OPTImization of the automated Fitting to Outcomes eXpert with language-independent hearing-in-noise test battery and electro-acoustical test box for cochlear implant users

Fact Sheet

Project Information

OPTI-FOX

Grant agreement ID: 262266

Project closed

Start date
1 November 2010

End date
31 October 2012

Funded under
Specific Programme "Capacities": Research for the benefit of SMEs

Total cost
€ 1 747 897,40

EU contribution
€ 1 274 928,80

Coordinated by
OTOCONSULT NV
Belgium

This project is featured in...

Objective

Patients suffering from sensori-neural hearing loss caused by damaged hair cells in the cochlea and diagnosed as being profoundly deaf, are potential candidates for cochlear implantation. Today, there are a number of important limitations with respect to the optimal use of these devices in deaf patients. Firstly, cochlear implant speech processors need to be adjusted so that sounds perceived by the patient are representational and at a comfortable level. Manual fitting, currently the norm, is technically demanding and time consuming and clearly suboptimal, as it involves only two of the many electrical parameters in the speech processor. Secondly, manipulation of the implant settings is based on subjective judgments of the patient , which are often inconsistent and do not reflect the outcomes on psychoacoustic measures. For the last few years, experts in the field have expressed the need for a new fitting process that optimizes the patient's hearing in a more efficient and accurate way. For this to happen, the fitting procedure should change from a comfort-driven approach to an outcome-driven one. It should also address as many electrical parameters as possible. Ideally, a cochlear implant should come with an assisted or (semi-)automated fitting procedure in which a large number of parameters may be adjusted, based on measured psycho-acoustic feedback from the implant user. Such an assisted fitting process would drastically reduce the number of man-hours of fitting during the lifetime of the device with qualitative with qualitatively better outcomes. The main objectives of the proposed research project are therefore (i) to turn an existing theoretical automated fitting model into a clinical application by means of various techniques from statistics, machine learning and optimisation; (ii) to develop an evaluation tool to measure functional hearing capacities, in casu the ability to understand speech-in-noise, representative for day-to-day listening situations.

Fields of science (EuroSciVoc)

natural sciences > computer and information sciences > artificial intelligence > **machine learning**

Programme(s)

FP7-SME - Specific Programme "Capacities": Research for the benefit of SMEs

Topic(s)

SME-1 - Research for SMEs

Call for proposal

FP7-SME-2010-1
See other projects for this call

Funding Scheme

BSG-SME - Research for SMEs

Coordinator

OTOCONSULT NV

EU contribution

€ 499 997,00

Total cost

No data

Address

HERENTALSEBAAN 71
2100 ANTWERPEN
Belgium

Region

Vlaams Gewest > Prov. Antwerpen > Arr. Antwerpen

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation

Participation in EU R&I programmes
HORIZON collaboration network

Participants (10)

Akoestische Bouw Projecten B.V.

Netherlands

EU contribution

€ 318 656,60

Address

Centraleweg 12
4931 NB Geertruidenberg

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

ABC International Trade B.V.

Netherlands

EU contribution

€ 255 885,80

Address

Centraleweg 12
4931 NB Geertruidenberg

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

HORSYS GMBH

Germany

EU contribution

€ 200 389,40

Address

FEODOR-LYNEN-STR 35
30625 Hannover

Region

Niedersachsen > Hannover > Region Hannover

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

UNIVERSITEIT ANTWERPEN

Belgium

EU contribution

No data

Address

PRINSSTRAAT 13
2000 Antwerpen

Region

Vlaams Gewest > Prov. Antwerpen > Arr. Antwerpen

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website

Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

KAREL DE GROTE HOGESCHOOL KATHOLIEKE HOGESCHOOL ANTWERPEN

Belgium

EU contribution

No data

Address

BRUSSELSTRAAT 45
2018 Antwerpen

Region

Vlaams Gewest > Prov. Antwerpen > Arr. Antwerpen

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

STICHTING RADBOUD UNIVERSITEIT

Netherlands

EU contribution

No data

Address

HOUTLAAN 4
6525 XZ Nijmegen

Region

Oost-Nederland > Gelderland > Arnhem/Nijmegen

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG

Netherlands

EU contribution

No data

Address

De Boelelaan 1105
1081 HV Amsterdam

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

MEDIZINISCHE HOCHSCHULE HANNOVER

Germany

EU contribution

No data

Address

Carl-Neuberg-Strasse 1
30625 Hannover

Region

Niedersachsen > Hannover > Region Hannover

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

UNIVERSIDAD NACIONAL DE EDUCACION A DISTANCIA

Spain

EU contribution

No data

Address

CALLE BRAVO MURILLO 38 PLANTA 7
28015 Madrid

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

STICHTING VU

Netherlands

EU contribution

No data

Address

DE BOELELAAN 1105
1081 HV Amsterdam

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

Last update: 6 September 2024

Permalink: https://cordis.europa.eu/project/id/262266