

*Press Release For approval*

**Stunning New Landmark Polish Concert Hall Boasts The Largest L-ISA Immersive System in Central Europe**

*Europe’s new cultural gem, Cavatina Hall, houses an unrivalled AV system with L-Acoustics’ world-class immersive sound and an advanced audio network*

**Bielsko-Biała, Poland – April 2022** - An architectural marvel, Poland’s newly-constructed Cavatina Hall opened its doors at the start of this year. It is the only privately owned and funded concert hall in the country and its owners’ uncompromising approach to design has fully demonstrated their ambition for the venue to become a landmark on Europe’s cultural map. The six-storey multifunctional building provides commercial and entertainment facilities with over 9,000 square metres of A-class office space, a chamber music hall, cutting edge recording studio and a 1,000-capacity concert hall, complete with state-of-the-art stage and AV technology integrated into an extensive digital and analogue network, aptly equipped with L-Acoustics’ progressive L-ISA Immersive Hyperreal technology.

The venue is the brainchild of one of Poland's largest property development companies, Cavatina Holding. The project began in 2018, with the shell-shaped building with glass façade becoming an instant architectural beauty, which now houses the offices of the holding company and related firms, alongside the ultra-modern entertainment facilities.

Situated in the city of Bielsko-Biała in southern Poland, in the magical Beskidy mountains, on the border of an industrial region of Silesia and the historic region of Lesser Poland. Throughout its past, the town attracted people from different countries seeking work and created the vibrant mix of cultures for which the area in now renowned. Among the events hosted there is the historic jazz festival Bielska Zadymka Jazzowa, which now takes place in Cavatina Hall.

“We can confidently claim that Cavatina Hall is one of the best facilities of its kind in the world, combining commercial industry with the promotion of art in a unique and modern building,” explains Katarzyna Pytlarczyk, head of Fiducia Foundation, the administrator of Cavatina Hall. “The concert hall has been designed so that all types of music can be produced perfectly, and its acoustics make it possible to bring out the full range of colour during symphonic and chamber concerts as well as pop and rock performances.” Every space in Cavatina Hall has been constructed to the highest standards, from the seating to the subtly concealed resonance boxes on the walls and balustrades, and the automated sliding acoustic curtains. The choice of L-Acoustics L-ISA is a logical consequence of this approach. “We immediately started from a leading position when it comes to immersive sound, because we are at its forefront of Europe, among only a few venues that have such a system," adds Marcin Smolik, producer and managing director at Cavatina Hall. “The interest in the system is huge. It is a treat for artists, and for the audience it means quality. We have a rule that it is not the artist who is the star, but the audience.”

Due to its years of experience in high profile AV installations, L-Acoustics Certified Provider Distributor for Poland, Warsaw-based Audio Plus, was appointed as the technical contractor. Briefed with selecting top-of-the-range technology and providing expert support throughout the complex design, the Audio Plus team, along with its chosen suppliers and sub-contractors, were the sole contractor to work on the project from its inception until completion, thus ensuring the successful integration of the entire technical infrastructure.

"When we were invited to manage the AV installation, we knew this project would not just be another installation. We realized this is a place where we can design the sound technology of the future," recalls Sylwester Wojcieszek from SDST, who was responsible for the design of technology. “During initial discussions, it was quickly decided that to fulfil this desire, we would design a 360-degree immersive sound system, and the only one to fit that brief is L-Acoustics’ L-ISA technology.”

"Throughout the decades of concert sound development, we have accepted compromises,” continues Willi Klein, technical support engineer at L-Acoustics. “The perception of sound spatialisation for large audience areas is always limited; we don’t hear the instruments from where they are placed on stage, but from the speakers. For instance, if you sit slightly to the left, you hear everything from the left, and your brain is constantly calculating the difference between what you see and what you hear. The L-ISA system gives the listener a natural experience and makes them hear what they see on stage; essentially it delivers what you would hear if there was no sound reinforcement.” L-ISA is fully immersive and reproduces the same sound image for the entire audience, regardless of where the audience member is located, as the sound is not reproduced as a sum of signals but as separate sources.

Cavatina’s team went to great lengths to ensure the system specification was correct. At the beginning of the project, Audio Plus’s technical design for the project was audited, by the London office of Sound Space Vision, which manages the design of acoustics and audio systems in cultural and industrial facilities; their approach to the design and use of L-ISA Hyperreal technology was praised. A virtual acoustic model of the hall, including wooden elements such as the waves in the sub-balconies, which are a combination of resonance boxes, each tuned to a different frequency, was also independently tested in the laboratory of the Acoustics Department of the Institute of Building Technology in Warsaw, ensuring the acoustic and technological designs would work in perfect harmony and further validating the trust placed in Audio Plus.

The final specification ranks Cavatina Hall as a venue with one of the largest L-ISA systems in Europe, and one which Audio Plus knows delivers the ultimate in audio fidelity and allows every musical detail to be heard from exactly where it is placed on the stage. In total, 141 L-Acoustics cabinets are distributed in a 360-degree configuration. The frontal system is based on seven hangs of six Kiva II and an SB15m spanning the width of the stage, with low frequencies delivered by four KS28 subs suspended above the audience in an end-fired arrangement. Frontfill comprises eight 5XT. A furher nine of 5XT serve as sources for the seats in the two balconies behind the stage. Two additional X8 cabinets are used as infill, and as effect cabinets placed around the audience, on the side and rear walls, 14 on each of the two balcony levels. Another four sets or two X8 are hung from the ceiling to supplement the façade sound. The system is controlled by two redundant L-ISA Processors.

Stage monitoring system is also furnished with L-Acoustics products - a total of 23 cabinets including X8, X12 and X15HiQ. The entire system is powered by a combination of LA4X, LA2Xi and LA12X amplified controllers, which give a combined 108 kW of power. In addition, to serve events in other spaces such as the foyer or chamber hall, Cavatina Hall has a mobile Syva system, chosen for its aesthetic appeal as well as its audio quality. Overall, aesthetics was an important factor for Cavatina; even in a 1000-seat hall, the audio system is unobtrusive and, in fact, practically invisible.

Significantly, Cavatina Hall is the first concert hall in Poland to take advantage of L-ISA’s object tracking system, which allows musicians, actors or speakers to be tracked on stage, their movements mirrored by the sound system and tracked by lighting equipment. Thanks to this, it is also possible to automate stage movements and even trigger multimedia actions automatically. The heart of the system is the TTA Stagetracker Core processor, which can communicate with the system's transmitters via a system of antennas. The event director has 32 Stagetracker Tag transmitters at his disposal, which he can assign to any musician or actor.

Much thought was given to the audio network; it is one of the largest in the country and one which Audio Plus is justifiably proud of. A total of 43 signal connections are installed across the venue, located in the stage, audience and backstage area, in the entrance hall, recording studio, on the lighting bridges, as well the roof patio for external concerts, and in the underground garage for broadcast vehicles. Each connection has analogue and digital inputs - of which coaxial, optical and CAT 6A are available – and all signals are fed to the amplification room, where they can be freely matched. There are also direct twisted pairs at the four FOH and monitor mix positions, enabling easy connection for visiting consoles, which can be any console currently on the market. Because signals can be routed anywhere and in any format, complexity can be achieved without fighting the system. The signal distribution system not only makes it easy to realise live events in the hall, but also record and broadcast them live from any location within the venue, such as the venue’s recording studio.

The concert hall boasts four of the latest DiGiCo Quantum 338 consoles, one for front of house and one for monitors. Signal distribution between FOH, stage and the recording studio is via Optocore, with AuviTran convertors forming an integrated network. Signals to the studio or broadcast truck are via either Dante, MADI or analogue, depending on the end devise. The Optocore/Auvitran system can handle up to 1856 digital signals. Analogue signals are split by a 96-channel analogue splitter, whilst Optocore can handle a further 96 analogue signals delivering the most complete, versatile way method of signal distribution.

“Our aim was to provide the highest quality sound experience for any artist and any show, and ensure a seamless and flexible environment where equipment can be easily updated as technology evolves,” concludes Tomasz Ibrom from Audio Plus, who was responsible for the entire installation. “We have reached such a point of technical advancement that a further race by sound system manufacturers for decibels or hertz makes no sense. Cavatina Hall can accommodate almost a thousand people but thanks to L-Acoustics does not lose its intimate atmosphere. Care has been taken to ensure that every member of the audience has good stage visibility and a personal listening experience.” Thanks to Audio Plus’s innovative and comprehensive approach to design, Cavatina Hall is a true milestone in concert sound.

**About L-Acoustics**

L-Acoustics is renowned for developing innovative sound systems and technologies that elevate the listening experience. Founded in France in 1984, L-Acoustics currently employs 500 team members worldwide, with headquarters in Paris, London, Los Angeles, and Singapore. Recognized for pioneering the line source array, L-Acoustics continues to shape the future of sound with solutions such as L-ISA Immersive Hyperreal Sound technology offering multi-dimensional audio. In recognition of introducing ground-breaking creative technologies, L-Acoustics was named one of *Fast Company's* Most Innovative Companies of 2020.

L-Acoustics sound systems can be heard around the globe in venues like the Hollywood Bowl and the Philharmonie de Paris, at the world's top-grossing festivals such as Coachella and Tomorrowland, and on tour with world-class artists such as Billie Eilish, Post Malone, Foo Fighters, and Jacky Cheung.

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