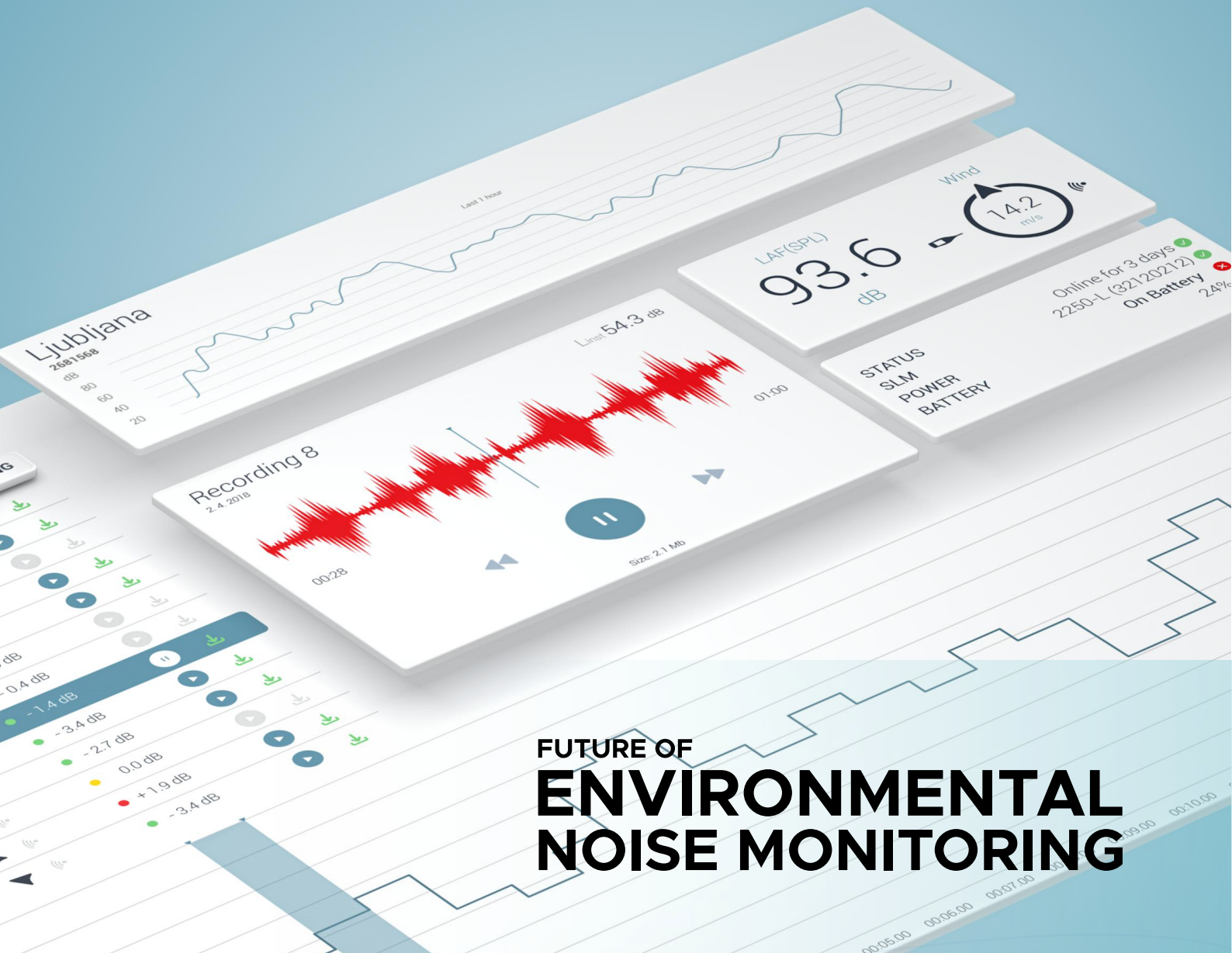
NOISE GUARD



FUTURE OF

ENVIRONMENTAL NOISE MONITORING

OVERVIEW

Noise Guard is a simple and cost effective noise monitoring solution. The kit is based on Brüel & Kjær Type 2250 Sound Level Meter providing continuous periodic measurements of basic sound parameters and calculation of environmental noise indicators.

Noise Guard Kit includes:

- *Noise Guard app running on each terminal*
- *Web based interface*
- *Server with database*
- *Brüel & Kjær Type 2250-L*
- *Weatherproof Outdoor Microphone*
- *Cabinet or suitcase for outdoor use*
- *Weather station (optional)*

USES

Environmental noise measurement and calculation for reporting and noise map calibration

Stand alone noise monitoring or in connection with air quality monitoring system

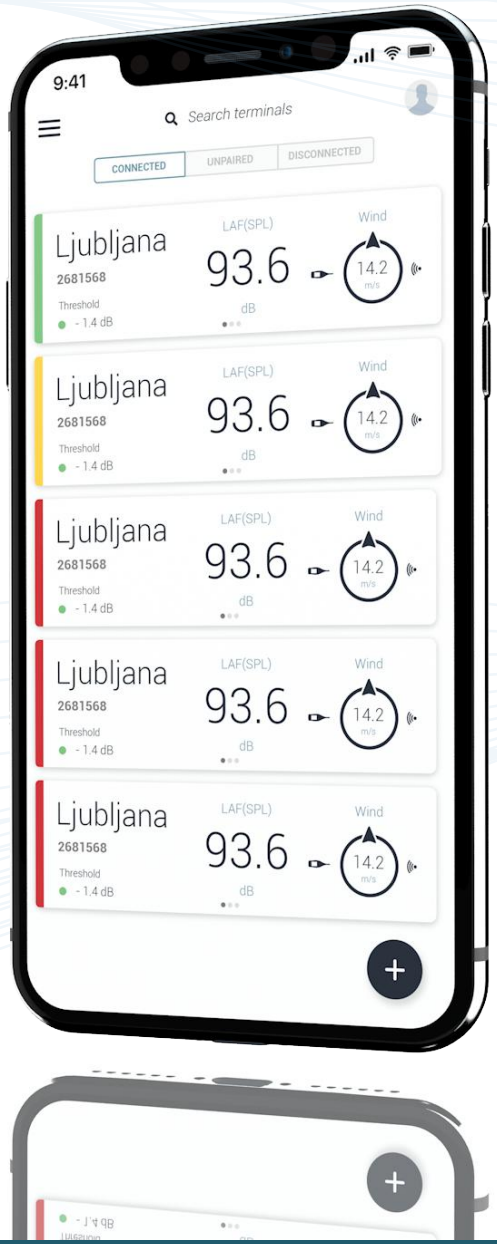
Construction noise monitoring and compliance with regulations

ISO

Special events monitoring and non compliance alerts

FEATURES

- Intuitive and user-friendly user interface
- Detection of noise limit violations based on land planning categorisation
- Recognition of dominat noise sources (level based event detectiton)
- 1 second SPL sampling rate
- Compatible with Vaisala weather station (3 or 6 parameters option)
- Alert function in case of noise limit violation
- Calculation of favorable/unfavorable conditions in compliance with ISO 1996-2 2017
- Compliance with a variety of national and international calculation standards
- Measures and calculates environmental noise according to ISO 1996
- Up to five days autonomy



WEB INTERFACE

At the core of Noise Guard monitoring solution is an easy to use web interface. Data gathered by terminals is sent to the server. Web platform displays the data gathered by the terminals in a user-friendly way.
Users can access the web application through a supported web browser from any device that is connected to the internet.

Webpage enables users to view collected data in a variety of ways. User can choose between three different views:

Terminal view *Basic realtime overview of every terminal in the system.*

Map view *Basic parameters of every terminal displayed on a map.*

Data view *Collection of all data. Calculated daily indicators, day view with hourly average LA_{eq}, and periodic view with selected minute intervals and associated sound recording files which can be played back instanitly.*

BROWSER SUPPORT

MEASUREMENTS & CALCULATIONS

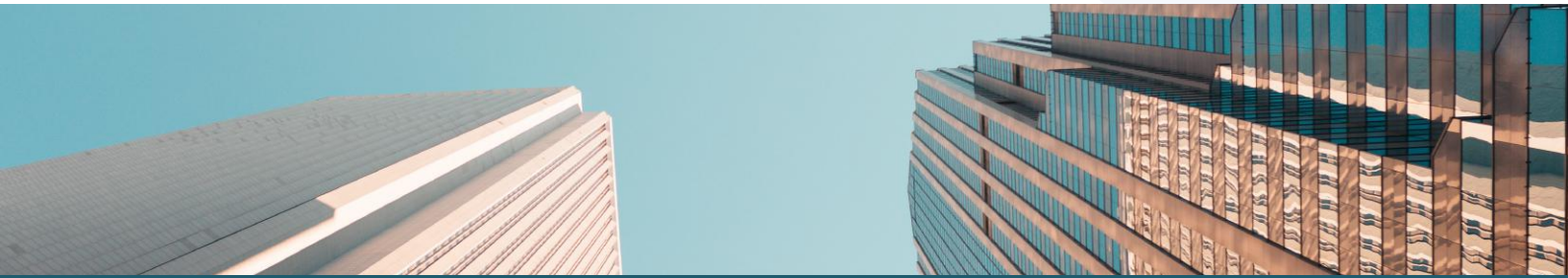
Noise Guard performs measurements of basic sound parameters and calculates most common environmental noise parameters:

- **L_{Aeq}** *Equivalent Noise Level - the A-weighted level of time-averaged sound pressure of a time period.*
- **L_{eq} (1-hour)** *Any other period can be defined*
- **L_{10}** *The sound pressure level exceeded for 10% of the time period*
- **L_{90}** *The sound pressure level exceeded for 90% of the time period*
- **L_{AE}** *Exposure level of defined time period*

Noise Guard calculates daily environmental noise paramaters caused environmental noise. By EU standards L_{den} is defined as LA_{eq} measured over the whole day:

- **L_{dn}** *Day-night Noise Level - combines the day and night measurements with a penalty added to the night-time noise*
- **L_{den}** *Day-evening-night Noise Level calculated from weighted values for each part of the day*
- **L_{day}** *Average sound pressure in dBA over daytime period (L_{dn} 06.00-22.00, L_{den} 06.00 to 18.00)*
- **$L_{evening}$** *Average sound pressure level from evening time period (L_e 18.00 to 22.00)*
- **L_{night}** *Average sound pressure at night (L_{dn} and L_{night} 22.00-06.00)*

These indicators are calculated from logged data throughout one day. Noise Guard allows user to configure the day/evening/night intervals and penalties.



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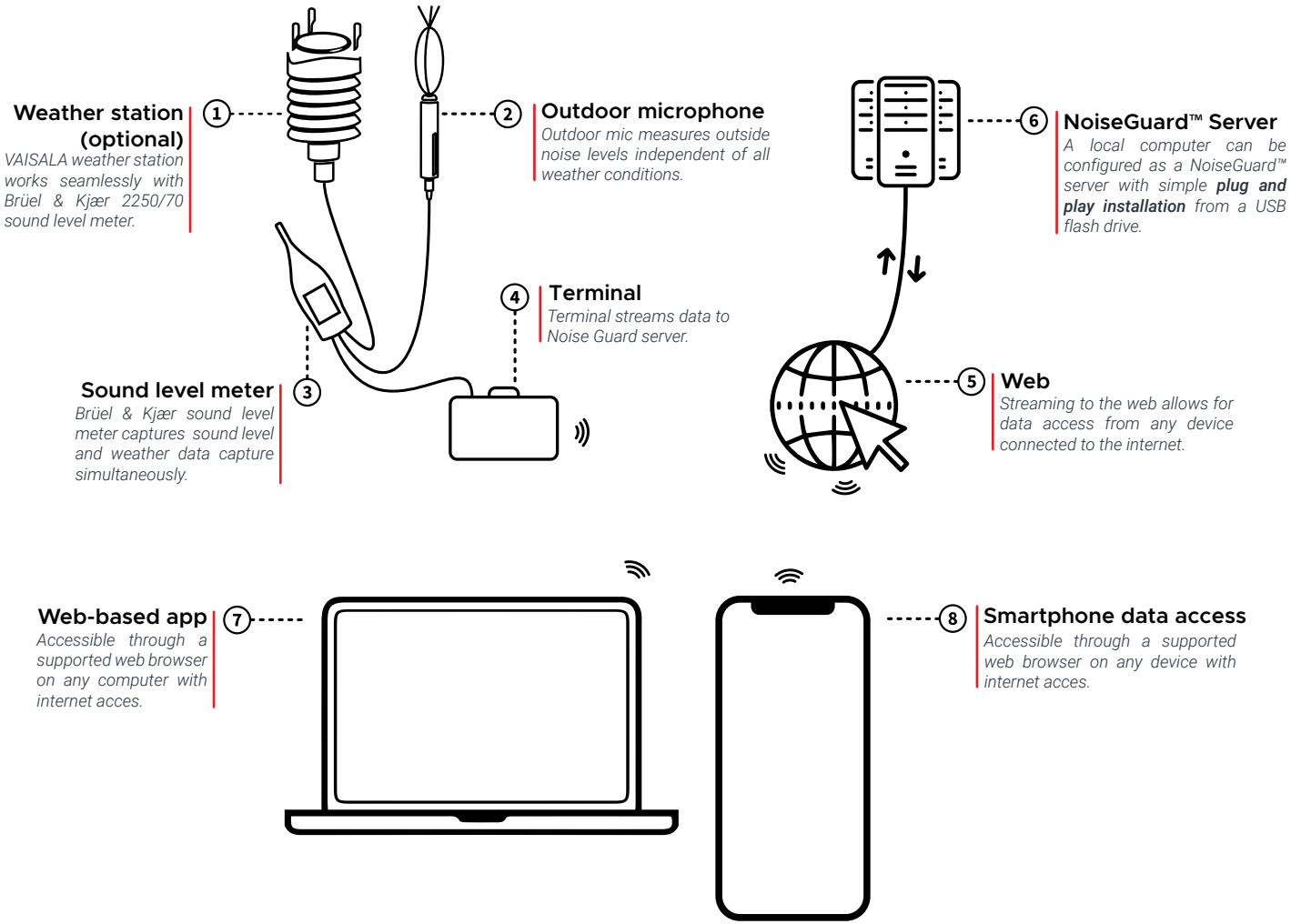

IMS merilni sistemi d.o.o.
Cesta Ljubljanske brigade 23a
SI-1000
Phone: +38615000930
info@ims.si