

# BANG



## New Generation Earplugs

[www.isl.eu](http://www.isl.eu)

**BANG is a new generation of hearing protection devices specifically designed for the soldier**

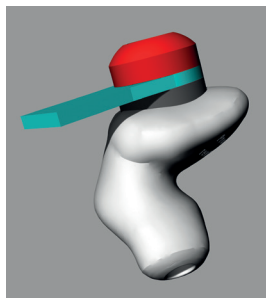
- Hearing protection based on custom made earplug
- Increases communication capabilities
- Provides a better perception of the sound environment

### Functionalities

- High-quality passive protection
- Active noise reduction
- Reproduction of the sound environment at a controlled level (talk-through system)
- Automatic check for proper fit inside the soldier's ear
- The speech signal is recorded directly inside the ear canal, no need for an obtrusive microphone

### Under development

- Spatialisation of sound sources: spatial positioning of the speakers' voices
- Real time noise dosimetry: Analysis of the daily noise pollution and evaluation of the soldier's auditory fatigue
- Full duplex function: enables the user to listen and to talk at the same time



*The ergonomic earplug offers a high level of wearer comfort and can be combined with the soldier's additional equipment*



*The operating unit processes the incoming and outgoing signals and is connected to the soldier's earplugs and communication devices*

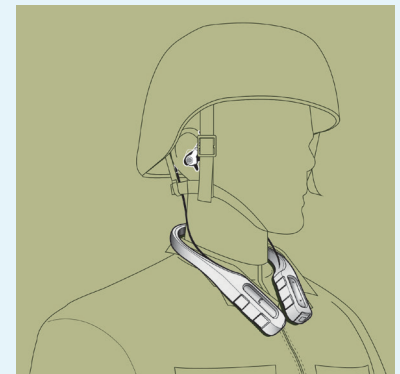


*The custom-made earplug provides high-quality passive protection. This entirely new concept results in a perfect fit and improved communication*



### Technical features

- The device is composed of an active earplug in which a microphone and a loudspeaker, both miniaturised, are integrated. This earplug is connected to a discreet box which is the intelligent central unit for the processing of harmful sounds
- The box is equipped with connectors for addition to several communication tools: PR4G, RIF/FELIN or a smart-phone. It is currently being adapted to the Bundeswehr's "infantryman of the future" - programme (IdZ).



Prototype developed by

**Cotral**

Financed in the framework of a fundamental study by



**ISL – French-German Research Institute of Saint-Louis**

Business Development Office: [bdo@isl.eu](mailto:bdo@isl.eu)  
5 rue du Général Cassagnou • 68301 Saint-Louis • France