

# UNISEC-Egypt Local Chapter Activity Report

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# Agenda

- Background
- Space Engineering Programs in Egypt
- Acknowledgement of New Member(s)
- Activities
  - CanSat/CubeSat Training Program
  - Space Keys Workshop
  - Capstone Projects
  - CubeSat Partially Funded By Boeing
- Challenges and Future Plan

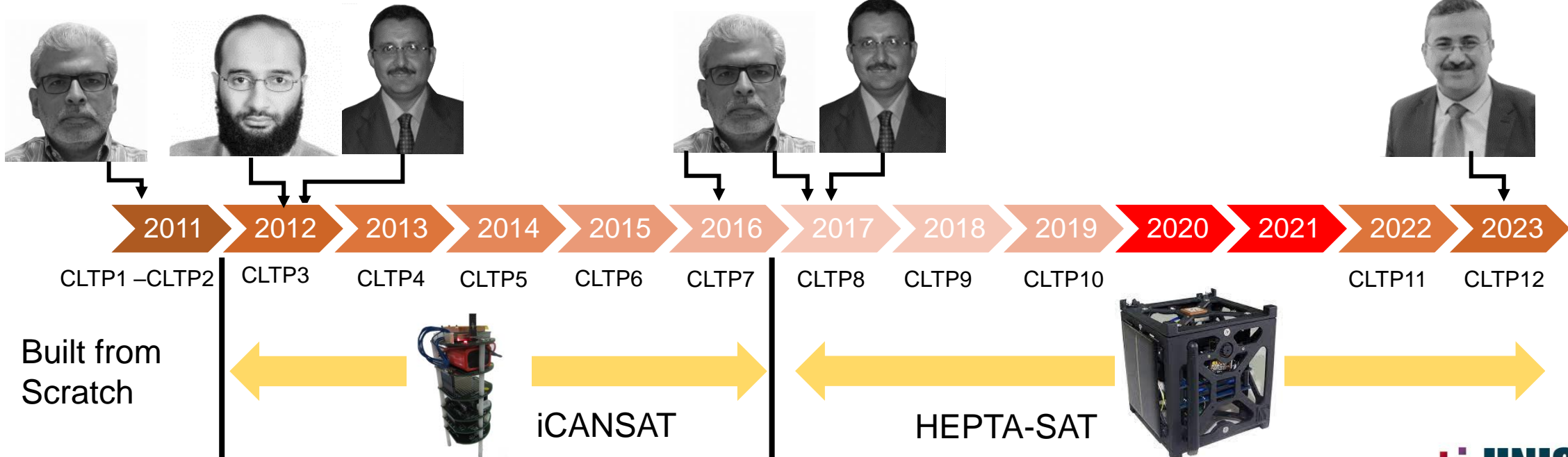
# Background

- UNISEC-Egypt Acknowledged in 2014
  - Aerospace Engineering Department, Cairo University
  - Mechanical Engineering Department, Alexandria University
- CanSat/CubeSat Leader Training Program

Dr. Mohammed Khalil Dr. Ahmed Rashed

Dr. Ayman Hamdy

Dr. Khaled Youssef



# Background

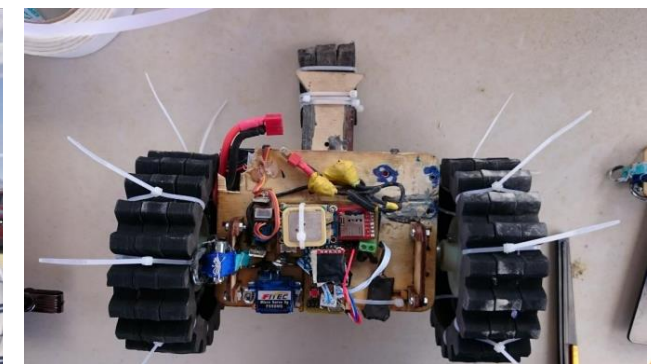
- Establishment of Space System Technology Laboratory in 2011
  - Student-Based Laboratory supervised by Faculty
  - Offer
    - CanSat/CubeSat Training Program (Annually)
    - Rover Training Program (Ad-Hoc)
  - Capstone Project related to Space Engineering
- FabLab





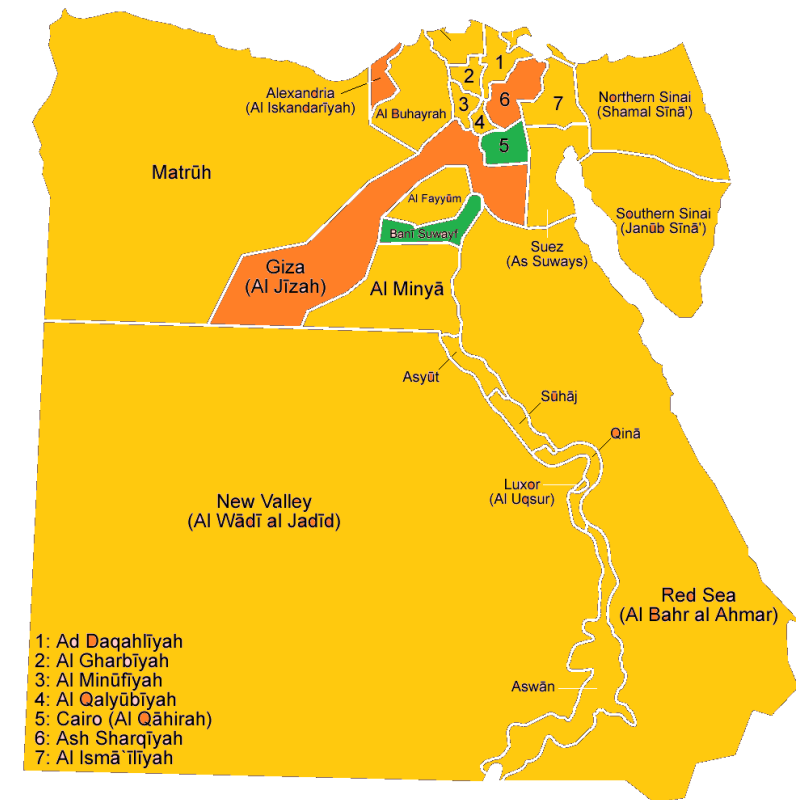
# Background

- Mission Idea Contest
  - MIC1, MIC2, MIC3, MIC5, and MIC6
- ARLISS
  - 2014, 2015, and 2019
- UNISEC-Global Meeting
  - 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, and 8<sup>th</sup>



# Space Engineering Programs in Egypt

- **Until 2013**
  - Aerospace Engineering, Cairo University
- **As of 2023**
  - Faculty of Navigation Science and Space Technology- Beni Suef University
  - Aerospace Engineering Program, Zewail City of Science and technology
  - Aero-Spacecraft Engineering Program, Zagazig University
- **To be Launched**
  - Aerospace Engineering Program, Egypt-Japan University of Science and Technology (E-JUST) with partnership with Aeronautics and Astronautics Department of Kyushu University



# Acknowledgement of New Member(s)

- Faculty of Navigation Science and Space Technology- Beni Suef University (**Only School in the region in the field of space science and technology**)
- Launched in 2018
- 5 Years science programs
- 1000+ Students
- Offer the following programs
  - Space Applications
  - Space Navigations
  - **Space Electronics and Communications (TBL)**



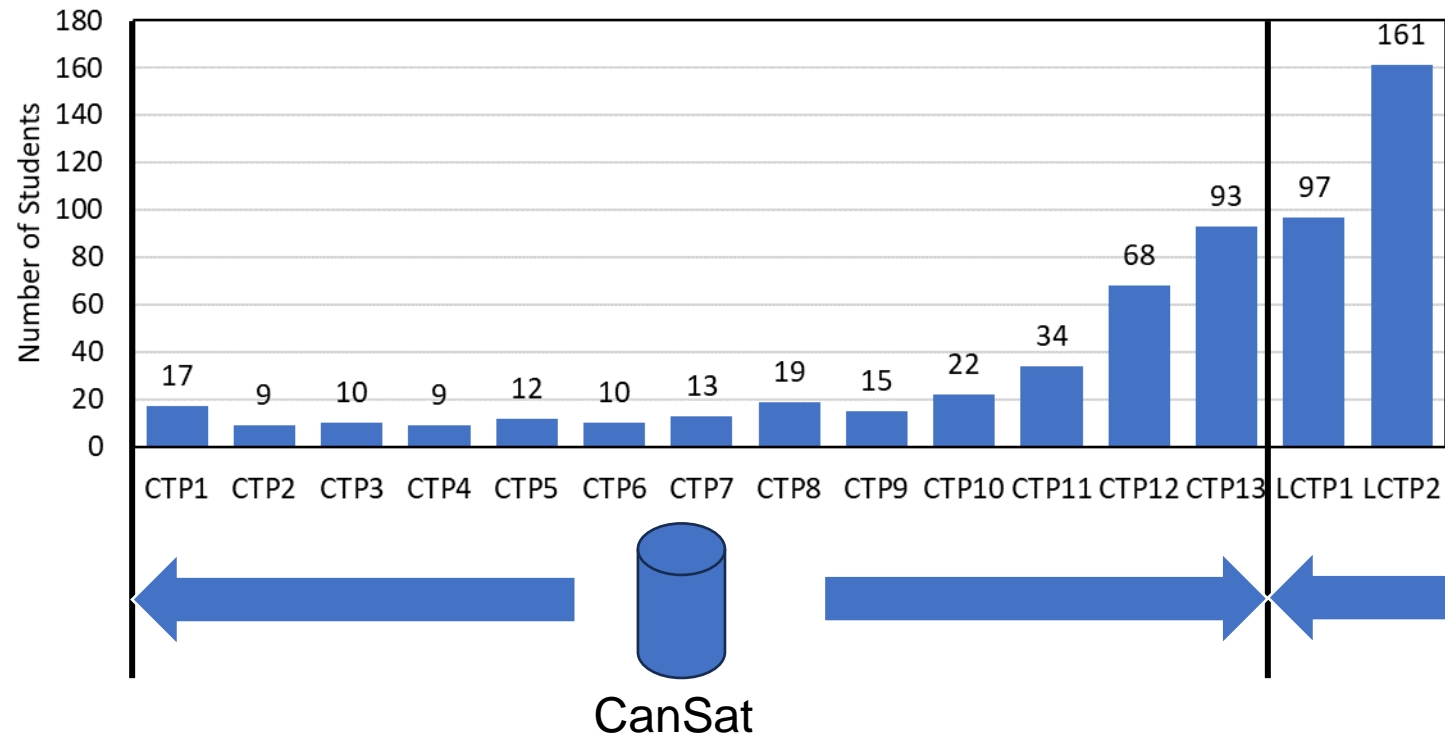
Dr. Khaled Youssef





# Activities: CanSat/CubeSat Training Program

- Offered annually since 2011
- Since 2022, it has adapted a similar platform to Hepta-Sat

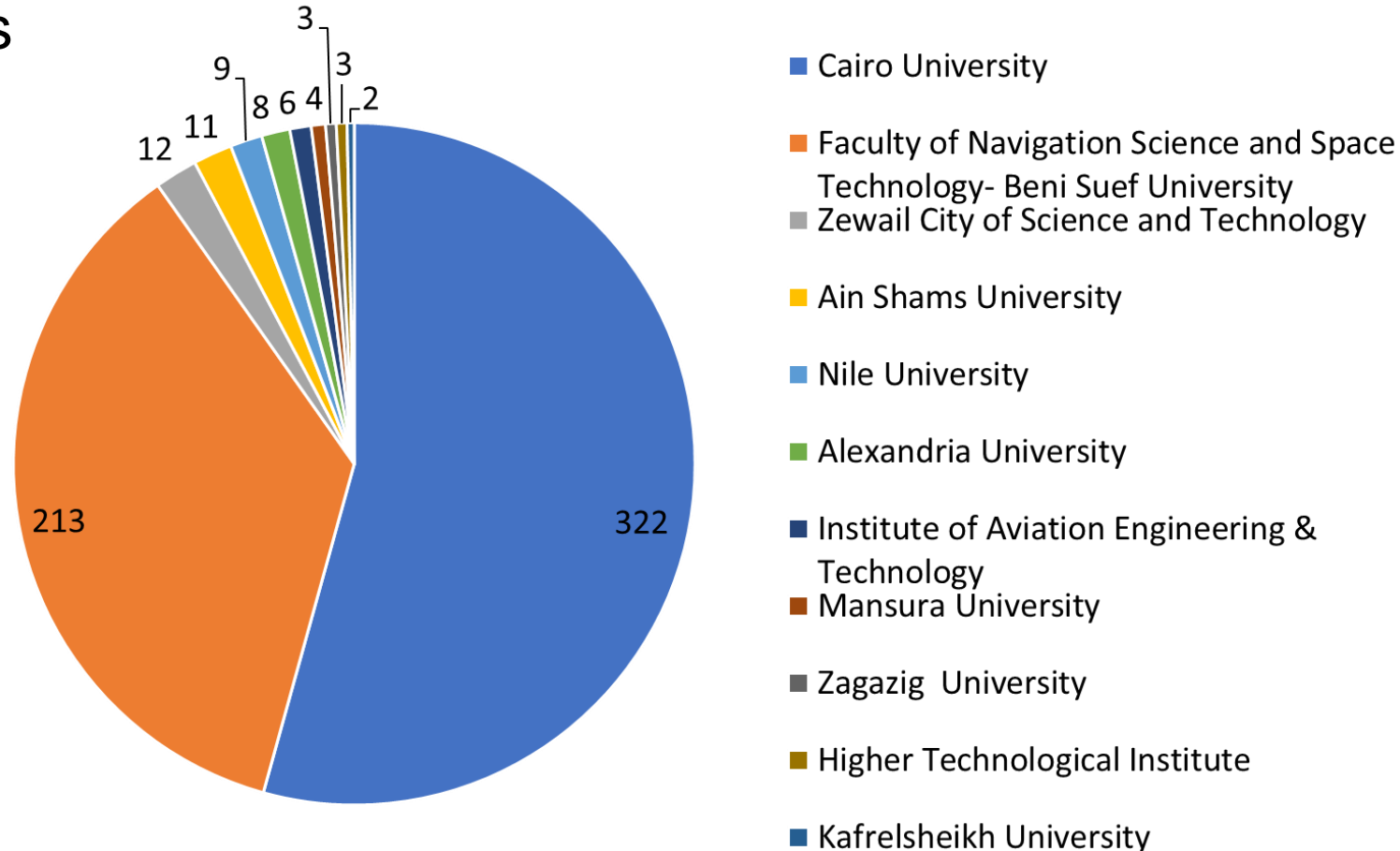


Lean CubeSat



# Activities: CanSat/CubeSat Training Program

- As of 2023, training was offered to 593 students from 11 Egyptian Universities



# LCTP2 (2023)

- Venue: Cairo University
- Date: August 20 – September 20, 2023
- Number of Participants: 161 Students





# Activities: Space Keys Platform Workshop



**Space Keys**

We're Unlocking the Space for Everyone



Space Science & Technology Related Colleges  
And High Schools



25 Universities (32 Faculties)  
1 School



5 Countries



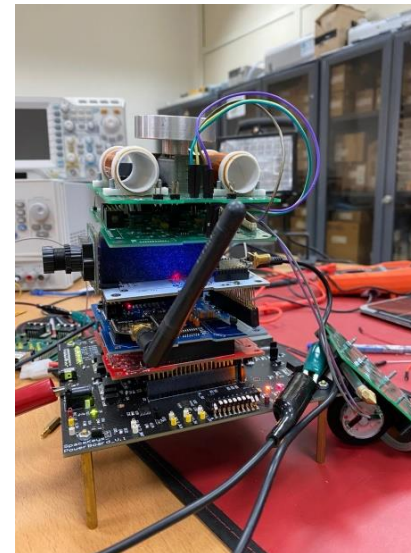
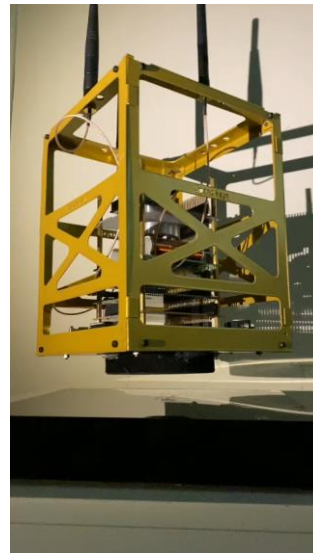
40 Kits



2021



Workshop, Feb, 2023

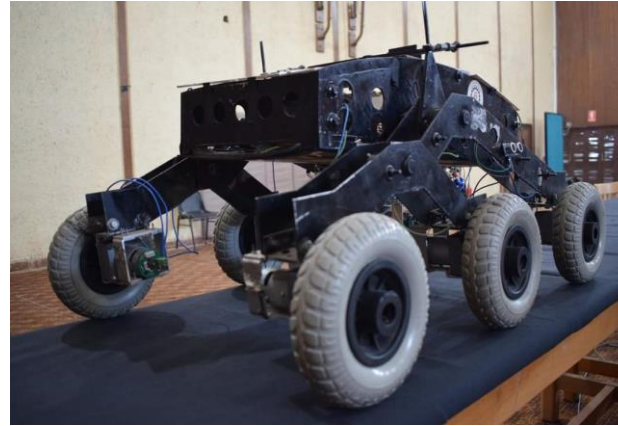




# Activities: Capstone Projects - 2023



Rover-flying Quadcopter



6-Wheel Space Rover



Autonomous eVTOL



Rover-flying Quadcopter best graduation project for the year 2023 and Participated in YLF



# CubeSat Project Partially Funded by Boeing

- Aerospace Engineering Department Joined Boeing University Program in 2018
- New Program named “Aviation Engineering and Management” launched in 2018 and partially funded by Boeing.
- Boeing agreed to allocated percentage of funding to develop a CubeSat for aviation applications since 2020.
- Preliminarily design of the CubeSat started in 2022.



Boeing MENAT President Mr. Bernard J. Dunn, 2018

# Challenges and Future Plan

- Challenges
  - Lack of funding
  - There is no dedicated administrative staff
  - Brain drain
- Future Plan
  - Invite Zewail UST and Zagazig University to Join UNISEC-Egypt.
  - Hold UNISE-Egypt general meeting sometime next year
  - Conduct LCTP3 and Space Keys training workshops