



Convergence of products and solutions for georeferencing, modeling, simulation and acoustic studies. Noise environmental impact studies and smart city management. Drone mapping tools and georeferenced simulations





PARTNERS, TOOLS, PRODUCTS AND RESELLERS

Video high end solutions from 3R Brasil Tecnologia (click here)











Lavg

dB(A)

VDV

NoiseAdVisor TWA

VibAdVisor VDV

EPI

WBV

<u>____</u>

NPS

dB

eVDV

VibAdVisor eVDV

TWA 📕

WBV



A(8)

WBV













History Predictor-LimA software suite

| Year | | Predictor | LimA |
|-------------|---|-------------|-------------|
| 1997 | Predictor Type 7810 is added to the B&K portfolio | V1 | |
| 2001 | LimA Type 7812 is added to B&K portfolio | V3 | V4 |
| 2002 | First version of Predictor with a LimA calculation core | V4 | V4 |
| 2005 | | V5 | V5 |
| 2006 | Softnoise established | V5 | V5 |
| 2007 - 2010 | | V6.0 - V7.1 | V5.1 – V5.5 |
| 2010 - 2018 | Predictor-LimA Software Suite Type 7810 | V8.0 - | V12.01 |
| 2018 - 2019 | EMS takes over the Predictor-LimA portfolio from B&K | V2019 | - V2020 |
| 2020 | Envirosuite takes over EMS, Softnoise starts direct sales | V20 | 020.1 |
| 2020 | New add-on product: Predictor-LimA Cloud Calcuation Service | V2 | 021 |

Predictor-LimA application types

| Product | Application |
|---|---|
| Predictor Basic Standard Type 7810-I | Impact studies for small areas and short stretches of highways and railways. Road, rail, industry, wind turbines. |
| Predictor Basic Plus Type 7810-C | Impact studies for large areas and medium long stretches of highways and railways. Road, rail, industry, wind turbines. |
| Predictor-LimA Standard | Impact studies for small areas and short stretches of highways and railways. Road, rail, industry, wind turbines, |
| Type 7810-G | CNOSSOS-EU. Optional air-traffic. Integration in GIS systems. |
| Predictor-LimA Plus | Impact studies for large areas and medium long stretches of highways and railways. Road, rail, industry, wind |
| Type 7810-A | turbines, CNOSSOS-EU. Optional air-traffic. Integration in GIS systems. |
| Predictor-LimA Advanced | EU Noise maps. Large scale city wide noise mapping. Road, rail, industry, wind turbines, CNOSSOS-EU. Optional air- |
| Type 7810-B | traffic. Integration in GIS systems. |

P D S Pre o D S dictor

Noise prediction methods

| Pı | edictor – 12 methods | LimA – 26 methods | | | | | |
|----|--|--|--|--|--|--|--|
| | NOSSOS, ISO 9613, CRTN, NMPB, PS, RMR, BS-5228, DAL 32, armonoise | CNOSSOS, ISO 9613, CRTN, NMPB, XPS, RMR, BS-5228, DAL 32, Harmonoise | | | | | |
| Tr | NM, ENM-link, HJ2.4, Analyst | ECAC29, CRN, RLS 90, SCHALL 03, DIN18005, VDI 2714 – 2720 – 2571. | | | | | |
| | iNoise Free iNoise Free is for ISO 9613 only, but has the same intuitive GUI as Predictor | AKUSTIK 04, VBUS, VBUSch, VBUF, VBUI, AzB, MSZ 15036, MSZ 2904, UT2.1 – 302, OAL 28, OAL 20, RVS 3.02 | | | | | |
| | | | | | | | |



Main noise prediction software developers

| Software | Developer and country | user- friendliness | Number of calculation methods | Number of features and flexibility | Suited for large scale noise mapping |
|-----------|-----------------------|-----------------------|-------------------------------------|--|--|
| LimA | Stapelfeldt-Germany | + | ++ (26) | +++++ | **** |
| Predictor | DGMR-Netherlands | **** | + (12) | ++ | ++ |
| SoundPLAN | SoundPLAN-Germany | + | ++++ <mark>(45)</mark> | ++ | ++ |
| CadnaA | Datakustik-Germany | ++ | +++ (40) | ++ | ++ |
| IMMI | Wölfel-Germany | +++ | ++(30) | ++ | ++ |

iNoise Free iNoise Free is for ISO 9613 only, but has the same intuitive GUI as Predictor

| Software | Developer and country | user- friendliness | Number of calculation methods | Number of features and flexibility | Suited for large scale noise mapping |
|----------------|-----------------------|-----------------------|-------------------------------------|--|--|
| Predictor+LimA | SoftNoise | ***** | **** | +++++ | ***** |
| SoundPLAN | SoundPLAN-Germany | + | ++++ (45) | ++ | ++ |
| CadnaA | Datakustik-Germany | ++ | +++ (40) | ++ | ++ |
| IMMI | Wölfel-Germany | +++ | ++(30) | ++ | ++ |

Conclusion:

- LimA is the most advanced software
- Predictor is the most user-friendy software



Predictor-LimA Cloud Calculation Service

Trial license request form

Please fill out the form below to request a 1-week trial license.

The Predictor-LimA Cloud Calculation Service (PLCCS) is an add-on to an existing single user license of Predictor V2021.

The PLCCS adds a multi-user cloud license to your single user local license. The pricing (only 980 euros) is based on fair use. See the <u>EULA</u> for more information.

Fast calculations, work anywhere

Buy now...

The Predictor-LimA Cloud Calculation Service enables the use of the new fully automated cloud calculation option in Predictor V2021. It provides you with fast and secure calculations without any investments in hardware or IT. Cloud calculations can be used anywhere and by multiple users at the same time, no HASP key needed. The service uses a modern and secure ISO 27001 certified scalable infrastructure and has been developed especially for large models and EU noise mapping projects.

• <u>https://softnoise.com/products/predictor-lima-cloud-calculation-</u> <u>service/request-evaluation-license-predictor-lima-cloud-calculation-</u> <u>service/</u>

Impact Studies of Noise Emissions from Helipads and Airports

ELEVADAS

ARANHA

`60

PROF. ENG.R.A. PIZARRO

> According to EVAL (Local Environmental Feasibility Study) for Helipads according to RBAC 161 of the Federal ANAC of SMAC Municipal."Highlights the study of the Helipad at the Sulamérica Convention Center"

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LimA: ECAC 29 METHODS

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Acoustic Determinator: Software for the determination of sound power levels according to several Measurement methods including ISO 3744, 3746 and 8297. Acoustic Determinator is used to determine the sound power levels of industrial noise sources by measuring the sound pressure level according to ISO 3744, ISO 3746 and ISO 8297, as well as eight Dutch calculation methods. The sound power levels calculated in Acoustic Determinator can be exported to SourceDB or used directly as input for a noise source in a Predictor model.

| E II3 Line source | | | Thouse | no ponto | Inneg | 1110100 | | | | | | | | | | | | |
|---|--------------|------------|-----------|--------------|---------|-----------|------------|-----------|-----------|------------------|-------------|-----------|------|----------|------|------|------|------|
| Conveyer belt | Source de | escription | Con | veyer belt | | | | | | | | | | | | | | |
| Amusement park II3 Sound emitting wall | Date | | 8-3 | 3 -2005 | 2005 🔹 | | | | erature | Γ | 16,00 | [°C] | | | | | | |
| Haunted mansion | Measure | ime | 13:4 | 5:12 IN | | | | Wind | speed | ŕ | 1.00 | [m/s] | | | | | | |
| Harbour industry | Coundate | | Ehre | tunting (r | oriodia | | | Sectional | and a fee | ا آ (مىنئامار | 25.00 | 25.00 m | | | | | | |
| Peinier crane 37 | Sound Ch | alactei | Thuc | Academing (p | chodicj | | - | wind (| angle (ie | siduve) | 00,00 | | | | | | | |
| - Straddle carrier | Micropho | ne corr. | Non | ie | | - | 2 | Humid | lity | I. | 60,00 | [%] | | | | | | |
| Reefer | | | | | | Acour | tio core | adaba | | | | | | - | | | ſ | |
| Electricity station Electricity station | | | | | | Acous | uc spre | ausnee | su | | | | | | | | Ľ | |
| JK generator | Surface to | pe | Whe | ole cylind | er E | * * | 8 | 1 🛍 | + - | | >+ - > | +• ∄+₫ û | 0 - | <i>.</i> | | | | |
| Mining acvtivities | Measure | fistance | í – | 4.00 fr | nl | D | escription | Da | te S | Start time | Duration(s) | Weighting | 31.5 | 63 | 125 | 250 | 500 | 1k |
| II2 Concentrated source | Landal | | 25.0 | 0 0 | 1 | Me | asurement | ¢ 08-11- | 2002 | 09:15:57 | 60,0 | A | 60,0 | 63,0 | 67,0 | 65,0 | 64,0 | 62,0 |
| Hewrod 25 | Lenght In | e | 25,0 | U [r | nj 2 | Me | asurement | ¢ 08-11- | 2002 | 09:20:33 | 60,0 | A | 70,0 | 73,0 | 76,0 | 74,0 | 73,0 | 70,0 |
| Pompstation | Diameter | source | | 2,00 [r | n] 3 | Log | . addition | | | | | A | 70,4 | 73,4 | 76,5 | 74,5 | 73,5 | 70,6 |
| Petrochemical plant | Area surface | 1 | 785,40 (r | rř] 4 | | | | | | | L | | | | | | | |
| E-ISO 8297 | | | 0 [0 | HB] 5 | Me | asurement | ¢ 08-11- | 2002 | 09:20:33 | 60,0 | A | 70,0 | 73,0 | 76,0 | 74,0 | 73,0 | 70,0 | |
| Plant 1 | | | | | 6 | Me | asurement | ¢ 08-11- | 2002 | 09:15:57 | 60,0 | A | 60,0 | 63,0 | 67,0 | 65,0 | 64,0 | 62,0 |
| - Plant 3 | | | | | 7 | 8 | | 1 | | | | L | | | | - | - | |
| - Plant 4 | | | | | 8 | 000 | 8.S1A | 22-11- | 2002 | 13:39:13 | 112.0 | A | 20.1 | 25.4 | 33.0 | 37.7 | 43.1 | 39.8 |
| Plant 5 | | | | | 9 | 000 | 7 S1A | 22-11- | 2002 | 13:38:15 | 51.0 | A | 19.2 | 26.4 | 38.4 | 46.2 | 50.1 | 42.6 |
| Data manufacturer | | | | | 1 | 000 | 6 514 | 22.11. | 2002 | 13:37:28 | 24.0 | Δ | 19.8 | 26.6 | 41.6 | 45.4 | 43.1 | 43.7 |
| E ISO 3746 | | | | | Ľ, | 1 000 | 5 5 1 A | 22.11. | 2002 | 13-34-54 | 32.0 | ~ | 19.2 | 26,0 | 42.4 | 51.9 | 62.1 | 55.3 |
| Petrum cracker 1 | | | | | 1 | | 0.0 IA | 22-11- | 2002 | 10.04.04 | 52,0 | · ~ | 10,2 | 20,1 | 46,4 | 51,5 | 02,1 | > |
| Petrum cracker 2 | | | | | | | | | | | | | | | | | | |
| II3 Line source | | | | | Lan | | | _ | | | | | | | | | | |
| pipeline pre-treatment | Freq.[Hz] | 31.5 | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Total | | | | | | | |
| | Lp | 78,0 | 80,0 | 85,0 | 90,0 | 90,0 | 93,0 | 90,0 | 85,0 |) 80,0 | 97,7 | | | | | | | |
| | Backgr | | | | | - | | | | | | | | | | | | |
| | Lwr(A) | 107,0 | 109,0 | 114,0 | 119,0 | 119,0 | 122,0 | 119,0 | 114,0 | 0 109,0 | 126,7 | | | | | | | |
| | | | | | | | | _ | | | | | | | | | | |

• Extensibility LimA's software architecture and its extremely fast calculation speed make it the preferred software for integration with other tools. LimA modules can run behind external software with interface tools to other solutions. Tools and functionality include:

- LimAarc: Plug-in tool for ArcGIS[®]
- On-demand noise mapping Day, Evening, Night (Oden): Server based user interface for noise calculation via the Internet
- GKZ Organizer: Provides automated processing of noise maps, starting with collecting model data from Web Service, then calculates noise and exposure, prepares results graphics and finally reports
- MapWindow GIS: An Open Source GIS tool. It can be used to set up LimA models, display results and organize calculation requests
- Linux support: Nearly all LimA modules are available for Linux-based operating systems.





SOFT



ACCURATE MODELING WITH DRONES / RPA (S) & PREDICTOR+LIMA

• KMZ orthophoto and 3D models with topography of the site, generated with Agisoft Photoscan and QGIS.

• 3R Brasil Tecnologia is a reseller and partner company in the development of innovative projects through the Postgraduate Program in R&D in Metrology at the Pontifical Catholic University of Rio de Janeiro / Brazil.

• The R&D projects provide scientific support to 3R Brasil Tecnologia and cooperate closely with Engineer Rogério Dias Regazzi, one of our former Masters Student at PUC-Rio and RHAE Researcher in INMETRO at The Human Resources Training Program in Strategic Areas (RHAE)



PRODUCT INFORMATION:

PREDICTOR™-LIMA™ SOFTWARE SUITE VERSION 2021

The Predictor-LimA Software Suite is the complete solution for all environmental noise projects. Noise predictions for industry, roads, railways, aircraft and wind turbines are all supported. The software is used by acoustic consultants, environmental authorities, heavy industries and educational institutes.



Click here data sheet

The suite bundles the intuitive Predictor GUI and flexible LimA GUI in one powerful, integrated, stateof-the-art package that provides the best solution for whichever project you have, from small-scale industrial situations to large-scale city noise mapping. Predictor-LimA use the state-of-the-art LimA calculation cores with huge capacity and high calculation speed so that you get results quickly while reducing your investment in computing power.

Depending on the task, you can use the GUI that suits you and the task best for efficient, powerful environmental noise prediction and analysis. The suite allows you to do most of your projects quickly and easily, with the intuitive functionality of Predictor and the flexibility of LimA. In addition, the LimA system provides the tools to fully integrate environmental noise predictions in other Geographical Information Systems (GISs).



Partnerships in Training, Research and Development

- Sound power measurement of sources with 48 ring microphones, with a 3D camera (with laser scanner) with real-time superimposition of sound field images. Technology for visualization of directivity and global and frequency sound pressure levels of the object under analysis, as a function of distance.
- Insertion of results in Predictor+LimA
- Explanatory video : <u>https://youtu.be/Pub66AeKSp8</u>











R&D Research Metrology Programme using an acoustic Ring48 Camera:

- Sound power measurements
- Directivity of the transformers and subsystems
- High End Solution







Engineering Solutions 360 degrees: 3R BlueAeroVision GSI Connected

3R Brasil Technology and the Metrology Department at Puc-Rio are partners in the development of the research center in acoustic mapping and solutions for large cities



Rogério Dias Regazzi (<u>rogregazzi@3RBrasil.com.br</u>) M.Sc, Pontifícia Universidade Católica, Brazil, 1999 and UFRJ at 1992. (+55 21) 3549-4863

President, Senior Engineer at 3R Brasil Tecnologia Ambiental and HSEC-QSMS. Specialist in Acoustics, Vibration and Drones. High performance CEO!



Complete solution



The Predictor-LimA Software Suite is the complete solution for all environmental noise projects. Noise predictions for industry, roads, railways, aircraft and wind turbines are all supported. The software is used by acoustic consultants, environmental authorities, heavy industries and educational institutes. </>>

The suite bundles the intuitive GUI Predictor and flexible GUI in one powerful package that provides the best solution for whichever project you have, from small-scale industrial situations to large-scale city noise mapping.





| Reselle | FS ed reseller for | r Predictor-Lima | | | | | You a | re here: Hom | e » Resell | ers |
|---------|----------------------------------|---|---|---------------------------------|----------------|--|-------|--------------|-------------------|-----|
| Еигоре | Asia | America | Oceania | Africa | On-line | | | | | |
| | Brazil 3R Brasil 1 www.amb | Fecnologia Ambien pienciacustica.com | ital Cultura Servico / www.3rbrasil.co | os e Comercio L' m.br | DA | | | | | |
| | | | | | | | | | | |

Click here to buy

| | Туре 7810-1 🚺 | Туре 7810-С 🚺 | Туре 7810-G 🚺 | Туре 7810-А 🧿 | Туре 7810-В 🧃 |
|---|---|---|--|--|--|
| Product name | Predictor Basic Standard | Predictor Basic Plus | Predictor-LimA Standard | Predictor-LimA Plus | Predictor-LimA Advanced |
| 1-year maintenance continuation for perpetual license | €379 | €685 | €991 | € 1.985 | €2.903 |
| 1-year rental price per year incl. maintenance | € 624 | €1.128 | € 1.632 | € 3.270 | € 4.782 |
| Calculation Methods* | All Predictor methods excluding CNOSSOS | All Predictor methods excluding CNOSSOS | All Predictor and LimA methods including CNOSSOS | All Predictor and LimA methods including CNOSSOS | All Predictor and LimA methods including CNOSSOS |
| Model Size 📵 | Standard | Plus | Standard | Plus | Advanced |
| Supported cores for local calculation | 2 | 4 | 2 | 4 | 8 |
| Predictor GUI (incl. Analyst method ()) | \checkmark | \checkmark | V | \checkmark | \checkmark |
| LimA GUI 🚯 | - | - | \checkmark | \checkmark | \checkmark |
| Tiling | - | - | \checkmark | \checkmark | \checkmark |
| Acoustic Determinator (Type 7816) 🚺 | 0 | 0 | 0 | \checkmark | \checkmark |
| LimA Aircraft Module BZ- 5441 () | - | - | 0 | 0 | 0 |
| LimA Graphic User Interface BZ-5700 () | - | - | 0 | 0 | 0 |
| Key: √included – not included | O optional add-on | | | | |