

Euroconsult Group
Training

Introducing Euroconsult Group's space training service offering

2021 | 2022

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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 know-how
- Gaining independence
- Installing greater prominence, visibility and credibility amongst the international space community

General service approach

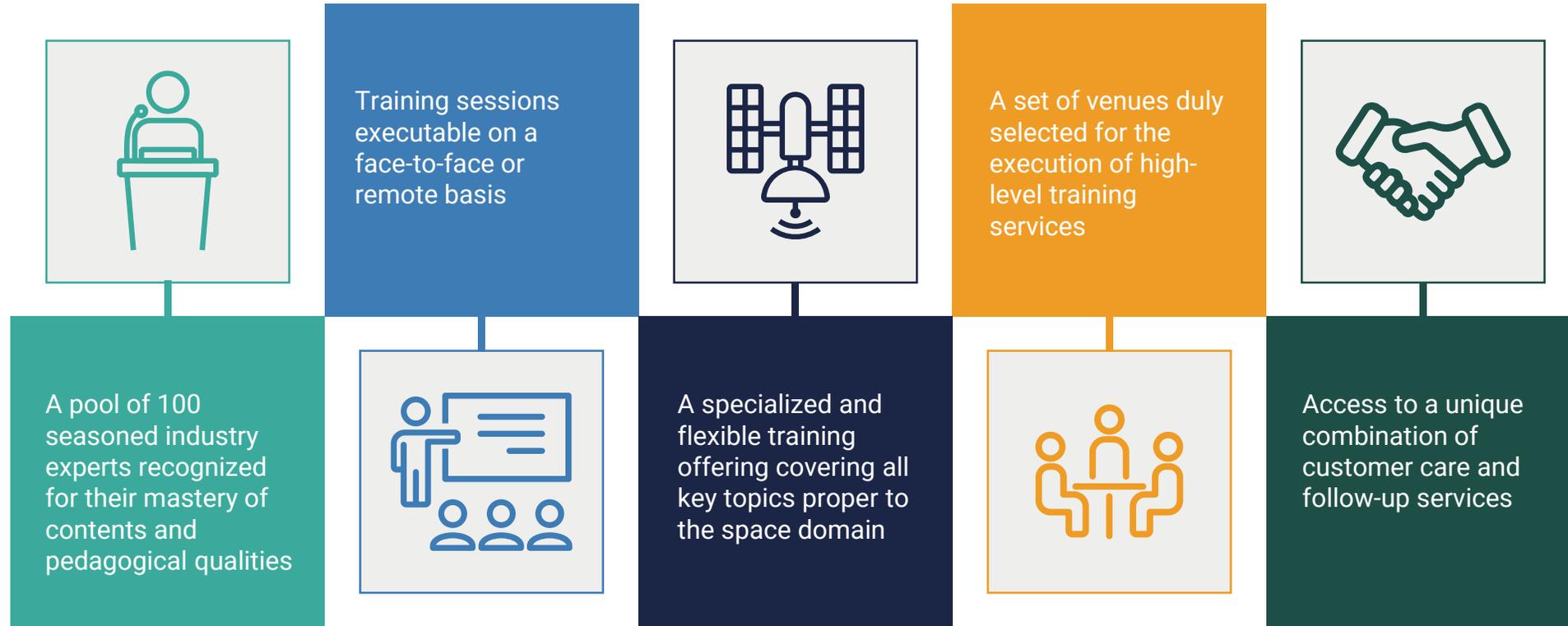
Our training service offer provides **interdisciplinary knowledge transfer to governments, the private sector and not-for-profit organizations wishing to increase their expertise in the space sector.**

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

Key customer benefits



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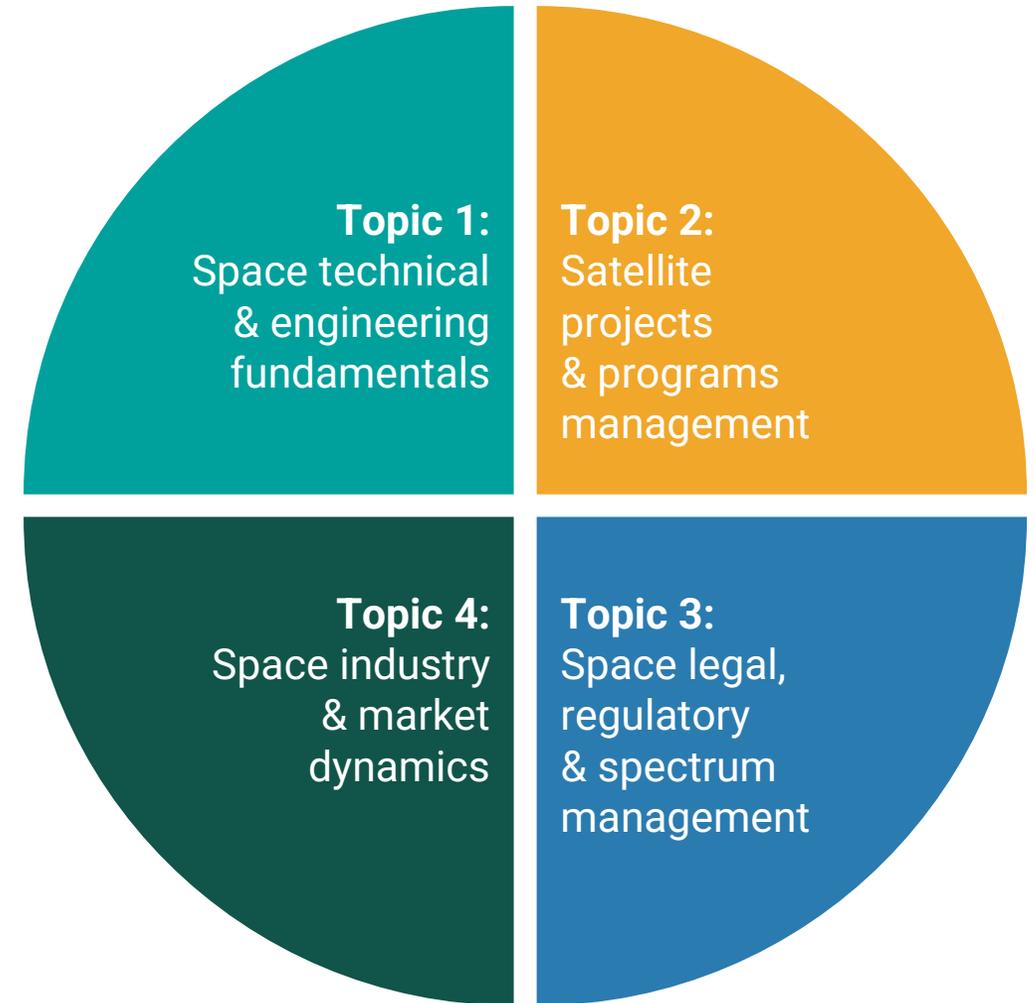
From training topics to delivery modes

Our training service offer is based upon **four main topics** covering, through **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 & spectrum management
- Space industry & market dynamics

...available in **two alternative modes** depending upon customer objectives, requirements, and constraints:

- 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, 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.

Training catalog details

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 & regulations

3.2 Satellite communications regulation

3.3 Satellite Earth observation regulation

3.4 Orbital resources: Regulation & management

3.5 Orbital debris: Regulation & 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 be further

3.2 to 3.5

Connected with

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

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 be 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

COURSE DIRECTOR

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

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 be 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

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

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 be 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

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 be 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. Christophe BONNAL, Senior Expert, CNES

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Your contact point

Mr. Pierre VALENTI

Senior Affiliate, Training Services
Euroconsult Group

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 offering.

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

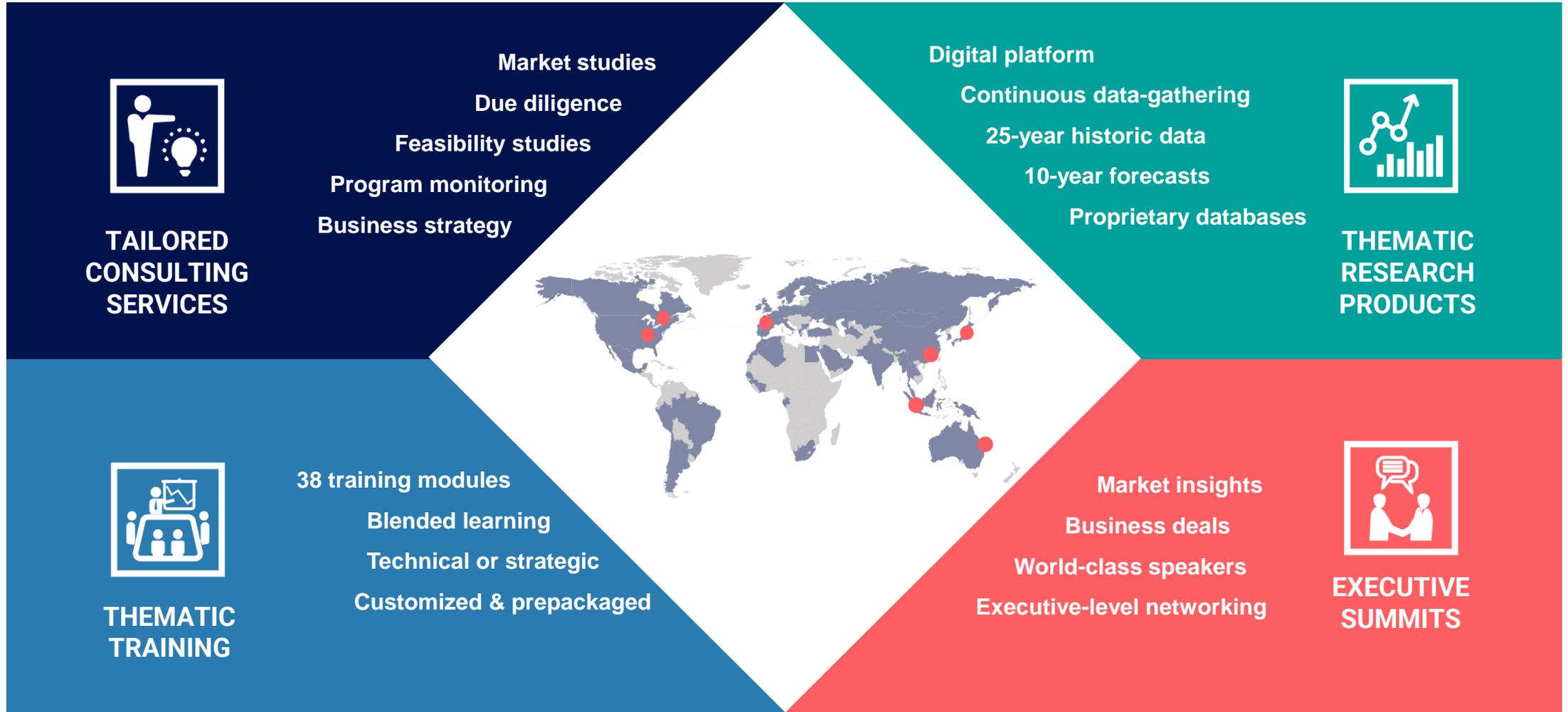
Euroconsult Group is the **leading global consulting group** specializing in the **space sector** and **satellite enabled verticals**.

Euroconsult Group



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

Four complementary activities



Key facts & figures 2020

70+ consulting missions
in **20+** countries

15 market studies
published

600 clients on 4 business
lines

38 years
experience in the business

3 million
Data points collected, monitored and
updated across space markets and
applications

85% of our activity
realized for international
clients

70 experts working over
7 countries

100%
Self-owned

100%
Dedicated to
space

Euroconsult

Our 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

Satconsult
Member of Euroconsult Group

Our leadership



Steve Bochinger
COO

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



Lorraine Whitfield
Chief Events & Marketing Officer

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



Susan Irwin
Managing Director, USA

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

Pacôme Révillon
CEO

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



David Chégnion
Managing Director, Satconsult

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



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



Laurent Valignon
VP Business Development, Satconsult

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



Euroconsult Group

Training



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