



# Annual General Meeting

## May 2016

CEO Presentation

# FORWARD LOOKING STATEMENTS

These slides and the accompanying oral presentation is a presentation of general information about the current activities of Audio Pixels Limited as to the date of this presentation. All statements other than statements of historical facts contained in these slides and the accompanying oral presentation, including statements regarding future operations, future financial position, future revenue, projected expenses, opportunities, prospects, plans and objectives of management and competitive and technological trends are forward-looking statements It is provided in summary and does not purport to be complete. You should not rely upon it as advice for investment purposes, as it does not take into account your investment objectives, financial position or needs.

Forward-looking statements are based on estimates, projections and assumptions made about circumstances and events that have not yet taken place. Although management believes the forward-looking statements to be reasonable, they are not certain. Forward-looking statements involve known and unknown risks, uncertainties and other factors that are in some cases beyond the management and the company's control, and which may cause actual results, performance or achievements to differ materially from those expressed or implied by the forward-looking statements (and from past results). Management makes no representation or warranty as to the accuracy of any forward-looking statements in this document and undue reliance should not be placed upon such statements.

Forward-looking statements may be identified by words such as "aim", "anticipate", "assume", "continue", "could", "estimate", "expect", "intend", "may", "plan", "predict", "should", "will", or "would" or the negative of such terms or other similar expressions that are predictions of or otherwise indicate future events or trends.

Management does not intend to update the forward-looking statements in this document in the future. These factors should be considered, with or without professional advice, when deciding if an investment is appropriate.

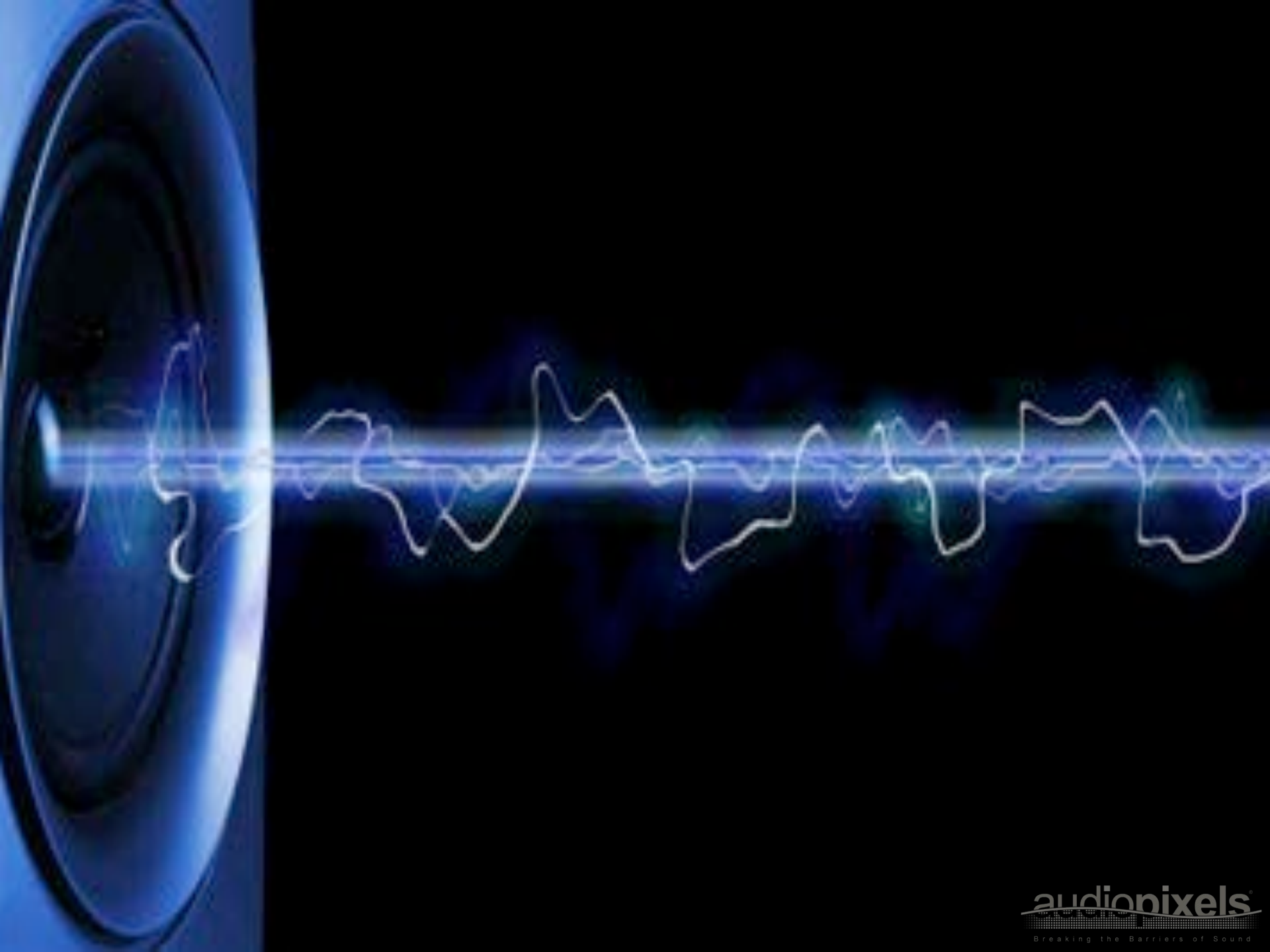
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Paradigm shift

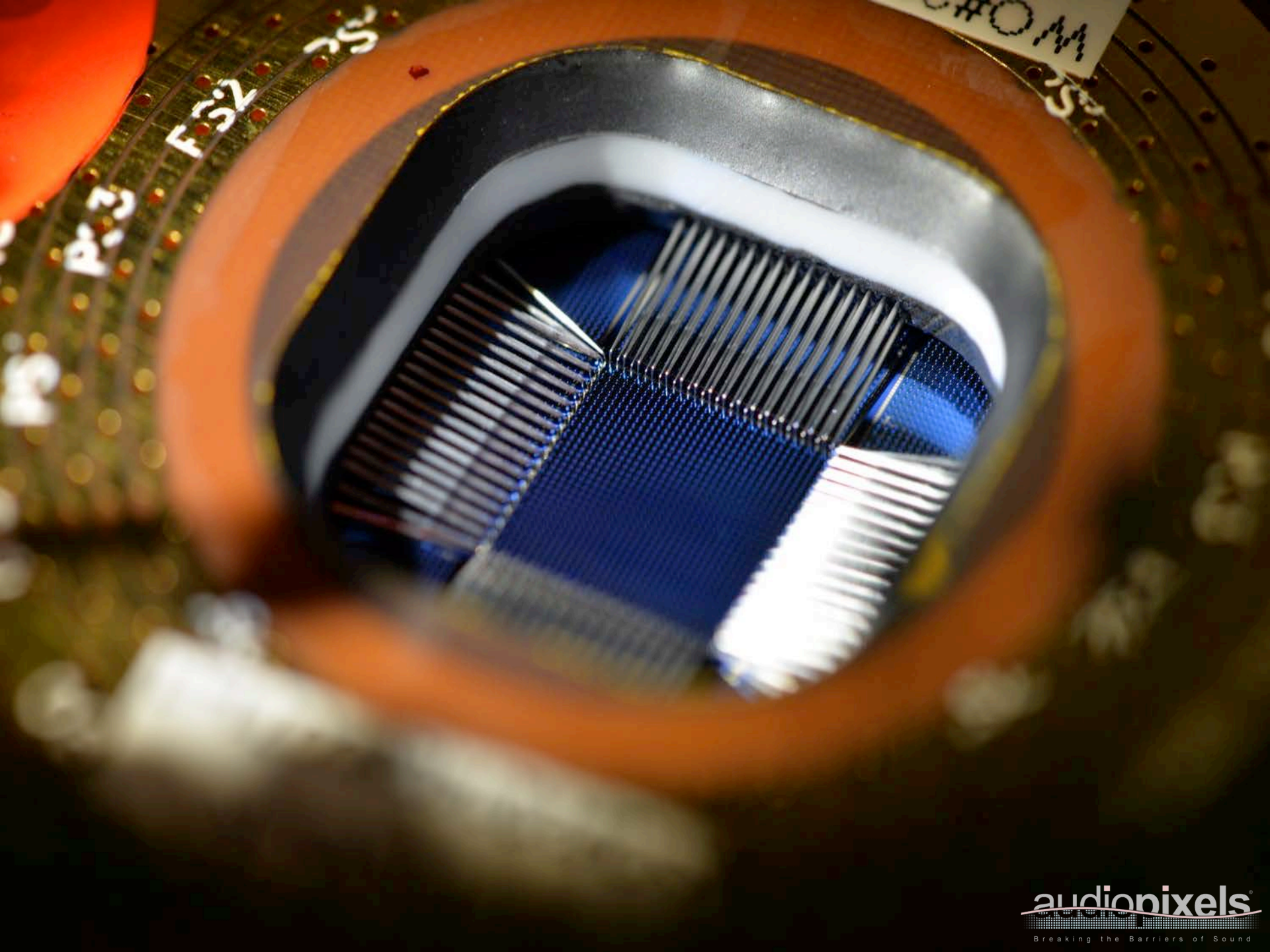


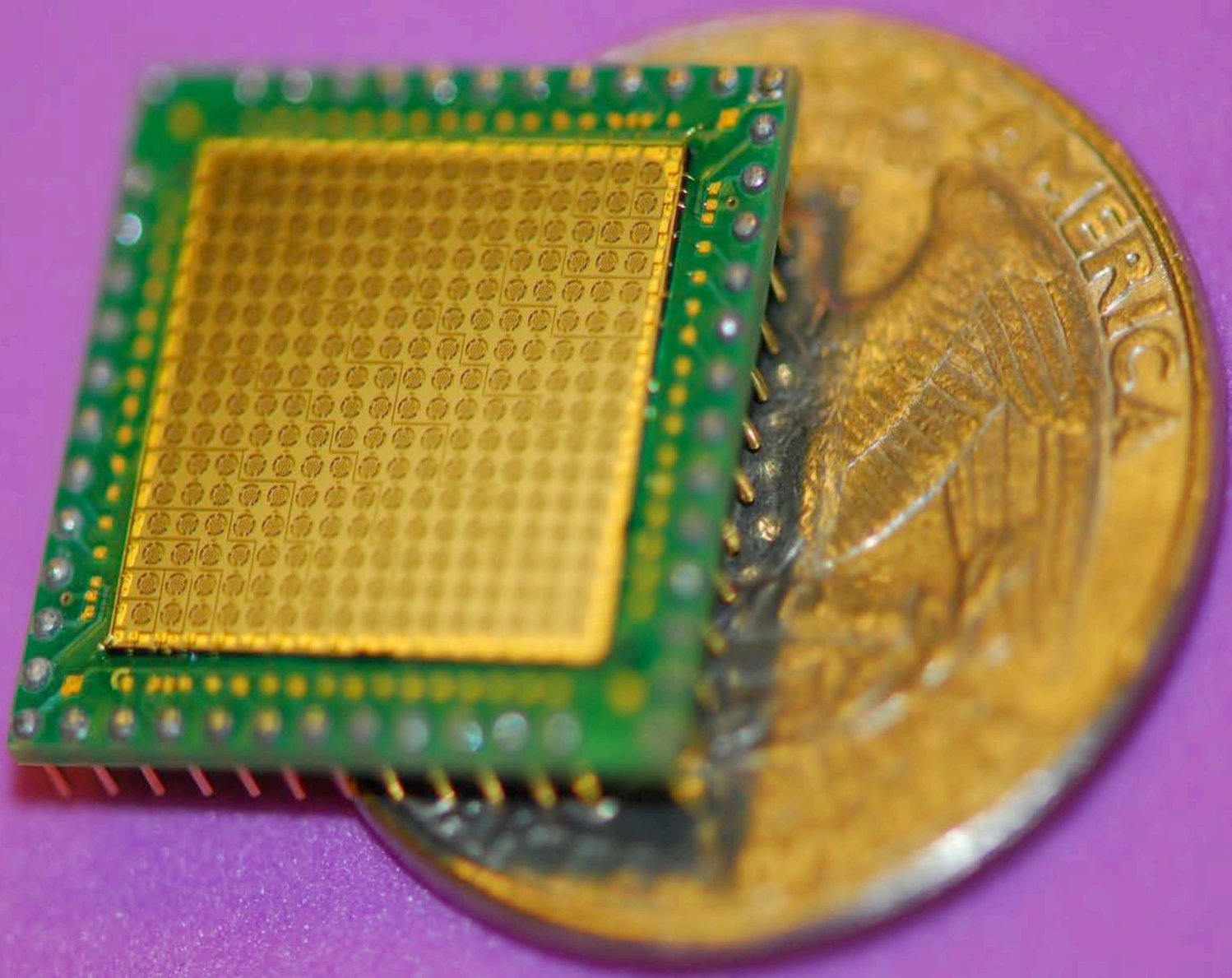


# audiopixels<sup>®</sup>

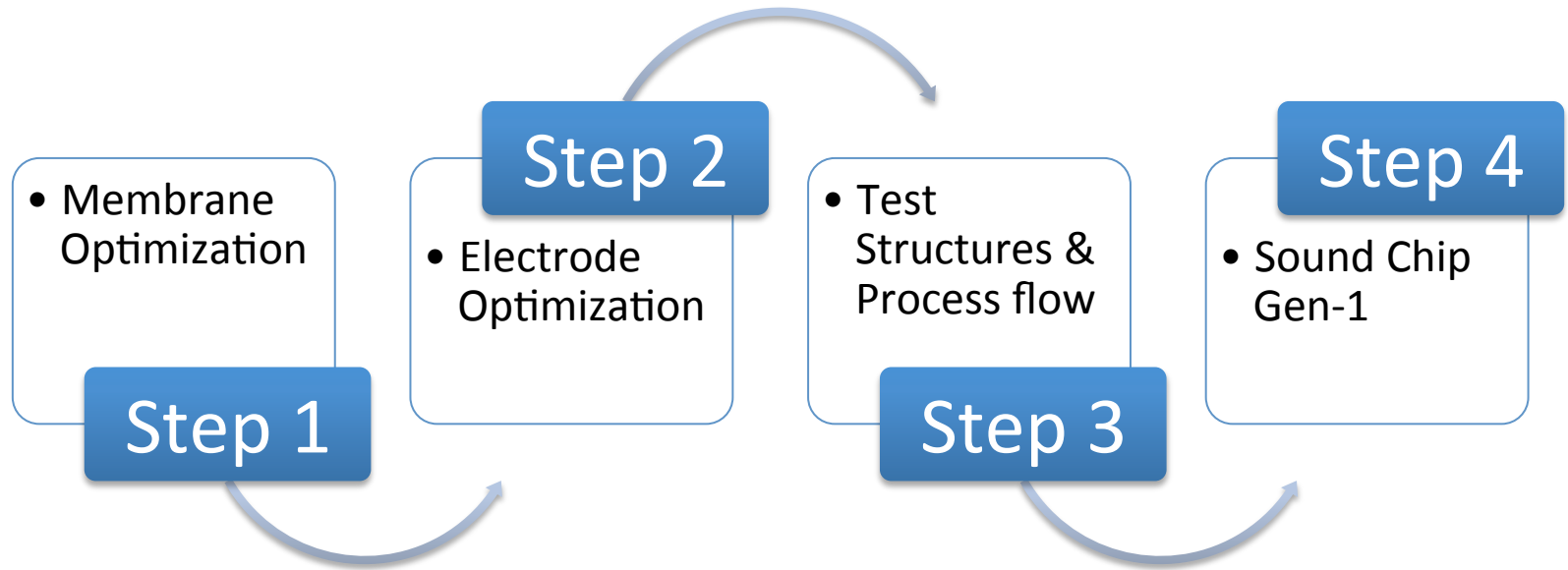
Breaking the Barriers of Sound





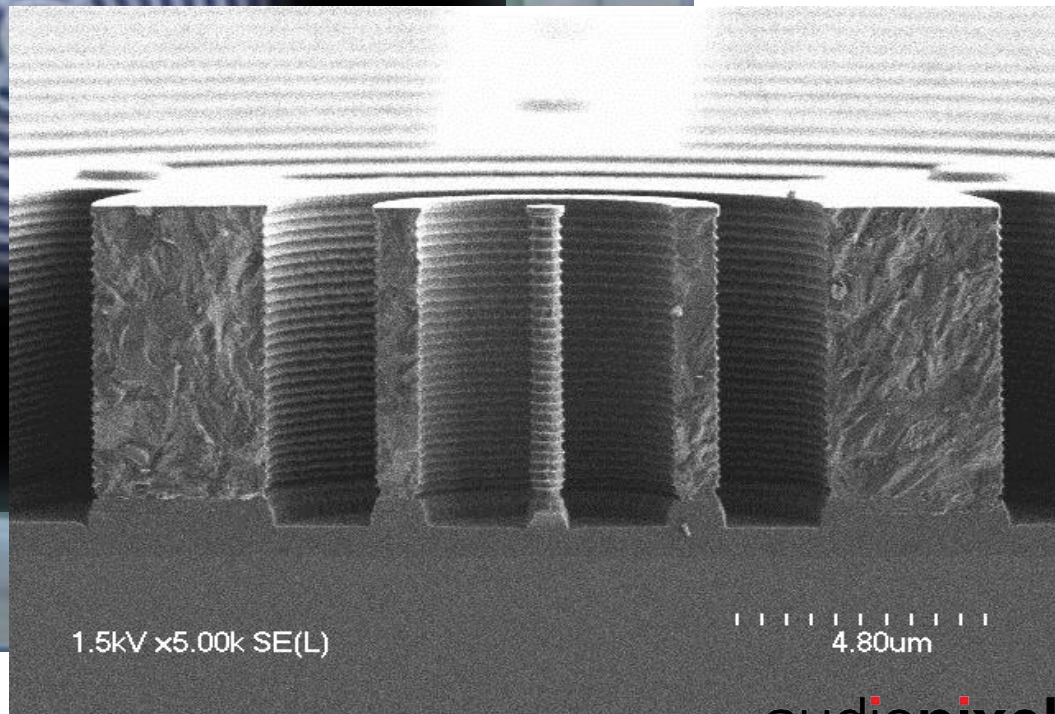
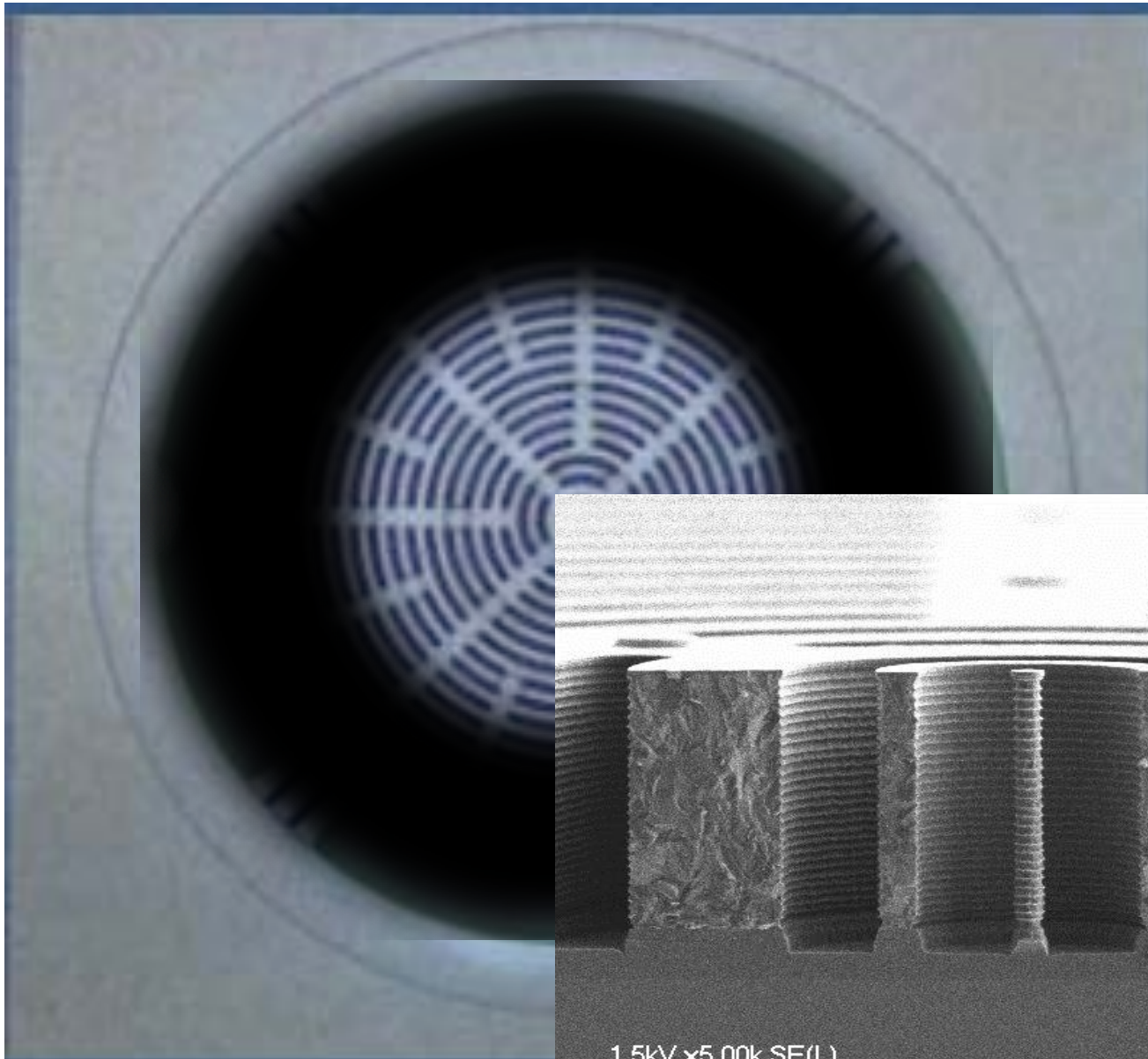




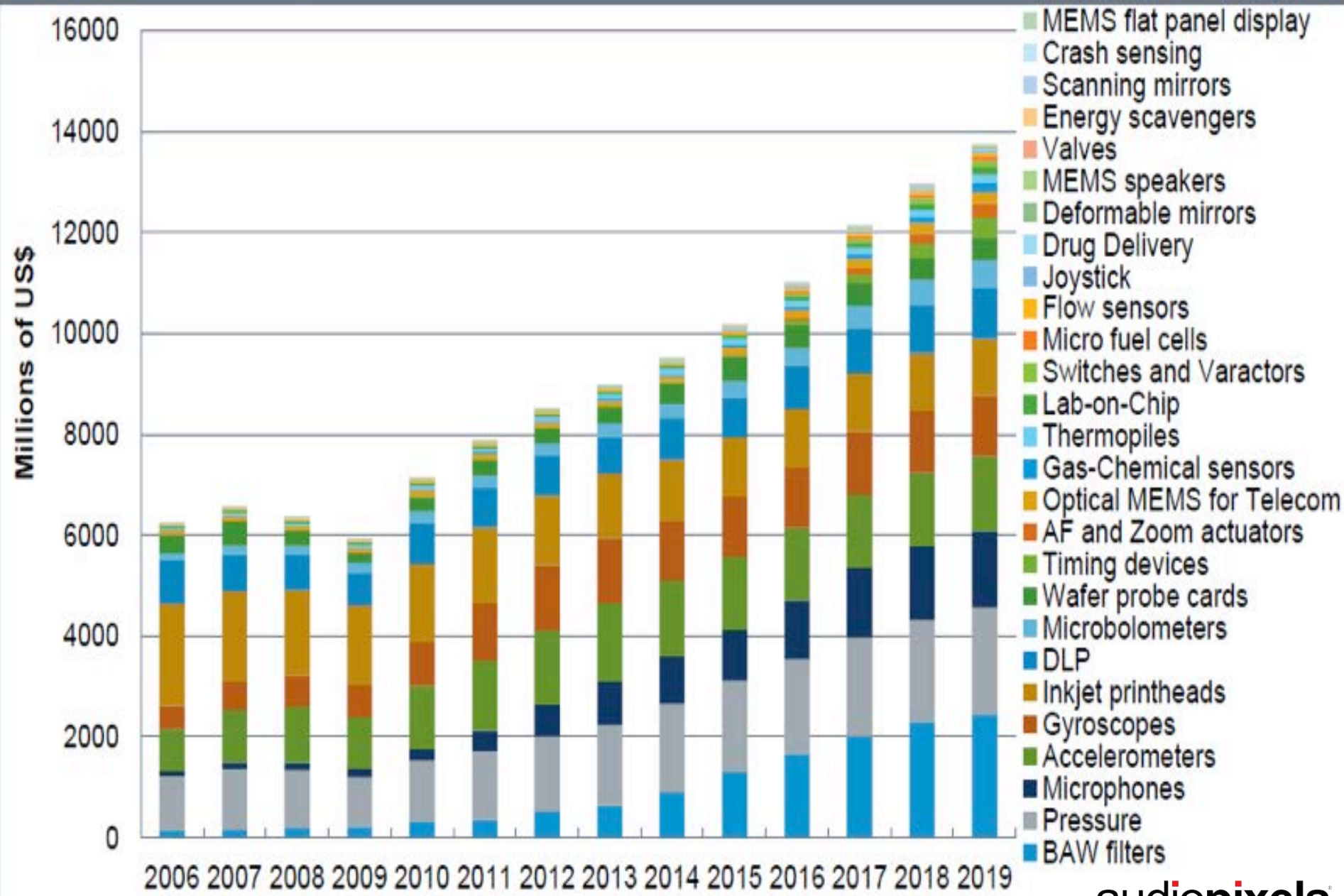






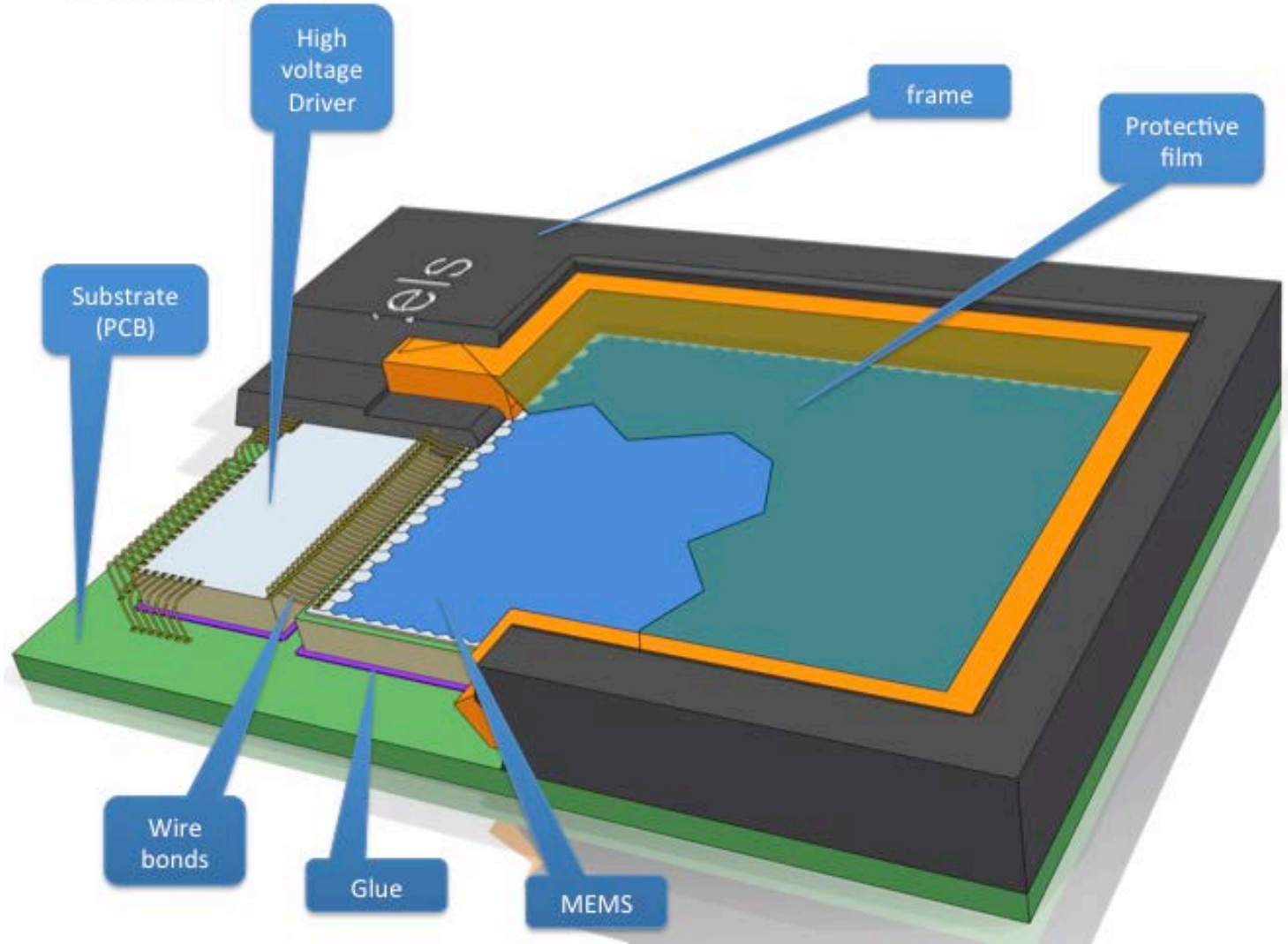


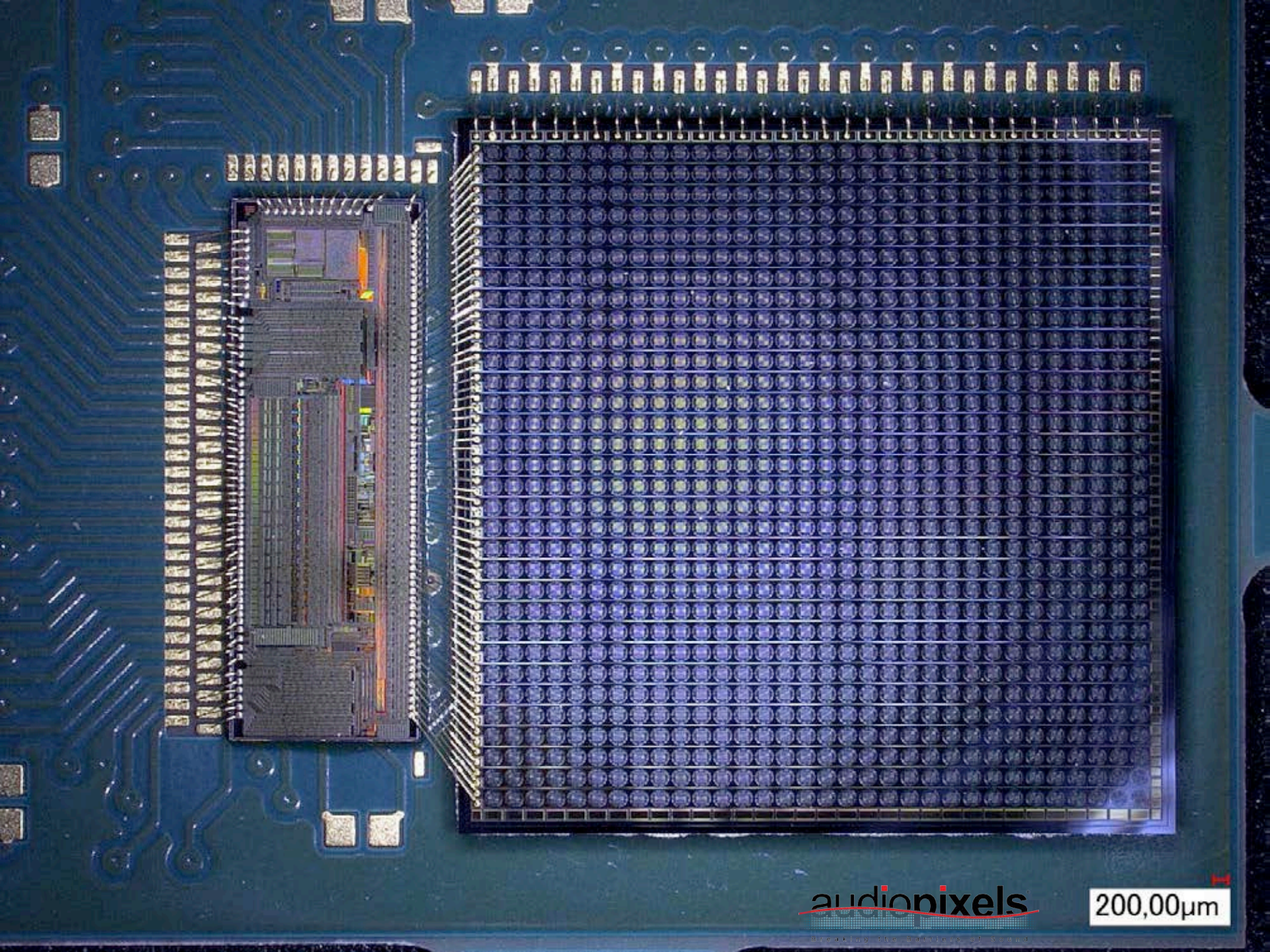
# Total MEMS market by device



Source: IHS – MEMS Market Tracker – Q3 2015

## Cross section





audionpixels

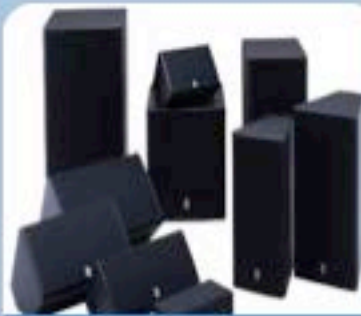
Breaking the barrier of sound

200,00µm



### Embedded

- Smartphone
- Tablet/Phablet
- Laptop
- Computer
- Television
- Display
- IOT
- Wearables
- Others...



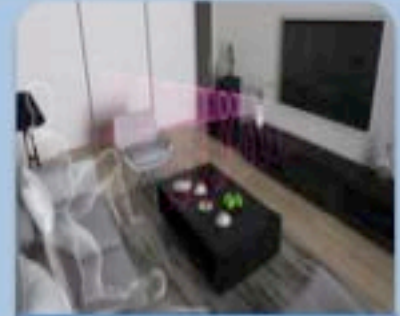
### Consumer

- Docking Station
- Portable
- Multimedia
- Paired
- Woofers
- Surround Sound
- In-wall
- Outdoor
- Others...



### Specific

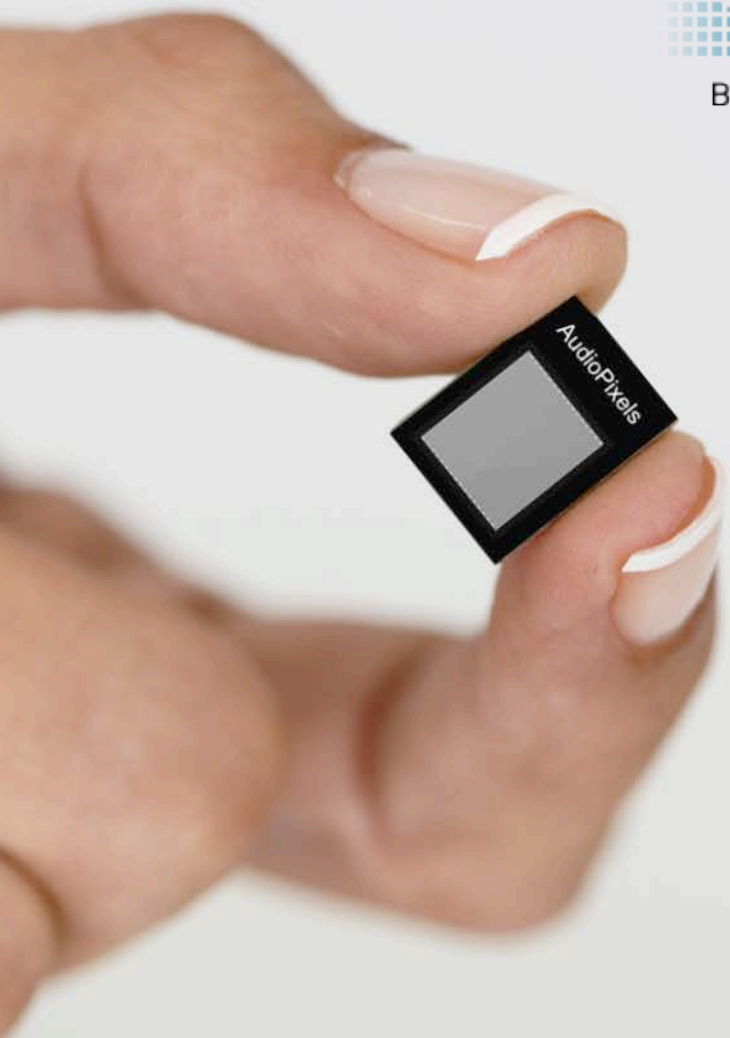
- Automotive
- Airline
- Train
- Others...



### Customized

- Parametric Applications
- Sensors
- Ultrasonic
- Medical
- Security
- Others...





- 1 Proprietary Game Changing Technology
- 2 No Direct Competition on the Horizon
- 3 Final Phase of Productization
- 4 Immense, Diverse and Stable Market Opportunities

audiopixels<sup>®</sup>

The logo for audiopixels features the brand name in a white, lowercase, sans-serif font. Two small red squares are positioned above the 'i' and 'x'. A thick red wavy line curves across the text. Below the text is a blue grid pattern that tapers off at the edges.

B r e a k i n g   t h e   B a r r i e r s   o f   S o u n d



Good Morning

My name is Danny Lewin, I am the Chief Executive Officer of Audio Pixels, Limited, the Israeli based wholly owned subsidiary of Audio Pixels Holdings, Limited. I am very excited to be here this morning with my fellow co-founder Yuval Cohen who is the company's Chief Technology Officer.

I would like start by thanking our Board for providing me an opportunity to express why we are so passionate about Audio Pixels and why we believe our possibilities are endless.

I realize that most of you are here today to better understand the current status and future plans of the company but as this is my first opportunity to address this forum I thought I'd start with a bit of background and some perspective about our company, its products and its potential.

Yuval and I began working together well before Audio Pixels came to be. Our collaboration about a decade ago led to a "Eureka moment" when we came to realize where mobile and consumer electronic devices were headed.

In those days' industrial and UX designers seem to have very little influence on consumer electronic products. But the successful approach of company's like Apple started to change all that and increasingly buying decisions began being influenced by the aesthetic appeal of devices. Manufacturers responded not only with better and smarter devices but with devices that were smaller, thinner, sleeker and far more visually attractive.

From an audio perspective we quickly understood that this evolutionary trend to shrink form factors, presented a significant challenge for the audio output of devices because existing speaker technologies is such that no matter how much attention and money is allocated to device audio, no matter how clever the signal processing, algorithms or circuitry, ultimately the critical failure point of a devices' sound resides in the inherent limitations of its analog speakers.

This was true then and remains true to this day as manufacturers struggle to contend with a technology that is incompatible with their design ambitions.. And the problem isn't getting any easier.

With the possible exception of silent movies and airport television sets, audio and video go hand in hand. Today's devices possess phenomenal video output capabilities unfortunately they are almost always coupled with a dreadful audio experience.

On top of that the industry is struggling with the means to deliver the benefits of higher quality transmission standards. The emergence HD Voice or Wideband Audio, which is being broadly adopted by mobile carriers and VOIP based solution providers calls for the doubling of the bandwidth transmission rate (from 300Hz-3.4kHz to 50Hz-7kHz), when in fact existing device micro speakers can't even cover the narrow band of yesteryear.

This is at the core of why Audio Pixels is being actively pursued by many of the leading global companies involved with sound, consumer electronics, automotive audio, They understand that our technology which is not encumbered by the inherent limitations of the analog speaker is a paradigm shift that holds the

potential to resolve many, if not all of the critical deficiencies reproducing sound in modern electronics.

It is important to understand that analog speaker technologies have withstood the test of time not because they meet the requirements of modern electronics, and certainly not because the industry lacks the interest, effort or the financing to develop better solutions, but because no one has been able to come up with a better method to reconstruct sound.

The reality of the conventional loudspeaker is that its fundamental principles are based on inventions that are over a century old. These principles dictate the critical importance that size, power, and acoustic environment play on the performance of the speaker. Reducing any of these elements necessitates compromise, which almost always leads to degradation in quality and performance.

What makes Audio Pixels truly compelling is that we are not producing a slimmer, smaller, smarter, improved version of the conventional speaker. Rather we are fundamentally changing what loudspeakers are, how they function, how they are produced, what they look like, what can be done with them.

Of course paramount is that our technology will elevate the sound reproduction capabilities of devices. We believe that in the relative near future the very notion that high-quality sound reproduction necessitates shoving hundreds of watts into large, expensive bulky boxes will be a thing of the past. We believe that consumers will soon grow to expect, or rather demand a hi-quality audio experience regardless of the device form factor they are considering purchasing. This is the demand that at this moment, we are the only company capable of fulfilling.

Certainly our longtime shareholders are well aware that industry altering innovation of this magnitude doesn't happen overnight. Our accomplishments are the result of a massive engineering effort that has transpired over the course of nearly a decade...here I need to pause and give well-earned recognition to my friend and fellow co-founder Yuval Cohen, who beyond being the technological visionary has led the development effort from its inception. Yuval together with Shay Kaplan our Chief Scientist and fellow co-founder along with our incredibly talented team of engineers and scientists have applied tremendous effort, creativity and dedication to accomplish what many not to long ago, claimed was an impossibility, and in the process we amassed a vast portfolio of intellectual property that includes over 100 granted patents (precisely 119 and counting).

When we launched the company in mid-2006 we had the modest objective of proving or disproving the technical feasibility of the technology. Over the following 3 and half years we examined the fundamental concepts and principles of implementing digital sound reconstruction. Our goal was to understand if it was possible to leverage modern fabrication technologies in order to produce sufficiently loud, qualitative sound in small form factors.

In mid 2009 we definitively offered the proof positive having produced the worlds first, and as far as we know only, generation of silicon chips that were capable of reproducing speech and music at expected quality and sound pressure levels.

The year following that monumental achievement was spent improving the prototypes and demonstrating the technology to industry experts as well as many of the leading companies that have a high stake in audio and loudspeakers. That period of demonstration is still to this day reverberating throughout the industry as they eagerly wait for our products.

In late 2010 having completed the transition from a venture-backed company to the public structure you all know today, we immediately commenced the now infamous four-phase plan to commercialize the demonstrated technology. The overall objective of the four-phase plan was to take a proven playing prototype technology, improve upon it and reproduce it using far more economically viable fabrication methods.

I must again pause for well-deserved expression of gratitude. It is highly debatable whether the company would have even undertaken the commercialization effort without the intervention and leadership of Fred Bart. Fred's dedication, and effort know no bounds. Throughout my career I have been involved with the boards of a number of tech companies and I can unequivocally state that the company is truly privileged to have Fred Bart as its Chairman.

The key challenge in the four-phase plan involved the MEMS's chip – Our MEMS chip is an array of electromechanical elements that generate the sound waves – little speakers that we call pixels.

The effort to build a MEMS chip requires very close collaboration with MEMS foundries as unlike most conventional semiconductors which can take a chip design and apply fabricate processes with exceptional precision, the fabrication of any MEMS devices require the development of a specific and dedicated process flow for that particular device.

MEMS devices are produced in semiconductor fabs, using well-known and proven semiconductor equipment and processes. Although MEMS development can be done in research facilities (which is where we conducted our early research and development) we elected to conduct the commercialization plan in a mass production MEMS fab. Since mass production fabs are not oriented to accommodate the flexibility required in development, timelines tend to take a little longer. On the flip side this approach dramatically streamlines and accelerates the transition to mass production.

Because we don't own our own MEMS fab, we are what is known as a fabless company which establishes a tight dependency on the fabrication partner. On the flip side we didn't have to hit shareholders up for many hundreds of millions of dollars required to build and run a fab. The high cost of setting up and running a MEMS fab dictates that Fab's must carefully select which companies they work with, which projects they undertake and the priority of their resources.

We of course would prefer our fabs' to be exclusively dedicated to our requirements, but their economic realities dictate otherwise. Ultimately living by their rules translates to elongated timelines tend to be elongated as the fabs juggle their resources to efficiently accommodate a diversity of projects.

Of course all this get resolved in mass production phase when long term planning methodologies are implemented but in the interim the fabrication cycles are slow and occasionally fluctuate.

An additional challenge associated with MEMS development is that virtually any change to the device, no matter how minute, alters the mechanical behavior of the device. This can be critical as a few nanometers can change electrical response of sound pressure levels. While each process in of itself is predictable the integration of processes such as deposition, annealing, etching, coating etc.. can produce somewhat unpredictable results.

This reality necessitates that MEMS be developed using the trial and error methodology - measuring, dissecting, re-designing and re-fabricating over and over until the proceese as a whole is fine tuned to meet specific objectives.

While its true that producing MEMS devices is complex, takes time and is costly – MEMS have shown to be well worth the investment. MEMS devices have repeatedly proven to be game changers. Today countless MEMS devices can be found in our phones, cars, computers, and so on. In fact since the inception of Audio Pixels the MEMS industry has grown from about \$800 million to roughly a \$10 Billion dollars a year industry and some experts predict that ultimately MEMS will surpass traditional semiconductors to become a trillion dollar industry.

To be successful one needs experience; knowledge, financing and patience. With our recent close of funding we have the first 3 ingredients well in place, but as always patience remains in short supply.

As has been documented we are well into the fourth and final phase of the commercialization plan. We are about two-thirds through a fabrication run with a particular fab that is using a fabrication process flow that has been tried, tested, and refined.

We perpetually monitor and test the results as for example is evident by the recent published results whereby we cycled 4<sup>th</sup> phase test structures over a trillion times – without a single failure.

Additionally we implemented a risk mitigating approach to the fourth phase - for example we decided to independently fabricate 8 separate batches of wafers, and each bath of wafers holds a number of wafers in reserve before undergoing critical fabrications steps as to allow for the possibility of taking corrective measures should it be deemed necessary.

The accompanying technologies of the product are also in similar advanced stages. The ASIC driver which provisions the necessary signal to drive the MEMS using commonly available device voltages, as well as the chip package, and its assembly process, are harmoniously advancing into their final stages. In fact just a few days ago we reached a major milestone on this front as our second generation ASIC was shipped to the packaging house for integration into the chip package. What all this means is that barring an unforeseen event we are more or less on pace to meet the objectives and timelines predicted in previous public announcements.

What are those objectives... well after receipt and verification of the chips we plan to demonstrate the technology at first in the confines of our labs and only to a very select group of high value customers, industry experts and industry analysts.

This private demonstration is planned to be followed with the delivery of fully packaged engineering samples to customers for independent test and validation. Confidentiality agreements prevent me at this time from identifying who may, or may not, be in that select group of customers and experts but let me offer a few general words about our market potential. There are two extremely compelling factors are often overlooked.

The first is that our opportunities span a multitude of applications and industries. Unlike existing speaker that must offer dozens if not hundreds of designs and models of speaker drivers, and unlike existing companies that can only target very specific segments of industry ...we can address a very broad spectrum of applications and markets and do so with a single version of product. Our solution is modular and precise, by cascading differing numbers of chips we are able to meet most every audio application and requirement.

The second factor is the magnitude and stability of the markets. Demand for loud speakers is not likely to disappear – ever. It's a market that has been growing for many decades with little to no real disruption. The incumbent technology clearly has its shortcomings as industry experts, analysts, consumers and even manufacturers view the conventional mini and micro speakers to deliver an inferior audio experience. This paves the way for Audio Pixels to capture the lion's share of is and will continue to be a colossal market.

Yuval and I will have an opportunity to expand on these points during the upcoming Q&A session. In the interim I thank you for your time, attention patience and support.