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Sinar Baja Electric and SB Acoustics

Too Big to Be Kept a Secret

Sinar Baja Electric is a complete speaker manufacturer facility, a group of vertically integrated companies serving an impressive number of OEM companies all over the world. *audioXpress* visited the company in Surabaya, Indonesia, to see how it intends to convert its SB Acoustics speaker driver brand into a worldwide reference, designed in Denmark, manufactured in Indonesia.

By
João Martins
(Editor-in-Chief)

On several of the factory walls at Sinar Baja Electric is an inscription in Indonesian, which translates to “If It Can Be Perfect, Why Not?” That says a lot about the company.

It’s not easy to describe an operation as large as Sinar Baja Electric. The company is unique in terms of its capabilities and vertical integration. It is able to start with a product concept and deliver a finished product and packaging. The audio industry is increasingly sourcing better suppliers, preferably full service suppliers, which can be a competitive advantage and not an additional challenge to overcome. Sinar Baja Electric certainly is that.

The industry should know more about this speaker manufacturing company’s capabilities. It has experience in practically every product segment—from high-volume consumer to extreme performance hi-fi products, which it aggressively promotes under the SB Acoustics brand.

OEM Supplier

There’s a strong chance that *audioXpress* readers have heard or even own a product using drivers manufactured by Sinar Baja Electric. Based

in Surabaya, Indonesia, Sinar Baja is one of the largest OEM speaker suppliers to the automotive, professional and consumer audio, and the music industry, with notable clients that include Yamaha, Roland, Sharp, QSC, Wilson Audio, Steinway Lyngdorf, and many other well-known brands.

This vertically integrated company has the capability to produce all parts in-house through one of the group’s five sister companies, with six different facilities, in total.

Even for audio industry veterans experienced in visiting suppliers in the speaker business, it is not easy to find a company that combines so many processes and be able to respond to so many different market segments with completely different requirements in terms of volume and quality control procedures (e.g., car audio, professional audio, and high-end hi-fi).

While many consumer audio companies outsource in China, Sinar Baja offers a competitive alternative in both high-quality and high-volume projects, based in Indonesia. And the company itself has successfully expanded to attract clients from around the world, delivering products and

services from emerging economies such as India, and expanding distribution of its own brand, SB Acoustics.

Sinar Baja is also a market leader in its own domestic market, with brands including Rhyme Professional Audio, ACR Speaker drivers, Legacy Car Audio, and others. SB Acoustics has only been the most visible brand to come out of Sinar Baja.

Sinar Baja produces around 8 million drivers per year, with a capacity of about 10 million or more with the production facilities it has in place. We know the company because of SB Acoustics, its high-end speaker brand, but that business represents roughly 7% of the total Sinar Baja Electric sales. Its own brands represent 31.5% on the home audio front and 18.7% in professional audio applications. Home audio makes for the largest share of its OEM business, with more than 40%.

The vision for the company, as defined by its founder and president, Hendro Sunjoto, is to be a world-class manufacturing company, the market leader in Indonesia with a dedicated strategy of distribution, promotion, and price, while producing mid- and high-end speakers for the international markets. One of the company's key market segments is the automotive industry, with major clients in Europe, Asia, and the US including Honda, Toyota, Daihatsu, Suzuki, Isuzu, Hino, Kia, Hyundai, Mitsubishi, Bentley, Aston Martin, and Skoda.

And for those accustomed to lower standards from Asian suppliers, it's important to reinforce that Sinar Baja's mission statement includes verified ISO/TS quality standards, supported by RoHS standards. The company also has implemented strict environmental standards.

Location

Surabaya, the capital of Jawa Timur (East Java), is the second-largest city in Indonesia, one of the biggest exporting countries in the world. The metropolitan area has a population approaching 7 million, making it the third largest in Indonesia, after Jakarta and the Bandung region. Full of history, Surabaya is considered one of the key nation's birthplaces of Indonesia, following World War II.

The city is one of the busiest ports in the country and its airport is the second busiest in Indonesia. A multi-religious modern city, the city has great economic potential and welcomes foreign businesses and people. For regular business visitors, Surabaya offers environments from modern facilities and great restaurants to charming Dutch colonial buildings from the 19th century. The only thing the occasional visitor will need to worry about is transportation and the typically chaotic traffic—



The Sinar Baja Electric Group is one of the largest loudspeaker manufacturing companies in Asia, producing transducers and speaker drivers, including voice coils, steel chassis, and metal parts, cones and spiders, wood working facilities, and finishing. Expanded in 2008 with more than 80,000 m² newly built facilities, Sinar Baja Electric 1 (SB1) is truly an impressive factory.



Elly and Hendro Sunjoto at the company's speaker driver assembly showroom in Surabaya, Indonesia.



Displayed are some of the many speaker drivers manufactured by Sinar Baja Electric at the main facility, which handles all driver and voice coil assembly, steel chassis and metal part production, the tool dies, mold, and jig workshop, R&D, and engineering.



The R&D and engineering departments at the main speaker driver factory are fully equipped. Currently the company employs 25 acoustical and mechanical engineers.



after all, this is the fourth most populous nation in the world. Indonesia uses the metric system but driving is done on the left side and occasionally, local vehicles travel in the opposite direction on the margins of some busy roads. Better to trust someone local to drive.

The weather is hot and humid in general—the average high is 33°C (91°F) and the average low 26°C (79°F)—and it rains an average 147 days of the year (driest season from July to October).

Foundation

Our visit to Sinar Baja, was guided by Elly Sunjoto (operations director), together with Bo Albrechtsen, SB Acoustics' Director of Sales and Marketing, and

Frank Nielsen, CEO of Danesian Audio, currently in charge of R&D.

During the visit, we had the chance to interview Hendro Sunjoto, the company founder and its current chairman and president. Sunjoto, Indonesian of Chinese filiation, was born and raised in the region. He already had a background in manufacturing—producing watch bracelets—when in 1981, he decided to start building speakers in Surabaya to supply the aftermarket automotive market. He saw the opportunity to build speaker drivers since no other company in Indonesia was doing it, and the industry was still expanding. He purchased modern machines from Japan and Taiwan, hired a Japanese



Johannes, Factory Manager, shows one the many cones produced at Sinar Baja Electric soft parts division.





engineer to set up the operation and started what is now Sinar Baja, but initially it was importing most of the parts. Because Indonesia has a large low-income population, the market for low-end drivers was significant, allowing the company to expand, and quickly establish a second factory for plastic injection, to support the speaker manufacturing.

In 1983, he created a steel chassis and zinc plating finishing production. In 1985, he started a steel T-yoke facility, in a joint-venture with his brother and a Taiwanese investor.

In 1987, Sunjoto started exporting car speakers to the US, selling to brands like RadioShack, Sparkomatic, Audiovox, and selling OEM parts to Taiwan. Gradually, Sunjoto expanded his production

and facilities to avoid buying parts elsewhere, have better quality control, and expand the level of services he could provide.

Also in 1987, he created a factory dedicated to cone and spider production. In 1990, he created a larger plastic injection parts facility. In 1991, Sinar Baja opened a steel upper plate production area and chassis painting facilities. In 1995, Sunjoto established a second T-yoke factory in China. After acquiring the T-yoke factory, Indoyoke, in 1993, the group decided to open another T-yoke factory—Sinar Badja Panyu in China—for all metal part production using the know-how from Indonesia.

He also saw the opportunity to supply large clients such as Foster and Panasonic and, to this

Some materials used in cone production and some samples of papyrus, used in the new generation Satori drivers, shown here with the final product in natural white finish. These are also available in black. The fibers are still visible, but for more traditional clients, it will be better accepted.



Voice coil production is one of the key areas for Sinar Baja Electric since the foundation of the company. Coil winding in-house enables Sinar Baja to easily and quickly optimize driver specifications to fit client's target parameters.

day, that metal part operation depends upon many other local clients, apart from Sinar Baja's own production.

In 1996, the company started a workshop with CNC machining and, in 2000, it embarked in finished loudspeaker systems production with woodworking facilities. With approximately 2,200 employees, Sinar Baja's current main focus is OEM/ODM production.

The current main factory is only six years old and continues to expand. Designated as SB1, the main location is completely dedicated to driver manufacturing, and is directly supported by SB4, which is dedicated to cone and spider production (soft parts), and a third factory (SB3) for plastic injection molding. The second largest factory is also dedicated to cabinet production, and now expanding to electronics parts and assembly.

All factories in the group operate independently, have their own management teams, their own market strategies, and exclusive clients. Being a family-owned group, not controlled or depending on a single person, Sunjoto understands the importance of growing his business by sharing his responsibilities to ensure continuity.

Elly Sunjoto is the visible face of Sinar Baja Electric at the major trade shows. It seems as though in the audio industry, women are increasingly in control in many Asian companies, something we don't see so much in the US or Europe.

The Factory

In a scenario where prices in China are increasing and industrial operations are moving to other less expensive Asian countries, Sinar Baja is able to be competitive in price, but its main competitive advantages are more solid, since the company has

increased its skills over the last two decades. As Sunjoto admits, the challenge is to keep increasing quality and compete on every price level, not just on the low end. The other challenge is promoting its brand in many different markets, such as China, where it still struggles for recognition.

For further expansion, the company is aware of the global challenges. That's also why Sunjoto invested in Europe and established an operation in Denmark. To move up the scale, the solution was to reinforce the R&D capabilities of Sinar Baja and invest in higher quality products for its own brand.

In 2006, Sinar Baja Electric created a joint technology effort with a team of Danish engineers. The collaboration resulted in the creation of Danesian Audio Aps, of which Sinar Baja Electric became a full owner in 2009. The company obtained patents for new designs, and created solid foundations for SB Acoustics, which is now the company's international flagship brand.

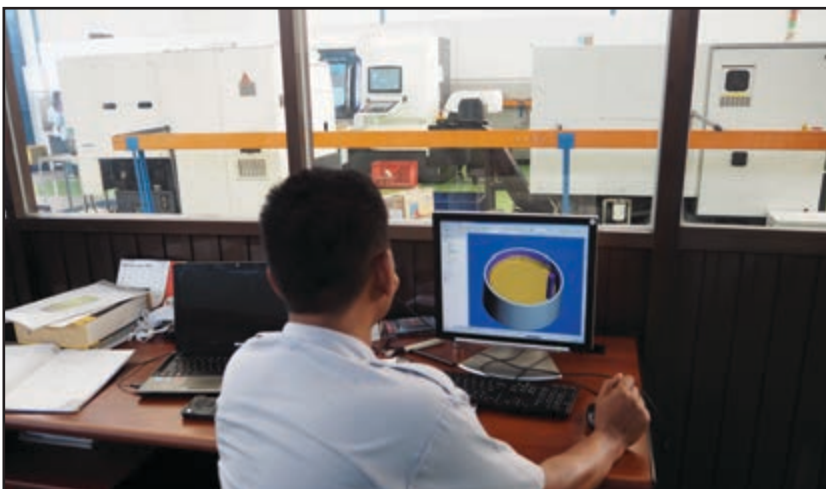
Also, both R&D teams in Denmark and Indonesia work together to develop new designs and technologies, taking ideas and prototypes to production sampling with better coordination at all stages for each project. Both teams are also equipped with all the gear and the facilities they need, using CAD/CAM and all the needed test and measurement tools. By having product development strategies and combining world-class design with a technical partnership with Danish engineers, the company could significantly enhance each products' performance levels.

After visiting all those departments and the extensive factory facilities, any attempt to describe the different factory stages would take more pages than we have available. So, I'll try to sum it up.

The facilities are modern and cleverly designed. In a hot and humid region such as Indonesia, the critical production lines are situated on upper levels, using the ground levels for logistics, warehouses, and machine maintenance. Certain areas are air-conditioned and clean areas are isolated from dirtier operations.

Visitors to Sinar Baja will find most of the staff has been with the company for more than 20 years. They are highly skilled and rewarded for it. The working conditions are superior to those you would find in many other Asian companies and, in some areas, at the level we would expect from a European or North American industry.

In the last six years, there has been a lot of focus on working conditions in Indonesia. There are tougher regulations for worker's protection—and of course, salaries are also increasing. The places are clean. People look happy to work there and are



CNC milling, CNC lathe, and wire-cut EDM machines enable Sinar Baja Electric to produce its own jig/ fixtures/ tools for production, as well as steel chassis tooling, plastic injection tooling, parts prototypes, and production machinery.



Speaker assembly lines. Sinar Baja Electric has surpassed the TS 16949 requirements for automotive standards and for ISO 9001 quality certifications.



dedicated to what they do. You can see they are trying to improve. Customers' and even visitors' negative impressions are posted on the wall for everyone to see and respond accordingly.

Speed is not the only criteria. Even though the production managers know they have to compete with highly intensive production from China and improve lead times, the most positive aspect for me, was to see that all the concurrent production lines could be configured in different ways, responding to different product and client requirements. Quality control is extensive and QC resources and facilities are close to the production lines, allowing every level of QA, at mid- or end-of-line stages.

The cone and soft parts production plant was one of the most interesting to visit because it serves many other manufacturers, apart from Sinar Baja's own business and brands. It is able to handle a great diversity of materials. We also saw samples of the new SB Acoustics Satori Egyptian Papyrus proprietary cone material. The factory creates cones, dust caps, and surrounds in all types of materials and the white matte and gloss finishes are one of the delicate processes they handle in-house. Red is another popular option in the automotive market.

Materials are sourced worldwide in their raw forms and treated in the factory for the cone manufacturing, passing through a long process

of soaking pulp, beating, shredding, coloring, and chemical treatments, until the cone bodies are created and pressed using molds that are also manufactured in-house.

The process also involves assembly stages, before the rigorous test procedure that includes waterproofing, F_0 tests, Conical Pen ID tests, pull-and-peel tests, and hardness tests (durometer), which are performed in dedicated facilities.

The manufacturing process includes the



Higher quality products, such as the SB Acoustics range, are assembled in dedicated production lines, in fully air-conditioned rooms, with tight quality control.

production of cone bodies, starting with the selection of the damper material and resin check, dipping, forming in the hot press (automatic and manual body pressing machines are used for different products), cutting, and checking for flexibility and other features.

After reviewing all the processes involved in speaker manufacturing at Sinar Baja, only two parts are not involved, which are the terminals and certain types of baskets. Gradually, the company is also doing more in-house but for many projects for OEM clients it also receives parts the clients have outsourced.

Considering all that we saw, I would recommend that potential OEM clients visit the facilities and discuss project requirements, because the production can be extremely flexible. This means a client that simply squeezes prices to a minimum will probably receive a product manufactured in the corresponding production line, which is probably not what they would be expecting.

For an extreme comparison, the SB Acoustics

Satori range products are hand-assembled in a special room that is kept at a constant temperature and humidity level. Each unit is inspected and tested before leaving the room.

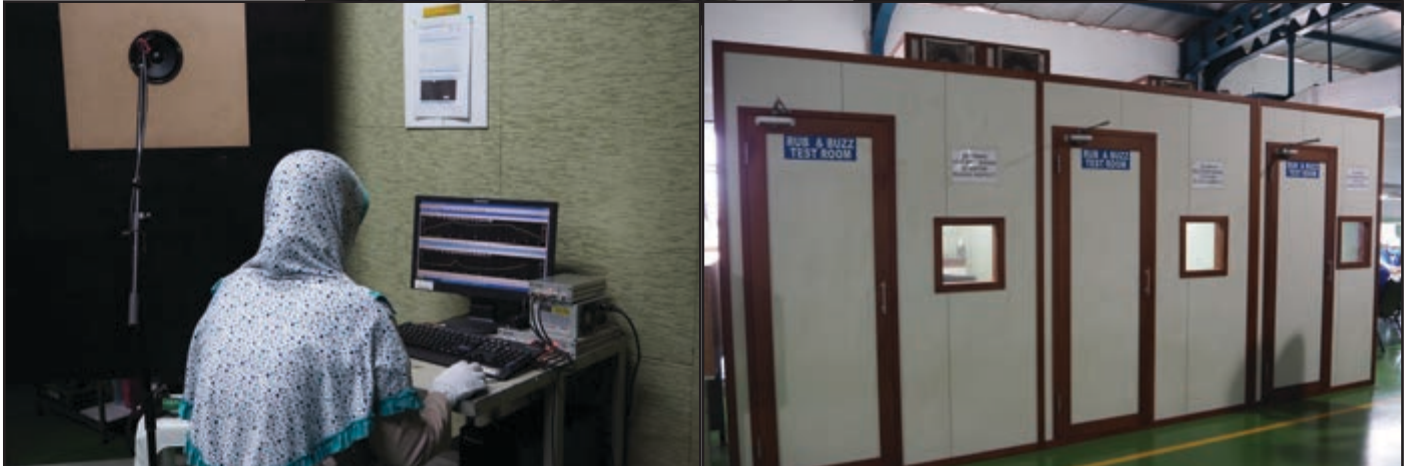
You can also get the VIP treatment or request the high-speed and high-quality production run, with QC done at end-of-line and inspection of materials (e.g., glue) done every two hours, which corresponds to the majority of consumer products.

Facilities are in place to perform reliability testing based on customer requests—from power/reliability testing and weather resistance tests to accurate speaker measurements.

The company’s facilities make production more flexible. Clients can choose how much of the production stages they want to combine, from cone and spider production to high-quality high-gloss cabinet finishing and packaging.

The fact that Sinar Baja also does everything in-house, including sample production and tooling, makes time to market potentially shorter if a project is handled there. To establish exact production

All the factory facilities perform QC and reliability testing based on customer requests. The facilities are extensive for all types of speaker measurements using solutions from Listen (Soundcheck), NTi Audio, DAAS Pro, LinearX Systems LMS, and Audiomatica Clio, among others.



requirements, it is better visit the facility to understand exactly what you get for the price.

SB Acoustics

SB Acoustics was created in 2006 to bring an alternative to the high-end transducer market with a complete catalog of tweeters, wideband drivers, midrange drivers, subwoofers, woofers, midwoofers, and passive radiators. The top line is branded Satori.

SB Acoustics effectively combines three decades of Sinar Baja Electric's experience in transducer manufacturing to the engineering group and the design talents of Danesian Audio in Denmark.

The brand was successfully marketed in different countries, with the US (39%), Germany (21%), and Denmark (11%) being the most important destinations, followed by Australia, Poland, Canada, UK, and Benelux. In 2015, SB Acoustics also entered the markets in Norway, Japan, and China.

The Danish influence is present in everything SB Acoustics does. All SB Acoustic drivers are developed in Denmark by high-end driver designers, which have previously worked with Danish companies DST (Peerless, Vifa, and Scan-Speak), Tymphany, and others.

Based in Denmark, Bo Albrechtsen has been SB Acoustics' Director of Sales and Marketing since February 2015. Apart from having done technical sales worldwide for several other audio companies, he has also been a DIY speaker enthusiast since he was very young, as he confessed. His current mission is to further expand international markets for SB Acoustics, reaching more countries through local distributors and have an increased focus on OEM/ODM production.

In line with the brand's new slogan, "Engineered in Denmark—Manufactured in Indonesia," when Danesian Audio creates a new product or design, the prototypes often use parts produced in Indonesia, and the first samples are made in Surabaya.

Danesian does most simulations for projects, while the R&D department in Indonesia can handle the measurements in its own lab, which is one step closer to production. Typically, after SB Acoustics creates multiple samples and measures them, the best ones are sent to Denmark for further testing. The Danish team gives the final approval on all products.

When a new SB Acoustics prototype enters production, it goes to an assembly line in an air-conditioned room, using more alignment procedures, starting with the chassis and the magnets to guarantee the stability, which shows in the appearance of the final product. Frank Nielsen, who heads Danesian Audio and the Danish



Speakers are pictured under power test.

design team, frequently travels to the factory to follow production. As he says, at SB Acoustics, the tolerances achieved are so high that every driver can be pushed much harder, something that also makes it more difficult to measure.

While the production capacity at Sinar Baja reaches 1.5 million speaker drivers a month, the production runs for SB Acoustics drivers average 100 units an hour due to the demands of constant visual inspection and QC. With the Satori drivers, the factory takes extreme measures, with precision alignment procedures, rigorous inspection after each process, and verification of the machinery every 30 minutes.

It may seem easier to select a product already



A shallow subwoofer is shown on the speaker assembly line.



Sinar Baja Electric Quick Facts

Sinar Baja Electric Speaker Driver Factory, Indonesia

- Established in 1981
- More than 1,000 employees
- Factory Area: 50,000 m²
- Production Capacity: 1.5 millions pieces/month (8 assembly lines)
- Sales Market: 50% OEM/ODM sales and 50% own brand.
- Sales: 70% Domestic and 30% Export

Loudspeaker Assembly Division, Indonesia

- Established in 2000
- 570 employees
- Factory Area: 35,000 m²
- Production Capacity: 60,000 pieces/month
- Sales Market: 50% OEM/ODM, and 50% own brand
- Sales: 60% Domestic and 40% Export

Sentral Bahana Ekatama, Indonesia

- Plastic Injection Division
- Established in 1990
- More than 80 employees
- Factory area: 10,000 m²
- Production capacity: 100 tons/month
- Sales: SBE, OEM - Japanese Companies

Sinar Baja's Steel Parts Division

- Sinar Badja Panyu, China
- Established in 1995
- More than 200 employees
- Factory area: 40,000 m²
- Production Capacity: 2000 tons/month
- Products: Yoke/Bottom Plate
- Sales: 25% Domestic and 75% Export

Indoyoke, Indonesia

- Established in 1985, fully acquired in 1993
- More than 200 employees
- Factory area: 20,000 m²
- Production capacity: 2000 tons/month
- Products: T-yoke, U-yoke, top plate, and automotive parts
- Sales: 25% Domestic and 75% Export

Sinar Baja Electric IV, Indonesia

- Soft Parts Division
- Established in 1987
- More than 150 employees
- Factory area: 15,000 m²
- Production Capacity: 3 millions pcs of cone, dust caps and spider/month
- Sales Market: 90% Sinar Baja Electric and 10% OEM

on the market, since two drivers might look exactly the same, but the attention to detail devoted to the SB Acoustics and, in particular, the Satori range is much higher. That's also why it might be more efficient to have custom-made drivers because from the design stage to production and quality control, everything is more detailed and comprehensive.

The standards of quality are very high at Sinar Baja. They are simply taken to the extreme with the high-end products in the SB Acoustics brand. In terms of market share, the team is fully convinced that it has even more opportunities ahead and that's why it is increasing market awareness for both companies. The SB Acoustics products can be used in many different applications, but they remain at the top in terms of quality.

The fact that the Sinar Baja does its own tooling in-house makes it easy for an OEM client to specify a standard SB Acoustics driver. It can be manufactured with a specific basket and different logo for that client, and only requires a simple change in the process. OEM clients like the fact that they can outsource products that don't require new tooling costs and can still be customized to meet their own requirements.

So far, the SB Acoustics brand has been restricted to high-end audio. However, the company is still considering if future professional products—such as the compression drivers the company is currently developing—will carry SB Acoustics or another brand.

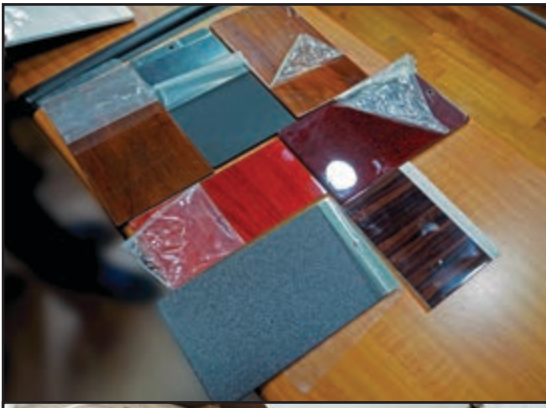
The integration between the work of Danesian Audio in Denmark and the considerable R&D resources located in Indonesia enables the company to respond to all sorts of project challenges, including those from professional audio OEM clients. In many areas, projects are increasingly resulting from the cooperation of both departments.

The balance changes from project to project but that's also one of the key competitive advantages we found in Sinar Baja, since not many factories who receive outsourced projects are involved from the key design foundation in the way Sinar Baja can, both from Europe and at the production location, with considerable R&D resources.

The company is also investing in development tools— from simulation stages to complete CAD/CAM tools—that enable online collaboration between the teams. This type of engineering process also makes it easy to work with clients and for remote collaboration with consultants and technology partners.

Expansion

Over the past two years, Sinar Baja has decided to attend more trade shows. For a long time, the



We did a quick visit to the loudspeaker assembly factory to view some of the high-quality cabinets produced there. They sometimes use molded MDF, which enables them to create cabinets in any shape or form.



company was focused on local events and local promotion, but now SB Acoustics has become a familiar presence at shows both in Europe, China, and the US. Since 2015, the SB Acoustics catalog has significantly expanded with new products, unveiled at the High End show in Munich, Germany.

The company recently launched new midrange and tweeter drivers from the Satori line, expanded the range of subwoofers in the catalog with more models coming, and introduced a range of improved versions of previous designs. Evolving from a stage where the basic SB Acoustics catalog was the result of ideas and projects that Frank Nielsen and Ulrik Schmidt created previously in Denmark, the brand is now focused on responding to the market. SB Acoustics is creating products that fill-in the gaps with more specialized drivers, with the goal of covering all the basics of consumer audio.

Of the 48 different models in the SB Acoustics catalog, 10 were introduced in 2015 and the company expects to launch the same number throughout 2016, including some variations of existing designs—with new cone profiles, new materials, and so forth.

The Danesian team is also designing more wideband high-performance designs, with the compromise of becoming too expensive for certain clients' price targets, even though they perform exceptionally well. At the 2016 High End show, SB Acoustics introduced several upgrades to existing products and several new designs, including the

new Satori beryllium tweeters.

Since SB Acoustics' catalog features more expensive and more complex developments, there's not much room for more lifestyle-oriented driver products. That's where Sinar Baja Electric comes in, with the ability to create a variety of drivers that cover all needs and are doing quite well in the market. They simply have not been branded SB Acoustics.

As Frank Nielsen explains, that's also where



Frank Nielsen and Bo Albrechtsen stand next to some of the new SB Acoustics kits—the two-way bookshelf and 2.5-way floor standing Rinjani kits, using Satori drivers, as well as the Micro Anniversary and the Eka kits.



Some of the SB Acoustics products introduced at High End 2016 in Munich, include the Racetrack 5" x 8" woofer SB15SFCR39-8, using a proprietary hard paper cone developed and manufactured in-house.

the Satori range was founded, serving to separate more expensive projects from a wider range of more affordable—but still high-end—SB Acoustics products and with more generic Sinar Baja Electric products covering the rest of the market.

"If you look at the NRX and MFC line of products – which was the first platform we did—we are now looking at an upgrade, an optimized version of the platform after seven years in the market. As we get more experience, new materials, better simulation tools, we believe in benefiting the customer with those improvements. We always knew that geometry is essential and we are working more and more with geometry."

"The NRX was our basic line of products and it was created 10 years ago," adds Nielsen. "Every time we get new materials, like beryllium, and we optimize the designs, there's always room for improvement. We are working with beryllium and we've been able to implement significant improvements with it, in combination with geometry. For us, beryllium started something completely new and we had to learn how to control it. We tested tons of samples, tons of different assembly methods. You can't just take a known design. With beryllium, we had to understand which

areas had the most benefits, in terms of the cost," he explains.

To promote the new generation of drivers, SB Acoustics also developed a series of kits, released at the High End show in Munich. Those great-sounding kits (we had a chance to test them at the factory listening room) will be used as a tool to promote the brand and sell more drivers through the distribution chain. The kits were also designed with DIY in mind, allowing enthusiasts to tweak at their will, but still achieve excellent results from the basic design and combination of drivers.

The company also hopes that someone will eventually design a studio monitor with SB Acoustics, using the Satori drivers, which it sees as perfect for those applications, in terms of being very dynamic, natural and precise.

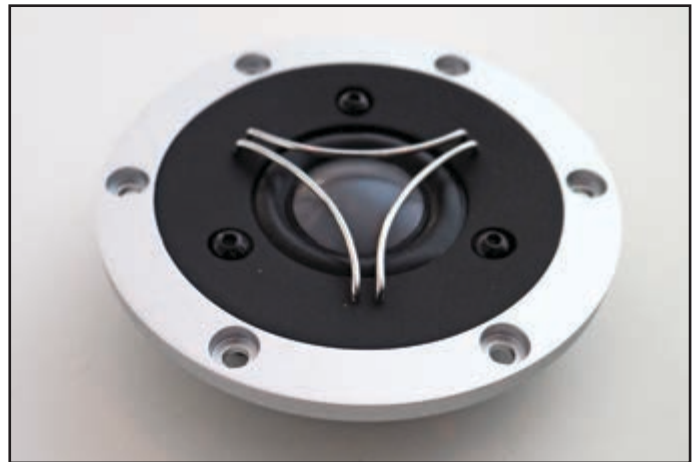
"For the next year," Bo Albrechtsen says, "we know the direction, we know what to do, and we know what should be next for SB Acoustics drivers. For the future, we are working on a completely modular construction where you can choose exactly which parts you can work with, change or interact with, and be able to create any type of OEM driver based on the SBA platform.

In fact, that's closer to what we already do, but we want it to be even more open and wide. That's the idea we are working with now, as a long-term strategy."

Most of the big manufacturers in finished speakers don't promote anything regarding the driver's supplier. That's the challenge for SB Acoustics, as an upcoming brand. That's also why, as a company, it has to focus on promoting what it is able to do and build the relationships directly




The new Satori 5" MR13P-4 midrange neodymium driver has an Egyptian papyrus natural white cone.



The new Satori TW29BN high-end beryllium tweeter combines a neodymium motor system with T-shaped pole piece, dual copper caps for absolute minimum voice coil inductance and minimum phase shift, and dual balanced compression chambers for improved dynamics.

with the brands. Of course, all that remains unseen by the public eye.

For more information about Sinar Baja Electric

and SB Acoustics, visit the company's websites at www.sinarbajaelectric.com, www.sbacoustics.com, and www.danesian.dk. 

Danesian Audio: The Idea Lab

This speaker Research and Development facility, located in Herning, Denmark, was started in 2006, to work with different clients, including Sinar Baja. In 2009, the company restarted as Danesian Audio ApS with full ownership by Sinar Baja Electric. The name reflects the combination of talents of Danish engineers and Danish Engineering tradition with Indonesian production and the manufacturing experience of Sinar Baja Electric.

Leading a small team of five, Frank Nielsen, CEO, was previously responsible for many important Scan-Speak designs. Together with Ulrik Schmidt, Senior Acoustical Engineer, they are now in charge of all design and project handling for SB Acoustics.

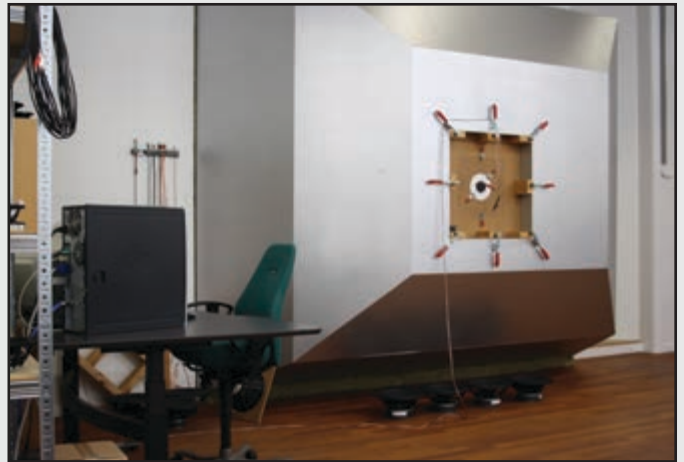
Sinar Baja owns its current building—originally a clothing factory and manufacturing school, which offers all the space the

company needs, enabling SB Acoustics and Sinar Baja Electric to have an European warehouse in that location. The automotive industry and some key audio clients needed short delivery times and it was decided to setup logistics in Europe, making Danesian Audio an agent for Sinar Baja in Europe.

The warehouse does weekly deliveries to car manufacturers and handles deliveries for distributors from there, allowing closer proximity to European markets and greater flexibility handling large projects. In fact, the warehouse stocks most of the distributors' inventory allowing for two to three days delivery. The warehouse rents the space to those companies that don't want to handle logistics and Danesian offers services for that purpose, including shipment.



The Danesian Audio building is located in Herning, Denmark.



This is a purposely designed and built non-reflective measurement chamber.



Frank Nielsen, CEO, leads the design team responsible for SB Acoustic's products.



Ulrik Schmidt, Senior Acoustical Engineer, is in charge of all design and project handling for SB Acoustics.