



The National Space Science and Technology Center

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Director of the National Space Science and Technology Center



NSSTC STRATEGY

Vision

Excellence and leadership in space science and technology

Mission

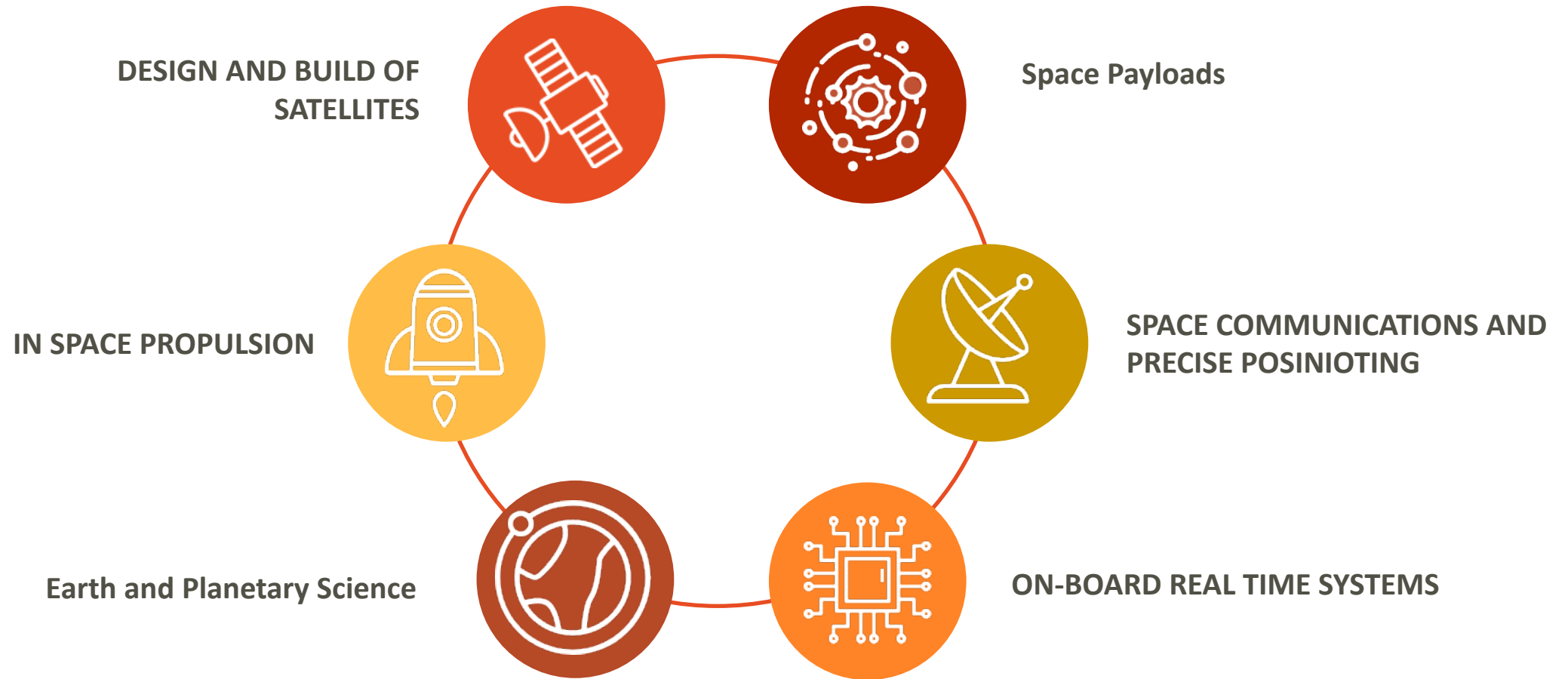
- Establishing an infrastructure for the development of space technology to contribute to building a knowledge-based economy and sustainable development,
- Promoting scientific research and development,
- Participating in building the Emirates space program,
- Forming partnerships with the pioneers of the aviation and space industry in the country

Strategic Outcomes Perspectives

- **Develop advanced national research programs in space science and technology** to serve the country's strategic innovation agenda
- **Achieve better positioning within the space sector worldwide**
- **Educate and train national talents** specialized in space science and technology
- **Innovate and own key strategic technologies and knowledge in space science and technology** to be transferred to the industrial sector
- **Promote a culture of space science and technology** through educational programs, exhibitions and various activities
- **Form and enhance strategic partnerships** with several advanced industries such as space, aviation and communications

RESEARCH AND DEVELOPMENT THEMES

INTER-RELATED RESEARCH AND DEVELOPMENT ACTIVITIES



EMERGING TECHNOLOGIES TRENDS

Emerging technologies will be attempted to embed in research and development activities

DESIGN AND
BUILD OF
SATELLITES



ARTIFICIAL INTELLIGENCE

Develop Artificial Intelligence capabilities in building algorithms to be used in parallel computing system such as Network-on-chip in high payload applications, and in development of algorithms in processing satellite data in orbit and in ground. Use these capabilities in future high end payload applications which demand high-performance on-board processing

Space
Payloads



SPACE
PROPULSION



INTERNET OF THINGS

Develop IOT capabilities in development of space payloads and ground devices to provide innovative solutions

SPACE
COMMUNICATIONS
AND PRECISE
POSINIOTING



Earth and
Planetary
Science



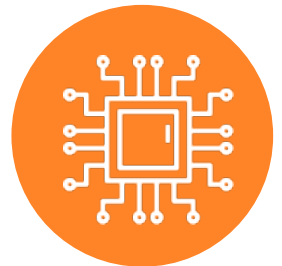
BIG DATA ANALYTICS

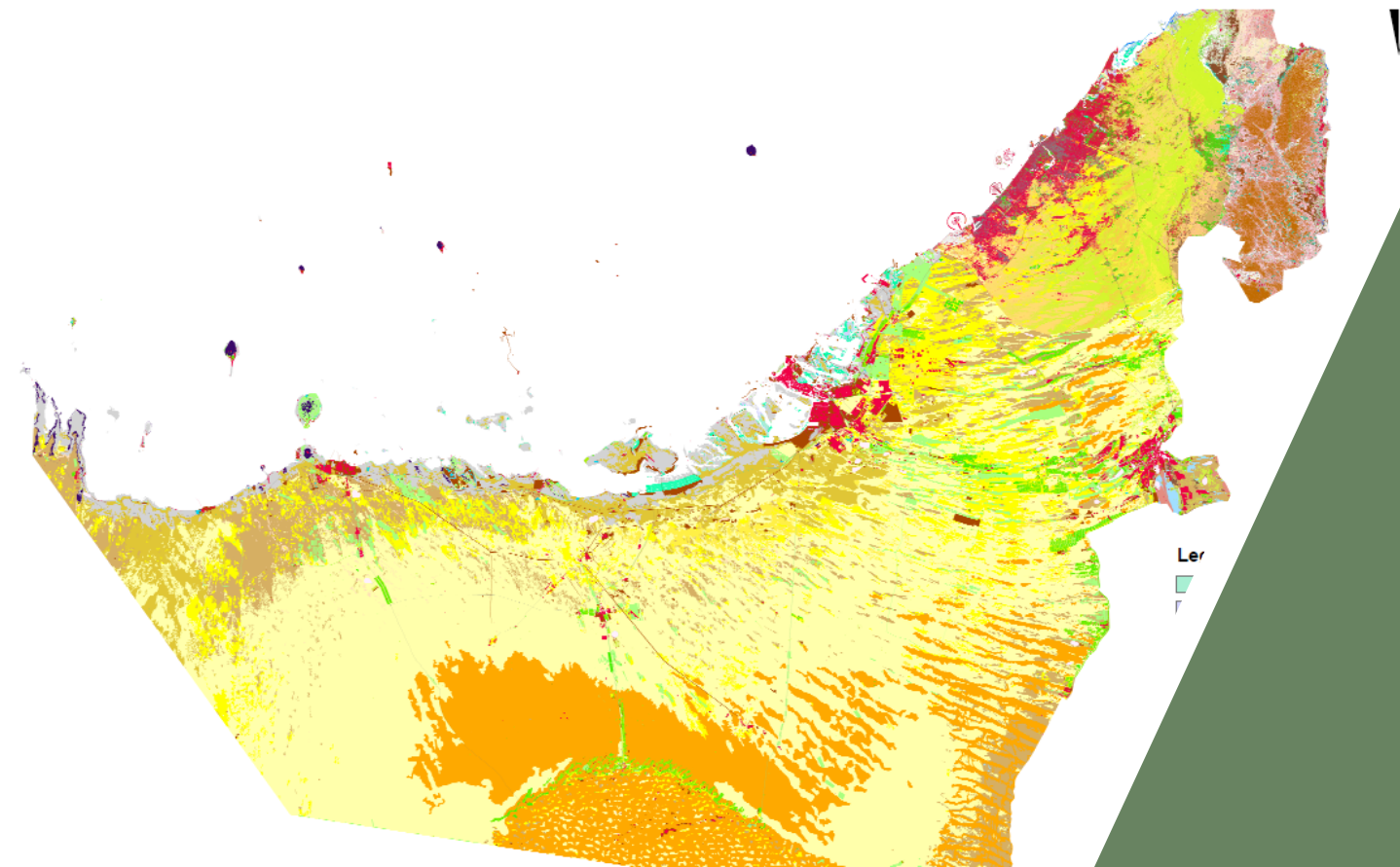
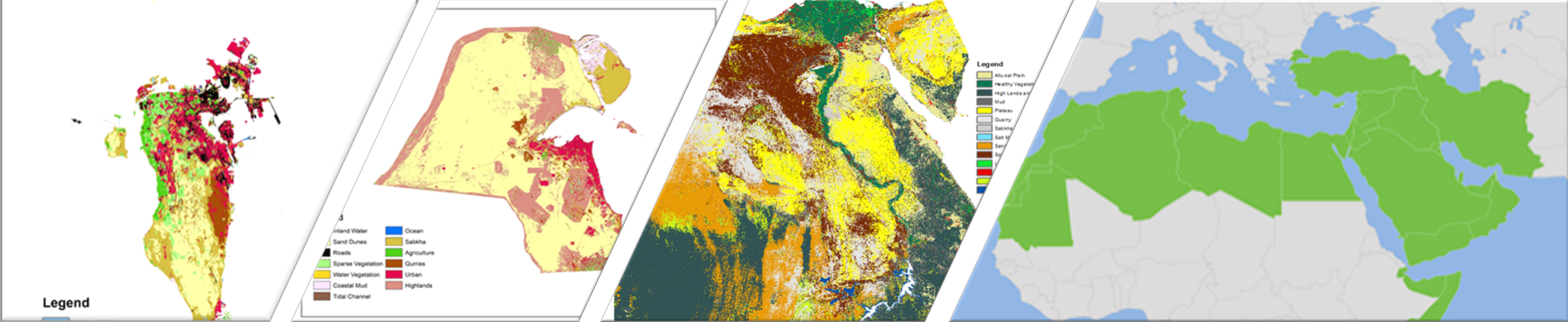
Develop a suite of tools and techniques to analyze and extract information from satellite datasets that are too large or complex to be analyzed using traditional data processing techniques.

3D PRINTING

Utilize 3D printing solutions in-house production of satellite and propulsion components

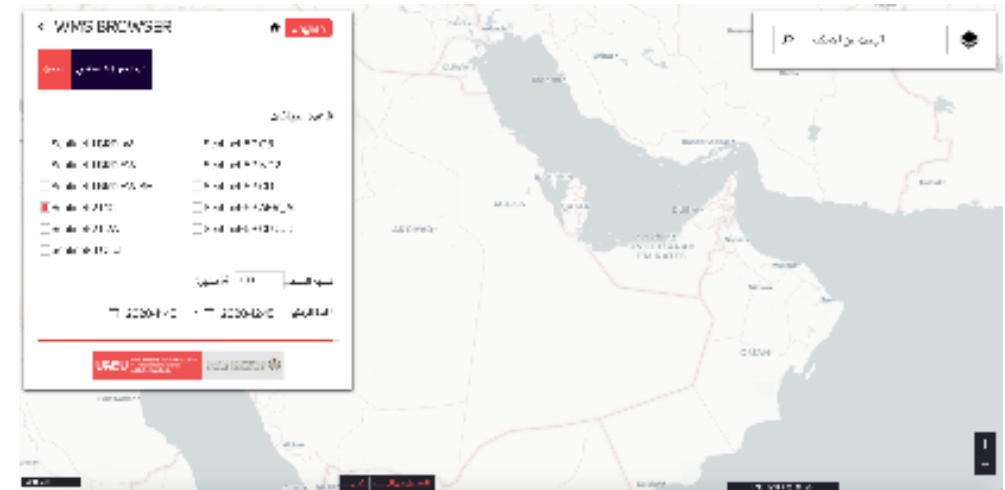
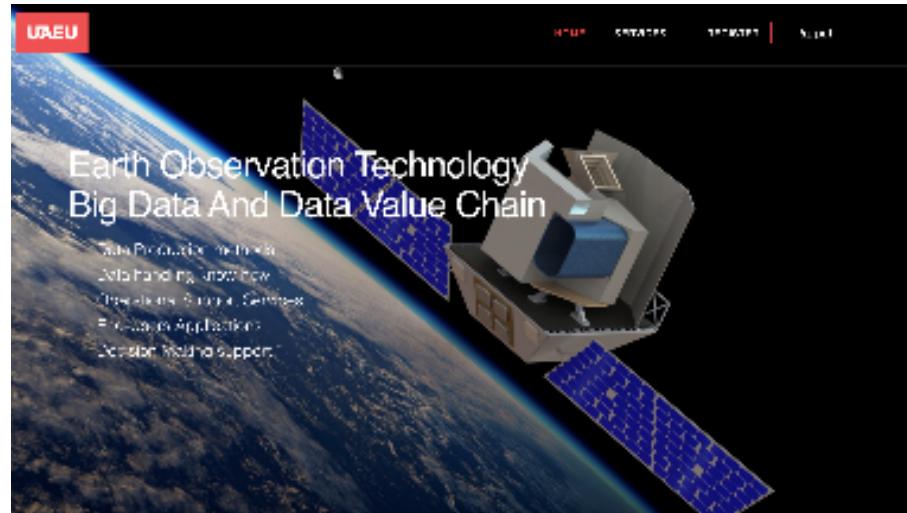
ON-BOARD REAL
TIME SYSTEMS





LAND USE LAND
COVER
CLASSIFICATION IN
MENA REGION BY
NSSTC

EARTH OBSERVATION PLATFORM



معايير البحث

Abu Dhabi ✕

معرف الصورة , المسار ✕

تم الرصد 2018-10-01
 تم الإصدار YYYY-MM-DD

2020-12-24 ✕
 YYYY-MM-DD ✕

الموقع : خط العرض
 غطاء : 0-100
 السحب :

خط الطول
 %

https://finder.eo.nsstc.ae/resto-creodias/api/collection ✕ ➔

اختبار مضاع ✕

تحميل مضاع 📁

اختيار نقطة 🔍

مسح الكل ✕

البحث ➔

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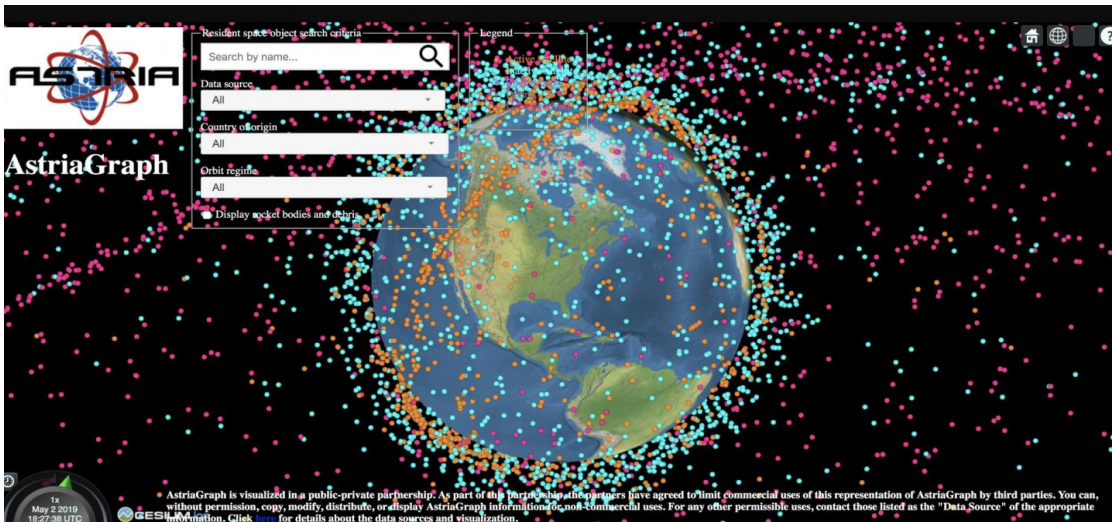
نتائج البحث

العنوان	تاريخ الرصد	تاريخ الإصدار ▼	نسبة حجم السحب الملف

SPACE SITUATIONAL AWARENESS AND SPACE TRAFFIC MANAGEMENT

International Collaboration

The Computational Astronautics group
at the University of Texas Austin – USA.



The Radio-Array group at Curtin University –
Australia.



The National Space Science and Technology Center collaborating with international universities -
currently installing and commissioning a radio array system in collaboration with Curtin University
and utilizing softwares from University of Texas Austin

SPACE SITUATIONAL AWARENESS AND SPACE TRAFIC MANAGEMENT

R&D activities - products

R&D and Capacity Build Up

- Collision Avoidance Support
- Conjunction Assessment
- Deorbit/Re-entry Support
- Disposal/End-of-Life Support
- Electromagnetic Interference (EMI) Investigation
- Early/Initial Orbit Determination
- Space Object Catalog, Identification, and Characterization
- Space Object Activity Monitoring and Assessment (e.g. Compliance, Treaty Implementation, etc.)

CAPACITY BUILD UP

Providing support to students enrolling into space science and technology studies





CAPACITY BUILD UP

Engaging with talents from Arabic countries

وكالة الإمارات للفضاء
UAE SPACE AGENCY


نوابغ
الفضاء
العرب






Expert Track

Dedicated to Arab experts and scientists in the space sector who can participate in the design and development of spacecrafts



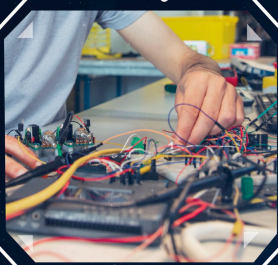
Student Track

Provides a scholarship for accomplished Arab youth to study space sciences and technologies in universities and internships in the R&D centers across the UAE



Talent Track

Provides young pioneers among the Arab world's school students with opportunities to expand their knowledge and refine their talent in the space sector and prepare them to enter the workforce



3 specialized tracks of the Arab Space Pioneers Programme

The National Space Science and Technology Center taking part in providing access to space R&D supervised by NSSTC's affiliated faculties and senior researchers

PAST, PRESENT AND NEAR FUTURE PLANS

MAIN INFRASTRUCTURES AND PROJECTS

Assembly, Integration
and Testing Facility



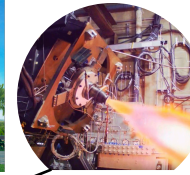
Antenna Farm S, X
and UHF Antennas



Propulsion and Additive
Manufacturing Prototype
Laboratory



Experimental
Propulsion Laboratory



2020

2021

2022

2023-2024

**EARTH &
PLANETARY
UNIT**



Earth Observation
Platform

**GNSS I
SATELLITE**

**ALAINSAT1
CUBESAT**

**GNSS II
SATELLITE**

The National Space Science and Technology Center



NSSTC_UAE



NSSTC.UAE



NSSTC.UAE



NSSTCUAE