

Project no: TREN/07/FP6EN/S07.73164/038533 /CONS

Project acronym: ADINE

Project title: Active Distribution Network

D30 Summary from 1st round workshops

Due date of deliverable: 30.6.2009

Actual submission date: 30.6.2009

Start date of project: 1.10.2007

Duration: 36 months

Organisation name of lead contractor for this deliverable: Hermia

Revision [1.0]

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination level		
PU	Public	x
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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1. INTRODUCTION

ADINE is a new three year project aiming to demonstrate a set of new solutions for voltage control, network protection and power quality in distribution networks. In ADINE project the partners are from Finland, Sweden and Germany. Because the project consortium is so small and only from Nordic countries we have to get information from other European countries. To get more information about requirements and challenges in different regions that Active Network Management method should solve in Europe we pick three other target countries where we kept workshops.

These three target countries were on Spain, Portugal and Great Britain. In these workshops we collected information about situation in target country and also told about idea of ADINE's active networks management method. Workshops in Spain and Portugal were in May 2008 and in Great Britain in September 2008. The information what we get from workshops is used in other work packages and demonstrations of ADINE project. In these workshops we met distribution network owners, operators and other professionals from research institutes and universities.

In these workshops we find out that number of distributed generation is increasing and will increase in future all over Europe. We also find out that distributed generation is understood different ways in different countries.



2. WORKSHOP IN SPAIN

ADINE workshop for Spanish distribution network owners, operators and other professionals was in Madrid, Spain 27 May, 2008. We keep the workshop in ETSII, Universidad Politécnica de Madrid, in Madrid, Spain.



Photo 1. Audience in Madrid workshop.

Agenda of workshop was following:

Opening and welcome

- The new ideas of Active Network Management, Dr. Tech. Sami Repo, Tampere University of Technology

Demonstrations under planning

- Voltage control
- Voltage control with distributed generating units, Prof. Olof Samuelsson, Lund University
- Co-ordinated voltage control of medium voltage network, Dr. Tech. Sami Repo, Tampere University of Technology
- Network protection, Mr Matti Kärenlampi., ABB Distribution Automation
- Power quality - New generation statcom, Jarmo Aho, Areva T&D Ltd

Challenges of distribution networks in Spain, Mr. Pedro del Rosal, Head of Telecontrol Department, HC Distribution, Spain

- Workshop discussion

In Madrid workshop there were 35 people from Spanish distribution companies, universities and other companies. There were lot of discussion during workshop.

In Spain there are differences in distribution networks between different areas in Spain. Also distribution companies in different areas have different challenges. Distribution companies can decide connection point of distributed generation.

In Spain workshop we find out that distributed generation in Spain is mainly wind and solar power. The scale how Spanish understand distributed generation is also larger than in Nordic. In Spain generation under 50MW is distributed generation. Their distributed generation is mainly wind farms.



3. WORKSHOP IN PORTUGAL

Adine workshop in Portugal was 29th of May 2008 in Lisbon. Because in Portugal is only one distribution network company, workshop was more like meeting in EDP Distribuição. We met five directors from EDP, most of them were from EDP's technology and innovation department.

Participants from project in the meeting were:

Mirva Seppänen, Technology Centre Hermia Ltd,
Sami Repo, Tampere University of Technology,
Matti Kärenlampi., ABB Distribution Automation
Jarmo Aho, Areva T&D Ltd

In Portugal workshop Dr. Tech. Sami Repo from Tampere University of Technology presented The new ideas of Active Network Management in ADINE project. Mr Matti Kärenlampi from ABB told about relay protection. After that we heard about EDP's INOVGRID project by Nuno Cardoso. InovGrid is AMR project. It's about smart metering and energy management, micro and distributed generation and smart grids.

During the presentations we discuss about differences in distribution networks and distributed generation between Portugal and Finland. Portuguese were interested about voltage control about ADINE's microturbine.

In Portugal are good wind conditions, so wind is their main source for distributed generation also solar power is rising. The big centralized photo voltage plant is built in Portugal. They see that also other renewable energy sources like biomass and biogas must be rising up in future in Portugal.

Because so much of power generation is made by wind power stability issues are important in Portugal. In ADINE active network management method we assume that generation is uncorrelating and can use stochastic method for calculating, but in Portugal there is only Wind and PV so the generation is correlating and you can't use stochastic method.

4. WORKSHOP IN GREAT BRITAIN

The Great Britain Active Networks workshop was held in 30th September 2008 in Allesley Hotel, Coventry.



Photo 2. Discussions in coffee break

Agenda of day was following:

- Welcome - Jeff Douglas, Central Networks
- Active Networks Deployment - Robert Currie, University of Strathclyde and Robert MacDonald, University of Strathclyde
- Active Networks, Action on the Ground - Mary Gillie, EA Technology Ltd
- Overview of Adine Project & Active Network Management - Dr. Tech. Sami Repo, Tampere University of Technology
- Voltage Control of Distribution Networks including DG - Prof. Olof Samuelsson, Lund University

- Protection Solutions, Fault Location & Coordinated Protection Planning - Matti Kärenlampi, ABB Distribution Automation
- Question and Discussion

In Active Networks workshop there were 30 participants from British distribution companies, universities and research companies. There were a lot of discussions of active networks during and after presentations.

In Britain they have had group were they have discuss about active network issues, but groups work had been sopped some time ago. Now they think that this active network group must be start work again.

In Britain they have been active in local and international smart grid projects. In projects they have developed lot of good technologies at demonstration stage, but also there has not been wide spread adoption of ANM.

All participants see that there is strong need for cooperation in active networks solutions between distribution companies and companies should make together a Toolbox, where are solutions for distributed generation problems.

5. CONCLUSIONS

In the workshops of ADINE we find out that all European countries had lot of interest in active network and distributed generation area. Even there is lot of interest to active network management the work is just getting started and there is lot of work to do.

In workshops there were lot of discussion about differences between countries. For example the laws and price of interconnecting distributed electricity generators in distribution network are different in all countries. For as ADINE people there were lot of new ideas, when we hear how the problems are solved in different countries.

Unless there is several problems all participants believe that in future all these countries will have many kinds new distributed generation like solar cells, biogas plants, small scale hydro, wind turbines, micro-turbines, engine generator plants and small scale CHP.

In different countries people understand distributed generation very different ways. There is difference in what size of generation is understood to distributed generation and also differences in voltage levels where distributed generation is connected. In Nordic distributed generation is in much smaller scale than in southern Europe. Also CHP is in big part in Nordic but in South there is none or minimal amount of CHP. In Nordic can be only one windmill than in other Europe there is always Windmill Park.

So when you discuss about distributed generation with someone, check first how your partner understand distributed generation and active networks. Then you can continue towards your common target in develop active networks and distributed generation.

Second round of ADINE workshops will be in the end of project in 2010 when we tell about results of ADINE project. The workshops will be in Spain, Portugal and Great Britain and also in partner countries Finland, Sweden and Germany.

Presentations from workshops are available in ADINE web pages: www.adine.fi