Astreo Green Policy

1. Introduction

Astreo is an interdisciplinary student-led research and development team operating in the aerospace sector, with a strong focus on space debris and the long-term sustainability of Earth's orbital environment.
For Astreo, **sustainability is not an accessory concept**, but a **core guiding principle** that informs both the scientific goals of its projects and the way the team operates on a daily basis.

This Green Policy defines Astreo's concrete commitments to minimizing its environmental impact and promoting responsible practices, in line with its values of social responsibility, scientific rigor, and innovation.

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2. Guiding Principles

Astreo's environmental actions are based on the following principles:

- **Environmental responsibility**: acknowledging the environmental impact of research, innovation, and organizational activities, and actively working to reduce it.
- **Sustainability as a continuous process**: treating sustainability as an evolving path, supported by measurement, analysis, and periodic review.
- **Consistency between values and actions**: ensuring that operational choices reflect the team's scientific mission and ethical standards.
- **Awareness and education**: fostering environmental awareness within the team and promoting responsible practices through example and transparent communication.

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3. Use of Space and Shared Resources

Astreo adopts a **low-impact operational model**, characterized by:

- the use of **very limited and shared working spaces**, avoiding unnecessary energy consumption associated with oversized offices;
- sharing technical equipment and laboratory infrastructure with other academic teams and institutions, reducing resource duplication;
- careful and efficient use of energy, with a focus on avoiding unnecessary consumption.

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4. Hardware, Electronics, and Device Lifecycle

Astreo follows a circular and responsible approach to technology use:

- priority use of **refurbished computers, servers, and electronic devices**, extending their operational lifetime;
- maintenance and repair of existing hardware before considering replacement;
- limiting new hardware purchases to essential needs, favoring modular and reusable solutions;
- proper disposal and recycling of electronic waste in accordance with applicable regulations.

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5. Mobility and Business Travel

Mobility is one of the main sources of environmental impact. Astreo therefore commits to:

- systematically prioritizing **trains and buses** for national travel;
- limiting the number of team members involved in each trip to what is strictly necessary;
- favoring remote participation in meetings, events, and conferences whenever possible;
- planning travel efficiently to avoid unnecessary or redundant trips.

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6. Smart Working and Digital Practices

Astreo adopts a flexible, digital-first working model:

- extensive use of **smart working**, significantly reducing commuting-related emissions;
- reliance on digital collaboration tools for coordination, development, and communication;
- mindful use of digital resources (cloud storage, emails, video conferencing), avoiding unnecessary data and energy consumption.

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7. Prototyping and Technical Activities

In its technical development and prototyping activities, Astreo commits to:

- carrying out **in-house prototyping**, minimizing logistics and transportation impacts;
- optimizing **3D printing processes** by limiting iterations and material waste;
- reusing components and materials whenever possible;
- considering environmental impact already at the early stages of design and development.

8. Monitoring and Continuous Improvement

Astreo recognizes measurement as a key element of accountability:

- conducting **periodic estimates of the team's carbon footprint**, based on real operational data and conservative assumptions;
- using these assessments to identify areas for improvement;
- updating this Green Policy as the team, its projects, and best practices evolve.

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9. Educational Role and External Responsibility

As a student-led and academic initiative, Astreo is also committed to:

- promoting sustainability as a central theme in its outreach and educational activities;
- communicating transparently its environmental choices to partners, sponsors, and the public;
- contributing to the broader discussion on space sustainability, emphasizing the connection between responsible orbital management and environmental responsibility on Earth.

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10. Conclusion

Through this Green Policy, Astreo affirms its commitment to **integrating aerospace research, technological innovation, and environmental responsibility**, demonstrating that even a student-led research team can adopt concrete, measurable, and coherent sustainability practices aligned with global environmental challenges.
