

INTRODUCING THE EUROCONSULT GROUP SPACE TRAINING SERVICE OFFER

**TOPIC 3:
SPACE LEGAL, REGULATORY & SPECTRUM
MANAGEMENT**

2020 | 2021





CONTENTS

- Our Training Service Offer In A Nutshell
- Topic 3:Space legal, regulatory & spectrum management
- Contact Information
- Euroconsult Group Presentation



FROM STRUCTURING MARKET TRENDS TO TRAINING NEEDS

- Whatever their form or origin, **space infrastructure ambitions and related procurements follow less and less frequently « dry » or « blind » purchase rationales**, as:
 - They are increasingly part of a much broader picture, with related plans no longer limiting themselves to the sheer ownership — or even operational use — of the acquired capacity
 - Many national players from emerging countries — either established as space agencies, research centers or even satellite operators — have been mushrooming worldwide since the mid-2000s, translating into a flurry of “domsat” projects strongly hitting the market
- ...which increasingly places **capacity building issues at the center of related strategies**, as much powerful and efficient vehicles for:
 - Fostering inherent skills and a buildup of how-how
 - Gaining independence
 - Installing greater prominence, visibility and credibility amongst the international space community



GENERAL SERVICE APPROACH (1/2)

- Our training service offer provides **interdisciplinary knowledge transfer to governments, the private sector and not-for-profit organizations wishing to increase their expertise in the space sector**
- Fully adapted to customers' specific needs, it **customizes both the content and format** of associated training programs **to match customers' specific skill development goals**
- Delivered with an emphasis on **flexibility, accessibility** and **experiential learning**, this tailored service provides both **functional and executive-level training** with **defined outcomes**, among which:
 - Interdisciplinary training on all key aspects of the space industry: technical, markets, program management, etc.
 - Ability to benefit from prepackaged programs or create a customized program
 - Benchmarking, profiling, best practices and lessons learned from key players of the space sector
 - Possibility to organize tours of government and private industry facilities and meetings with international executives and officials
 - Flexibility in choosing a suitable training location, ranging from on-site training on customer premises, in our offices or in a prestigious third-party location
 - Exposure to training in a variety of mediums and formats, from videoconferences to face-to-face seminars, and hands-on exercises, over a few hours, days or week-long sessions



GENERAL SERVICE APPROACH (2/2)

TARGETED AUDIENCES

- Typical customers:
 - Satellite operators
 - Government organizations
 - Service providers
 - Financial institutions
 - Satellite manufacturers
 - Launch service providers
- Typical attendees:
 - Executives
 - Middle managers
 - Program managers
 - Operators
 - Technicians

KEY CUSTOMER BENEFITS

- Fully flexible content that can be either specifically designed or based upon standard packages
- Experiential learning enabling both demonstrable knowledge transfer and networking opportunities
- Access to a unique line-up of seasoned industry experts with extensive sectorial experience
- Combined access to a suitable selection of training venues, industry visits & customer care services

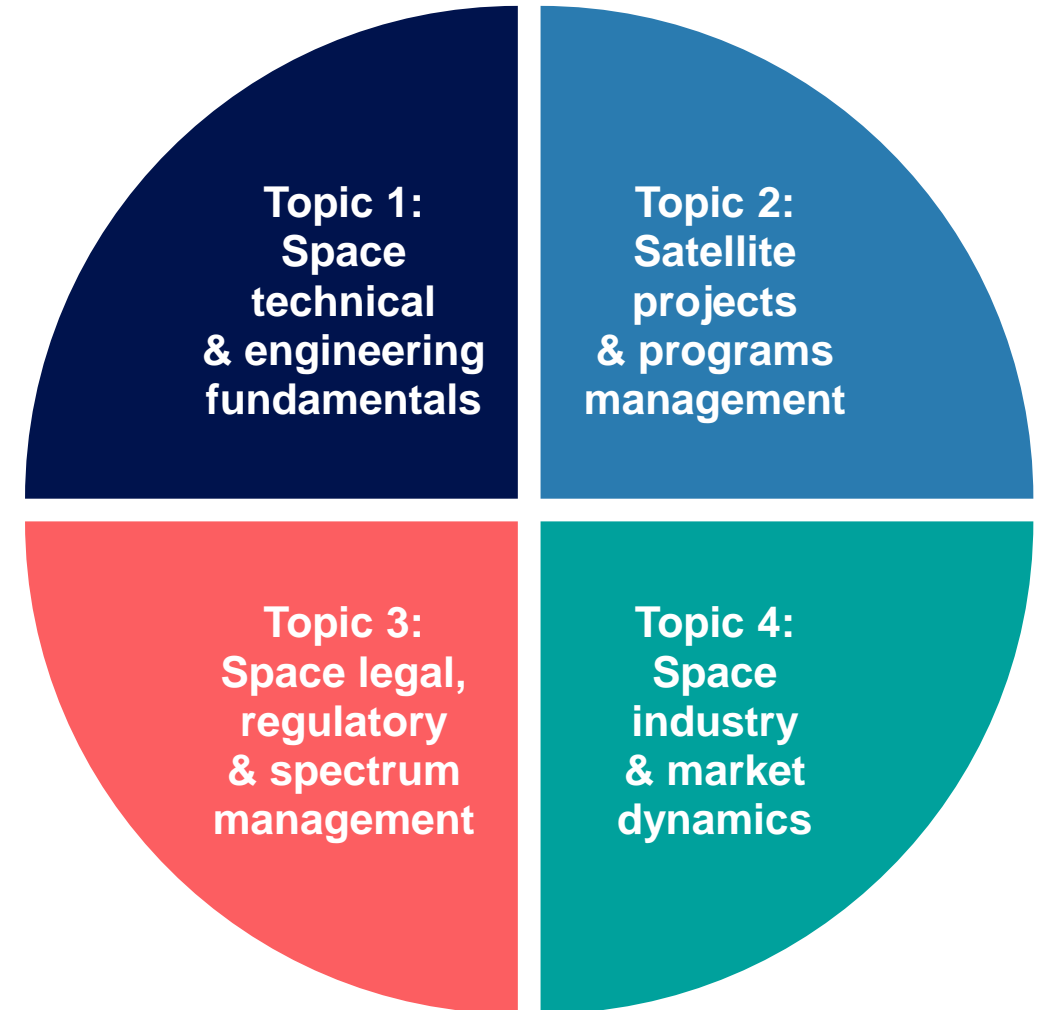
SUPPORT SERVICES

- Adaptation of training course language if required
- Great variety of delivery mediums and formats
- Industrial/cultural visits and networking opportunities
- Flexibility for the most suitable training location
- Customer care service and follow-up



FROM TRAINING TOPICS TO DELIVERY MODES

- Our training service offer is based upon **four main topics** covering, over a total of **38 individual training modules**, the **full spectrum of issues to be considered to operate in the space sector**, i.e.:
 - Space technical & engineering fundamentals
 - Satellite projects & programs management
 - Space legal, regulatory and spectrum management
 - Space industry & market dynamics
- ...available in **two alternative delivery modes** depending upon customer objectives, requirements, and constraints, i.e.:
 - Pre-packaged
 - Customized





TRAINING CATALOG OVERVIEW

	Topic 1: Space technical & engineering fundamentals	Topic 2: Satellite projects & programs management	Topic 3: Space legal, regulatory & spectrum management	Topic 4: Space industry & market dynamics
Nb. of training modules	17	7	5	9
Typical module duration range*	0.5 to 2 days	0.5 to 2 days	1 to 3 days	1 to 2 days
Typical contents	End-to-end technical and engineering space industry fundamentals	Space program management topics, from business planning to risk management assessment	Legal, regulatory and frequency challenges impacting business plans, investment and programs	Space industry policy and market perspectives and trends
Available delivery formats	Face-to-face or online	Face-to-face or online	Face-to-face or online	Face-to-face or online

* Depending upon customer objectives, requirements, and constraints.



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TRAINING CATALOG DETAILS

- Structured along a topic-by-topic basis, the following slides provide **an overview of each of our 5 individual training modules** in terms of:
 - Objectives
 - Prerequisites
 - Related modules
 - Typical duration and delivery format
 - Topics covered
 - Course director
- None of the content presented in this catalogue shall be considered as contractual. Any interested customer is kindly invited to contact us for **a detailed technical and commercial proposal that will be derived from his specific objectives, requirements and constraints**



TOPIC 3: SPACE LEGAL, REGULATORY & SPECTRUM MANAGEMENT

TRAINING MODULES LIST

- 3.1 Introduction to space laws and regulations
- 3.2 Satellite communications regulation
- 3.3 Satellite Earth observation regulation
- 3.4 Orbital resources: regulation and management
- 3.5 Orbital debris: regulation and management



TOPIC 3: SPACE LEGAL, REGULATORY & SPECTRUM MANAGEMENT

MODULE 3.1: INTRODUCTION TO SPACE LAWS & REGULATIONS

OBJECTIVE

- The objective of this course is to provide an overall understanding of the legal and regulatory context of space activities.
- Upon completion of this course, trainees will have learned the fundamentals of international and national regulations to be considered when implementing space projects.

PREREQUISITES

- No specific prerequisites. This course is an overview of space laws and regulations for trainees with no legal background.

RELATED MODULES

To be mastered

To go further

Connected with

3.2 to 3.5

1.1, 2.1, 4.1

TYPICAL DURATION & FORMAT

- 1 to 2 days (8-16 hours)
- Face-to-face or online delivery

TOPICS COVERED

- **International space law**
 - Process for establishing international space laws
 - Main principles introduced through Outer Space Treaties: non-appropriation, peaceful uses, freedom of Outer Space, protection of environment, jurisdiction, control, responsibility, liability
- **National space law**
 - Five building blocks: authorization, supervision of space activities, state indemnification, state liability, registration of space objects
 - Main disparities between national space regulations
- **Export control**
 - International transfer of military and sensitive goods/technologies with a focus on U.S. regulations

COURSE DIRECTOR

- Mr. Philippe ACHILLEAS, Professor of Space & Telecom Law, University Paris-Saclay



TOPIC 3: SPACE LEGAL, REGULATORY & SPECTRUM MANAGEMENT

MODULE 3.2: SATELLITE COMMUNICATIONS REGULATION

OBJECTIVE

- The objective of this course is to provide an overview of international and national regulations related to satellite telecommunications.
- Upon completion of this course, trainees will have acquired a complete understanding of the regulatory environment and processes applicable to satellite telecommunications systems and services.

PREREQUISITES

- In order to take full advantage of this course, trainees should have some knowledge of general space law.

RELATED MODULES

To be mastered

3.1, 3.4

To go further

3.3 to 3.5

Connected with

1.9 to 1.13

TYPICAL DURATION & FORMAT

- 2 days (16 hours)
- Face-to-face or online delivery

TOPICS COVERED

- **International framework**
 - ITU organization, regulatory framework (ITU-R, ITU-T, ITU-D) and main principles adopted
 - Frequency allocation/allotment
 - Regional coordination
 - International trade
 - EU regulatory framework
- **National regulations**
 - National regulations and conditions to obtain licenses
 - Processes related to frequency assignment
 - Terminal equipment regulations
- **Current challenges**
 - NGSO mega-constellations
 - 5G

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TOPIC 3: SPACE LEGAL, REGULATORY & SPECTRUM MANAGEMENT

MODULE 3.3: SATELLITE EARTH OBSERVATION REGULATION

OBJECTIVE

- The objective of this course is to outline the various regulations related to Earth observation activities.
- Upon completion of this course, trainees will have acquired a complete understanding of the regulatory environment and processes applicable to Earth observation systems and services.

PREREQUISITES

- In order to take full advantage of this course, trainees should have some knowledge of general space law.

RELATED MODULES

To be mastered

3.1

To go further

3.2, 3.4, 3.5

Connected with

1.14 to 1.16

TYPICAL DURATION & FORMAT

- 1 day (8 hours)
- Face-to-face or online delivery

TOPICS COVERED

- **International scale**
 - UN principles relating to remote sensing of the Earth from Outer Space and their legal value
 - Freedom of investigation in Outer Space
 - Sovereignty of all States over their own wealth and natural resources
 - Legitimate rights and interests of the sensed State
 - Access to collected data
- **National scale**
 - Overview of main space powers' EO policies
 - National regulations including licensing procedures and maximum resolution authorized in the frame of commercial activities
- **International trade**
 - Export conditions to satellite-based EO systems trade with a specific focus on ITAR

COURSE DIRECTOR

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MODULE 3.4: ORBITAL RESOURCES REGULATION & MANAGEMENT

OBJECTIVE

- The objective of this course is to provide a general overview of ITU regulations as well as national legislations and procedures to respect in order to access orbital and spectrum resources.
- Upon completion of this course, trainees will have a global understanding of rules to comply with and procedures to follow to access the necessary frequencies.

PREREQUISITES

- In order to take full advantage of this course, trainees should have some knowledge of general space law.

RELATED MODULES

To be mastered

1.9, 3.1

To go further

3.2

Connected with

1.9 to 1.13

TYPICAL DURATION & FORMAT

- 2 to 3 days (16-24 hours)
- Face-to-face or online delivery

TOPICS COVERED

- **Frequency coordination: international rules**
 - Regulations environment
 - Main satellite allocations
 - Filings procedures, ITU space software & BR IFIC
- **Concept of Operations (CONOPs), planning and principle of frequency coordination**
 - CONOPS : General strategy for planning
 - Identification and criticality of interfering networks
 - General concepts of coordination strategy
- **Link budget & C/I**
 - Transmitter, receiver, transmission losses
 - Intermodulation, interference
 - Uplink and downlink budgets closure
 - C/I calculations
 - Tutorial tools & exercises

COURSE DIRECTOR

- Mr. Yann LE DU, Technical Advisor, Satconsult



TOPIC 3: SPACE LEGAL, REGULATORY & SPECTRUM MANAGEMENT

MODULE 3.5: ORBITAL DEBRIS REGULATION & MANAGEMENT

OBJECTIVE

- The objective of this course is to outline the various specific regulatory possibilities to reduce and mitigate orbital debris.
- Upon completion of this course, trainees will have learned how the emission and mitigation of space debris are regulated at the international and national level, and which aspects must be considered when designing their projects.

PREREQUISITES

- In order to take full advantage of this course, trainees should have either some knowledge of technical aspects related to space debris mitigation or of general space law.

RELATED MODULES

To be mastered

3.1

To go further

3.2 to 3.4

Connected with

1.7, 1.8

TYPICAL DURATION & FORMAT

- 1 day (8 hours)
- Face-to-face or online delivery

TOPICS COVERED

- **International scale**
 - Regulation through Outer Space Treaties
 - Non-binding measures developed through various international bodies with a focus on IADC guidelines
- **National scale**
 - Brief presentation of national SST/SSA capabilities (e.g. U.S. Space Catalog)
 - Main SSA/SST national policies and their implementation
 - Legally-binding national measures
 - Identification of national best practices
- **Prospection**
 - Potential evolution of the orbital debris regulation
 - Potential impact of this evolution on the market

COURSE DIRECTOR

- Mr. Philippe ACHILLEAS, Professor of Space & Telecom Law, University Paris-Saclay



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CONTACT INFORMATION

YOUR CONTACT POINT

Mr. Pierre VALENTI
Senior Affiliate
Euroconsult



CONTACT DETAILS

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CAREER ABSTRACT

Pierre VALENTI has spent most of his 25-year career in the space sector, leveraging a proven track record and practical knowledge of all key functions associated with marketing and sales at large including business planning and development, business intelligence and market research.

His previous experience includes a ten-year tenure (1999-2009) as Marketing & Sales Manager with the Telecommunications Satellites business unit of Airbus Defense & Space, Space Systems. He also acted as Arianespace's Marketing Director from 2009 to 2011.

In addition to this solid industrial experience, Mr. VALENTI also worked for such renowned consultancies as Accenture (1994-1996), Euroconsult (1996-1998) and Satconsult (2011-2012). More recently, he served as Deputy Managing Director (2012-2013), then Managing Director (2014-2019) of the Institut Aéronautique & Spatial (IAS), a training agency operating under the French Aerospace Industries Association. In 2020, he decided to join forces with Euroconsult to develop a dedicated training service offer.

Mr. VALENTI is a French national born in Paris in 1968. He has been based and working in Toulouse since 2001.



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LEADING INDEPENDENT GROUP

Euroconsult Group is the **leading global consulting group** specializing in the **space sector** and **satellite enabled verticals**.

Euroconsult Group



- Privately owned
- Fully independent
- 40 years of experience
- 5 global locations
- 600 clients
- A team of over 100 multidisciplinary experts



FOUR COMPLEMENTARY ACTIVITIES



**TAILORED
CONSULTING
SERVICES**



**THEMATIC
TRAINING**



**THEMATIC
RESEARCH
PRODUCTS**



**EXECUTIVE
SUMMITS**

- Unique model with synergies and complementarity of our four activities
- End-to-end capability in support of our partners and clients
- Strict separation of information and respect of confidential client information.



EUROCONSULT IN A NUTSHELL

~80 consulting missions
in **>20** countries every year

15 market studies
every year

600 clients for the range of our
products and services

>1000 participants to
the *World Satellite
Business Week*

3 million
data point collected and maintained
on the market

85% of our activity
dedicated to export

100 experts
in **5** countries

100%
independent

100%
dedicated to the
space sector

Euroconsult



EXPERTISE

Our **expertise and skills** enable us to focus on the unique requirements of each of our projects.

Our **independence** guarantees our **commitment** to optimize value creation for our clients.

Euroconsult

Corporate strategy

Strategic assessments

Government programs & policies

Market assessment

Due diligence

Training

Feasibility studies

RFI/RFP process

Satellite & ground segment construction monitoring

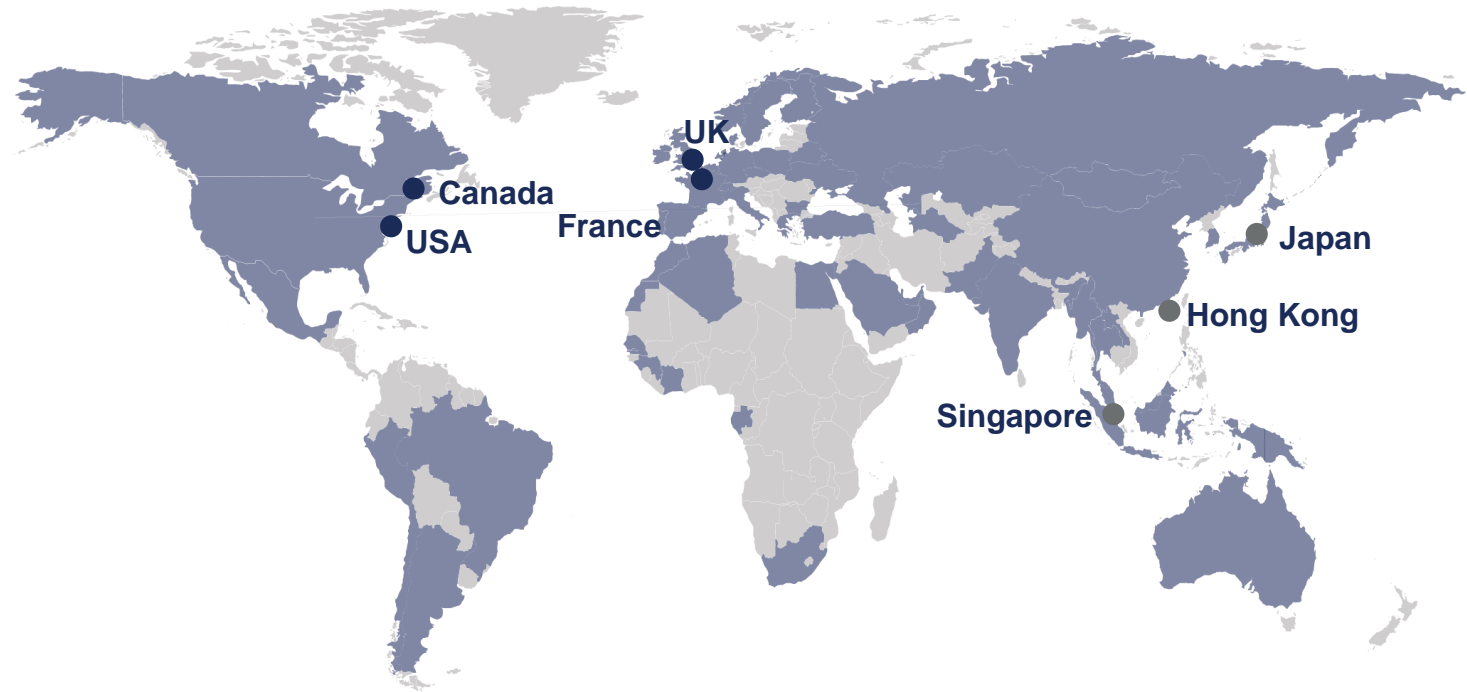
Program management & operations support

Sateconsult
Member of Euroconsult Group



OUR CLIENTS

600 clients in 50 countries – 5 global locations



- Countries in which clients are based
- Office locations
- Representatives



OUR LEADERSHIP

Pacôme Révillon
CEO

Euroconsult CEO since 2004
20 years of experience in strategic and financial oriented process in the space industry



Steve Bochinger
COO

Part of EC Executive team since 2004
20 years of experience ; lead role for institutional and industrial affairs



David Chégnion
Managing Director, Satconsult

Satconsult MD since 2018
25 years of experience in the space industry, with executive positions in leading aerospace groups



Lorraine Whitfield
Chief Events & Marketing Officer

Part of EC Executive team since 2008
20 years of experience in events organization, marketing and sales



Experienced
& international
management team

Nathan de Ruiter
Managing Director, Canada

Part of EC Executive team since 2008
15 years of experience in strategic and financial oriented process



Susan Irwin
Managing Director, USA

Part of EC Executive team since 2010, 35 years of experience in the telecom and space industry



Laurent Valignon
VP Business Development, Satconsult

Part of SATC Executive team since 2008
20 years of experience in the space sector

