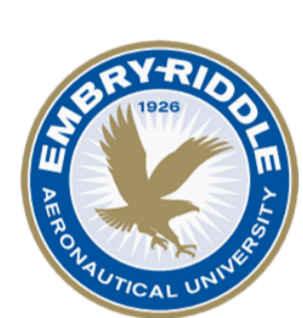


Space Debris Mitigation: Understanding the Business Case and Proposing Solutions

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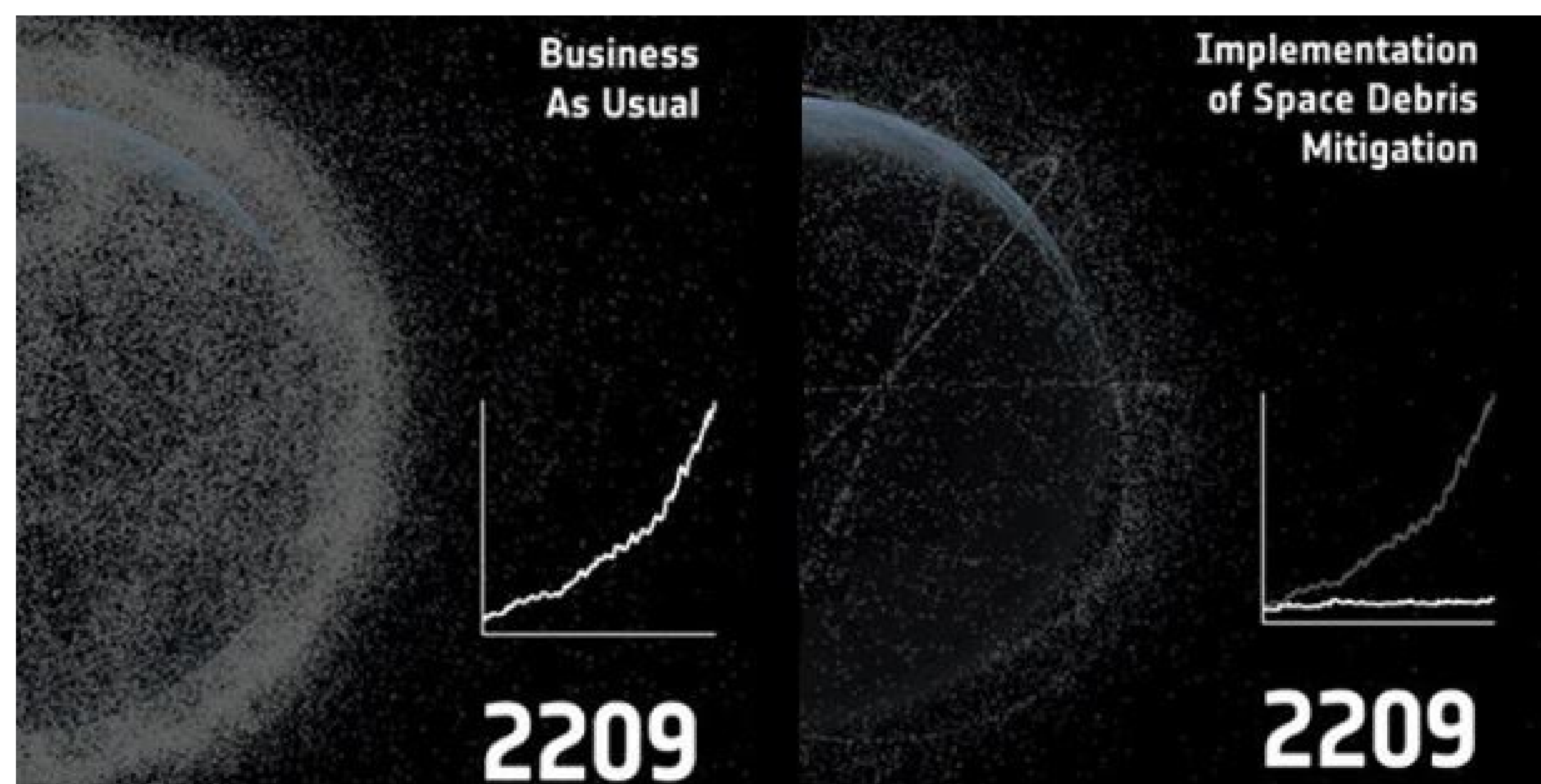
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References

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Introduction

The research plan investigates the pressing issue of space debris mitigation and how it will affect the U.S. commercial sector in the growing LEO (Low Earth Orbit) economy, as LEO satellites fuel the new space race.

OBJECTIVE

The purpose of the research was to investigate and create possible business cases for companies to reduce space debris of their own making; to find potential national solutions that support the business case; and to add to the growing conversation on space sustainability

METHODOLOGY

To conduct this research, a variety of sources were used to gather information. Throughout the duration of the project, our team mentor, Dr. Tinoco, assisted us with our research. Majority of the documents and data used were provided online from NASA, ESA, and Space Debris User Portal amongst many others.

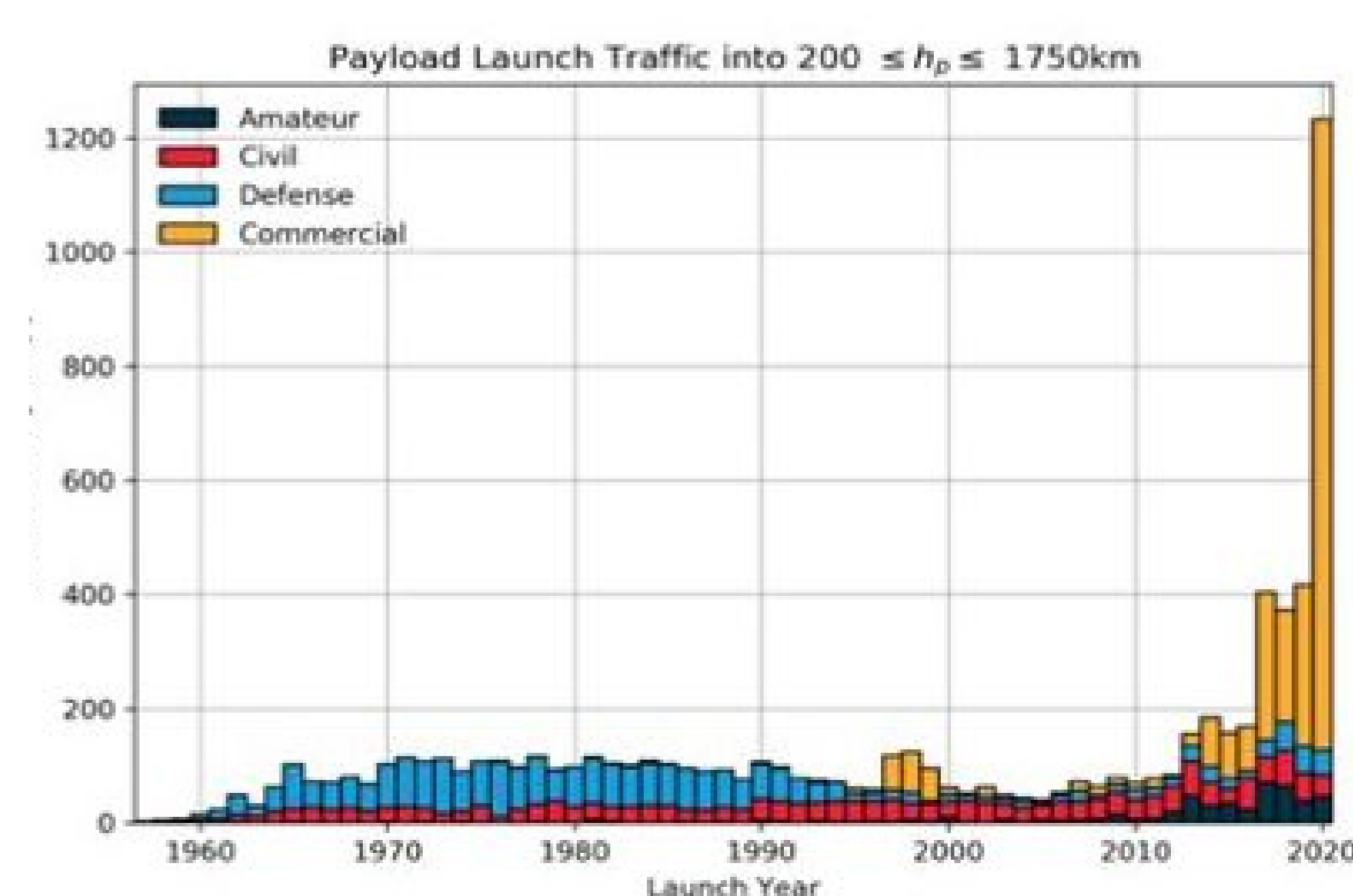
PROPOSALS

Our proposals for space debris mitigation can be broken down into positive and negative reinforcements. Negatively, companies' satellites will be taxed according to the volume of their debris until it is gone. Positively, we propose collision coverage in insurance utilizing the space sustainability rating where it incentivizes good behavior and can be used to determine premiums, offer discounts, and even refuse insurance for underperformers.

Analysis

The U.S. Department of Defense is tracking on over 20,000 artificial satellites – payloads, rocket bodies, and debris. Approximately 90 percent of these satellites are non-operational. With no mandates and the boom of the commercial sector, the amount of space debris in LEO continues to rise exponentially. Governments and the private sector are interested in mitigating space debris due to cost and safety, but few progress has been made to achieve those efforts.

Annual Payload Launches since 1960



Next Steps

Coming up with multiple ways to counter the space debris issue with reinforcements other than an international agreement. After further review, incentives seem the best option to mitigate space debris without creating a disadvantage towards U.S. companies on a global scale. We don't wish to hinder development of technology and the exploration of space, but want to apply incentives to create a safer environment to continue the business of space.