

# Center for E-Learning and Industry 4.0 (CEI4.0)

## Objectives (Mission)

- Creating I4.0 knowledge-center for Industries & Academia
- Delivering training on various I4.0 skills
- Producing I4.0 ready workforce or graduates
- Establishing I4.0 learning lab and research center
- Undertaking industry-driven funded projects & research
- Establishing e-learning resource development studio
- Skill development for developing digital learning resources
- E-resource generation, dissemination and accessibility
- Research in educational technology and e-learning
- Advocacy of E-learning based pedagogy and tools

## Industry 4.0 Projects

### Factory Assessment Internship Program (Joint Program Between VU and C4i4 labs)

#### Objectives

- Determine current state of Industry 4.0 adoption
- Determine trends in manufacturing industries towards digital transformation
- Evaluate needs for Industry 4.0 adoption

#### Outcome

- Exposure to smart factory assessment tool
- **25+ Industry** data based on Industry 4.0 index collected
- Knowledge about different strategies adopted towards smarter manufacturing.
- Knowledge of gaps between current conditions and desired conditions of digital transformation
- Roadmaps for Industry 4.0 adoption in industries.
- Participation of around **35 students** of Engineering and Management across VU group (**VU + VIT + VIIT**)
- **7 faculties** involved as mentors



## Industry 4.0 Projects

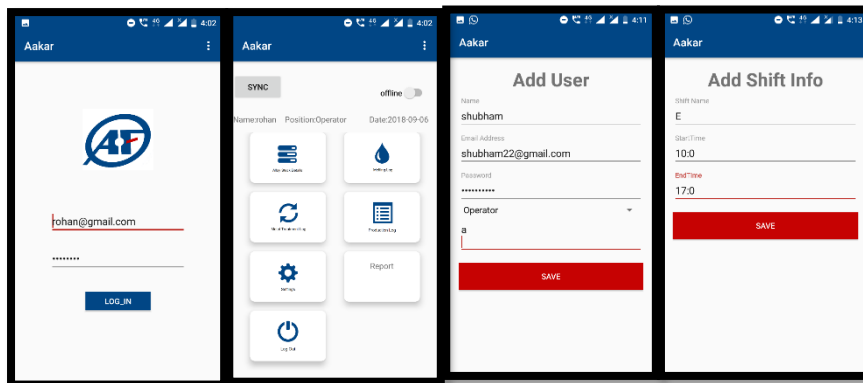
### Process excellence through digital transformation (Joint Project between VU and Aakar Foundry)

#### Objectives

- Smart data collection for production processes
- Real-time computation of OEE & process parameters including man, machine, material
- Using statistical methods on data to guide manufacturing process in real time and do prediction

#### Outcome ( On going....)

- Mobile / Web based application for process digitization
- Decision support systems
- Automated search engine for special conditions
- Generating statistical and prediction models



## Industry-Driven Research

### Energy Efficient Machine Testing Algorithm



**Mrs. Sonali Patil**

The algorithm shall deal with optimizing the testing parameters, testing cycle time and eventually the testing energy requirement. Use of data mining, analytics and machine learning is essential

## Knowledge partnering for MIG Industry 4.0 Conference



**CONNECT**  
October-November 2018 | 11

**C414 LAB**  
CENTRE FOR INNOVATION

**Spreading Awareness**

### MIG Impact Conclave on Industry 4.0

Pune witnessed a unique one day SME focused B2B conclave named MIG IMPACT on Industry 4.0 on 8th September at The Westin Koragaon Park. It was a pioneering effort put by Mahesh Industrial Group (MIG) and supported by Vishwakarma University as knowledge partner. The objective was to bring together entrepreneurs and experts to discuss and understand what Industry 4.0 revolution is and how can it be adopted to support a broader aim of skill India mission.

The conclave was a grand success with more than 200 participating delegates from Pune. The event brought together experts from various technological fronts within Industry 4.0 namely IoT, Big-Data Analytics, Cyber Security, Robotics, Machine Automation, Augmented Reality, Block Chain, Machine Learning and Artificial Intelligence.

At the onset, Rajul/Dhool president, MIG group expressed his pleasure in inviting all the delegates for the first ever Industry 4.0 conclave in Pune. He expressed his deep satisfaction in associating with Vishwakarma University as a knowledge partner for planning a very comprehensive and useful conference program.

Professor Siddhorth Jabade, Vice Chancellor, Vishwakarma University in his welcome speech announced the conference as a trendsetter. He expressed his desire to bring Universities and Industries closer for investing in Industry 4.0 and getting the competitive advantage. There is need for awareness, education and research

to cater the increasing demand of Industry-4.0-ready manpower.

In plenary session chief guest Dattaraya Navalgundkar, Managing Director, Smarth Lifyog in his keynote speech took an overview of Industry 4.0 (I4.0) and highlighted the key benefits to the Indian industries. He discussed new job opportunities and skill requirements in I4.0 era. Mr. Ashwani Maheshwari, guest of honor and Director, Varroc Group expressed his views on the paradigm shift in Industry 4.0 for the Indian industries. He told about the importance of digital transformation or smart manufacturing and its value addition to end-customers through simple case studies within Varroc Group.

Professor Rajul Mona from IIT, Kharpur gave a detailed account of how artificial intelligence and machine learning techniques can be leveraged for making industry smarter in all aspects. He discussed lot many applications and new trends of utilizing real time production data for smarter decision making.

Industrial IoT has brought a disruptive change in sensing and monitoring of machines and manufacturing processes. Anil Mata, Vice President, Altizon Systems enlightened on how IIOT implementation can create next generation business opportunities for SMEs. Grikanth Avachanula, Director Supply Chain Solutions, S&T based on big-data analytics and its role in monitoring and predicting factory's health.

## Roadmap for Industry 4.0 Center

- Preparing directory of resource persons, institutions and smart industries of national and international repute
- Establishing informative website on Industry 4.0 resources
- Finding new skill requirements for Industry 4.0.
- Establishing Industry 4.0 skill development lab
- Designing and delivering skill oriented Industry 4.0 focused courses, workshops, seminars (online and offline)
- Factory assessment on Industry 4.0 adoption and compliance.
- Conference Industry 4.0 best practices
- Running a PhD program around Industry 4.0 body of knowledge

## Roadmap for E-Learning Center

- Exploring current e-learning landscape and trends in India.
- Creating and publishing need-based educational tools and courses for on-campus and distant learners.
- Innovating digital education and educating for innovation - AR/VR educational tools
- Creating skilled man-power for digital education through trainings and workshops.
- Research Themes
  - Empathic Computing - systems that create and share understanding
  - Collaborative E-Learning Spaces and Interfaces
  - Augmented Reality and Virtual Reality

## Contact Information

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