ENAC
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Regulatory Progress in Italy for Suborbital Operations

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Scope

- To support the development of the sector by promoting a safe access to space
- To set a regulatory framework for HTOL suborbital transportation from national spaceport
- To select and authorize an Italian spaceport
- To allow A-to-A suborbital operations in the near term
- To allow foreign spaceplane operators to operate in Italy on the basis of bilateral agreements

Regulatory sources

- **Italy-US Framework Agreement for Cooperation and Use of Outer Space for Peaceful Purposes of 19 March 2013**

  (transposed into law n. 197/2015)
- **FAA-ENAC MoC in the Development of Commercial Space Transportation of 12 March 2014**

  (renewed on 30 July 2016 along with the Italian Space Agency – ASI)
- **EC COM(2016) 705 final – Space Strategy for Europe**

  (endorsed by Parlamentary Address Act on 8 Feb. 2017)
- **Air Navigation Code – art. 687**

  (ENAC is the unique regulatory authority for civil aviation)
- **Air Navigation Code – art. 693**

  (The State aerodromes are assigned to ENAC)
- **Law n. 265/2004**

  (ENAC is the uique authority for Air Navigation Services regulation)
- **Minister of Infrastructure and Transportation Decree n. 354 dated 10th July 2017 on Sustainable Development of the Commercial Suborbital Flights Sector ("MIT Policy")**

The Italian Government Policy

Minister of Infrastructure and Transportation Decree on Sustainable Development of the Commercial Suborbital Flights Sector

- **To ensure low-cost, alternative and safe access to space by suborbital operations**
- **To support the emerging *Space Economy* and the current industrial initiatives**
- **In keeping with the EU Space Strategy**

  "The Commission will also encourage the development of commercial markets for low-cost small launch systems or for commercial space activities such as spaceflight or suborbital space tourism, promoting the appropriate regulatory frameworks as needs arise" [EC COM(2016) 705 final]

Priorities

- To define a comprehensive regulatory framework for suborbital transportation
- To select a spaceport site
- To support the development of emerging tecnologies ensuring an adequate level of safety for systems and operations
- To ensure an autonomous access to space and its long-term sustainable use

Policy

- To develop a three year plan to define a regulatory framework for HTOL suborbital flights
- To identify the items that could be directly regulated by ENAC and those which need to be addressed by primary law or other government acts
- The regulatory framework will be flexible enough to support the development of the sector, provided that the safety of 3° parties on ground and in the air shall be pursued along with the safety of occupants
- The level of safety for the system and operations shall be established by ENAC and shall be updated, as necessary, according to the state of the art and the technology advancement

Policy

- Suborbital operations shall take place whithin the national boundaries and shall not have a detrimental impact on the civil aviation development
- Security and cyber-security issues shall be taken into account
- Criteria for the selection of candidate spaceport site (see further) shall be defined giving priority to the existing infrastructures
- ENAC will coordinate with the MoT and cooperate with the MoD and the Space Agency

Spaceport Selection Criteria

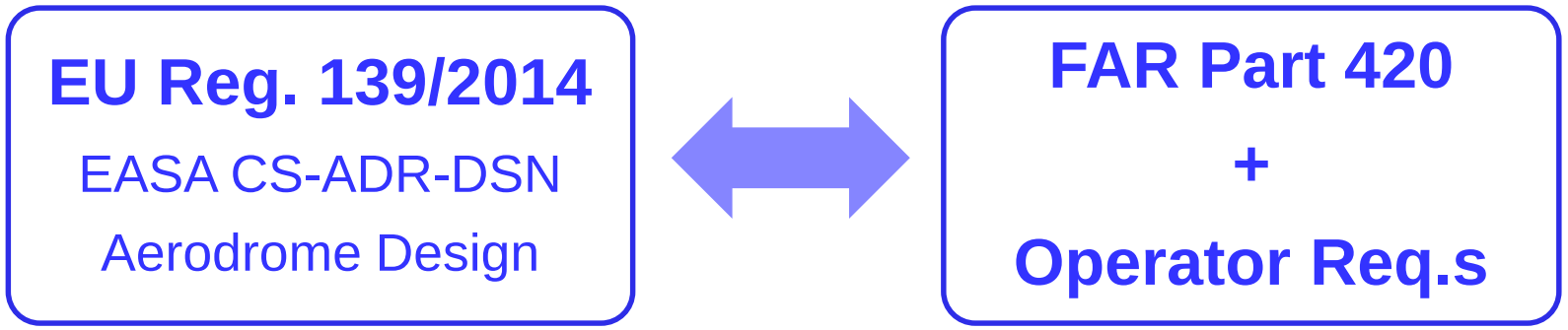
- The following *clusters* of criteria have been prelimiary identified in order to sort a list of candidate spaceport sites

  1. Airspace & Traffic (ATM impact, route density, …)
  2. Territory & Surrounding (population density, flight corridors, ..)
  3. Metereology (winds, weather conditions, …)
  4. Environment (EIA, …)
  5. Infrastructures (runway, propellant storage, logistics, …)
  6. Spaceport Operator Organization (SMS, risk management, …)

- Existing commercial aerodromes certified i.a.w. EU Reg. 139/2014 will be considered in terms of priority

- Procedures for selecting the spaceport shall be agreed with the MoT

Spaceport Requirements Gap Analysis



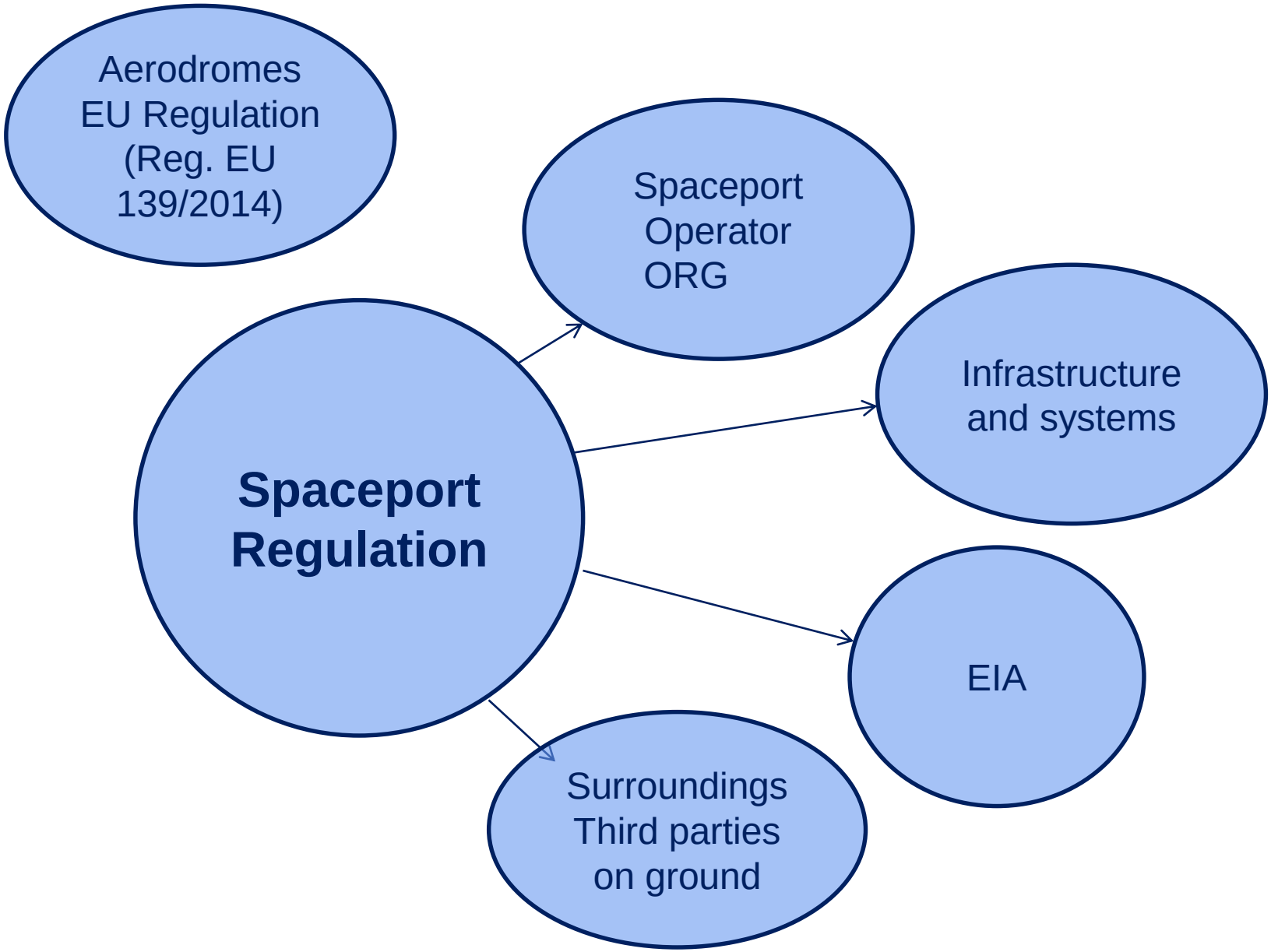
- **In order to define a complete set of design and construction req.s the EASA CS-ADR-DSN req.s will be complemented with additional req.s from Part 420 and operator req.s as a result of the gap analysis**

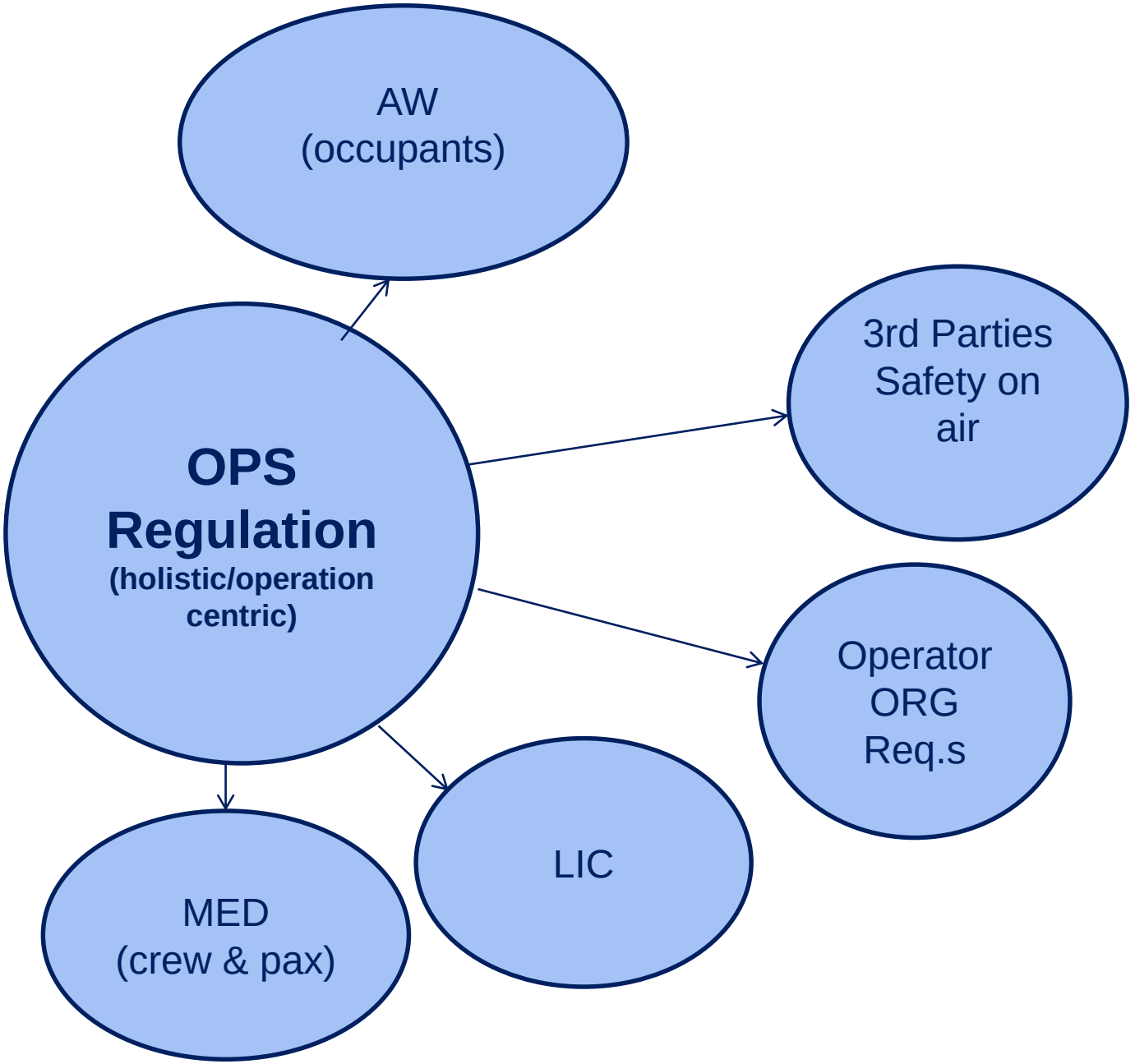
Regulatory Framework Operations

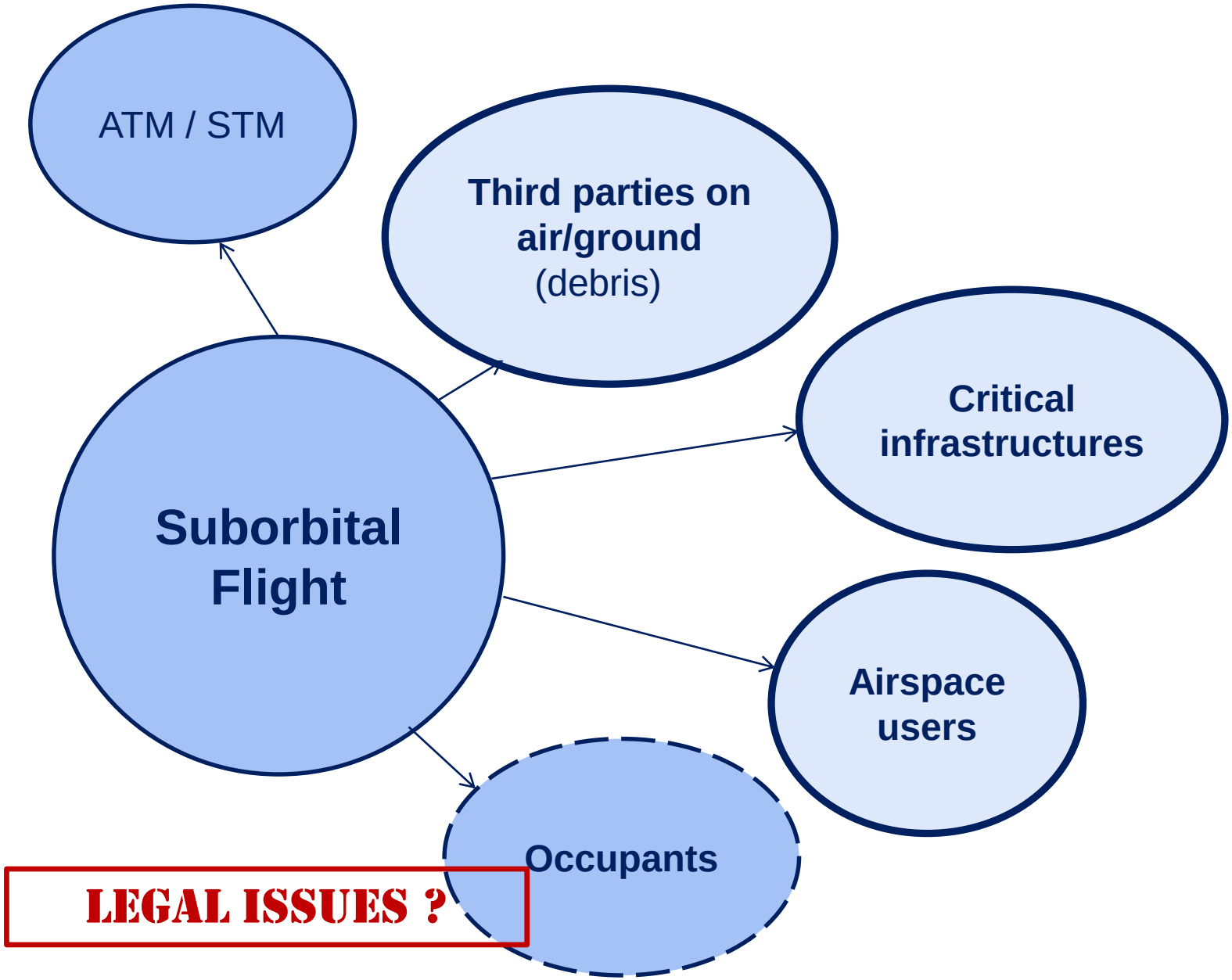
- Considering the novelty of this new kind of operations and the need to investigate the interactions between various components, like ATM issues, licensing, medical aspects, airworthiness of aircraft/spaceplane, etc the ops regulation will embrace most all of these fields

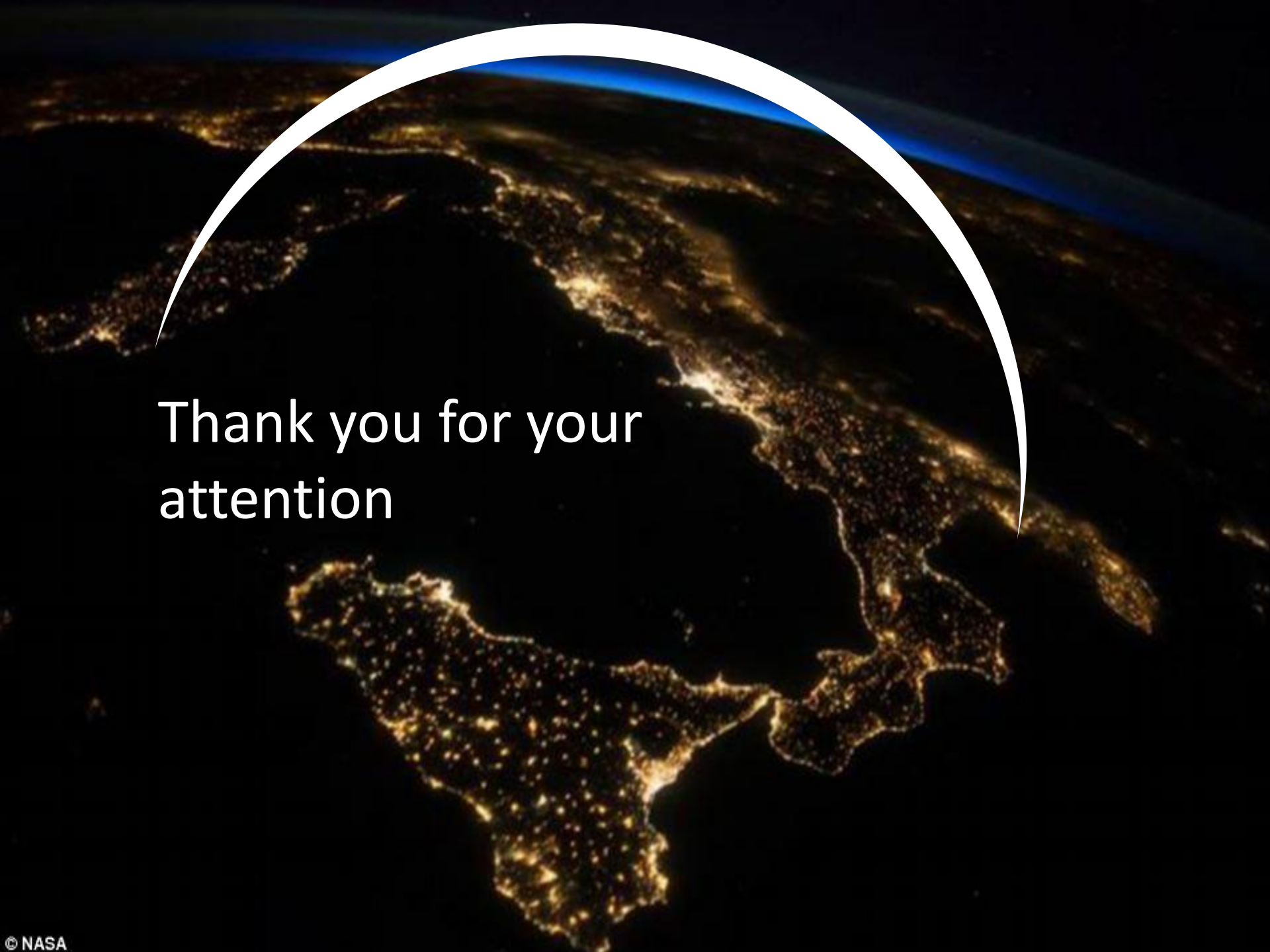
- The approach that fits more with this situation is an “operation centric approach”. It will favour a global assessment of the expected level of safety

- The reference to existing regulatory practices could be a reference to develop a national rule with the necessary adaptations.


Aerodromes
EU Regulation
(Reg. EU
139/2014)
Spaceport
Operator
ORG
Spaceport
Regulation
Infrastructure
and systems
EIA
Surroundings
Third parties
on ground


AW
(occupants)
OPS
Regulation
(holistic/operation
centric)
3rd Parties
Safety on
air
Operator
ORG
Req.s
LIC
MED
(crew & pax)


ATM / STM
Third parties on air/ground (debris)
Critical infrastructures
Suborbital Flight
Airspace users
Occupants
LEGAL ISSUES ?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