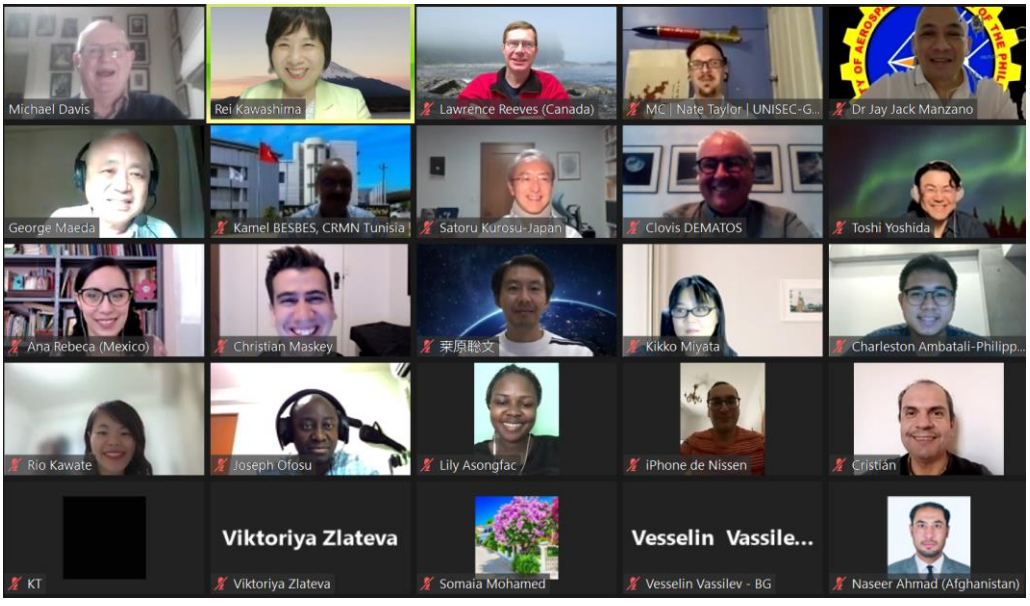
UNISEC-Global The 13th Virtual Meeting

September 18, 2021 22:00-00:00
(Standard Japan time GMT +9)



The following report was prepared by UNISEC-Global Secretariat
September 18, 2021.
Japan

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1. Opening Remarks

Toshinori Kuwahara, Tohuku University

Toshinori Kuwahara received his M.S. degree from Kyushu University, Japan, in 2005, and Dr. Eng. degree from the University of Stuttgart, Germany, in 2009. He served as a Research Associate of the University of Stuttgart from 2009 to 2010. From 2010 to 2015, he was appointed as Assistant Professor, and since 2015 he is an Associate Professor in the Department of Aerospace Engineering, Tohoku University, Japan. He is also chairperson for UNISEC-Japan and the Co-founder/CTO of ElevationSpace Inc.

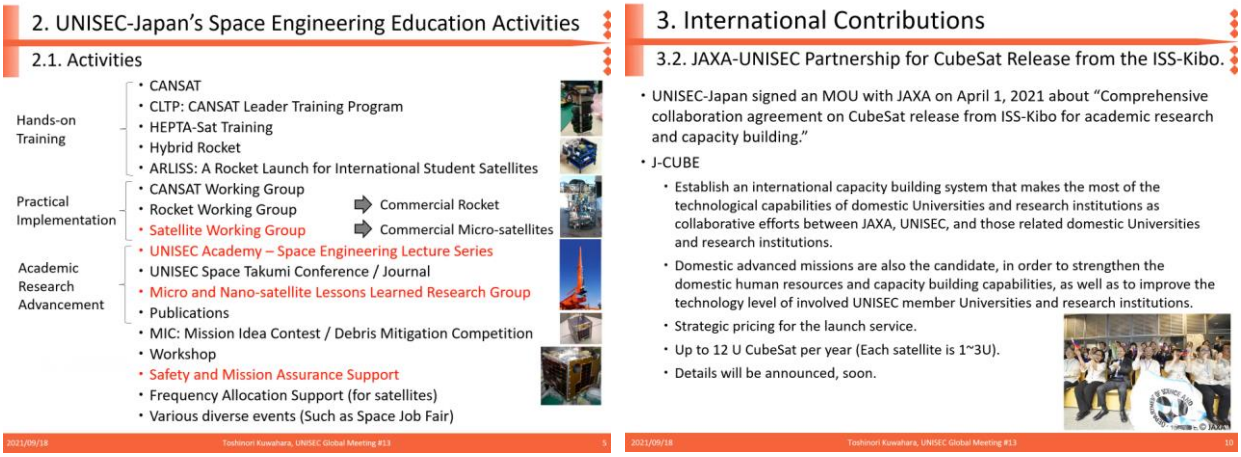
Pictured: Dr. Kuwahara (right) giving the opening remarks for the meeting

Highlights:

- UNISEC-Japan's Space Engineering Education Activities
  - Hands-on Training (CANSAT, CLTP, HEPTA-Sat Training, Hybrid Rocket, ARLISS)
  - Practical Implementation (Working grups for CANSAT, Rocket and Satellite)
  - Academic Research (UNISEC Academy, Journal, Lesson Learned Group, Publications)
  - Others: MIC, Workshops, Safety and Assurance Support, Frequency coordination
- UNISEC Academy
  - Venture companies, students, researchers
  - Top satellite experts involved from universities, companies and JAXA
  - Satellite elementary technologies, satellite system technologies and general space engineering technologies
  - http://unisec.jp/service/lecture (in Japanese)
  - English curriculum is coming soon
- Safety and Mission Assurance (S&MA)
  - Lessons Learned Research Group
    - Every week, online. Shared lessons from nano and micro satellites
    - Creating a handbook for S&MA based on the research, funded by JAXA
- International Contributions
  - KiboCube Academy, collaboration between JAXA and UNOOSA
    - Space engineering education through KiboCube Academy since 2020
    - 6 online lectures in space technologies through UNISEC in 2020
    - In 2021, UNISEC supported expanding the course to 14 online lectures
    - https://www.unoosa.org/oosa/en/ourwork/psa/hsti/kibocube/2020.html

Highlights (Continued)

- International Contributions (Continued)
  - JAXA-UNISEC Partnership for CubeSat Release from ISS-Kibo
  - MOU signed on April 1, 2021
  - J-Cube: Establish international capacity building utilizing domestic institutions
  - J-Cube: Domestic advanced missions are also candidate
  - J-Cube: Strategic pricing for launch, Up to 12U CubeSat per year (each 1U-3U)
  - Details announced at the end of the meeting



Pictured: UNISEC-Japan's efforts at space education(left) and international collaboration(right)

2. Presentation on "An Australian Space Story"

Michael Davis, The Andy Thomas Space Foundation

Michael Davis was the Chair of Space Industry Association of Australia, the peak national body for the Australian space industry, formed in 1992 and is now the Chair of The Andy Thomas Space Foundation. He practiced law in Adelaide for 41 years, retiring from his legal firm in 2014. In 1996, he obtained a Master of Space Studies degree from the International Space University in Strasbourg, France where he is now a volunteer Faculty member and member of its Board of Trustees.

Pictured: Michael Davis (right) giving a presentation on Australia's space story

Highlights:

- After second world war, UK was interested in building ballistic missile
- UK persuaded Australian government to establish space bases. Two large areas
- Space journey began by becoming the host for suborbital rockets
- Connection to space from early childhood for Michael
- 1967 third country in the world to design, test and launch its own satellite (Nov 29, 1967)
- US supported but satellite technology was Australian
- Only government in the world to become a partner to Gemini, Mercury and Apollo program
- Ground infrastructure provided by Australia for Apollo 11 in 1969. First image coming out from the moon, the infrastructure was provided by Australia
- Planting American flag on the moon was purely symbolic, no right over the sovereignty of the moon
- Outer space treaty in 1967 signed, two years before the moon landing
- Space should be used for peace for all mankind
- 1995 September in International Space University, Master's space program's first day
    - ISU has had a huge impact on space education
    - One year leave after persuading Michael's professor
    - Pure accident that Michael stumbled into space
- Three university consortium hosted 130 students in ISU SSP Adelaide in 2004
- January 2011, ISU/UniSA Southern Hemisphere Space Studies Program launched in Adelaide, conducted yearly
- Chair of Space Industry Association, Not for profit representing universities, governments and individuals. Grew successfully and join IAF
- International Astronautical Congress (IAC) conducted September 25-29, 2017
- Australian Space Agency establishment announced at 25 September 2017, announced by Hon. Senator Simon Birmingham
- Review of Australia's space industry capability, March 2018
    - National strategy to triple size of industry by 2030
    - National and international engagement, policy and strategy
    - Recommended: Long-term funding
    - Government autonomy for space agency
- Australian Space Agency headquarters in Adelaide
- Mission Control and Space Discovery Centered at Adalaide in March 31, 2021
- Research on emerging new satellite technologies such as AI on the platform (smart satellites)
- Andy Thomas Space Foundation after Dr. Andy Thomas. Charitable foundation established in 2020. AUD 200,000 for scholarships, awards and prizes in 2021. IAC in Adelaide in 2024.

Pictured: Note left on the moon by Apollo 11 astronauts(left) and IAC event in 2017

3. Breakout Discussion and Sharing

Moderators: George MAEDA, Kyutech; Nate Taylor, UNISEC-Global.

The breakout session will be split into **two** components:

1. **Small group sharing** (15 minutes) – get to know your group mates, their backgrounds, and interests. Informal, open-format conversations and introductions.
   (Random breakout room designation).

2. **Plenary sharing session** (40 minutes) – open floor for any attendees who want to tell their personal/space story. Highlight your journey, dreams, research, or anything else that makes you unique.
   (Main room – all participants).

   If you want to share: Simply use the ***"raise hand"*** feature (located under the ***"Reactions"*** icon in the Zoom UI) and speak when invited. Time constraints will be based on the number of speakers.
   Optional: You can share ONE slide to with the group when you speak.

Pictured: The sessions this time were more personal and more about sharing experiences

Highlights:

- Two sessions, individual stories shared
  - Small group formation, getting to know each other
  - Plenary sharing, open to all attendees
- **The breakout session for sharing was not recorded and is not included in the report.**
- Speakers were: Nate Taylor, Toshi Yoshida, Satoru Kurosu, Lily Asongfac, and Rio Kawate.

4. Regional Report: UNISEC-Tunisia

Prof. Kamel Besbes, Center for Research on Microelectronics and Nanotechnology

Prof. Kamel Besbes is the Director General of Center for Research on Microelectronics and Nanotechnology in Tunisia.

Pictured: Prof. Besbes provides an overview of Tunisia's space development activities

Highlights:

- Tunisa's higher instance of coordination at national level include:
    - Government Ministries, University and Research Centers and Agencies
    - Coordinated by National Commission for Outer Space Activities (CNEEA)
- International Space Offices and ONG installed in Tunisia include:
- North African Center for Remote Sensing (CRTEAN), Arab ICT Organization (AICTO) and African Association for Geospatial Development (AGEOS)
- UNISEC-Tunisia
    - Promotion of National and International projects and cooperation
    - Promotion of alliance
    - Organization of events
    - Communication and dissemination
    - Promoting academic training
    - Team of 10 members
- UNISEC-Tunisia developed strategy to develop space activities
    - Align implementation with the agenda of the National strategy
    - Create short term projects for funding and give visibility, nationally and internationally
    - Build multi-stakeholder strategy
    - Collaborate internationally
- March 2018: Ministry of Higher Education and Scientific Research with strategic partnership other ministries set objectives
    - Objective 1: Organize and Enhance the Space Sector
    - Objective 2: Use of Space Applications and Technologies
- EU-Tunisia Association to H2020 Research and Innovation Pilar
    - 12 + 6 infodays for discussing innovation in space
- Fabrication & Applications of CubeSats in Tunisia (FACT)
    - 5 expected results: CubeSat assembly, test, prototype and skill development and communication/outreach
    - Facilities include ISO 6 Clean Room with ISO 19683:2017 Thermal and Vacuum Test
    - Projects: battery simulator, solar array simulator, SDR-LORA for water quality, ADCS testing, ground station based on SDR
    - International projects: WQM (Instanbul TU), Tricom-1R (University of Tokyo), Orbital communication (University of Wurzburg)
    - Training with UNOOSA, Graz Uni., Samar Uni., ISRO, CAST, ASI

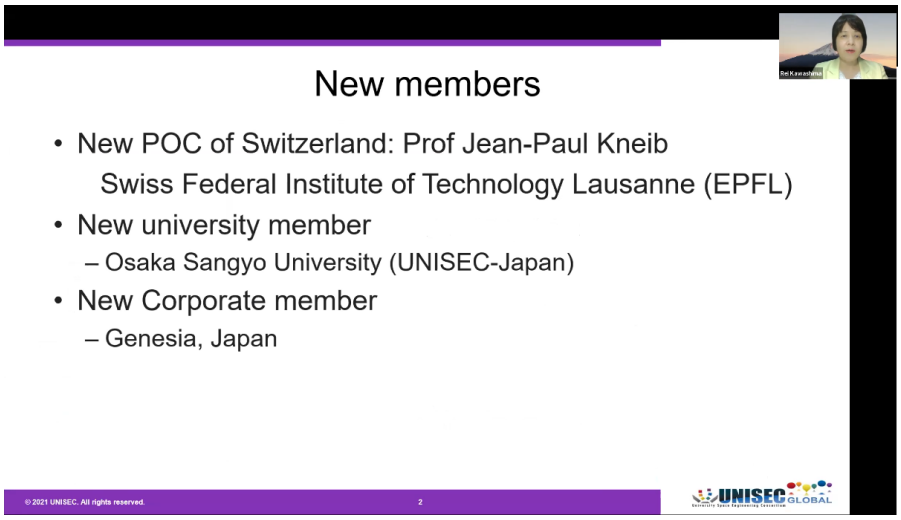
Pictured: Prof. Besbes shows a slide on FACT, Tunisia's CubeSat development effort

Highlights (continued):

- Direct connections with IEEE by organizing conferences by local chapter
- Participating in conferences and also organizing World CanSat and Rocket Championships
- Published a number of papers including in UNISEC publications
- Moving towards Mobilizing strategy
    - Began activities in 2010 in UNOOSA training symposium
    - UNISEC Tunisia established in Nov 2013
    - FACT project launched in Oct 2018
    - Private company launched in March 2021
    - Upcoming program: Nov 2021 World CanSat and Rocket Championships (WCRC)

5. New member acknowledgment, announcements and closing

Rei Kawashima, UNISEC-Global



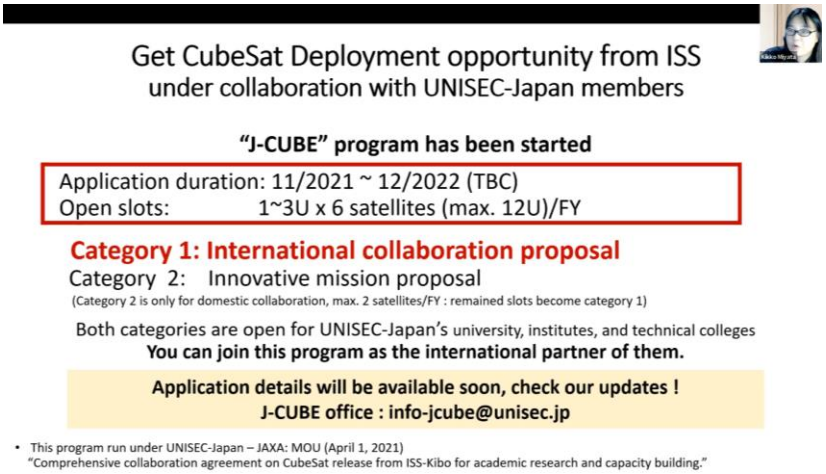
Pictured: Kawashima-san making announcements for the UNISEC-Global Community

Highlights:

- New Point-of-Contact (POC) for Switzerland, Prof. Jean-Paul Kneib of Swiss Federal Institute of Technology Lausanne (EPFL)
- New university member: Osaka Sangyo University which is part of UNISEC-Japan
- New cooperate member: Genesia, Japan
- 7th Mission Idea Contest
    - Final: Nov 13, 2021
    - Venue: X-Nihonbashi, Tokyo, done hybrid
    - Free online lecture http://www.spacemic.net/lecture.html
    - Details http://www.spacemic.net/
    - Finalists have been selected and will be announced on the website
        - Thailand x2, Taiwan, Turkey, USA, Costa Rica, Italy x2, Australia and Japan
- 8th Mission Idea Contest (2022) will launch in October, 2021 in Turkey
- 7th Round Application for KiboCube is open, Deadline Dec 31, 2021
    - UNOOSA and JAXA joint program, free launch opportunity (1U CubeSat)

Highlights (Continued):

- Announcement by Kikko Miata regarding JCUBE
  - JCUBE- Special discounted launch opportunity for 1U-3U x 6 CubeSats
  - Maximum total of 12U per fiscal year (FY)
  - Application duration: Nov 2021 to Dec 2021(TBC)
  - Two categories in which one is for international collaboration
    - If no suitable Japanese partner, then there's a match making system
  - Category 2 is for Japanese domestic collaboration, max. of 2 satellites/FY
  - Both category is open for UNISEC-Japan
  - Further information will be available in UNISEC's webpage
  - J-CUBE office: info-jcube@unisec.jp
  - Program is run by UNISEC-Japan and JAXA



Pictured: Kikko-san providing details on "J-CUBE" program

- **Next Virtual Meeting: October 16, 2021 10:00PM – 0:00 AM (JST)**
  - Special Theme: Lost Dark Sky
  - Nobel Laureate (2019 in Physics) Prof. Didier Queloz will be giving the keynote speech
  - Prof. Sinichi Nakasuka will give the welcome speech
  - UNISEC-Global Meetings takes place **Third Saturday** of almost every month in 2021

Pictured: Special virtual meeting next month on Oct 16, ,2021 with Prof. Queloz

Pictured: Kawashima-san showing events planned for 2021and 2022

- **2021 Planned Events**
  - PiNa Workship (Wuerzburg) on Sep 22-24, 2021
  - IAC2021 in Dubai on October 25-29, 2021
  - MIC7 final presentation on Nov 13, 2021
  - iCASE 2021 in Hsinchu on Nov 11-16, 2021
  - IAA 1st African Symposium for Small Satellite (South Africa) on Nov 29 – Dec 1, 2021
  - APRSAF 2021 on Nov 30-Dec 3, 2021 in Vietnam

- **2022 Planned Events**
  - 10th Nano-satellite Symposium at 33rd International Symposium of Space Technology and Science (ISTS, Oita, Japan) on Feb 26-March 4, 2022
  - 8th UNISEC-Global Meeting and 8th Mission Idea Contest on (TBD) 2022

Pictured: Christian Maskey (left), Lawrence Reeves (center left), Fahd Moumni (center right) and Kikko Miyata (right) providing comments/announcements

- **Comments from Christian Maskey**
  - *"Your collective wisdom and experiences will continue to inspire me and others to be a part and contribute to the space community. My whole hearted thanks and I look forward to being a part of this again in the near future!"*
  - Can contribute to the community by talking about aboriginal astronomy
  - Works with Nate at the Australian Space Discovery Center. Space communicator

- **Request from Lawrance Reeves**
    - Conducts CubeSat competition in Canada, has had collaborations in the past
    - If anyone would like to collaborate and work for the J-Cube launch opportunity

- **Announcement from Fahd Moumni**
    - BIRDS-Nest application can be downloaded for free
    - The app shows location, information and data of BIRDS constellation satellites launched by Kyushu Institute of Technology
    - App can be downloaded at:
        - Apple

      https://apps.apple.com/jp/app/birds-nest/id1535373770?l=en
        - Android

      https://play.google.com/store/apps/details?id=com.kyutech.birdsnestproject&hl=en

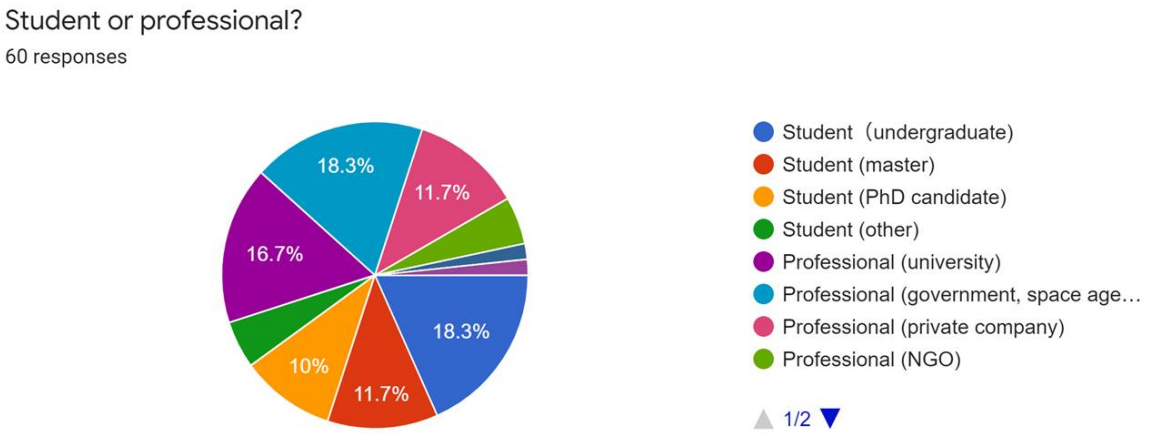
- **Hello from Kikko Miyata**
    - Participated in the event before
    - UNISEC-Japan member
    - In-charge of J-Cube
    - Associate Professor at a university in Japan and run a laboratory

6. Participant Statistics

60 registered participants from **21** countries/regions participated in the 10th Virtual UNISEC-Global Meeting.

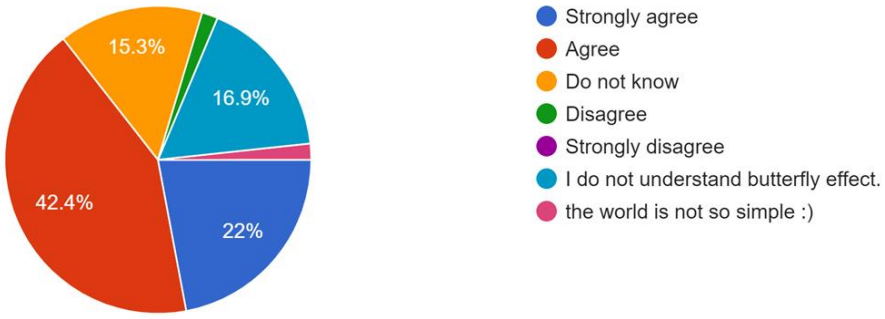
Country/Region	Number of registrants	Country/Region	Number of registrants
Afghanistan	1	Japan	18
Australia	5	Mexico	1
Bulgaria	4	Nepal	1
Cambodia	1	Oman	1
Cameroon	1	Philippines	9
Canada	2	Rwanda	1
Chile	1	Sudan	1
Egypt	4	Tunisia	2
France	1	Turkey	2
Germany	1	USA	2
India	1		

7. Participant Questionnaire



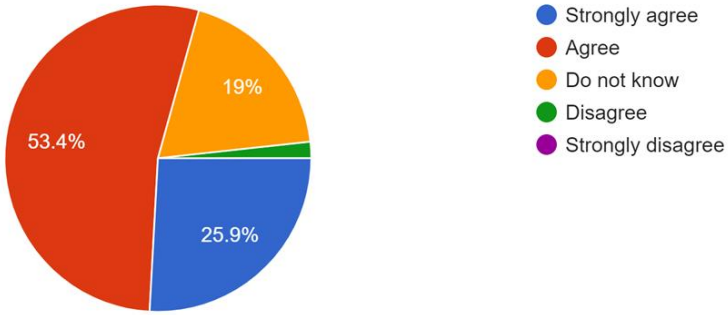
Do you believe in "butterfly effect"?

59 responses



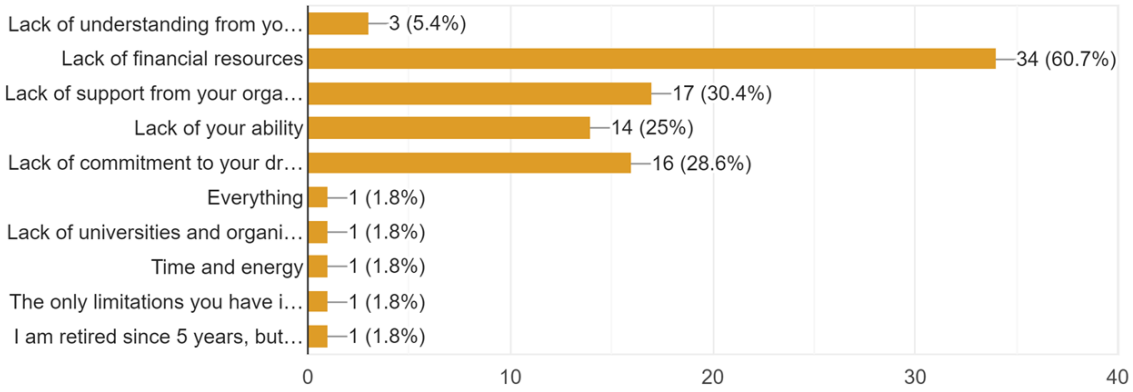
Do you think you will be able to influence the world?

58 responses



What would be the obstacles when you want to realize your dream?

56 responses



Thank you