WESET FINAL MEETING
28-29/09/2021

Arab Academy for Science and Technology and Maritime Transport (AASTMT)

Professor Yasser Gaber Dessouky,
Dean of Scientific Research and Innovation

Professor Moustafa Abdel Galil
Head, Electric and Control Engineering Dept.

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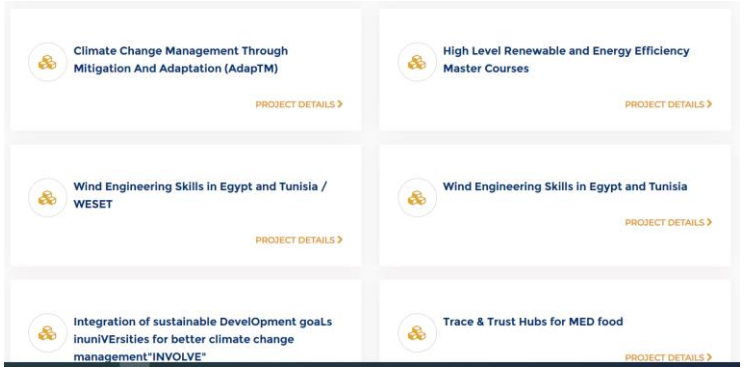
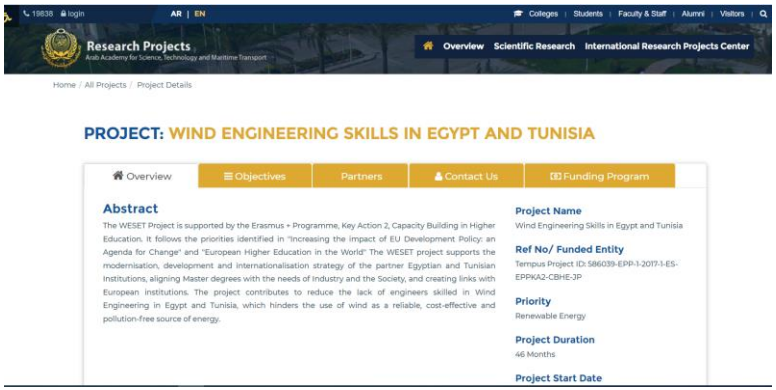
1) Provide the link in your university website to the WESET project website

Link	Type of website
http://www.aast.edu/en/scientific-research/projects/all-projects.php	Institutional,
http://www.aast.edu/en/scientific-research/projects/project.php?uid=16&proj_id=6	





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2) For each of the courses provide:

Title	Title of the course
Updated	EE 726 (Renewable energy systems) Percentage = 40%, Lectures 6, 7, 10,11,12, 15
Course Volume	3 CrH =7-5ECTS
Degree / Diploma	Master of Science of Electric Engineering
Webpage	http://www.aast.edu/en/colleges/coe/alex/dept/programtemp.php?program_id=172&unit_id=45
Recognition	The course is recognised by: Dept of Electrical and control Engineering) and College of Engineering and Technology Higher University Council of Postgraduate Studies
Number of students	2 / Sep 2019

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2) For each of the courses provide:

Title	Title of the course
Updated	ME 723 (Renewable energy) Percentage = 20%, Lectures 10,14,5
Course Volume	3 CrH =7-5ECTS
Degree / Diploma	Master of Science in Mechanical Engineering
Webpage	http://www.aast.edu/en/colleges/coe/alex/dept/programtemp.php?program_id=234&unit_id=53
Recognition	The course is recognised by: Dept of Mechanical Engineering) and College of Engineering and Technology Higher University Council of Postgraduate Studies
Number of students	7/Sep 2019

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2) For each of the courses provide:

Title	Title of the course
Updated	CR 715 (Wind power Technology and Development) Percentage = 90%, Lectures 2 to 14
Course Volume	3 CrH =7-5ECTS
Degree / Diploma	Master of Engineering in Renwable Energy
Webpage	https://www.aast.edu/en/colleges/coe/alex/dept/programtemp.php?program_id=251&unit_id=74
Recognition	The course is recognised by: College of Engineering and Technology Higher University Council of Postgraduate Studies
Number of students	2 /Sep 2019

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2) For each of the courses provide:

Title	Title of the course
Updated	EE 712E (SCADA and DCS) Percentage = 30%, Lectures 10 to 14
Course Volume	3 CrH =7-5ECTS
Degree / Diploma	Master of Engineering in Electrical and Control
Webpage	http://www.aast.edu/en/colleges/coe/alex/dept/programtemp.php?program_id=232&unit_id=45
Recognition	The course is recognised by: Depart. Of Electrical and Control Eng. College of Engineering and Technology Higher University Council of Postgraduate Studies
Number of students	3/ Feb 2020

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2) For each of the courses provide:

Title	Title of the course
Developed	EE 721 (Wind energy conversion system) Percentage = 100%
Course Volume	3CrH =7-5ECTS
Degree / Diploma	Master of Scince of Electric Engineering
Webpage	http://www.aast.edu/en/colleges/coe/alex/dept/programtemp.php?program_id=172&unit_id=45
Recognition	The course is recognised by: Dept of Electrical and control Engineering) and College of Engineering and Technology Higher University Council of Postgraduate Studies
Number of students	will be applied and listed in website after the approvel from Higher eduction councel in Master of Scince of Electric Engineering (Oct.2021)

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2) For each of the courses provide:

Title	Title of the course
Developed	EE 7111 (Advanced Control System for Renewable Energy Application) Percentage = 70%
Course Volume	3 CrH =7-5ECTS
Degree / Diploma	Master of Scince of Electric Engineering
Webpage	http://www.aast.edu/en/colleges/coe/alex/dept/programtemp.php?program_id=172&unit_id=45
Recognition	The course is recognised by: Dept of Electrical and control Engineering) and College of Engineering and Technology Higher University Council of Postgraduate Studies
Number of students	will be applied and listed in website after the approvel from Higher eduction councel in Master of Scince of Electric Engineering (Oct.2021)

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2) For each of the courses provide:

Title	Title of the course
Updated	EG 7005 (Renewable energy and Energy Conversion) Percentage = 50%, Lectures 1,2, 6, 7, 10,11,12,
Course Volume	3 CrH =7-5ECTS
Degree / Diploma	Master of Scince of Renwable Energy
Webpage	(https://www.aast.edu/en/colleges/coe/alex/dept/programtemp.php?program_id=245&unit_id=74#EMS
Recognition	The course is recognised by: Dept of Electrical and control Engineering) and College of Engineering and Technology Higher University Council of Postgraduate Studies
Number of students	1 / Sep 2020

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2) For each of the courses provide:

Title	Title of the course
Updated	EG 7210 (Renewable energy and Energy Conversion) Percentage = 90%, Lectures 3 to 15
Course Volume	3 CrH =7-5ECTS
Degree / Diploma	Master of Science of Renwable Energy
Webpage	(https://www.aast.edu/en/colleges/coe/alex/dept/programtemp.php?program_id=245&unit_id=74#EMS
Recognition	The course is recognised by: Dept of Electrical and control Engineering) and College of Engineering and Technology Higher University Council of Postgraduate Studies
Number of students	1 / Feb 2021

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2) For each of the courses provide:

Title	Title of the course
Updated	CR 715 (Wind power Technology and Development) Percentage = 90%, Lectures 2 to 14
Course Volume	3 CrH =7-5ECTS
Degree / Diploma	Master of Renewable Energy
Webpage	https://www.aast.edu/en/colleges/coe/alex/dept/programtemp.php?program_id=251&unit_id=74
Recognition	The course is recognised by: College of Engineering and Technology Higher University Council of Postgraduate Studies
Number of students	2/ Feb 2021

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3) Equipment

WEC	Name of the Wind Energy Centre
Photos	Real time simulator see photo in the next slides
Where and when has it been installed?	Lab 201, Building A, Faculty of Engineering, AAST
How has it been used in the project?	Lab Simulation and wind energy system and control
How will it be used in the future?	Developed and updated courses Lab work and simulations Research related to wind and renwable energy Testing and simulation of the control of wind in practrical training and consultancy
Webpage	Link (if any)

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Building Capacity of AASTMT labs

Versatile Real-Time Digital OP5600 SIMULATOR

- The OP5600 real-time simulator is the most adopted simulation platform by OPAL-RT's users in industry and academia.

- OP5600 combines the performance, versatility and reliability that is ideal for demanding hardware in the loop applications.

- It can be applied in the power systems, aerospace, automotive, oil and gas or other electro-mechanical industries, the OP5600 has the power to simulate systems, while offering all the I/Os required to get your hardware into the loop.

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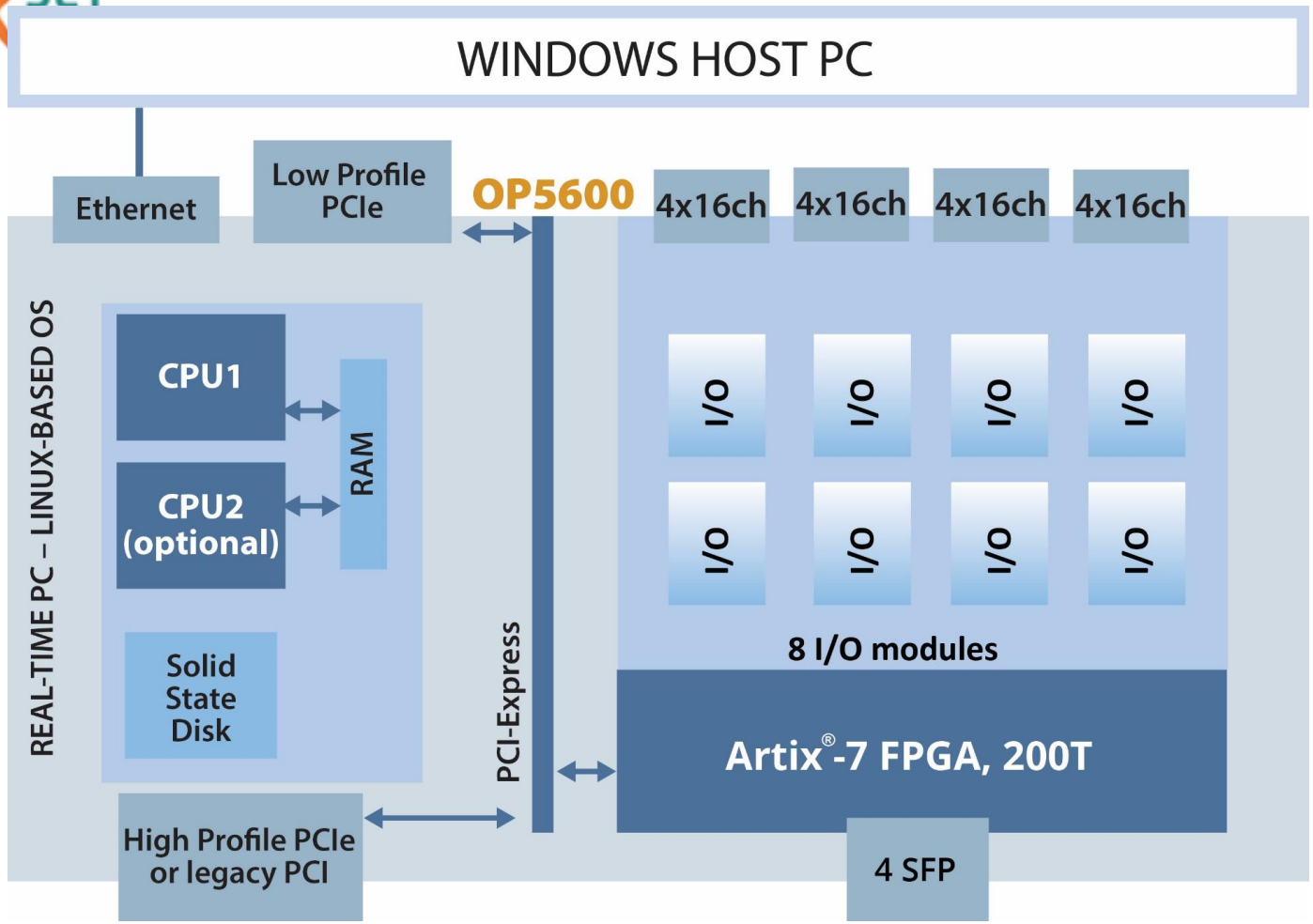

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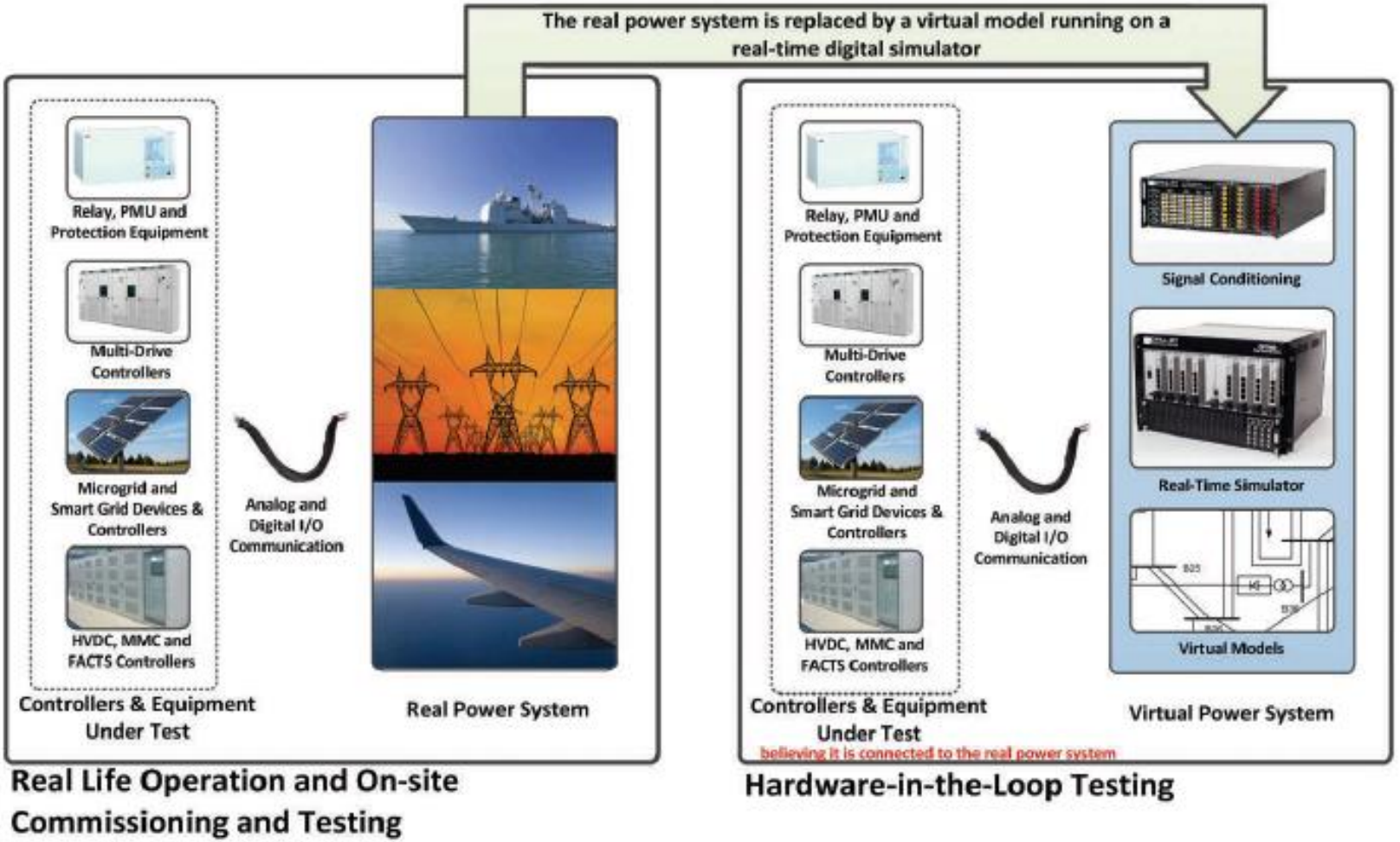

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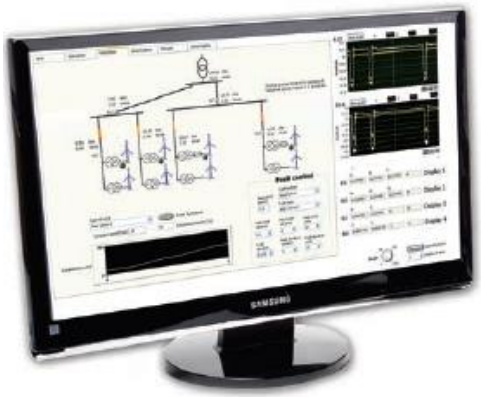

Test and Development Software
Running on a Host PC

*eMEGA*sim™ Real-Time
Digital Simulator

Wind Turbine Controller Under Test

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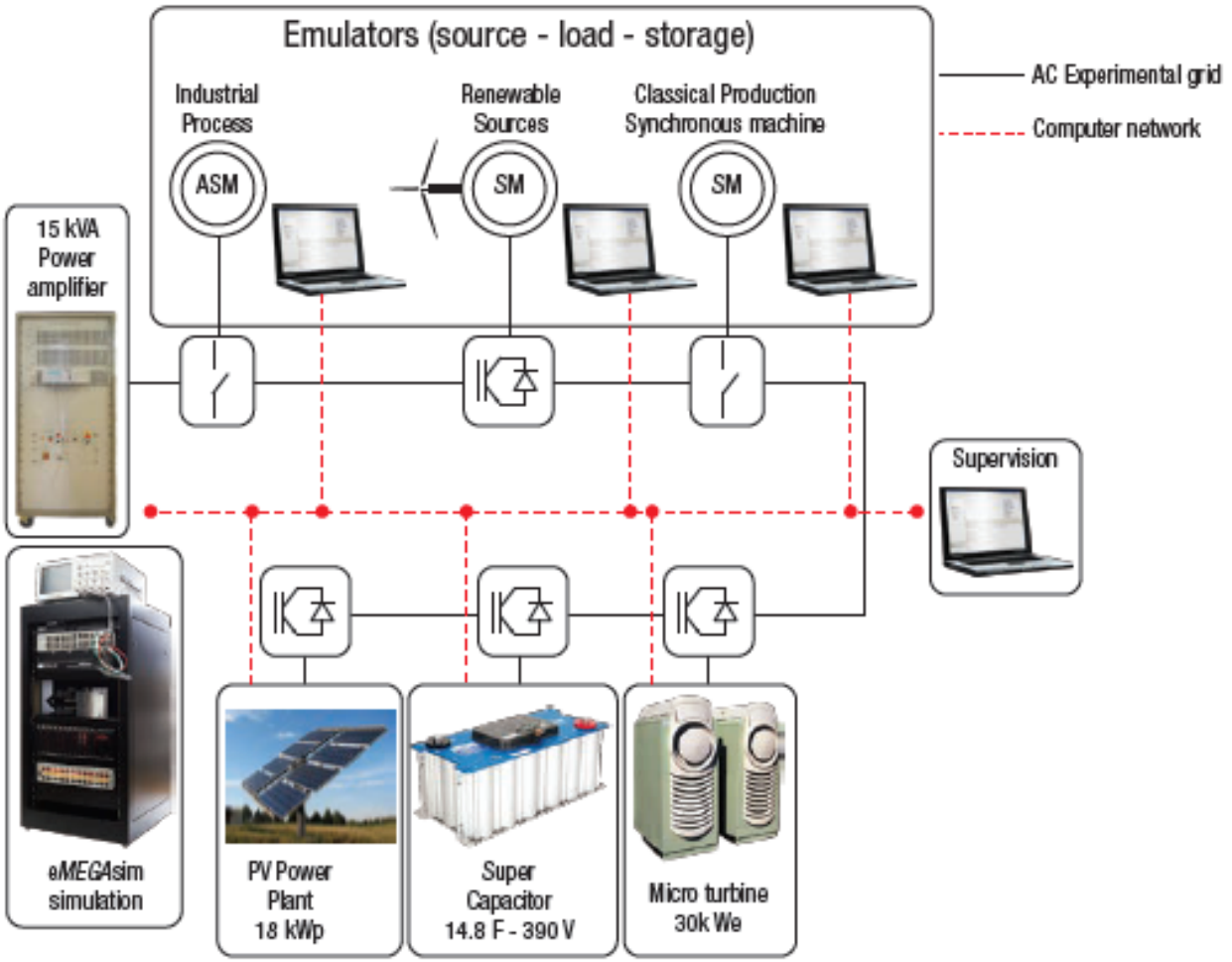
Real-time Platform for Microgrid PHIL Testing



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3) Equipment

WEC	Name of the Wind Energy Centre
Photos	Motor Generator set with PLC and HMI control for wind automation See next page
Where and when has it been installed?	Lab 101, Building A, Faculty of Engineering, AAST
How has it been used in the project?	Lab Simulation of wind system control
How will it be used in the future?	Developed and updated courses Lab work related to control of wind Research related to wind and renwable energy Testing and simulation of the control of wind in practrical training and consultancy
Webpage	Link

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3) Equipment

WEC	Name of the Wind Energy Centre
Photos	Wind speed and ditection measuring units see next slide
Where and when has it been installed?	Lab G501, Building G, Faculty of Engineering, AAST
How has it been used in the project?	To measure wind speed and direction for wind simulator
How will it be used in the future?	Developed and updated courses Lab work Research related to wind and renewable energy Testing and measurment in practrical training and consultancy
Webpage	Link (if any)

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WTF-B200 Wind Speed and Direction Anemometer

- - Whole set of WTF-B200 wind vane anemometer includes WTF-B200 display, WFS-1 wind speed
- sensor, SC/FX wind direction sensor and cables.
- Application
- - Cranes
- - Weather
- - Agriculture
- - Hydraulic and Hydroelectricity
- - Construction
- - Education

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3) Equipment

WEC	Name of the Wind Energy Centre
Photos	Battery test system see next slide
Where and when has it been installed?	Lab G501, Building A, Faculty of Engineering, AAST
How has it been used in the project?	State of charge of energy storge
How will it be used in the future?	Developed and updated courses Lab work Research related to wind and renwable energy Testing and measuring state of charge of battery in traning and consultancy
Webpage	Link (if any)

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FERVE F-814 battery and Alternator Tester 12 V

- Intakes for generator and battery discharge Tester
- Discharge of 250 for 10 seconds
- Digital indicator with hundredths of a Volt
- For lead acid batteries, with a capacity between 32 and 180 Ah

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Auto Meter SB-300 Intelligent Handheld Battery Tester

•Tests flooded, deep cycle, and AGM batteries with CCA range of 100-1600 - also detects discharged batteries, bad cells, and has built in reverse polarity protection.

•This tester applies a true 40 amp load to the battery in order to simulate real world operating conditions consistent with BCI (Battery Council International) testing standards.

•Battery test results include: Measured true CCA, voltage and percent of charge, and the battery's state of health (good, near end of life, or bad).

•Automatically stores the last 100 tests in memory.

3) Equipment

WEC	Name of the Wind Energy Centre
Photos	Clamp Meters and Voltage and Current Prob 
Where and when has it been installed?	Lab G501, Building A, Faculty of Engineering, AAST
How has it been used in the project?	Measuring current and voltaje for expermint
How will it be used in the future?	Developed and updated courses Lab work Research related to wind and renwable energy Testing and measuring in traning activities and consultancy
Webpage	Link (if any)

3) Equipment

WEC	Name of the Wind Energy Centre
Photos	Grid Connected wind Energy setup nse next slide
Where and when has it been installed?	Lab 501, Building A, Faculty of Engineering, AAST
How has it been used in the project?	Lab Simulation and wind energy system and control
How will it be used in the future?	Developed and updated courses Lab work and simulations Research related to wind and renwable energy Testing and simulation of the control of wind in practrical training and consultancy
Webpage	Link (if any)

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Grid connected wind energy setup consists of wind energy generator with wind simulator, grid connected inverter, grid connected controller, and power analyzer.

www.weset-project.eu

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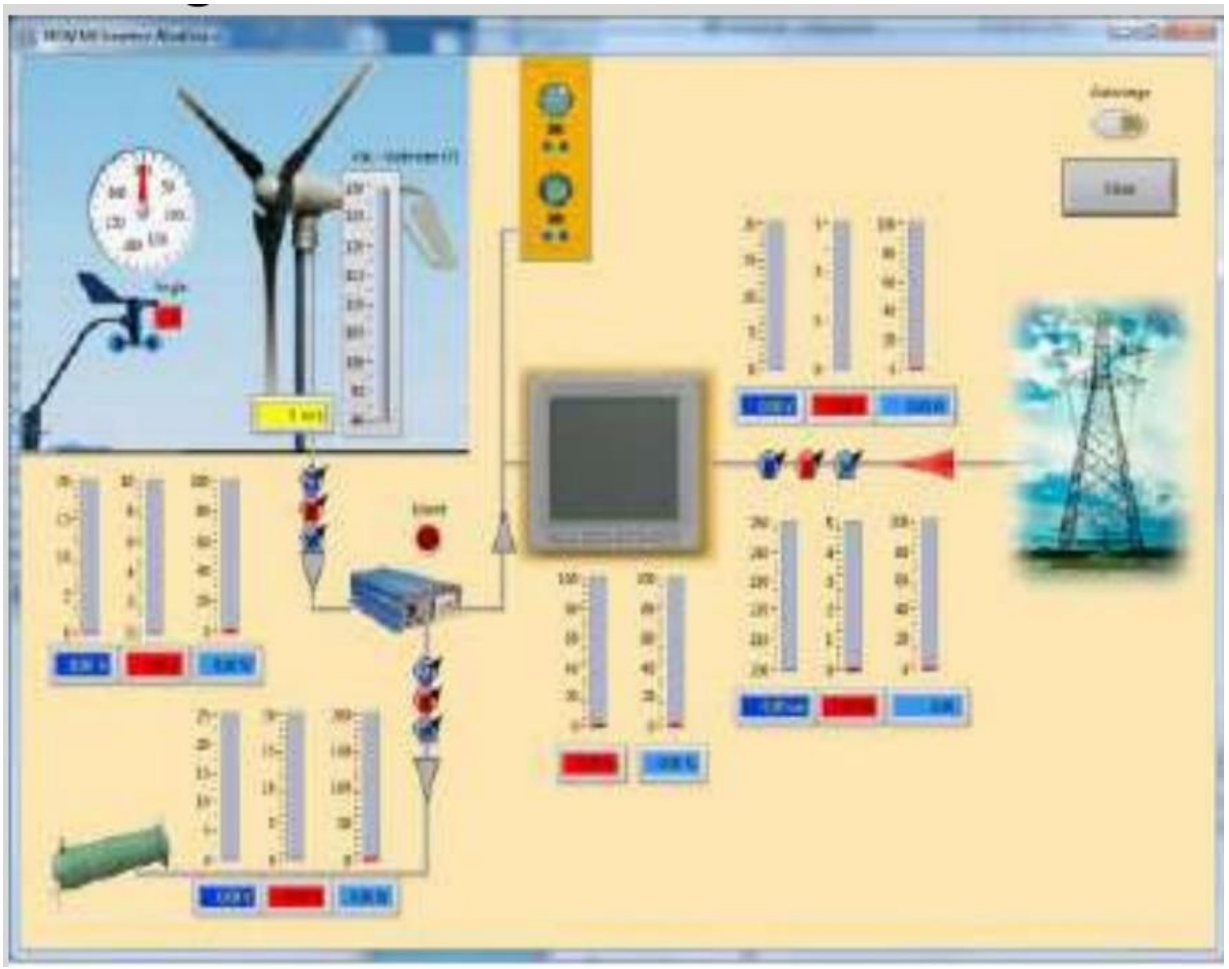

Wind turbine, load module, measurement module, Grid tie inverter, energy management module, wind simulator motor.

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4) Relevance of the Results

RESULT	
Capacity Building in Staff	Some of AASTMT has travelled to EU and got trained which was very useful for them in teaching their courses And they – in turn - trained some Young staff back home when they got back
Capacity Building in equipment	The new wind centre enhanced a lot the quality of teaching and student research in the AASTMT
Cooperation with EU Univ and enhanced the internationalisation of the AASTMT which was a good reason for the AASTMT to apply to the QS rating system for ranking Univ and got 4 stars out of 5 in this internalisation indicator	Main achievements/results of WESET at national/or regional level

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5) Links with Society

LINKS	
The AASTMT signed an MoU with NREA and with RCEEEE	The MoU opend a good chance for the future cooperation berween AASTMT and these two authories
Increasing the cooperation between AASTMT and indsutrial firms	During the dissmiantion of the modules between industy, the AASTMT visitied many facotoes and industrial firms and that increased for sure the chances of cooperation betwwen AASTMT and these industrial firms.

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6) IMPACT

Describe the impact of the project:

Impact	Type	Description
Competences in Wind Engineering (graduates)	Institutional	The number of Graduates of MEng in participating HEIs that have sufficient competences in Wind Engineering increased from 2017 to 2020
Competences in Wind Engineering (Academic Staff)	National	The number of Academic Staff of participating HEIs that have sufficient knowledge of WE to give WE courses increased 4 times from 2017 to 2020
Stronger links Academy-Industry	Long Term	new agreements signed between HEIs of Egypt and WE companies from 2017 to 2020

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7) List of agreements signed with other WESET institutions

Institution	Type of Agreement	Main objectives
University de Roma, Sapienza (ROMA01)	Erasmus+, Key Action Two, CBHE	Exchange students/staff
Aalborg University (ALBORG01)	Erasmus+, Key Action Two, CBHE	Exchange students/staff
Axi-Marseille (MARSEIL84)	Erasmus+, Key Action Two, CBHE	Exchange students/staff
Universidad de Valladolid (VALLADO01)	Erasmus+, Key Action Two, CBHE	Exchange students/staff

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7) List of agreements signed with other WESET institutions

Institution	Type of Agreement	Main objectives
University de Roma, Sapienza (ROMA01)	Erasmus Key Action one ,	Exchange students/staff
Universidad de Valladolid (VALLADO01)	Erasmus Key Action one ,	Exchange students/staff
Aalborg University (ALBORG01)	Research	Puplication

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7) List of agreements signed with other WESET institutions

Institution	Type of Agreement	Main objectives
Ain Shams University (ASU)	Memorándum of Understanding (MoU),	Research, Exchange students/staff, Wind center integration
British University in Egypt (BUE)	Memorándum of Understanding (MoU),	Research, Exchange students/staff, Wind center integration
Regional Center for Renewable Energy and Energy Efficient (RECREE)	Memorándum of Understanding (MoU),	Cooperation in tranining and support for the wind energy center

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