

News June 2015

New LogDynamics Member: Prof. Pöppelbuß Brings Competence in the Field of Industrial Services

Jens Pöppelbuß is assistant professor for Industrial Services at the Faculty 7 (Business Studies & Economics) of the University of Bremen since July 2013. His research interests are the potentials of information systems for improving the provision and innovation of industrial services, e.g., logistics services. Together with three research assistants Jens Pöppelbuß currently investigates service networks, the modularization of services, service portfolio management and service innovation.



Jens Pöppelbuß joined the research cluster LogDynamics in April 2015. He studied Information Systems at the University of Münster and received his doctoral degree with his thesis on „Business Process Management in Service Networks: Capability Assessment and Improvement“. From February 2012 until his start as assistant professor he worked as a postdoc/lecturer in the working group Information Management in the Faculty 3 (Computer Science) at the University of Bremen.

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Bremen Research Cluster for Dynamics in Logistics

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Projects

Roadmap to Boost Demand for ICT in Transport and Logistics – MAPDRIVER Project Successfully Completed



Within the EU-funded project MAPDRIVER a roadmap to boost demand for ICT in transport and logistics was developed.

Over the 18 months of the project duration an in-depth analysis of selected demand-side policy instruments that should support the implementation of ICT-based innovations in the European transport and logistic sector has been performed. As a result an interlinked family of instruments, which external stakeholders considered to be as the most effective in abolishing the indicated barriers in ICT implementation, was proposed. Following four demand-side instruments were recommended: standardization, awareness raising, support to market demand (direct subsidies and funding), and tax incentives. Several recommendations for the policy makers to implement the selected instruments were pointed out. Those can be applied separately or in combination to boost the impact.

Now the stakeholders are expecting steps from the EU and the national governments. They are in demand to implement the recommended demand-side policies to realize the vision of an innovative ICT-based transport and logistic sector in Europe in order to boost the competitiveness of European companies on the world market.

The project MAPDRIVER is funded under a pilot call launched by the European Commission to facilitate the uptake of innovations in Europe through demand-side innovation policies. University of Bremen with the LogDynamics cluster is partner in the MAPDRIVER project, further partners are: Canary Islands Regional Government (Spain), Koç University (Turkey), International Transporters Association (Turkey), Consulta Europa Projects and Innovation (Spain). On 28th of May the final conference of the project took place in Brussels.

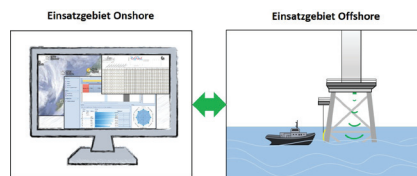
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leK – Information System for Real-time Coordination of Offshore Transport Considering Resource Specifics and Dynamic Weather and Sea Conditions



For the efficient operation of an offshore wind park it requires well-balanced and cost-efficient logistics. The joint project leK aims at developing of a real-time planning and control system through the connection of forecast data and real weather data, data of the sea, data of ship movement and order data.

Due to the steady expansion of offshore wind energy and the resulting need for maintenance of such facilities, the number of supply tours increases significantly. The great number of facilities, high costs for transport, material and personnel and the rising complexity of the planning lead to a need for a comprehensive information system for planning and control as well as for the support of operational logistics processes. The aim of this research project, which BIBA Institute conducts together with the project partners cluetec, energy&meteo and Jade University of Applied Sciences, is the development of a system, which offers the supply chain partners in offshore wind energy service logistics a well-founded source of information for operational decision-making processes. This includes the current and future situation of weather and sea conditions and the individual performance of used transport ships. Furthermore, the system is supposed to provide the basis for efficient and high-quality pre-planning of resource allocation at sea. Additionally, a low-cost system for wave measurement will be developed.

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High Performance Modelling and Simulation for Big Data Applications (cHiPSeT)

Simulation research in LogDynamics is now supported by the participation in the new „European Concerted Research Action cHiPSeT“. Other partners are research institutions from the COST countries Austria, France, Germany, Ireland, Italy, Luxembourg, Norway, Poland, Portugal, Romania, Spain, Sweden, and the United Kingdom. For four years, the Action will dedicate



Ubimax: Smart Glasses Picking Solution xPick Achieves 25 Percent Efficiency Increase in Productive Use



xPick, the innovative picking solution with Smart Glasses by the company Ubimax from Bremen, is already used by more than 20 companies within the scope of productive pilots. Big companies like DHL, Volkswagen or Daimler count to this as well as innovative, young companies like the contract manufacturer WS Kunststoff-Service. With the hands-free solution customers today already get efficiency increases up to 25 percent with these pilot projects and an increase of flexibility and error-security at the same time. The data glasses Google Glass and Vuzix M100 are especially used here, but also other models like Epson Moverio BT-200, Sony SmartEyeglass or Meta One are demanded more often. Following a common research project conducted in collaboration with the TZI at the University of Bremen, xPick evolved over the past 2 years to the market leader in the data-glasses consignment systems.

In this year still, the Wearable Computing company from Bremen expects the complete productive roll-out of the picking solution with several major customers. Also, for Manufacturing, Quality Management and Remote Service companies already count on Wearable Computing Solutions by Ubimax with success. The Wearable experts of Bremen benefit from tight partnerships with giants of the industry like Google, Vuzix, Epson or Sony. Thus, Ubimax is globally one of ten Google partners in the „Glass at Work“-program – and the only partner headquartered in Germany. Thereby, Ubimax has direct influence on the development of future models for data glasses, in which demands of own customers are directly used. The company is optimally prepared for the future as well, due to partnerships with the LogDynamics member institutes TZI and DFKI. For instance, Ubimax already presented an executable prototype for picking solution, which offers hundred percent error-security through image recognition and finger tracking – completely without Barcode Scan or electronics at the shelf.

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Internationalization ▲

DAAD Scholarship for the Research on Deep Machine Learning

Daniel Weimer, research scientist at BIBA - Bremer Institut für Produktion und Logistik GmbH received a prestigious doctoral scholarship from the German Academic Exchange Service (DAAD) for the research topic of his doctoral studies.



Since March 2015 he has been working at the Technion – Israel Institute of Technology in Haifa. In cooperation with Prof. Moshe Shpitalni, head of the Schlesinger Chair of Manufacturing Systems, he researches novel methods of machine learning, specifically Deep Machine Learning, and their use in manufacturing and logistics applications. The research topics, which are approved for funding, specifically address the investigation of methods for the analysis of Big Data. A significant increase of Big Data in current and future manufacturing scenarios is especially driven by the rising number of sensors and

accordingly cyber-physical systems (CPS). The methods allow the recognition of complex and nonlinear patterns for knowledge discovery in large quantity of data and combine different data types and data sources. The major goal of this research is to develop new approaches and methods to tackle real world application and problems. This includes the application in new problem domains that have barely been penetrated by machine learning technologies as well as optimization of traditional data science domains.

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Research Delegation from Tunisia Visits BIBA Institute

Tunisia is on the way to future. The „Arab Spring“ has brought the Tunisian population a profound change with numerous challenges. One of the biggest and recent challenge for the country is to build up internationally competitive economy and science structures. To make progress with this, BIBA – Bremer Institut für Produktion und Logistik GmbH and the Cluster *LogDynamics* at the University of Bremen contribute to the scientific exchange. In the scope of the from German Academic Exchange Service (DAAD) supported cooperation between the University of Applied Sciences Bremen, the University of Bremen and the University of Tunis El Manar, BIBA Institute hosted a delegation of professors from Tunisia on 21st of May 2015. Prof. Dr.-Ing. habil. Klaus-Dieter Thoben, managing director of the Institute and spokesperson of *LogDynamics* as well as Zied Ghrairi, research associate, gave the delegation an insight into the development of technical and organizational solutions and their realistic use in commercial and industrial companies from different industries, sizes and countries. Other topics like technology transfer, the cooperation of science and economy in BIBA Institute and much more were explained. A tour in the *LogDynamics* Lab concluded the program.

The meeting was perceived as success by everyone. The participants found many joint points of contact and the plan is to continue the scientific relationships between BIBA / *LogDynamics* and the Faculty of Engineering Science from University of Tunis El Manar (École nationale d'ingénieurs de Tunis, ENIT).

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Special Session on Logistics Connectivity during GRPA 2015 in Hong Kong

The Chair in Maritime Business and Logistics (University of Bremen) together with the Asian-German Knowledge Network for Transport and Logistics e. V.(AGKN), a long-term cooperative partner of the Shipping Research Centre at The Hong Kong Polytechnic University were invited to take charge of one special session on „Sustainable Connectivity Management in Logistics Clusters“. Given this opportunity, the session contributed to the generating creative methods to tackle unresolved challenges in port operations and management with altogether five presentations from Estonia, Germany, and Vietnam.



Under the organization of the Shipping Research Centre at The Hong Kong Polytechnic University, the Global Port Research Alliance (GPRA) 2015 conference on “Port and Logistics Connectivity” was carried out on May 21-22, Hong Kong. In response to the complex challenges faced by the port sector and the related shipping and logistics industries, the GPRA has been formed

among leading universities in the Americas, Europe, Asia, and Australia to establish a global research and teaching platform for port operations, maritime and transport logistics by building collaborative arrangements among GPRA members, as well as between GPRA and the industry. The next GPRA takes place in Hamburg in spring 2016.

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Events

Open Campus of the University of Bremen

Date: July 11, 2015
Venue: University of Bremen



On 11th of July 2015 from 13h00 to 24h00 the University of Bremen invites all interested persons from Bremen and the surrounding region to an Open Campus. Under the motto „Opening Worlds Sharing Knowledge“ the university shows, what it is made of. In more than 30 pagodas, right in the middle of Campus-Park, faculties, institutes and central institutions give fascinating insights in their activities and projects. There is always something to discover in Campus-Park: scientific shows, science slam, international dance performances, original lectures and guided tours take turns. At 19h00 the big Open-Air-Party begins with three local bands as well as DJ-Team Elvis and Friends.

The LogDynamics cluster and the BIBA institute take part in Open Campus with two guided tours (13h30 and 14h30). The application and demonstration center LogDynamics Lab exemplarily presents research findings of innovative solutions in logistics. Among other things, visitors will see the factory of the autonomous products, the intelligent container and the parcel robot for autonomous loading and unloading. Furthermore, LogDynamics presents within the pagoda of the Faculty of Production Engineering, a segway equipped with RFID, as an example for innovations in logistics. The visitors learn about the driving experience on a test track in an entertaining way.

We cordially invite you to join the event and to experience the university from another perspective.

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Weltretter-Tag at the University of Bremen

Date: June 12, 2015
Venue: University of Bremen



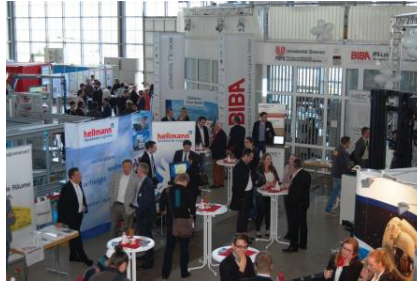
They are called BIAS, BIBA, BIMAQ, DLR, IFAM, IWT, UFT or ZARM and they are internationally renowned research institutes, which are engaged in youth development by conviction. Therefore, once a year researchers from the Faculty of Production Engineering organize the Weltretter-Tag at the University of Bremen. In this year again they have put together a versatile program for the 12th of June and invite all prospective students to try out a student's life and daily research routines for a day. The registration is now possible.

The program of the eighth Weltretter-Tag reaches from a drop tower tour and a lecture of The Association of German Engineers Bremen (VDI Bremen) to

career prospects and numerous workshops. In these, among other things, various fields of engineering sciences are presented with topics like electric mobility and 3-D printing. A special highlight this time is the all-day workshop of Ingenieure ohne Grenzen Bremen e. V., in which the participants develop a concept of water supply for a village school in Kanty, Guinea.

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On the “Day of Logistics“ in BIBA Institute at the University of Bremen: Heard, Seen and Experienced What’s Driving the Future



On 16th of April 2015 LogDynamics offered several attractions and future-oriented topics on the 8th nationwide „Day of Logistics“, an initiative of Bundesvereinigung Logistik (BVL). In the BIBA research hall 11 companies and 12 research projects presented themselves. Under the motto „Innovations in Logistics“ four lectures and a following Get-together completed the event, 200 guests participated. The event was co-organized by: Chamber of Commerce Bremen, VIA BREMEN and WFB Bremen Economic Development Agency. Cooperation partners and exhibitors drew a positive balance. The guests praised the interesting program, the good setting for further conversations and networking as well as the unique chance to get in touch with innovations in logistics.

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transport logistic 2015 in Munich – LogDynamics Present at the VIA-BREMEN Booth



LogDynamics is carrying out on the edge logistics research both related to basic concepts in logistics as well as in the applied area. A main aspect of the work is to strengthen the collaboration between the research and the logistics industry in the region of Bremen as well as in an international context. Thus, since years we have had a very fruitful collaboration with VIA BREMEN with several common activities strengthening this research-industry relationship. As a part of this collaboration, LogDynamics was a part of the VIA BREMEN booth on transport logistic 2015, that took place from May 5th to 8th, 2015. transport logistic is one of the largest fairs targeting all different stakeholders within the transport and logistics sector regarding mobility, SCM, IT solutions and related areas.

LogDynamics presented the latest developments related to the field of IoT and CPS and presented the research project “Intelligent Container” which is an industry driven national project aiming at improving the quality of service within perishable food chains. Our participation on the booth led to interesting discussions concerning intelligent logistics solutions as well as several interesting new business contacts.

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Call for Papers 5th International Conference on Dynamics in Logistics (LDIC 2016)



Bremen, February 22 – 26, 2016

Dynamical aspects of logistic processes and networks are at the heart of the conference. The spectrum of topics reaches from the modeling, planning and control of processes over supply chain management and maritime logistics to innovative technologies and robotic applications for cyberphysical production and logistic systems. The conference addresses scientists in logistics, operations research, production engineering, and computer science. It aims at bringing together researchers and practitioners interested in dynamics in logistics. Topics of interest include, but are not limited to:

Supply Chain Coordination and Shared Resources

- New business models
- Collaborative planning and control
- Risk management

Advanced Modelling Techniques for Logistic Networks and Processes

- Robust and dynamic systems and simulations
- Automatic model generation and model transformation
- Sensor data, data analytics, predictive analytics

Cyber-physical Production and Logistic Systems

- Distributed planning and control, on-line planning, real-time control
- Internet of things and services, system-integrated intelligence, sensors, RFID
- Intra-logistic systems for transport, handling, storage

Robotics in Logistics

- Mobile robots, autonomous control, robot-robot collaboration
- Cognitive systems for handling and picking
- Human-robot collaboration

Sector-specific logistics and supply chain management

- Maritime logistics, port operations, logistics for offshore wind farms
- Transport, multi-modal transport, seaport hinterland transport
- Humanitarian Logistics

Important Dates

Submission of papers: September 25, 2015

Proposals for workshops and tutorials: November 9, 2015

Notification of acceptance: November 16, 2015

Pre-proceedings version due: December 11, 2015

Main conference: February 23 – 25, 2016

Conference with Satellite Events: February 22 – 26, 2016

Post-proceedings contributions due: March 11, 2016

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Call for Papers 7th IFAC Conference on Management and Control of Production and Logistics (MCPL 2016)

Bremen, February 22 – 24, 2016



The conference, sponsored by IFAC, aims to bring together researchers and practitioners from different areas of production and logistics with a special focus on the engineering side of management and control of such systems. The central idea is to establish a common ground in order to promote a synergy among different disciplines for exploring new solutions for complex scientific and technical challenges. Topics of interest include, but are not limited to:

Modeling and Simulation

- Decision-Support Systems: Concepts, Methods and Algorithms
- Discrete Event Systems
- Cyber-physical Production and Logistic Systems
- Probabilistic and Statistical Modeling
- Production Planning and Scheduling
- Operational Research Applications

Control Methods and Concepts

- Robotics and Man-Machine Interaction
- Factory Automation
- Intelligent Manufacturing Systems
- Advanced Process Control and Wireless Automation
- Lean Six Sigma: Enterprise, Manufacturing and Healthcare
- ERP and Inventory Control

Management of Organizations

- Supply Chain and Green Supply Chain Management
- Urban Freight Distribution and City Logistics
- Information Technology in Production, Logistics and Management
- Humanitarian Logistics
- Socio-technical and Cognitive Aspects in Manufacturing and Logistics
- Quality Management Systems and Performance Indicators

The IFAC MCPL 2016 is the 7th in a very successful series of events, previously held in Fortaleza (Brazil), Campinas (Brazil), Grenoble (France), Santiago (Chile), Sibiu (Romania) and Coimbra (Portugal). This seventh edition will be organized by the BIBA Bremer Institut für Produktion und Logistik, one of the most important research centers for Production and Logistic Systems in Europe. The conference will be held in the Hanseatic City Bremen on the banks of the River Weser, one of the biggest logistics hubs in Europe.

Important Dates

Submission of papers: September 25, 2015

Proposals for workshops and tutorials: November 9, 2015

Notification of acceptance: November 16, 2015

Pre-proceedings version due: December 11, 2015

Main conference: February 22 – 24, 2016

Conference with Satellite Events: February 22 – 26, 2016

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