

Perspectives from Austria: Drafting a National Law

ESE/ECSL Executive Course 2021

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- **Background of the Austrian Outer Space Act of 2011**
- **Overview of the Outer Space Act**
- **The Austrian Outer Space Regulation of 2015**
- **Implementation in practice**
- **New challenges**

Background of the Austrian Outer Space Act of 2011

BRITE AUSTRIA Constellation

- TUGSAT-1 (Graz)
- UniBRITE (Vienna)

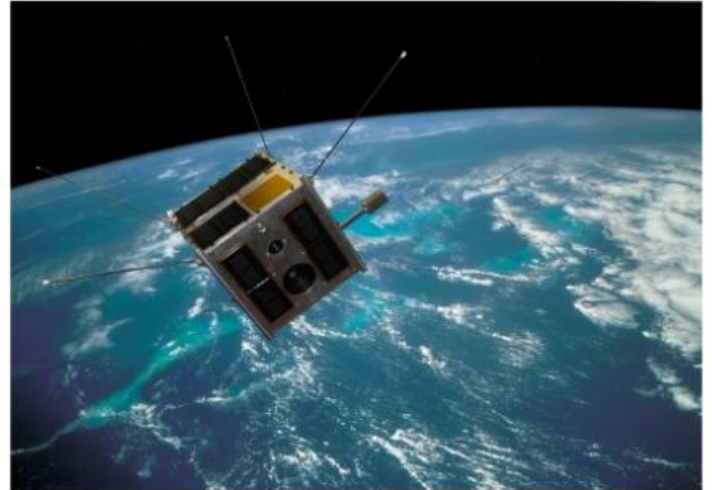


 Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

- University satellite project
- Financially supported by the **Austrian Space Application Programme (ASAP)** of the **Austria Research Promotion Agency (FFG)**, funded by the Austrian Federal Ministry for Innovation and Technology
- Research of the brightness variations of massive luminous stars by differential photometry

BRITE (BRiGht Target Explorer)

- Scientific Goal: Investigation of massive luminous stars with precise star camera
- Opens up new dimension for astronomers
- Observation of stars without interference by earth atmosphere
- with small low-cost spacecraft



BRITE CONSTELLATION

- 6 satellites, operating in pairs
 - red/blue filter instrument
- 2 Austrian: TUGSAT-1/BRITE-Austria & UniBRITE
- 2 Polish: BRITE-PL1 (LEM) & BRITE-PL2
- 2 Canadian: BRITE-CAN 1 & BRITE-CAN 2

Drafting Process

- **First steps by the Federal Ministry for Innovation and Technology**
 - Legal basis for registration considered (2008)
 - Yet, int'l law requires also authorisation and supervision
 - Decision to develop a comprehensive law containing rules for an authorisation process (2009)
 - Focus on support of science and research and also space debris mitigation
- **First draft prepared by the NPOC Space Law Austria in May 2009**
- **Interministerial Committee discussed the draft between 2009 and January 2011**
 - To find agreement between ministries concerned before the public official consultation process starts
 - Ministries for Foreign Affairs, Defence, Justice, Internal Affairs, Finance, ...

- **Formalities necessary for the official consultation process**
 - Draft text of the law
 - Accompanying letter
 - Explanatory Report
 - Estimation of prospective costs connected to the new law for the administration and for the economy
- **Official consultation process from July to September 2011**
 - Comments submitted by Federal States, Ministries, the Federal Chancellery, universities, the Austrian Space Forum, and a private company
 - Some changes were made to the initial draft reflecting most of the comments
- **Adoption of the final text by the Government (Ministerial Council) on 14 October 2011**

Legislative process

- Text presented as a **“Governmental Proposal” (Regierungsvorlage)** to the Parliament
- **Discussed and adopted by the Parliamentary Committee on Science, Technology and Innovation**
 - Presented by the Minister for Innovation and Technology
- **Presented to the National Council (Nationalrat)**
 - Adopted by unanimity of all parties represented in the Parliament on 6 Dec. 2011
- **Presented to and adopted by the Federal Council (Bundesrat)** on 15 Dec. 2011
- **Published in the Federal Law Gazette (BGBl. I No 132/2011)** on 27 December 2011
- **Entered into force on 28 December 2011**

Contents of the Austrian Outer Space Act

“Comprehensive space act”

Contains in total 17 articles

- Authorisation
- Supervision
- Registration
- Transfer/change of the operator
- Right of recourse
- Transitional provision

Scope of application

Austrian Outer Space Act

Scope of Application

§ 1. (1) This Federal Law is applicable to space activities carried out

1. on Austrian territory,
2. on board of vessels or airplanes, registered in Austria or
3. by a natural person with Austrian citizenship or legal persons seated in Austria.

Definitions

§ 2. Unless otherwise specified, the following definitions shall apply for the purpose of this Federal Law:

1. “Space activity”: the launch, operation or control of a space object, as well as the operation of a launch facility;
2. “Space object”: an object launched or intended to be launched into outer space, including its components;
3. “Operator”: a natural or juridical person that carries out or undertakes to carry out space activities.

Authorisation

§ 3. Space activities require authorisation by the Minister for Transport, Innovation and Technology. Authorisation requirements under other provisions than under this Federal Law remain unaffected.

Conditions for authorisation

§ 4. (1) The authorisation according to § 3 shall be issued if

1. the operator possesses the necessary reliability, capability and expertise to carry out the space activity,
2. the space activity does not pose any immediate threat to the public order, to the safety of persons and property and to public health,
3. the space activity does not run counter to national security, Austria's obligations under international law or Austrian foreign policy interests,
4. appropriate provision has been made for the mitigation of space debris according to § 5,

Mitigation of Space debris

§ 5. The operator has to make provision for the mitigation of space debris in accordance with the state of the art and in due consideration of the internationally recognised guidelines for the mitigation of space debris. Especially measures limiting debris released during normal operations have to be taken.

Explanatory Report:

- Mitigation of space debris is an important concern of all States and operators of space activities
- Internationally recognised guidelines are first and foremost the **Space Debris Mitigation Guidelines of the IADC** (2002, revised in 2007)

Obligation provided in § 4 (1):

7. the operator has taken out an insurance according to subparagraph 4,

Exemption possible in § 4 (4):

If the space activity is in the public interest, the Minister for Transport, Innovation and Technology may determine a lower sum or release the operator from the insurance requirement by administrative decision, taking into account the risks connected to the activity and the operator's financial capacity. Space activities are in the public interest if they serve science, research or education. Taking out an insurance is not necessary if the Federal State itself is the operator.

Transitional provision

§ 15. This Federal Law applies to space activities carried out after its entry into force. For space activities commissioned before entry into force of the present Federal Law, the authorisation requirement provided for in the §§ 3 to 5 shall be substituted by a notification obligation of the operator. The operator shall provide all documents necessary for the verification of the conditions contained in § 4 (1). § 11 does not apply to space activities commissioned before the entry into force of the present Federal Law.

The Austrian Outer Space Regulation of 2015

According to § 12 of the Austrian Outer Space Act, should regulate:

- (1) Details and procedures for **authorisation** under § 4 (1)
- (2) The **relevant documents** and technical specifications that have to be attached to the request for authorisation as set out under § 4 (2)
- (3) **Fees** covering the costs of the proceeding to be carried out under the present law
- (4) A **lump sum** to compensate the costs caused to the Government for the verification of the operator's reliability
- (5) Information necessary for **registration**

Regulation of the Federal Minister for Transport, Innovation and Technology in Implementation of the Federal Law on the Authorisation of Space Activities and the Establishment of a National Space Registry (Outer Space Regulation) BGBl. II No. 36/2015

Contains 10 articles:

- Specification of documents required for authorisation and registration
- Documents required for verification of compliance with space debris mitigation guidelines and ITU coordination
- Documents necessary application for exemption from insurance
- Costs of review of the operator's reliability and for the review by qualified experts: to be borne by the operator
- Fee for authorisation and registration: 6500 euros

Implementation in practice

BRITE Austria Constellation

Launched in 2013 from India

Pegasus satellite

University satellite (Wiener Neustadt)

Launched in 2017 from India

OPS-SAT

Developed by TU Graz for ESA

Launched in 2019 from Guyana Space Center

PRETTY satellite

Developed by an Austrian consortium

To be launched in 2022

BRITE Austria Constellation

Law not (fully) applicable

- Law is not applicable retroactively
- Transitional provision in § 15
 - §§ 3 to 5 (about authorisation) applicable *mutatis mutandis* (notification)
 - § 11 (about right to recourse) not applicable

Notification instead of authorisation

- Information required under authorisation was notified

Registration by Austria in 2013

- National Registry
- International Registration with UNOOSA

Pegasus

- **University satellite**
 - University of Applied Sciences Wiener Neustadt
 - Technical University Vienna
- **2U CubeSat**
- **Scientific goal is atmospheric investigation**
 - To monitor the prevailing conditions in the Thermosphere
- **Launched on 23 July 2017**
 - From Satish Dhawan Space Centre, Sriharikota, India
 - As part of the **QB50 programme of the EU**

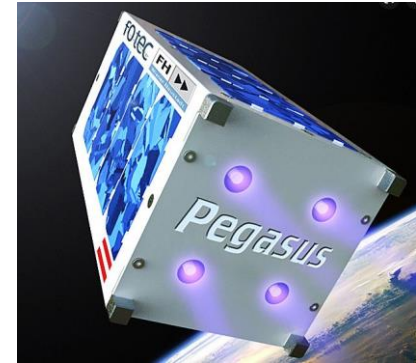


Photo: FH Wiener Neustadt

Subject to authorisation and registration in Austria

- Space activity carried out from Austrian territory
- Operator is Austrian
- **FH Wiener Neustadt** needs authorisation
- Satellite will be registered in **Austria**
- **BUT:** Main organiser of **QB50** was **Belgian**
 - EU funded project under FP7 Programme
 - Von Karman Institute lead consortium activities, project planning, organisation of launches and ground control stations
- **Agreement between Belgian and Austrian ministries** about registration in/by Austria



OPS-SAT

- **Initiated by ESOC**
- **Main contractor**
TU Graz, Austria
- **Goal**
In-orbit demonstration of new technology and novel operational concepts
- **Mission statement**
OPS-SAT is a safe, hard/software laboratory, flying in a LEO orbit, reconfigurable at every layer from channel coding upwards, available for authorised experimenters to demonstrate innovative mission operation concepts
- **Launched on 18 December 2019** from Guiana Space Centre

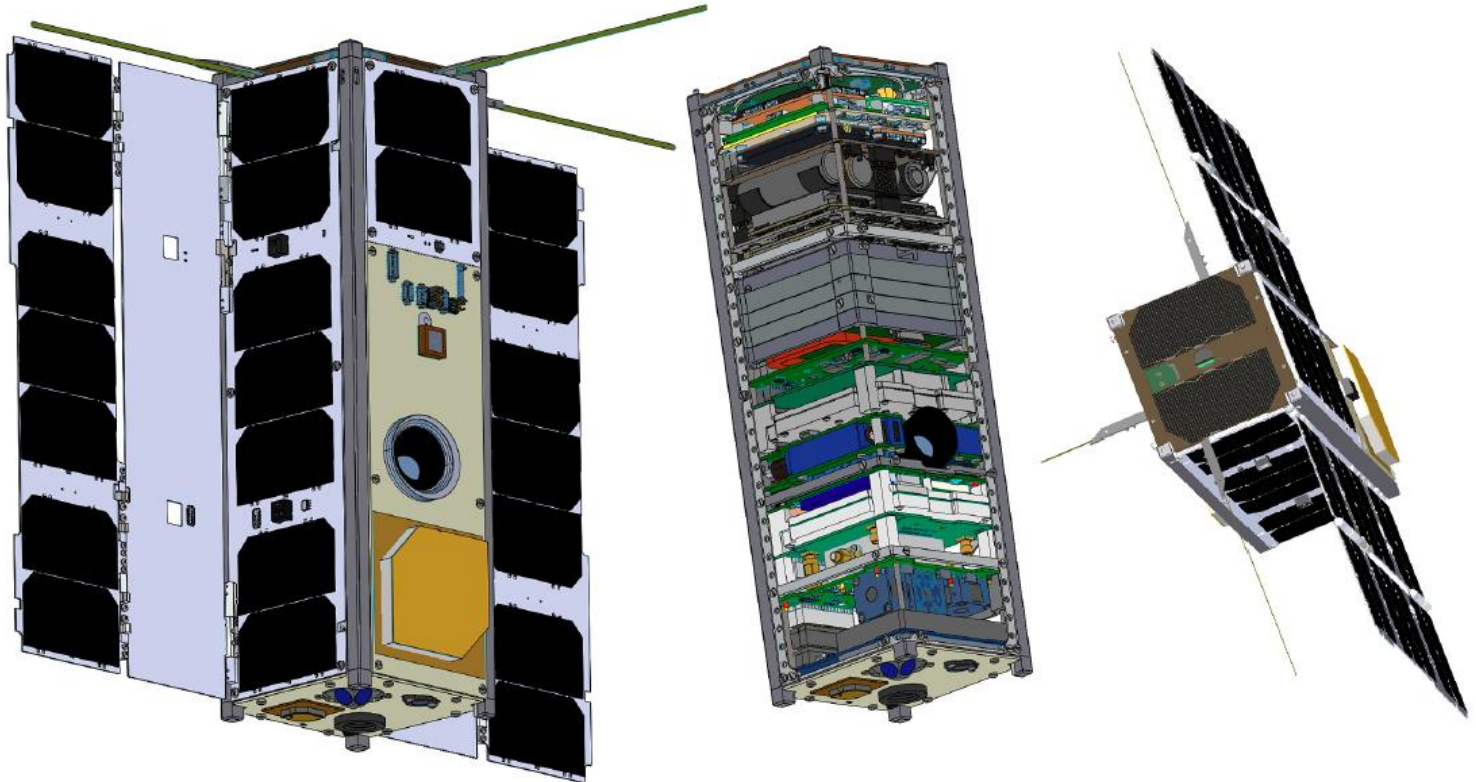




OPS-SAT
Credit: TU Graz

OPS-SAT Overview

3U CubeSat: 10x10x30 cm with deployable solar arrays
Power: 24 W



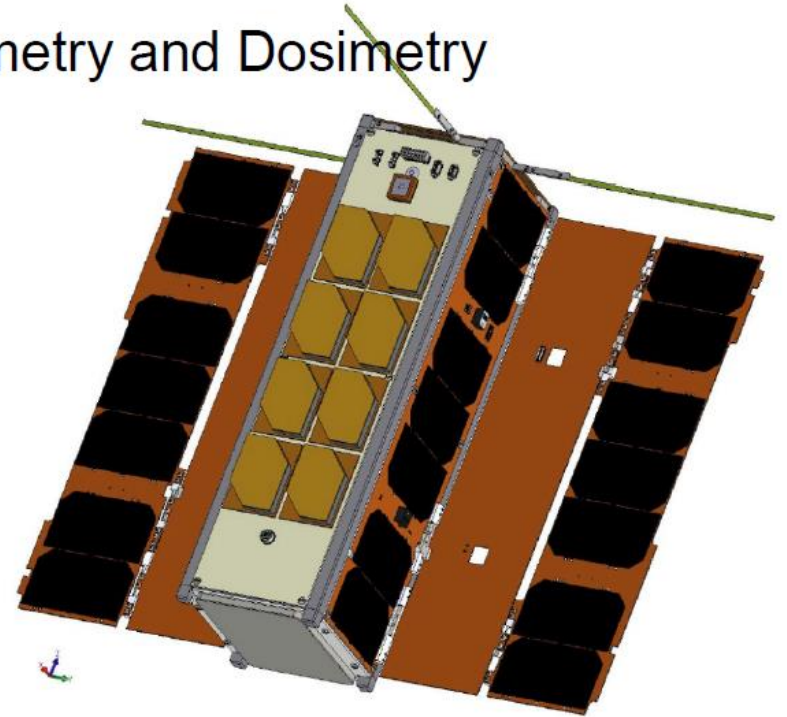
OPS-SAT: Not subject to authorisation and registration in Austria

Operator is ESA/ESOC

Owner is ESA

- Authorisation and supervision via contractual arrangement between TU Graz and ESA
- Registration by ESA

Mission: Passive Reflectometry and Dosimetry



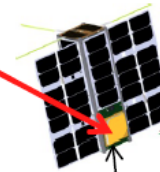
Passive Reflectometry



GNSS
Satellite

Contribution to
Climate Change Research:

- Glacier survey
- Sea wave measurements



Altimetry:

Determination of relative height
measure relative
delays of
direct/reflected signal

Earth

PRETTY: Subject to authorisation and registration in Austria

- **Currently under development**
 - **Launched planned for Q3/2022**
 - **Funded by ESA's GSTP programme**
 - **Owner and operator**
TU Graz, Austria
 - **Prime contractor**
RUAG, Austria
- **TU Graz** and **RUAG** need to apply for authorisation in Austria



New Challenges

Who is the operator?

What happens, if ownership and control of the operator change?

Which transparency rules are needed?

Chapter 4, Article 12 – Transfer of space activities

- Transfer of space activities without authorisation **shall be prohibited**
- When the transferee operator is not established in the Grand Duchy of Luxembourg, the Minister **shall refuse** transfer authorisation **in the absence of a special agreement with the State of which the transferee operator is a national** or which has international liability for the space activities thereof and which guarantees the Luxembourg State against any recourse brought against it on account of its international liability or for compensation for loss or damage.

Chapter 5, Article 13 – Change of control

(1) Any natural or legal person that has taken the **decision to acquire or increase**, either directly or indirectly, **a qualifying holding in an operator**, resulting in the proportion of capital units or voting rights held amounting to or exceeding the thresholds of 20%, 30% or 50% or such operator becoming its subsidiary, **shall inform the Minister of its intention** in advance in writing.

(4) If the influence exercised by a potential acquirer [...] **is likely to be exercised to the detriment of sound and prudent operation** by the operator, the Minister **shall object thereto or take appropriate measures** to end such a situation.

When a holding is acquired despite the Minister's objection, the Minister **may suspend exercise of the corresponding voting rights or request the nullity or invalidation of the votes cast.**

(5) Every operator **shall be required to inform the Minister**, as soon as it becomes aware thereof, **of any acquisitions or transfers of qualifying holdings in its capital.**

See: **REGULATION (EU) No 575/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**
 of 26 June 2013
 on prudential requirements for credit institutions and investment firms and amending Regulation
 (EU) No 648/2012

Thank you very much for your attention!

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