MEDIA RELEASE

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Flight simulator ready for take off

It was going to cost more than \$1 million for the Northland Emergency Services Trust (NEST) to buy a helicopter flight simulator – so they decided to build one instead.

The state of the art machine, located at Whangarei airport, is made using the cockpit and fuselage of an old Sikorsky helicopter from Japan and is powered by five computers.

NEST chief executive and chief pilot Peter Turnbull says it looks and flies like the real thing - without even leaving the hangar.

"Using Kiwi ingenuity we've cut the cost back to around 15% of what is commercially available – and in many respects it's better than anything else around," he says.

The simulator – or Flight Training Device (FTD) as it is officially known – was built by a team of NEST pilots led by local engineer and computer whiz John Keller.

It has been certified by the Civil Aviation Authority (CAA) and will be used by both NEST pilots and outside parties for training and pilot flight testing.

Although not a full flight simulator - because the machine does not move - the high grade city and landscape visuals that surround the machine make for an authentic flying experience.

Mr Keller says it's just as if you are flying, accelerating and hovering in the air – but without leaving the ground.

"We built it to meet the specific CAA regulations, but also wanted it to be super realistic. So we've opted for the best wherever we can.

"The visuals package is above and beyond expectations. There is a 270 degree field of view, instead of seeing just out in front of you. You look left and right, over your shoulder, and even though it doesn't move you still get the sense of movement just like in a real aircraft."

Another key feature that makes the FTD so realistic is the use of high resolution linear potentiometers, an electro-mechanical transducer designed for racing cars that converts linear motion into a change of resistance. These devices have been installed in the roof of the simulator to detect the movement of the hand and pedal controls.

"It basically turns the entire fuselage into a giant joystick," says Mr Keller.

NEST purchased the second hand Sikorsky aircraft from Japan which was damaged during the 2011 tsunami. Mr Keller built a new instrument panel from scratch and this now means the simulator is a virtual replica of the helicopters NEST pilots fly in real life rescue situations on a daily basis.

Mr Turnbull says the FTD means their pilots will get better quality training and more of it because it is less expensive than doing exercises in one of its three helicopters.

"Besides, you can't stop the helicopter mid flight and point things out, but in the simulator you can," he says.

And because the FTD is made from the entire body of a helicopter, Mr Turnbull, says it enables NEST to take its rescue helicopter training to a whole new level.

"We can take the whole crew including the paramedics and a critically injured patient on board and go through drills like engine failure," he says.

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For further information contact:

[NAME] [Position/job title] [Phone:] [Cellphone:]

About Northland Emergency Services Trust:

The Northland Emergency Services Trust (NEST) is a charitable trust established to provide a dedicated rescue helicopter service for the people in Northland. The trust is supported by the generous contributions made by local sponsors, individuals, families, businesses and organisations.