



# WT2.9c: University of Bradford, Bradford, Great Britain (UBRA)

## Report

Activities performed during the visit

in University of Bradford, Bradford, Great Britain (UBRA)

period: ..02.09.2015..... -...23.09.2015.....

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## Personal Information

Ms. Urszula Markowska-Kaczmar, faculty member of Wrocław University of Technology, Poland visited University of Bradford, Bradford (UK), School of Electrical Engineering and Computer Science ..... in the period from ...02.09.2015..... to .....23.09.2015 in order to carry out research and training activities in the field of... intelligent methods application in automotive industry and rule extraction from neural networks.

## Information about Seminars

During this visit there was no official seminar for the whole department. There were in-depth working meetings with a group of prof. Neagu and prof. Campean from automotive department. I had also discussions with dr Anna Palczewska

## Description of scientific activities

(Please describe value added to the ENGINE project i.e. new knowledge, new skills with respect to the objectives of the project, the assigned common area of future cooperation with the partner, plans for common research, projects, publications and how it could be used in the scope of ENGINE)

Time during this staying at the University of Bradford was divided into 2 scientific activities. The first one concentrated on common research and discussions with dr Anna Palczewska considering her work on feature contribution and my in rule extraction from neural network to develop an approach that would enable to describe trained opaque models in a comprehensible way for a user. The method should allow to evaluate how much a considered opaque model and its description is appropriate for new data. We sketched general approach



how this problem could be examined and solved. Further discussion about results achieved in a mean time we will perform during dr Palczewska's visit in Wrocław in October this year. We agreed that dr Palczewska will perform some preliminary experiments. I am responsible for literature review searching for appropriate measures describing how much the model matches new data.

The next task which I was busy with, refers to the prospective future cooperation with University of Bradford. We decided to prepare literature review of research made in the area of autonomous cars. Prof. Neagu from his side has created small informal group working on this subject. It consists of dr Raluca-Elena Lefticaru, prof. Felician Campean from automotive department, prof. Marian Gheorghe, dr Savas Konur, dr Guilhermina Torrao and me. After several brain storming meetings we settled on the content of a survey research and we have chosen possible journals for further submission of research paper. We discussed how to spread the work and how to exchange ideas. The dropbox folders have been prepared to maintain further common research and documents collected for the survey paper. Now communication of the group is by email.

On Friday September 18 I was invited to the University of Leeds for a meeting with a group led by Natasha Merat. She showed us the simulator of driving a car. Then we had a meeting during which it was an opportunity to drive the simulator for a couple of people. Next we had 1,5 hour of discussion about collaboration opportunities.

## Information referring to the intellectual property

(the generally binding law in this area in the visited country and procedures of patenting);

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## Description of the cooperation between universities and industry

(how it is organized in partner's organization, the sources of funding, the opinions about drawbacks and strengths of existing solution).

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## Other activities





**REMARK:** Apart from this information also a program of the visit and the presentation in electronic version should be given to the project office (please send all of them to Urszula.Markowska-Kaczmar@pwr.wroc.pl). Please respond to the points 1-5 for outgoing visit and points 1-3 for incoming visit. Point 6 is for extra activities that are not put in points 1-5.

