The "ASSURE" project

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HWEA
Hellenic Wind Energy Association

European Union
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Partnership Agreement 2014 - 2020

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The ASSURE project

- HWEA participates in a project titled “Automated specialized surveillance radar application technologies for accurately assessing and mitigating the effects of wind-turbine generated electromagnetic wave scattering - ASSURE”

- It is funded by the Operational Program “Competitiveness, Entrepreneurship & Innovation” (EPAnEK) and was approved by the C (2014) 10162 final EU Decision of 18/12/2014

- The Project Partnership consists of 5 actors: 2 Research Organizations (The Institute of Communication and Computer Systems of NTUA (ICCS) and the Telecommunication Electronics Factory, the competent Directorate of the Hellenic Air Forces) and 3 business (European Dynamics, ENTEKA, HWEA), each providing the experience, know-how and expertise to achieve the project's objectives.

- The scope: The project aims at developing specialized radar analysis and radar management technologies for surveillance applications, in particular facilitating detection, identification and tracking of targets, in a burdened electromagnetic environment, by reducing false alarms and increasing the probability of detection. ASSURE aspires to address the above issues by developing an automated, parametric and extensible software tool based on accurate theoretical models and simulation parameters that visualizes the effects of wind farms using topographic data in a user-friendly environment

Project Description

The purpose of the ASSURE project is to design, develop and evaluate an innovative, reliable software tool, to accurately identify, mitigate and address the effects of clutter-specific issues on target and object tracking radar.

In particular, it proposes the design of an automated, parametric and extensible software tool to accurately assess and mitigate the effects of electromagnetic wave scattering from neighboring wind turbines on radar systems, with innovative signal processing techniques. Because of the EM scattering and clutter phenomena caused by the rotational movement of their fins, the positioning of wind farms close to the radar observation fields significantly affects their function for target identification and recognition. Accurate theoretical models and simulation parameters that visualizes the effects of wind farms using topographic data in a user-friendly environment will be used.

<u>The outcome:</u>

- ✓ The results of ASSURE can be exploited by software developers for radar systems as well as software developers for wind farm design.

- ✓ The licensing by the public authorities will be facilitated by examining applications more quickly, but also the installation of wind farms close to the radar observation fields, with benefits for the wind energy companies as well.

HWEA’s role in ASSURE

HWEA’s role in the project :

- Contribution to the definition of user requirements
- Contribution to the development of parametric models with the technical characteristics of the wind turbines
- Examine case studies and European experience on the topic
- Undertake actions to disseminate the concept and the results of the project

HWEA's role in ASSURE… so far

- A questionnaire was sent to member companies of HWEA, in order to collect geometric data and technical characteristics of each type of wind turbine and other elements necessary for the project.
- Private meetings were held with the companies, where the framework, objectives, work units of the ASSURE project were also discussed.

Next steps…

- Exchange experience and best practices between the wind industry, governments, NGO's and other policy makers.
- Enhanced cooperation between wind energy sector and civil defense services.
- Preparation of a detailed plan for the dissemination and exploitation of the project's results in order to identify possible promotion opportunities.

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