



UAS-related Training and Consultancy: Analysis of the Situation in Southern Italy

By Michele Fazio
Skyline Unmanned Systems, Italy

2013 has been defined the “year of drones”. Starting in 2013, many National Aviation Authorities started to define rules for the use of remote piloted aircraft systems (RPAS) in their respective countries, initially individually, and then collectively relative to creating a European Regulation.

Two services were developed in parallel in Italy, starting in 2013:

- The training of remote pilots for professional and leisure purposes;
- Consultancy relative to the writing of Flight Manuals, Operation Manuals, Technical Descriptions, Experimental Activity Reports, Safety Risk Assessments, Logbooks and related modules.

In the initial phase of the development of the UAS sector, the part relating to parallel services was characterized by an economic value higher than the cost of the device, creating the situation where users interested in using an RPAS for professional use with a commercial value of 250 Euro, had to spend about 2000 Euro* to obtain the relevant qualifications and authorizations.

In Italy, the training of remote pilots for UAS with a MTOM below 25 kg started in 2014 with a simple course of 33 hours with defined contents, enabling all scenarios. The number of hours selected for the training of RPAS pilots was derived from the syllabus of Light Sport Aircraft (LSA) Pilots. This kind of course was sold in Italy between 2000 Euros* in Northern Italy and about 500 Euro* in Southern Italy.

Considering the difference of nearly 100% between Northern Italy and Southern Italy (Lombardia Region Gross Domestic Product per habitant 38095,50 – Apulia Region GDP 18900,00 Euro), the higher cost of some courses in Northern Italy was also justified by the possibility of practical training relating to UAS with a take-off weight higher than 4 kg.

Considering the GDP parameter, it seemed a good approach to have a 900 Euro* course in Northern Italy and a 450 Euro* course in Southern Italy. However, in 2014 this situation created the interest with many aspiring pilots to go to Southern Italy to get the qualification, because the difference in cost between training in Northern Italy and Southern Italy compensated the purchase of the flight and the costs of accommodation.

One way to avoid this substantial difference in price could have been to bring the cost of the courses to an

acceptable value, so as not to make travel justifiable. In 2014, a cost of 450 Euro* for Southern Italy and 700/800 Euro* for Northern Italy, plus the 33 hours training requirement was considered an acceptable price and to not induce aspiring pilots to consider travelling to the Southern Italy to obtain the qualifications.

The advantage of the approach adopted by Italian Civil Aviation Authority in 2014 was that the user attended only one course and had the elements to be able to carry out every operation in VLOS conditions, and it was at the discretion of the National Aeronautical Authority to request further training, depending on the authorized scenario.

Therefore, based on the 2014 scenario, the procedure that provided for compulsory training for professional drone activities and the choice to delegate leisure activity exclusively to areas outside inhabited zones seemed to be a good approach. Among other things, the Italian Civil Aviation Authority and the structures involved in the theoretical training managed to create a situation whereby «even if the theoretical training was not mandatory», the users registered en masse for the courses aimed at obtaining the title, even including users exclusively interested in following a course to increase their knowledge of the sector.

Theoretical training was not compulsory, as the regulation in force at the time implied that the operator had to contact a recognized authority «if he did not have the ability to train internally», making it clear that only the examination was mandatory.

In 2016, the Italian Civil Aviation Authority tried to structure the training, introducing new professionals such as the UAS Examiner, the Safety Adviser, the Practical Instructor, the Head of Training. This mechanism has favoured companies in Northern Italy, located in a more favourable territorial context, while disadvantaging companies in Southern Italy, which, in order to be sustainable, had to keep prices low.

In this phase, the cost of courses increased from 450 Euro for each pilot to 1400 Euro and then dropped again after about a couple of years to a cost of 450 Euro for pilot courses, but with tripled management costs.

The new approach provided implied a 16 hours theoretical course and 5 hours of practical training (30 missions of at least 10 minutes) for non-critical operations, alternating with 6 hours of autonomous practical training (36 missions of at least 10 minutes) and followed by 12 hours of theoretical course and 6 hours of practical training (36 missions of at least 10 minutes) for critical operations. At

Note:

* The amounts are indicative as an average value

this stage, the Italian Civil Aviation Authority neglected, in my opinion, the training of the UAS Examiners.

Skyline has changed UAS Examiners approximately seven times. Often these Examiners had no aeronautical technical background and had obviously gained their expertise in the model aircraft world. The aspiring pilots were asked to conduct complex manoeuvres, but not so many questions were asked about the technical documentation and the compilation of technical forms. Skyline has had external UAS Examiners, a different approach from other Recognized Entities, which often had internal UAS Examiners.

The publication of the European Regulation 947/2019, limited to OPEN scenarios, has greatly reduced the profit margins in the UAS training business, culturally creating a trend where, unlike in 2014, even then the course was optional. In this case, users tend not to take courses, but to carry out the online exam directly. The simplicity of the questions asked also contributed to this aspect.

Furthermore, at the end of the transitional period, the OPEN scenarios will cover a large part of the training needs in the UAS sector. In fact, it is believed that there will be a decisive collapse relative to those who will decide to achieve STS qualifications, unless the police forces will begin to carry out serious checks on compliance with the provided distances, on the delimitation of areas and on the implementation of safety and mitigation measures on the ground (consider the OPEN A2 scenario and the application of the 1:1 rule for a flight at 120 meters AGL), and above all if public tenders will not make necessarily and compulsorily ask the possession of an STS qualification and related authorization mandatory.

A number of proposals that could boost the sector are:

1. The limitation of the OPEN category to natural persons (actually in Italy on the D-flight website there are companies accredited as OPEN operators);
2. The identification of 3 distinct qualifications for the OPEN category (A1, A2 and A3) and to not include A1 with A3;
3. To carry out the exams strictly at recognized entities, including A1 and A3 exams;
4. The redefinition of the planned programmes (for example insert "batteries" in the OPEN A3 program, considering that we are talking about UAS weighing up to 25 kg);
5. The theoretical training is provided with the same approach implemented in Italy for the courses on General and Specific High Risk Training** for Legislative Decree 81/08 (16 hrs for module, average cost 150 Euro* including final exam). This way, even considering a 100% difference in GDP from Northern to Southern Italy, the difference of about 100/150 Euro will not justify

- going to Southern Italy to follow the course there;
6. Mandatory STS scenario in public procurement;
7. The definition of trainer requirements (an approach similar to the Italian D.I. 06/03/2013 at a European Level is suggested)

The numbers reported concern a mixed trend between the two practical training centres of Montalto Dora (near Ivrea) and Toritto (near Bari).

In Italy, the history of consulting organisations begins in 2015. At that time, the Italian Civil Aviation Authority defined the possibility for some organisations to become accredited as approved Consulting Organizations. About 10 companies were authorised, but after about 12 months, the entire category was removed. Skyline was the sole company authorised by the Italian Aviation Authority in Southern Italy. These organisations were a lightweight form of Qualified Entities and their purpose was to collaborate with UAS Operators in defining the content of technical documentation to exercise the profession of UAS Operators (Flight Manuals, Operations Manual, Technical Description, Experimental Activities).

The cost of consultancy to support UAS operators in obtaining authorisation in critical scenarios started with a value of about 1200 Euro* per consultancy (excluding Italian Civil Aviation Authority costs) and then collapsed with the elimination of consultancy organisations and the publication of standardized fillable manuals from private companies and associations. This situation has effectively destroyed the sector and reduced investment opportunities.

A solution to give a new impetus to this sector could be the following. Considering that Recognized Entities already exist in Italy, it would seem inappropriate to create a new category for consulting organisations, but it would be a good approach to delegate them some privileges:

- The obligation of performing experimental activity for UAS Operators using UAS with a take-off weight of more than 4 kg at a Recognized Entity before starting the professional activity (also suggested for the OPEN A3 category);
- The obligation to draft the Operations Manual at a Recognized Entity for organisations with a number of employees greater than 3 (the Recognized Entity will become a supervisor);
- The obligation to define the Technical Manager and the definition of the requirements of the Technical Manager for UAS Operators with a number of employees greater than 3 (one pilot, three observers for example).

The quantity of 3 employees has been suggested, considering that a UAS operation involving more

Notes:

* The amounts are indicative of an average value

** It has been considered "General and Specific High Risk Training" exclusively for the number of hours, in Italy the General and Specific Risk training is divided in:

- 1) Low risk category (8 hours mandatory training minimum, UAS Operations have been included in this field);
- 2) Medium risk (12 hours mandatory training minimum);
- 3) High risk (16 hours mandatory training minimum).

16 hours are considered to be adequate to cover all topics of the OPEN category as reported in the Reg. EU 947/2019. The classification of the presumed risk level is based on the Italian ATECO, equivalent to NACE (Statistical Classification of Economic Activities in the European Community, or "Nomenclature statistique des activités économiques dans la Communauté européenne").

than 3 people requires more attention to defining the communication procedures and protocols.

In this way, the Recognized Entities will become a reference for the NAA, reducing the distance between those who practice the profession of UAS Operators and the legislator. The proposals presented in this article, combined with the description of the historical evolution of the UAS business in Southern Italy, serve to propose solutions deemed to improve business, in order to give a new impetus to the sector.

The author underlines that this article has tried to summarize situations of general nature, focusing on the OPEN category and STS Scenario for VLOS flight, which will most probably cover a high percentage of UAS operations. No in-depth analysis of specific training and of technical consultancy for not-standard scenarios has taken place. Recognized Entities are invited to contribute with constructive proposals.

Michele Fazio
CEO & Founder
Skyline Unmanned Systems
Italy
skylineuas.com
dronemploy.me

