VIBRANT SOUND BRIDGE
Middle Ear Implant System
Hearing is fundamental to human communication. Therefore, when a person is able to hear little or nothing at all, not only does this restrict their quality of life and enjoyment of their surroundings, it also places huge limitations on social relationships in their private and professional life. The good news is: something can be done about hearing loss.

MED-EL aims to offer people around the world an appropriate solution when one of their key senses - hearing - no longer functions properly. As a result of decades of research, MED-EL is now able to offer the most extensive range of hearing implants. One of these implants is the SOUNDBRIDGE active middle ear implant system. Thousands of patients around the world are already enjoying the SOUNDBRIDGE system. Leading ENT centres offer the SOUNDBRIDGE as a safe, effective and reliable solution to provide optimum compensation for various types of hearing loss. The latest technology is based on engineering that has been tried and tested over many years. Since the first implantation in 1996, the system has been developed and optimised as a result of continuous research.

This brochure is the start of your journey in being able to hear again. Let’s make this journey together!
What Can You Expect?

A WORLD OF HEARING
• Enjoy conversations again with your family, friends and acquaintances without constantly having to ask them to repeat themselves.
• Have relaxed conversations in situations where hearing is difficult, such as in restaurants or amongst large groups of people. Conversations or meetings at work will feel much easier again.
• Hear soft voices and high-pitched sounds, such as birdsong.
• Many users say that their quality of life has significantly improved with SOUND BRIDGE. Read more about this in our “Listen, Share, Connect” brochure or on our website (www.medel.com).

GREATER WEARING COMFORT
• With SOUND BRIDGE, the ear canal remains totally unobstructed. If you cannot tolerate foreign objects in the ear canal or if you find an obstructed ear canal uncomfortable, you will be relieved to hear about SOUND BRIDGE.
• Magnetic force holds the audio processor firmly in place on the head, without the need for it also to be attached to the ear.
• Users find SOUND BRIDGE to be extremely comfortable to wear.

SOPHISTICATED TECHNOLOGY
• State-of-the-art signal processing and microphone features ensure the best quality for your new hearing. The device is suitable for a variety of listening situations as well as your own personal listening usage.
• With the new wireless connectivity*, you can connect wirelessly to your mobile phone, mp3 player or FM system via Bluetooth or telecoil.
• You always benefit from the latest technology: each generation of audio processor is compatible with the implant. This makes it easy for you to continue to upgrade to the latest model years after having the implant. As a result, you benefit from the latest audio processor technology. All that is needed is a simple fitting by the audiologist.
• SOUND BRIDGE (VORP 503) is MR Conditional: you can therefore have MRI scans at 1.5 Tesla. This ensures that you can also benefit in future from MRI examinations, if required.

EASY HANDLING
• The new MED-EL remote control ensures easy and discreet handling of the device.

SUITABLE FOR CHILDREN
• SOUND BRIDGE is the only middle ear implant that is fixed to just one structure of the middle ear. It is therefore independent of skull growth and is approved for use in children aged 5 and above. You will find further information in our “Hearing Implants for Children” brochure or on our website.

FLEXIBLE STYLE
• With the range of interchangeable covers, the choice is yours. Match the audio processor with your hair colour or choose a more eye-catching design. Whatever your preference, there’s a processor cover to suit your style!
SOUNDBRIDGE has been helping people around the world to improve their hearing for 20 years. Based on a wealth of past experience, we have developed a new optimised generation of middle ear implant. We have listened to feedback from leading surgeons and audiologists, as well as the needs of users, and have incorporated this into our development. As a result, we have created a system with a number of new features and improvements. The fundamental way in which the implant works, having been tried and tested and providing excellent results over 20 years, remains the same.

This is how it works:
Like all MED-EL hearing systems, SOUNDBRIDGE consists of two components: the implant and the externally worn audio processor.

1. The audio processor is held securely on the head by magnetic attraction. The integrated microphones pick up sound.
2. The audio processor converts sound into electrical signals.
3. These signals are transmitted through the skin to the implanted part.
4. The implant transmits the signals to the FMT (Floating Mass Transducer). The FMT is the core component of the implant and is smaller than a grain of rice.
5. The FMT converts the signals into mechanical vibrations that in turn stimulate a structure within the middle ear (e.g. the ossicular chain).
6. As a result of these vibrations, the acoustic information is transmitted to the inner ear and thus to the brain, where it is interpreted as sound.
The features of SOUNDBRIDGE make it ideal for dealing with the following three types of hearing loss:

- Mixed hearing loss
- Sensorineural hearing loss
- Conductive hearing loss

**EXAMPLES OF MIXED HEARING LOSS – REVISION SURGERY IN THE MIDDLE EAR**

- You have already had a number of ear operations. Various treatments were tried, but none have helped.
- As a child, you suffered from chronic middle ear infections. As a result, over a period of time your middle ear and its entire structure significantly weakened and ceased to function. As a result, it had to be surgically removed.
- As a result of a number of operations to your ear, your inner ear has been damaged. You also suffer from recurrent middle ear infections.

Mixed hearing loss is not usually a condition that exists to begin with. Patients affected often have to undergo a number of operations to rectify the problems in the middle ear. However, in many cases, these operations do little to help and repeated attempts at surgery do not even bring the desired result. If the inner ear is also no longer fully functional, the condition is described as mixed hearing loss.

**How does SOUNDBRIDGE help with mixed hearing loss?**

- SOUNDBRIDGE is the best solution for patients who have had a number of middle ear operations and have a mixed hearing loss.
- It directly stimulates the inner ear. As a result, what the person hears does not depend on the state of the middle ear.
- Very good results are obtained independent from air pressure differences between the outer and the middle ear and the state of the ossicular chain.
- Stimulation of the inner ear can be increased, according to the extent of damage.
- The ear canal remains unobstructed and is therefore well aerated. This promotes the healing in infections of the ear canal.

**EXAMPLES OF SENSORINEURAL HEARING LOSS**

- Your hearing has deteriorated with age. The doctor has diagnosed age-related hearing loss. You find conventional hearing aids uncomfortable to wear so you rarely use them.
- At work, you were constantly subjected to loud noise, which damaged your hearing. You have tried normal hearing aids, but were not happy with them.
- You feel you should do something about your poor level of hearing. However, as you are prone to inflammation in the outer ear, you cannot wear any kind of conventional hearing aid. Up to now, you have not found any other solution for your problem.

With sensorineural hearing loss, the hair cells in the cochlea are either damaged as a result of excessive strain or deterioration or do not exist at all. SOUNDBRIDGE is then implanted when hair cells are existing but no longer function as well as they should. It is a solution when conventional hearing aids cannot be worn for medical reasons or do not bring sufficient benefit. This can be the case, if for example, the outer ear canal is inflamed or if wearing a hearing aid causes an allergic reaction or pain.

**How does SOUNDBRIDGE help with sensorineural hearing loss?**

- SOUNDBRIDGE is often the only solution for patients suffering from chronic conditions affecting the ear canal, as conventional hearing aids cannot be worn.
- With SOUNDBRIDGE, the ear canal remains totally unobstructed and thus fully aerated. This promotes the healing of inflammation and infections.
- If the FMT is attached to one of the middle ear structures it is able to stimulate the natural movement.
- Additionally stimulation of the inner ear can be increased, according to the level of hearing loss. The combination of both these options provides the most effective way possible of treating hearing loss.
- Excellent improvement in mid-range and high pitched tones ensure excellent hearing results, particularly where there is background noise.
EXAMPLES OF CONDUCTIVE HEARING LOSS

- You were born with deformities to the outer ear and/or ear canal.
- As a child, you wore a bone conduction hearing aid headband that enabled you to hear. However, as you grew up, you wanted a better solution that helped you to hear better and was not conspicuous.
- Your middle ear is blocked. Conventional hearing aids cannot help with this condition.

With conductive hearing loss, blockages in the outer or middle ear mean that sound cannot be conducted properly to the inner ear. The cause of this type of hearing loss can arise from deformities of the ear, the ear canal or the middle ear. Often, the middle ear structures can no longer move.

How does SOUNDBRIDGE help with conductive hearing loss?

- SOUNDBRIDGE provides stable results regardless of the state of the outer and middle ear.
- It directly stimulates the inner ear. As a result, what the person hears does not depend on the state of the middle ear.
- SOUNDBRIDGE can be implanted so that it remains possible for cosmetic reconstruction of the ear to be undertaken at the same time or later on.

Can you relate to one of the scenarios above? If so, there is a high probability that SOUNDBRIDGE can provide a solution for your hearing problems. Read on to find out how your Vibrant Soundbridge journey might continue.
Maintaining the residual hearing together with compensating for the impaired functionality of the ear are the top priorities for MED-EL. SOUNDBRIDGE implant improves the damaged components of the ear while fully preserving residual hearing.

The implant procedure
SOUNDBRIDGE is a partially implantable active middle ear implant system. That means that the internal part of the system is surgically implanted under the skin, behind the ear. The surgical procedure is done under general or local anaesthesia. The implant procedure is standard for experienced ENT surgeons and has already been undertaken in several hundred clinics around the world. Your doctor will be happy to provide you with further information and a consultation regarding the exact surgical procedure. You can find a list of experienced surgeons and clinics on our website.

The implant is placed under the skin, behind the ear. The FMT (Floating Mass Transducer) is the core component of the implant and is smaller than a grain of rice. The vibrations it generates could be compared to the strength of “an ant’s heartbeat”. Despite its small size, it is powerful enough to provide sufficient compensation for hearing disorders.

The FMT is placed on an auditory ossicle or on another movable middle ear structure and its movements cause this structure to vibrate. This reactivates the natural framework of sound processing.

This “direct drive” technology addresses the root hearing problem. As a result, users perceive sound in general and even their own voice as very natural. Another advantage of “direct drive” is that the ear canal remains completely unobstructed.

Fascinating facts about the FMT
• At just 2.3 mm, the FMT is roughly the size of a grain of rice.
• If we were to multiply everything by 10,000, the FMT would be 23 m long and 18 m wide. Nevertheless, it would only move by 1 mm when vibrating.
• Even though the FMT movement is very small, it is so rapid that it would cover a distance of some 66 km each year in constant operation.
• Over 13 years, its continuous vibrations would be the equivalent of the FMT covering the distance between Paris and Berlin.

MR Conditional
The latest generation of implant (VORP 503) is MR Conditional at 1.5 Tesla (magnetic resonance imaging). This technical innovation MRI scans can be carried out, if required. There is no need to worry about your implant.
The SAMBA is the latest generation of audio processor for SOUNDRIIDGE and the BONEBRIDGE. The SAMBA does what its name suggests: it comes in a range of colourful covers and bringing sound and colour into your life. Its cutting-edge technology is as impressive as its design.

The design – as individual as you
The innovative SAMBA design gives you the freedom of choice. With a quick snap and a click, you can attach one of the many interchangeable covers to the audio processor to reflect your mood: Do you feel like turning a few heads today? Then make an expressive statement by wearing one of the bright contemporary design covers. Or would you rather blend in? Then choose a cover that matches your hair colour and hide the audio processor discreetly underneath your hair. For its innovative design and range of features that the audio processor offers its users, the SAMBA was awarded the renowned Red Dot design award 2014.

But the SAMBA does much more than simply reflect your own personal style. Read on to find out more about the technical features offered by the new audio processor.

**SAMBA Audio Processor—Your Life. Your Style. Your Hearing.**

**Choose Your Individual SAMBA Style**

**Basic package**
Your SAMBA comes with these 9 interchangeable covers:

- Silver Grey
- Light Blond
- Golden Sand
- Simply Black
- Glossy Black
- Terra Brown
- Mahogany
- Dark Chocolate
- Teak

**Design covers**
These 12 individual SAMBA design covers can be ordered separately:

- Playtime
- Coral
- Very Berry
- Intarsia
- Driftwood
- Space
- Kilt
- Night Sky
- Glossy Blue
- Melody
- Glossy Anthracite
- Safari

**Wireless connectivity**
**Intelligent Sound Adapter**
**Up to 5 individual adaptable programs**
**Speech Tracking**
**Adaptive directional microphones**
**Simple control and handling with remote control**
MED-EL Sports Headband

Comfort and support for an active lifestyle
The MED-EL Sports Headband provides comfort and security for sports and many other vigorous activities. With the headband, there’s no need to worry about your audio processor shifting out of place or falling off. Now you can keep the audio processor securely in place over the implant thanks to specially-designed pockets within the headband. The breathable microfibre material also protects the audio processor from sweat and moisture. The MED-EL Sports Headband is available in black and comes in four different sizes (XS, S, M and L).

Order your headband at www.medel.com/skinfit-en or contact your MED-EL representative.

SO SMALL, SO FULL OF TECHNOLOGY

Intelligent sound adapter – The SAMBA adapts to your listening usage
The SAMBA distinguishes between different hearing situations (e.g. a loud environment, music, conversations in a quiet environment, etc.) and automatically adjusts to the most appropriate setting. The audio processor also has the ability to learn and recognise manual adjustments that users make regularly in the respective situations. For example, if you always readjust the volume in a quiet environment, the SAMBA recognises and stores this information. The system then automatically adapts the basic settings as fitted by the audiologist to your individual manual readjustments. This saves you from having to make frequent readjustments and fitting appointments with the audiologist hearing aid specialist.

Adaptive directional microphones – Background noise is a thing of the past
The adaptive directional microphones automatically identify and minimise noise interference. This feature is particularly helpful in situations where there is loud background noise, such as in a restaurant. With the SAMBA, you can give your full attention to the person you are talking to – noise interference behind you and beside you is automatically cut out.

Speech tracking – Razor sharp speech, no matter from which direction
This special feature enables the SAMBA to automatically recognise the direction from which the speech is coming and make the corresponding adjustment to the directionality of the microphone. This results in optimum focus on speech. For example, think of when you are driving your car and your passengers are talking to you. You will no longer have any problem hearing them.

Individual adaptable programs – Customizing your hearing experience
You can select one of five programs, each with its own individual settings, for particular situations (e.g. for noisy environment or for TV & music). This makes the SAMBA quick and easy to use.

MED-EL remote control – In control at the push of a button
The MED-EL remote control provided, enables you to control the volume of the SAMBA and change easily between the various programs. With the “home” button, you can restore the basic settings with a single click.

Wireless connectivity* – Connected to the world
The SAMBA can be connected to external devices via Bluetooth or telecoil. This enables the signal from your mobile phone, MP3 player, FM system or assistive listening device to be transmitted wirelessly and with no loss of quality to the audio processor.

These wireless connectivity functions are available with the Siemens miniTek™, sold separately. For further information, please contact your local MED-EL representative, your audiologist or hearing specialist.
Is SOUNDBRIDGE a Solution for Me?

SOUNDBRIDGE is ideal for people who have been diagnosed with mild to severe sensorineural hearing loss, conductive or mixed hearing loss. If you suffer from one of these types of hearing loss and, for medical reasons, you are unable to wear conventional hearing aids, SOUNDBRIDGE could be a solution for you.

Medical requirements
There are many medical reasons why ENT consultants advise people to choose SOUNDBRIDGE. In particular, SOUNDBRIDGE offers a solution for chronic middle ear or ear canal inflammations or infections which make it impossible to wear a conventional hearing aid. SOUNDBRIDGE also offers a solution for people who have sustained damage to their middle ear structures or who have outer or middle ear deformities.

Long-term benefit
MED-EL’s primary objective is to provide the highest quality and most reliable products. SOUNDBRIDGE is the world’s leading middle ear implant system and has proven itself, over a number of years, to be a highly effective and reliable system. Technical reliability goes hand-in-hand with positive clinical long-term experience and high levels of user satisfaction. Thousands of patients around the world are already enjoying SOUNDBRIDGE implant. Leading surgical centres offer SOUNDBRIDGE as a safe, effective and reliable treatment to provide optimum compensation for various types of hearing loss.

How Can I Get SOUNDBRIDGE?
If you are interested in SOUNDBRIDGE system, please contact an implant centre in your area (http://www.medel.com/clinic-finder). They will conduct audiological tests to establish the type and degree of your hearing loss. A consultation will ascertain whether SOUNDBRIDGE is an ideal solution for you. If you would like further information, please visit our website or contact us directly. We look forward to being of assistance.