

Safety-First Service

Bernie Baldwin reports on some of the advances in technology which are delivering high quality training for cabin crew.

Being the most visible human element of an airline's brand, cabin crew members clearly need to be trained thoroughly in the processes needed to deliver that experience. Keeping passengers satisfied is indeed important, but what must never be overlooked is the principal role of the flight attendant – namely safety – and the core training required for that.

New technology is constantly being introduced to enable better training or lower cost training which maintains the fidelity of the training programme. In this airline industry discipline, technology is never introduced for technology's sake, it must demonstrate its benefits and win its way into a training programme.

Technology

Ivan Noël, president and founder of the Inflight Institute based in Calgary, Canada, believes that technology plays a significant part in assisting airlines to find efficiencies. "At the Inflight Institute we pride ourselves for being on the leading edge of technology with the development of our regulatory compliant and proprietary Learning Management System (LMS) and Content Management System (CMS)," he comments. "Our member airlines now have the ability to create and update all of their content from any device, anywhere in the world at any time. We provide our

airlines full access to change their own content whenever they like and as often as they like without having to rely on a third party to do so."

As for new products or product enhancements in the past year, Noël points initially to the company's technological evolutions in the area of regulatory tracking of documents and online training. "This new advancement – Document Tracking – uses the LMS to track training efficiency, document expiry – such as passports, medicals, and so on – to ensure compliance and quality assurance," he declares.

"In addition to our highly efficient LMS and CMS, we have implemented 360-degree video, which fully immerses the student inside the aircraft in emergency situations. Through continuous advancement in technology we have struck a balance between interactive and engaging content while being mindful of crucial factors such as delivery connection speed,

Above
EDM has been a market leader in the provision of cabin crew training simulators for more than 15 years.
Image credit: EDM.

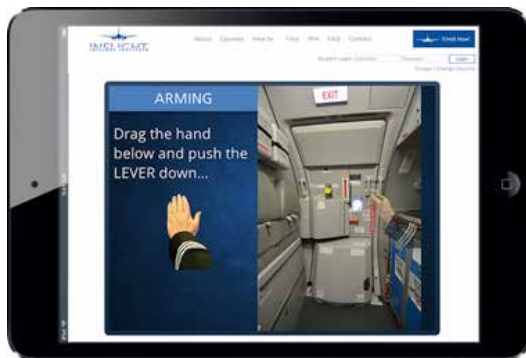
crews established learning habits and the overall saturation of knowledge," he adds.

Developed to meet the standards set by ICAO, Transport Canada, the US Federal Aviation Administration (FAA) and the European Aviation Safety Agency (EASA), all Inflight Institute course content is delivered online. Noel notes that this allows students to complete it at their own pace, from the comfort of their own home. "That being said, when invited to attend an airline's ground school, [the candidate] will build upon the knowledge received through the Inflight Institute to excel at the airline's ground school," he emphasises.

Training Equipment

Tulmar Safety Systems, also based in Canada, manufactures training equipment for cabin crew training centres including training evacuation slides, PBEs (protective breathing equipment), life vests and more, notes Patrick Phillips, the company's vice-president of business development. Also, for one large international airline customer, Tulmar manages the cabin crew training centre as an outsourced service, "a fairly unique concept in the industry," according to Phillips.

The latter project means that Tulmar has employees embedded within the airline's training centres. "We manage from within all the airline's existing training equipment which ranges from technically complex cabin and door trainers, training slides and rafts as well as all the other equipment," Phillips explains. "We are responsible for evaluating new equipment, sourcing, integration planning and installation of new equipment within the airline's multiple training sites. We also perform preventive maintenance and repairs when needed."



Based on this embedded role, the VP says that Tulmar has been able to make certain observations on the essentials of product design. With regards to minimising downtime, Phillips states, "Scheduling cabin crew for training is very complex and equipment failing for even a few hours can have costly consequences. [Thus] preventive maintenance is important, but moreover the very design of training equipment, must be driven by the criteria of rapid replacement of components if they fail."

A realistic training experience for candidates is, of course, a major goal, so the equipment on which students train must replicate the aircraft as much as possible. However, some equipment has to replicate apparatus on the aircraft which contain hazardous materials and that has to be done without exposing the students unnecessarily to such materials.

Then there is also increasing the mobility of training equipment. "Training centres are expensive to operate so the airlines operating them will do their best to maximise utilisation," Phillips continues. "Selling capacity to other airlines is also part of the business plan. When large numbers of students are present at one time, space to perform training becomes a real challenge. This is why solutions such as mobility of the equipment are core to accommodating peaks in the demand for training."

To address the need for training a large volume of students where space is limited, Tulmar developed the Chameleon, a multi-purpose mobile training cart that can be moved to any room or

Above
All Inflight Institute course content is delivered online allowing students to complete it at their own pace, from the comfort of their own home.

Image credit: Inflight Institute.

Opposite
A recent Tulmar innovation is evacuation slides with rapidly changeable components.

Image credit: Tulmar Safety Systems.



location on a campus. According to its brochure, the Chameleon can be customised to meet individual needs and accessorised with training versions of the customer's OEM equipment. "Most of all," the brochure states, "it's practically maintenance-free. Its dependability allows for non-interrupted training sessions. When not in use, it can be easily stored out of the way giving [the user] additional floor space when needed."

"For practicality," adds Phillips, "the cart is equipped with an air compressor and interchangeable panels to accommodate a diversity of training sessions including: emergency equipment; first aid - oxygen equipment; unruly passenger handling; smoke training; and firefighting."

Innovations

Another Tulmar innovation this year has been to introduce "realistic PBEs without the hazards of oxygen cylinders". The company was approached by Essex Industries which makes TSO-approved PBEs that are installed on a large number of commercial aircraft types.

"The objective was to provide training centres with a realistic PBE product," Phillips recalls. "Key design criteria included similar weight, donning experience and activation process using the same force to activate as the airworthiness-approved product."

"The challenge, like all other training products, was to provide a similar user experience but with a product made from materials that can withstand the rigours of repetitive training and using components that can be easily replaced for uninterrupted training," he adds. "Our challenge was to replace the CO2 activation cylinder with a device providing similar weight to the PBE, but safe for the students, and design a quick-release mechanism to simulate the pull force required to activate the PBE. We had the system approved in January 2017 and began selling the new product soon after."

Last, but not least, among the recent Tulmar innovations cited by Phillips, are evacuation slides with rapidly changeable components. "A key feature of our slides is that they incorporate a replaceable floor which can be removed when the sliding surface is worn and easily replaced," he explains. "This can be done on site, with no requirement to dismantle the training set-up or send the slide out for repair."

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VR

Moving on to some of the larger equipment manufactured for cabin crew training, EDM has been a market leader in the provision of cabin crew training simulators – such as door trainers and cabin emergency evacuation trainers – for more than 15 years and has recently launched its new range of virtual reality (VR) simulators, described as “ground-breaking” by Adrian Lambert, the company’s head of global marketing.

A year on from EDM launching its SEPTRE LITE training system for airline cabin crew at WATS 2016, the company chose the event for another roll-out. “We first showcased our virtual door trainer and virtual slide trainer at WATS in Orlando this year and were greatly encouraged by the positive feedback these first-to-market solutions generated,” Lambert declares. “We’re now in discussions with several airlines who are very keen to trial them in their training centres.

“VR training products have been around in other sectors – such as oil and gas – for many years now, because they’ve been proven to improve information retention and recall, whilst simplifying complex training scenarios,” Lambert observes. “Suitable for different learning styles and abilities, VR training offers an enjoyable way to learn that allows for higher levels of engagement and understanding.

“We believe VR will bring big benefits in terms of potentially speeding up the overall training process whilst maintaining a high quality of training, but empirical data has yet to be collated and results put forward to the industry,” he adds. “With that in mind, we’re currently in the process of establishing a collaboration with both academia and the airline industry to undertake such a study. We’re confident that some airline cabin crew will begin to be trained using our VR simulators by the end of this year.

Collaboration

As for how new technologies in these developments came to be included – bought in or self-developed, driven by internal ideas or by feedback from clients – Lambert confirms, “We developed our new VR training range in close collaboration with a number of airline clients. We’ve led the



Above EDM showcased its virtual door trainer and virtual slide trainer at WATS this year. Image credit: Halldale Group.

development of these products ourselves with some support as needed from experts in VR training technology.”

Reliance on in-house capabilities coupled with important input from customers and partners has also been the path to progress for the Inflight Institute. The vision set out by Ivan Noël when he founded the company has led to “revolutionary training and compliance innovations such as the development of the first regulatory compliant LMS and CMS systems, pre-qualification of cabin crew, integrated 360 video evacuation training, advanced document tracking and regulatory compliance,” the company claims.

“These innovations have been designed and refined over the past 20 years to ensure a high level of knowledge saturation for both cabin crew and pilots,” Noël emphasises. “We have furthered our document tracking system to include ACP tracking, which was a feature motivated by several of our member airlines to improve regulatory tracking efficiencies.

In an industry where technology is used to a high degree – and there cannot be many industries which use technology more than aviation – there is always a need to progress. Every company in this sector is seeking to make the training process better. Sometimes the shortfall comes from the technology required in some area not having been fully developed from research results through to a fully formed application. Noël’s company, however, is happy to take advantage of

a technology which, though already in use, has a long way to go to reap its full benefits.

“The Inflight Institute is continually advancing as technology refines itself. Currently we are using advancements in Artificial Intelligence (AI), text-to-speech technology and true-to-life Avatars to further immerse the learner in real-world scenarios while maintaining ease of use for our member airlines,” Noël elaborates.

“Changes within the aviation industry are continuous; if content is created that is not easily accessible and fluid to change it can create barriers to delivery,” he continues. “The Inflight Institute prides itself on providing content and delivery mechanisms that airlines can rely on to meet these needs and exceed their expectations.”

Whether cabin crew training is on-site or online, carried out at a personally-set pace before attending an airline school or as a high-pressure course through to final qualification, technology is being employed in every element of the training process, ensuring that customer airlines have a variety of options to suit their needs.

When it comes to that primary role of safety, it is no less than every flight attendant deserves. **cat**

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