



EGYPT-JAPAN UNIVERSITY OF SCIENCE AND TECHNOLOGY
الجامعة المصرية اليابانية للعلوم و التكنولوجيا
エジプト日本科学技術大学

SUSTAINABILITY Report

2022

This report is the product of fruitful collaboration among the **Sustainable Development Committee** members of both academic and administrative staff. We would like to sincerely thank all of them for the hard work and commend them on their relentless effort in putting together all the data presented within these pages.

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List of Acronyms

BAS	Basic and Applied Sciences Institute
Bio	Biotechnology Program
CSE	Computer Science and engineering
CPE	Chemical & Petrochemical Engineering
ECCE	School of Electronics, Communication and Computer Engineering
ECE	Electronics and Communications Engineering
EECE	School of Energy Resources, Environmental, Chemical and Petrochemical Engineering
E-JUST	Egypt-Japan University of Science and Technology
ENV	Environmental engineering
EMA	Energy Materials Program
ERE	Energy Resources Engineering
FIBH	Faculty of International Business and Humanities
FOE	Faculty of Engineering
IDE	school of Innovative Design Engineering
IME	Industrial and Manufacturing Engineering
MSE	Master of Science in engineering
MTR	Mechatronics and Robotics Engineering
NAN	Nanoscience Program
RIA	Regional and International Affairs Office
SHS	School of Human Sciences
SIB	School of International Business
SDGs	Sustainable Development Goals

In recent years, an increase in the frequency and intensity of human-caused crises and natural disasters, as well as the problems of responding to the post-pandemic challenges, have exacerbated the region's hurdles in reaching the SDGs. Progress on the 17 SDGs has slowed dramatically, and the Goals are becoming increasingly out of reach for the region with each passing year. However, the key to a more equitable recovery after such crises is a deeper knowledge of the role of educational institutions in striking a change and leaving a positive footprint in our community among different population groups and intersecting vulnerabilities. Without protecting the most vulnerable, many of whom have been disproportionately affected by the pandemic and its recovery phase, the Sustainable Development Goals cannot be met. In this era of rapid change and daunting difficulties, it is critical to expedite our efforts to fully implement the 2030 Agenda for Sustainable Development, particularly for the underprivileged across all sectors. Our long-standing commitment to shape E-JUST into a sustainable community that serves as an educational model has been the pillar of our relentless efforts. In doing so, we aim to position E-JUST at the forefront of sustainability in Egypt and as a catalyst for positive change. As a university driven to improve its country's condition through science and technology, we unceasingly work to make a significant contribution on many of the sustainable development goals with respect to environmental degradation, climate change, quality education and gender equality. Therefore, sustainable development has gained an increasingly strong hold at E-JUST, and has dominated the approach we adopt in our strategy for combating global challenges.



This report shows how E-JUST was able to keep taking bold measures in the face of adversity in order to help our society move toward a better future for all generations, where Sustainable Development's fundamental ideals become a birthright for all people rather than a prerogative.

Professor Ahmed El-Gohary
President of Egypt-Japan University of Science and Technology (E-JUST)



As E-JUST ventures toward a new phase of post-pandemic recovery, we unceasingly pursue our continued efforts to fulfill the SDGs despite all challenges. Striving to achieve the SDGs is an undeniable social responsibility not only towards the Egyptian community, but the African continent as a whole. Our rigorous aspirations to excel in achieving the Sustainable Development Goals transcend all boundaries since we inherently assume our social responsibility as an educational institution in serving our community and creating a better society through our educational, environmental, and economic contributions.

We believe that educational entities, such as E-JUST, with their quintessential social responsibility have to ensure a better future for upcoming generations. Among E-JUST's core interests lies the goal of gender equality. Empowering women across the country and abolishing gender-based discrimination and inequality in all fields has been an ongoing goal of our University. We believe that gender equality is pivotal in accelerating sustainable development. Moreover, the University continues to work on providing quality education by forging agreements with the industrial sector as well as world-class research institutions so that our students can become well-equipped to face future obstacles. E-JUST also seeks to foster a well-devised plan to protect and preserve our environment and raise awareness in our communities. We have been relentlessly working on developing alternative methods that generate affordable and clean energy while reducing energy and electricity consumption facing climate change impacts. Furthermore, innovative methods for energy production, water reuse, and clean technologies have been at the forefront of the University's priorities, especially with a world in its post-pandemic recovery state. Therefore, we strive to ensure the availability and sustainable management of clean water, sanitation and hygiene practices, which have been holding the limelight during the past two years due to the health crisis which has become rampant throughout the world.

This report represents our endeavor to evaluate our University's impact on solving global issues, and thus, consolidating the essence of sustainable development goals. The efforts we have exerted so far in our post-pandemic recovery phase along with our future plans, will undoubtedly enable us to assert our crucial role in making our community a better place for the underprivileged.

Professor Mona Gamal El-Din Ibrahim

Dean of Energy Resources, Environmental, Chemical and Petrochemical Engineering School (EECE)

Head of Sustainable Development Committee

Egypt Japan University of Science and Technology



I would like to express my sincere congratulations on publishing the “Sustainability Report 2022”, which describes the activities and the outcome of E-JUST’s contribution to the Sustainable Development Goals. Such report encompasses the rewarding outcome of the fruitful collaboration between Egypt and Japan. Egypt will host COP27 at Sharm El Sheikh this year, where is the occasion to show leadership of Egypt in realization of the sustainable society to the world, and I believe the E-JUST has significant role in this initiative.

E-JUST was established in 2009 under the bilateral agreement between Egyptian and Japanese governments.

Since the beginning, the Japanese government has been fully supporting E-JUST through JICA (Japan International Cooperation Agency) through various means of cooperation, such as dispatching Japanese professors, providing state-of-the-art equipment offering training programs in Japan and working towards industry collaboration. Currently, 8 Japanese experts are working at E-JUST, Including two vice presidents. We also have professors from 13 Japanese universities who cooperate with the aim of enhancing education as well as research at E-JUST.

JICA is a Japanese governmental agency, which extends the cooperation internationally across partner countries. The agency highlights the importance of ensuring sustainability in every aspect of development as reflected in the Development Cooperation Charter of Japan, as well as the SDGs. Not only should huge consideration be given to the Sustainable Development of the environment, but also economy and society should be placed at the forefront of E-JUST’s top priorities. Although there was a time when social problems were expected to be solved as a result of economic growth alone, it is now widely recognized that inequalities within countries, vulnerabilities, and various other social issues are not automatically solved by economic growth. JICA will contribute to the achievement of the SDGs through collaborating with local and international partners with the hope of overcoming existing challenges.

We have to bear in mind that STI, the strongness of E-JUST, should bring benefit to the community and the society as a whole. I believe that E-JUST can contribute to promoting inclusive and sustainable society through its STI with collaboration of Japanese partner.

Dr. Okano Takasei,
Chief Advisor, JICA E-JUST Project

Executive Summary

Girls' Day 2021", Coinciding with the UN International Day of the Girl



The Girls' Day was held on October 11th, 2021 at E-JUST campus. The Girls' Day, is a part of ProGirls Program, implemented jointly by EconoWin/GIZ and PASCH/Goethe-Institute, since 2018 encouraging Female young learners aged 14-17 years old to study Science, Technology, Engineering, and Math (STEM). Prof. Mona Gamal Eldin Ibrahim, EECE dean, received a group of 6 female students participating in the Girls' Day 2021.

The Girls' Day 2021 was held on the occasion of the UN International Day of the Girl. This visit is also a part of the E-JUST Gender Equality Office (GEO) activities, chaired by Prof. Mona Gamal Eldin.

E-JUST Africa Day to support Cultural Exchange

E-JUST Africa Day, an event for strengthening the network between E-JUST and African countries, was held at Egypt-Japan University of Science and Technology (E-JUST) on 2nd November, 2021 for the second time.

The event brought together African ambassadors and deputy ambassadors in Egypt from 14 countries and was attended by approximately 60 current E-JUST international students.



Home Waste Recycling Workshop

On December 13th, 2021, E-JUST Gender Equality Office (GEO), in collaboration with SAFIR project, Inner wheel club Alexandria East, Elgedar Elmatin Association, and Women and Development Association organizes a workshop titled “Home Waste Recycling Workshop” with the attendance of 24 women of New Borg Elarab city residents. This workshop aims at achieving the Sustainable Development Goals (SDGs) and supporting the community outside E-JUST.



President of Egypt-Japan University of Science and Technology signs a cooperation agreement with the Arab Administrative Development Organization in digital transformation and intellectual property

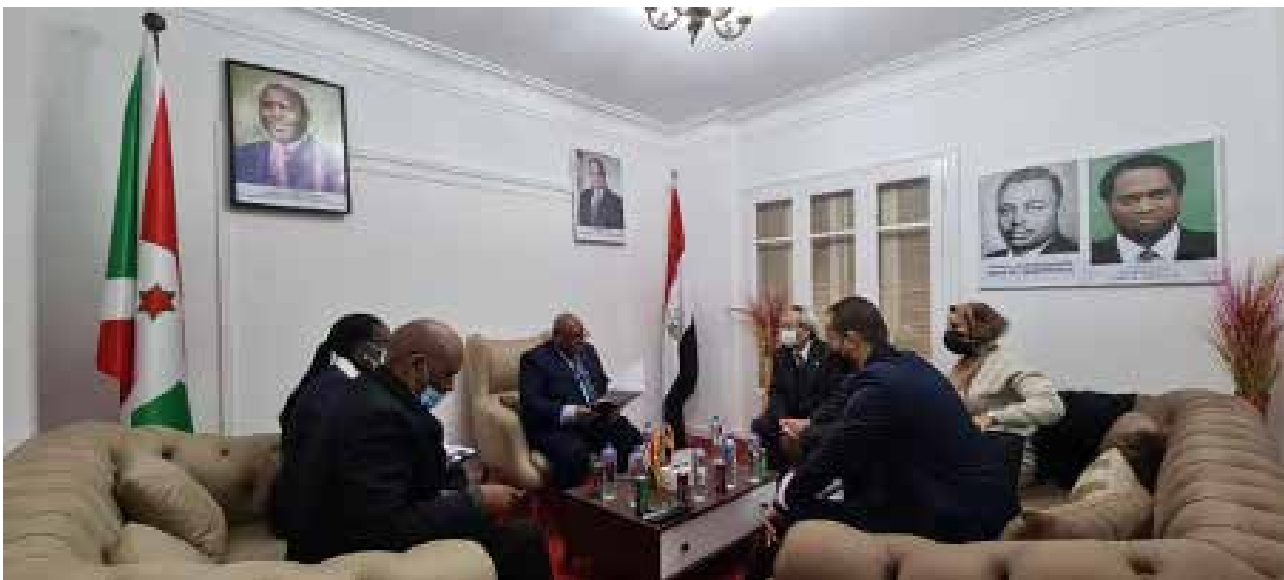


Prof. Ahmed El-Gohary, President of Egypt-Japan University of Science and Technology received a delegation from the Arab Administrative Development Organization headed by Dr. Nasser Al-Qahtani, director of the organization. The delegation included Dr. Adel Al-Senn, advisor to the Arab Administrative Development Organization for Law, Arbitration and Public Health, Dr. Azzam Armili, advisor to the Arab Administrative Development Organization, head of a group of major councils, professional forums, and awards, and Mr. Hisham Hemida, Internal Controller.

The Regional, African and International Affairs Promotes TICAD7 Scholarships:

The Regional, African and International Affairs activities highlighted the progress of TICAD7 Scholarships, E-JUST participation in several national and international events, signing of several MoU's with national and international universities, institutes and organizations.

To promote TICAD7 scholarships, E-JUST representatives made visits to 18 African embassies in Cairo, invited several ambassadors to E-JUST, and organized The African Day at E-JUST where 15 African ambassadors have attended the event, in addition to two webinars on E-JUST TICAD7 Scholarship.



Egypt-Japan University Wins the AUF Grant for Social Entrepreneurship

The University won the Agence Universitaire de la Francophonie (AUF) grant for social entrepreneurship, social innovation and sustainable development goals (SDGs) after competing with 70 local and international universities. The University submitted a proposal that encompasses many activities, including setting up its strategy in governance as related to SDGs and activities related to the technology incubator as well as building the capabilities of the University's employees, Egyptian universities and the Mediterranean Basin.

E-JUST and Alexandria Specialty Petroleum Products Company (ASPPC) sign a cooperation Protocol

On July 19th, 2021 E-JUST signed a cooperation protocol with Alexandria Specialty Petroleum Products Company (ASPPC).

The protocol puts a framework for collaboration between the two institutions in research, scientific projects, and training.



Introduction

This report is a product of collaboration between eminent professors, researchers, as well as administrative staff. Each chapter encompasses a series of Sustainable Development Goals that best represent E-JUST's commitment to achieving global sustainability. It emphasizes the critical role that education has in delivering the Sustainable Development Goals and the value it brings to governments, business and wider society, thus, reaffirming the University's commitment to making a significant, sustainable and socially responsible contribution to Egypt and the world.

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all United Nations Member States in 2015 as a universal call to work towards ending poverty, protecting the environment and ensuring that all people enjoy peace and prosperity by 2030. Through its research, learning and teaching, operations and community of staff, and students, the University is committed to delivering these Goals. However, the following report only sheds light on the SDGs lying within the scope of E-JUST and which the University has made fundamental advances in their regard. As part of its commitment to the Sustainable Development Goals Accord, the University will highlight projects and initiatives that directly contribute to each of the Goals within its scope.

Among the Goals which E-JUST is dedicated to is providing quality education. Obtaining a quality education is the foundation to creating sustainable development. In addition to improving quality of life, access to inclusive education can help equip students with the tools required to develop innovative solutions to the world's greatest problems. Our University has sought to reach this Goal through providing lifelong learning opportunities and granting students access to all facilities required to excel in their fields.

Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world. Therefore, E-JUST works towards ensuring gender equality by offering equal opportunities for both males and females in education (undergraduate and postgraduate studies) as well as on employment level.

Furthermore, clean water and healthy sanitation are among the Goals that E-JUST is committed to accomplishing, not to mention its unceasing effort to secure affordable and clean energy sources through projects and national/international collaborations.

Employment practice also comes at the university's top priorities. Workshops, training and language enhancement courses have been conducted to help enhance staff skills and qualifications, in addition to the internships.

Industry, innovation and infrastructure projects pertaining to Goal 9 represent a substantial segment of the University's effort to commit to sustainability. This section in the report demonstrates the revolutionary industrial project which E-JUST has funded, and it also illustrates the statistics of filed patents and industrial collaborations.

Among the other Goals, which Egypt Japan University of Science and Technology is working towards, is having sustainable cities and communities through showcasing our heritage, history and culture, while integrating the Japanese factor. Giving public access to Ancient Egyptian landscapes along with modern art exhibitions are a solid proof of E-JUST's relentless effort. Also, integrating Japanese culture in all its aspects with the Egyptian culture enables students and staff alike to experience the cosmopolitan atmosphere on campus.

Moreover, a climate action was adopted by E-JUST for the sake of combating global environmental issues with due focus on climate change. The action plan is concerned with four milestones; operation, research, education and consultancy.

Furthermore, we cannot hope for sustainable development without peace, stability, human rights and effective governance, based on the rule of law, yet our world is increasingly divided. Some regions enjoy peace, security and prosperity, while others fall into seemingly endless cycles of conflict and violence. This is not inevitable and must be addressed. E-JUST has decided to address Goal 16: "Peace, justice and strong institutions" by selecting representatives from all University sectors to represent it on different axes ensuring the integration of all groups in the decision-making process.

Strengthening means of implementation and revitalizing the global partnership for sustainable development is widely seen in E-JUST's efforts to form collaborations on national and international levels to help better education, innovation, scientific research, tackle inequality, and combat climate change through holding and participating in national/international conferences, forums, and symposiums.



Goal. 4 Quality Education



• Aim

E-JUST adopts a state-of-the-art educational system that is based on Japanese academic concepts and mainly relying on a project-based education and problem-solving learning techniques.

The University offers unique academic programs with close interaction with the industry, as well as multidisciplinary research. We aim to become a role model for educational and research institutions in Egypt by fostering the Japanese educational standards, policies, and systems. In this regard, the University seeks to strengthen the ties of collaboration between Egyptian and Japanese academic institutions.

Therefore, in line with Goal 4; “Quality Education”, E-JUST strives to contribute to the improvement of human resources in the region, by providing a high-level educational system and offering pragmatic and innovative solutions to human needs. Moreover, by building partnerships with key Japanese academic and research institutions as well as industrial companies, we aim at conducting applied research that would expose students and faculty members to real life research activities, and acquaint them with the Japanese systems, know-how and advanced technologies.

Actions

JICA scholarships for African Students (Third Country Training):

- This scholarship is expected to end when the last batch of students who enrolled in October, 2020 graduate from E-JUST; they are due to graduate in April, 2023.
- Apart from this scholarship, TICAD7 scholarships started in 2020:
- A cumulative total of 13 students: (Ph.D.: Kenya 4, Nigeria 2, Ghana 1), and (M.Sc.: Kenya 2, Nigeria 1, Ghana 3).

- **First Batch of TICAD7 Scholarship Students and Current Number of International Students**

During the admission phase for the first batch of TICAD7 scholarship students in 2020, E-JUST has decided to enrol 45 international students for the TICAD7 scholarships. However, COVID-19 crisis has hindered students' ability to join E-JUST in Fall Semester, 2020, because they were not able to get the official certificates and documents due to the shutdown of public offices; thus, they could not arrive to Egypt on schedule due to the airport blockade. Consequently, 27 students joined E-JUST in Fall Semester and 6 students postponed to join in Spring Semester, 2021.

Out of the 6 students who postponed their admission, two candidates postponed once again. Hence, the total number of the first batch of TICAD7 students was 31 in 2021. Also, E-JUST has 6 E-JUST scholarship students, 4 JICA scholarship students and 2 Toyota Tsusho Scholarship students and a total of 43 students in the Fall semester. Finally, two postponed TICAD7 students were able to join the Fall semester, 2021. The number of TICAD7 students enrolled in the first batch was 33.

- **New Second Batch Students for the TICAD7 Scholarships, Fall Semester, 2021**

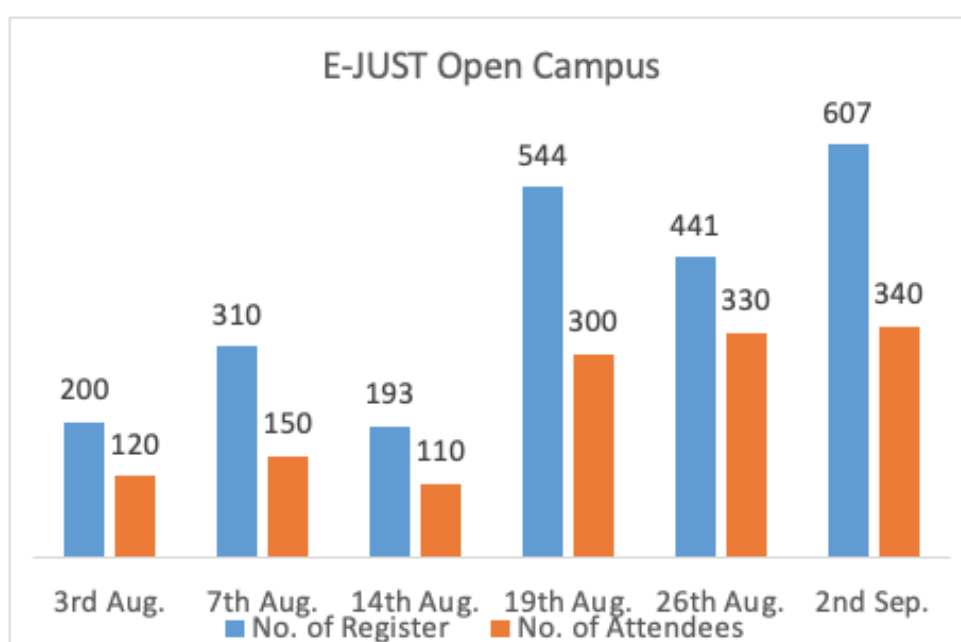
E-JUST has decided to enrol 58 students for the master's program in the second batch. The total number of scholarships for this batch is 58, which was approved by JICA. The number includes an additional 8 students to compensate for the insufficient number of the last batch. Also, E-JUST has decided to enrol one PhD student from Jomo Kenyatta University of Agriculture and Technology to obtain the exclusive scholarship for JKUAT.

- **The Pharmaceutical Sector of the Supreme Council of Universities (SCU) Visit**

E-JUST received the first visit from the pharmaceutical sector of the SCU on June, 7th, , 2021. The purpose of the visit was to assess the readiness of the University to start the new PharmD undergraduate program, and to be granted accreditation.

- **Open Campus:**

E-JUST Organized 6 open campuses for high school students and their parents, and promoted for those events through E-JUST Facebook page. The total number of registered attendees was 2,295 and the actual number of attendees was 1,350.





Goal. 5 Gender Equality



- **Aim**

E-JUST strives to achieve gender equality and empower all women and girls. Empowering women and promoting gender equality is crucial to accelerating sustainable development. Ending all forms of discrimination against women and girls is not only a basic human right, but it also has a multiplier effect across all other development areas.

- **Actions**

- **Girls' Day 2021", Coinciding with the UN International Girls' Day**

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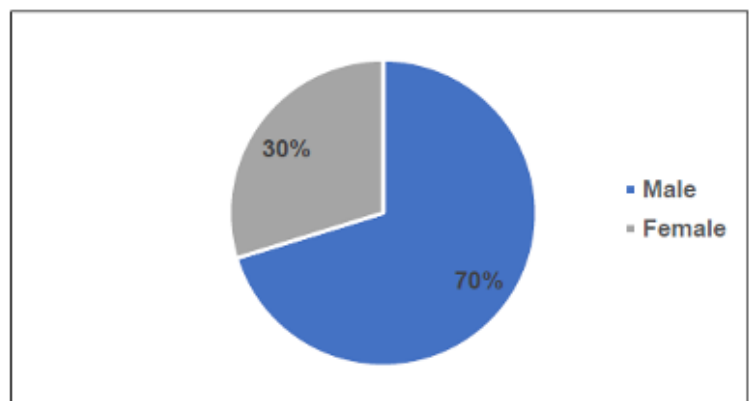


- The total number of full time academic and supportive staff is 149 persons.

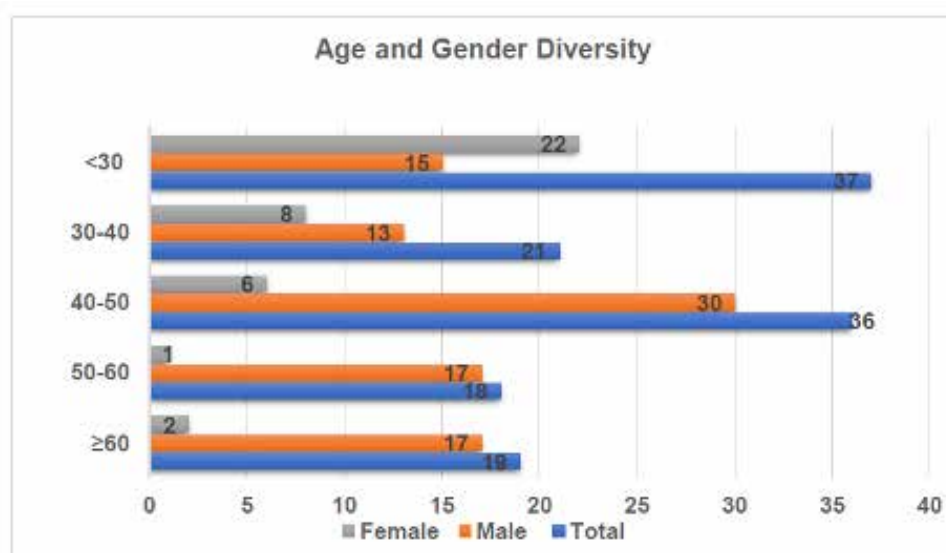
A percentage of 70% is female as shown in the figure.

The next figure shows also the age range along with the gender.

Academic Staff / Supportive Staff Gender Ratio



Age and Gender Diversity



- **Current students / Gender/ program (FoE and BAS) until November, 2021**

There are 81 female Postgraduate students that are enrolled in FoE and BAS programs. This represents approximately 32% of the total number of students.

Programs	Female	Male	Grand Total	% Female
ECE	10	15	25	40.00%
CSE	4	9	13	30.77%
MTR	4	21	25	16.00%
IEM	8	13	21	38.10%
MSE	1	11	12	8.33%
ERE	1	38	39	2.56%
ENV	9	14	23	39.13%
CPE	6	10	16	37.50%
EPE	3	6	9	33.33%
NAN	7	8	15	46.67%
Bio	20	15	35	57.14%
ACM	3	9	12	25.00%
EMA	4	3	7	57.14%
SEN	1	4	5	20.00%
Grand Total	81	176	257	31.52%

Undergraduate Students' Distribution

UG Batches	FOE		FIBH		CSIT		PharmaD.		SArch		Grand Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1st Grade(UG students enrolled in the 2021/2022 academic year)	284	93	142	110	221	118	69	123	3	9	1172
2nd Grade(UG students enrolled in the 2020/2021 academic year)	179	41	70	65	0	0	0	0	0	0	355
3rd Grade(UG students enrolled in the 2019/2020 academic year)	96	25	18	18	0	0	0	0	0	0	157
4th Grade (UG students enrolled in the 2018/2019 academic year)	30	14	10	10	0	0	0	0	0	0	64
5th Grade (UG students enrolled in the 2017/2018 academic year)	37	18	0	1	0	0	0	0	0	0	56
Grand Total	626	191	240	204	221	118	69	123	3	9	1804

There are currently 1804 UG students at E-JUST and more than one-third of them are females.



Goal. 6 Clean Water and Sanitation

• Aim

Ensure availability and sustainable management of water, sanitation, and hygiene practice

• Actions

- 1- E-JUST provides water-related courses in M.Sc. and Ph.D. for water management.
- 2- The research tracks of waste treatment and management lab included water quality enhancement, wastewater treatment, and SDGs achievement.
- 3- School of EECE prepared a One-day Workshop on the project “Low-Grade Heat Recovery for Absorption Chiller and Desalination from Concentrated Solar Powered Steam Power Plants in Egypt” by Egypt-UK Newton-Musharafa Fund: Institutional Links - Call 4:

<p>One day Workshop on the project: Low-Grade Heat Recovery for Absorption Chiller and Desalination from Concentrated Solar Powered Steam Power Plants in Egypt, Project#38729. Egypt-UK Newton-Musharafa Fund: Institutional Links - Call 4 Monday 18th January 2021 (11:00 – 3:30)</p>		
Event	Time	Speaker
Opening	11:00 – 11:30	Prof. Mona Gamal Eldin Ibrahim (PI, E-JUST) Dr. Kumar Patchigolla (PI, Cranfield University)
Session#1: Overview, Fundamentals, and Applications in Desalination (11:30 – 12:30)		
Topic 1-1: Overview of Concentrated Solar Power and Desalination Systems	11:30 – 12:00	Prof. Hamedy Abo Ali (E-JUST)
Topic 1-2: Solar-Powered Absorption Cooling and Desalination Systems: Fundamentals and Applications	12:00 – 12:30	Prof. Ibrahim El-Sharkawy (E-JUST)
Session#2: Desalination and Sustainability (12:30 – 2:00)		
Topic 2-1: Innovation of Water Infrastructure and Desalination in Medieval Alexandria	12:30 – 1:00	Dr. Mohamed Soliman (Ritsumeikan University)
Topic 2-2: Heat Transfer of Low-Grade Heat Recovery: Condensation and Absorption in PHEs	1:00 – 1:30	Dr. Xuan Yao (Cranfield University)
Topic 2-3: Desalination and Sustainable Development Goals	1:30 – 2:00	Dr. Mahmoud Naser (E-JUST)
Session#3: Desalination and Energy (2:00 – 3:00)		
Topic 3-1: Solar Driven Trigenation System for power, Desalination, and Cooling	2:00 – 2:30	Eng. Ayman Osama (E-JUST)
Topic 3-2: Thermodynamic Performance of a Supercritical CO ₂ Cycle Integrated with Absorption Cooling System	2:30 – 3:00	Dr. Dhivesh Thangasair (Cranfield University)
Open Discussion	3:00 – 3:30	
<p>Organization Committee Prof. Mona Gamal Eldin Ibrahim Dr. Mahmoud Naser Mr. Ahmed Hassan</p>		

- 4- Support the STEM school students in performing their activities relevant to “Water Resource Conservation”, “Sustainable Approaches for Rainwater Harvesting” and “Sustainable Water Reuse”.

7- Increase equitable and free access to safe and affordable drinking water for students.



Water dispensers are placed in each floor to provide free drinking water



Wall mounted drinking water fountains are available for students

8- Ensure adequate and equitable sanitation and hygiene for students.



hand dryer



hand soap dispenser

9- The campus has a desalination (Reverse osmosis) unit, with a capacity of the desalination unit being 30 m³/d. It provides water for drinking purpose and washing raw fruits and vegetables. Generally, the influent TDS is 500 ppm, and the water quality improved at 150 ppm. The effluent from the desalination unit enters each floor using separate pipes.



Reverse osmosis desalination unit at E-JUST campus, providing safe and free drinking water



Schematic Diagram of the RO System



Ultraviolet (UV) unit for disinfection



Automatic control and monitoring of the RO system

10- The irrigation of green area and landscape is provided by the drip irrigation system to save water and nutrients. Drip irrigation is done either in the early morning or during the late afternoon and/or evening to mitigate evaporation and ensure that water can be effectively absorbed by plants.



Drip irrigation system to minimize water loss



Saving water at the green area

11- Plant used in the green area (landscape) are drought-tolerant, so they do not need much water at all to survive and thrive. Examples of those plants are Yucca, Furcaria, and Euphorbia.



12- Use adequate fire hydrants to ensure water savings options





Goal. 7 Affordable and Clean Energy

- **Aim**

Increasing the use of clean and renewable energy and reducing electricity consumption

- **Actions**

- **Eco-friendly campus**

E-JUST Permanent Headquarters (main campus) is established on an area of 200 acres, and the buildings occupy only 17% of the total area. Not only are the designs environmentally friendly, but they also have the latest modern technologies. In the main campus, natural ventilation techniques have been adapted to reduce the electrical power consumption in air conditioning. Absorption chillers, driven by thermal energy, have been used in central air conditioning system instead of electrical chillers which significantly improve the building energy efficiency.



E-JUST main campus

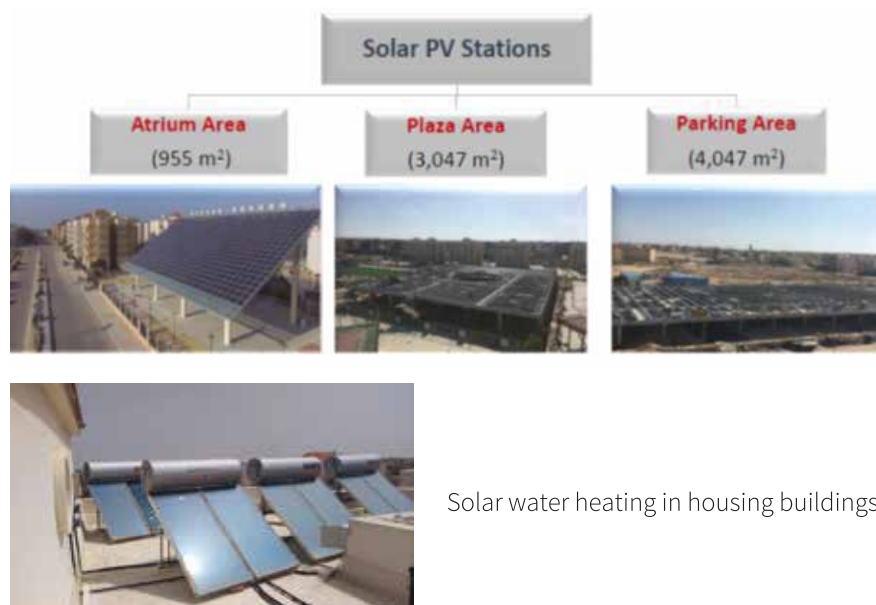
- Electric cars in EJUST main campus



EJUST natural ventilations

• Generating Electricity and water heating from Solar Energy

E-JUST uses solar energy as a clean source for electricity generation. With the collaboration of Japanese partners, a 0.56 MW PV system has been installed in the secondary campus. Also, EJUST uses in students housing building, solar collectors for water heating instead of electrical heaters.



Solar water heating in housing buildings

• Education

E-JUST offers undergraduate and postgraduate programs in Energy Resources Engineering, which deal with all types of energy including solar and wind as clean energy resources. Energy resources engineering has different laboratories for undergraduate and postgraduate. These laboratories deal with renewable energy, such as renewable energy laboratory, alternative energy laboratory and solar energy laboratory. Also, many of the EJUST undergraduate projects aim at reducing energy consumption and using clean and renewable energy. One of these projects by UG energy resources engineering students in this reporting period was producing electric car running by PV panels.



Electric car for students' graduation project

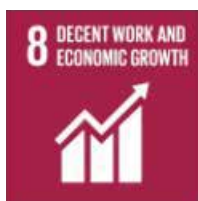
• Research

E-JUST students and researchers are conducting extensive research in many areas related to clean and alternative energy such as green cooling using solar-powered sorption systems, solar-driven multi generation systems, photovoltaics, geothermal energy and wind energy, and also an area of energy auditing and management. Moreover, EJUST academics have gained many projects related to renewable and clean energy and energy saving as:

- Clean Energy Generation via High Performance Hybrid Concentrator Photovoltaic/thermal Systems (STDF).
- Green Integrated Solar Fuel Production System: Two steps and Direct FT Synthesis Routs (ASRT)
- Application of energy storage and Nano-technology on air conditioning and refrigeration systems and other different cooling and heating systems (STDF).

• Research outcomes

The research outcomes for energy and energy management are published in highly impacted energy and renewable energy journals with higher impact factor such as Applied energy (IF=9.746), Energy Conversion and Management (IF=9.709), Renewable Energy (IF= 8.001), Energy, Renewable & Sustainable Energy Reviews (IF= 14.982), Journal of cleaner production (IF= 9.297) and others.



Goal. 8

Decent work and economic growth



- **Aim**

To achieve full and productive employment, and decent work, for all women and men through:
Higher levels of Productivity and Technological Innovation
Encouraging entrepreneurship and job Creation.

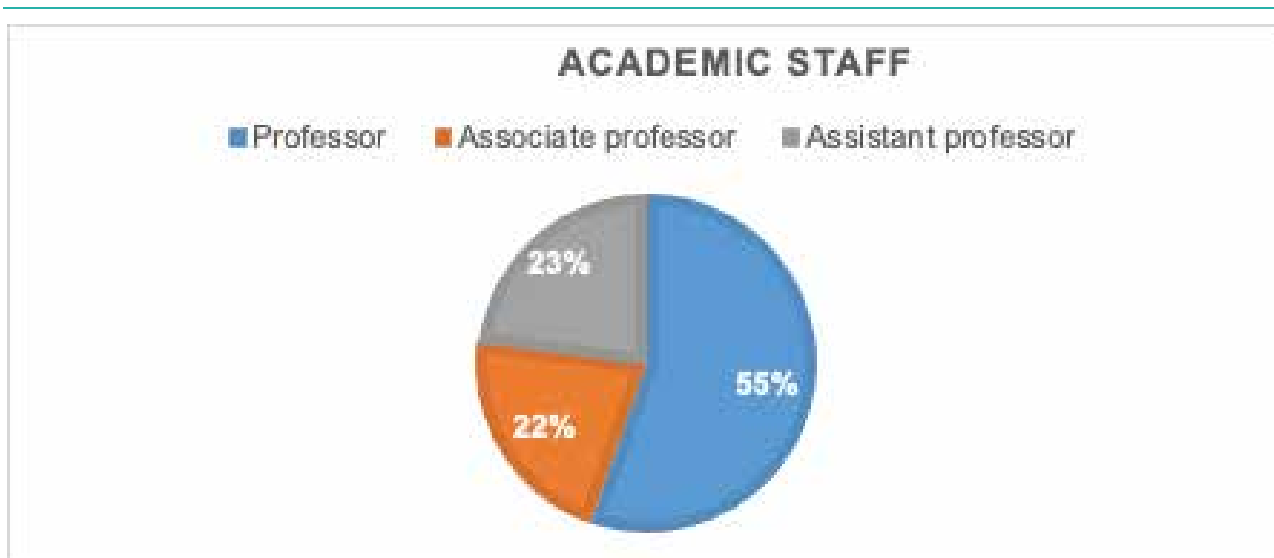
- **Actions**

Number of Academic Staff

(As of December 2021)

Rank	Full-time	Adjunct	Total
Professor	38	15	53
Associate professor	14	4	18
Assistant professor	15	17	32
Total	67	36	103

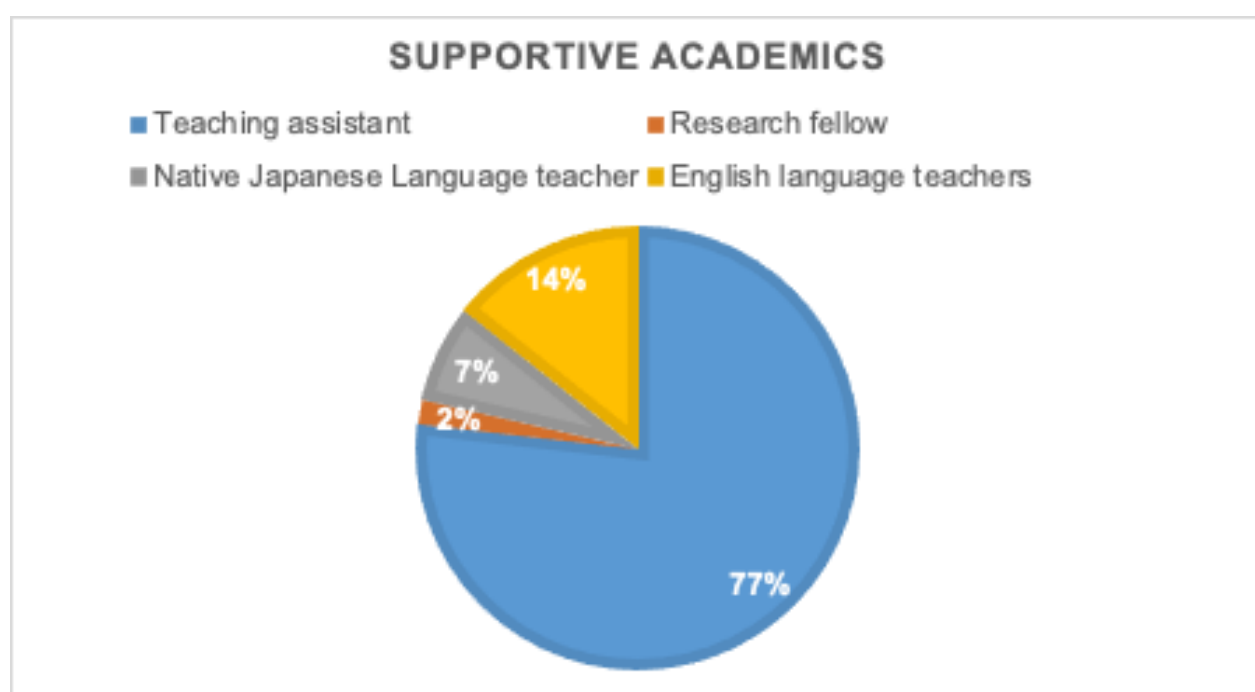
*Numbers include the universities president and 3 vice presidents



Number of Supportive Academic Staff

(As of December 2021)

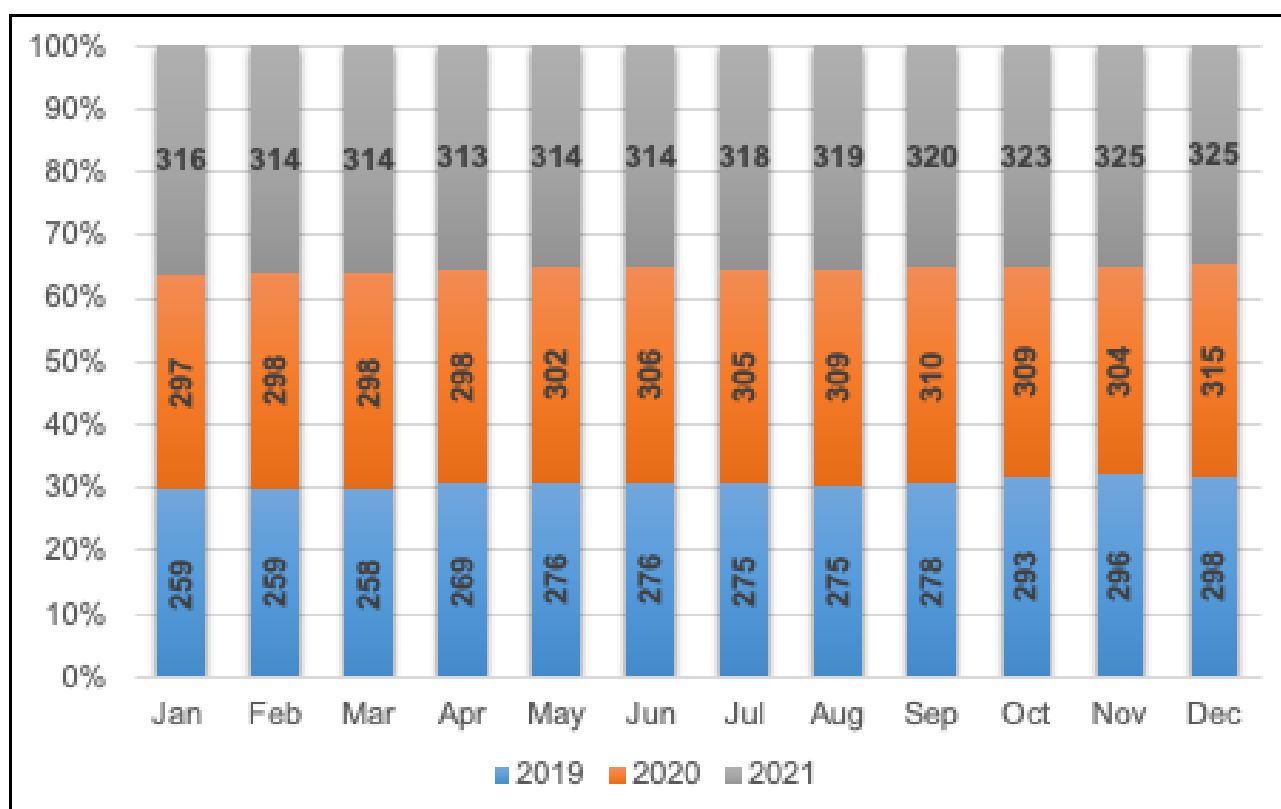
Rank	Full-time	Adjunct	Total
Teaching assistant	34	0	34
Research fellow	1	0	1
Japanese language teachers	3	0	3
English language teachers	2	0	2
Total	40	0	40



Full Time Academic / Supportive Staff Average Age

Age	Numbers
60 years and above	19
Between 50 and 60 years	18
Between 40 and 50 years	36
Between 30 and 40 Years	21
Less Than 30 years	37

Number of Administrative Staff (2019 – 2021)



Statistics of E-JUST Current Administrative Staff per Offices and schools (As of November 2021)

No.	Office	No of staff
1	Secretary General Office	2
2	Campus Management (Including Drivers)	66
3	PMU	14
4	Accounting	11
5	Student affairs	6
6	Contracting & Warehouse	10
7	Finance	9
8	Human Resources	6
9	General Affairs	3
10	President Office	4
11	Public Relations	9
12	Legal Affairs	3
13	Cairo Office	3
14	EJUST Guest House	33
15	Security	94
16	Services	5
17	International Affairs Office	3
18	Library	3
19	Quality Assurance Accreditation Center	1
20	Center of Innovative Technology	4
21	Information Technology Center	10
22	Technology Management Department	9
	Total	308



Goal. 9

Industry, Innovation and Infrastructure

- **Aim**

Promote inclusive and sustainable industrialization and foster innovation

- **Actions**

Filled patents

There are 17 patents filed from January to December 2021.

EJUST got its first granted patent in Jan. 2019.

The patent number is 28928 and was filed in May 2015.

Grants

- Total number of grants in 2021 is 49 (8 Accepted, 17 Active, 1 closed, and 23 submitted).
- Total Budget of Accepted Grants in 2021 is 35,658,047 EGP
- Total Budget of Active Grants in 2021 is 40,064,027 EGP

- **The 3rd International Conference of Chemical, Energy, and Environmental Engineering ICCEEE 2021:**

The School of Energy Resources, Environmental, Chemical and Petrochemical Engineering (EECE) hosted the 3rd International Conference of Chemical, Energy, and Environmental Engineering ICCEEE 2021 from 19th - 21st July 2021 (Online Virtual Conference).

ICCEEE 2021: Since the great success of the previous editions ICCEEE 2017, 2019, which were held in cooperation between Egypt-Japan university of Science and technology (Egypt), Kyoto University and Tokyo Institute of Technology (TiTech) and under auspices of Egyptian ministries of “Environment”, “Higher Education and Scientific Research”, “Electricity and Renewable Energy”, and “Trade and Industry”. This year the conference 3rd edition welcomes the participation of Kyushu University beside the TiTech as supporting universities from Japan and will continue to bring together leading academic scientists, research scholars and researchers to share and exchange their research results and experiences in all aspects of Chemical, Energy and Environmental Engineering. It also provides a premier interdisciplinary platform for researchers, educators and practitioners to present and discuss their recent innovations as well as practical challenges encountered and solutions adopted in the fields of Chemical, Energy and Environmental Engineering.



- **E-JUST and Alexandria Specialty Petroleum Products Company (ASPPC) sign a cooperation Protocol**

On July 19th, 2021 E-JUST signed a cooperation protocol with Alexandria Specialty Petroleum Products Company (ASPPC).

The protocol puts a framework for collaboration between the two institutions in research, scientific projects, and training.



- CINTECH organized an online info session regarding a call for **Academia-Industry Partnership Program to Leverage Economic Growth-ASRT & Apple on June 21st, 2021** to E-JUST academic members and PG students.



Goal. 10 Reduced Inequalities

• Aim

One of the main goals of E-JUST is reducing inequalities and ensuring that no one is left behind which is an integrated aspect in achieving the Sustainable Development Goals. Minimizing inequalities in income, access to services and opportunities based on age, gender, religious or social background

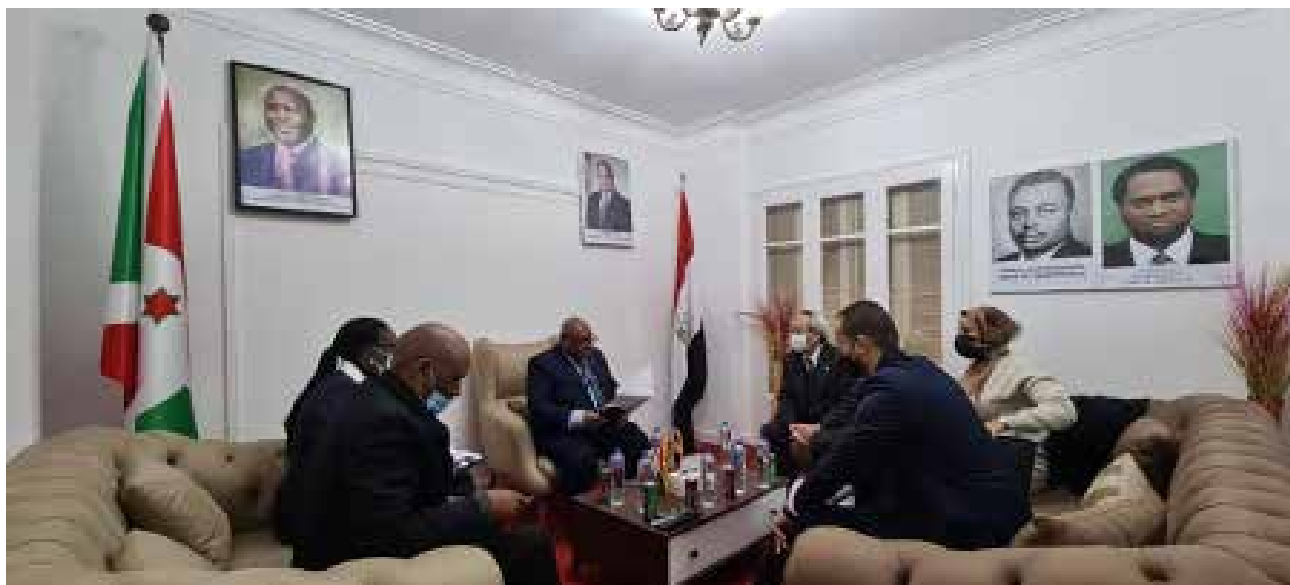
• Actions

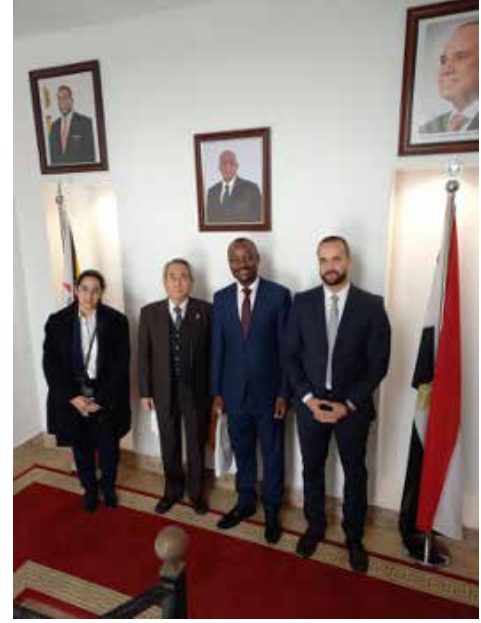
As one of E-JUST Standards, “E-JUST complies with the principle of transparency and upholding equality in applying for jobs and students' admission to the university and does not accept favoritism at the expense of competence in its job recruitment or student admission policies. Consequently, all announcements related to applying for undergraduate/postgraduate student admission in addition to vacancies publishing in the most transparent manner on the university's website and on Facebook page. The university aspires to lay down the rules for equality among members of society by providing equal opportunities as the university considers it among its social responsibilities. E-JUST believes that all institutions should engage their governments as well in a transparent and accountable way through public policy dialogue.

Strengthening the Relationships between educational institutions and governments are among the main goals of the Regional and International affairs office at E-JUST.

The Regional, African and International Affairs activities highlighted the progress of TICAD7 Scholarships, E-JUST participation in several national and international events, signing of several MoU's with national and international universities, institutes and organizations.

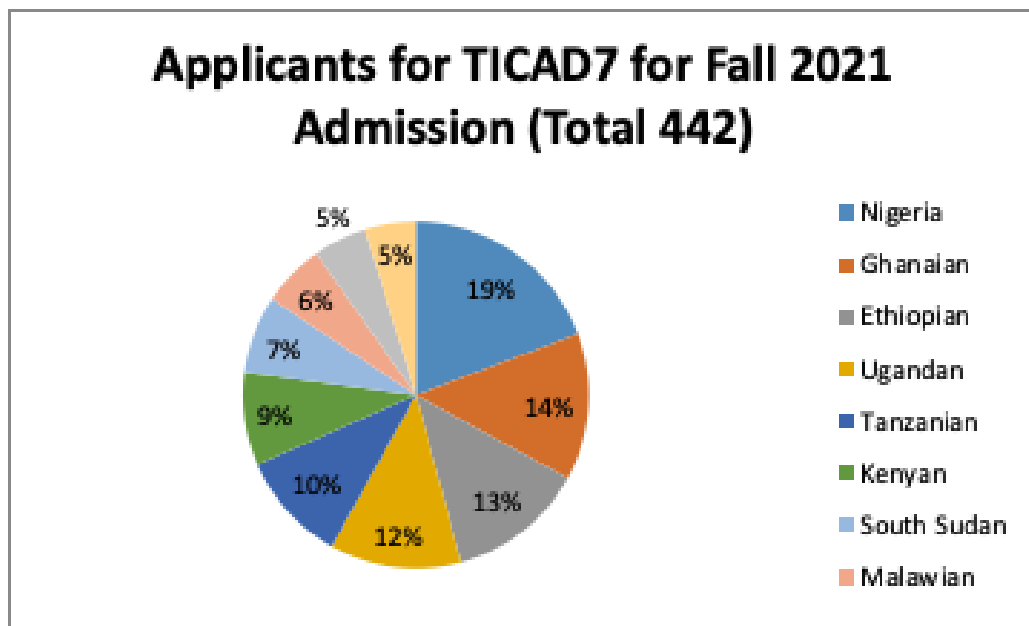
To promote TICAD7 scholarships E-JUST representatives made visits to 18 African embassies in Cairo, invited several ambassadors to E-JUST, and organized The African Day at E-JUST where 15 African ambassadors have attended the event. In addition to two webinars on E-JUST TICAD7 Scholarship.





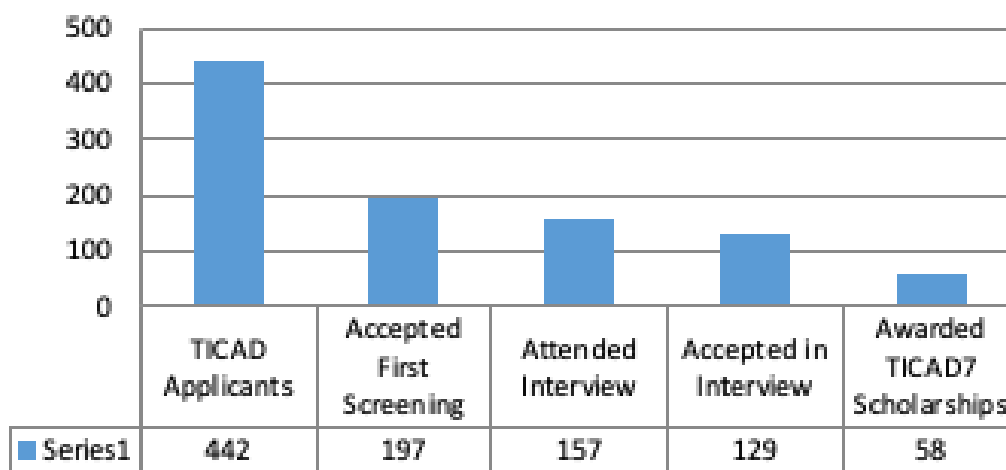
2nd Batch of E-JUST TICAD7 African Scholarships for STI

For Fall 2021 International Admission



Additional nationalities: Cameroon, Burundi, Somali, Zambia, Ivory Coast, Niger, Congo, Mozambique, Botswana, Mali, Angola, Sudan, South and Central Africa, Chad, Benin, Burkina Faso, Togo, Senegal, Namibia, Comoros, Liberia, Algeria, Malagasy

TICAD7 Scholarship Statistics for Fall 2021



Nationality of Applicants Awarded the Scholarship	No. of Applicants awarded the scholarship
Nigeria	13
Ugandan	9
Ghanaian	8
South Sudan	7
Kenyan	6
Zimbabwean	5
Malawian	4
Tanzanian	3
Zambian	1
Cameroonian	1
Rwandan	1
Grand Total	58

EJUST considers disabilities as an integrated part of the diversity at the University, aiming at creating an inclusive educational environment for the students. Through implementing classroom and campus accessibility needs and incorporate online and technological components.





Goal. 11 Sustainable Cities and Communities

- **Aim**

Make Cities and human Settlements inclusive, Safe, Resilient and Sustainable

- **Actions**

- Public Access to ancient Egyptian obelisk replica landscape in secondary campus



EJUST Secondary Campus

- Public access to Japanese restaurants with traditional Japanese food and decoration



The Japanese restaurant

- E-JUST Africa Day to support the cultural exchange.

E-JUST Africa Day, an event for strengthening the network between E-JUST and African countries, was held at Egypt-Japan University of Science and Technology (E-JUST) on 2nd November, 2021 for the second time.

The event brought together African ambassadors and deputy ambassadors in Egypt from 14 countries and was attended by approximately 60 current E-JUST international students.



Cultural performance by students from African countries (singing)



Booth exhibition by exchange students from Africa

- EJUST set targets for more sustainable commuting (walking, cycling, electric cars) through dedicating bike lanes on campus and between secondary and main campuses.



- Connecting both EJUST campuses with dedicated bike lanes



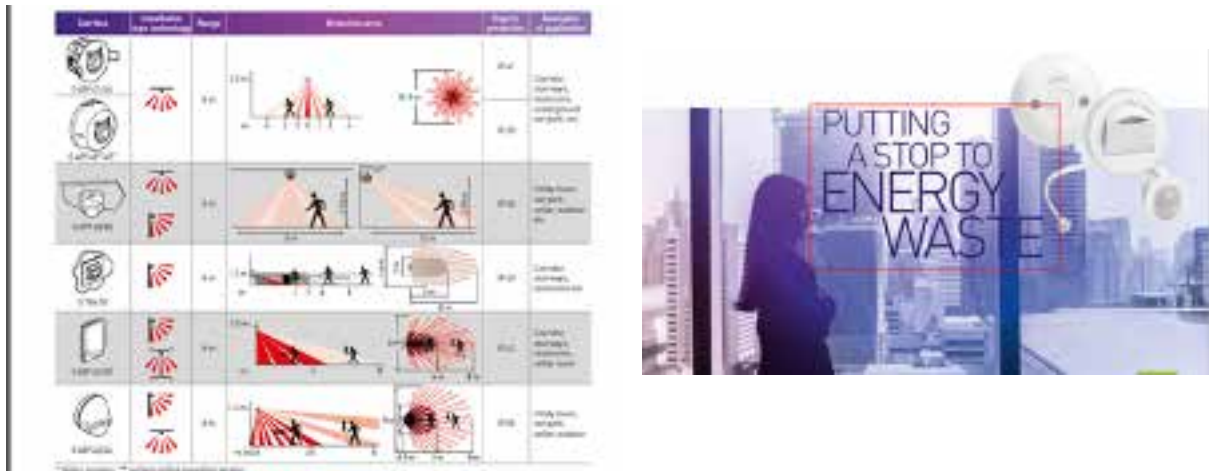
Bike lanes and parking hubs in the main campus

- To improve the thermal comfort in outdoor spaces which reduce the heat stress and support the public activities, shades were added to multiple spaces in the main campus



Shaded areas in the main campus

- In the new phase of EJUST constructions (14 Buildings) a smart lighting system was added, which could reduce the required energy for lighting with about 60%



Types of lighting sensor

- Through the research activities, EJUST addresses the sustainable cities and mitigate the climate change through developing green materials



The research of adapting baroreceptive concrete in building facades (Sustainable Architecture lab)



Goal. 13 Climate Action

- **Aim**

There is no country that is not experiencing the drastic effects of climate change. Greenhouse gas emissions are more than 50 percent higher than in 1990. Global warming is causing long-lasting changes to our climate system, which threatens irreversible consequences if we do not act.

- **Actions**

Climate change is moving faster than we are. Therefore, E-JUST has recognized the urgent need for a sustainable development plan to combat the challenges inherent in global climatic changes. The plan is mainly concerned with four milestones: Operation, Research, Education, and Consultancy.

- **Operation**

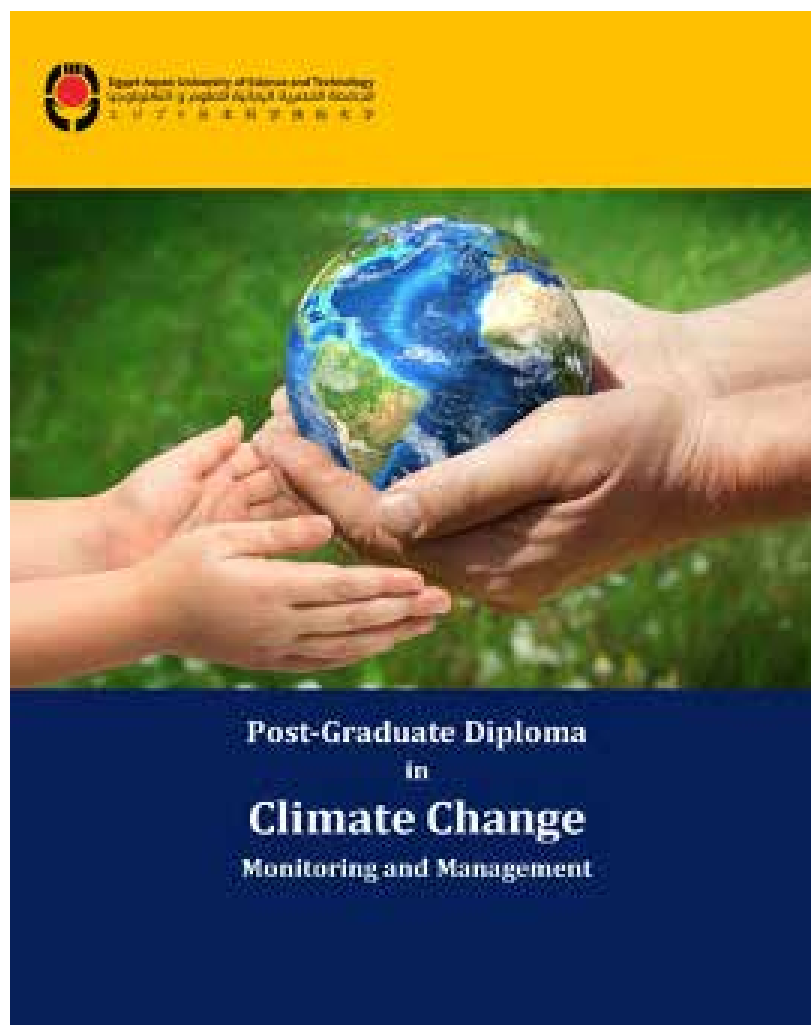


Visit of the Japanese ambassador Mr. NOKE Masaki to Solar Energy Research Lab (SERL) on April 6th, 2021

- Education

In the fourth of February, 2021, the SCU approved the submitted bylaw of the professional postgraduate diploma in Climate Change Monitoring and Management.

The importance of the need for an interdisciplinary approach to challenges inherent in global climatic changes has been recognized. It is essential that scientists, engineers and future environmental decision-makers understand the fundamental causes and impacts of climate change and the potential mitigation and adaptation measures required to respond to the challenges. Scientists and engineers should be encouraged to adopt an understanding of the wider environmental, socio-economic and political aspects of climate change. This Diploma degree has a distinctive modular structure providing sufficient flexibility to meet the wide variations in the background of entrants - and their respective individual career plans.





Goal. 16 Peace, Justice and Strong Institutions

- **Aim**

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build elective, accountable and inclusive institutions at all levels.

- **Actions**

Egypt-Japan University of Science and Technology Ranks has improved on the Times Higher education Ranking

Egypt-Japan University Of Science & Technology (EJUST) has been ranked on the eighth place locally amongst 31 Egyptian universities included in the **Times Higher Education sustainable development impact ranking** for 2021. According to the global ranking of 1,115 universities, EJUST came in the 401-600 position.

The chairperson of EJUST Sustainable Development Committee, Prof. Mona Gamal Eldin highlighted the 10 goals out of the 17 total UN Sustainable Development Goals, of which EJUST scored best in the following four goals: “Clean Water and Sanitation”, “Partnerships for the Goals”, “Climate Action”, and “Affordable and Clean Energy”, where EJUST came in second place among the Egyptian universities.

Egypt-Japan University of Science and Technology Ranks have improved on the Times Higher education ranking in research

EJUST has been ranked 11th among Arab Universities and eighth in Egypt according to Times Higher Education sustainable development impact ranking for 2021.

President of Egypt-Japan University of Science and Technology signs a cooperation agreement with the Arab Administrative Development Organization in digital transformation and intellectual property



Prof. Ahmed El-Gohary, President of Egypt-Japan University of Science and Technology received a delegation from the Arab Administrative Development Organization headed by Dr. Nasser Al-Qahtani, director of the organization. The delegation included Dr. Adel Al-Senn, advisor to the Arab Administrative Development Organization for Law, Arbitration and Public Health, Dr. Azzam Armili, advisor to the Arab Administrative Development Organization, head of a group of major councils, professional forums, and awards, and Mr. Hisham Hemida, Internal Controller.

In the presence of Prof. Sameh Nada, Vice President for Academic Affairs and Education, the Deans of the various faculties, and Mr. Watanabe Motoharu, Head of JICA Office at the university, aspects of cooperation between E-JUST and the Arab Administrative Development Organization were discussed. A cooperation agreement was signed between E-JUST and the Arab Administrative Development Organization in the fields of intellectual property and digital transformation, and seminars were organized on lessons learned from the Japanese experience. During the meeting, the implementation plan of the agreement was reviewed.

After signing the agreement, the organization's delegation went on a tour of the University premises, during which Dr. Nasser Al-Qahtani praised the distinguished level of the University's facilities and considered them an educational and research beacon for the Arab world and Africa. He mentioned that the Arab Administrative Development Organization seeks to establish a real partnership with the university to support its role in advancing education and meeting the needs of the labor market locally and internationally.

Building partnerships with major Japanese academic and research institutions to serve the Egyptian industrial sector

Ahmed El-Gohary, President of Egypt-Japan University of Science and Technology stated that the philosophy behind establishing E-JUST was to use educational systems and Japanese academic concepts that are based on laboratory methods in learning and teaching based on research projects. This came during his participation in Al-Gomhuria Cultural Salon, in the presence of Eyad Abul-Haggag, Chairman of the Board of Directors of Dar Al-Tahrir Publishing House, journalist and writer Abdel Razek Tawfik, Editor-in-Chief of Al-Gomhuria newspaper, the Deputy Editor-in-Chief of Al-Gomhuria, editorial directors, distinguished writers and journalists. Introducing:

60 new programs to link scientific research, localize and modernize industry, establishing research centers to support the national industry and transfer Japanese technology to the Egyptian market, Priority for applied research to serve the national goals and the sustainable development plan for Egypt 2030

Manufacture of the first Egyptian (PCR) machine, in addition to a hybrid steam plant to produce electricity with solar energy

Establishing the first laboratory in Egypt for the fifth-generation communication networks for smart cities

Manufacturing parts of the CubeSat satellite at the university, in cooperation with the Egyptian Space Agency

Egypt-Japan University hosts the first center of scientific excellence for graphene in Egypt.





Goal. 17

Partnerships for the Goals

• Aim

Strengthening means of implementation and revitalizing the global partnership for sustainable development. A successful sustainable development agenda requires partnerships among governments, the private sector and civil society. These comprehensive partnerships are built on rules, values, a shared vision and common goals, which achieve the enhancement of the means of implementation and the revitalization of the global partnership aiming for technological advancements.

- Promoting regional and international cooperation between the North and the South, as well as within the countries of the South in addition to the triangular cooperation in the area of science, technology and innovation and their accessibility.
- Enhancing knowledge exchange on agreed terms, through improved coordination among existing mechanisms, particularly at the United Nations level, and through a global mechanism to facilitate technology.
- Promoting the development, transfer, spreading and diffusion of environmentally safe Technologies to developing countries on favorable terms, including concessional and preferential terms, as agreed.

To achieve the leadership position of the Egyptian state through enhancing its place regionally and internationally and strengthening partnerships regionally and internationally, Egypt-Japan University of Science and Technology seeks to participate strongly in the support of sustainable-development-related scientific advancements, as well as contribution in research and technology to face the challenges related to sustainability, building strong interaction mechanisms with NGOs, regional and national government and education.

• Actions

E-JUST granted scholarships to 54 African students

E-JUST granted scholarships to 54 African students from 12 African countries, for the 2021 academic year. E-JUST offers 150 postgraduate scholarships reserved for African students as per the seventh Tokyo International Conference of Africa's Development, TICAD7.

Prof. Ahmed El-Gohary, President of E-JUST, said that these grants are financed by the Egyptian and Japanese governments as the former funds the accommodation fees, whereas the latter funds the tuition and the traveling expenses from the African countries to Egypt. Moreover, he added that the objective of these scholarships is to contribute to the preparation of African cadres who can achieve the goals of the African continent. Furthermore, 150 scholarships are to be conferred in three consecutive years, 50 scholarships per year, to students from different African countries. He emphasized that the University aims, through these grants, to serve the African nations. They also include contemporary specializations in modern sciences that contribute to supporting the development projects and activating the role of soft diplomacy by offering these grants and similar ones to the African countries.

Egypt-Japan University Wins the AUF Grant for Social Entrepreneurship

The University won the Agence Universitaire de la Francophonie (AUF) grant for social entrepreneurship, social innovation and sustainable development goals (SDGs) after competing with 70 local and international universities. The University submitted a proposal that encompasses many activities, including setting up its strategy in governance as related to SDGs and activities related to the technology incubator as well as building the capabilities of the University's employees, Egyptian universities and the Mediterranean Basin.

The grant project supports young people to achieve SDGs in 9 countries across North Africa and the Middle East, explaining that the European Union is participating in financing the project, which aims to create an environment conducive to youth participation and to conduct applied research and pioneering projects with a social, cultural and environmental dimension.

A total of 70 universities in Egypt, Algeria, Jordan, Lebanon, Tunisia, Libya, Morocco, Palestine and Syria competed to win the AUF grant. The project revolves around several pillars, including providing support to more than 1000 young people, building a regional network of organizations that support community entrepreneurship, developing a curriculum for social entrepreneurship and activities related to technology incubators, building the capabilities of employees, and holding several events and training workshops.



Francophone University Agency (AUF) Delegation Visits Egypt-Japan University of Science and Technology

Prof. Ahmed El-Gohary, President of Egypt-Japan University of Science and Technology (E-JUST), received a delegation from the Francophone University Agency, headed by Prof. Selim Khalbos, President of the Francophone University Agency. The aim of the visit was to discuss ways to support collaboration between E-JUST and the Agency in all cultural, scientific and educational fields. The delegation was then given a tour of the University campus, laboratories and dormitory. Prof. El-Gohary said that E-JUST won the grant given by the French and Francophone University Agency for Social Entrepreneurship, Social Innovation and Sustainable Development Goals after competing with 70 local and international universities. The University participated through a proposal that included many activities, including setting its strategy in governance with the SDGs and related events. The proposal also included the technology incubator and staff capacity building at the University, other Egyptian universities, and in the Mediterranean basin.



- **E-JUST has signed many MOUs in 2021:**

Strengthen the collaboration with international universities E-JUST has signed many MOUs in 2021 as follows:

A'sharqiyah University – Oman.
The Pennsylvania State University - United States.
Kairouan University – Tunisia.
Huddelfield University - United Kingdom.
Shanghai Jiao Tong University – China.
Institute For Space-Earth Environmental Research (ISEE), Nagoya University – Japan.
Hosei University – Japan.
Nagasaki University – Japan.
The University of Tokyo – Japan.

Concluding Remarks

By including and addressing the Sustainable Development Goals (SDGs) which lie within the scope of our university, this report consolidates E-JUST's commitment to global sustainability efforts.

It demonstrates that progress is being made in some critical areas, and that some favorable trends are evident.

Consequently, it reinforces a more comprehensive understanding of which areas of sustainable development are being addressed by E-JUST efforts, as well as which areas need further consideration or action.

The figures and data highlighted in this report bring with them varying challenges to build on current success and transform our ideas into reality.

It is abundantly clear that a much faster and more ambitious progress is necessary to unleash the social and economic transformation needed to accomplish our goals in accordance with SDGs.

Evidently, the report has highlighted areas that can drive progress across different SDGs: climate change, clean energy, healthy sanitation, more effective education, gender equality, revitalizing global partnership and much more.

We look forward to working hard toward achieving more advances for the University, Egypt, Middle East, and Africa.

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