	Life cycle of intelligent things; Data protection, privacy and usability
MVG	In the context of mobility: Sharing offerings for renters, business owners; mobility stations in the neighbourhood
Stadt München	Automation without paternalism the user
Microsoft	Apps; Tablets; networking; Virtual storage
TECHNUM	Citizen 3.0
fortiss GmbH	Living lab fortiss
OSRAM	Smart Lighting; Human Centric Lighting; Information transmission via Light; Wellbeing with Light
TU München, I4 - Software & Systems Engineering	Role modelling and assessment of the objectives of the various stakeholder for smart house block. Heat / electricity control in smart home; Project House in Ulm / Blaustein with PV, heat pump, pellet heating, heating element, weather forecast, battery storage
Future-Shape GmbH	Safety and comfort solutions with sensor floor in private building environment; Presence detection; Analysis of situations; E-health applications; Improve the care and prevention of falls / analysis; Energy saving functions by presence detection
HAGEMEYER	Smart Home, Intelligent Living Strategy; Smart Home in Building; Portfolio design; marketing strategy
Medical Valley EMN	Health care in general, specifically medical and health care, Wearable Technologies, intelligent sensors