TAKING DRONE SAFETY SERIOUSLY

The chief executive officer of NZ Drones may be only 19 years old, but he's taken on his responsibilities regarding safety like someone who's grown wise with years of experience and close calls.

At 16, when most are considered to be way off adulthood, Jack Scott established his own drone photography company. It brought together a lifelong fascination with model aircraft and enthusiasm for videography.

Since then, NZ Drones has become Part 102-certificated, with Jack leading the development of the company exposition. He's attended numerous UAV operating and aviation safety courses, completed a drone night rating course and is working towards his PPL to improve his aviation knowledge.

Jack's incorporated SMS principles into the NZ Drones ops manual, even though Part 102 organisations are not required to.

"I've got a really strong attitude towards safety," he says.

"I regard drones as I do manned aircraft: if you're flying over people and property, or in the same airspace as manned aircraft, and you lose control of the C2 link[1], the result could be catastrophic."

To the disgruntlement of an early client, he turned down a well-paying job of operating a drone over a street parade – on safety grounds.

And another client, a real estate agent, wanted a view of the property he was selling, that would have required Jack to fly into the confines of the airport, and potentially into conflict with manned aviation.

Again, he refused to undertake the assignment because he felt there was "really no safe way to do it".

As noted in his nomination for the CAA's inaugural Young Aviation Professional Award in 2019 (he was one of three finalists), "It is an exceptionally hard thing for a young man who owns a business to turn down income. But this simply demonstrates Jack's maturity, and his ongoing commitment to safety".

Constantly building safety

The NZ Drones' exposition is a living document, according to Jack.

"We don't say, 'okay, we have an exposition, now we're safe'. We're always amending it to make sure it's current, and to make it more easily understood. That makes it easy for staff and contract pilots to comply with it."

NZ Drones has also made it convenient for anyone to report an incident. Jack has developed a writable PDF, which means staff and contractors can fill out a report on their tablet, then upload it to the company's server.

"We meet regularly to review reports," says Jack, "and talk about whether something needs changing, or if we can do something better. We brainstorm a whole lot of ideas, write them down, and consider implementing them if they're appropriate."

Jack has also hired staff whose attitudes reflect his own. His safety manager Mick Turner plays a big part in the operations of NZ Drones.

"Mick is always there to give me new ideas on how to improve safety," says Jack.

Many of the company's clients have little understanding of drone operation safety, and Jack finds himself often patiently explaining what he will, or will not, do because of safety considerations.

1 The C2 link is the radio frequency connection between the control unit and the drone itself.

// Drones are not toys – despite being easily purchased. //

// Jack Scott, CEO NZ Drones.

"Sometimes they think it's okay to just go with the lowest price operator, because to begin with, they think it's just about price. But most clients do come to understand that you can't put safety in jeopardy just to get a low price.

"We show clients our operating procedures and maintenance checklist, what we do to train our pilots, and our preflight procedures: it all helps to convince them of the advantage of going with a safety-conscious company."

Part of Jack's commitment to safety includes selecting the best equipment for the job. He says that in Wellington particularly, many of the commercial off-the-shelf drones are not up to operating in high winds.

"But I've managed to get access to military grade drones," Jack says, "which are capable of flying in the rain and in wind gusts of up to 90 kilometres per hour.

"These are not cheap options, but they do ensure the operation is as safe as possible."

As one would expect, NZ Drones requests NOTAMs are issued for most of its operations. This helps notify other aviators that a UAV is operating in the designated location, which potentially prevents a near miss or incursion from manned aviation.

"We do have the occasional problem with manned aircraft," Jack says. "And frequent problems with hobby drone operators. When they first unbox their aircraft, some of them regard the rules as 'terms and conditions' – that is, they ignore them and just want to get the drone in the air.

"But these drones are not toys – despite being easily purchased."

The number of drone user breaches of airspace and rules has prompted Jack to begin writing drone operation training courses. He wants NZ Drones to become a Part 141 training organisation, and through that, to become more influential in the field of aviation safety.

"There's a lack of education. Children and teenagers, even adults, sometimes find the rules a bit difficult to understand. There's also those people who think they can buy a drone and just go out and do commercial work and they have no idea of the rules. They fly over people without consent, they fly over property without consent, and they fly within controlled airspace without any training."

With his PPL, Jack will become one of a small number of drone operators who are also conventional pilots.

"I think it's good for each sector to have people who do both. It gives you insight into the things each type of pilot faces."

What would he say to other drone operators about staying well clear of manned aircraft?

"I don't think people flying drones, particularly as a hobby, actually understand pilot workload. They're doing their checks and they're listening out for other manned aircraft and they're listening out for instructions from air traffic control. The workload is massive.

"People need to understand what that's like for a pilot. They don't get why pilots get so agitated by drones flying around airports and by people not doing the right thing with UAVs.

"But they need to realise it will take only one disaster to disrupt the whole drone industry."