

Acoustic model for evaluation: method of the acoustic condition of leisure noise on public roads

Summary

Profile type	Company's country	POD reference
Technology offer	Spain	TOES20230727004
Profile status	Type of partnership	Targeted countries
PUBLISHED	Commercial agreement with technical assistance Research and development cooperation agreement	• World
Contact Person	Term of validity	Last update
Rita ELSTE - TOMSONE	27 Jul 2023 26 Jul 2024	27 Jul 2023

General Information

Short summary

This Spanish SME improves and preserves of acoustic quality in society by applying the most appropriate and optimal techniques in each situation. The company is adapted to the user needs. The technological innovation is a calculation method of evaluate leisure noise on public roads, which did not exist until now, but that has arisen due to the need of the control noise in the city centres and tourist areas. The partnerships sought are whit public and private entities that require this technology

Full description

The company is an 18-year Spanish SME specialised in acoustic with international demonstrated experience in environmental acoustic (for infrastructure, cities, industry, etc.).

The company services are organised by 3 sectors:

- **Building:** The requirements of insulation and acoustic conditioning of buildings are stricter and technically complex.
- **Industry:** Acoustics in the industry has a double aspect, the protection to the environment and the protection to the worker.
- **Environment and Infrastructures:** Acoustic pollution management is required for all administrations since the publication of European and national legislation on noise pollution.

There are empirical models to determine the acoustic emission power of a transport or industrial infrastructure, such as the CNOSSOS-EU (Common NOise aSSessment methOdS) model, but there was no model for calculating the noise generated by leisure activities, a serious and important problem for city centres and tourist areas. Until now, measurements made in situ, which limited the capacity for action and diagnosis.

The company decided to develop an empirical model of leisure noise emission, which would relate the extrinsic and measurable parameters of leisure (typology, number of tables on a terrace, occupation, etc.) with the power emitted by this type of noise, just as it is done with the existing models for infrastructures. Subsequently, it has defined a leisure acoustic nuisance evaluator based on specific evaluators on each façade of residential buildings to compare the severity of the state of the leisure environments and areas and evaluate which improvement actions to undertake in each of the activities and environments.

The partnerships sought are with entities that require this technology. The main interest of the company is to establish agreements regarding the mentioned technology and in some other fields to be able to further develop the involved technologies in each of the cases. This may also include opportunities to collaborate within European Research funded projects.

Advantages and innovations

- The company has created a totally new leisure noise prediction model because nothing existed for calculating leisure noise in areas of high leisure activity, for example, outdoor terrace areas.
- For the generation of the model, a compilation of the data of the activities of the area to be modelled, the extension of facades and position of its terraces, indoor and outdoor capacity, typology of activities, etc., has been carried out. All these data have allowed the validation of the model.
- The acoustic emission and affectation model allows knowing the number of people affected by leisure noise in the area and their location, as well as the adoption of corrective measures, testing the effects of changes on the model, for example, in the surface of the terrace, the maximum capacity, the schedules, etc.
- The leisure noise prediction model aims to provide the administrations and the other entities interested, with the ability to prepare leisure noise maps through prediction, in order to truly assess the effect of this type of noise and allow the well-founded implementation of plans realistic action.
- The model has been built in the similarity of the road or railway models, using characteristic parameters of the activities (capacity, type of activities, schedule, etc.) for the emission of the terraces and the facades of the leisure activities.
- The model has been validated and corrected through leisure acoustic measurements, adjusting its parameters to be faithful to real leisure situations.

Technical specification or expertise sought

Stage of development

Available for demonstration

Sustainable Development goals

- **Goal 3: Good Health and Well-being**
- **Goal 11: Sustainable Cities and Communities**
- **Goal 8: Decent Work and Economic Growth**

IPR Status

IPR applied but not yet granted

Partner Sought

Expected role of the partner

Type of partner: Academic, research organisation, SMEs, Big companies, Other (Public Administrations).

Role of the partner: The main interest of the company is to stablish agreements regarding the mentioned technology and in some other fields to be able to further develop the involved technologies in each of the cases. This may also include opportunities to collaborate within European Research funded projects.

Type of partnership

Commercial agreement with technical assistance**Research and development cooperation agreement**

Type and size of the partner

- **Other**
- **R&D Institution**
- **SME 50 - 249**
- **University**
- **SME <=10**
- **SME 11-49**
- **Big company**

Dissemination

Technology keywords

- **005006001 - Acoustics**
- **03007 - Sound Engineering/Technology**
- **01003023 - Environmental and Biometrics Sensors, Actuators**
- **005006006 - Sensors/Multisensor Technology, Instrumentation**

Market keywords

- **03007003 - Other analytical and scientific instrumentation**
- **03007002 - Other measuring devices**
- **08002002 - Industrial measurement and sensing equipment**



Targeted countries

- **World**

Sector groups involved

