



# UNMANNED SYSTEMS



Organized by:



Supported by:



## **INDEX**

- The sixth edition of the largest drones' event in Spain will take place in Santiago de Compostela 3
- Ten years of success on both sides of the Atlantic 4
- The Civil UAVs Initiative - Galician Aerospace Pole 5
- A safe business space 6
- A year of online meetings 7
- The drone industry, a sector in continuous growth 8
- Increasingly sophisticated and with more applications 9
- Integration into airspace, the great challenge 10

## **The sixth edition of the largest drones' event in Spain will take place in Santiago de Compostela**

The sixth edition of the largest professional event devoted to Remotely Piloted Aircraft Systems (RPAS), better known as drones, organized by IDS in collaboration with the Xunta de Galicia, through the Galician Innovation Agency (GAIN), will take place in the **Cidade da Cultura** of Santiago de Compostela, from 6th to 8th of October 2020.

UNVEX will once again bring together professionals from this market, with an eye on the main challenges for the coming years. This time with special attention to the use of this technology in the public services that the Public Administrations provides to the citizen, in its aerial, terrestrial and naval domains.

The event includes a complete cycle of conferences in which experts will debate on regulation, technology and the different uses of remote piloted vehicles in commercial, security and defence uses.

UNVEX 2020 will count with an exhibition area in which large companies, as well as small and medium-sized companies, entrepreneurs, universities, research centers and service providers, who play a determining role in this sector, will participate. The exhibition will have an area properly prepared to see small drones in action.

To finalize the event, there will be a full day dedicated to demonstrations of the most sophisticated systems and bigger vehicles to take place at the Aerial Innovation Center of Rozas, located in the Rozas' aerodrome (Lugo) that is part of the Aeronautical Hub of Galicia.

### **Organizers**

#### **IDS:**

IDS is a Spanish company dedicated to communication and organization of events. Originally specialized in Defence and Security, it has extended its specialization to Space and Unmanned Systems industries. In the drones segment, IDS has a specialized media: Infodron.es, and organizes professional events, such as UNVEX, not only in Spain, but also in Latin America.

#### **GAIN:**

The Galician Innovation Agency (GAIN), attached to the Ministry of Economy, Employment and Industry of the Xunta de Galicia, leads the innovation policies of Galician public administrations and stimulates the consolidation of the Galician R&D System.

GAIN has launched the Civil UAVs Initiative, for the use of unmanned aerial systems in the civil field and the improvement of the provision of public services within the framework of promoting the development of an aeronautical pole of European reference in Galicia.

## Ten years of success on both sides of the Atlantic

Santiago de Compostela will host the sixth edition of UNVEX in 2020 on its tenth anniversary as number one meeting of the UAV/RPAS/Drones industry in Spain. In this edition, UNVEX will focus on the use of the drones in the services that Public Administrations provide to citizens.

Over the years, UNVEX has become a reference event for remotely piloted vehicle's professionals in Spain and Latin America, where it has already been held in Peru, Colombia and Chile.

IDS organized the first edition of UNVEX in Madrid, driven by the need to promote an industry that was beginning to consolidate itself as a technological booster and generator of a new world market.

In these ten years, national and international experts have exchanged their knowledge on this new technology, the challenges in its use, such as regulation, and its multiple applications. UNVEX has become a necessary meeting point for researchers, developers and industry that jointly respond to the increasing solutions that users demand.

More and more sectors are using RPAS or drones to improve the quality of their services, such as infrastructure inspection, agriculture, surveillance, emergencies, transport and, above all, audiovisual and cartographic work. Most of the systems used for these tasks are aerial, but land and naval vehicles are becoming also important, especially in emergency or search and rescue work. All these applications and all these devices will on display in the sixth edition of UNVEX.

### Industry support

Since its creation, the event has had the support of UAV or RPAS national and international industry, which on every edition has attended the biennial event to display their innovations at the exhibition, explain their solutions at conferences and demonstrate their capabilities.

In previous editions, not only Spanish companies participated, but also the main international companies, without forgetting the universities and research centers that are real promoters and generate a large number of entrepreneurship.

At UNVEX 2018, held in León, more than 40 companies and institutions exhibited, including the main manufacturers and suppliers, private and institutional users and the organizations responsible for the development and financing of these systems. The cycle of conferences counted with 86 speakers and more than 750 delegates.

## The Civil UAVs Initiative - Galician Aerospace Pole

The **Civil UAVs Initiative** is a pioneering strategic initiative in Europe promoted by the Xunta de Galicia with the aim of developing the unmanned vehicles (UAVs) industry around the **Galician Aerospace Pole**.

Developed through **Public Procurement of Innovation (PPI)**, the Civil UAVs Initiative has favoured the establishment of large companies and the growth of SMEs in the sector for the development of **joint R&D programmes** and innovative technology solutions, which allow providing better and more efficient public services.

In addition, the initiative contributes to the establishment of **businesses in the industrial park of the Rozas aerodrome**; the Business Factory Aero has been created for the incubation and acceleration of high-tech companies; and an innovation ecosystem has been created, capable of generating new ideas, attracting, and retaining **talent**.

These programmes are materialized in more than 35 R&D&I projects under development: real **solutions and products** with which the Xunta de Galicia acts as the first customer, tester and validator. In this way, it supports the positioning of the technological results obtained in the national and international markets.

The initiative, which is funded by the Xunta de Galicia and two ERDF funds (Ministry of Defence and Ministry of Science, Innovation and Universities), brings together more than 50 agents with contracts, participating in the different projects, including three technological partners that act as driving companies: the multinationals Indra, Babcock and Boeing; the Galician business network (high-tech SMEs) and knowledge centres, such as technology and research centres as well as the three Galician universities.

All these projects have the support of the Rozas Airborne Research Centre, created between the Xunta de Galicia and the National Institute for Aerospace Technology - INTA - of the Ministry of Defence, as a test centre that aspires to become a reference in Europe in the certification of unmanned aircraft and which has a control tower with the most advanced technology in Spain.

Thanks to a model of public-private collaboration and the procedure of co-design of solutions carried out in the Civil UAVs Initiative, Galicia is today a benchmark on the map of aerospace innovation and in the unmanned aircraft segment.

The Aerospace Pole will allow Galicia to take off definitively as an innovative ecosystem linked to this sector, which is playing an increasingly strategic role in the development of the industrial fabric and the labour market.

For a more innovative Galicia.



MINISTERIO  
DE CIENCIA, INNOVACIÓN  
Y UNIVERSIDADES



XUNTA  
DE GALICIA



FONDO EUROPEO DE DESARROLLO REGIONAL (FEDER)

*Una manera de hacer Europa*

## A safe business space

- UNVEX 2021 will apply the latest stringent anti-COVID-19 regulations in all its venues and activities to ensure the health of all participants.
- The lecture series has been reorganized to comply with the permitted capacities and to guarantee the hygiene of the rooms.

**UNVEX 2021** comes at a vitally important time for the drone industry. The COVID-19 crisis has shown the usefulness of drones and autonomous systems to perform essential tasks in critical conditions, from disinfection to surveillance or transport. On the other hand, the standstill in European legislation has created uncertainty and stalled some projects. The year 2021 promises to be particularly important for a sector that thrives on small and medium-sized enterprises.

The sixth edition of UNVEX had to postpone its dates to July 2021 due to the health crisis. The organizers are now maintaining the event under the strictest security measures so that professionals can meet in optimal conditions.

The procedure designed by the organizers, in addition to requiring basic rules regarding the use of masks, social distancing and hand cleaning, includes online registration with full identification and temperature control for access to the venue. As for the exhibition site, the exhibition routes will be signposted and the cleaning of stands and common areas will be continuous.

The lecture series has also been readjusted to allow the rooms to be sanitized after each session and the permitted seating capacity will be complied with by controlling access and seating with the required distance.

The same will be the case for the demonstrations, which will only be accessible by transport provided by the organizers, in order to have greater control over the number of people attending each session. In each of them, all the rules plus those applicable to the venues themselves will be maintained.

### **It is time to do business**

The organizers of UNVEX 2021 have wanted to keep this event in these exceptional circumstances, understanding that companies need and want to get back in touch with their customers as soon as possible, obviously with maximum security guarantees.

Technology advances in the face of crises, hence the need for the sector to reactivate itself and display its latest developments and how much it can contribute to the services that the Administration provides to citizens.

UNVEX 2021 will be the largest edition ever held and it will do so with full health guarantees, in the best conditions for all participants.

## A year of online meetings

- UNVEX live is the virtual meeting point for the industry.
- Webinars have been held with the event's sponsoring companies and newsletters feature leading industry experts.

**UNVEX 2021** has been a long road. The event was affected by the Covid-19 pandemic and has had to reinvent itself throughout this year to remain the meeting point for the drone industry in Spain.

UNVEX has created a series of tools to provide industry professionals with a regular and periodic form of communication through webinars, newsletters, a professional forum and a virtual exhibition, which are framed in the **UNVEX live** tool.

The tool was inaugurated in an online event with the second vice-president and regional minister of Economy, Business and Employment of the Xunta de Galicia, **Francisco Conde**, the secretary general of Transport and Mobility, **María José Rallo del Olmo**, and the deputy director general of Programmes of the Directorate General of Armament and Material, **Major General Salvador Álvarez**, together with the companies sponsoring the event, which was attended by more than 220 people for almost two hours.

Half a dozen webinars were organized at UNVEX live, with an average of 150 attendees, including professionals and industry. These online seminars, led by the companies sponsoring the on-site event, were also attended by users of these systems and experts from the institutions responsible for regulating this sector.

UNVEX live's **weekly newsletters** are made up of a case study of one of the companies that will participate in the July event in Santiago de Compostela, opinions on relevant topics for the sector written by the leading experts in each subject and the most relevant news of the week.

This tool has an average of 24,000 visits per month and more than 3,500 visitors, with an increasing number every week.

## The drone industry, a market in continuous growth

The industry of the remotely piloted vehicles or drones has experienced an important growth in the last years. A market in constant growth that increased its business in the last years thanks to innovation and entrepreneurship.

In the last decade, the number of users has multiplied, as well as the number of manufacturers and service providers, which has meant an important progression with a huge growth forecast for the coming years.

In Spain, the Ministry of Public Work and Transport published, in 2018, the *Strategic Plan for the development of the civil sector of the drones in Spain*, a study that shows the economic perspectives of the sector at both Spanish and European level. Thus, the Ministry forecasts that in 2035 in Spain there will be about 51,000 drones or RPAS and that the sector will generate 1,220 million euros of business a year and creates 11,000 jobs.

From 2035 onwards, it is expected that the sector will continue to evolve, but at a more moderate rate than it is currently doing.

At European level, future forecasts are much higher, since the EU is the third producer of these systems and the third region in number of users. It is expected that, in 2035, there will be more than 400,000 users of this technology in Europe, with a market that will reach a turnover of 10,000 million euros per year and that is expected to generate 90,000 jobs.

### Spain

Spain ranks fourth among European countries in the number of drone manufacturers. A market made up of two segments: design and manufacturing and professional services.

Within the first segment, Spain has more than 50 companies dedicated to the design and manufacture of unmanned systems and vehicles, placing the country in ninth place worldwide. These manufacturers are divided into large companies, such as Indra, Airbus and Thales Spain or midcaps such as Everis and Aertec that have in their catalog different systems, and small and medium-sized companies specializing in the design and manufacture of drones or components for specific services or users.

The commercial use of drones in Spain focuses on photography and filming, as well as cartography, however, in recent years, agriculture, infrastructure inspection, surveillance and, above all, in emergencies and rescue are growing. Large electric providers, construction, transport and logistic companies are developing projects to operate these systems in the most routine or dangerous tasks.



## Increasingly sophisticated and with more applications

UAV, RPAS or Drones are sophisticated vehicles, but they are becoming increasingly easy to use. Their design uses all the new technologies that allow multiple applications with a high degree of efficiency.

The *Strategic Plan for the development of the civil sector of drones in Spain*, published by the Ministry of Public Work and Transport, studies the main future applications of these systems, taking into account the growth scenarios for Europe and listed the most promising uses of these systems in the next 30 years.

The market segments with higher demand to incorporate remotely manned systems with more technology are Security, Defense and Emergencies. The incorporation of UAV (Unmanned Aerial Vehicle), UGV (Unmanned Ground Vehicles) and USV (Unmanned Surface Vehicles) in their operations reduces the risk of police, firefighters or military and increases the possibilities of operate extremely dangerous scenarios.

In the case of public security, numerous law enforcement agencies have incorporated unmanned aerial systems into their vehicle fleets to control mass events and to improve surveillance and rescue efforts.

If we talk about Emergencies, in recent years, we have witnessed the incorporation of drones for the control of large forest fires to have a better situational awareness and develop operations more efficiently.

### **Mobility and trade**

Today, sustainable mobility is a popular topic, as well as online shopping deliveries, which have skyrocketed in recent years. Although passenger air transport is at an early stage of development and therefore considered a medium/long-term application, autonomous land mobility is already a reality.

On the other hand, the transport of goods with drones has already begun in countries such as the United States, where some large courier companies are experimenting the deliveries using drones.

### **Other applications**

Agriculture is incorporating drones and RPAS to better knowledge the quality of the land and its crops, and to study their evolution in a more effective way, but for some years now RPAS have also begun to be used for forest control and even reforestation.

Mining, construction, energy, telecommunications and real estate sectors will also benefit in the immediate future from the autonomous systems.

## Integration into airspace, the great challenge

Legislation has been a major concern for the sector since the appearance of the first UAVs or drones. With such a disruptive technology, the authorities regulating air traffic are trying to find ways to ensure the necessary safety.

Last May, the European Commission approved a new regulation to standardize the traffic of remotely piloted systems in Europe within the so-called European airspace. With this new regulation, the EU aims to maintain a high level of safety without slowing down the development of this industry and to boost the competitiveness of the Union's aeronautical industry.

The requirements include the registration of all autonomous systems regardless of their weight and use. However, drones weighing less than 25 kg may fly without prior authorization as long as they fly below 120 meters in height and that the operator has visual contact with the aircraft.

The EU leaves it to the national authorities to dictate the specific rules for their no-fly zones where they can prevent drones from entering.

### **U-Space**

The great legislative debate is the integration of these aircraft into airspace, so the EU is developing the so-called U-Space that will manage the safe insertion of all types of unmanned or remotely piloted aircraft into European airspace.

The first step in achieving the efficiency of this space is the registration and identification of all air vehicles, as well as their geolocation in order to control their position at all times.

The second step focuses on the management of drone operations including flight approval and subsequent monitoring, within a dynamic airspace information.

The next two phases are more complex and include management capacity and assistance for the detection of conflicts and the definitive integration of drones into airspace.