





# ALPHA-EC Academy

## Webinars



Each webinar lasts approximately 45 minutes and is free of charge!

	When?		Title short
#1	04.02.2025	09:30 a.m.	Electronics cooling
#2	04.02.2025	11:00 a.m.	Use of CFD-software
#3	04.02.2025	02:00 p.m.	Simulation as Service
#4	04.02.2025	03:00 p.m.	CelsiusEC Live Demo
#5	03.06.2025	10:00 a.m. or 02:00 p.m.	The fan
#6	18.02.2025	10:00 a.m. or 02:00 p.m.	The circuit board
#7	25.03.2025	10:00 a.m. or 02:00 p.m.	The heat sink

	When?		
#1	06.02.2025	09:30 a.m.	Electronics cooling
#2	06.02.2025	11:00 a.m.	Use of CFD-software
#3	06.02.2025	02:00 p.m.	Simulation as Service
#4	06.02.2025	03:00 p.m.	CelsiusEC Live Demo

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# Webinar overview 2025

## #1 Insight into the field of "electronics cooling"

Will you be responsible for the cooling concept of your electronics in the future and would like to gain an insight into possible adjustments to a well thought-out cooling concept? Then these 45 minutes are the first step for you to get to grips with this topic.

A further webinar is planned for an even deeper insight!

The following points will be covered shortly

- A cooling concept should only ever be assessed as a whole
- The physics in brief
- Adjusting screw component
- Adjusting screw PCB
- Adjusting screw air heat sink
- Adjusting screw fluid cooler
- Set screw connecting elements
- Adjusting screw air paths
- Adjusting screw Installation conditions
- Adjusting screw contact points / interface material

## #2 Use of CFD simulation software in the development process

When does it make sense to use CFD simulation software, what minimum amount of data is required and what are the advantages of carrying out a 3D simulation of heat paths or having one carried out?

In this compact webinar, the timing for using such industry-specific CFD software is explained and the advantage over the trial & error principle is demonstrated.

You will gain an insight into how CelsiusEC works, how the existing data is converted into a CFD model, as well as an insight into the effort and knowledge required to work with such software.

### #3 Simulation as Service - ALPHA-Numerics as a service supplier

- When does it make sense?
- What do I have to deliver?
- What do I get and what can it cost?

Would you like to find out more about the process of a typical order simulation? In these 45 minutes, we explain all the points that matter.

- Information required for a cost estimate
  - partly pure data exchange
  - for new customers often a kick-off meeting (online)
- Costs and timelines
- Modelling and simulation
  - supplementary data in addition to the basis of the quotation
  - implementation in a simulation model
  - possible interim discussions
- Discussion of results and explanation of potential

### #4 Live Demo CelsiusEC

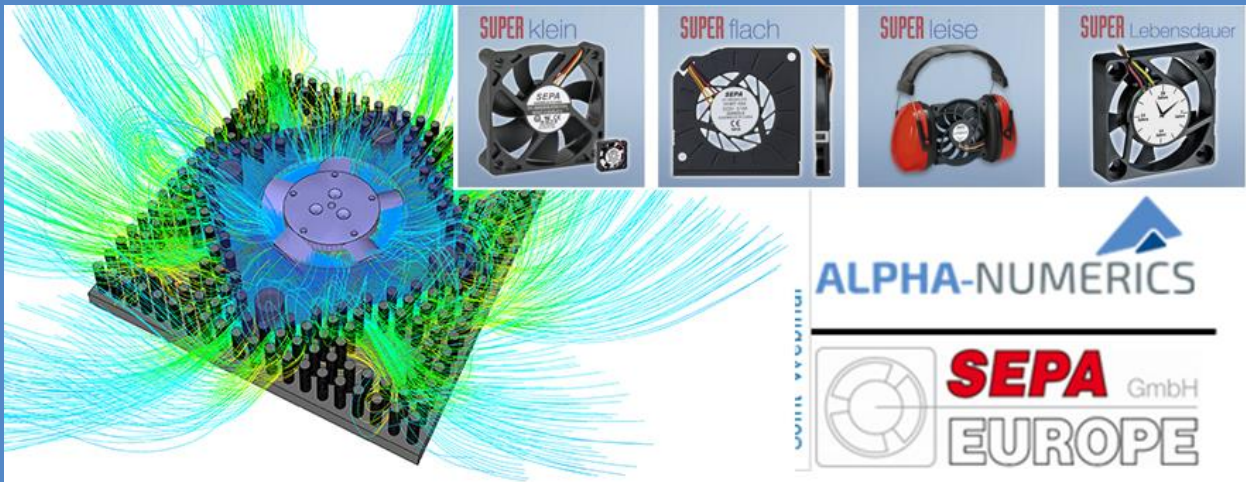
In 45 minutes, we offer you a deep insight into the functional possibilities of CelsiusEC.

We go into the following points in detail

- Options for importing hardware or mechanical data
- Data Exchange with other analysis tools
- Modelling
- Meshing
- Physical Solutions
- Reporting

# Joint webinars with customers and technology partners

## #5 The fan - understand, select and implement correctly in the simulation



This joint seminar offers comprehensive knowledge on the use of fans in electronics cooling.

Mr. Stephan Bachmann, Sales Manager at SEPA EUROPE GmbH, will speak about the following main topics:

- Fan selection - rollover formulas at the start
- Understanding data sheet values - an overview
- Lifetime of a fan
- Fan characteristic curve - What does it say?
- Optimized arrangement in the housing
- Noise development

Mr. Tobias Best, Managing Director of ALPHA-Numerics GmbH, supplements the topic with the following points:

- The fan as a smart object in CelsiusEC
- Define fan attributes correctly
- Implementation of the data sheet values in the simulation model
- Project-specific options for controlling a fan
- CelsiusEC supports with extensive libraries
- ALPHA-Numerics assists with comprehensive support information



# Joint webinars with customers and technology partners

## #6 Evaluate & select PCB technologies



Mr. Dr. Lehnberger, Head of Technology at ANDUS Electronic in Berlin, will speak about the following key topics:

- 4 tips for thermal management in electronics
- Thickcopper - structure and design
- Selective thickcopper - construction details
- Heatsink variation - construction details
- Heating foils - construction, design, simulation, application

Mr. Tobias Best, Managing Director of ALPHA-Numerics GmbH, supplements the topic with the following points:

- Representation of concept or detail boards in CelsiusEC
- Implementation of small details in the simulation
- Conductor tracks
- Vias
- Simulate high-power PCBs correctly
- Transient simulation (warm-up behavior, clocking)
- Extensive simulation of circuit boards in their installation environment

# Joint webinars with customers and technology partners

## #7 Heat sink – From preselection to evaluation



Mr. Harpain, Head of Development at Fischer Elektronik GmbH & Co. KG, will speak about the following main topics:

- Existing Heat Path
- Influencing factors in heat sink design
- Rules of thumb – understanding and applying
- Optimisation options in heat sink design
- How to choose the right heat sink from a catalogue

Mr. Tobias Best, Managing Director of ALPHA-Numerics GmbH, supplements the topic with the following points:

- Integration of a heat sink in CelsiusEC (concept design or import)
- Creation of variants - parameter studies
- Representation of contact resistances
- Mesh technology for CFD analysis
- Possible presentation of result & data export