

Call for Papers
1st Workshop on Designing Assistive Environments for Manufacturing (DAEM)
Part of PETRA'17 Conference (www.petrae.org)
June 21 – 23, Rhodes, Greece

Workshop page URL:

<http://www.petrae.org/workshops/DAEM.html>

Important dates

- Paper Submission: **March 3rd, 2017** <http://petrae.org/submissions.html>
- Paper Notification: **March 17th, 2017**
- Camera-Ready Paper: **March 31st, 2017**
- Registration Deadline: **March 31st, 2017**

Abstract

Currently, a fundamental change is happening in manufacturing which transforms the practice of running independent manufacturing units to the implementation of networked cyber-physical systems. The digitalisation of industrial production, often referred to as *Industrie 4.0*, lays the groundwork for more flexible and efficient ways of producing goods. This new approach is often highly complex putting strains on operators and supervisors of such systems. Hence, new research questions related to the assistance of humans in industrial contexts arise.

While human labour relies increasingly on digitalised means of production the need for supporting an ever-diversifying workforce grows. Assistive work environments represent a promising approach towards managing the technological shift within the producing industry in a human-centred way. With recent developments, such as demographic changes and flexible working models, the diversity of possible user groups becomes apparent. Assistive environments and systems must address users individually and appropriately in order to provide effective support. Hence, the notion of human-centred design is paramount. Consequently, designers of such environments need to be well informed about processes, methods and tools which facilitate conceptualising, prototyping, implementing, and evaluating assistive environments for the shop floor. There are three major areas up for discussion:

- Technology - enabling the development of Assistive Environments (Augmented Reality/Virtual Reality, toolkits, testbeds, etc.)
- Methodology – facilitating design processes, user research, evaluation, etc.
- Social, legal and ethical implications – helping assess impact and values of proposed technical or methodical solutions

This workshop welcomes contributions (workshop paper of 4-8 pages) that provide new perspectives or fresh ideas in order to establish a long-term research agenda around assistive environments in manufacturing.

List of Topics

Topics of interest include, but are not limited to:

- **Concepts**
 - New interaction concepts for assistive environments
 - Combining cognitive and physical assistance at the workplace
 - Tools and design techniques
 - Transfer of HCI concepts into industrial practice

- **Applications of Assistive Technology**
 - For stationary or mobile assembly tasks
 - For monitoring or controlling cyber-physical systems
 - Assistance through Human-Robot Collaboration
 - For learning and education
 - Assistive systems for user groups with special needs
 - Systems or concepts fostering inclusion at the workplace
- **Technologies and Devices**
 - Augmented and virtual reality
 - Projection-based systems
 - Mobile and wearable devices
 - Internet of Things technology
- **Methodology**
 - Usability and user experience of assistive environments in industry
 - Evaluation methods
 - User and cognitive models
- **Others**
 - Social and ethical aspects
 - Technological acceptance
 - Case studies

Goals

This workshop shall convene researchers and practitioners from the Human-Computer Interaction community initiating scientific and personal exchange. The goal is to take account of the current state of the art, to provide an incentive for collaboration, and to formulate research questions relevant to the design of assistive environments for manufacturing. We are eager to explore new design spaces in this field by means of *Design Thinking*, i.e. we will engage the topic in a hands-on fashion. The workshop shall facilitate establishing collaborations and provide a platform for exchanging ideas relevant to the domain.

Workshop Organizers

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