

## OTOPLAN – PLANNING EAR/COCHLEA SURGERY

### **Problem – Challenge**

*A quarter of the world's population over 45 years suffers from substantial hearing loss. Such patients don't understand whisper or softly speaking (<26dB). Besides that 2-6‰ of all babies are born deaf. An electrode, by which the cochlea is stimulated by electrical impulses, can be inserted to correct these severe hearing losses. However, this cochlea operation is a highly sensitive intervention with a multitude of parameters to be considered. The planning and execution of the surgery has an enormous influence on the result in terms of hearing quality.*

### **Solution**

*OTOPLAN is a revolutionary tablet-based planning software for cochlea implantation surgery. The software quickly generates patient-specific 3D reconstruction from CT images, and easily visualizes each patient's unique anatomy. This way it facilitates surgical planning, i.e. the surgeons sees exactly where they are going before they make the first cut.*

*It makes it easy to gain an ideal view of the cochlea and to choose the best electrode array for each patient to achieve the best hearing outcome. OTOPLAN works with patient specific data, shows insertion depths and covered frequency of each electrode contact. One-step processes exist to automatically generate case reports. Post-operative images can also be processed for quality check of the cochlea electrode insertion.*

*The software is based on years of work by the ENT Group of the ARTORG Department of the University of Bern and the Inselspital. The software has been licensed to CAscination AG, a spin-off company of the University of Bern, and brought to market together with MED-EL in Innsbruck.*

**OTOPLAN – a revolutionary ear surgery planning tool**

**INSELSPITAL**  
UNIVERSITÄTSSPITAL BERN  
HOPITAL UNIVERSITAIRE DE BERNE

**u<sup>D</sup>**

**b**  
**UNIVERSITÄT**  
**BERN**

