Key new features in SmartNetics 2026.1

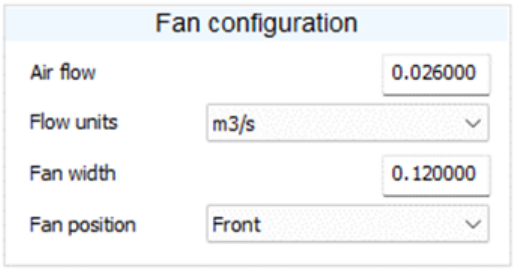
- Forced convection
  - Select between natural and forced convection
  - Automatically export your 3D model, including fans, to Ansys-Icepak
- New thermal model
  - The thermal model has been completely revamped for a significant increase in speed and accuracy
- New export option: FEMM
  - A new Finite Element Analysis tool has been added to our options. Now you can export your full design to FEMM, a free FEM simulator for 2D analysis
- New export option: PSIM
  - Automatically add your inductor or transformer to your PSIM file to accurately simulate the whole system: consider saturation, use winding, core, and gap PSIM equivalents, etc.
- Design speed increase
  - The design procedure has been widely optimized for an increase in design speed
  - Especially noticeable for distributed gaps
- Improvements on the help files
  - The help files have been rewritten to document the new features and to improve the existing ones
- Additional configuration options
  - Many options have been added to every dialog, including:
    - New Geometry options
    - New Ansys configuration options
- Bug corrections and general improvements

Forced convection

In addition to the existing option to calculate the temperature distribution with natural convection, a new one has been included to consider **forced convection** when a fan is used.

You can fully configure your fan:

- Select the Flow units among m3/s, cfm or m/s.
- Select the fan position among Front, Top and Bottom.
- Fully configure fan dimensions, flow, or speed.



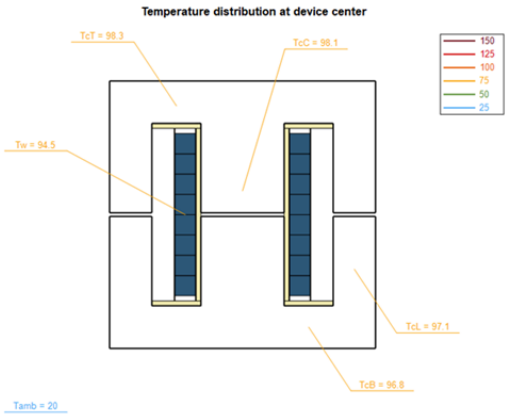
SmartNetics 2026.1 also allows a direct export of the full model to Ansys-Icepak for finite element simulation. Automatically export your models, your materials, your geometries, your fan, and your current/voltage/power perturbations.

After simulating you get an automated report with inductance, losses, or temperature distribution. The user does not need to learn Ansys, everything is automatically created, including the reports, for minimal user interaction.

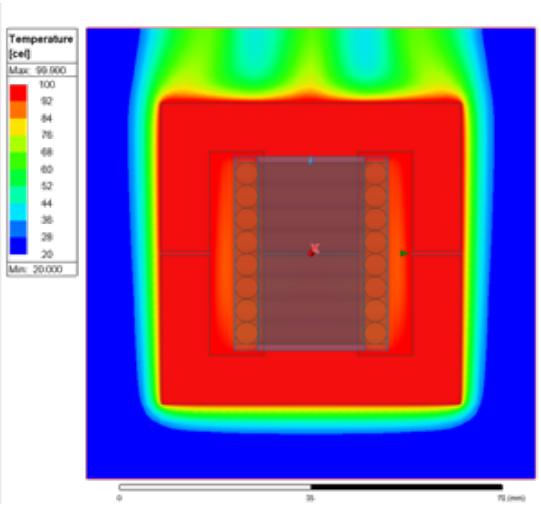
New thermal model

The thermal model has been completely revamped for a significant increase in speed and accuracy. We have optimized our thermal models for an even wider range of devices, achieving a **near-zero error** against Finite Element Simulations in most scenarios, without the time and resources they need.

SmartNetics calculation



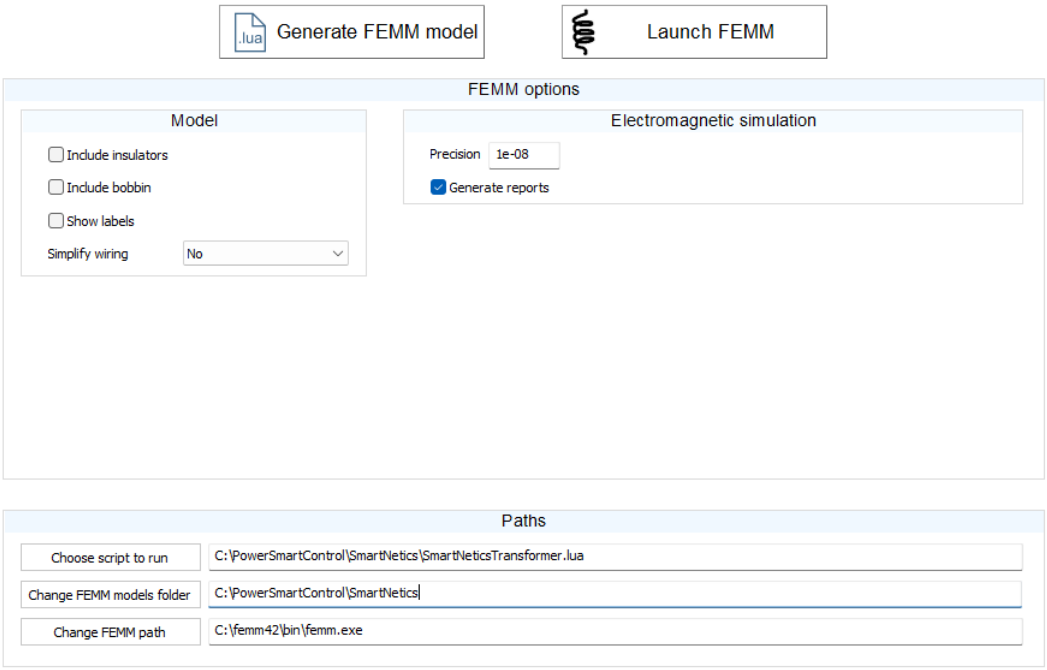
Ansys simulation



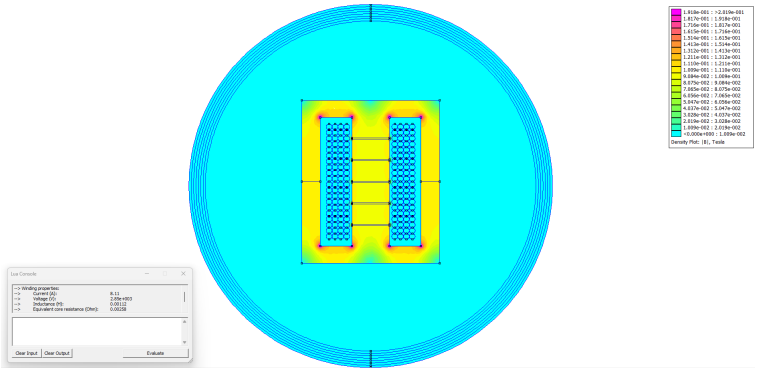
New export option: FEMM

A new Finite Element Analysis tool has been added to our export options. Now you can **export your full design to FEMM, a free FEM simulator** for 2D analysis.

As every other part of our tool, the export is fully customizable.



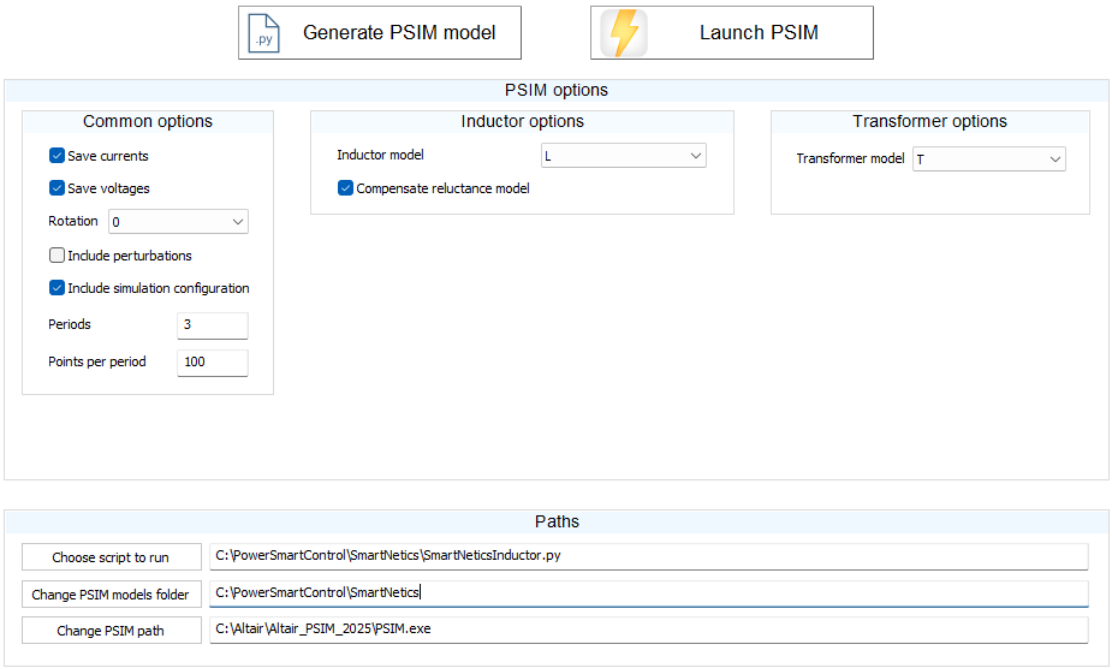
Avoid the learning curve and automatically get a full report including inductances, resistances, and field distribution.



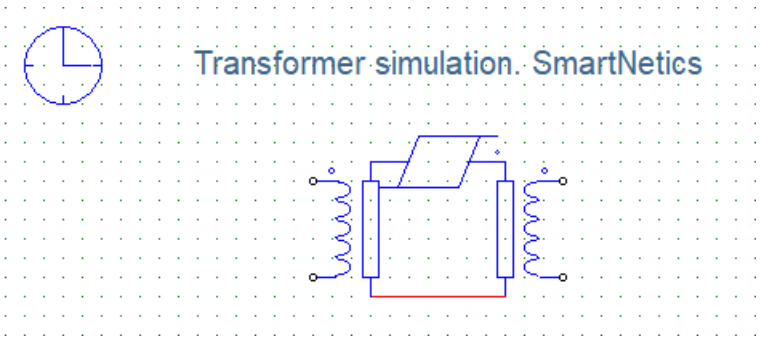
New export option: PSIM

Automatically **add your inductor or transformer to your PSIM file** to accurately simulate the whole system: consider saturation, use winding, core, and gap PSIM equivalents, etc.

As every other part of our tool, the export is fully customizable.



Use the automatically generated models to accurately simulate the real behaviour of your devices.



Design speed increase

The design procedure has been widely optimized for an increase in design speed. The 2026.1 version could generate 300,000 inductor designs in just 29s, versus the 40s needed in 2025.1, **a speed increase of around 30%**.

This speed increase depends on the particular configuration and is especially noticeable for inductors with distributed gaps ar a large number of turns.

Improvements on the help files

The help files have been rewritten to document the new features and to improve the existing ones.

Additional configuration options

Many options have been added to every dialog, including:

New Geometry options

- Force same conductor for primary and secondary.
- Select the minimum window portion to fill.
- Increase Primary-Secondary distance to control leakage inductance.

New Ansys configuration options

- Simplify wiring to reduce simulation time when many wires in parallel are used.
- Simplify circles to speed ut electromagnetic simulations with minimal precision loss.
- Increased precision in 2D resistance and leakage inductance simulation to avoid the need for 3D models.

Bug corrections and general improvements

- Improvements on many tooltips.
- Improvements on PDF generation.
- Correction of several bugs.