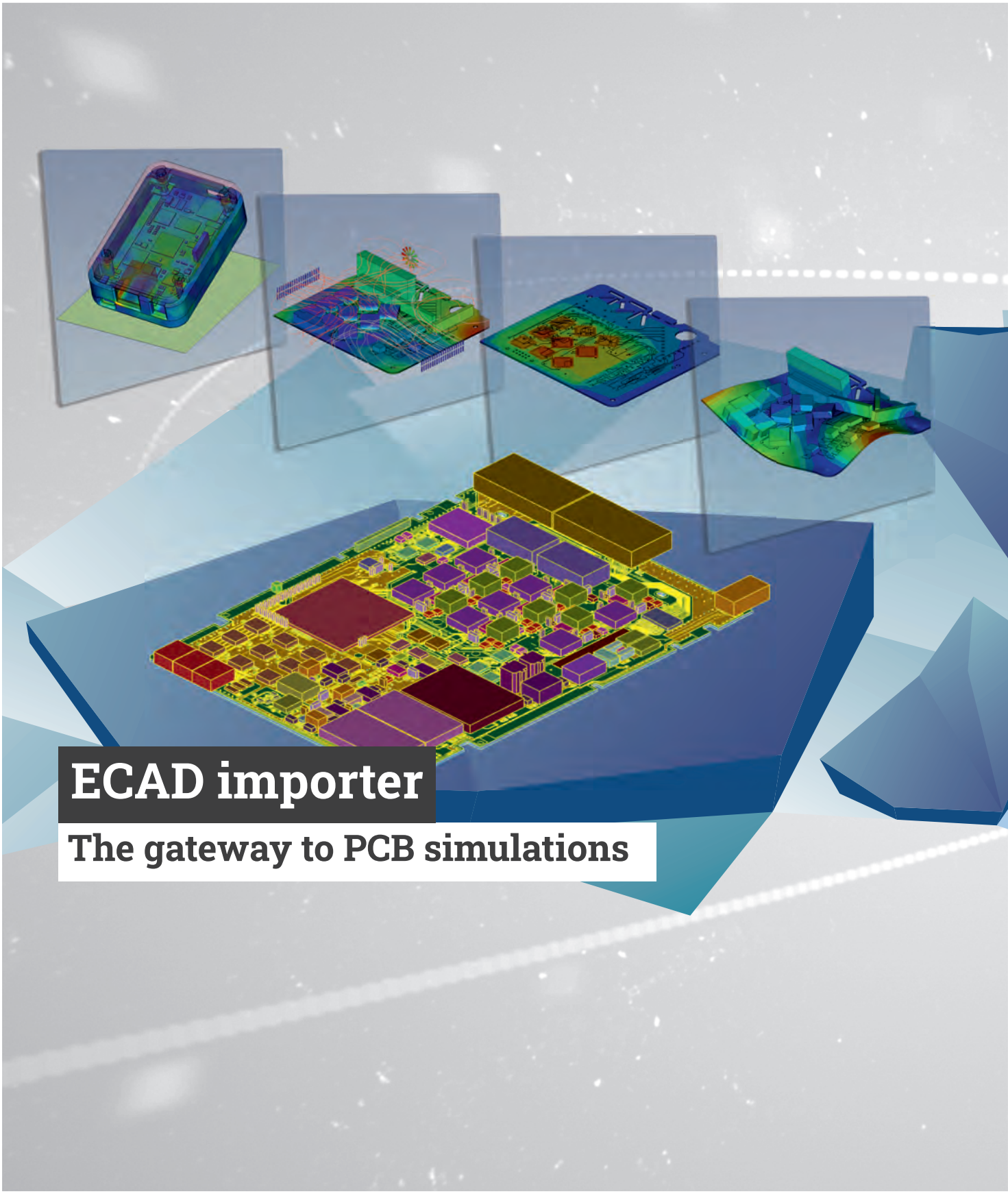
BETA
SIMULATION SOLUTIONS

physics on screen



ECAD importer

The gateway to PCB simulations

Translate your ECAD designs into simulation models

Put to work a complete toolset for the import and process of ECAD designs and employ the BETA CAE Systems software suite to create ready to run simulation models and results reports.

A fully integrated ANSA plug-in

ECAD importer is accessible within ANSA, taking advantage of the meshing capabilities as well as the CAD tools for board design modifications and the interoperability between models built for different solvers.

User-friendly wizard

The whole process is guided through a user-friendly wizard interface which facilitates the process of creating a 3D model for the PCB.

Multiple models from the same ECAD file

Different import options enable the generation of a wide variety of models from a single ECAD file. The wizard offers the capability to choose between different levels of board detail and import components with or without pins. Choosing the appropriate set-up, the engineer can achieve the required accuracy of results with the minimum modeling effort.

Board profile either imported or custom

The information regarding the PCB boundaries can be read in ANSA from the IPC file.
When information regarding the PCB boundaries does not exist in the IPC file, ANSA pre-processor offers the capability to create a simple predefined (bounding box) or more sophisticated (custom) PCB profile.

Metal fraction calculation of board and layers

A calculation of the volume fraction of metal in each conducting layer or of the whole board is possible for the two first levels of board simplification, giving the user the possibility to use an equivalent material according to the calculated metal fraction and thus proceed with a more accurate modeling.

Stackup editing

Modification of the stackup can be performed such as editing the layers' thickness. Fusing of conducting layers is also supported. Moreover, any number of layers can be omitted from the stackup.

Component editing

The standoff and the thickness of the components can be modified by the user.

Fully watertight, ready-to-mesh result

The result model is fully watertight and ready to be meshed without any other prior action.

Intelligent database structure and grouping of geometric entities

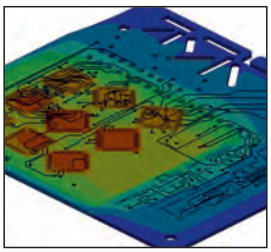
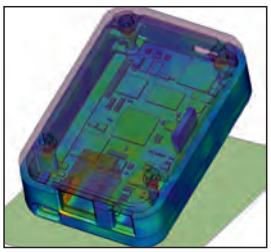
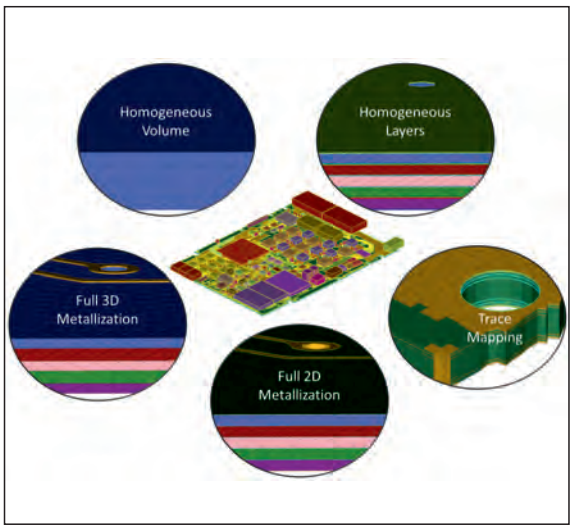
The created database structure will boost the efficiency by facilitating the model modification and simulation set-up. Various levels of groupings are available, among else at the level of electrical nets, layers, materials, and component package types.

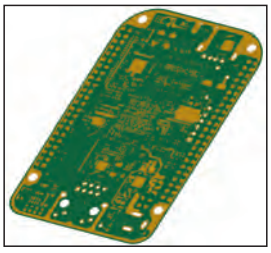
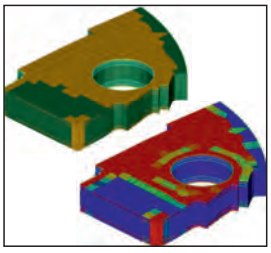
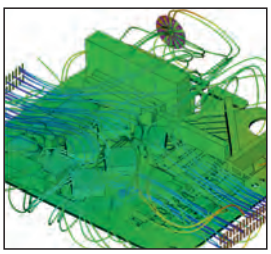
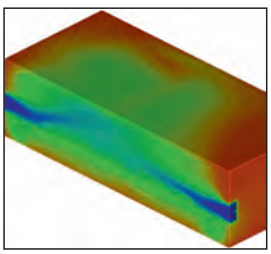
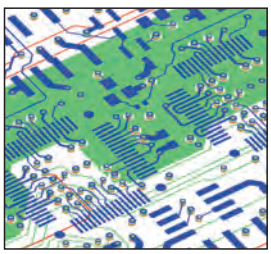
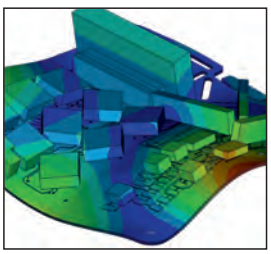
Features

- Fully integrated ANSA plug-in
- Import of the highly intelligent, open-source IPC-2581 (Rev. B) ECAD format
- User-friendly GUI to guide the user step-by-step through the process
- Process automation via batch import of ECAD files possible
- 5 levels of board detail
- Trace mapping(binary/analog):Using the exact geometry of the metallization the metal fraction of each element is calculated
- 3 options for board profile (imported / bounding box/ custom)
- Stackup editing possible (thickness / layer fusion / layer selection)
- Metal fraction calculation of board and layers supported
- 2 levels of component detail (with or without pins)
- Component editing possible (thickness / standoff)
- Fully watertight, ready-to-mesh end result
- Intelligent database structure and grouping to facilitate model modification and simulation set-up

Benefits

- Overall process consistency, at all levels
- Efficient data handling for intricate model structures/ Easy handling of large and complex models
- Reduced user-dependent error-prone operations
- Significant modeling time reduction and quality increase
- Short learning curve
- Process automation via batch import of ECAD files
- Integrated in ANSA
- Flawless translation of IPC-2581 files into ANSA files
- High level of automation and customization

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