



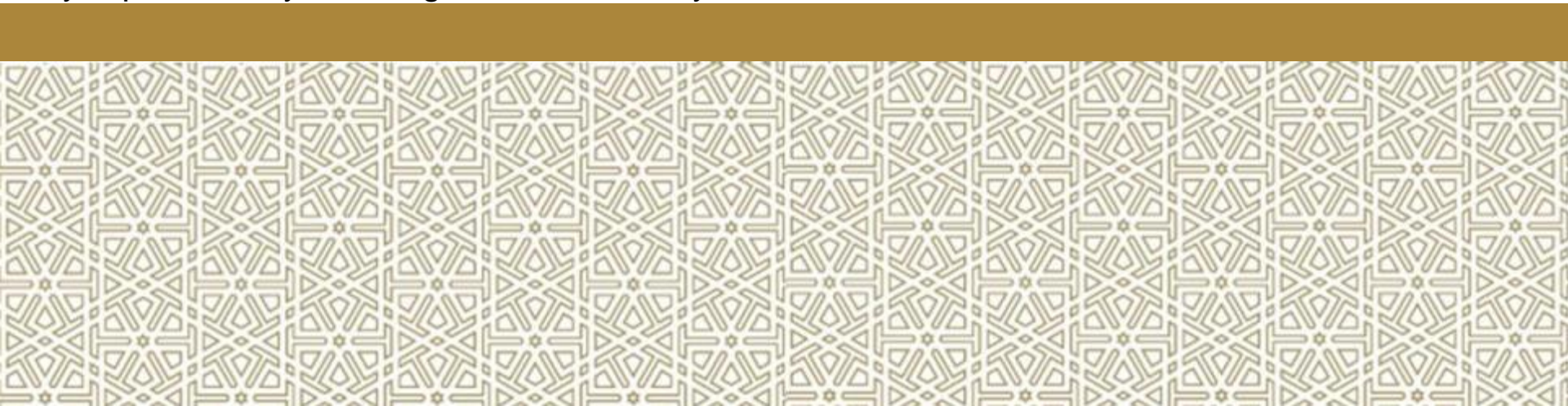
وكالة الإمارات للفضاء  
UAE SPACE AGENCY

# UAE Space Policy Efforts Towards Long Term Sustainability of Space Activities

Agenda Item 4; COPUOS 2017

07-16 June 2017

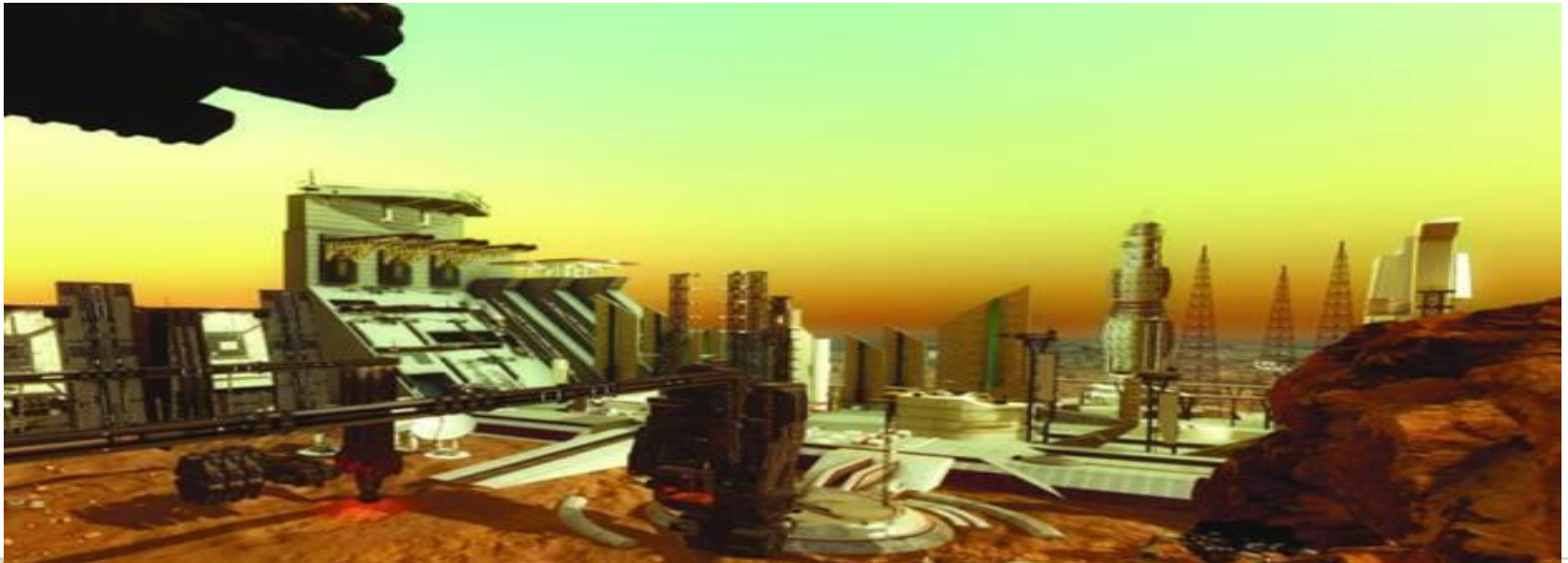
By: Space Policy and Regulations Directory



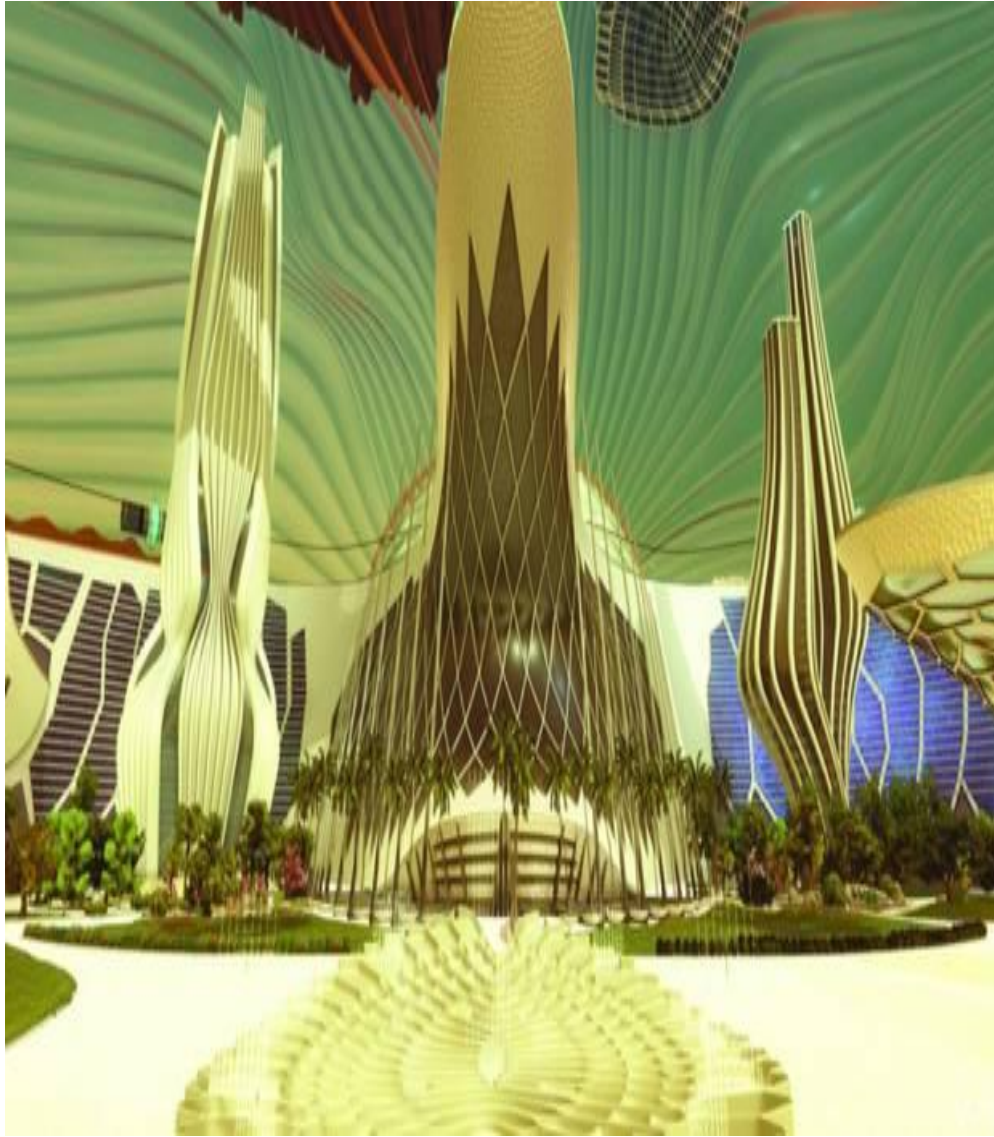


The UAE will build the first city on Mars as part of the 2117 Mars project in collaboration with specialised international organisations and scientific institutes.

The Mars 2117 Project was announced by His Highness Shaikh Mohammad Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, and His Highness Shaikh Mohammad Bin Zayed Al Nahyan, Abu Dhabi Crown Prince and Deputy Supreme Commander of the UAE Armed Forces.



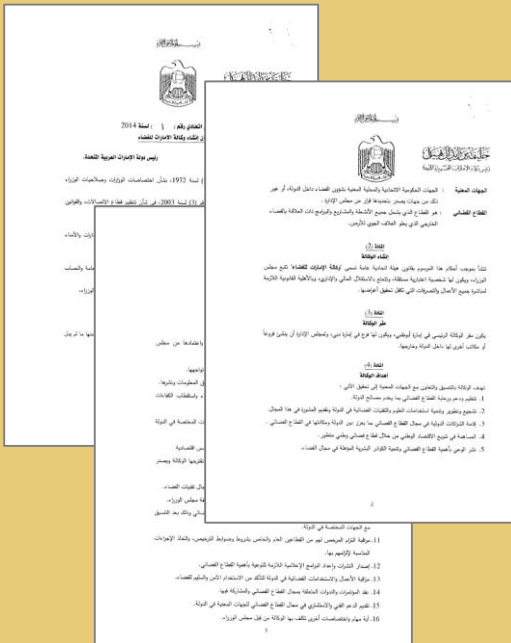




# Federal Decree Law No.1 of 2014 establishes the UAE Space Agency

## UAE Space Agency Objectives as Defined by the Decree\*

### Federal Decree Law No.1 of 2014



### Agency Objectives\*

- 1 **Organize, support and guide the Space sector to serve the interests of the State**
- 2 **Encourage the development and use of Space science and technology within the State and provide advice in this area**
- 3 **Establish international partnerships in the Space sector so as to enhance the State's role and status in the Space sector**
- 4 **Contribute to the diversification of the national economy through a developed national Space sector**
- 5 **Raise awareness of the importance of the Space sector and the development of the qualified human resources in the Space field**

\*this is translation from Official Law In Arabic Language

# Why Space Policy and Regulatory Framework

**Transparency**

**Ensure Safety, security, and environment protection**

**Healthy competition**

**Cooperation and harmonization**

**Economy of scale**

**Trust and attractiveness for investors**

**Monitor Performance and Learning curve**



✓ **Maximize benefit from space**

✓ **Long Term Sustainability**

The UAE Space Policy articulates the Government's intentions for the space sector to its citizens, industry, international community and other stakeholders

## **Purpose of the National Space Policy**

**Explain how the space sector will contribute to the achievement of the national vision, priorities and goals**

**Articulate the Government's ambition and goals for the space sector**

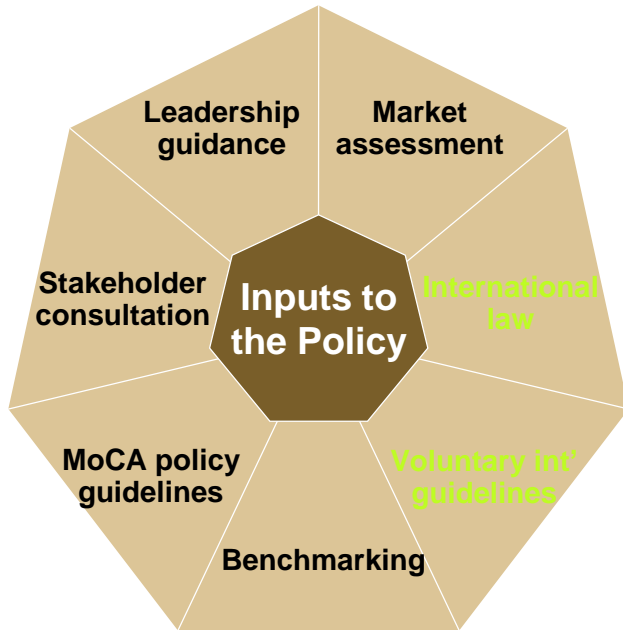
**Define the ecosystem of enabling capabilities needed to support the space sector**

**Provide guidance to national organizations regarding their role and contribution**

**Establish the governance model for successful implementation of the Policy**

# The UAE Space Policy articulates the Government's intentions for the space sector to its citizens, industry, international community and other stakeholders

**Informed by leadership vision and best practices...**



**... and organized to provide clear guidance and accountability**



**... to deliver a compelling vision for our national space sector**

**The UAE will develop a national space sector that:**

- Supports and **protects national interests** and vital industries;
- **Contributes to the diversification** and growth of the economy;
- **Boosts UAE specialized competencies**;
- **Develops scientific and technological capabilities**;
- **Engrains** the culture of **innovation** and **national pride**, and
- **Strengthens UAE's status** and role regionally and globally.

The UAE Space Policy was issued in Sep 2016. It was developed in line with applicable international laws and taking into account the successful development of the **Long Term Sustainability Guidelines**

**In June 2016, consensus was reached on the following 12 LTS Guidelines:**

- GL1:** Adopt and revise regulatory framework
- GL2:** Consider number of elements when developing regulatory framework
- GL3:** Supervise the national space activities
- GL4:** Ensure rational and efficient use of spectrum & orbits
- GL12:** Improve accuracy of orbital data on space objects & practice for sharing orbital info
- GL13:** Promote collection, sharing of Debris monitoring Info
- GL16:** Share operational space weather data & forecast
- GL17:** Develop space weather models, tools, and established practices to mitigate space weather effects
- GL25:** Support capacity building
- GL26:** Raise awareness
- GL27:** Support sustainable use and exploration of space via R&D and other means
- GL28:** Investigate new measures to manage space debris



# The Principles define why the UAE is developing the space sector

## 1 Principles

### P1. Enhance the Lives of our Citizens

- The UAE space program and its activities will be used to: enrich our knowledge about the universe, enhance education and scientific studies and research, provide better services, promote a culture of innovation and be a source of national pride

### P2. Support UAE National Interests

- The UAE space sector will support UAE national interests that include safety, security and stability; disaster and crisis management; discovery and management of natural resources; urban planning and roads planning; climate monitoring; and environment protection, monitoring and management

### P3. Support Growth and Diversification of our Economy

- The UAE will continuously develop and grow national space capabilities and capacities so that they can effectively contribute to the economy, and so they can respond to needs of other sectors for space technologies and applications

### P4. Promote Collaboration and Support UAE status

- The UAE will continue to strengthen the cooperation, coordination and partnerships at national & Int' levels in the space domain between the government sector, private sectors, academia, and research and development centers

### P5. Respect International Laws and Treaties

- The UAE recognizes the right of all nations to explore and use space for peaceful purposes and for the benefit of humanity. A safe, sustainable and stable space environment, free from impediments to access and utilization, is a vital national interest

# The Goals define what the UAE intends to achieve in the space sector

LTS:

GL4

GL12

GL13

GL16

GL17

GL27

GL28

## 2 Goals

### G1. Expand the Utilization of Space to Protect and Support Vital Sectors

- The national space sector will contribute to building various capabilities of strategic national interest such as: national security; disaster and crisis management; education and research; public health; telecommunications and broadcasting; transportation and logistics; and other vital national functions

### G2. Develop a Sustainable, Competitive and Innovative Commercial Space Industry

- The UAE will strive to build, develop and sustain an active, diversified commercial space industry through a variety of measures such as: enactment of economic incentives and an attractive regulatory environment, encouragement of entrepreneurship and innovation; development of national space professionals; support of basic and applied research and development; etc.

### G3. Conduct Scientific Space Missions

- UAE will promote space-related scientific programs and projects, including planning and executing space missions (alone or in partnership with other nations); obtaining and developing capabilities for space exploration and earth observation; encouragement of scientific research and development of programs that aim to strengthen UAE space capabilities and technology and expand their utilization

### G4. Promote a Safe and Stable Space Environment

- To enhance the sustainability of space activities, the UAE will support national and international efforts such as: planning, access to and efficient use of radiofrequency spectrum and orbital slots; transparency, openness, coordination and information sharing regarding space operations and activities; safety and security of space activities and environment; space debris mitigation; and space situational awareness

### G5. Establish and Expand UAE's Leadership in Space

- UAE shall strive to establish and expand its regional and international presence and leadership in space through collaboration and partnerships, with special focus on supporting UAE initiatives in: peaceful use of space; developing space capabilities, especially in disaster management and relief; telecommunications, navigation, land observation, and scientific, technological and space exploration programs

# The Enablers identify the capabilities needed to support the achievement of the policy goals (1/2)

LTS:

GL1

GL2

GL3

GL4

GL12

GL25

GL26

## 3 Enablers (1/2)

### E1. Continuous Awareness of the Importance of Space and its Activities

- Prepare and implement programs to disseminate and increase national awareness of: the importance of space and its different uses; the important national, regional and global space activities; the latest developments and achievements of space exploration; and national and international policies, laws, regulations and measures related to the regulation of space.

### E2. Qualified UAE Space Professionals

- Develop and implement programs to: increase student participation in Science, Technology, Engineering, and Mathematics (STEM) programs; attract Emirati talents and skilled professionals to work in the space sector; develop, retain, and increase opportunities for skilled space professionals; incentivize and enable increased female participation in the space workforce

### E3. Effective and Attractive Space Regulatory Environment

- Develop space-related laws and regulations that: increase transparency, effectiveness, and resilience; provide appropriate protection of intellectual property rights; provide insurance policies and facilities suitable to various space activities; facilitate the sharing of appropriate data and information to support value-added industries; and minimize the regulatory burden on commercial space activities to the extent necessary to meet domestic and international legal obligations:

### E4. Active Management of Radiofrequency and Satellite Orbital Resources

- Promote radiofrequency spectrum allocation and orbital assignments that support UAE present and future needs
- Support international cooperation, research and technology that support efficient and rational use of radiofrequency spectrum and orbital slots
- Develop capabilities to resolve issues of radiofrequency interference

# The Enablers identify the capabilities needed to support the achievement of the policy goals (2/2)

LTS:

GL13

GL16

GL25

GL27

GL28

## 3 Enablers (2/2)

### E5. Effective Science, Technology and Innovation Programs

- Establish programs to encourage and conduct basic and applied research in the field of space science and technology, in order to: develop space-related capabilities; reduce costs of space goods and services; develop next-generation space technologies; encourage innovation and entrepreneurship; and extend the use and benefits of space technology and applications;

### E6. National, Regional and Global Collaborations, Coordination and Partnerships

- Coordinate national efforts and foster effective collaboration among UAE stakeholders focusing on national program progress, regulations effectiveness, expanding space users and markets
- Promote regional and international collaboration and partnerships focusing on capacity building, access, viable projects, disaster mang', and space sustainability

### E7. Adequate Investment and Financial Support

- Develop financing mechanisms to fund national government & scientific space projects
- Put suitable measures and procedures that facilitate access to financing options for commercial space companies in all stages of development
- Enact funding provisions or investment decisions to support SME's and corporations working in the domestic space sector

### E8. Supporting Facilities and Infrastructure

- Facilitate the creation of facilities and infrastructure needed for the development and manufacturing of critical space technologies, applications and services;
- Coordinate various national efforts to minimize costs and avoid redundancy;
- Continuously evaluate and improve the level of effectiveness of space infrastructure security and protection, and enhance connectivity and interoperability, as needed;



# The Guidelines provide direction to stakeholders on activities needed to support and develop the sector

**LTS:**

GL4

GL12

GL13

GL16

GL17

GL27

GL28

## 4 Guidelines

### GL1. National functions guidelines

- Provide support to national security capabilities
- Enhance national capabilities for disaster monitoring and response
- Support national activities in humanitarian aid
- Provide support to key UAE industries
- Utilizing space technology to improve the quality of life of UAE people
- Support national capabilities for natural resources management
- Support national initiatives for smart cities and e-government
- Support international efforts for promotion of sustainable space activities

### GL2. Science, technology and exploration guidelines

- Develop and encourage UAE scientific and aerospace engineering professionals
- Enhance land and climate observation and support environment protection
- Support national space technology development
- Create programs to support space exploration efforts
- Embark on space programs that increase UAE's status in this field

### GL3. Commercial sector guidelines

- Promote UAE products and services
- Support economic diversification and develop new markets
- Create a competitive and sustainable commercial space industry
- Promote and sustain innovation
- Promote creative entrepreneurship and commercial space projects
- Support the development of space industry standards

# The successful implementation of the Policy depends on four key success factors

LTS:

GL1

GL2

GL3

## 5 Implementation and governance – success factors

### Effective stewardship by the UAE Space Agency

- Raising awareness among national stakeholders
- Developing and coordinating the strategy and implementation plan for the National Space Policy
- Coordinating specific tasks and roles to stakeholders
- Monitoring the implementation progress
- Consolidating implementation progress reports from stakeholders, and reporting upward to the Government
- Performance evaluation of the implementation

### Assessment to identify gaps and opportunities

- Core competencies and curricula needed to develop Emirati space professionals
- Space technologies and/or programs needed
- Options for future science and exploration missions
- Potential competitions and prizes to spur innovation
- Global collaboration / partnership opportunities
- Potential improvements in facilities and infrastructure
- Potential improvements in the laws and regulations

### Active stakeholder involvement and coordination

- Establishment of a National Committee for Oversight and Implementation that will:
  - Coordinate the implementation of the Policy and Strategy, to implement the initiatives and projects
  - Coordinate and report on the implementation progress
  - Identify strengths, weaknesses, and areas of future improvement, and make appropriate recommendations

### Review and revision of the Space Policy

- The UAE Space Agency shall review the National Space Policy every five years or as determined necessary
- Objective of the review is to:
  - Stay up to date with the latest global and domestic developments and trends in the field of space
  - Identify and recommend required improvements to the Policy



# Thank you

