αCell

AlphaCell predicts the **vibro-acoustic** response of **multi-layer systems** to various sound excitations :

↪ **super easy & super fast** simulations

↪ **listen** to sound package efficiency

↪ broad application material **library**

↪ **complete set** of material models

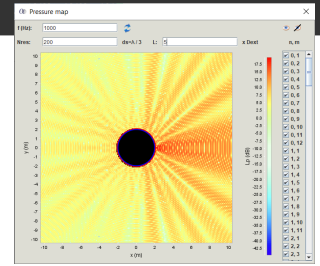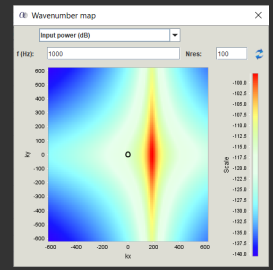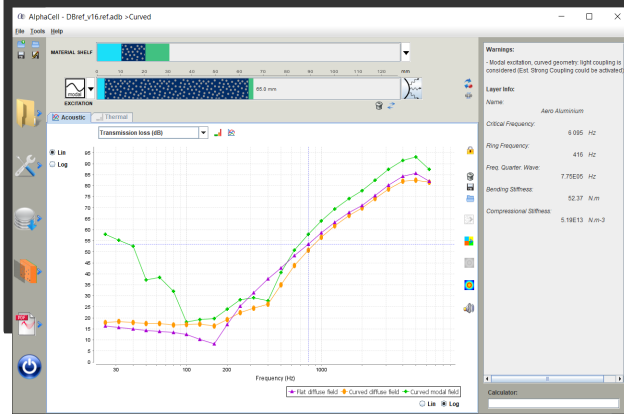↪ various **imports / exports**

↪ **reactive** and **skilled support**

Save your time and energy to focus on your **core activities !**

AED — Acoustic Engineering Dresden

KEY FEATURES

- **intuitive** interface
- **listening** of solution efficiency
- plane and **curved geometries**
- **thermal** properties including bridges
- multiple **studs** in series
- generalised **equivalent plate & porous** models
- **imperfect** interfaces
- **corrugated** & **ribbed** plates
- multiple **fluids** including **water**
- **compressed** fibrous model
- extended material **library**
- fully **scriptable**
- export of material **cards** and **FE model**
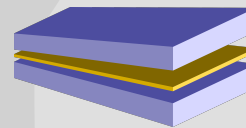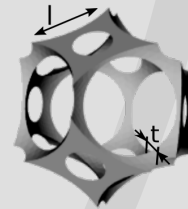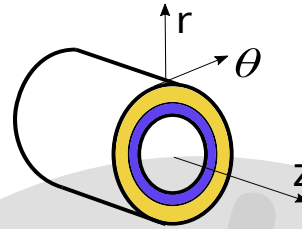
MATERIAL MODELS

➭ **porous materials**
  fibrous, foams, granulars, compressed, orthotropic

➭ **perforated plates**
  circ., square, conical, slit perf., non-woven, annular pores, high SPL

➭ **solid materials**
  isotropic, visco-elastic, orthotropic

➭ **orthotropic solid materials**
  3D, thin plate, transverse isotropic

➭ **equivalent plate models**
  condensed, corrugated, stiffened/ribbed plates

➭ **heterogeneous materials**
  elastic / solid / porous inclusions, resonators, sorption
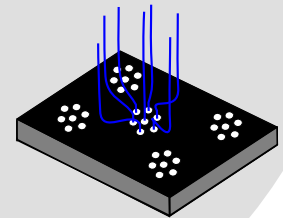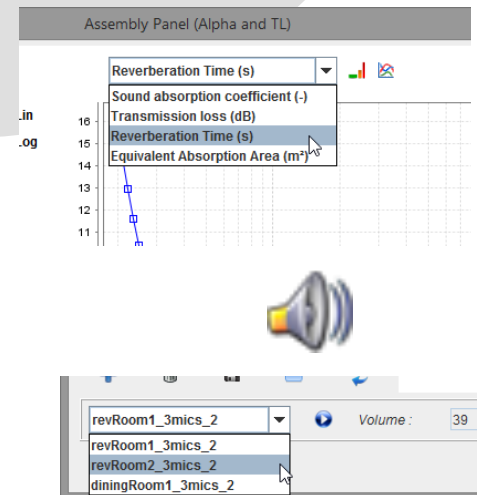
VIBRO-ACOUSTIC EXCITATIONS

➭ **air borne sounds**
  plane waves, diffuse field, modal sound field

➭ **structure borne excitations**
  dynamic force, moving wall, tapping/rolling machine, rain fall

➭ **turbulent boundary layer**

AlphaCell runs under
MS-Windows 7,8,10,11 ; Linux ; Unix ; Mac

MATELYS
Research Lab

AlphaCell is a software product designed, developed, distributed and supported by MATELYS-Research Lab
https://alphacell.matelys.com
alphacell@matelys.com

MATELYS - Research Lab
7 rue des Maraîchers, Bât B
F-69120 Vaulx-en-Velin
FRANCE

Phone: +33 972 50 93 16
Email: contact@matelys.com
Web: https://www.matelys.com