Environmental monitoring

www.softechweb.it
SARA is Softech’s solution to monitor and analyze the environment in airports and urban areas. Scalable, modular and with an intuitive graphical interface, SARA continually collects noise and air quality data from monitoring control units.
SARA is Web based, multi-airport architecture with fully customizable interface profiles and languages. Control units can connect to the central server via a number of connection modes, including LAN, WiFi, ADSL, 3G/4G, GPRS, GSM.
**Noise monitoring terminal**

**Stainless steel cabinet, alarm and temperature monitors (permanent)**

**Class 1 Noise Analyzer:**
- Larson & Davis, 01Db, Brue & Kjaer
- Norsonic, SINUS
- Softech

**Outdoor stainless steel microphone**

**Industrial standard fan less solid state datalogger** *(32 GB solid state disk data storage, up to 3 months)*

**Options:**
- VAISALA multisensor weather station
- IP TVCC
- Solar power or power switching with a 5 days backup battery
- 3G/4G, WiFi, ADSL data transfer
### Air quality monitoring terminal

#### Pollutant analyzers available for:
- CO, NO, NO\textsubscript{X}, NO\textsubscript{2}
- BTX, HYDROCARBONS
- PM\textsubscript{10}, PM\textsubscript{2,5}
- O\textsubscript{3}, SO\textsubscript{2}

#### Shared resources with noise network:
- Datalogger
- Communication equipment

#### For standalone installations:
- Specialized datalogger
- 3G/4G, ADSL communication

#### With SARA-AIR software option:
- SARA-AIR web interface
- Correlation between flights and air pollutants
- Real time control of analyzers
- Warning and alarms
Tracks receiver

Radar tracks from certified Authority
Tracks receiver

Radar tracks from certified Authority

SARA-ADSB receiver real time evaluation of aircraft position, in flight and on the ground.
- Fully integrated with SARA;
- Interfaced with third-party tools.
Environmental Monitoring Software
Flight tracks

Display/Replay
Flight tracks

Display/Replay

Gates, SID, areas
Flight tracks

Display/Replay
Gates, SID, areas
Internet display
EMT real time control

Set up
EMT real time control

Set up

Noise levels
EMT real time control

Set up
Noise levels
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EMT real time control

Set up
Noise levels
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Set up
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Time sync
Download
Data analysis

Noise analyzer tool
Data analysis

Noise analyzer tool
Meteo analyzer tool
Data analysis

Noise analyzer tool
Meteo analyzer tool
Data validation
Data analysis

- Noise analyzer tool
- Meteo analyzer tool
- Data validation
- Correlation
Data analysis

- Noise analyzer tool
- Meteo analyzer tool
- Data validation
- Correlation
- INM/AEDT model
System tools

Configuration
System tools

Configuration

Task scheduler
System tools

- Configuration
- Task scheduler
- Raw data import
System tools

- Configuration
- Task scheduler
- Raw data import
- System warning
### System tools

- **Configuration**
- **Task scheduler**
- **Raw data import**
- **System warning**
- **Web tickets**
Reports

Noise events
Reports

Noise events
Flights
Reports

Noise events
Flights
Calibration
Diagnostic
Air quality
Key points

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Key points

- ADS-B technology
- Specialized local and remote maintenance support
- Noise office service
- Noise and air quality cloud service
Optional Equipment

SARA
Innovative, smart and with a high quality/effect graphic interface, SARA TOTEM shows environmental real time information to airport travelers.

**Data Sources**
- SARA ADS-B receiver (or equivalent)
- SARA Noise monitoring stations
- METAR (METeorological Air Report)
- SARA AIR pollution monitoring stations

**Features**
- Real time flights positions over the airport region
- Real time weather information
- Last 24 hours air quality pollution trend (option)
- Indicator of last-hour air pollution hazard (option)
- Last 5 minutes real time noise levels trend
- Airport surrounds detail with real time arrivals/departures and noise stations levels
SARA Public Viewer

Main Information shown

- List of flights departing / landing at the airport
- Visualization on 2D / 3D maps of aircraft tracks
- Display on 2D / 3D map acoustic levels measured from fixed or mobile stations
- Display in "near real time" or historical mode with the possibility to customize playback speed
- Selection filter on landings / departures and the historical period of interest
- Possibility to identify a map point by entering the address (geo coding)
- Traced closer to a point on the map
- Noise perceived at a point on the map

Distance between a point on the map and a plot point
Distance of the flight from the airport

In addition, the software allows the entry of a complaint that is stored in the central database of SARA.
Installations

- **Italy:**
  - Malpensa - Milan
  - Linate - Milan
  - Orio al Serio - Bergamo
  - Capodichino – Naples
  - And other 18 airports

- **Brazil:**
  - Rio de Janeiro

- **Saudi Arabia:**
  - Jeddah

- **Lithuania:**
  - Vilnius
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