

## Devialet, French patented audio technologies that revolutionise the worldwide audio domain

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Devialet is related to the concepts of betterment, new ideas and scientific progress, not only because its name evokes one of the greatest intellectuals of the Enlightenment era (the engineer Guillaume Vialet) but also because the company makes a significant contribution to the audio industry through constant innovation and investment in R&D since its inception.

The story of this French SME, called “pépite française” by TechCrunch in 2005<sup>1</sup> and now member of *Next 40*<sup>2</sup>, started in 2004 when Pierre-Emmanuel Calmel patented the world’s first hybrid amplification technology in France and the US (called ADH®). This technology seamlessly blends digital and analogue to produce sound quality unlike anything previously experienced. Currently, this technology is implemented in all Devialet products. In 2007, Calmel joined forces with Quentin Sannié and Emmanuel Nardin and founded Devialet, Ingénierie Acoustique de France. The company’s name suggests clearly and intentionally its French origin and what is behind of its products – high engineering, technology and sleek design. These visionary founders, with different profiles – namely engineering, entrepreneurship and design, made the perfect team to lead Devialet to a leadership position only five years after the launch of the first D-Premier speaker<sup>3</sup>.

After two outstanding fundraisings (in 2010 and 2012) Devialet obtained financial support to become the global leader in high-end sound. In 2015 with a new type of speaker called Phantom, Devialet changed the experience of sound by offering an ultra-pure & ultra-dense sound with performances 10 to 1000 times superior to anything previously measured, with no distortion or saturation. This was achieved by combining radical patented inventions:

- ADH®, HBI® (Heart Bass Implosion), consisting on two lateral woofers powering together, which force behind their combined movement generates ultra-dense sound with physical impact;
- SAM® (Speaker Active Matching), which is a mathematical model to ensure extreme fidelity, and,
- ACE® (Active Cospherical Engine), which optimises the way sound waves form and travel to get perfectly balanced sound and zero surface diffraction<sup>4</sup>.

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<sup>1</sup> Leeway.blog. Dans la peau de Kimiya Shams, de la Suède aux bancs de Stanford, jusqu'à son arrivée chez Devialet (2021). Available at: <https://lnkd.in/d/NJ8-Rj>. Accessed January 16, 2021.

<sup>2</sup> Next 40 groups together the 40 most promising French start-ups corporate prodigies with high prospects of becoming global tech leaders. These businesses have been selected on the basis of economic performance criteria. They are either unicorns (start-ups unlisted on the stock exchange valued at USD 1bn or more) or businesses having raised more than EUR 100m in capital over the past three years. The Next40, the showcase for French start-ups (2019). Available at: <https://www.gouvernement.fr/en/the-next40-the-showcase-for-french-startups>. Accessed January 16, 2021.

<sup>3</sup> Bryan, Garnier & Co advises Devialet on a €100 million growth equity private placement (2016). Available at: <https://www.bryangarnier.com/portfolio/devialet-private-placement/>. Accessed January 16, 2021.

<sup>4</sup> The Phantom Revolution. Available at: <https://www.devialet.com/en-es/phantom-speaker/phantom-technologies/>. Accessed January 16, 2021.



Figure 1: Devialet Phantom Premier – “Innovation on steroids” (source: Devialet)

Regarding the design, the Phantom’s distinctive silhouette is minimalist and elegant, it has what audiophiles call a high WAF “Wife Acceptance Factor”. Moreover, in one beautiful box, it combines a phono section, pre-amplifier, the power amplifier and the DAC, eliminating the usual clutter of boxes and wiring.

In 2016, Devialet was one of very few companies in Europe that managed to attract more than 100 million euros of capital from new investors in a single late-stage growth round. This impacted dramatically its global strategic plan and made it possible to expand the business to the US and Asian markets while bringing Devialet innovations to cars, television and connected objects. Trying to cover the entire audio spectrum, the French start-up has been looking at ways to license its technology to consumer electronics manufacturers. For this reason, the company partnered with Sky TV (soundbars), Iliad, Free and Altice USA (boxes), Renault (Symbioz concept car)<sup>5</sup> and Huawei (Huawei Sound X, a new speaker specifically designed for the Chinese market)<sup>6</sup>.

Despite the Covid-19 crisis, last October this ambitious company jumped into the 200 million market of wireless headphones with Devialet *Gemini*. The company has been working in this market for two years and had filed three patents for its active noise cancellation technology. These patents consist of:

- the Ear Active Matching (EAM®), an algorithm that captures the specific ear canal of the listener and tailors the signal to the ear up to 10,000 times per second,
- Internal Delay Compensation (IDC®), which is an algorithm that compensates for the internal delay generated by a noise cancellation loop and results a significant gain in noise cancellation, and,
- Pressure Balance Architecture (PBA®) which consists of an acoustic architecture of cascading decompression chambers that ensure ideal inner pressure, and each chamber is coated with custom acoustic mesh that stops external noise from entering the system, ensuring effective Active Noise Cancellation.<sup>7</sup>

<sup>5</sup> Avec Gemini, Devialet cherche à profiter du lucratif marché des AirPods. Maddynews (2020). Available at: <https://www.maddynews.com/2020/10/09/devialet-lance-ecouteurs-gemini-airpods-apple/>. Accessed January 16, 2021.

<sup>6</sup> Devialet partners with Huawei for new speaker. Available at: <https://techcrunch.com/2019/11/25/devialet-partners-with-huawei-for-new-speaker/> Accessed January 16, 2021.

<sup>7</sup> Devialet Gemini. Available at: <https://www.deviallet.com/en-es/true-wireless-earbuds/>. Accessed January 16, 2021.

The company also released a mobile app to control the aforementioned settings. Another feature is that Devialet's earbuds will determine which tips will fit best, scanning the wearer's ears and reporting back via the dedicated Gemini app.

Undoubtedly, Devialet's investment in R&D was, alongside a clear Intellectual Property strategy consisting in registering [patents](#), [designs](#) and [trademarks](#) worldwide, key for creating its technology partnerships with product manufacturers. In fact, Devialet's CEO, Franck Lebouchard declared to Forbes that if the company was not constantly innovating, it would be nothing; therefore, every year, every six months, patents were filed<sup>8</sup>. Evidence of this innovation spirit is reflected in more than 200 [patents filed](#) since its creation<sup>9</sup>, in the field of ASICs and micro-electronic designs, digital signal processing algorithms as well as acoustics.

A recent study conducted by the EUIPO assessed that the EU firms that simultaneously use different types of IPRs for the same product have a strong economic weight. Patents are the IPR that is most often used together with other rights. Indeed, the multi-IPR firms represent 31.9% of employment and 35.5% of turnover in the sample and the firms filing all three types of IPR represent 14.1% of employment and 16% of turnover<sup>10</sup>. Devialet experience aligns to this data; its distribution network has increased from 450 to 1200 points of sale in two and a half years<sup>11</sup>. Devialet and its resellers cover more than 45 countries around the world and employ over 400 people<sup>12</sup>.

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<sup>8</sup> Interview avec Franck Lebouchard, CEO, Devialet. Forbes France, 27 December 2019. Available at: <https://www.youtube.com/watch?v=ljgpHx1GKQQ>. Accessed January 16, 2021.

<sup>9</sup> Devialet. About. Available at: <https://www.devialet.com/en-es/about-us/company-presentation/>. Accessed January 16, 2021.

<sup>10</sup> Use of IPR bundles by EU firms 2014-2015. Oficina de Propiedad Intelectual de la Unión Europea, October 2020. ISBN / ISSN: 978-92-9156-275-6. Available at: <https://op.europa.eu/s/ouYE>  
This study looks at EU firms that simultaneously use different types of IPRs for the same products in the period 2014-2015. The sample is made up of 63 286 firms altogether holding 76 202 European patents, 98 257 EU trade marks (EUTMs) and 21 676 registered Community designs (RCDs).

<sup>11</sup> *Op.cit.* (footnote 5).

<sup>12</sup> *Op.cit.* (footnote 1).