

Cingo Joins Headphone 3.0 Platform

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Sonical supports Fraunhofer technology to deliver dynamic spatial audio.

Over the last few years, the processing power available to smart wireless headphones, also known as hearables, has made enormous progress. By today it is feasible to run multiple services on a low-power wireless platform so tiny that it fits into the sleekest earbud on the market. Together with specialized sensor technology and advances in wireless connectivity, this is one of the essential drivers of a revolution that turns an entire segment of the audio industry on its head. Hearables have turned into a must-have in our increasingly mobile work and leisure environments, and with innovative audio features such as personalization and immersive sound becoming established in video and music streaming, the expectations of their performance are high. Headphone manufacturers have to keep up with innovation by providing customized feature packages comprising a variety of highly specialized individual software solutions, and ensure a fast time to market for their products at the same time.

Enter Sonical who started their platform CosmOS in 2020 with the declared goal of delivering the flexibility to hearables that will make them independent smart devices which can be customized in much the same manner as smartphones. As a driver of this concept, which gets increasingly popular under the name “Headphones 3.0”, Sonical created their CosmOS operating system to enable developers to write apps on a comparatively high level and to deploy them quickly without having to adapt to individual manufacturers and firmware. It is then possible to pick and choose from them to create custom, specialized feature sets to match devices’ or users’ specific requirements.

Cingo and CosmOS: A perfect match for the next generation of smart headphones

Fraunhofer Cingo is a binaural rendering technology created to bring dynamic spatial audio into everyday life. As opposed to traditional headphone reproduction, Cingo ensures a lifelike experience in which sound sources are perceived around the listener, which results in a fascinatingly immersive auditory environment. Low-latency dynamic head tracking provides an immersive and stable sound image that always keeps the user in the sweet spot.

Any audio input can benefit from the Fraunhofer technology – from channel-based stereo to fully fledged 3D audio using state-of-the-art object-based formats. To meet all requirements of up-to-date headphone solutions, Cingo delivers personalization options such as content-specific presets, loudness as well as dialogue enhancement, and device-specific equalization. The versatile and lightweight solution can be deployed on common headphone DSPs and is now implemented on the CosmOS platform, which means that it can be experienced and configured by implementors to match their use cases.

“The CosmOS platform allows us to deliver into an ecosystem which combines a growing portfolio of cutting-edge solutions with ease of implementation,” explains Adrian Lorenz, Product Manager of Headphone Processing at Fraunhofer IIS. “The innovative approach of Sonical and the entire CosmOS developer community drives the change towards the next generation of smart personal audio devices, for which we are excited to deliver solutions like dynamic spatial audio with Fraunhofer Cingo.”

As a globally renowned audio R&D institution, Fraunhofer IIS has a wide field of interest and the partnership with Sonical is a great way to explore an innovative approach in the headphone sector and to gather highly relevant feedback from partners and implementors alike.

“We are excited to partner with Fraunhofer IIS,” says Gary Spittle, CEO at Sonical. “They understand that a platform approach such as CosmOS is just as much about meeting a range of user and product needs as about trialing multiple approaches and solutions. Cingo with its flexible profile and several customization options is a great fit for our philosophy that puts the user first, and we look forward to seeing how our partnership will develop.”

Discover Cingo and CosmOS at CES 2024! [Learn more](#) about the Fraunhofer Technology Home and get in touch to [schedule your visit](#) to the Fraunhofer booth #15726 in the Central Hall of LVCC for a chat with the Cingo team or to the Sonical Suite to experience the integration.

About Sonical

Sonical was founded in 2020 to enable the rapidly developing Headphone 3.0 market. Sonical is building the platform for Headphone 3.0 that unlocks the secret potential of your ears using more effective wearable products. The team at Sonical is developing their own operating system, CosmOS, specifically designed for hearables running downloadable plugins. This will unlock the large number of app developers that have created advanced AI based algorithms. Their mission is to empower hearables manufacturers to bring advanced products to market faster, as well as give individual users the control to select which features and combinations of apps they want to include in their new hearable's products at the point of use.