



UNMANNED AIRCRAFT SYSTEMS TRAINING

CLASSROOM: 3-DAYS
ONLINE: 5 HALF-DAYS (MO-FR)

NEW:
Online
training
available



UNMANNED AIRCRAFT SYSTEMS AIRWORTHINESS AND SAFETY TRAINING

Operations of Unmanned Aircraft Systems, through a variety of configurations, applications and types of operations, are increasingly becoming a reality in the world of civil aviation. New European Regulation, based upon risk-based approach, has been put in place in June 2019 and will be applicable on July 1st, 2020 endorsing the three pillars concept of Open, Specific and Certified categories for UAS operations.

EUROCAE (through its dedicated Working Groups, initially WG-73 and WG-93 and WG-105 since November 2016) has played and is playing an active role in the UAS-rule making and standardisation activities. A number of standards and guidelines documents (ED and ER documents) have been already issued to handle various topics relating to UAS Airworthiness and Operational Safety and to enable the safe integration of UAS in the civilian airspace. This training course aims at familiarising the audience with the issues related to the UAS Airworthiness and Safety. In particular, it presents the essential tools to conduct System Safety and Operational Risk Assessment, based upon design and operational risk mitigation measures, which is a key element in getting flight authorization from Civilian Aviation Authorities (in the framework of Specific and Certified Categories, as per EC regulation 2019/947).

Who should attend?

Anyone involved in UAS design, manufacturing and operations who is involved in the process of flight authorisation granting by Civil Aviation Authorities. This includes managerial, technical and operational people (UAS Industry, Operators but also Authorities).

Course content

- ▶ The world of UAS and the world of certification: an overview
- ▶ UAS regulatory landscape and approach

- ▶ A glance at current EUROCAE UAS standards and guidelines
- ▶ Conducting UAS System Safety assessment and Operational Risk assessment (considering risk based approach)

Learning objectives

The purpose of the training is to enable the UAS participants to adopt a standard and regulatory led approach with regard to UAS safety issues, easing the granting of UAS flight authorisation.

The participant will be able to:

- ▶ Describe the UAS regulatory framework and flight approval process.
- ▶ Identify the risks related to UAS operations
- ▶ Apply the risk-based approach based upon design and/or operational mitigation measures
- ▶ Be familiarised with the UAS Safety Assessment process
- ▶ Prepare inputs to Operational Risk Assessment in line with SORA methodology to support the granting of flight authorisation.

Benefits of attending

- ▶ Participants will get a clear understanding of the UAS Airworthiness and Safety Issues and get better prepared to the corresponding issues related to the UAS flight approval process
- ▶ Related EUROCAE ED-ER documents will be brought to life with classroom presentations and exercises.
- ▶ Sharing experiences with colleagues from other UAS stakeholders and countries.
- ▶ Top Level world expert instructor
- ▶ Certificate on completion of the course

COURSE FORMAT: 2 OPTIONS AVAILABLE

Option 1: Online remote training

The training will be led by Mr. Michael Allouche, former EUROCEA WG-105 Co-chairperson, a well-recognised expert in the UAS area. It takes place over five half-day sessions, and will be interactive,

including small group exercises to facilitate learning and enjoyment. The slides will be provided, as well as complimentary copies of the relevant EUROCAE ED-ER documents.

SESSION 1	SESSION 2
<p>Introduction to the course / remote training logistics</p> <p>The world of UAS: an overview</p> <ul style="list-style-type: none">• Different configurations and applications• Unmanned aircraft versus manned aircraft: different and common risks <p>The world of certification</p> <ul style="list-style-type: none">• Certification ingredients• Airworthiness versus Operations• Official bodies and key stakeholders• Regulatory framework & role of standardisation <p>Interactive part</p>	<p>UAS Regulatory landscape</p> <ul style="list-style-type: none">• Review of current basic UAS regulation status (ICAO, Europe, USA)• EUROCAE standardisation efforts - Relevant ED-ER documents• Highlights of Flight Approval Process (Specific and Certified categories) <p>Interactive part</p>
SESSION 3	SESSION 4
<p>System Safety Assessment Process (“Certified” category)</p> <ul style="list-style-type: none">• UAS Safety Assessment criteria• An overview of the safety assessment methods• Function Hazard Assessment and example of UAS applications• Presentation of concluding exercise #1 <p>Interactive part</p>	<p>The Risk Based Approach (“Specific” category)</p> <ul style="list-style-type: none">• “Zoom” on EU/EASA Specific Category Regulation & Requirements• Specific Operational Risk Assessment Methodology - Key concepts and principles - Review of the 10 steps of the SORA process• Example of UAS application• Presentation of concluding exercise #2 <p>Interactive part</p>
SESSION 5	
<p>Review and results of concluding exercise</p> <p>Final test</p> <p>Summary and recap / Open Discussion</p>	

Option 2: Classroom format

The training will be led by Mr. Michael Allouche, former EUROCEA WG-105 Co-chairperson, a well-recognised expert in the UAS area. It takes place over three days, and will be interactive, including

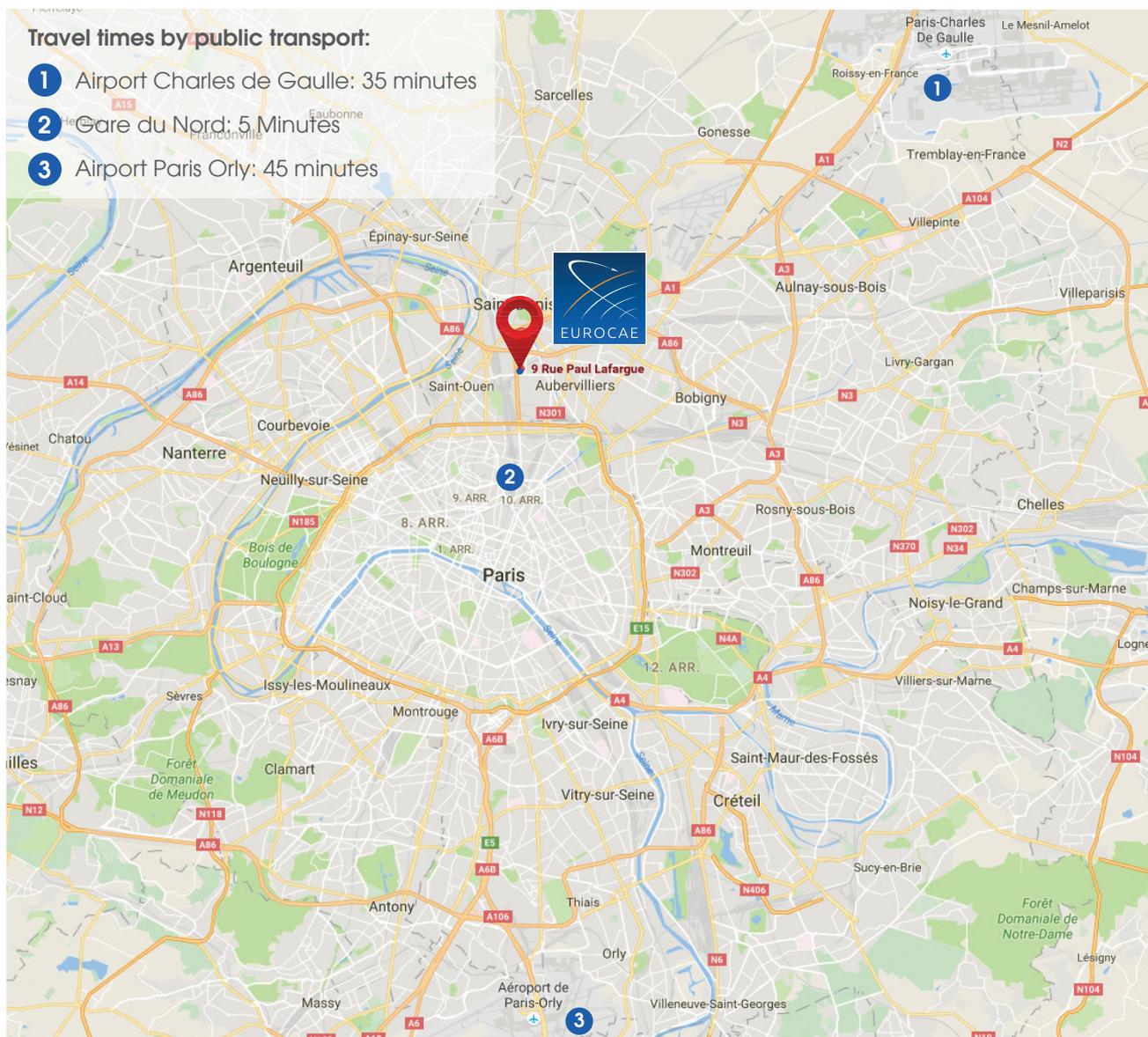
small group exercises to facilitate learning and enjoyment. The slides will be provided, as well as complimentary copies of the relevant EUROCAE ED-ER documents.

DAY ONE	DAY TWO
<p>The world of UAS: an overview</p> <ul style="list-style-type: none"> • Different configurations and applications • Unmanned aircraft versus manned aircraft: different and common risks <p>The world of certification</p> <ul style="list-style-type: none"> • Certification ingredients • Airworthiness versus Operations • Official bodies and key stakeholders • Regulatory framework & role of standardisation <p>UAS Regulatory landscape</p> <ul style="list-style-type: none"> • Review of current basic UAS regulation status (ICAO, Europe, USA) • EUROCAE standardisation efforts <ul style="list-style-type: none"> - Relevant ED-ER documents • Highlights of Flight Approval Process (Specific and Certified categories) 	<p>System Safety Assessment Process ("Certified" category): basics</p> <ul style="list-style-type: none"> • Failure conditions severity classification and safety objectives <ul style="list-style-type: none"> - Conventional "1309" approach - UAS leading particulars • An overview of the assessment methods (based upon ED-135/ED79A) • Function Hazard Assessment and example of UAS applications <p>The Risk Based Approach ("Specific" category)</p> <ul style="list-style-type: none"> • Basic considerations (design and operational risk mitigations) • SORA Methodology outlines • The Standard Scenarios option
<p>(Quizzes proposed each day to ensure active interaction and understanding of the participants)</p>	
DAY THREE	
<ul style="list-style-type: none"> • Example of SORA methodology application <ul style="list-style-type: none"> - SAIL determination - Compliance with relevant SORA Operational Safety Objectives (namely OSO#5 Safe Design) • Group exercises, pending on the time available • Day 1 and Day 2 summary and recap – open discussion • Conclusions & feedback 	

Location

The classroom-training takes place at EUROCAE headquarters in Saint Denis, Paris area. The offices are conveniently located 5 minutes' train ride from Gare du Nord, and 35 minutes by car/rail from Paris Charles de Gaulle (CDG) Airport.

- ▶ Located directly at the RER B station La Plaine, Stade de France.



Course Fees

Classroom format: EUR 2.100 (excl. VAT) for non-members / EUR 1.680 (excl. VAT) for Members

Online format: Cost: EUR 1.680 (excl. VAT) for non-members / EUR 1.344 (excl. VAT) for Members

Classroom fees include training, refreshments and handouts. Note that overnight accommodation is not included, however we are happy to recommend two local hotels within easy reach/walking distance of the offices.

How to book

Places are limited to a maximum of 20 people, so you are advised to book early online here:

<https://eshop.eurocae.net/trainings-and-other-events>

For any additional information please contact Adrian Cioranu, Director, Training and Communications, Technical Programme Manager at Adrian.Cioranu@eurocae.net.

Terms and Conditions

Course Fees: Standard fees for the training course are € 1.680 / € 2.100, excluding VAT. VAT is charged at standard French rate. Please contact us for more details. Fees include refreshments, lunch and course documentation. All course fees must be paid by the due date stated on the invoice. All bookings are provisional and will only be confirmed once payment has been received.

EUROCAE reserves the right to reallocate places if full payment has not been received. Delegates are responsible for organisation and payment of overnight accommodation and any other expenses incurred (eg. travel to/from the venue.)

Cancellations: Cancellations received in writing up to 14 days before the start of the event will be refunded in full less an administrative charge of 10% (+ VAT where relevant). We are unable to refund cancellations received 14 days or fewer prior to the start of a course. However, in such cases and at the organisers' discretion, a place may be offered at a later course. Delegate substitutions may be made at any time, though confirmation of any changes must be received by email or post prior to the start of a course.

Non-attendance: In the event of non-attendance, full course fees will remain payable and no refunds will be made. Changes to Programme or Venue: The organisers reserve the right to make changes to or cancel a published course due in part or in full to unforeseen circumstances or insufficient numbers. In such circumstances, all reasonable efforts will be made to notify delegates of any necessary changes in good time and if necessary to reschedule or to relocate the course. Delegates will be entitled to a refund of the course fee if the course is cancelled or is changed to a date or location which is not acceptable to the delegate. The organisers will have no liability to delegates for damages of any nature arising from the cancellation of a course or from a change in its date, its location or its speakers.