

# DRONES

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# WORLD

## TRACING THE GROWTH OF UAV WORKS



In conversation with  
**Mr. Ankit Kumar, Founder,  
Alternative Global**



# Tracing the growth of UAV works.

## Drones World Editor-in-chief Kartikeya in conversation with Mr. Yago, the company founder.

**Hello Mr. Yago. Why don't you introduce yourself to our readers? How did your professional journey begin right after your college days? How did you get to the position where you are now?**

Well, it has been long time since my college days. I am 47 now and I consider myself a very lucky man as I could always work exactly in all I loved to do. My first company

was created from my degree final project in 1996, a tech company. In 2 years we were 30 people in the company and its equity reached 4 million €. In 2000 I was hired by Estrella Galicia (you can see this company now as one of the Formula 1 team McLaren's sponsors) working within the General Direction. In 2005 I then decided to change the professional sector creating an aviation company initially as Approved Training Organization

and then in 2014 as an aerospace engineering company. I am also Air sportsman achieving 2 Gold medals in Spanish Championships (2017 & 2019) and 2 Silver medals in World Championships (2017 and 2019).

**What sparked you to come up with the idea of UAV Works? What struggles did you face while upbringing UAV Works to the position it is now at?**

The idea came out when I met my partner David Ortiz in 2014. When he told me his idea of designing and building VTOL airplane, I immediately understood the benefits in terms of efficiency. During my professional life I learnt that behind an idea, must be the right team and persons. Human factor and talent are the master keys of guaranteeing any success. Then I met Salva Puig and I decided we could make a great team for a challenging project. Today I



consider them Supermen. They, and now Lucas, are the best persons with the best attitude to face such a challenging project. Now I can say that because I saw them facing huge technical projects without hearing the fatal words “this is impossible to do it”. Hundreds of problems were solved in the last years during VALAQ development. Their huge talent and their right attitude to face every problem made it possible. When you see David learning programming from zero and in 4 months transforming complicated algorithms into C++ code to make work a critical flight control system in the autopilot. Salva learnt to design complex PCBs in 6 months and when he received his first manufactured PCB boards set and they passed all tests with no errors doing what it was expected they had to do, you just can say: “ok, this persons are not just like we all. Now I know this is going to work”.

The most important is that we have an aircraft that has more range and flying time that any other in its category. An aerospace engineer will understand why just by seeing it flying. But this is just a tool, you need to add another tools (payloads) to comply with specific functions, and this finally bring us a solution. This is exactly what we offer. Just solutions, this is the most important thing.

**What are the various products that you are currently offering? Are you working on expanding your product portfolio?**

Right now we offer two products, VALAQ Patrol and VALAQ Mapper. VALAQ Patrol is a 4 kg UAV specifically designed for surveillance, security and defense. Its payload is the gimbal Colibri 2 from Nextvision Company. This is the lightest gimbal with the best performance in the world. A perfect tool for any police body or security agency. It is versatile; you can carry it in the



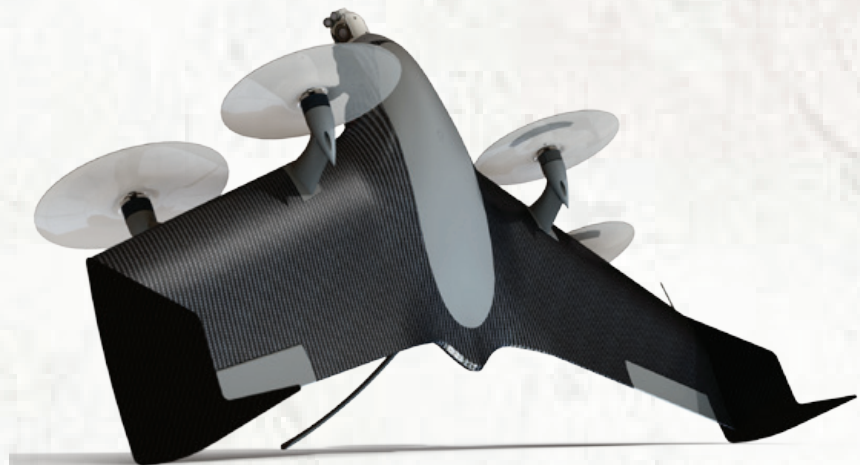
rear seat of any small car, and in 5 minutes is airborne. Its x40 zoom and its thermal camera will do the job. For following moving vehicles, objects or persons it offers autotracking feature. And the best of all, you'll get more than 45 minutes at 70 km/h speed

with a datalink video streaming of 15 km radius, or unlimited if you get 4G/LTE connection.

Another VALAQ Versions are being developed like VALAQ Courier for delivery purposes and VALAQ Inigne, which it will offer a firefighting solution for minimizing fire reignitions during a fire extinction. For this versions we are developing VALAQ 360 the big brother of 25 kg MTOW.

**How did you come up with the idea of 'Valaq'? Why a Tail sitter Hybrid VTOL? How do they differ from Multirotors and regular fixed wings in terms of flight characteristics and other parameters?**

We start from the principle that a helicopter/multicopter needs too much of energy to fly. When it moves faster it consumes even more because of drag. A fixed wing is 3 to 5 times more efficient, but you don't have the VTOL feature. An electronic engineer would design a fusion between both. Get a multicopter and attach a wing to the frame and you'll get something like a bit efficient than just a multicopter. Even though it is something an aerospace engineer would never do. They would find another solution like tilting the engines 90° from up side to front





side. This is a perfect solution but it has a critical disadvantage: it is complex to manufacture and it requires obliged maintenance to avoid fatigue brokerages. David and Salva definitely went for simple and non complex mechanical parts in their preliminary design. This was completely challenging as all should be solved in the autopilot's programming. This is the core of VALAQ solution. This is the reason why the wing takes off vertically and then makes a transition from hover mode to plane mode. It does it just perfect. As smooth as perfect.

**Seems like you have got competition from other tail-sitters. How does the offerings in your Valaq range compete against them? Is it possible for you to reveal the prices of the products for our readers?**

Market will grow more and more every six months. We don't see others that got the same technology as a direct competitor, in terms of sales threat. Price is a way to compete but also post selling service is another key factor. We are focusing on giving the best customer service

possible. Customers need a solution that must comply with their requirements. They want a product with quality, accuracy in the operation, robust, but also that someone solves their problem when needed. We'll be there to help at the front line. For example, if a customer needs an aircraft spare plastic part, we can provide in less than 8 hours any broken part providing with a spare part built in a local 3D SLS provider near customer location. And we can do that in any part of the globe independently our factory plant is located in.

No problem with prices. It depends of options but Mapper is at the price of 20.500€ and Patrol at 39.500€

**Are you planning to expand UAW Works' portfolio into services as well? Would you like to set your foot on Indian soil anytime soon?**

Yes. We are waiting for delivery market. It is still too immature and we need to wait for the regulations to be more stable in most countries, but as manufacturers we will become operators of delivery nets for medium and long ranges of courier shipping. As manufacturers we can provide best service at the lowest cost per hour flown. We have many ideas about it.

**What is your prediction about advancements in the UAVs in the next 5-10 years? Do you think Hybrid VTOLs and Tail-sitters are going to take-over traditional fixed-wings and multirotors?**

Well I don't have a crystal ball but I assume that every product has its mission and function. If you need an UAV for pure efficiency and very long range and you don't need VTOL feature, you better use a fixed wing for it. If you need a

static drone for filming the best images and videos you will use a multicopter. VALAQ concept will give you what other can't give you. Each design and concept must be relocated for its specific use and it will take some time to reorder all in the market. This is part of the market development itself.

**Where can we find you when you are not around your UAVs?**

Hahahaha. Two possibilities, or flying with my own aircraft or spending time with my family.

**Do you have any suggestions about who can enter into the UAV Industry? What are the future opportunities for them?**

There's something that is called Applicability Index. There are thousands of unknown applications out there that are possible to be made with drones. This new applications will come out progressively as each sector, organisation or professional, find and realise by themselves that can be made with drones. We, manufacturers, receive those inputs from those collectives. I'll give you an example; last week we received a call from an international association of merchant vessels operators. They found that a huge problem would be easily solved by drones. Their need is simple: they often have send and transport objects, money or documents, from vessels to other vessels or from vessels to earth and vice versa. They want to create their own drones net to give a solid solution. Would you ever imagine this would be interesting anyhow? I bet you don't. This is what I mean. The applicability index will be increased as traditional professionals by themselves find drones useful to cover their needs. Answering your question: anyone can enter into UAV industry, but it will take time for sure.