**AVIATION SIMULATION WEBINAR:** ‘Immersive simulation training for wildland fire aviation in the United States: past, present and future’

**Q&A SHEET**

**What is your opinion on the balance between simulation time and actual flying time in the air training for the role? Does the "flying" time remain the same as previous training courses and the sim helps better prepare students for the "flying" or do you see this as reducing flying time as part of the overall training? A discussion that we are having here with many of our firefighters around simulators - interested in all your thoughts please!**

The balance between actual flying and simulation for the role is, ideally, dependent on the trainee to some extent. The principle behind phase training is that trainees progress according to their abilities, so one trainee might take two assignments and two simulation sessions to progress to the next phase, while another might take three and five. For aerial supervision training in the US, simulation is a viable option for many, but certainly not all, of the skills and competencies a trainee must master. The more of those skills and competencies that can be accurately tested in simulation, the more flexibility a trainee has for both practice and progression. In the end, we expect that trainers will need to evaluate simulations in actual practice with real trainees in order to determine what skills can effectively be developed and tested in simulation.

**Do you find that CRM increases or decreases with the use of VR goggles?**

CRM can still be practiced in pure virtual reality without physical manipulation of controls or use of familiar checklists, but this is one aspect where we believe the potential for negative training is high. Technology is rapidly advancing the capabilities to recreate an accurate, immersive multi-crew cockpit using mixed reality. While the cost of the goggles and accessories that will be required for this will probably continue to decrease, users will need to plan for considerably more development and a more permanent facility in order to make it work. This link ([https://youtu.be/aHRbfnbX-q8?t=2696](https://aus01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fyoutu.be%2FaHRbfnbX-q8%3Ft%3D2696&data=04%7C01%7CNicola.Laurence%40afac.com.au%7C3c5721ef618d4aa69ec008d9a0795a94%7C0401596a2b9f4919a6dd4b372739f5fb%7C0%7C0%7C637717265369473202%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=CltqbeoJmRH%2BZzpzH3ojJdaizae7CR%2B6pgHO1zPImNE%3D&reserved=0)) provides an in-depth look at how mixed reality is implemented in an EASA-certified Robinson R22 full-motion simulator, while the most stunning example of the potential of mixed reality I have seen is shown in this video: [https://youtu.be/tCv0hJGBo\_I](https://aus01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fyoutu.be%2FtCv0hJGBo_I&data=04%7C01%7CNicola.Laurence%40afac.com.au%7C3c5721ef618d4aa69ec008d9a0795a94%7C0401596a2b9f4919a6dd4b372739f5fb%7C0%7C0%7C637717265369483159%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=o73ykEjaCUgh7ePg3QNLLtOHje5mr%2FPCgxo7ROcRbq4%3D&reserved=0). That really is a person driving on a road while wearing goggles. The holy grail of a realistic shared cockpit for crewmembers who are networked together from different geographic locations but can see each other, and not just cartoonish avatars, in the cockpit has not been demonstrated yet.

**What version of P3D FS3D is currently compatible with? Does FS3D provide for recording of the sim session for future playback?**

FS3D is designed around Prepar3D version 4 and is currently running on the most recent release, v4.5.14.34698. It runs on version 5, but it hasn't been optimized for the minor differences between the two versions. Additionally, we built the core to maximize its compatibility, which is why we've been able to create our working ArcGIS and HTML components without changing the Prepar3D module. Creating Microsoft Flight Simulator 2020 and X-Plane components is also possible, although those platforms currently lack certain capabilities, which limits their utility in relation to Prepar3D.

**Are you able to simulate various radio traffic or background noises that are usually found over a fire other than the radio messages made by players?**

Our full-featured communications component, which is scheduled for release in January, includes customizable radio-mimicking voice distortions as well as background noise and the ability to inject recorded radio transmissions. It is designed to make choosing the level of audio complexity easy. We are exploring some exciting future audio capabilities, such as signal strength and terrain awareness, to make the common real-world limitations of radio communications available in simulation as well.