

THINKING BEYOND

Bose is not standing still, and remains a company committed to thinking beyond what could be imagined. A famous quote from company founder Dr Amar Bose is: “The thing that keeps you going and keeps you creative is to never lose your imagination. Always dream of things that are better and think about ways to reach those things.” **Patrick Schutterop**, business manager at Bose Aviation EMEA & APAC explains why that founding spirit is as important as ever



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Patrick Schutterop is business manager at Bose Aviation EMEA & APAC

In 1978, Dr Amar Bose was on a flight home after a business trip. He was looking forward to this flight because this would be his first opportunity to use what were then new electronic headphones.

Although these types of inexpensive headphones are ubiquitous today, they were novel in 1978. Prior to their introduction, airlines used pneumatic tubes to deliver audio to their passengers – think stethoscopes.

As the flight took off, Dr Bose put the headphones on. He was sorely disappointed. The headphones offered better performance, but the designers apparently hadn’t considered one important factor – the loud ambient noise in the aircraft cabin.

Wind noise and the drone of the aircraft’s engines interfered with the audio, rendering his new headphones only marginally better. Dr Bose asked himself: why can’t headphones be developed that deliver the desired sound while cancelling, or rejecting, unwanted noise? This seemingly simple question was to require a significant research & development effort.

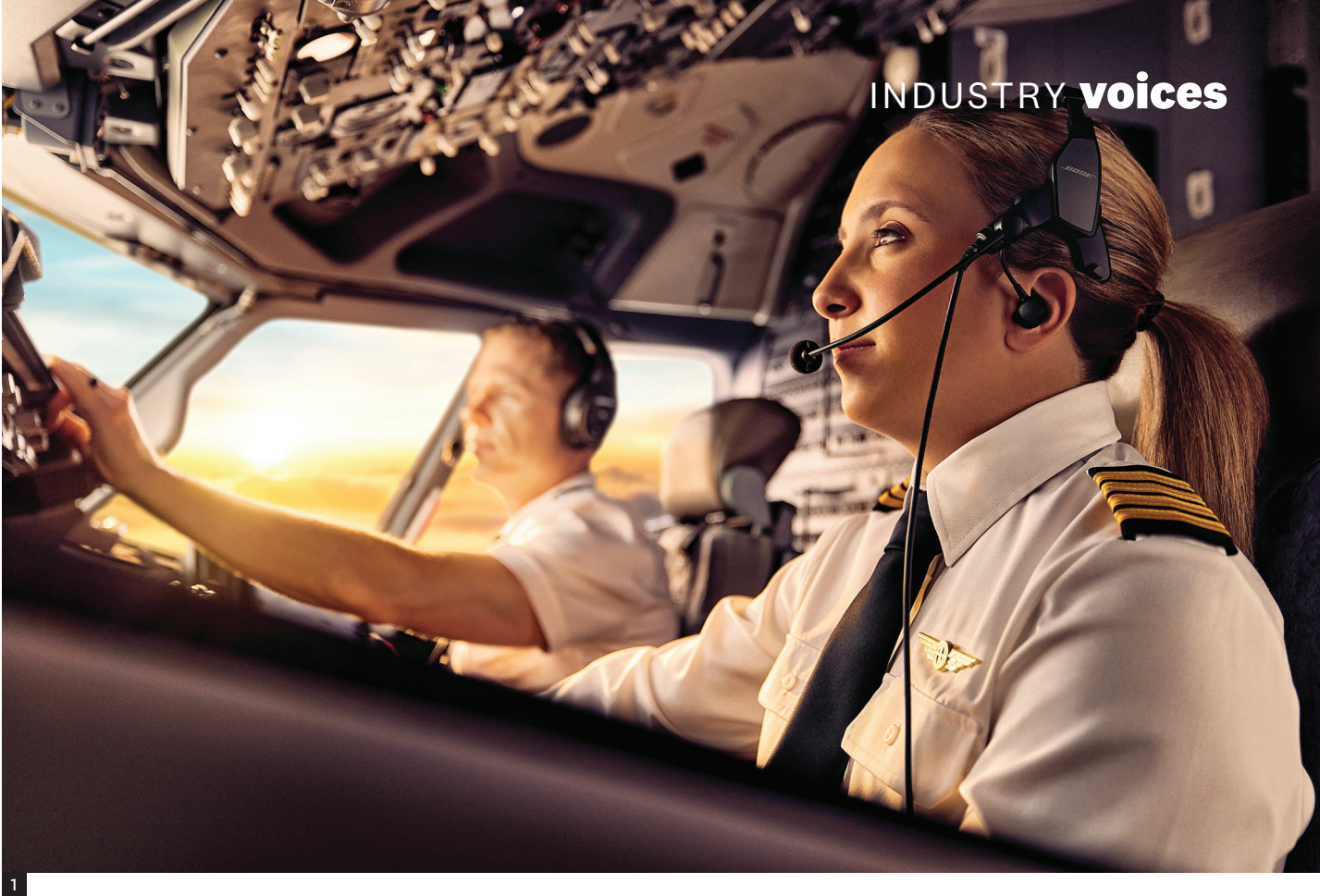
On that 1978 flight from Europe, Dr Bose used a napkin to draw out equations that showed how a noise cancelling headphone might work. Upon his return to the company’s headquarters, Dr Bose assembled a team of engineers and shared his

thoughts. That resulted in a research project that would span 11 years before producing a viable commercial product. Since 1989, when Bose launched the first commercially available active noise cancelling headset, it has introduced five models of ANR headsets designed for pilots flying a wide variety of aircraft, each representing a significant improvement over previous versions. Lighter, less clamping force, improved noise reduction and new feature sets are some of the notable improvements Bose has made over the years.

One important part of Bose’s design philosophy is that no new aviation product will be introduced until and unless there is a meaningful improvement compared to the previous model. Such improvements do not come easily and require significant research and development efforts.

The current offerings from Bose are the A20 Aviation Headset and the ProFlight Series 2 Aviation Headset. Each is designed for a specific mission and offers unique performance benefits.

The FAA TSO/EASA ETSO-certified A20, which is an around-ear design, was introduced in 2010 and has been one of the most popular on the market. It represented a significant improvement over the previous model, providing greater noise reduction in louder environments over a broader range of frequencies.



The A20 is designed to work in a wide variety of aircraft from single engine pistons to twin turboprops and large turbine-powered aircraft. It remains the preferred headset for numerous aircraft manufacturers and pilots.

The headset not only provides excellent noise reduction and clear communication capabilities, but it does so in a very comfortable configuration with a low clamping force. We know, and pilots have consistently confirmed, that comfort is one of the most important characteristics of a good headset.

Despite this, some pilots flying business jets felt the A20 delivered too much performance – more than they needed in a B737 or an A320 – and this was the impetus for what would become a long and complex project at Bose to deliver groundbreaking technology that, arguably, changed an industry.

What are the important characteristics of a headset in the business jet for pilots? The aviation team at Bose thought about what they might be and, after several years of research, launched the FAA TSO/EASA ETSO-certified ProFlight Aviation Headset – the current model is the ProFlight Series 2.

The ProFlight Series 2 is designed with two goals in mind: to create a very lightweight noise cancelling headset for

pilots flying turbine-powered aircraft; and to create a new category in the aviation headset market. ProFlight is the industry's lightest and, arguably, most comfortable active noise cancelling communication headset and, along with the A20 Aviation Headset, is one of two models the company offers.

The result of years of research, the ProFlight is a headbanded, in-ear headset that delivers three user selectable modes of noise reduction, Bluetooth connectivity and a new feature called Tap Control for Talk Through Communication.

Tap control allows the user to easily put either earbud into what is essentially a hear-through mode for temporary use on the ground or in-flight when, for example, a flight attendant or mechanic enters the flight deck, and dispenses with the need to remove an earbud when speaking. Other innovations incorporated into the ProFlight headset include the ability to easily swap the boom microphone from side to side.

The ProFlight headset has an unusual configuration that may initially take

time to get used to, as it represents unorthodox thinking in aviation headset design. However, ProFlight Series 2 is increasingly gaining popularity as more professional pilots experience its performance and benefits.

In 1978, because of a disappointing experience, Dr Bose asked why something is the way it is and wondered why it couldn't be better. That curiosity and desire to do things better, to not accept the status quo, still permeates the culture at Bose.

There remains an unwavering drive to deliver real technology that improves the user's life in some meaningful way. Although the A20 and ProFlight 2 dominate the market in terms of overall performance and popularity among pilots, Bose refuses to stand still and remains a company committed to thinking beyond what is to imagine that could be. **1**

1. Both the A20 and the ProFlight Series 2 Aviation Headsets are products of decades of research and development

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