European Commission

Information Society and Media Directorate – General

ECWS and PR Documentation

SmartCoDe

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Author:	Peter Neumann
Lead Beneficiary No.:	1
Lead Beneficiary:	ECN

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1 Introduction

The SmartCoDe delivery D-5.3.1 is the **execution** of the first SmartCoDe Expert Cooperation Workshop of 2010. A report of all workshops of all press releases and workshops is only due at **M36** with D-5.3.3.

Since this would mean that results could not be verified by the European Commission before the end of the project and the EC could not give feedback on the execution of press releases and workshops, the coordinator decided to already provide reports summarizing press releases and workshops at the end of each project year.

2 Press Releases

2.1 SmartCode Kick-Off (February 2010)

The full press release is provided below:

Published: Thu, 2010/02/25

Found at: Pressebox

Contact Person: Neumann, Peter

EU Project SmartCoDe to Develop Local Energy Management Infrastructure with Minimal Consumer Cost Project Supports European Union's "20% Renewable Energy by 2020" Objective

Hannover, Germany - February 22nd 2010 - edacentrum GmbH, today announced the launch of the European Union (EU)-funded Project SmartCoDe. The project's objective is to enable the intelligent management of local energy grids that consist of renewable energy sources such as wind turbines and photovoltaics; energy consuming systems such as lighting, heating, ventilation, and air conditioning (HVAC), appliances such as refrigerators, ovens, and even the battery charger of an electrically-powered vehicle. The project aims to develop the fine-grained communications infrastructure, control and monitoring devices, and associated software, required to meet a consumer price point of less than three Euros per managed device - a level at which surveys indicate consumer willingness to adopt the technology en masse. Successful fulfilment of the project's goals would lend considerable support to the EU's objective of deriving 20 percent of its energy from renewable resources by the year 2020.

SmartCoDe could significantly cut standby energy consumption by up to 10 percent, while residential demand side management could reduce energy consumption by up to 16 percent. This compares very favourably with the 10 percent to 30 percent savings achieved by today's energy management approaches, which are cost-effective only in single, high-consumption commercial sites.

Prof. Dr. Christoph Grimm, SmartCoDe scientific coordinator at the Technical University of Vienna, said "The outcome of this 'think globally, act locally' project will reduce overall energy intensity and simultaneously enable residences and small commercial premises to profit from an open European electricity market. Moreover, it would further consolidate Europe's position in information and communication technologies".

On the demand side, SmartCoDe aims to schedule the use of energy or to switch energy using products (EuP) into standby, where customer requirements permit. A SmartCoDe system would thus enable individual consumers to participate in the energy market as an intelligently-managed "sub-grid".

On the supply side, SmartCoDe's smart energy management is intended to mitigate or even eliminate local energy grids' unpredictability of supply - an unpredictability that mandates the continued use of the main grid to guarantee supply, especially during peak periods. A significant increase in the predictability of supply would allow local energy grids to participate in the energy market as both consumers and reliable energy suppliers.

Peter Neumann, SmartCoDe overall project coordinator at edacentrum, said "Current energy management approaches are designed for big producers and big consumers. With an energy management cost of hundreds of Euros per managed device, these approaches are out of the question for residential and small commercial needs. The SmartCoDe project aims to reduce the cost of management to a tiny fraction of what it is today".

In addition to the consumer cost factor, SmartCoDe's energy management device is intended to meet three other criteria critical to the successful deployment of advanced energy management techniques in consumer environments, namely:

- A small form factor that integrates readily into as many types of household appliance as possible.
- A wireless communications infrastructure that enables communication and co-ordination between all energy sources, allowing sources to "announce" their availability.
- High-grade data security akin to that of "SmartCard" technology.

SmartCoDe is a 7th Framework Program (FP7) project funded by the European Commission. Its primary mission is to balance and reduce the energy consumption of small buildings and neighbourhoods and pave the way to energy-neutral / energy-positive local grids. The project, which commenced in January 2010, is a three-year Specific Targeted Research Project (STReP) funded under the programme "ICT-2009", in the area "ICT support to energy-positive buildings and neighbourhoods". It includes eight partners from five European countries, with the following responsibilities:

- Ardaco, a.s., Slovakia: Secure data transmission, secure communication
- edacentrum GmbH, Germany: Project coordination, dissemination of results, web portal
- ennovatis GmbH, Germany: Energy management systems
- Infineon Technologies Austria AG: System integration, system-on-chip (SoC), system-in-package (SiP)
- Quiet Revolution Ltd., U.K.: Small-scale energy generation (wind turbines), energy forecasting
- Tridonic Atco GmbH & Co KG, Austria: Lighting and building automation
- University of Novi Sad, Serbia: Energy management software

Vienna Technical University, Austria: Modeling and design of wireless sensor networks

The team's deliverables - which should be complete by the end of 2012 - include:

- Advanced power management methodology
- Abstract models of a local energy cluster, EuP, and decentralised wind turbine
- Executable specification and architectural models of the energy management device (SoC/SiP)
- SmartCoDe demonstration

Energy (wind) generation forecasting methodology

For more information, please see http://www.fp7-smartcode.eu/

About edacentrum

edacentrum is an institution dedicated to promote electronic design automation (EDA) research and development funded by the BMBF (Federal Ministry of Education and Research). It initiates, evaluates and supervises industry-driven R&D projects and offers a comprehensive spectrum of services on all matters concerning EDA, particularly project management of R&D projects. By encouraging EDA cluster research projects and EDA networks, it cross-leverages and reinforces the EDA expertise of universities and research institutes.

edacentrum provides a communication platform for the EDA community; it seeks to inform upper management, the public and the political arena about the central importance of design automation for solving complex system and semiconductor problems, especially those associated with nanoelectronics.

Download:

https://www.fp7-smartcode.eu/system/files/_SmartCoDe/press_page/edacentrum_SmartCode_PR_en.pdf

2.2 SmartCode Interview on Pressetext (February 2010)

SmartCoDe Coordinator Peter Neumann has given an interview to the Austrian Web Portal Pressetext. Since the interview has been given in German, it is not displayed here. The full text however can be references either at:

https://www.fp7-smartcode.eu/system/files/_SmartCoDe/press_page/pressetext_SmartCoDe_pr.pdf

or at the Pressetext portal:

http://www.pressetext.de/news/100224004/intelligentes-energiemanagement-fuer-haushalte/

2.3 SmartCoDe Interview on SCDsource (March 2010)

SmartCoDe has been interviewed by Bill Murray, Editor-in-Chief, Tech Source Media, Inc., and has been published at SCDsource.

Note: SCDsource at that time had a registered user base of 82.000 subscribers from 85 countries (mostly technical, management ~20%). Later the year the web portal IP was sold and as a result the portal was taken offline. The press release can still be found at:

https://www.fp7-smartcode.eu/system/files/_SmartCoDe/press_page/SmartCoDe_SCDsource.pdf

The full interview is provided below:

News Analysis

Consortium to develop smart local grid management SoC/SiP and infrastructure concept

By Bill Murray

03/08/10

The energy saving benefits of the smart power supply grid are well documented. But what about the savings potential of smart *local* energy grids? How much energy can you save by managing and balancing local energy generation with local consumption? And how do you do it? The SmartCoDe project aims to use electronic system level (ESL) design and verification techniques to devise a system-on-chip (SoC) or system-in-package (SiP) design together with an operating infrastructure concept, which enables energy monitoring and control at the home appliance level – and at a price that consumers can afford. We ask the experts how. They are Professor Christoph Grimm

(upper photo), chair of embedded systems at the Vienna University of Technology, and co-chair of the Open SystemC Initiative's analog/mixed-signal working group, and Peter Neumann, project manager at edacentrum.

SCDsource: First of all, what is a local energy grid?

Grimm: It is a grid of renewable energy supplies, energy storage systems, and consumers, both in a building and its environment. On the supply side, a building can obtain its power from both the main power grid and local wind turbines or photovoltaics. The energy is consumed by a very wide variety of appliances, such as lighting; heating, ventilation, air conditioning (HVAC); as well as kitchen, bathroom, and entertainment appliances. It can also be consumed by energy storage units such as electric car batteries.

SCDsource: What's the problem that you want to solve?

Grimm: A major issue is that renewable energy supplies are unpredictable. With renewable energy contributing an increasing percentage of the total energy supply, it will become a challenge to keep the power grid both stable and cost-efficient. Smart energy management in buildings and their environments can mitigate this problem. However, using existing technology, the requisite infrastructure is expensive – existing "big iron" systems can achieve these savings cost-effectively only in single, high-consumption commercial sites.

SCDsource: So, how does SmartCoDe intend to solve this problem?

Neumann: It requires highly granular monitoring and control of both energy sources and consumer appliances to enable consumers to schedule energy use in a conservative and cost-effective manner. Cost is the key. Existing management systems run into hundreds of dollars per managed device, so only big energy producers and consumers can cost-justify them. Surveys show that home and office consumers would be willing to adopt the technology if the cost per managed devices falls below about $4.50. So, that's our goal.

SCDsource: And what are the potential energy savings?

Neumann: Smart management of this "neighborhood" grid could cut standby energy consumption by up to 10 percent, while residential demand side management could reduce it by up to 16 percent.

SCDsource: What will a SmartCoDe system look like and what will it do?

Grimm: SmartCoDe will be a small, inexpensive, integrated device that will be embedded in all kinds of appliances. It will have all of the features needed for energy management: power measurement, wireless communication, autonomous power supply for ultra-low standby, and the ability to control the appliance via, for example, a simple serial interface.

Energy management itself will be performed by a central energy management unit that monitors the power grid, local renewable energy sources and storage systems. The unit will be able to monitor the power grid via the power frequency, or over the internet. This would enable grid operators to apply dynamic pricing policies based upon the availability of grid power. So, the energy management unit would use the SmartCoDe infrastructure to help consumers to schedule their power consumption, enabling them to reap the rewards of conservative energy use.

For the public grid, SmartCoDe could at least partially solve the problem of renewable sources' unpredictability of supply. Right now, we still need the public grid to guarantee supply. But if we could increase renewables' predictability – especially around the usual peak periods – it would allow local energy grids to participate in the energy market as both predictable energy consumers and reliable energy suppliers. We might even end up with energy-positive grids – a long-time dream of conservationists. Indeed, a region-wide array of local energy grids might even – one day – be a credible back up in the event of main power grid failure.

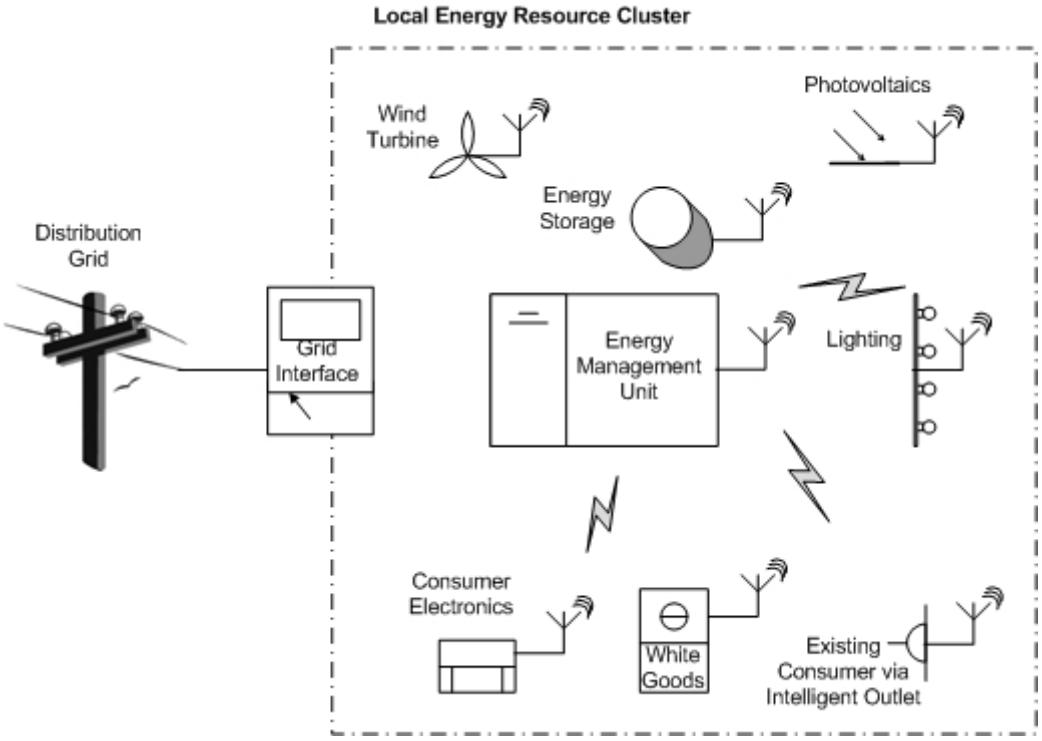


Figure 1: A smart building grid consists of renewable energy sources, storage systems, and consuming appliances

SCDsource: Could someone hack this network and turn my heater off?

Neumann: The system will have robust defenses against malicious attacks and intrusion. Data and command integrity and authenticity are top priority, followed by confidentiality and sophisticated access control. Consumers will accept nothing less.

SCDsource: So, what is the team going to deliver?

Grimm: We want to enable the development of both commercial products and an effective infrastructure. So, we will investigate and evaluate different architectures, and assess their relative technical and economic feasibility. The planned deliverables include:

- A toolkit for modeling and analyzing smart energy grids at various levels of abstraction, written in SystemC, a C++ class library. This includes functional models of a local energy grid consisting of energy-consuming units and a decentralized wind turbine.
- An executable specification and high-level architectural models of an integrated circuit. These will be open source to ensure device interoperability. Implementation is a matter for the device suppliers – it could be a system-on-chip or a system-in-package (SoC/SiP).
- A wind energy forecasting methodology

For validation and verification, we will integrate prototypes in a "living lab."

SCDsource: That's a wide range of expertise. Who's supplying it?

Neumann: There are eight partners in five countries. Ardaco works on secure data transmission and secure communication; ennovatis works on energy management systems; Infineon works on system integration and SoC/SiP; Quiet Revolution works on small-scale energy generation (wind turbines) energy forecasting; Tridonic works on lighting and building automation; the University of Novi Sad develops the energy management software; and Vienna Technical University is modeling and designing the wireless sensor network.

SCDsource: Could you expand on the kind of wireless technologies that are under consideration?

Grimm: We first studied power-line communication. However, wireless communication is much more dependable and less expensive. We will build upon the Zigbee physical and MAC layers as a foundation. However, we'll probably define our own profiles to meet the design goals, especially those concerning costs and information security / privacy.

SCDsource: Could you expand on the kind of sensors that will be used?

Grimm: That has yet to be determined. We are investigating and discussing different means, most notably to measure power consumption.

SCDsource: Who owns the resulting deliverables?

Neumann: The executable spec and high-level architecture of a SmartCoDe node will be public. The project's architectural implementation will remain confidential, but anyone in the public domain can verify their own architectural implementation against the executable spec. The project partner company that generates any particular IP owns it, but will supply it to other project partners under agreed conditions.

SCDsource: When will we see some tangible results?

Neumann: We will build the demonstrator - the Living Lab - at the ennovatis Vienna location in 2011/2012. The demonstrator will include prototype SmartCoDe nodes - probably as a PCB implementation - integrated in household appliances. In the second half of 2012, feedback from the demonstrator will be incorporated into the models, specs, and prototype to establish a stable architecture by the end of the project in 2013.

SCDsource: Many existing home appliances still have a long life expectancy. Can they be retrofitted?

Neumann: Yes. The consumer simply buys a new outlet equipped with the SmartCoDe device. The consumer can set the "identity" of the new outlet – for example, as a fridge – allowing the central management unit to recognize and manage it.

SCDsource: How do you expect deployment to occur: Market forces? Government subsidy? Government edict?

Neumann: It has to be market forces. At this stage, we cannot bet on government action. Maybe, as climate change policies become more solid, energy management systems might well become obligatory at some point. We're promoting market forces from the supply side by involving "associated partners" – partners not directly involved in the project – who will leverage our work to supply the infrastructure and the SmartCoDe device.

SCDsource: Who is funding this development?

Neumann: The European Union. It's an integral part of the EU's "20 by 2020" objective – 20 percent renewable energy by the year 2020.

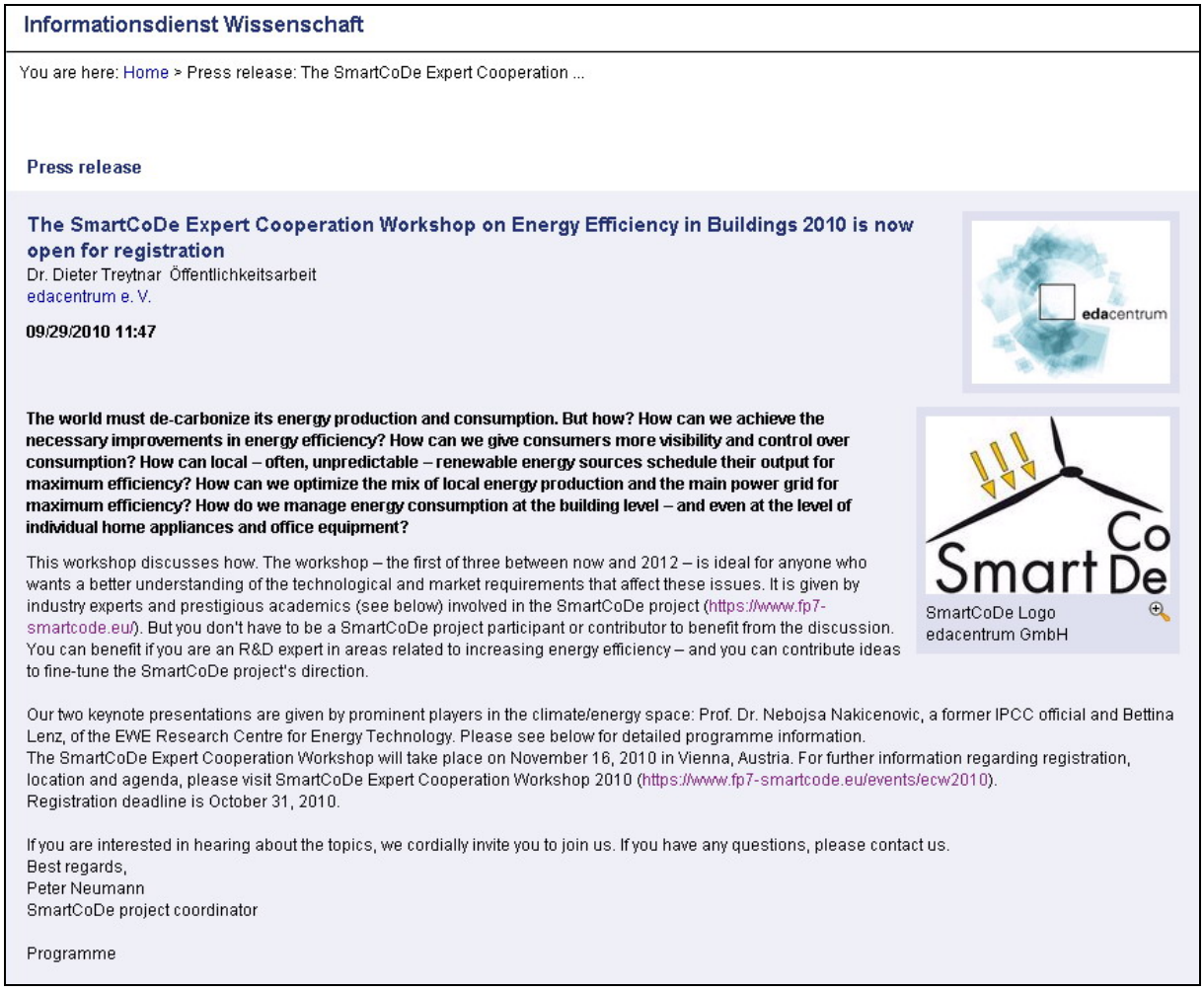
2.4 SmartCoDe Workshop Announcement (September 2010)

In addition to a global mass mailing to industry and academia experts (ECN ~5.000 recipients plus TUV, ENO mailing lists), the SmartCoDe Expert Cooperation Workshop has been announced on the following portals:

- Informationsdienst Wissenschaft (http://idw-online.de/pages/en/news388771)
- OpenPR (http://www.openpr.com/news/146241.html)
- Pressetext.de (http://www.pressebox.de/pressemeldungen/edacentrum-ev/boxid/376580))

- InnovationsReport.de (http://www.innovations-report.de/html/berichte/seminare_workshops/smartcode_expert_cooperation_workshop_energy_162573.html)

An example of the press releases is provided in figure 2.4. It also includes the full program which has been left out in figure 2.4.


Informationsdienst Wissenschaft

You are here: Home > Press release: The SmartCoDe Expert Cooperation ...

Press release

The SmartCoDe Expert Cooperation Workshop on Energy Efficiency in Buildings 2010 is now open for registration

Dr. Dieter Treytnar Öffentlichkeitsarbeit
edacentrum e. V.

09/29/2010 11:47

The world must de-carbonize its energy production and consumption. But how? How can we achieve the necessary improvements in energy efficiency? How can we give consumers more visibility and control over consumption? How can local – often, unpredictable – renewable energy sources schedule their output for maximum efficiency? How can we optimize the mix of local energy production and the main power grid for maximum efficiency? How do we manage energy consumption at the building level – and even at the level of individual home appliances and office equipment?

This workshop discusses how. The workshop – the first of three between now and 2012 – is ideal for anyone who wants a better understanding of the technological and market requirements that affect these issues. It is given by industry experts and prestigious academics (see below) involved in the SmartCoDe project (https://www.fp7-smartcode.eu/). But you don't have to be a SmartCoDe project participant or contributor to benefit from the discussion. You can benefit if you are an R&D expert in areas related to increasing energy efficiency – and you can contribute ideas to fine-tune the SmartCoDe project's direction.

SmartCoDe Logo
edacentrum GmbH

Our two keynote presentations are given by prominent players in the climate/energy space: Prof. Dr. Nebojsa Nakicenovic, a former IPCC official and Bettina Lenz, of the EWE Research Centre for Energy Technology. Please see below for detailed programme information.
The SmartCoDe Expert Cooperation Workshop will take place on November 16, 2010 in Vienna, Austria. For further information regarding registration, location and agenda, please visit SmartCoDe Expert Cooperation Workshop 2010 (https://www.fp7-smartcode.eu/events/ecw2010).
Registration deadline is October 31, 2010.

If you are interested in hearing about the topics, we cordially invite you to join us. If you have any questions, please contact us.
Best regards,
Peter Neumann
SmartCoDe project coordinator

Programme

Figure 2.4: SmartCoDe ECWS Press Release at Informationsdienst Wissenschaft

2.5 SmartCoDe Workshop Press Release (December 2010)

A review of the first SmartCoDe Expert Cooperation Workshop has been releases on Dec 9, 2010. This press release was also used to announce the availability of a free publically pdf online version of the workshop proceedings. The press release is available at:

- Informationsdienst Wissenschaft

  http://idw-online.de/pages/en/news401091

- OpenPress

  http://www.openpr.com/news/154783

- EETiems online

  http://www.eetimes.de/en/eu-project-smartcode-focuses-on-smart-local-energy-grids.html?cmp_id=7&news_id=222905018&vID=209

An example of the press releases is provided in figure 2.5.

Vienna (Austria)/Hannover (Germany), December 9th, 2010 – Bridging the gap between thinking globally and acting locally was one of the key points of the First SmartCoDe Expert Cooperation Workshop held in Vienna (Austria) on November 16th, 2010, organized by the institution edacentrum e.V.. The goal of the European Union (EU)-funded Project SmartCoDe is reducing the overall energy intensity while enabling residences and small commercial premises to profit from an open European electricity market. One of the conclusions of this workshop was that in order to meet the actual challenges on developing affordable smart local energy grids, investing in R&D for clean energy technologies is vital.

SmartCoDe Logo
edacentrum GmbH

On the way to the EU's objective of deriving 20 % of its energy from renewable resources by 2020, the first SmartCoDe-workshop showed that the world must de-carbonize its energy production and consumption. However, the last two centuries of unprecedented development in the world have improved the human condition enormously and at the same time this has resulted in continuous increase of green house gas emissions also reaching other limits of planetary boundaries: Fundamental, game-changing transformations are needed for a shift toward more sustainable development paths.

Prof. Dr. Nebojsa Nakicenovic, International Institute for Applied Systems Analysis of the Vienna Technical University

In his keynote Prof. Dr. Nebojsa Nakicenovic, from the Vienna University of Technology and the International Institute for Applied Systems Analysis of the Vienna Technical University, pointed out that energy systems technologies need to mesh with emerging innovations in energy networks and end use in direction of smart integration: "The emerging new energy systems require two complementary co-evolutions – one is technological and the other institutional. With new technologies and systems, new business models and institutional arrangements will emerge. All of these complementary and co-evolving transformations will require market, regulatory and behavioral changes." The transformational change toward more sustainable futures requires enhanced research, development and deployment (public and private) efforts as well as early investments to achieve accelerated diffusion and adoption of advanced energy technologies and systems: "The longer we wait to introduce these advanced technologies, the higher the required costs and emissions reduction will be as well as the 'lock-in' into the old structures", he concludes.

The SmartCoDe project aims to use electronic system level (ESL) design and verification techniques to devise a System-on-Chip (SoC) or System-in-Package (SiP) design together with an operating infrastructure concept that enables energy monitoring and control at the home appliance level – at a price that consumers can afford.

"A major issue is that renewable energy supplies are unpredictable. With renewable energy contributing an increasing percentage of the total energy supply, it will become a challenge to keep the power grid both stable and cost-efficient", explains Peter Neumann, SmartCoDe overall project coordinator at edacentrum. "Smart energy management in buildings and their environments can mitigate this problem." The SmartCoDe project is looking at the smart integration of local energy neighbourhoods and the grid, including local energy production (LEP) by small-scale distributed energy generation technologies such as wind or photovoltaic.

The workshop – the first of three between now and 2012 – presented not only on-going research in the area of energy forecasting but also actual issues like the hard- and software requirements to implement an automated energy management system. Also a general overview about the security in smart energy grids and security architecture of SmartCoDe network were provided. Since trust is fundamental to attract customers, the reasons for most known incidents were explained and analyzed. This led to a detailed examination of repeated vulnerabilities caused by software flaws, hardware weaknesses and inherited problems like hardware limitations. The summary demonstrated how these experiences affected the architecture of the SmartCoDe network.

Finally, the concept of a 'local energy resource cluster' was presented which consists of the following energy resources (consumers and producers):
- Locally available renewable energies, especially small-scale wind turbines and/or building-integrated photovoltaics.
- Locally available energy storages such as car batteries (plug-in hybrids, electric vehicles).
- Energy using products such as HVAC, electric lighting, consumer electronics, white goods, etc.

Round about 40 attendees took the opportunity to deepen their knowledge together with the experts from the eight SmartCoDe-partners coming from five European countries: Ardaco works on secure data transmission and secure communication. Ennovatis is specialized on energy management systems while Infineon is focussing on system integration and SoC/SiP. Quiet Revolution works on small-scale energy generation like wind turbines and energy forecasting. Tridonic is targeting lighting and building automation. Finally, the University of Novi Sad develops the energy management software while the Vienna Technical University is modeling and designing the wireless sensor network.

The conference proceedings are available free of charge for download at: https://www.fp7-smartcode.eu/events/ecw2010. If a paperback is required, a service charge of 40,-€ is due for payment.

Figure 2.5: Post SmartCoDe ECWS Press Release at Informationsdienst Wissenschaft

3 Workshop

3.1 ECWS 2010

The SmartCode Expert Cooperation Workshop 2010, the first of three workshops throughout the life-time of the project, has been held in Vienna on Nov. 16, 2010.

One of the main goals of the workshops is to connect the project's research to the adjacent research communities. This first workshop therefore had two keynotes and one invited talk from the areas of *Climate Change*, *Energy Storage*, and *Energy Concepts for Large Buildings*. The full program can be seen in figure 3.1.

Agenda

Start	Duration		Titel	Speaker	
8:30	1:00		Registration / Coffee		
9:30	0:10	edacentrum GmbH	Welcome	P. Neumann / Dr. C. Hansen	
9:40	0:45	Vienna University of Technology	**Global Energy Perspectives and the Role of New Technologies**	**Prof. Dr. N. Nakicenovic**	Keynote
10:25	0:30	Quiet Revolution Ltd.	**Energy Forecasting for Distributed Generation in Local Energy Neighbourhoods**	Dr. T. Bertényi	Project Paper
10:55	0:30		Coffee		
11:25	0:30	Austrian Institute of Technology	**Building Simulation and Control**	**Dr. G. Zucker**	Invited Paper
11:55	0:30	ennovatis GmbH	**Smart Energy Management**	**Prof. Dr. F. Schmidt**	Project Paper
12:25	1:20		Lunch / Coffee		
13:45	0:45	Next Energy	**Electric Energy Storage in Smart Buildings**	**Dr.-Ing. B. Lenz**	Keynote
14:30	0:30	Ardaco, s.a.	**Security Considerations for SmartCoDe Network**	J. Hájek	Project Paper
15:00	0:30		Coffee		
15:30	0:30	Vienna University of Technology	**An Architecture for Energy Management in Smart Appliances**	Prof. Dr. C. Grimm	Project Paper
16:00	0:30	Infineon Technologies Austria AG	SmartCoDe - On the Way to a Miniaturised Wireless Sensor Node for Monitoring and Control of Appliances	T. Herndl	Project Paper
16:30	0:10	Closing Words		Dr. C. Hansen	
16:40	0:00	End			

Figure 3.1: ECWS 2010 Agenda

The Agenda can also be accessed via:

https://www.fp7-smartcode.eu/events/ecw2010. Abstracts of the talks are directly linked to the titles as well as biographies of some of the speakers.

Rating of the workshop by the 39 registered participants has been extremely positive. An analysis of the participant feedback form is provided in the next chapter. The full workshop proceeding is provided as an additional pdf appendix due to the size of the document.

3.2 Analysis of Participant Satisfaction / Workshop Quality

All participants of the SmartCoDe Expert Cooperation Workshop have been asked to fill out a participant survey. Over 70% of the participants took part in the survey.

The analysis below is grouped into:

- Invited Speaker Performance
- Project Speaker Performance
- Overall Workshop Performance

3.2.1 Invited Speaker Performance

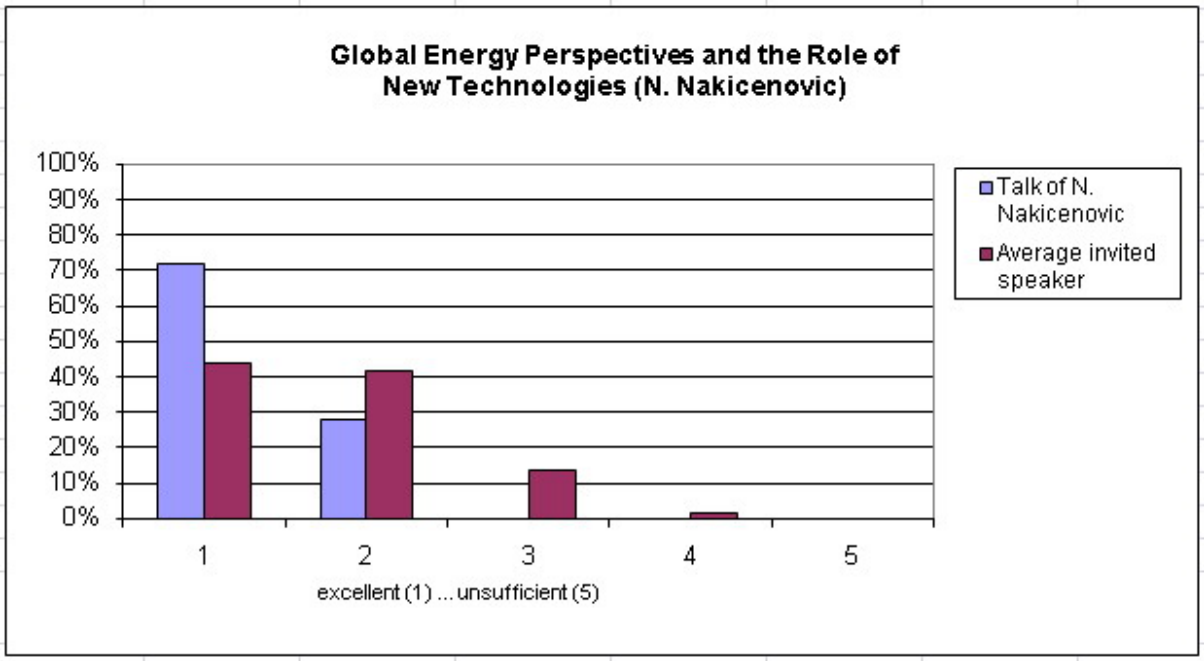


Figure 3.2.1.1: Prof. Dr. N. Nakicenovic

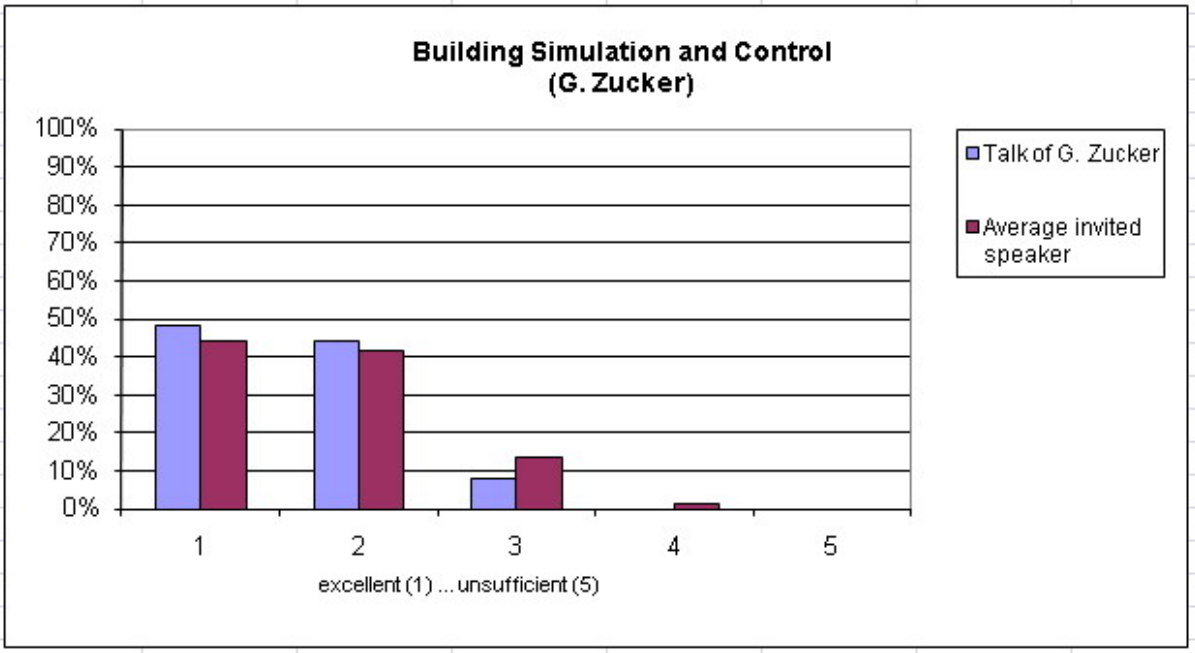


Figure 3.2.1.2: Dr. Zucker

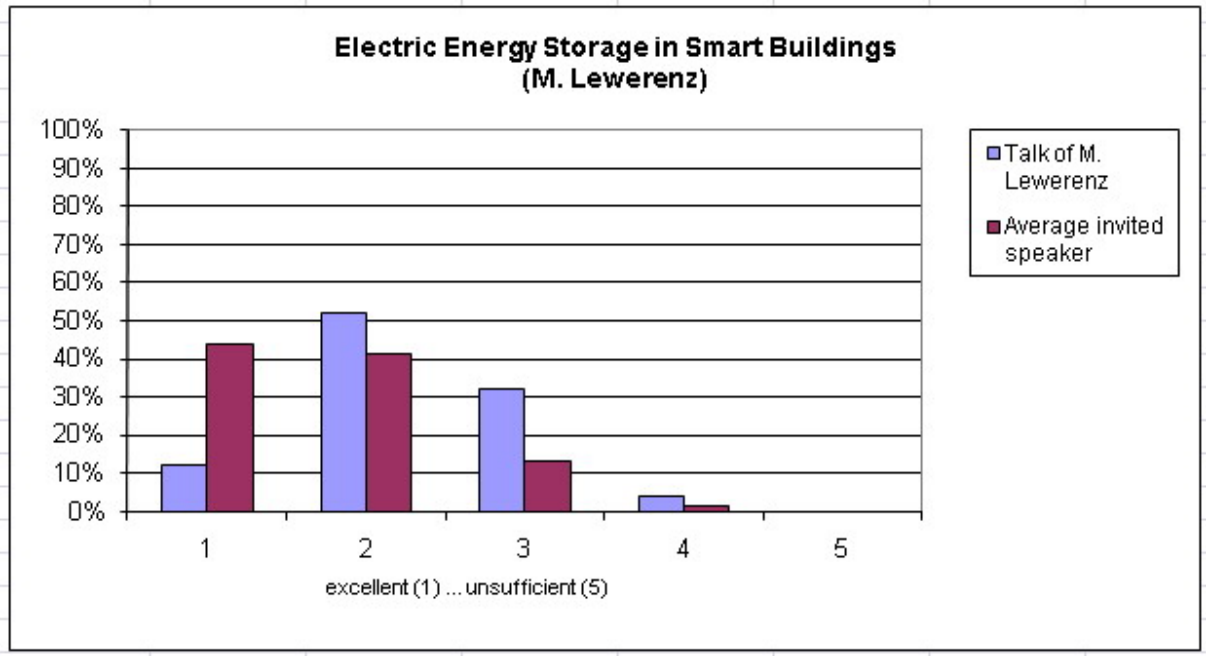


Figure 3.2.1.3: M. Lewerenz

3.2.2 Project Speaker Performance

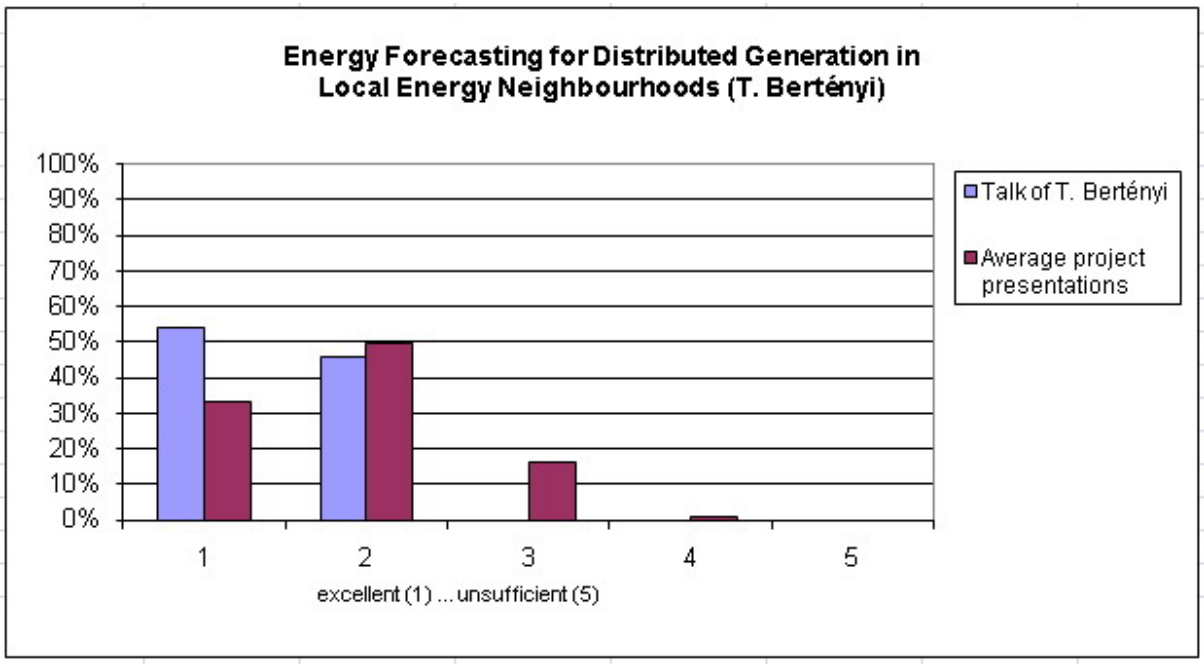


Figure 3.2.2.1: Dr. T. Bertenyi

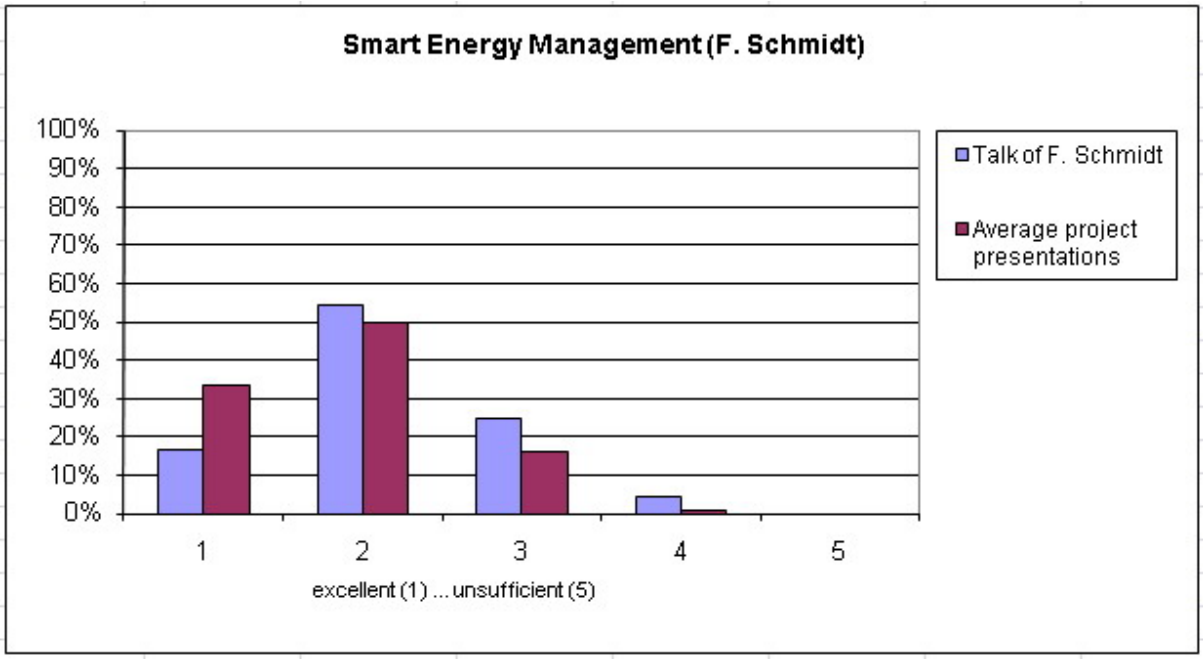


Figure 3.2.2.2: Prof. Dr. F. Schmidt

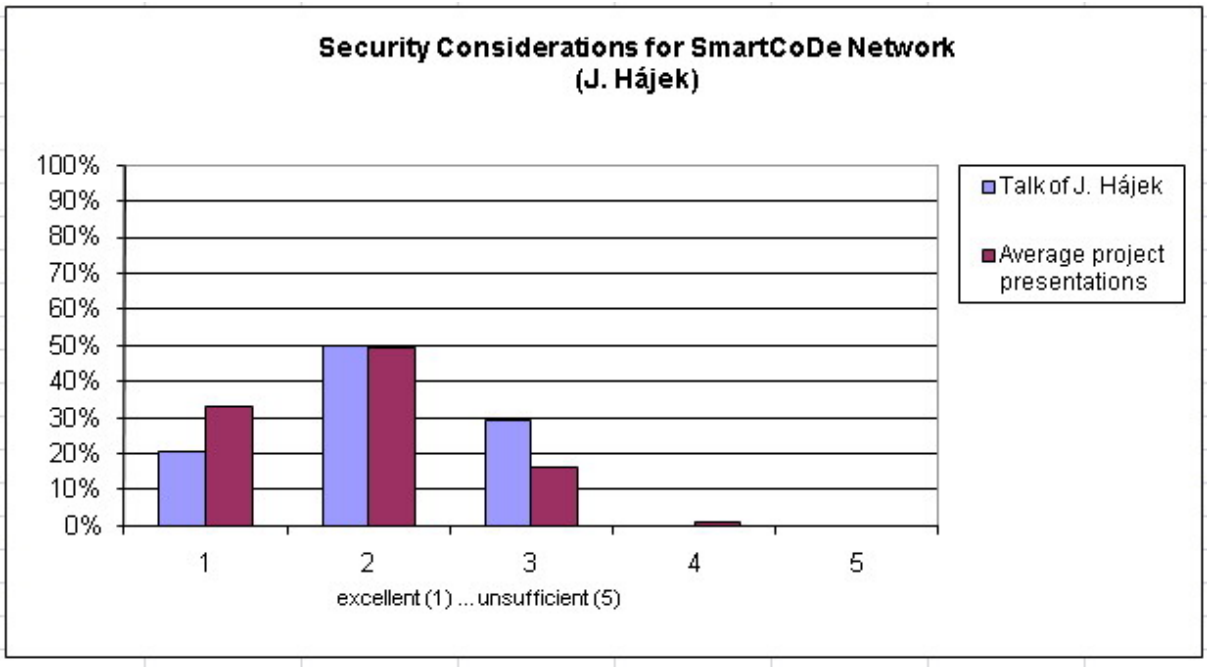


Figure 3.2.2.3: J. Hajek

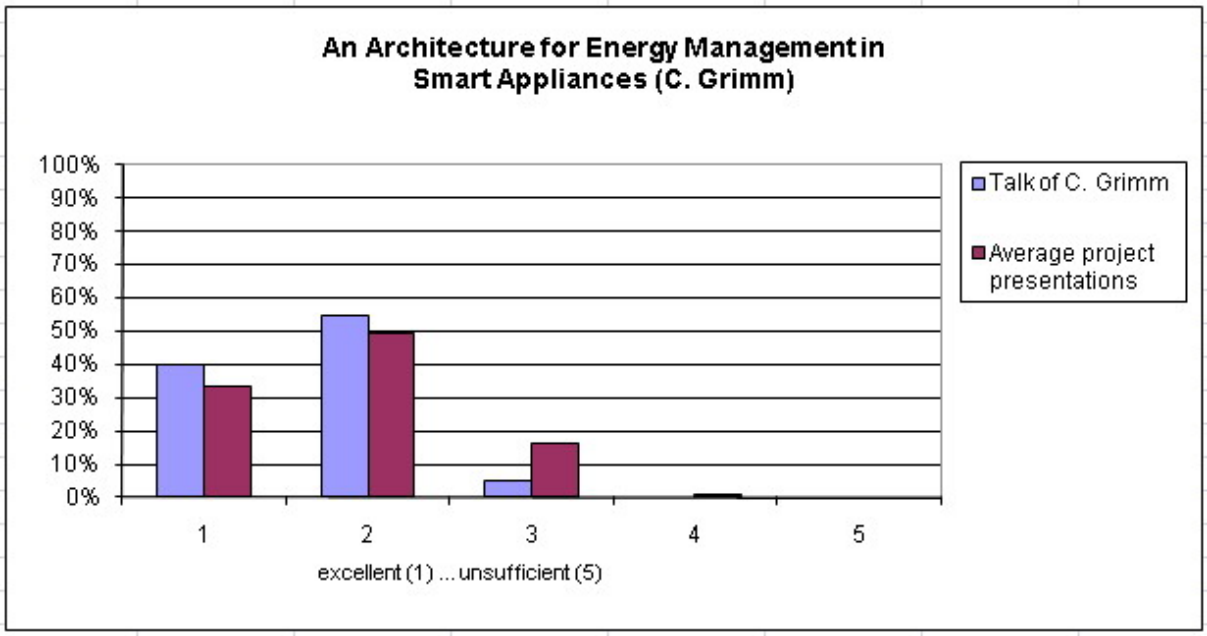


Figure 3.2.2.4: Prof. Dr. C. Grimm

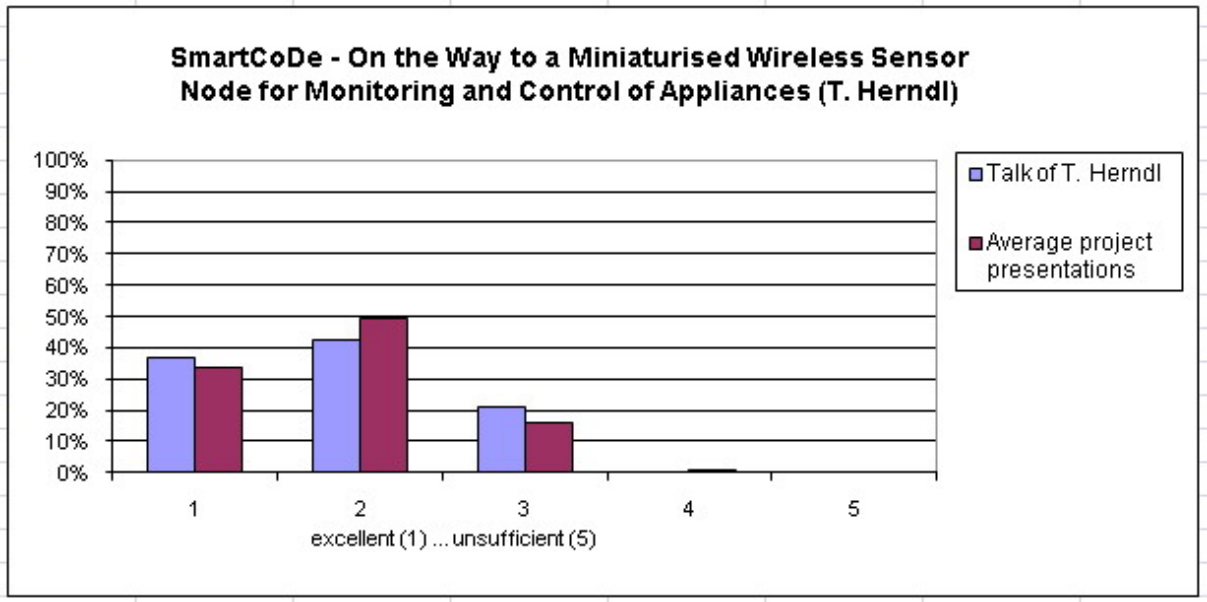


Figure 3.2.2.5: T. Herndl

3.2.3 Overall Workshop Performance

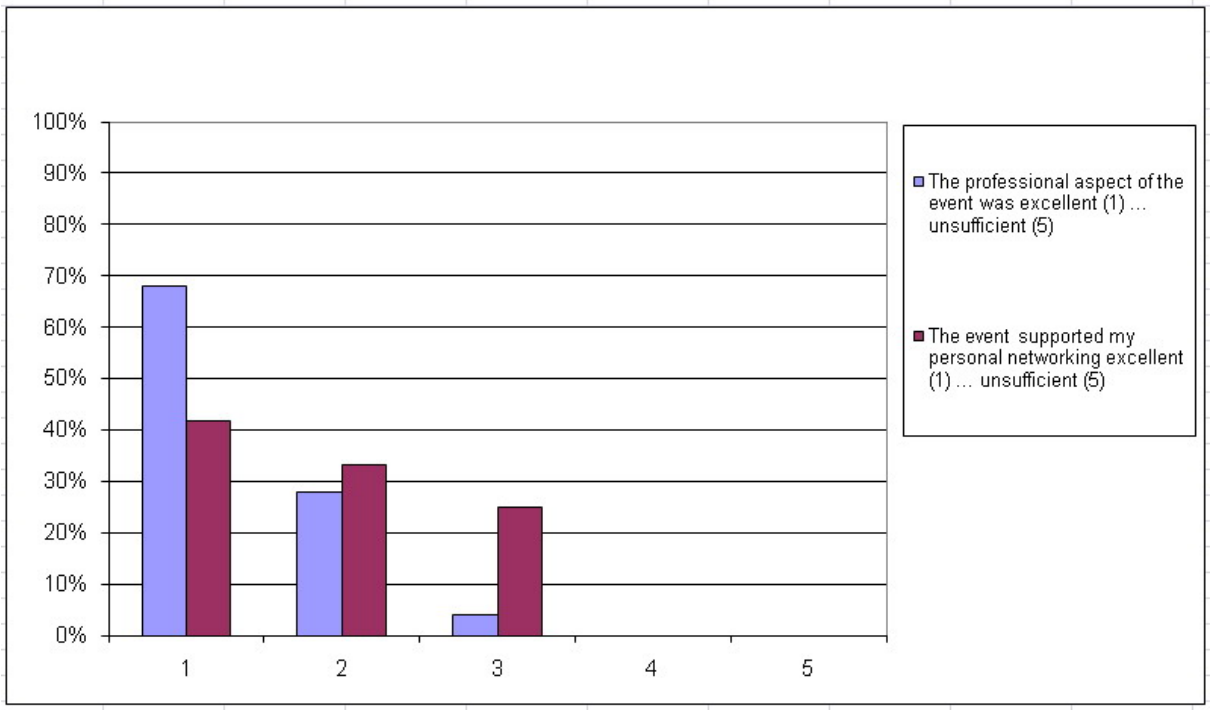


Figure 3.2.3.1: Professionality / Networking1

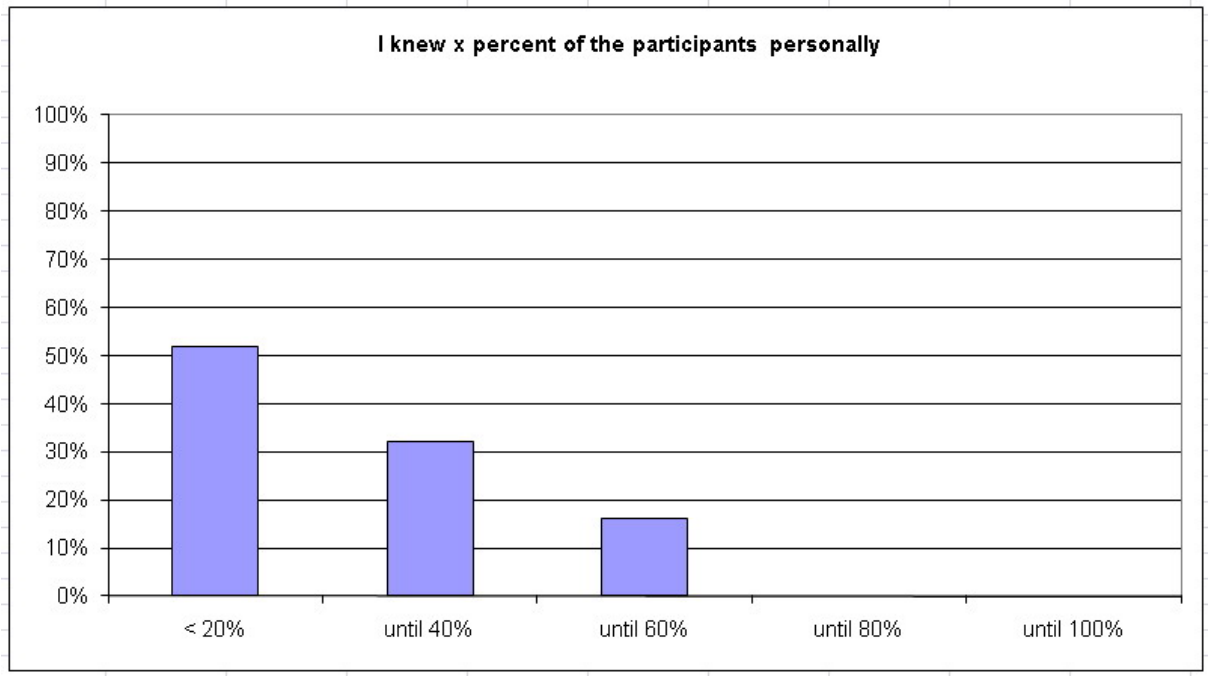


Figure 3.2.3.2: Networking2

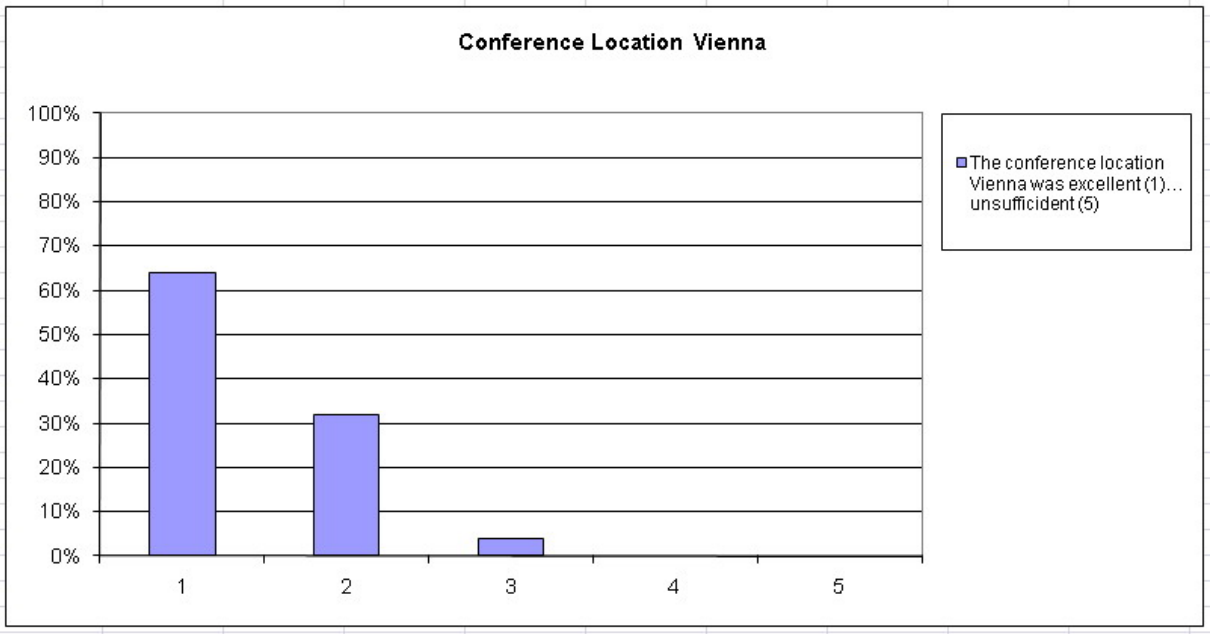


Figure 3.2.3.3: Location

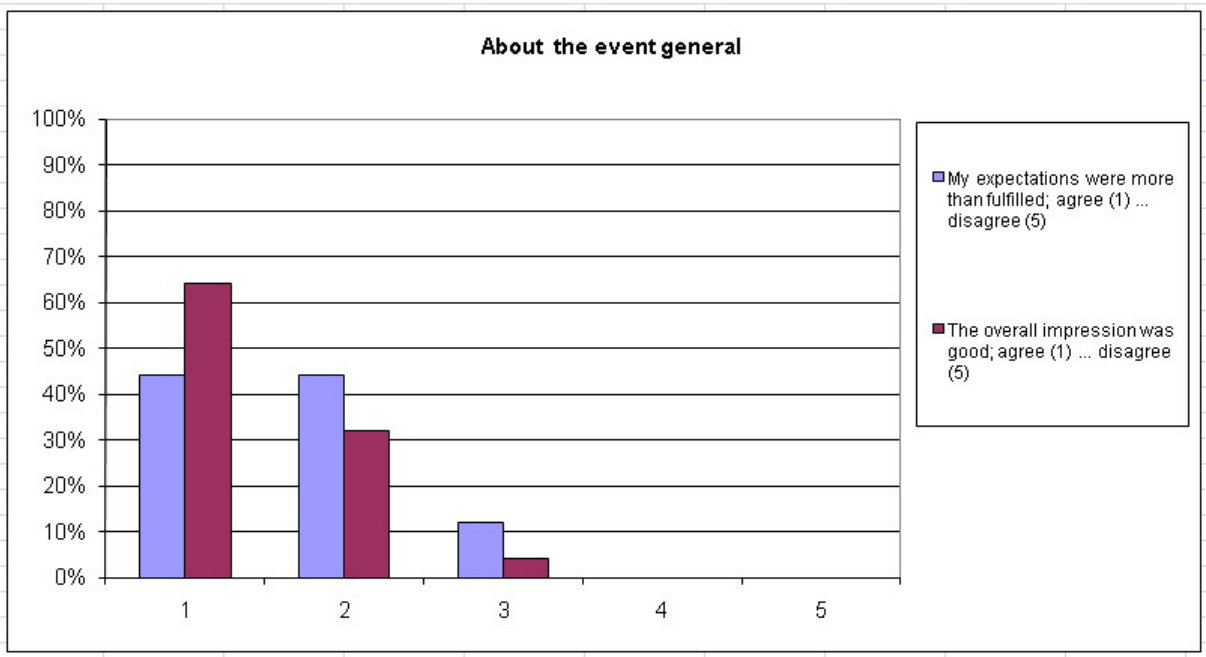


Figure 3.2.3.4: Expectations / Overall Impression

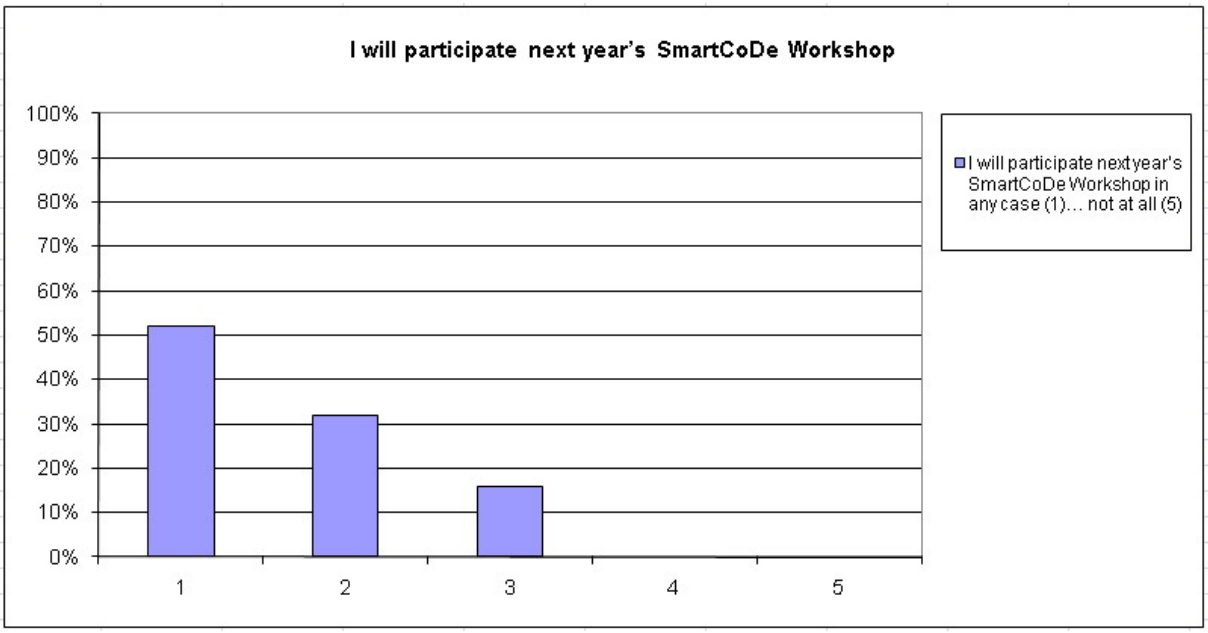


Figure 3.2.3.5: Participation in Next Year's Event

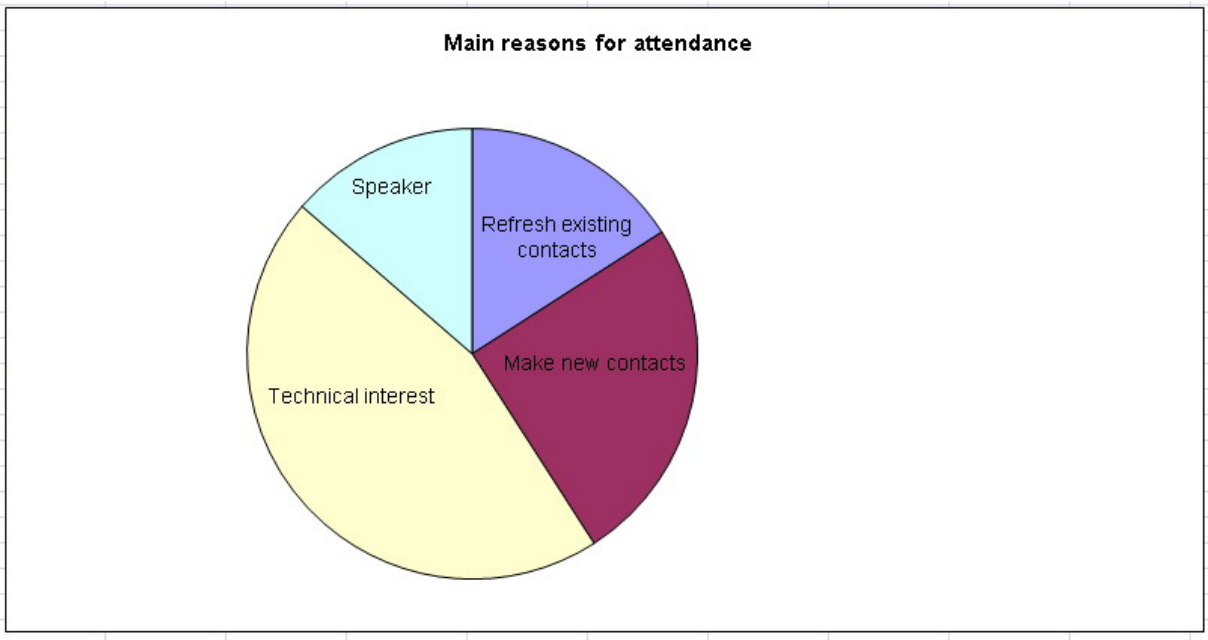


Figure 3.2.3.6:Reasons for Attendance

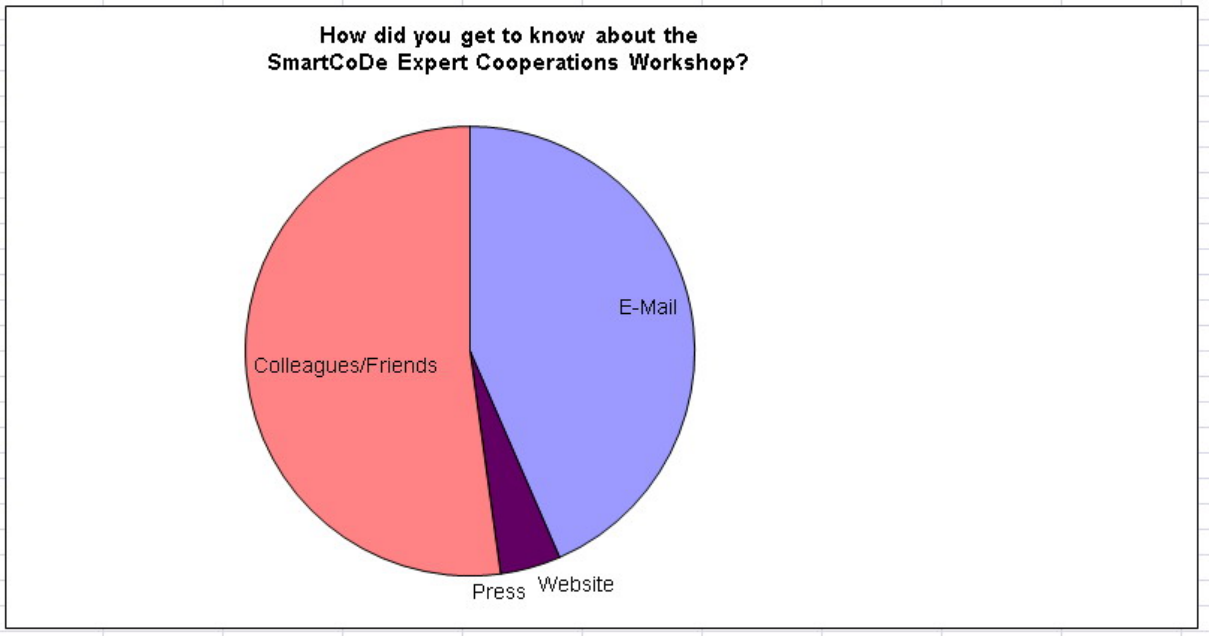


Figure 3.2.3.7: Workshop Information Broadcasting

Figure 3.2.3.8: Workshop impressions

Figure 3.2.3.9: Workshop impressions

3.3 Summary and Lessons-Learned

During his well received key-note Prof. Nebojsa Nakicenovic pointed out that the new energy systems not only require innovation on a technical level but also require market, regulatory and behavioural changes. This as well as the analysis figures provided in chapter 3.2 has been taken as encouragement for ECN to further foster the interdisciplinary knowledge exchange during the SmartCoDe Workshops to come.

ECN plans to further push the concept of enhancing the list of project partner speakers with invited papers from adjacent areas of research. In 2010 these areas have been climate change, energy storage, and building energy aspects other than electrical ones. ECN is currently working to get commitments from external speakers for the 2011 Expert Cooperation Workshop. Negotiations are currently under way with keynote speakers for 2011 from the following areas:

- Energy provider
- Energy net operator
- Renewable energy investment

Participant feedback also showed, that especially the breaks between presentations have been used for extensive interdisciplinary discussion and “networking”. Participants repeatedly asked for breaks that are not to short. We will include in the concept for 2011 that participants will have enough time for networking during breaks.

Further, in 2011 first hardware prototypes (as shown at the review meeting in Brussels) and demonstrator output will be available. How we will present this to the public is not yet defined, but demonstrator and prototypes will be one of the topics presented there.

Last but not least we have to mention press attention: after the 2010 conference we issued a press release as well as a a mass-mailing workshop review to several thousand experts from research and industry. As a follow up to the latter the publisher Springer US contacted us and we finally signed a contract for a book about the SmartCoDe topic (hopefully we can present this book at the 2011 workshop).

We will stick to that concept of press release and mass mailing and we will try to get press attention also prior to the workshop so that we might succeed to invite at least one press representative to join us at the conference and to present it in one way or another to the public.

4 Appendix

4.1 SmartCoDe Expert Cooperation Workshop 2010 Proceedings

Due to its size of 113 pages the workshop proceedings have been provided as a single additional delivery file (please see PR_ECWS_Report_Appendix_D-5.3.1.pdf). A hardcopy of the proceedings together with a participant list has been sent to the EC Project Officer Dr. Barbas.