Engineering Institute of Technology.

Thursday 21 January
Engineering Student Webinar

DOWNLOAD RECORDING HERE

Studying for the Jobs of the Future

Industrial Automation

PRESENTED BY

Professor Akhtar Kalam | Head of EIT Academic Board
Mr Jason Gabriel | EIT Higher Education Manager

Agenda

1	Welcome
2	Overview of EIT
3	Job Trends - Industrial Automation Engineering
4	EIT Programs, Unique Delivery Methodology & Student Support
5	Q & A

Professor Akhtar Kalam

Currently working as the Head of External Engagement in the College of Engineering and Science at Victoria University, Melbourne; a former Deputy Dean of the Faculty of Health, Engineering and Science for 7 years. Akhtar has concurrent appointment as Distinguished Professor at the University of New South Wales, Sydney, Australia; MRS Punjab Technical University – Bhatinda, India; Crescent University – Chennai, India; VIT – Vellore, India and 5 Malaysian universities.

Akhtar is currently the Editor in Chief of the Australian Journal of Electrical and Electronic Engineering. He has conducted research, provided industrial consultancy and published over five hundred publications on his area of expertise and written over 29 books in the area. More than 40 PhD students have graduated under his supervision.

He is an external examiner of many external doctoral students in Australia and overseas. His major areas of interests are power system analysis, communication, control, protection, renewable energy, smart grid, IEC61850 implementation and cogeneration systems.

Mr Jason Gabriel

Jason has an immense amount of experience in coaching and learning development and his 10 year career has provided him exceptional administrative skills. He is enthusiastic about helping people, and with his outstanding communication skills, provides our students the highest level of encouragement in anticipation of their success.

Jason is currently Acting Higher Education Manager and oversees EIT's Learning Support Officers who ensure the Bachelor of Science, Master of Engineering, Undergraduate and Graduate Certificate course units are run effortlessly each semester, and that students are afforded the very best support for their studies.

About EIT

We are dedicated to ensuring that you receive a world-class education and gain skills that you can immediately implement in the workforce.

Engineering Specialists

EIT is one of the only institutes in the world specializing in Engineering. We deliver professional certificates, diplomas, advanced diplomas, undergraduate and graduate certificates, bachelor's and master's degrees, and a Doctor of Engineering.

Industry Oriented Programs

Our programs are designed by industry experts, ensuring you graduate with cutting-edge skills that are valued by employers. Our program content remains current with rapidly changing technology and industry developments.

World-Class Australia Accredited Education

Our vocational programs and higher education degrees are registered and accredited by the Australian Government. We have programs that are also recognized under three international engineering accords.

Industry Experienced Lecturers

Our lecturers are highly experienced engineers and subject specialists with applied knowledge. The technologies employed by EIT, both online and on-campus, enable us to source our lecturers from a large, global pool of expertise.

Unique Delivery Model

We deliver our programs via a unique methodology that makes use of live and interactive webinars, an international pool of expert lecturers, dedicated learning support officers, and state-of-the-art technologies such as hands-on workshops, remote laboratories, and simulation software.

The Future of Jobs Report 2018 refers to estimates that by 2022 globally as many as:

75 million jobs may be displaced by a shift in the division of labour between humans and machines, while 133 million new roles may emerge that are more adapted to the new division of labour between humans, machines and algorithms.

Impact of the 4th Industrial Revolution

There is a downward pressure on jobs in developing countries.

For some jobs, creativity and problem solving will replace busywork.

Middle skill professions, such as clerical work & customer services, will slowly disappear.

The social functions of a job will take on greater importance.

Demand for both high and low skill jobs will increase.

Work will be an increasingly distributed and global phenomenon.

The skills required to prosper are changing.

https://www.roboticstomorrow.com/story/2020/07/5-ways-automation-will-change-the-nature-of-work/15510/

Significant Trends

1. Cybersecurity and cybercrime
2. Internet of Things (IoT and a super connected world)
3. Artificial Intelligence, increasing automation and the growing use of robots
4. Smart Phones becoming your primary tool for everything
5. Renewable Energy (and battery storage)
6. Virtual and Augmented Reality
7. Virtual Collaboration becoming common
8. Drones (or UAVs) being applied to Business
9. Big Data providing massive detailed information
10. Hype and nonsense trends
11. Machine learning

“As innovations in robotic engineering, artificial intelligence and machine learning multiply, a far greater diversity of occupations than ever before is set to be directly affected by one form of automation or another.”

The Automation Engineer

Career Opportunities

1. Automation Product Manager
2. Automation Project Manager
3. Industrial Automation Sales Engineer
4. Automation Technician
5. Process control, commissioning and production management
6. Plant, factory and building automation
7. Programmable Logic Controllers (PLCs), Distributed Control Systems (DCSs) and SCADA
8. Industrial design and consultation
9. Supply chain management, quality assurance, and sales
10. Operations, maintenance, field services, and technical support
11. Controls, instrumentation, and robotics
12. Automation Controls Engineer
13. Automation Application Engineer
14. Field Systems Engineer
15. PLC Programmer
16. Industrial project management and business development

STEM disciplines – Science, Technology, Engineering and Mathematics – will be central to the jobs of the future, and people with these skills will be well positioned to succeed in the future.

EIT Programs in Automation

EIT offers a range of automation related programs from professional development through to formal qualifications. EIT also offers its higher education programs on-campus in two campuses; *Perth, Western Australia and Melbourne, Victoria.*

Leticia Oppong

A graduate of EIT's Professional Certificate in Programmable Logic Controllers (PLCs) & SCADA Systems. Leticia enrolled with EIT to broaden her expertise in the field and ensure she stays on top of industry developments.

Aaron Giovenco

An electro-technical specialist who works in the maritime and offshore oil and gas industries. He says EIT's 52708 - Advanced Diploma of Industrial Automation developed both his theoretical and practical knowledge in the automation space, which will help him to further his career.

Student Support

Emily Levy | Higher Education LSO
Based in Perth, Western Australia

- Learning Support Officers (LSOs) are in addition to the academic support (instructors/lecturers).
- LSOs guide the students from the onboarding process through to graduation.
- LSOs are the support, encouragement and go-to person for any question relating to a student's studies.
- One LSO is dedicated to the student for the duration of either a professional certificate or VET program.
- If a student is studying a degree, they will have a committed LSO for each unit of study.
- EIT has LSOs based in: *South Africa, Switzerland, Zimbabwe, New Zealand and Australia.*

Delivery Methodology: Live and Interactive

- Online students join the lecturer and other students from around the world in an online virtual classroom.
- On-campus students join the lecturer and other students within the classroom. Lecturers who are based in different parts of the world will compliment local lecturers and stream live into the classroom.
- EIT incorporates live and interactive sessions within each program (students can utilise the chat box and microphone).
- Class sizes are small to allow students to build rapport with lecturers and students.

Delivery Methodology: Live and Interactive

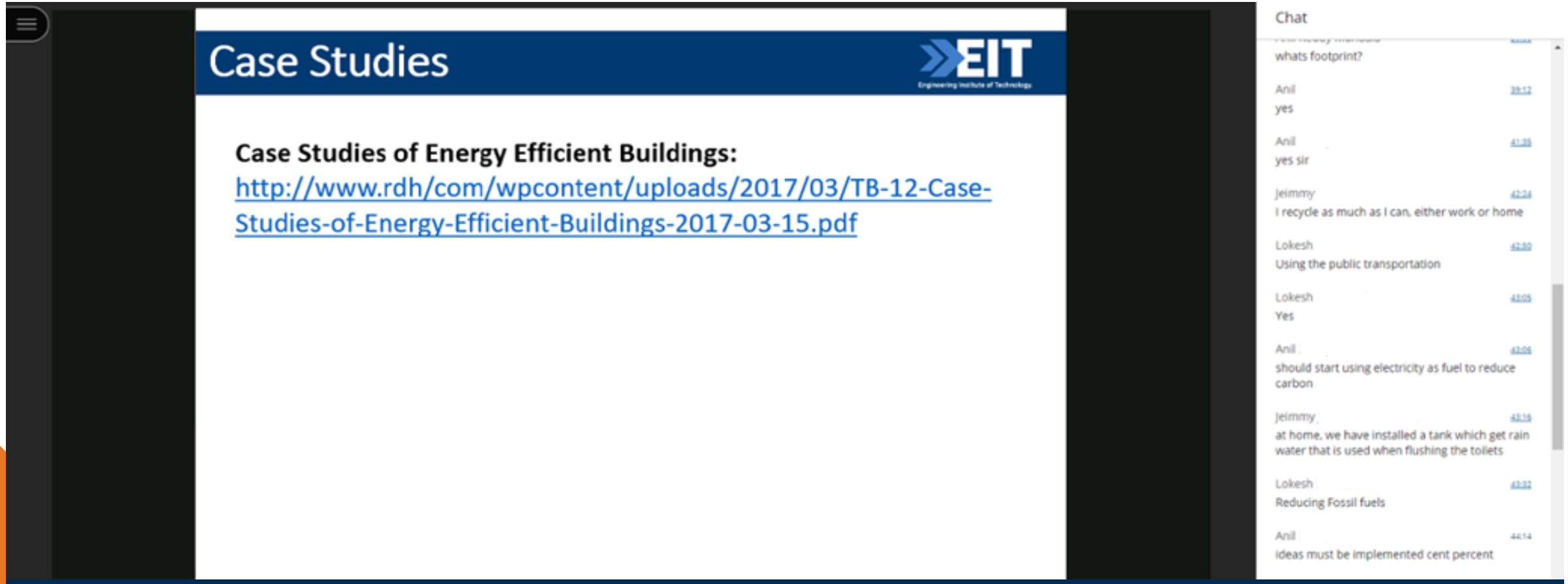


Image 1: A screen shot taken from a Master of Engineering (Industrial Automation) tutorial with Professor Akhtar Kalam.

Delivery Methodology: Study Materials

Delivery

All teaching materials are delivered via our learning management system, including lecture and tutorial slides, and a comprehensive reading list.

eLibrary

We provide an extensive eLibrary and a wide range of engineering-focussed library collections, including over 160 technical engineering manuals.

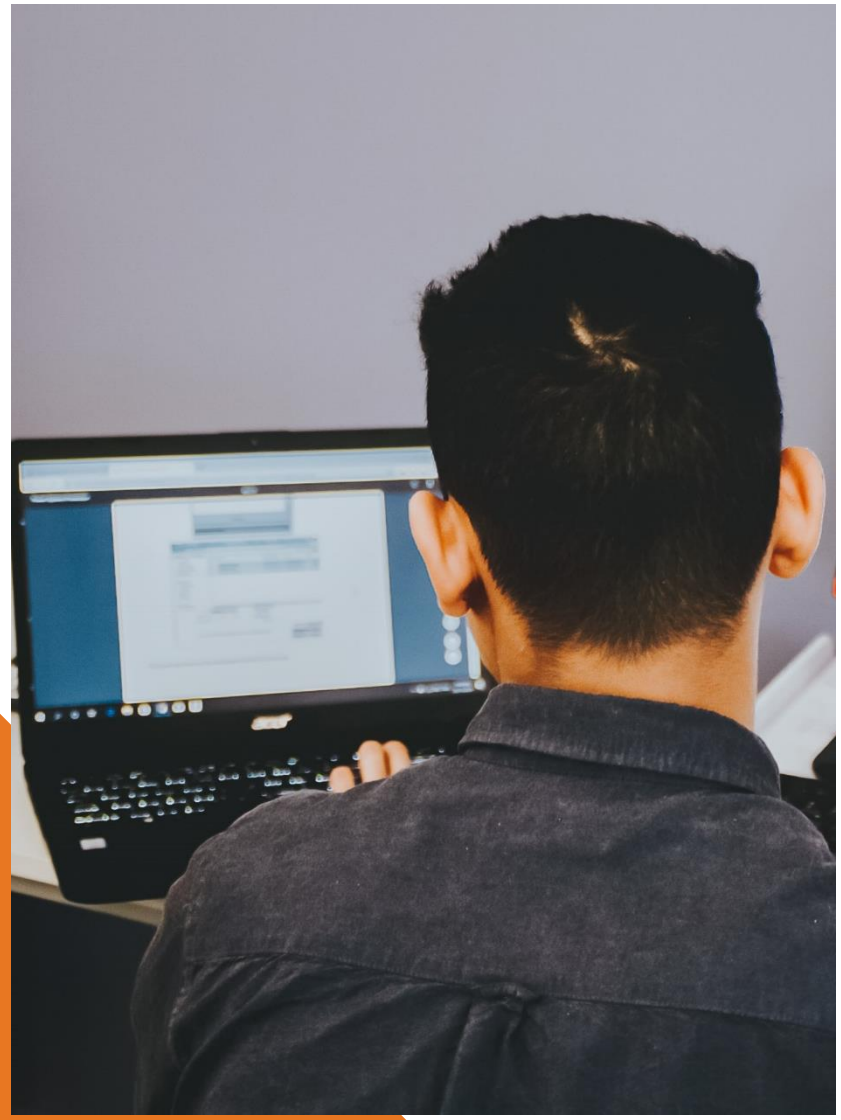
Resources

We subscribe to several collections from reputable online publishers that are designed to support you throughout your course by providing free access to textbooks, journals, articles, conference papers, and other learning resources such as equations and unit converters.

Extra Help

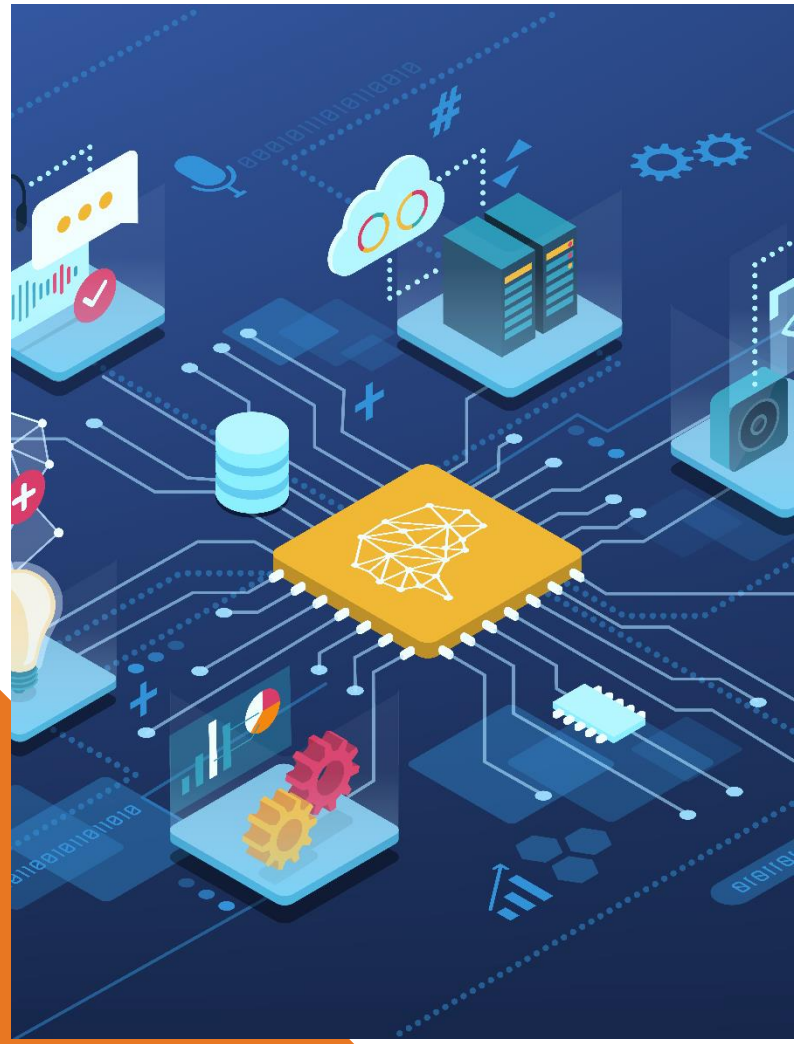
The eLibrary also contains additional information to support students, including referencing guidelines, links and guides to open-access resources, and thesis papers written by our previous master's graduates.

Delivery Methodology: Remote and Virtual Labs



- In the majority of our programs students complete practical exercises using a combination of remote and virtual laboratories (including simulation software).
- In these remote and virtual laboratories students can control physical equipment and sensors equivalent to the traditional university engineering lab.
- This means that even though you are studying online, you are not missing out on your hands-on, practical experience. For the on-campus students, workshops and work integrated learning via an internship is incorporated into the student journey.
- Through these hands-on exercises using simulation software, remote laboratories, practical based assignments and interactive discussion groups, students are able to grasp new knowledge and apply it successfully to the real world.
- **Each hosted engineering software and hardware can be controlled in real time; it's as simple as logging in and selecting an available lab and timeslot!**

EIT Technical Topic Webinar:
How is Artificial Intelligence and Automation changing the world?



Join Dr Hadi Harb to gain a greater insight into Artificial Intelligence (AI) and automation in industry.

During the webinar, Dr Hadi will:

- Look at the definition of AI and why you should care.
- Touch on the terminology used in AI.
- Outline what is required to build an AI system.
- Describe a couple of case studies.

A certificate of participation can be provided to attendees who request it after the live webinar.

Register today:
https://www.eit.edu.au/event/how-is-artificial-intelligence-and-automation-changing-the-world/

Q&A

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