

SpaceTech
Analytics

Unidentified Aerial Phenomena Special Overview 2021 *Teaser*

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From year to year, interest in UAP is growing and gaining more weight. **SpaceTech Analytics** had analysed the UAP landscape over the period of last 15 years relying on credible publicly available sources.

On **June 25th** Office of the Director of National Intelligence (ODNI) published a report called “**Preliminary Assessment: Unidentified Aerial Phenomena**” concerning the question of existence and the means of evaluation of the information related to the UAP (Undefined Aerial Phenomena).

This Overview summarizes the report and provides Special Case Study on it. Besides, it expands the theme to a global scale and briefly retells the story of humanity to catch the UAP observed. Since 2004, there were reported about 200 UAP cases worldwide. Also, there are new advanced technologies (SMART, CORE3D, IARPA) to monitor and discover UAP. However, the challenge is to coordinate international cooperation, develop standardized approaches and provide sufficient funds.

In light of the techno-signatures received from outer space, potential challenges and threats regarding UAP are discussed here.

As result, the brand new reality implies a need to define and elaborate on relevant policies and technologies. **SpaceTech Analytics** discusses the current and future developments and makes a few projections concerning the future social impacts.

Introduction

Publication of the report is going to cause increased attention to the UAP all over the world. Additionally, researchers who studied and addressed these issues will be now de-stigmatized. Their scientific works are expected to be more frequently highlighted. There is possibility for them to receive certain acknowledgments and become opinion-makers in this area.

The “Preliminary Assessment: Unidentified Aerial Phenomena” report is a phenomena itself, which is going to become a trigger for follow-up acknowledgment of UAP in other countries besides the US. Consequently, a number of new reports provided by these countries within the next 2 years are expected to appear. All of the UAP-related reports, disclosures, and discoveries will be monitored and analyzed in our new overviews and case studies .

The recent 9-page US Report apparently is only tip of the iceberg. Clearly, there is a sealed, fuller report which was presented to the Congress. The Report is aiming to provide means to define and elaborate on relevant policies and technologies for the U.S. military and other U.S. Government (USG) personnel.

Due to the growing UAP recognition, data appearance and potential development of the area, SpaceTech Analytics presents a special case study **Unidentified Aerial Phenomena Global Overview 2021**.

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graph LR; A[Preliminary Assessment: Unidentified Aerial Phenomena] --> B[Unidentified Aerial Phenomena Global Overview 2021]
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**Preliminary Assessment:
Unidentified Aerial Phenomena**



**Unidentified Aerial Phenomena
Global Overview 2021**

US Report Overview and Conclusions / UAP Recognition

Probably one of the most important takeaways of the report is the UAP recognition. Moreover, it states in the report that data gathering and analysis have been executing for **17 years straight**. During this period, 144 unresolved UAP-related incidents were documented. One of the first question arises whether or not general public will be able to assess the data of such incidents, including the comments from governmental authorities.

As was mentioned before, the recognition of the UAP will **reshape the structure of the current opinion-makers**, including scientists who have been studying such phenomena. This, in turn, might also affect the current R&D focus and existing policies of all types. The unclassified origin of this report brings some other issues, namely the report **does not provide any solid or groundbreaking conclusions**, and many issues remain, it should put an end to years of intragovernmental infighting over the subject.

The proposal of the scientific study of UAPs, University of Colorado. The study of UAP was deemed to be not scientifically interesting.

The most famous UAP encounters in modern aviation history involving pilot sightings, radar tracking, and objects caught on video remained unsolved.

Deputy Secretary of Defense approved the establishment of an Unidentified Aerial Phenomena Task Force (UAPTF). UAPTF should detect, analyze and catalog UAPs that could potentially pose a threat to U.S. national security, improving the understanding of the nature and origins of UAPs.

1966-1968

2004-2015

Aug. 4, 2020

Investigational programs

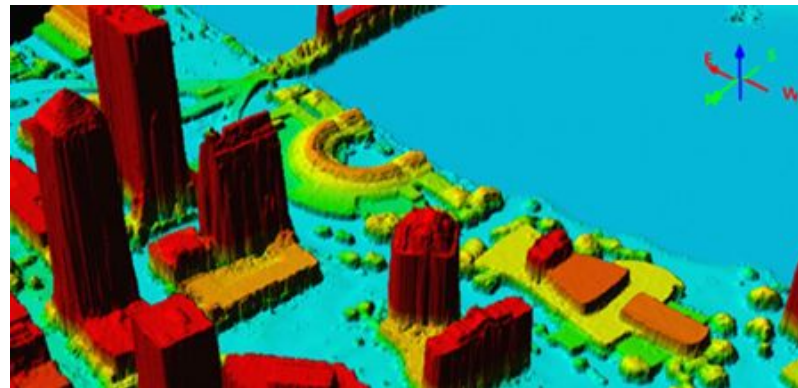
Intelligence Advanced Research Projects Activity (IARPA) plays a critical roles in the UAP-related assessment system. IARPA was founded in 2006 as an organization within the Office of the Director of National Intelligence responsible for leading research to overcome complex challenges relevant to the United States Intelligence Community. Its main goal is to **“envision and lead high-risk, high-payoff research that delivers innovative technology for future overwhelming intelligence advantage”**. IARPA invests in multi-year research programs, in which academic and industry teams compete to solve a well-defined set of technical problems, regularly scored on a shared set of metrics and milestones.



CORE3D



Currently for now, one of the big projects executing by IARPA is Creation of Operationally Realistic 3D Environment (CORE3D). The CORE3D program aims to develop technology that generates, in an automated way, **accurate 3D object models with real physical properties**, from multiple data sources including commercial satellite panchromatic and multi-spectral imagery for global coverage, and airborne imagery and Geographic Information System (GIS) vector data for improved resolution and fidelity.



Investigational programs

In January of 2021 IARPA announced the launch of the **Space-based Machine Automated Recognition Technique Program (SMART)**.

The goal of this program is to **automate the quantitative analysis of space-based imagery to perform a broad-area search for natural and anthropogenic events and characterize their extent and progression in time and space**. The SMART program aims to develop capabilities in the spectral and temporal domains, enabling seamless integration and fusion (i.e. absolute calibration) of data from multiple sensors to deliver a comprehensive representation of seven natural or anthropogenic evolving events.

The SMART program may **help with the limited data problem**, which leaves most UAP unexplained. However, it will require innovations in new computing approaches and calibration techniques in order to rapidly and reliably compare thousands of images from multiple sensors registered in space and time.

At the same time it is important to understand that SMART program isn't created specifically for the UPA-related purposes, therefore we forecast the emergence of the additional strictly UAP-focused programs akin to SMART in order to evaluate all existing information in a standardized manner.

The SMART program will also leverage algorithmic approaches to:

Search for specific activities

Detect and monitor activities throughout time and over broad areas

Characterize the progression of events and activities temporally and categorically

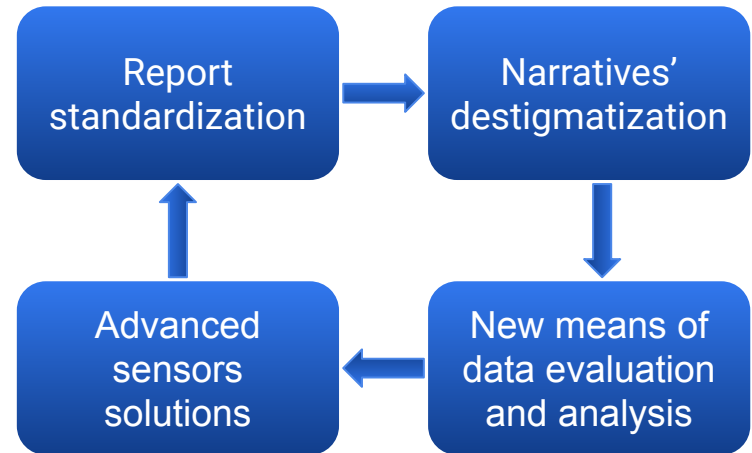
Future of R&D

The policies and processes mentioned in the report will require a sufficient amount of data. In addition, it is important to have multi-sourced data, since even a correctly operating sensor. Besides, it is important to have multi-sourced data, since even the correct operating sensor, as stated in the report, might encounter some sort of unpredictable interference.

As previously mentioned, the data for the report has been gathered since November 2004 and is still being collected. During this period 144 USG reports were gathered concerning Undefined Aerial Phenomena. Among these reports, **55.5%** (80 samples) was collected via multiple sensors or detectors simultaneously.

The report states that **sensors limitation** and **inconsistency of the data** are the main obstacles to the analysis. This is because there is no standardized report structure for UAP, **making it hard to define** and evaluate main parameters and criteria for any sort of analysis. As for sensors, most of the technologies used for detection are designed specifically for purposes of the given missions and, therefore, cannot gather and represent complete data as effectively as purpose-built sensors would. Thus, there is a need for both advanced sensor solutions and data analysis for such solutions.

UAP-related information gathering and evaluation optimization cycle



US Report Overview and Conclusions / Information Gathering

The amount of data officially gathered is still quite limited, but it states in the report that some clusterization analysis was performed which showed the existence of observation patterns, at the same time, such **observational correlations could be biased due to different reasons**, as discussed in the report.

It is clear now that there is no single explanation for all of the UAP-related reports. At the same time, ODNI proposes **five categories of possible UAP sources: airborne clutter, natural atmospheric phenomena, USG or industry developmental programs, foreign adversary systems, other**. Such classification may help in future data evaluation and analysis. Here is proposed the expanded classification, based on the international praxis.

The assessment means proposed in the report will be deeply connected to the employment of **artificial intelligence and machine-learning algorithms** for additional clustering and recognition analysis. This technologies shall be applied to the historical data evaluation too.

UAP expanded classification categories

Airborne Clutter

Natural Atmospheric or Other Phenomena

Human-related Phenomena

Industry Developmental Programs

Unclassified Governmental Technology

Unclassified Private Technology

Other

The Issue of Safety and Security

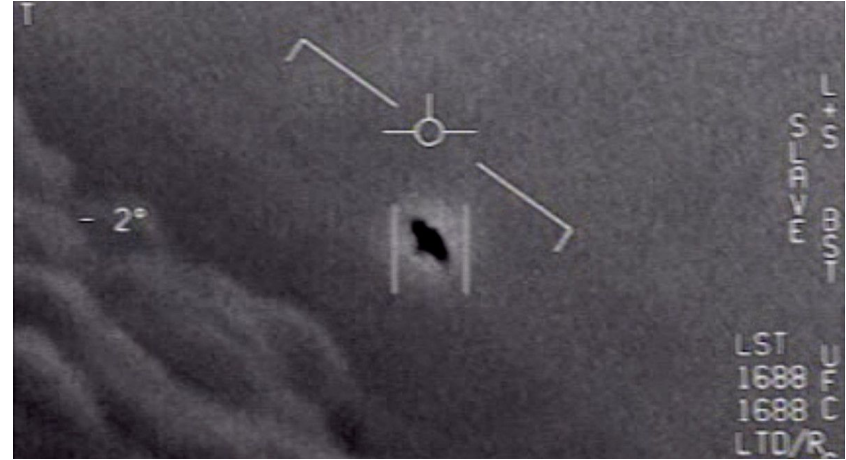
The report states that “UAP pose a hazard to the safety of flight and may pose a challenge to US national security”. The issues of safety and security will be investigated in two major dimensions.

Ongoing Airspace Concerns

When aviators encounter safety hazards, they are required to report these concerns. Therefore, safety concerns primarily center on aviators contending with an increasingly cluttered air domain. Depending on the location, volume, and behavior of hazards, pilots should cease their tests and/or training and land their aircraft.

Potential National Security Challenges

The report states that the sightings were "clustered" around US training and testing grounds which may be carrying out classified activities. If UAPs are foreign adversary collection platforms using disruptive technologies, they are a potential threat to national security.



Multiple Types of UAP

Airborne Clutter

Natural Atmospheric Phenomena

USG or Industry Developmental Programs

Foreign Adversary Systems

Unidentified UAPs

US Report Summary

UAP recognition

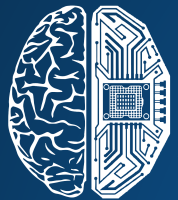
- The report states that since 2004 there were at least **144 unresolved UPA-related incidents**. Over that time period, such phenomena were being taken more seriously.
- The US government has publicly acknowledged that strange aerial sightings by Navy pilots and others are worthy of legitimate scrutiny.
- Although the report does not provide solid or groundbreaking conclusions, and many issues remain, it should put an end to years of intragovernmental infighting over the subject.

The Need For Further R&D

- The report emphasizes the need to prioritize and guide future theoretical and observable studies. This relates, in particular, to non-radio "techno-signatures" – that is, observable manifestations of technology, particularly those that could be detected through astronomical or other means.
- Considering the nature of UAPs, there is a need for a coherent explanation that will accommodate and connect all the facts of the events. For this purpose, interdisciplinary scientific investigation is necessary.
- The crucial point is to end frivolous speculation and **develop a professional approach to studying the problem**. It implies a need to expand the coordination between agencies, standardize the reporting, increase investment in research, etc. The approach should account for possible social and security threats as well as benefits.

Unknown Nature of UAPs

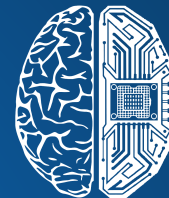
- The stigma associated with reporting such phenomena has ended, and it is now officially recognized as very real. Moreover, **the 5 potential UAP sources framework was proposed in the report**.
- According to the title, this preliminary report is only the beginning of something much bigger. As we move forward from here, the consequences of further targeted research could have unpredictable and profound effects on our understanding of physics, with all that implies for science-fictional technology advancement, and of our place in the universe.



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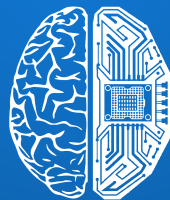
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