INTRODUCING
THE EUROCONSULT GROUP
SPACE TRAINING SERVICE OFFER

TOPIC 4:
SPACE INDUSTRY & MARKET DYNAMICS
2020 | 2021
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:
  
  o 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
  
  o 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:
  
  o Fostering inherent skills and a buildup of how-how
  
  o Gaining independence
  
  o Installing greater prominence, visibility and credibility amongst the international space community
• 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
• 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

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Nb. of training modules</td>
<td>17</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Typical module duration range*</td>
<td>0.5 to 2 days</td>
<td>0.5 to 2 days</td>
<td>1 to 2 days</td>
</tr>
<tr>
<td>Typical contents</td>
<td>End-to-end technical and engineering space industry fundamentals</td>
<td>Space program management topics, from business planning to risk management assessment</td>
<td>Legal, regulatory and frequency challenges impacting business plans, investment and programs</td>
</tr>
<tr>
<td>Available delivery formats</td>
<td>Face-to-face or online</td>
<td>Face-to-face or online</td>
<td>Face-to-face or online</td>
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</tbody>
</table>

* Depending upon customer objectives, requirements, and constraints.
• Structured along a topic-by-topic basis, the following slides provide an overview of each of our 9 individual training modules in terms of:
  o Objectives
  o Prerequisites
  o Related modules
  o Typical duration and delivery format
  o Topics covered
  o 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 4: SPACE INDUSTRY & MARKET DYNAMICS

TRAINING MODULES LIST

4.1 Introduction to the global space industry & markets
4.2 Government space policies, governance & financing
4.3 Satellite manufacturing market & players
4.4 Space launch service market & players
4.5 Ground segment market & players
4.6 Satellite communications services market
4.7 Satellite Earth observation services market
4.8 Satellite navigation services market
4.9 “New space” markets & players
## OBJECTIVE

- The objective of this course is to present the structure and organization of space activities worldwide and the changes in progress in the whole ecosystem, both in the uses of space and in terms of market players.
- Upon completion of this course, trainees will have a better understanding of where their organization is situated in the global space ecosystem.

## PREREQUISITES

- No higher education degree (neither technical nor business) required.

## RELATED MODULES

<table>
<thead>
<tr>
<th>To be mastered</th>
<th>To go further</th>
<th>Connected with</th>
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<tr>
<td>1.1, 1.2</td>
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</tbody>
</table>

## TYPICAL DURATION & FORMAT

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

## TOPICS COVERED

- **The four dimensions of space activities**
  - Satellite services on Earth
  - Space science & exploration
  - Man in space
  - Access to space

- **Overview of the satellite value chain**
  - From satellite systems to satellite services and end-users

- **Changes in the space sector**
  - Disruptive trends along the value chain
  - Impact of “new space” changes on the ecosystem

- **Government and private investors in space activities**
  - Established and newcomer space countries
  - Established and newcomer private satellite operators

- **Space industry to manufacture and launch satellite systems**
  - GEO satellites
  - Small satellites and cubesats
  - Constellations

## COURSE DIRECTOR

- Ms. Rachel VILLAIN, Principal Advisor, Euroconsult
OBJECTIVE

• The objective of this course is to present the structuring role and high importance of government for space activities worldwide in terms of civilian and military expenditures.

• Upon completion of this course, trainees will have a better understanding of the key government investors in space and of their rationale for space development.

PREREQUISITES

• No higher education degree (neither technical nor business) required.

TOPICS COVERED

• Governments investing in space activities
  o To develop domestic technology base and industry
  o To procure operational satellite systems and services

• Governance models of space activities
  o Established space countries
  o Newcomer space countries

• Budgets & programs by domain
  o Space science & exploration
  o Space transportation
  o Human spaceflight
  o Satellite applications: communications, navigation, Earth observation, meteorology
  o Specific military applications: ELINT, IMINT, SSA

RELATED MODULES

To be mastered          To go further          Connected with
4.1                        3.1

TYPICAL DURATION & FORMAT

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

COURSE DIRECTOR

• Mr. Simon SEMINARI, Principal Advisor, Euroconsult
TOPIC 4: SPACE INDUSTRY & MARKET DYNAMICS

MODULE 4.3: SATELLITE MANUFACTURING MARKET & PLAYERS

OBJECTIVE
• The objective of this course is to present the various markets and key players in satellite manufacturing, whatever the satellite application, mass, size, orbit, etc. may be.
• Upon completion of this course, trainees will have learned the structure and organization of the satellite manufacturing industry, as well as its key players with their distinctive offerings.

PREREQUISITES
• No higher education degree (neither technical nor business) required.

RELATED MODULES
To be mastered: 4.1
To go further: 2.4
Connected with: n/a

TYPICAL DURATION & FORMAT
• 1 day (8 hours)
• Face-to-face or online delivery

TOPICS COVERED
• Structure of the satellite manufacturing industry
  o By company: large aerospace contractors, pure players, vertically-integrated satellite operators (satop)
  o By client: government agencies and/or commercial satop
  o By product: satellite platforms, payloads and ground systems

• Technology roadmap per type of satellite systems
  o Geostationary communications satellites
  o Small satellite constellations for communications & Earth observation
  o Cubesats/nanosats for technology demonstration and for operational missions

• Key players by country type
  o Established space country
  o Emerging space country

COURSE DIRECTOR
• Ms. Rachel VILLAIN, Principal Advisor, Euroconsult
OBJECTIVE
• The objective of this course is to present the various markets and key players in space transportation, whatever the orbital destination of the spacecraft may be.
• Upon completion of this course, trainees will have learned the structure and organization of the space launch market, as well as its key players with their distinctive offerings.

PREREQUISITES
• No higher education degree (neither technical nor business) required.

RELATED MODULES
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<th>To be mastered</th>
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<tr>
<td>4.1</td>
<td>1.6, 1.7</td>
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</table>

TYPICAL DURATION & FORMAT
• 1 day (8 hours)
• Face-to-face or online delivery

TOPICS COVERED
• Structure of the space launch service industry
  o Government-backed launch service providers
  o Privately-owned launch service companies
  o Dedicated and multi-vehicle spaceports
• Technology roadmap per type of launch systems
  o Heavy lift launchers
  o Medium lift launchers
  o Small launchers
• Key success factors for launch services
  o Anchor client
  o Launch rate
  o System’s reusability
  o Spaceport

COURSE DIRECTOR
• Mr. Maxime PUTEAUX, Principal Advisor, Euroconsult
OBJECTIVE

• The objective of this course is to present the various markets and key players in the ground segment of a satellite system, either to communicate with a satellite and/or to receive the data from Earth, atmospheric and scientific observation.

• Upon completion of this course, trainees will have learned the structure and organization of the ground segment market, as well as its key players.

PREREQUISITES

• No higher education degree (neither technical nor business) required.

RELATED MODULES

To be mastered

To go further

Connected with

4.1

1.8

TYPICAL DURATION & FORMAT

• 0.5 day (4 hours)

• Face-to-face or online delivery

TOPICS COVERED

• Structure of the ground segment market
  o Value chain in the satellite ground station market
  o Gateways for satellite communication networks
  o User terminals for satellite communication networks
  o Satellite data reception stations

• Technology roadmap for ground stations
  o High Throughput Satellites & broadband constellations
  o Traditional Cassegrain vs. flat electronic antennas
  o Satellite operation as a service, network digitization

• Key players for global ground segment services
  o Incumbent and new pure players
  o Cloud service providers
  o Vertically-integrated companies

COURSE DIRECTOR

• Ms. Rachel VILLAIN, Principal Advisor, Euroconsult
OBJECTIVE

- The objective of this course is to describe qualitatively and quantitatively the various markets for satellite communications (satcom) services and their growth dynamics.
- Upon completion of this course, trainees will have learned the structure and dynamics of key market verticals for satcom services.

PREREQUISITES

- No higher education degree (neither technical nor business) required.

TOPICS COVERED

- Overview of the satcom services market
  - Value chain from bandwidth to managed services
  - Market players: GEO operators, constellations, service providers, end users’ terminals
  - Competition and complementarity with terrestrial networks
  - Changes in satcom services: price, capacity, market access
  - Regional focus on satcom systems & service providers

- Market dynamics by vertical
  - Backhauling & trunking
  - Consumer broadband access
  - Enterprise & government private networks
  - Mobile connectivity (in-flight, maritime)
  - TV broadcasting

RELATED MODULES

- To be mastered: 4.1
- To go further: 1.9 to 1.12
- Connected with: 3.2

TYPICAL DURATION & FORMAT

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

COURSE DIRECTOR

- Mr. Xavier LANSEL, Senior Consultant, Euroconsult
### TOPIC 4: SPACE INDUSTRY & MARKET DYNAMICS

#### MODULE 4.7: SATELLITE EARTH OBSERVATION SERVICES MARKET

#### OBJECTIVE
- The objective of this course is to describe qualitatively and quantitatively the various markets for satellite-based Earth observation (EO) data and value-added services (VAS).
- Upon completion of this course, trainees will have learned the structure and dynamics of key market verticals for satellite Earth observation.

#### PREREQUISITES
- No higher education degree (neither technical nor business) required.

#### RELATED MODULES

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<td>1.14 to 1.16</td>
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#### TYPICAL DURATION & FORMAT
- 1 day (8 hours)
- Face-to-face or online delivery

#### TOPICS COVERED
- Overview of the EO services market
  - Value chain: from satellite systems to data & VAS
  - Data producers: government & privately-owned companies
  - VAS providers
  - Regional focus on EO satellite systems and services
- EO data and VAS market by vertical
  - Satellite sensors and applications by vertical
- Market dynamics by vertical
  - Defence & maritime
  - Agriculture, natural resources & environment
  - Infrastructure & energy
  - Disaster management, insurance & finance

#### COURSE DIRECTOR
- Mr. Alexis CONTE, Senior Consultant, Euroconsult
**OBJECTIVE**

- The objective of this course is to describe qualitatively and quantitively the various commercial markets for satellite navigation (satnav) services permitted by the global navigation satellite systems (GNSS).
- Upon completion of this course, trainees will have learned the structure and dynamics of key market verticals for satellite navigation.

**PREREQUISITES**

- No higher education degree (neither technical nor business) required.

**RELATED MODULES**

To be mastered | To go further | Connected with
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4.1 |  |  

**TYPICAL DURATION & FORMAT**

- 0.5 day (4 hours)
- Face-to-face or online delivery

**TOPICS COVERED**

- **Value chain for satnav services**
  - Government-funded global systems (U.S., Russia, China, and Europe)
  - Regional augmentation systems (India, Japan, ...)
  - Installed base of GNSS devices
  - VAS by vertical

- **Value added services by satnav verticals**
  - Consumer solutions (location-based services)
  - Transportation (road)
  - Other verticals (agriculture, geomatics, ...)

- **Key changes in satnav services**
  - Alternative technologies
  - In-space applications

**COURSE DIRECTOR**

- Ms. Rachel VILLAIN, Principal Advisor, Euroconsult
OBJECTIVE

- The objective of this course is to describe the emerging markets for new space activities and new applications and/or the new players that compete/cooperate with established players.
- Upon completion of this course, trainees will have learned the key markets and players of the new space economy.

PREREQUISITES

- No higher education degree (neither technical nor business) required.

TOPICS COVERED

- Business logic of new space markets
  - Startup fundraising
  - Value propositions
  - Time to market
  - Existing customers or Blue Ocean Strategy
  - Creative destruction
- Key players of the new space economy
  - Venture capital
  - Small satellites and small launch vehicles
  - COTS satellite electronics
  - New technologies
  - Government as a customer

RELATED MODULES

- To be mastered
- To go further
- Connected with

TYPICAL DURATION & FORMAT

- 0.5 day (4 hours)
- Face-to-face or online delivery

COURSE DIRECTOR

- Mr. Maxime PUTEAUX, Principal Advisor, Euroconsult
Mr. Pierre VALENTI
Senior Affiliate
Euroconsult

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.
CONTENTS

Our Training Service Offer In A Nutshell

Topic 4: Space industry & market dynamics

Contact Information

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

- 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**
  - 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.

- **THEMATIC RESEARCH PRODUCTS**

- **THEMATIC TRAINING**

- **EXECUTIVE SUMMITS**
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
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.
OUR CLIENTS

600 clients in 50 countries – 5 global locations

- Government
- Financial institutions
- Service providers
- Satellite operators
- End-users
- Manufacturers
- Launch service providers

Countries in which clients are based
- Office locations
- Representatives

Countries: USA, Canada, France, UK, Japan, Hong Kong, Singapore
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

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

Experienced & international management team