



VLBA - Business Informatics and Sustainability

The research activities in the VLBA department under lead of Prof. Dr.-Ing. Jorge Marx Gómez focus on ICT-based sustainability. Especially the fields of environmental management information systems and sustainability reporting are not only represented in research but also in the range of courses. Moreover, VLBA department carries out several joint projects with different companies and research institutions.



In the digitalization era, data centers have a very high relevance for the society. In addition, when it comes to fully ICT-driven companies, a data center is a total fundamental key to the success and sustainability. It is not really possible to build an ICT-driven company without a data center. Recent studies have shown that around 50.000 data centers are causing 2% (12 TWh) of the whole power consumption in Germany. Despite the numerous efforts made to improve energy efficiency, according to the forecast for 2020 expected total power consumption is going to be around 14 TWh. Because of this, a grey energy (indirect energy, which is used for production, transport, storage, sale, and disposal) needs to be considered for an overall energy management optimization. The Carl von Ossietzky University of Oldenburg is addressing this problem in the research project called TEMPRO (Total Energy Management for Professional Data Centers). The research project TEMPRO has totally five work packages. The work package 3 is dedicated for the subgroup Very Large Business Applications (VLBA) of the University of Oldenburg. The title of the work package 3 is "Information and Evaluation Methods for Energy Efficiency in Data Centers".

WP1	• Energy Demand, Resources and Raw Materials Based Energy Efficiency in Data Centers
WP2	• Interaction and Dependencies between Raw Materials and Energy Efficiency
WP3	• Information and Evaluation Methods for Energy Efficiency in Data Centers
WP4	• Technological Potential to Increase Energy Efficiency in Data Centers
WP5	• Investigation Promising Efficient Technologies



The German acronym NEMO stands for "Sustainable satisfaction of mobility demands in rural regions". Due to the demographic change, it is getting more and more difficult for municipalities to offer a basic set of public transport services, such as bus and train. Simultaneously, the mobility demand in rural regions is increasing because of the agglomeration of health care and shopping infrastructure to nearby cities.

Based on this problem statement the research project NEMO is developing sustainable and innovative mobility offers and supporting business models especially for rural regions. Information and communication technology plays an important role as enabler for the participation of the citizens. NEMO is funded by the VW foundation with € 1,53 M. and has a duration of 3 years. Funded are 8 doctoral students and one postdoctoral position. NEMO is an inter- and transdisciplinary project headed by Prof. Dr.-Ing. Jorge Marx Gómez. Overall 8 professorships are participating in the project: Frank Köster, Jürgen Taeger, Jürgen Sauer, Andreas Winter from Oldenburg, Anna Henkel and Jantje Halberstadt from Lüneburg and David Woisetschläger from Brunswick. Furthermore, many partners from industry and public are participating in the project. In a close dialogue with the citizens of the test regions, the solutions will be tested and evaluated.



Prof. Dr.-Ing. Jorge Marx Gómez

- M. Sc. Ali Akyol
- Dr.-Ing. Andreas Solsbach
- Dipl.-Inf. Volkan Gizli
- Dipl.-Inf. Barbara Rapp
- M. Sc. Alexander Sandau
- M. Sc. Marius Wybrands

Areas of application

- Environmental Management Information Systems
- Business Intelligence
- Sustainability Reporting

Regular courses

Business Intelligence I + II, BUIS I+II, ERP-Technology, Mobile Commerce, IT-Controlling, Customizing, E-Business, Business informatics II, and project groups



TEMPRO - <http://tempro.uni-oldenburg.de/>



NEMO - <https://www.nemo-mobilitaet.de/>