وكالة الإمارات للفضاء
UAE SPACE AGENCY

United Arab Emirates

Space Investment Promotion Plan
Version 1.0

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“The Space Investment Promotion Plan aims to support the strategic objectives of the sector, aimed at promoting the diversification of the national economy, including science, technology, applications and services. It also covers supporting scientific research and building national competencies.”

H.E. Dr. Ahmad bin Abdullah Humaid Belhoul Al Falasi

Cabinet Member and Minister of State for Higher Education and Advanced Skills, Chairman of UAE Space Agency

“The Space Investment Promotion Plan seeks to increase the sector’s contribution to economic diversification and attract foreign investment in the national space sector. Moreover, it aims to transform the UAE into the go-to destination for investors wishing to participate in the space sector.”

H.E. Dr. Eng. Mohammed Nasser Al Ahbabi

Director General

UAE Space Agency

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1. Introduction

The UAE has set to its self a target by the Vision 2021 and UAE 2071 to be a worldwide leading and pioneering government and country in various economic and social domains. Consequently The National Space Policy, has set number of Principles and Goals for the UAE Space Program to attain that target and vision.

On the economic domain the National Space Policy emphasizes the importance for space program to:

- Continue to grow space industry role in expanding the UAE Knowledge and High Skills based Economy
- Enhance space industry's contribution to the diversification of UAE Economy
- Develop effective approaches to attract space businesses and increase investment into UAE space industry.

The Space Investment Promotion Plan aims to achieve these Policy directions by defining in a high level the UAE approach to facilitate more investments in space industry in the UAE, and contribute towards the attainment of UAE goals stated in the UAE Vision 2021, the UAE 2071, and the UAE Plan on the 4th Industrial Revolution. In particular to diversify and ensure sustainability of the UAE Economy; promote highly productive knowledge based economy; provide incentives for R&D and Innovation, and encourage Entrepreneurship, and SMEs role and opportunities in private sector.

2. Global Space Economy at a Glance

59 Countries with satellite operations, 10 with launch capabilities, and 14 with space exploration programs. Private sector role is significantly increasing every year, including in space exploration. In 2017, $348B was the total global space economy, consisting of private industry revenues (79%) and government budgets (21%).

The $268.8B private industry revenue was generated by companies providing:

- satellite services (48% of industry revenue),
- manufacturing of ground components (44.6% of industry revenue),
- manufacturing of satellites (5.8% of industry revenue); and
- launch services (1.7% of industry revenue)

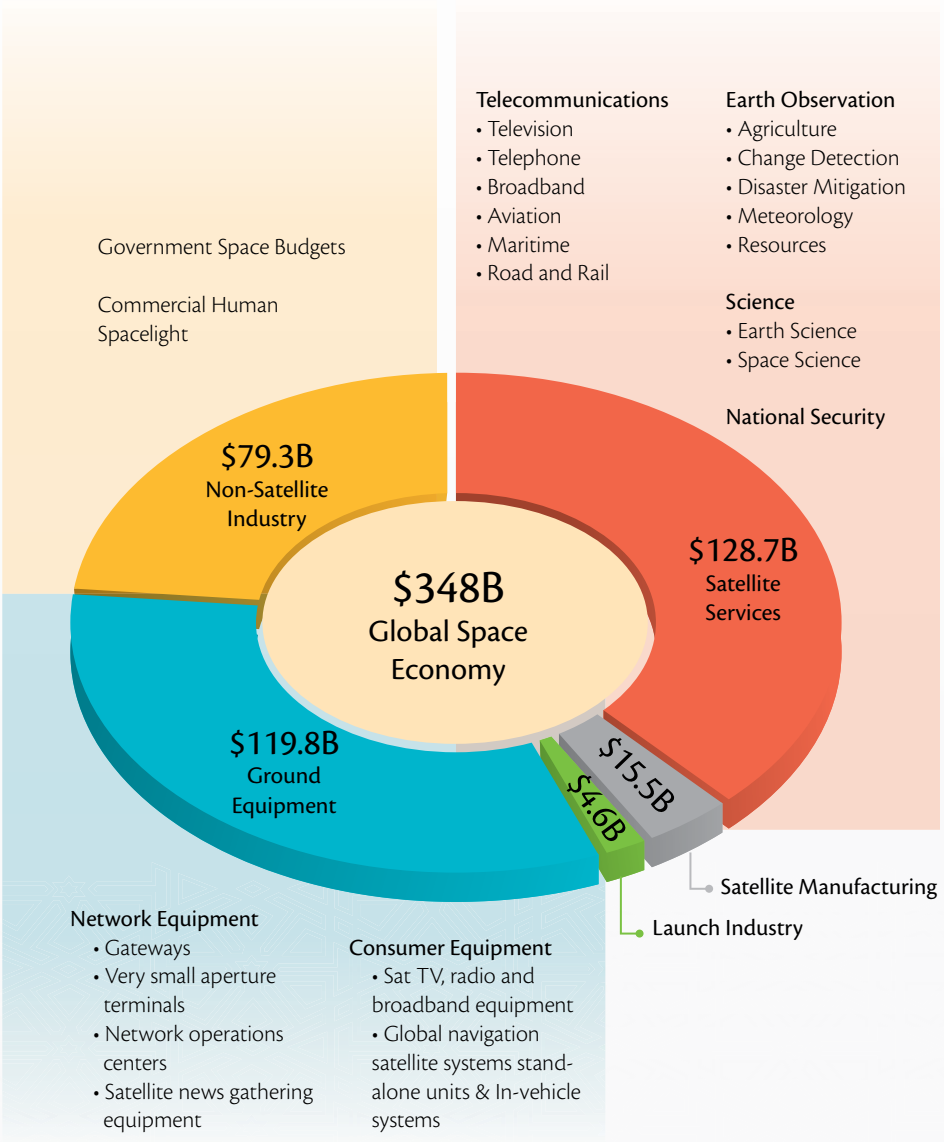
Average yearly growth of private industry revenue since 2007 is 9.6%.

Moreover the year of 2017 witnessed an increase of 30.5% of private investment in space sector mostly focusing on:

- launch and reentry companies (72.1% of private investment)
- manufacturing of satellites (23.1% of private investment)

Private investment has also funded other new space areas such as logistics services in space, and planetary resources.

Investment in space mainly comes from US, Europe, Russia, and Asia.



Source: 2018 State of the Satellite Industry — Bryce Space and Technology

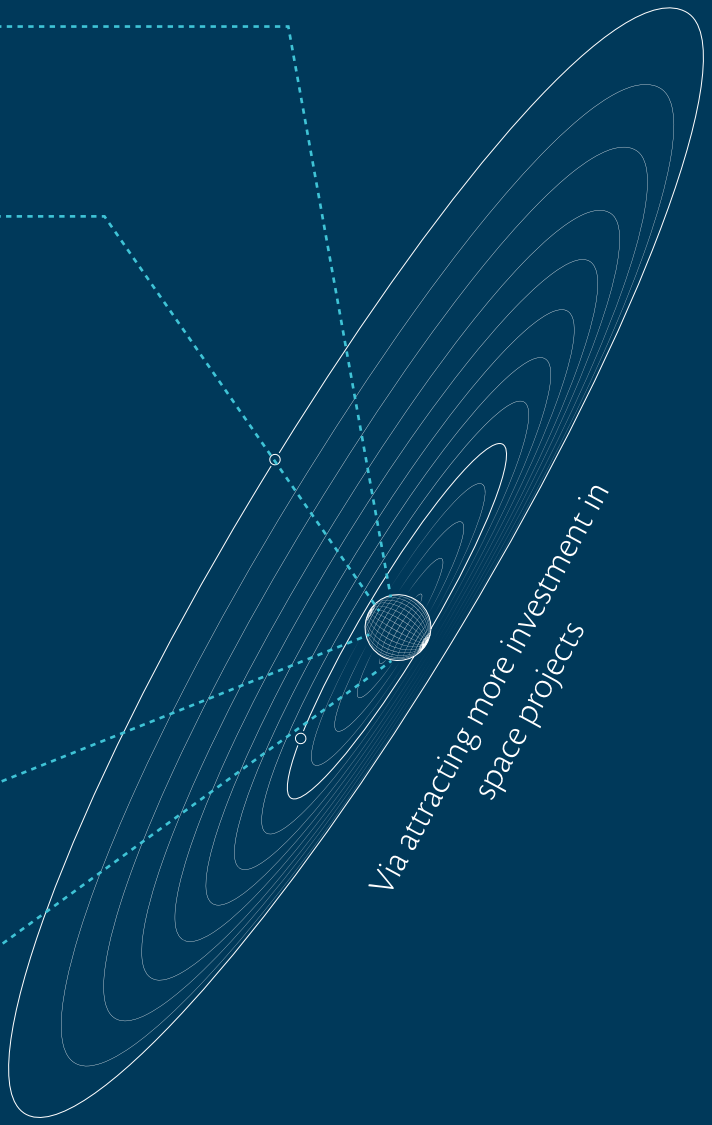
3. Goals of Space Investment Promotion Plan

A. Sustain the **Growth** of the UAE Space Industry.
- Develop a space related industry eco-system in the UAE
- Support the development of technologies that will create spin-off, and access to space data

B. Increase the UAE space sector contribution to the diversification of **national economy and to knowledge based economy.**
- Growing the number of new companies and job opportunities especially highly skilled ones
- Encourage int' companies to have the UAE as center to its headquarters & activities
- Increase other sectors utilization of space industry, and vice-versa
- Set the UAE as a regional hub for space and investment in space

C. Support other **national strategic interests.**
- Attract more students in STEM and Create a highly skilled human capital force that could be beneficial to all UAE industry
- Provide possibilities to increase national independence in security and access to space.
- Increase R&D activities and the culture of innovation

D. Promote **partnership at national & International levels.**
- Facilitate local, regional, and international partnerships between government, private, academic and R&D entities in space related projects and activities.
- Increase the UAE visibility on the worldwide space arena



4. Scope of the Space Investment Promotion Plan

Space Only

In order to focus the efforts and avoid duplications, this Plan addresses only investments and projects that are space related. In other words, projects and investment interests that are not space related will not be considered under this Plan and its implementation.

Commercially viable

The Plan addresses only space projects with aim of generating profit (financial gain). Strategic investment in non-profit projects are not covered through this process (e.g. purely for scientific research, educational, free public services etc.)

Early-stage1 to later-stage2 companies

will be the primary focus of the space investment promotion Plan.
1. For companies that are able to begin operations but are not yet at the stage of commercial manufacturing and sales, early stage financing supports a step-up in capabilities.
2. Capital provided after commercial manufacturing and sales but before any initial public offering.

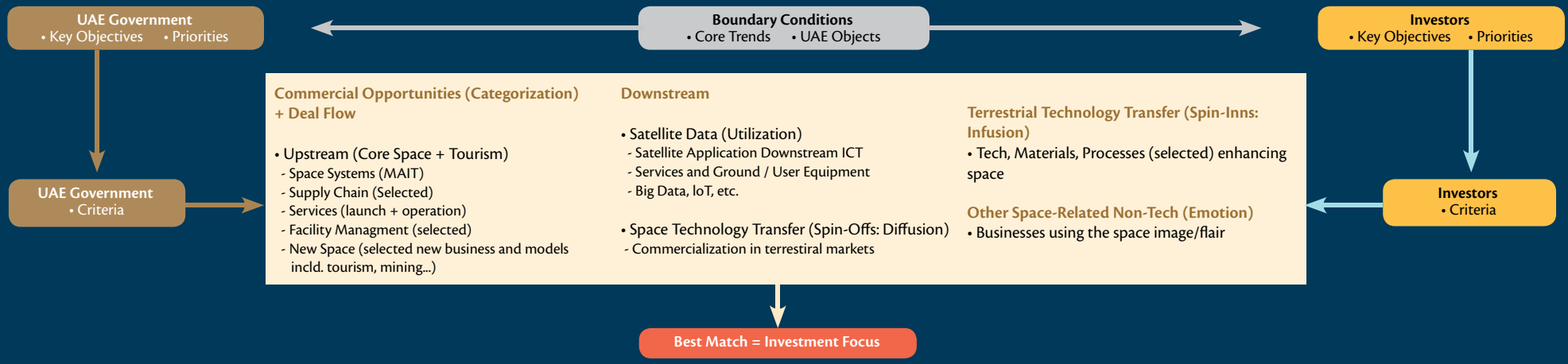
More focus on Private Investor

While both public and private investors will be welcomes to participate in such investment opportunities, there will be more focus however on private investors, including institutional and individual investors.

Flexible focus areas

The Space Agency will make it known the space areas where there is interest to invest. This is done taking into account investors interests, alignment with national space policy and stratgey, and attractive opportunities. Flexibility is key to success, hence space investment focus areas will regularly be revisited as interests may change and since potential return on investment is a paramount criteria.

METHODOLOGY

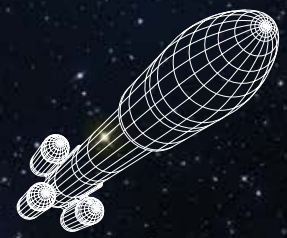


5. Model for the Promotion of investment in the Space Sector

5.1 Specificities of the Space Investment Landscape International (1/2)

of private revenues are government money.

The space economy is moving from traditional space towards "new space"

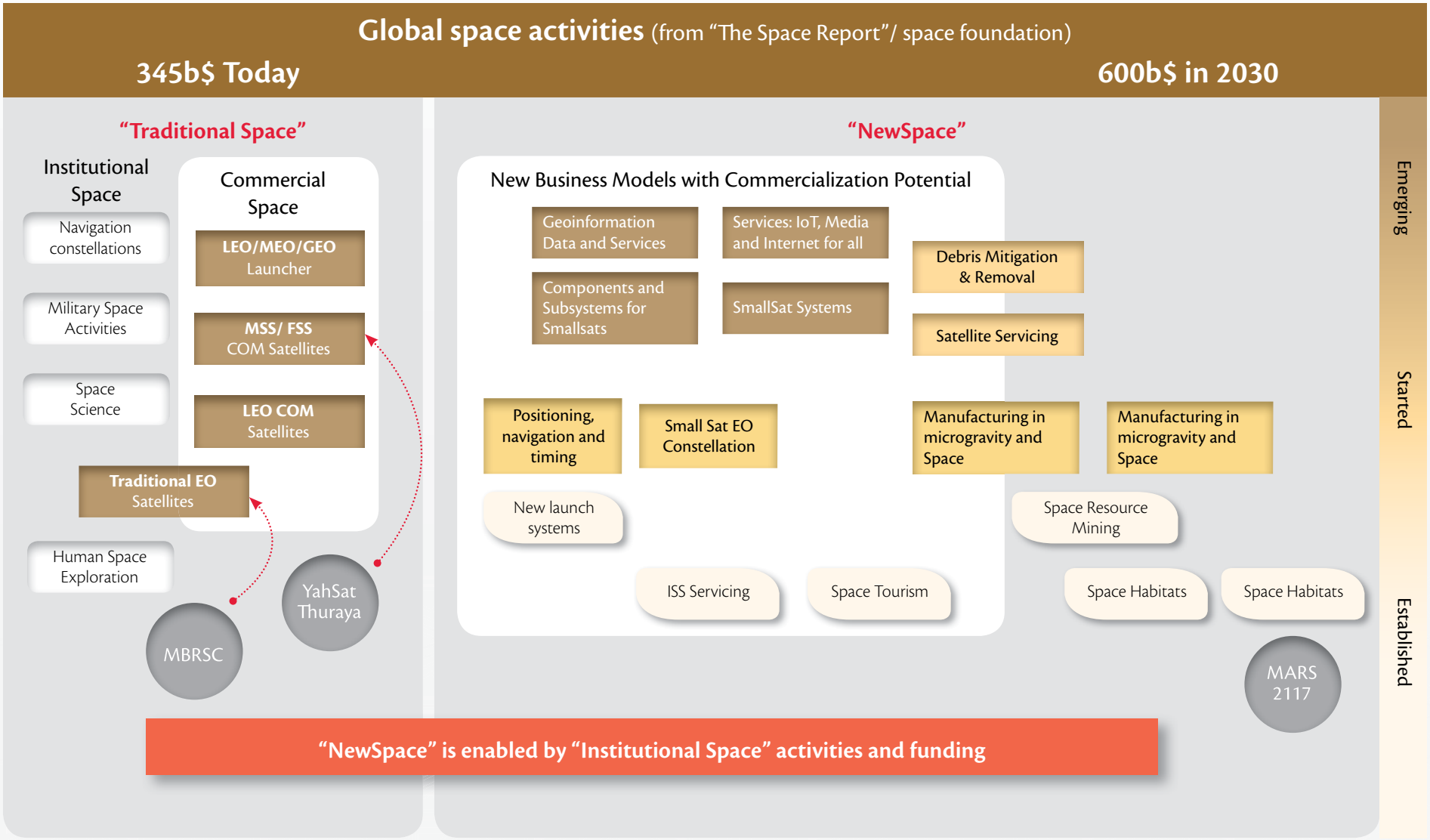


The private sector is taking over governments for known and profitable space activities (almost all earth orbit activities are seeing private sector initiatives)

There is no antagonism between private and government investments, they are complementary.

Private sector in space exists only because government money was there before. They capitalize on the government investments.

The Space Investment Landscape International (2/2)



5.2 Specificities of the Investment Landscape National

POSITIVE

Examples of Gov Fund:

Examples of UAE investment cooperates:

Examples of Local Venture Capital Investor:

Crowd-investment previous and existing:

Many foreign space investment fund are interested to invest in the UAE Space Sector

Special Economic Zones are considering to set-up specific R&D and space areas:

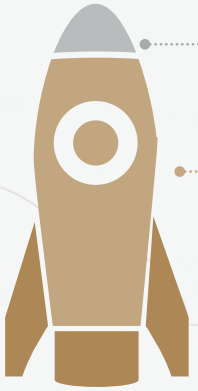
GAPS

- Most of the UAE investment funds will not invest in Seed, and almost non in Follow-on funding.
- Investors needs to have a good vision of the potential of start-ups to decrease the risk.
- Early Start-ups need support to validate their business and technology before calling for investors.
- It is hard for a foreign companies especially start-up to establish in an unknown country
- Settlement of existing companies in the UAE needs to have clear regulation environment to know the rules of the games before.

Pillar 1: Create an attractive environment for space industry and ecosystem

1.1 Activity 1	1.2 Activity 2	1.3 Activity 3	1.4 Activity 4	1.5 Activity 5
Promote and Rise the Awareness of the Opportunities in Space Sector,	Create a Space Regulatory framework	Create a one stop shop to facilitate licensing and the settlement of businesses.	Encourage the creation of Space Special Economic Zones	Support and encourage other Incentives

Pillar 2: Create an investment vehicle and the needed supporting entities



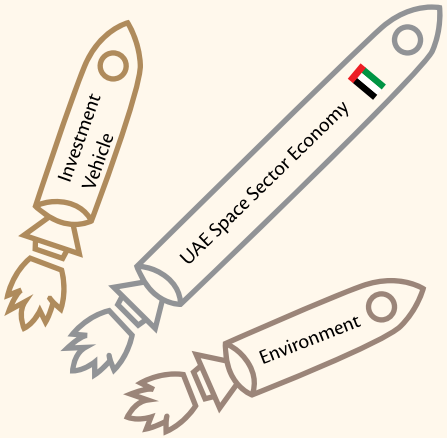
2.1 - Activity 1: Setting up of a Catalyst, then Platform to facilitate Investment

2.2 - Activity 2: Create UAE Space Angels to invest in seeds.

2.3 - Activity 3: Create Space Accelerator to help start-ups and entrepreneurships

5.3 Approach

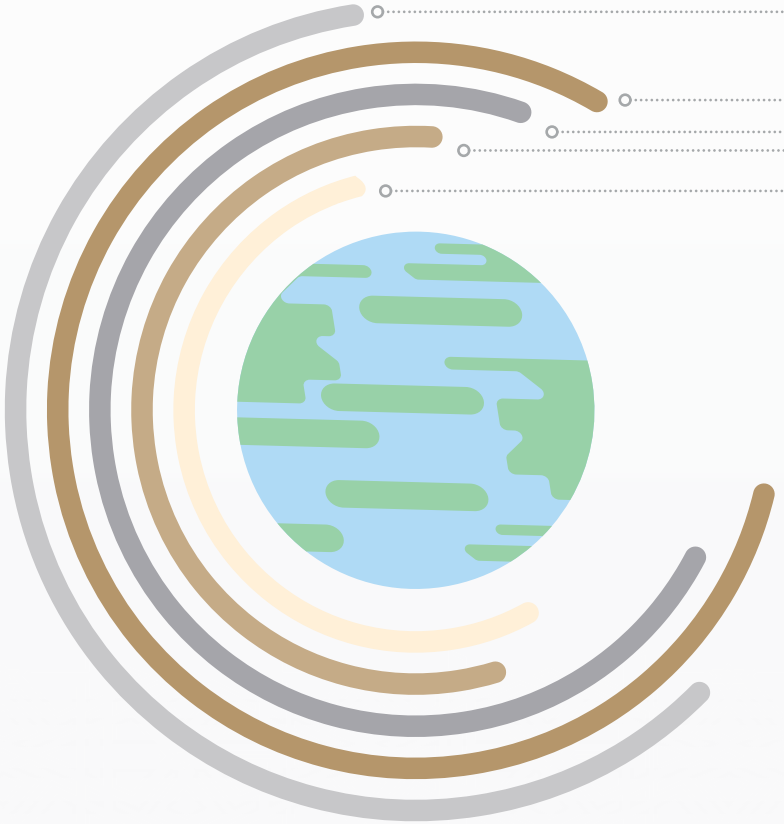
An approach based on two complementary pillars allowing UAE to propose a desirable and unique offering for Early and Later Stages space companies looking for VC Funds compared to other locations worldwide:



LIST OF STAKEHOLDERS:

- Space Agency
- Investors
- Deal providers/owners
- Special Economic Zones
- Government Entities
- Academies/Universities

5.4 Attractive Environment



1.1 Promotion and Awareness of the Opportunities in the UAE Space Sector

Promote Nationally and Internationally, existing space related Small and Medium Enterprise (SME) within UAE. Organize Space Events to attract and receive space deals to increase the UAE space eco-system. In addition, attract international companies in the UAE through the UAE Space Angels approach.

1.2 Create a Space Regulatory framework

In order to attract foreign companies with a clear visibility of the legal environment, create a regulation framework that is transparent, pro-active, simple and flexible.

1.3 Create a one stop shop to facilitate licensing and the settlement of space businesses

In order to attract foreign and local companies and facilitate their settlement and their activities authorizations, create a one stop shop under the space agency that will liaise with all government entities to speed-up the licensing and authorization processes.

1.4 Leverage the existing Special Economic Zones to encourage them establish Space Special Economic Zones.

Encourage and support existing Special Economic Zones (Masdar city, Mars Scinece City, Nibras Al Ain Aerospace Park, Dubai South, etc.) to develop the creation of space and logistic hubs, including potential space port to help foreign companies or new companies to settle in the UAE.

1.5 Support other Incentives

Help the relation between official entities and newly settled companies to help in the area of VAT, customs, export regulation, trade licensing, etc. The potential synergy with the Masdar City, Mars Science City or the National Space Science & Technology Center in Al Ain will be highlighted to attract companies in the UAE.

5.5 The Investment Vehicle (1/2)

Pillar 2: Create an investment vehicle and the needed supporting entities

Activity 2.1

- Two models are proposed to be implemented in a phased approach:

Catalyst

Platform

- The scope of both models is to attract deal flows, support in regulatory analysis of the deals, and facilitate connection with possible interested investors

- There will not be a recommendation for a deal nor for a specific investor as a result of implementing of any of these two models, but rather facilitating and encouraging the deals for the possible investors.

- The selection of investment is the role of the investor and the company/ project owner

- Investor could be:

Government/Public Entity, or

Private entity: Institutional or Individual Investor

5.5 The Investment Vehicle (2/2)

Model 1 "Catalyst"

- The Space Agency will act as a Catalyst to attract deal flows in the UAE. The agency can attract deals itself or/and facilitate and encourage other actors (Space Angels and funds) to orientate start-ups in the UAE.
- The Space Agency will screen the received deals/proposals from UAE Space Law and regulations conformity, as well as alignment with UAE Space Policy. Other actors (Space Angels and funds) can request the agency to provide advice for the deals they have selected on the two matters described above.
- The Space Agency will then communicate the deals that passed the reviews to Angels or Investors who are members of the Catalyst Model and who has previously indicated their areas of interest, and/or will provide answers to the requests made by the other actors.
- The Space Agency may provide upon request from investors a technical view on a proposal; this however shall not be considered as an advice nor a recommendation from the Space Agency.

Model 2 "Platform"

- The Space Agency will still act as a Catalyst to attract deal flows.
- The Space Agency will screen the received deals/proposals from UAE Space Law and regulations conformity, as well as alignment UAE Space Policy.
- The deals/proposals that passes the above analysis are then push to pool of external independent technical assessors "Independent Judges" composed by experts coming from the Angels pool, the funds, universities, operators, research centers and others who will be assessing on their individual capacity as independent experts. They will score from the following perspectives:

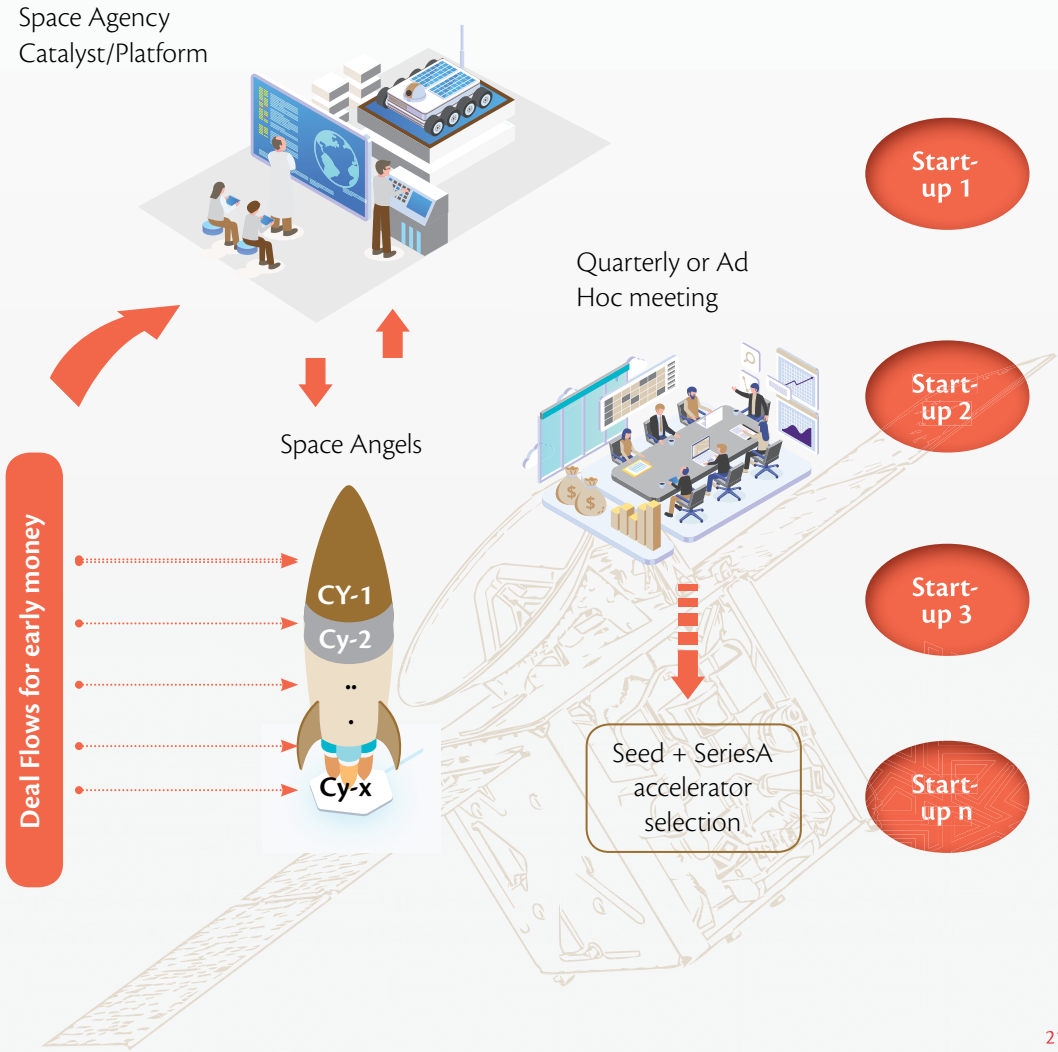
  i. Technical review including also non-space technical review;
  ii. Technical development plan and technical team
  iii. Non-space policies, regulations, and standards;

- The Independent Judges scores will be made available for information to Angels or Investors who have subscribed to the Platform Model and who have previously indicated their areas of interest.

5.6 Space Angels

Activity 2.2

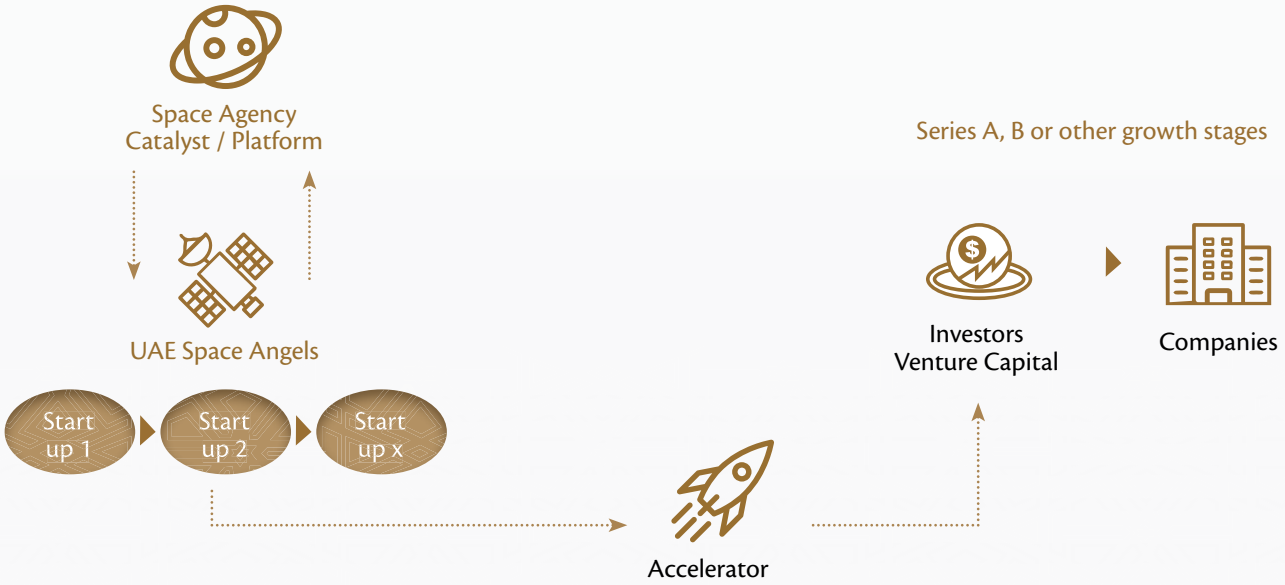
- An entity composed by space interested companies, encouraged by the Space Agency. They will study deals and provide funding (no fund from space agency) for very early start-ups. Some will be selected for the accelerator program.
- It aims to bring together potential investors with space sector experts in a program that will provide additional funding to space startups.
- The Space Agency will provide advice on UAE Space Law and regulations conformity, as well as alignment with UAE Space Policy.
- The benefit for the companies is to have a very good visibility of the future trends of the sector and the possibility to have spin-in, or acquiring the technology that they need for their own business.
- The benefit for the UAE is to attract in this scheme international companies in the UAE.



5.7 Space accelerators[1]

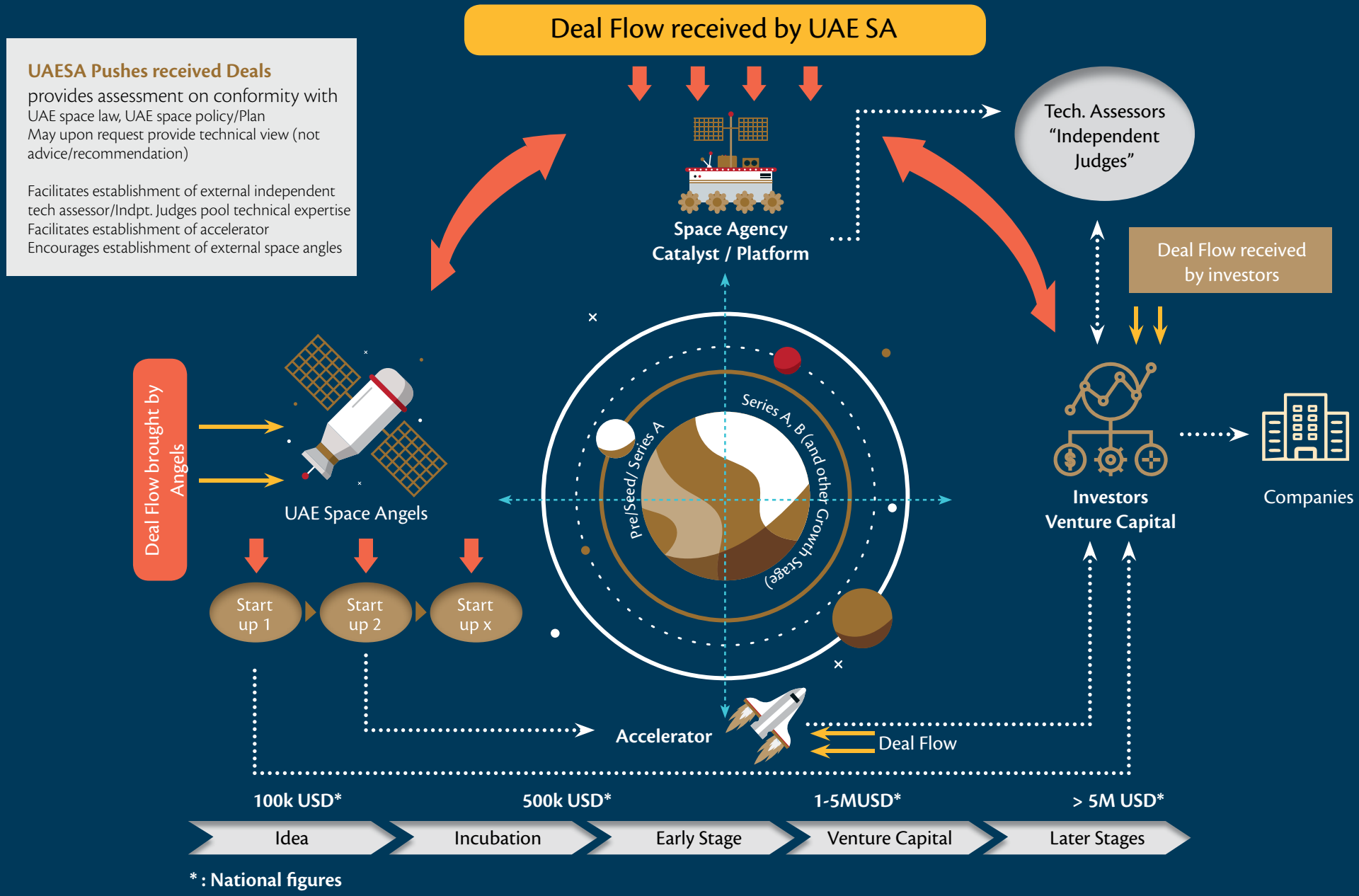
Activity 2.3

- Help the best startups secure funding, achieve scale, and foster close working relationships with industry leaders." It's being backed by the UAE space agency, as well as by corporate partners in the space angels entity.
- Startups will be selected to join the program, with a focus on identifying the best businesses that are either addressing the biggest challenges facing corporates in the space industry or creating value for industries on earth, from transportation to agriculture to urban planning.
- Once the accelerator has been done and their growth requires more fund for Series A and B, they will be orientated towards the UAE investors. The accelerator and incubation time was an opportunity for the investors to evaluate the potential of these start-ups, decrease the risk for investors, and facilitate the investment.



1. A primary function of accelerators is connecting startups with mentors, guidance, resources, and funding.

5.8 Investment vehicle and support logical flow



6. Roles and Responsibilities (1/3)

LIST OF STAKEHOLDERS:

- Space Agency
- Investors
- Deal providers/owners
- Special Economic Zones
- Government Entities
- Academies/Universities

UAE Space Agency

- **Coordinate** the development & roll-out of the space investment promotion Plan
- **Identify** entities (funds or others) able to participate to the Space Angels, Accelerators and funding mechanism.
- **Facilitate and encourage** them to set-up the proper tools and framework to achieve the goals.
- **Attract** the Deal flows
- **Assess** Deals from Policy, and Regulation point of view. May upon request from investor provide technical view but not advice / Recommendation
- **Facilitate** the Deal Flow reception and screening
- **Promote** the Investment in UAE Space Industry and Sector
- Create and maintain a Database for projects, angels, investors and deal flow to keep track of what has been done and through analysis of the data, update and improve the overall process.
- **Regulate and License** Space Companies created if needed.

6. Roles and Responsibilities (2/3)

- Provide, in conjunction with investors, procedures including templates and formats for the whole process including proposed Business Plans.
- Facilitate identifying market needs (what other non-space sector need/ can benefit from space technology and application)

Investors

- When the platform vehicle is implemented, participate to the common effort to establish the criteria for screening.
- **Indicate the focus areas** where they are interested or not interested
- Contribute to the development procedures including templates and formats for the whole process including proposed Business Plans.
- **Participate** (if selected as Judge) to the rating/scoring process
- **Notify UAESA of his interest to invest in any** selected projects
- Inform the Space Agency with general information on the final decisions and results of their investments.

6. Roles and Responsibilities (3/3)

Deal owners/providers

- Provide a up-to-date and correct information and Business plan according to the templates
- Participate to meeting with the investors if needed
- Notify UAESA with general feedback about process and experience with investors

Special Economic Zones

- Provide a list of incentive they offer to potential companies
- Participate with the Space Agency to the marketing of the UAE to attract deal flows and space businesses.

Government Entities

- Provide the legal framework for creation, settlement, and relevant activities of companies
- Could participate as investors in some projects

Academies/Universities

- Provide technical expertise for some projects upon request
- Propose and promote some projects.

7. Governance

- Establish a **steering Committee** with representatives from SA, Space Angels, Investors, Special Economic Zones , and Selected Academic and Research Institutes to analyze the impact of the investment Plan and propose improvements if needed.
- At least a quarterly meeting will take place to share information on space deals received and investment made in the space sector.

The Space investment Promotion Plan will be assessed against KPIs (notional):

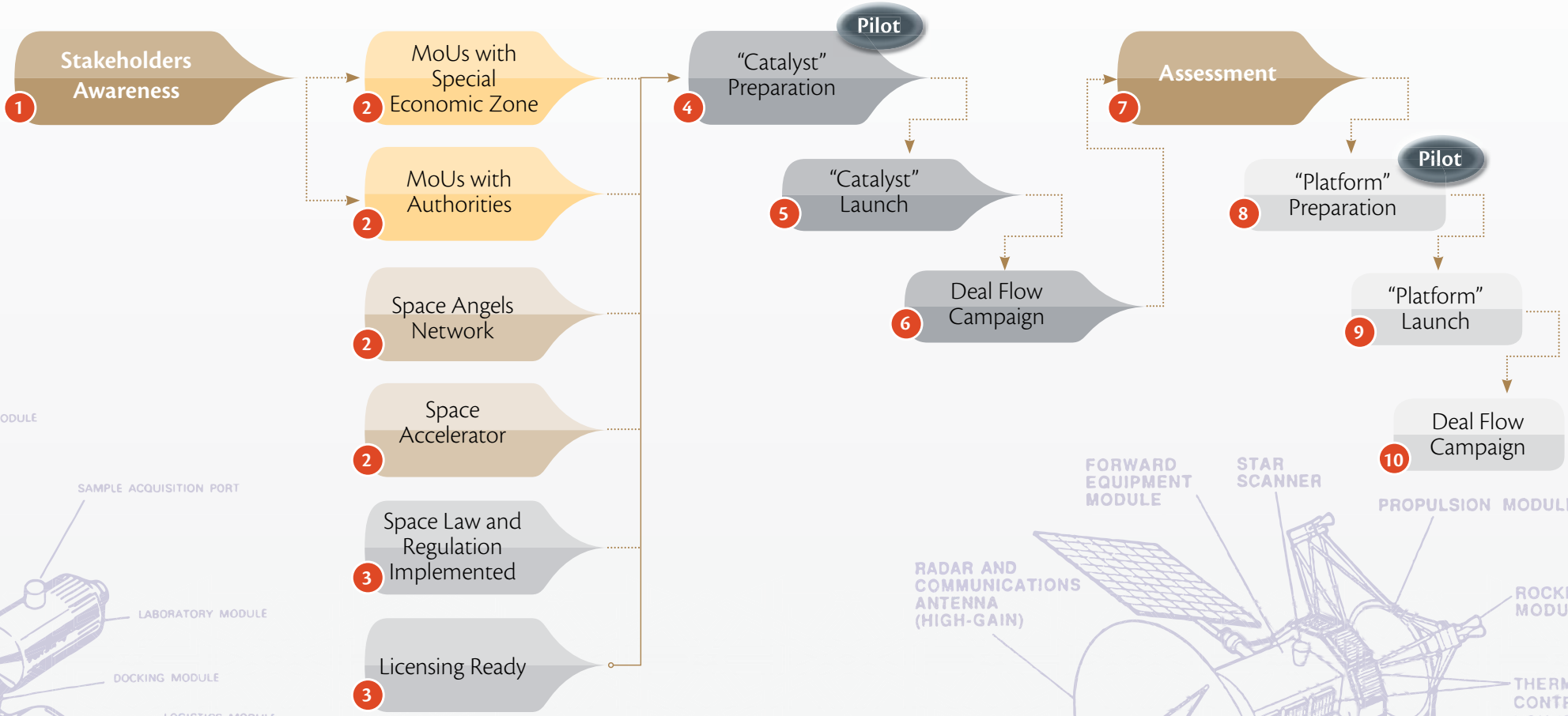
- Cumulative of investment (in AED) in the space sector per year
- Number of deals per year received
- Number of Companies created per year
- Number of job created per year

8. Implementation

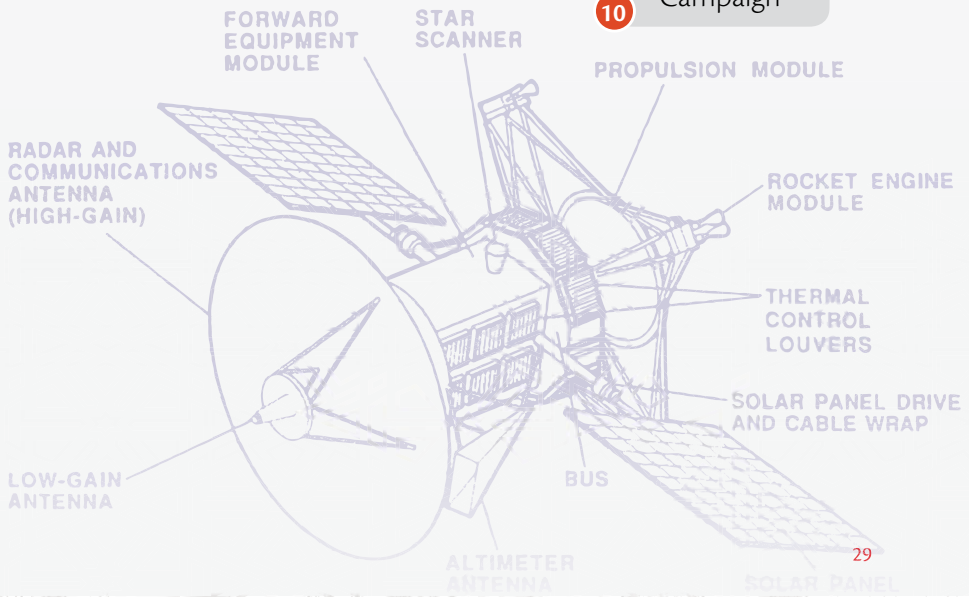
1. Raise Stakeholders awareness about space investment promotion Plan
2. Coordinate and sign MOUs with

   a. Special Economic Zones. Creation of "Space Zones"
   b. Relevant Authorities. For the "Incentive" part
3. Implement the Space Regulation Framework

   a. Law and Regulations
   b. Space Licensing process
4. Facilitate and encourage the creation of a UAE Space Angels network and Campaign to attract Angels
5. Create a one stop shop for start-ups and/or foreign companies intending to establish in the UAE.
6. Create the framework for Space Accelerator by coordinating with existing UAE incubator/accelerator.
7. Develop the "Catalyst" framework and implement a "Pilot"
8. Launch of the Catalyst
9. Campaign to attract Deal Flows and investors
10. Assess the results of the "Catalyst"
11. Develop the "Platform" framework
12. Step-up the external independent technical assessors "Independent Judges", and implement a "Pilot"
13. Launch the "Platform"
14. Campaign to attract Deal Flows and investors
15. Assess the results of the "Platform" and Improve


Stakeholders Awareness
1
MoUs with Special Economic Zone
2
MoUs with Authorities
2
Space Angels Network
2
Space Accelerator
2
Space Law and Regulation Implemented
3
Licensing Ready
3
Pilot
"Catalyst" Preparation
4
"Catalyst" Launch
5
Deal Flow Campaign
6
Assessment
7
Pilot
"Platform" Preparation
8
"Platform" Launch
9
Deal Flow Campaign
10

POWER MODULE
SAMPLE ACQUISITION PORT
LABORATORY MODULE
DOCKING MODULE
LOGISTICS MODULE


FORWARD EQUIPMENT MODULE
STAR SCANNER
PROPULSION MODULE
RADAR AND COMMUNICATIONS ANTENNA (HIGH-GAIN)
ROCKET ENGINE MODULE
THERMAL CONTROL LOUVERS
SOLAR PANEL DRIVE AND CABLE WRAP
LOW-GAIN ANTENNA
BUS
ALTIMETER ANTENNA
SOLAR PANEL

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