



INTRODUCTION

Echiquier Space is one of the newest LFDE's thematic fund, investing in companies contributing to and benefiting from the Space economy. The industry is entering a new era: Space 2.0

The Space 2.0 thematic is only just blooming and its regulatory frameworks are constantly evolving. The Space 2.0 industry actors offer many opportunities for investors, but some ESG risks cannot be disregarded.

Through our qualitative investment analysis, and especially our extra-financial analysis carried out for any investment, we seek to identify those risks and opportunities, and areas of improvement for companies. To mitigate risks related to ESG, we can also rely on our third-party provider, MSCI ESG Research, to raise our awareness on specific subjects.

Echiquier Space is an ESG integration fund and is following the LFDE's ESG integration framework imposing some management constraints aligned with our sustainable approach (ESG rating, sectorial and normative exclusions...). Moreover, the space industry presents specific ESG issues that we need to monitor.

You will find below the main topics related to each ESG pillar and how we intend to take them into account. All these ESG issues must be analysed in regard of their materiality for each company.

A. GOVERNANCE

Considering new liabilities and new actors in the Space economy (commercial actors in particular), Space laws are expected to change in the coming years. We not only commit to monitoring closely the legal environment, but we also expect companies to pay attention to this theme in their activity. This can be shown for example by:

- The signature of **corporate charters and agreements** (e.g., Collective for Space Care),
- Company policy regarding **the preservation of outer space** (e.g., satellite debris policy, space resource exploitation, etc.).
- Company policy regarding **the social impact** (e.g., data protection, data privacy, astronaut safety, etc.).

We are also very vigilant about the transparency implemented by companies. For instance:

- As per the UN Treaty of 1975, the **Registration Convention**, states are required to furnish to the UN details about the orbit of each space object. Therefore, we ensure that companies in the portfolio report any object sent to space.
- Furthermore, we expect **transparency on business engagements with governments**, particularly in the context of satellite data, as our ambition is to see that information used for democratic and positive purposes. In case we are not comfortable with the information available we will engage with the management to obtain the appropriate level of transparency.

B. ENVIRONMENT

Echiquier Space seeks companies deemed to have **good practices** regarding the environmental impact of their products or services and the way they conduct their activities.

Some Space 2.0 companies are developing technologies and businesses that have a positive contribution to environmental issues:

- In the context of satellite data and imaging, we appreciate companies that contribute to **monitoring and predicting environmental and climate change on Earth**. Indeed, **satellites contribute to more than half of the 50 Essential Climate Variables (ECVs)** identified for the United Nations Framework Convention on Climate Change (UNFCCC COP21) by the Global Climate Observing System (GCOS). Satellites provide **unique measurements** that would not otherwise be possible such as: melting ice caps, sea and ocean levels, deforestation, natural disasters detection, etc.
- Satellite technology can help to **improve logistics** such as optimising trucking, flight, and maritime itineraries to improve accessibility to remote areas but most of all **reduce the carbon emissions of transport**.
- Space 2.0 companies are focusing on **reusability of their assets** (rockets notably) which allow to reduce costs and prices but also reduce negative environmental impact.

Echiquier Space also pays attention to areas of potential concerns:

- We favour companies that make the Space economy more **sustainable and seek to reduce their negative impact on the environment**:
 - We appreciate companies using **multiple use launchers, extending satellite life span**, refuelling technologies, **developing new materials** that require less consumption of resources and energy, gathering data and using advanced analytics to improve operations and optimise resource consumption.
 - We consequently verify whether companies have implemented a **life cycle assessment program**.
 - We will monitor the carbon footprint of our portfolio as we aim to keep it inferior to the carbon footprint (all scopes) of our benchmark as a long-term objective. We encourage companies to voluntarily disclose their carbon footprint
- **Propellants** are used to launch rockets or for satellites to correct their trajectory while in orbit:
 - If a company uses toxic or polluting propellants for spacecraft such as hydrazine or kerosene, we ensure that they have **safety protocols for employees** and plans to **transition to safer and greener alternatives** such as hydrogen or methane.
- We are extremely vigilant regarding **orbital debris**:
 - We do not wish to promote a spacecraft cemetery in orbit, nor increase collision risk. **If the company does not have a Space debris policy or does not mitigate the risk debris of its products, we will not invest in the company.**
 - Since there are also **debris risks on Earth**, we are vigilant that the companies have **accurate trajectory simulation tool capacities** for debris and launchers returning to Earth.
- The impact on air pollution of rocket second stage ignition or satellite deorbiting which may bring **fine particles in the stratosphere** is not yet well documented by the scientific community however it will remain a point of attention.

C. SOCIAL

Some Space 2.0 companies are developing technologies and businesses that have **a positive contribution to social issues**:

- Companies promoting better broadband access in remote areas (e.g., rural areas, middle of the ocean...) to **reduce the digital divide**.
- Satellites images can help **fighting censorship**, through improving transparency regarding political events and potential human rights violations putting populations at risk.
- Space can enable **ground-breaking scientific discoveries** in technology, medicine, biology and more. There is great potential for research conducted at the International Space Station, which has **unique features**: microgravity, extreme conditions (extreme heat, cold cycling, ultra-vacuum, atomic oxygen, and high energy radiation) and Low Earth Orbit situation. This unique environment allows scientific research that would not be possible on Earth.

Echiquier Space also pays attention to areas of potential concerns:

- We are concerned with **cybersecurity** for companies in the portfolio, therefore we commit to ensuring **data protection** processes are robust. Certain Space companies keep data in clouds dedicated to Space data, run by multinational companies that put in place the best safety standards.
- The **ethics of population surveillance** is an important topic. We will pay attention in company sustainability reports or engage discussion with companies producing and handling satellite data to ensure that **imaging does not breach privacy principles** and **data is not provided to entities that do not align with LFDE's Responsible Investment philosophy**. We will analyse how the companies collect and manipulate data not only to comply with local and regional regulation such as GDPR in the EU, but also to **promote best practices regarding this sensitive topic such as writing ethical guidelines principles or being fully transparent on the nature of contracts**. We will pay particular attention to companies **doing business with non-democratic countries**.

The Space 2.0 industry is at an early stage in its development and remains a high-end technological challenge. For this reason, certain services and products may take some time to reduce costs and democratise access to Space.

- Certain companies are developing Space tourism to offer the opportunity for people to experience Space. We distinguish Space tourism from commercial Space lines, as we consider **Space tourism causes too much negative environmental impact for a small number of beneficiaries**. In line with this distinction, **we do not invest in companies whose core business is Space tourism**, we consider it core business when companies deriving more than **50%** of their revenue from this activity.
- The **safety of the space tourism engine crew member** is a point of attention as the vehicle's technology is still nascent and not highly regulated in terms of safety measures. Consequently, we will apply a best effort approach in our monitoring.

DISCLAIMER

This charter informs investors of the commitments made by La Financière de l'Echiquier in the management of its ECHIQUIER SPACE fund. It does not constitute a contractual or regulatory document.

The information given in the charter comes from the best sources in our possession at the time of writing and may evolve over time.



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