

Higher Airspace Operations

The perspective of the Air Navigation Service Suppliers



On behalf of



for The European Higher Airspace Operations Symposium

Brussels, 2nd April 2019

Higher Airspace Operations

A challenge for ANSPs... and an opportunity

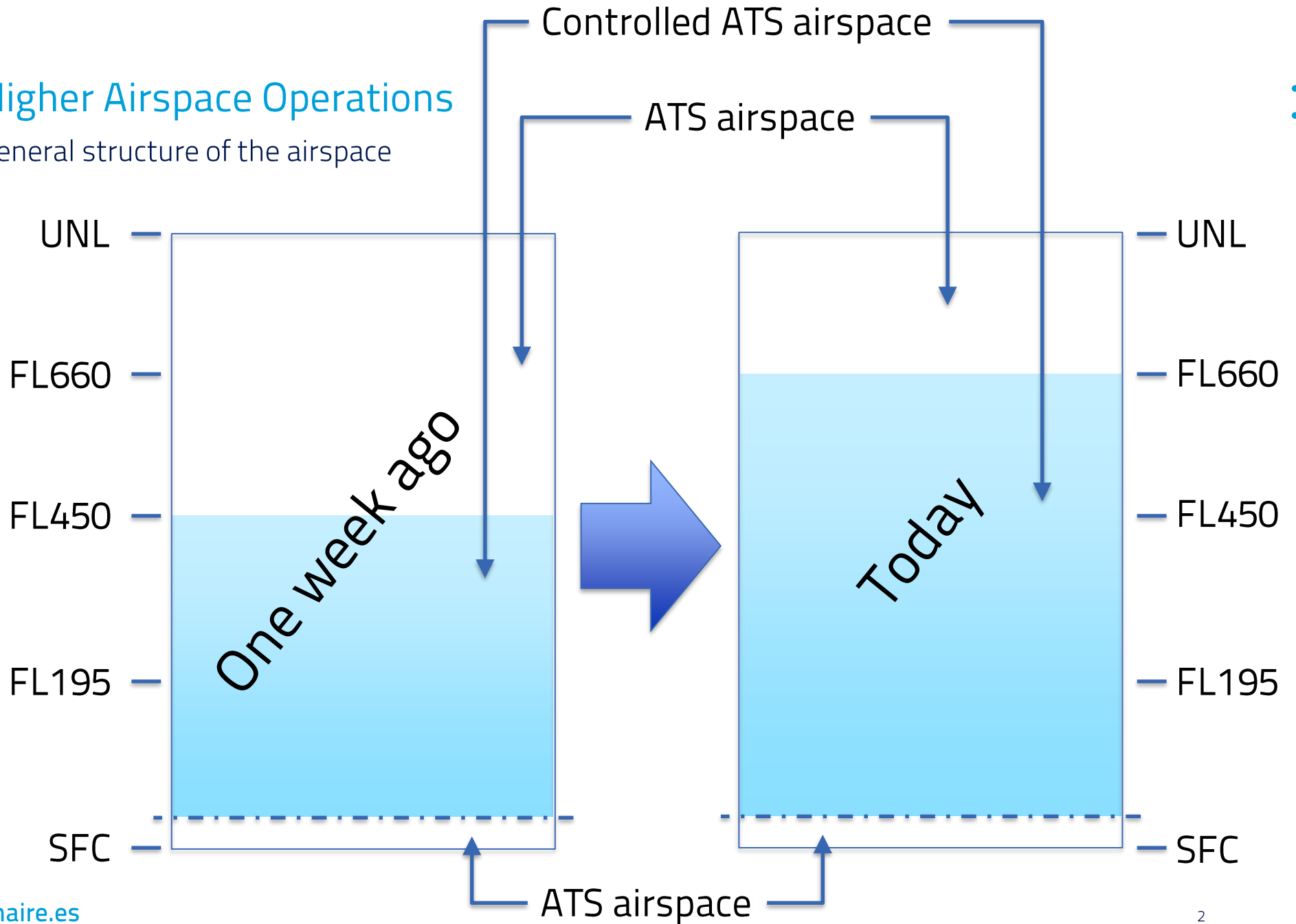
- ❖ ANSPs acknowledge the enormous benefit of higher-altitude operations for society.
- ❖ Some ANSPs might even expect to **benefit from HAPS as users**, not only as service providers.
- ❖ As of today, the number of higher-altitude operations is rather small, therefore they do not create significant trouble to traditional aviation.
- ❖ The operation, deployment and recovery procedures of higher-altitude platforms, and contingency descents, potentially affect traditional aviation.
- ❖ Higher-altitude operations pose new challenges for ANSPs. This presentation will briefly explore the nature of these challenges, and deliver an optimistic message.



Source: <http://www.esa.int>

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General structure of the airspace



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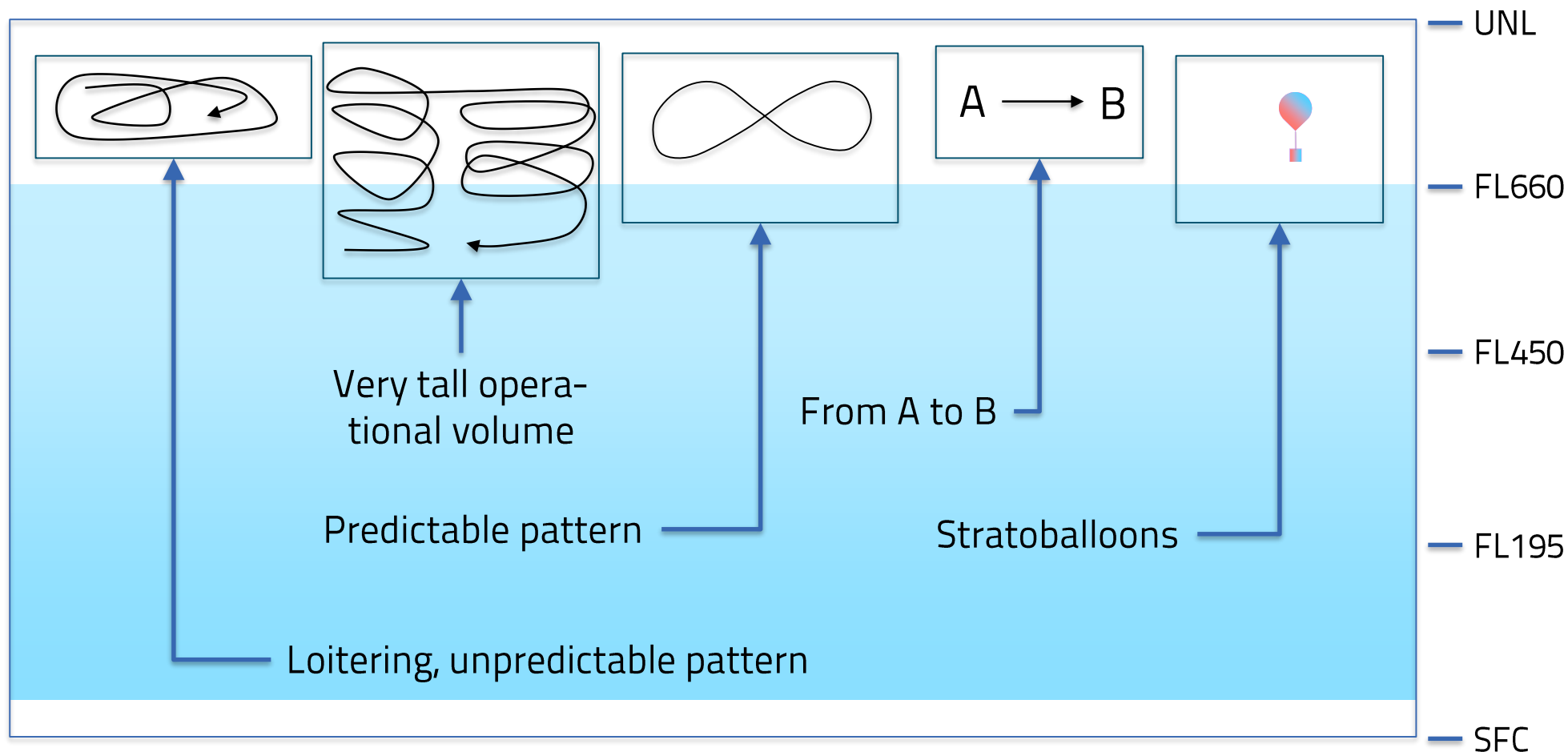
General structure of the airspace

- ❖ In most countries today, all of the airspace is ATS airspace. Up to Andromeda and beyond. So far, there is no official upper limit to ATS airspace.
- ❖ ANSPs are responsible for providing ATS in all of the airspace, **even in non-controlled airspace.**
- ❖ Plus, the ceiling for the upper limit of controlled airspace is expected to increase.
- ❖ It is foreseen that higher airspace will be more and more occupied in the future, thus in need of ATS.

Higher Airspace Operations – The challenge for ANSPs



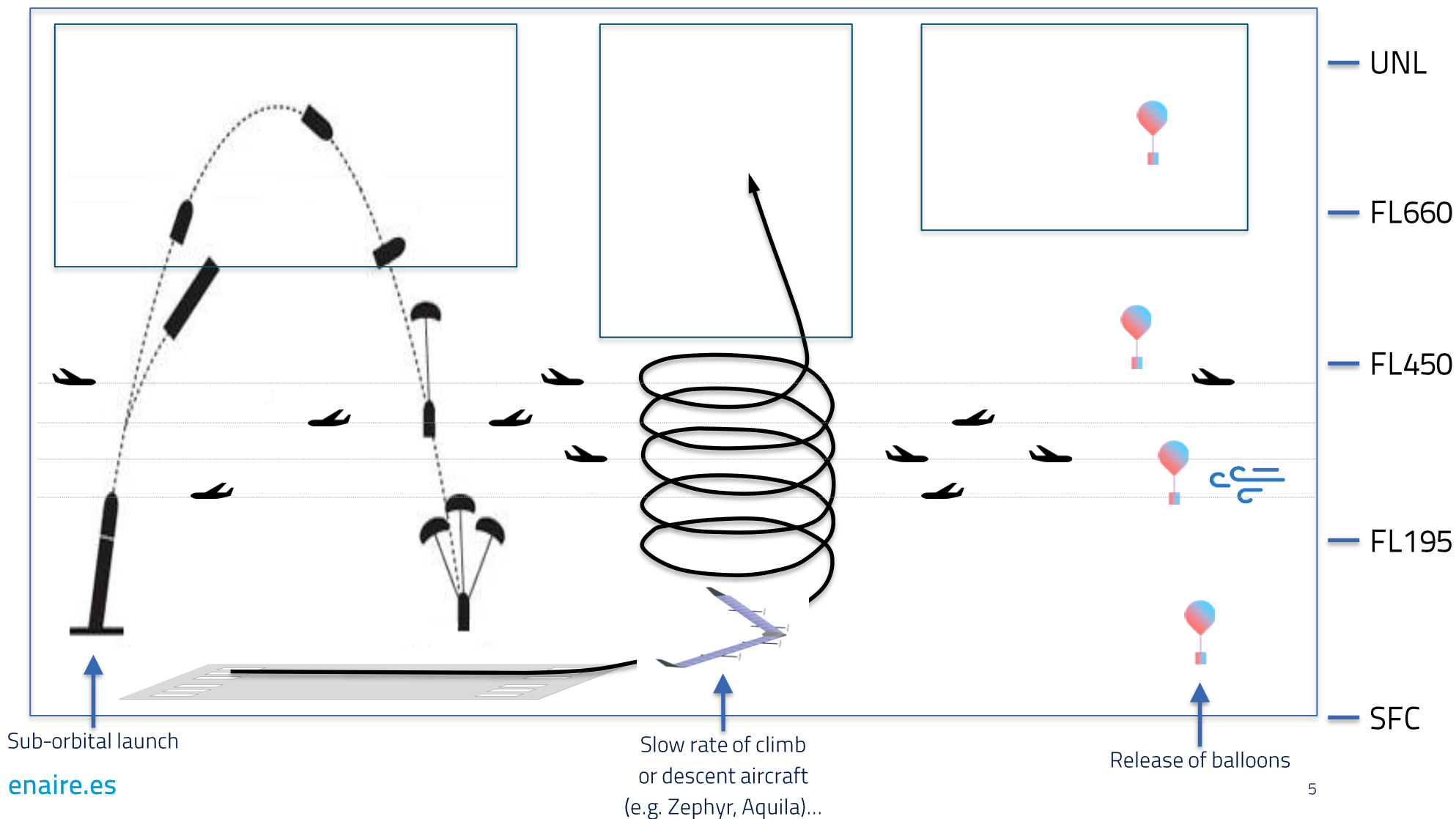
A wildly variable, heterogeneous set of possible mission concepts and trajectories



Higher Airspace Operations – The challenge for ANSPs



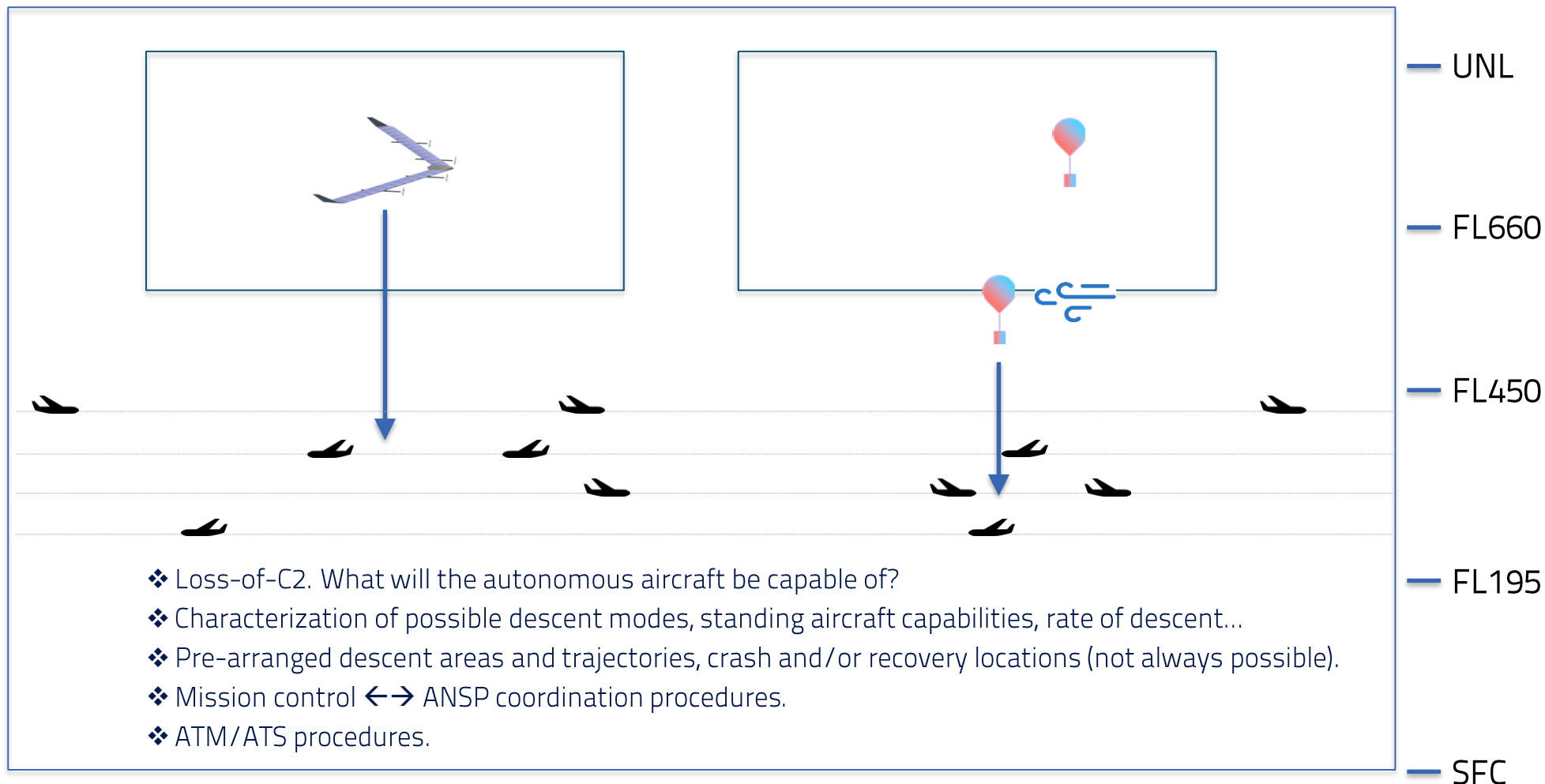
Platform deployment and recovery procedures... across a layer full of paying customers!



Higher Airspace Operations – The challenge for ANSPs



Contingencies and emergency descents. **They do happen and have already happened!**



Higher Airspace Operations – The challenge for ANSPs



What can we do?

Technological solutions

- Make tracking available to the ANSP. The ANSP will not have surveillance capabilities in all scenarios.
- Possible use of future U-Space providers and the ATM/UTM interface.

Safety management (e.g. hazard mitigation)

- Segregate operations in time and/or space.
- Other possibilities specific to each mission concept.

Specific set of operational procedures

- Work side-by-side with the civilian ANSPs to agree upon coordination, operational and contingency procedures.

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Final message from the ANSPs



- ❖ There are important challenges before regular higher-altitude operations are possible, as they might impact traditional aviation.
- ❖ **But please don't panic!**
- ❖ ANSPs will not be the show-stoppers. In fact, ANSPs are willing to help.
- ❖ However, for this to take place all stakeholders will need to collaborate, and the needs of ANSPs and traditional air traffic must be taken into account.



**Don't
panic!!**

Gracias

