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CFD Thermal Simulations for LED Applications

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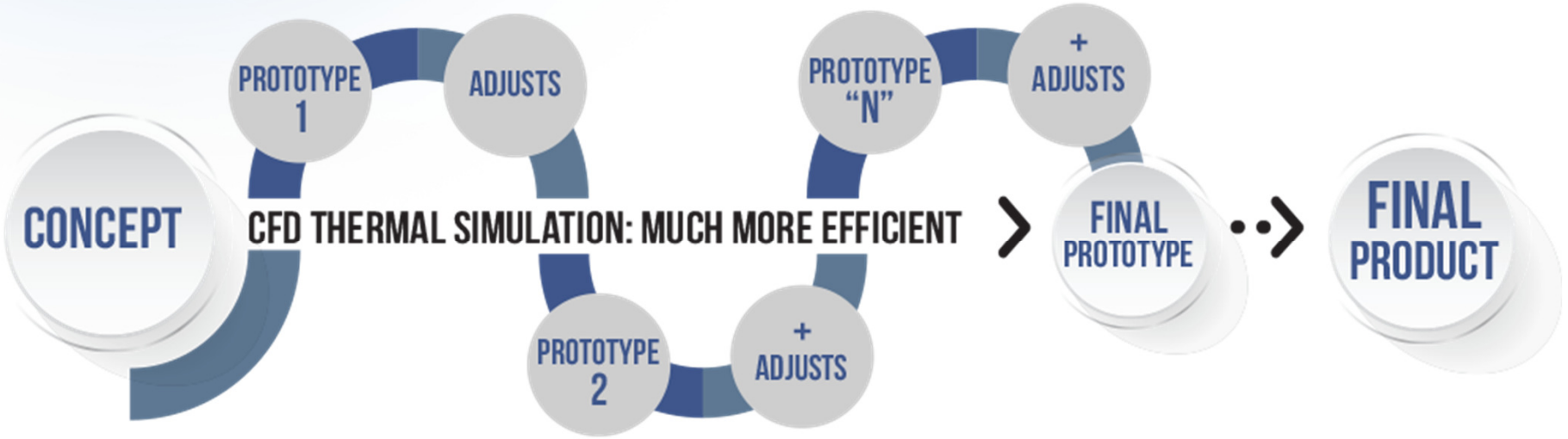
New Product Development Cycles



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Why is it important to use a CFD?

Cost reduction, eliminating or substantially decreasing the need for multiple prototypes

Predict the thermal behavior of the LED fixture under different operating conditions (temperature, sun, etc.)

Validation of the thermal behavior of the new application, under different design scenarios (different components, weather conditions, etc)

Shorter time-to-market cycles for new products

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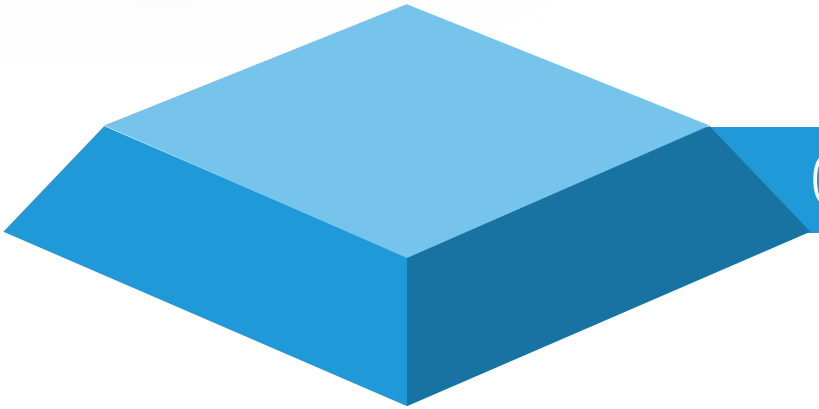
What can our CFD Solution do for you?



01 Thermal Profile of each one of the thermal system components (e.g. LED, HS, etc)

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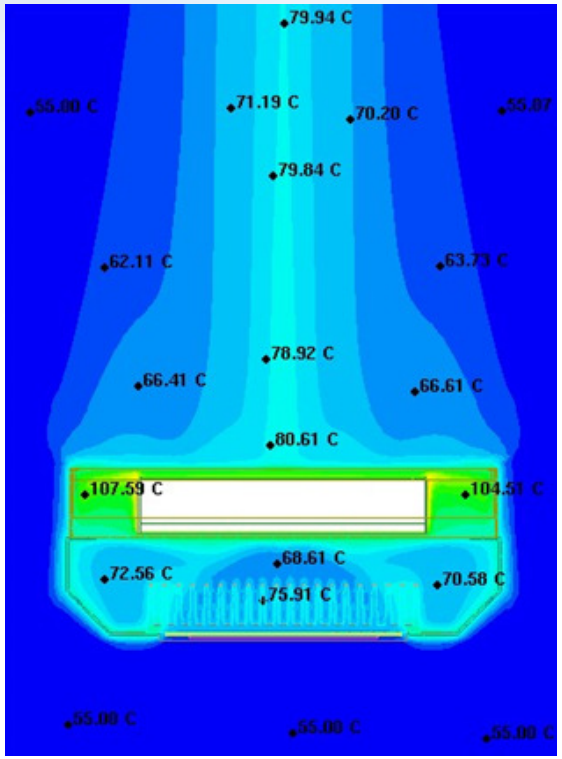

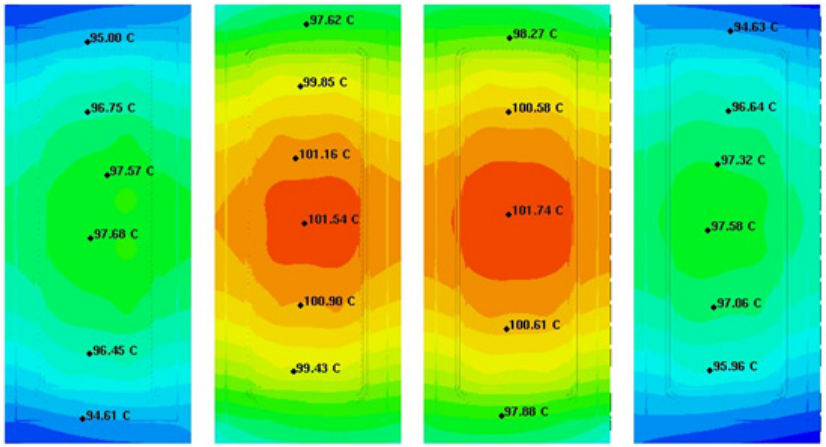

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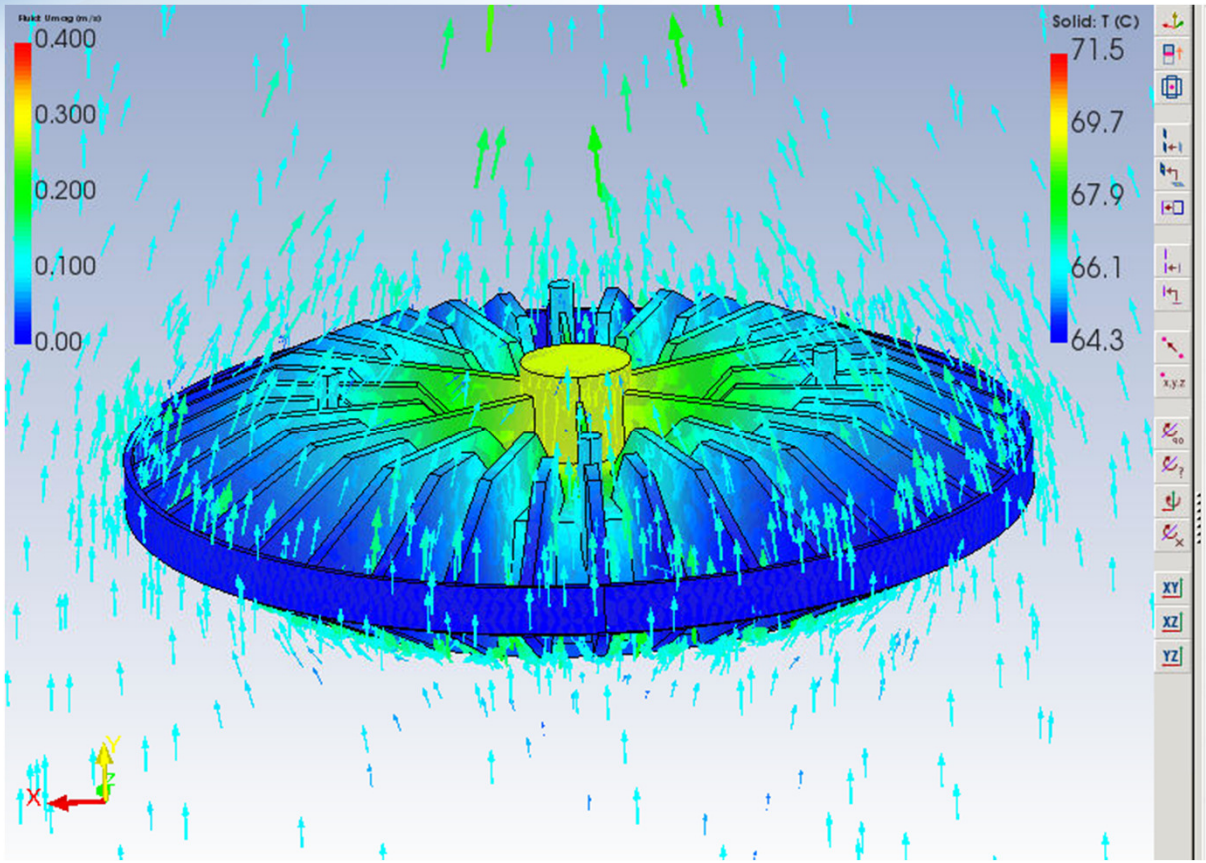

HB

Min/Max temperature	64.32 °C ▸ 75.91 °C
Avg temperature	65.92 °C
Conduction heat in	52.5 W
Convection heat in/out	0.00000000268 W ▸ -52.5 W

Heat Sink.2

HB ▸ Heat Sink.2

Min/Max temperature	64.32 °C ▸ 69.94 °C
Avg temperature	65.87 °C
Conduction heat in	52.4 W
Convection heat in/out	0.00000000268 W ▸ -52.3 W

PCB.1

HB ▸ PCB.1

Min/Max temperature	67.21 °C ▸ 71.53 °C
Avg temperature	68.55 °C
Conduction heat in/out	52.5 W ▸ -52.4 W
Convection heat out	-0.142 W

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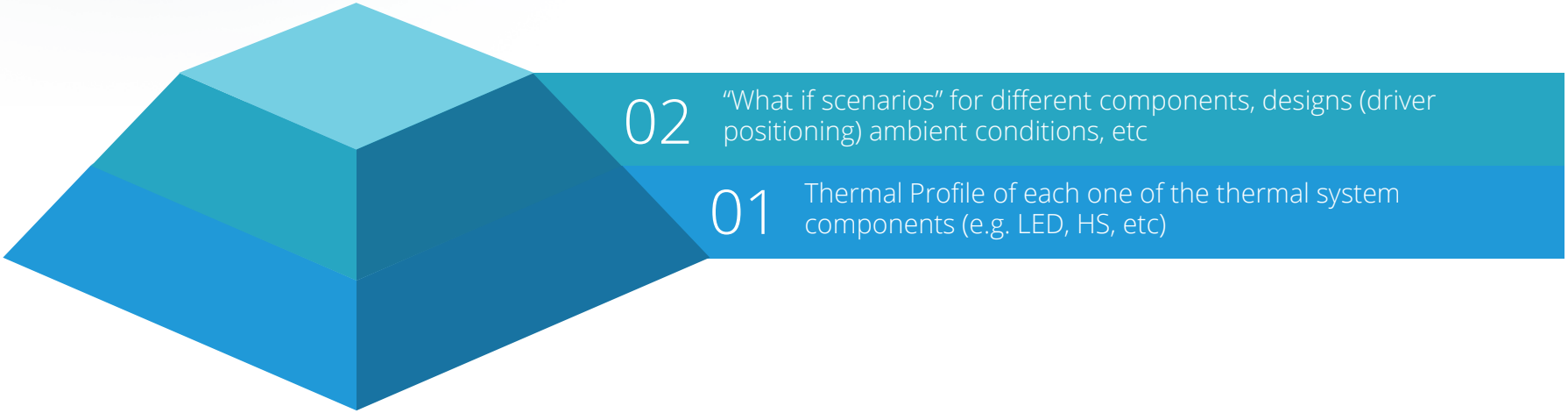

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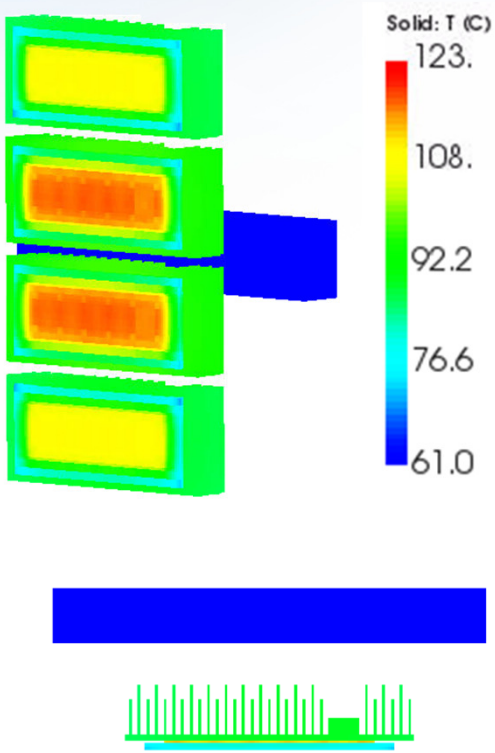
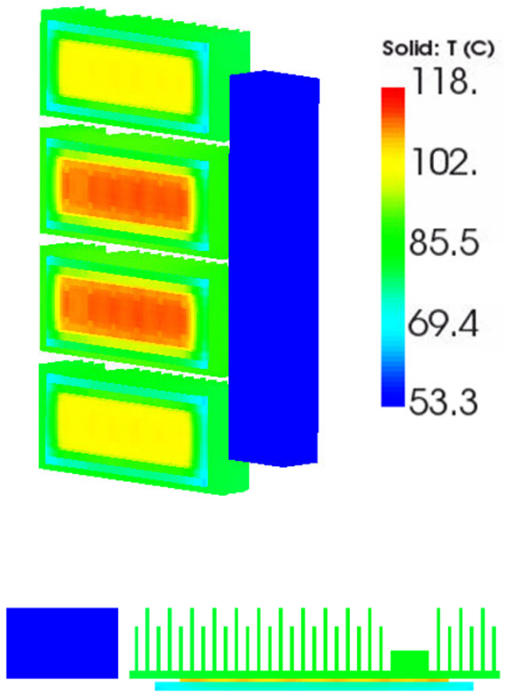
What can our CFD Solution do for you?

Driver - Position 1



Driver - Position 2



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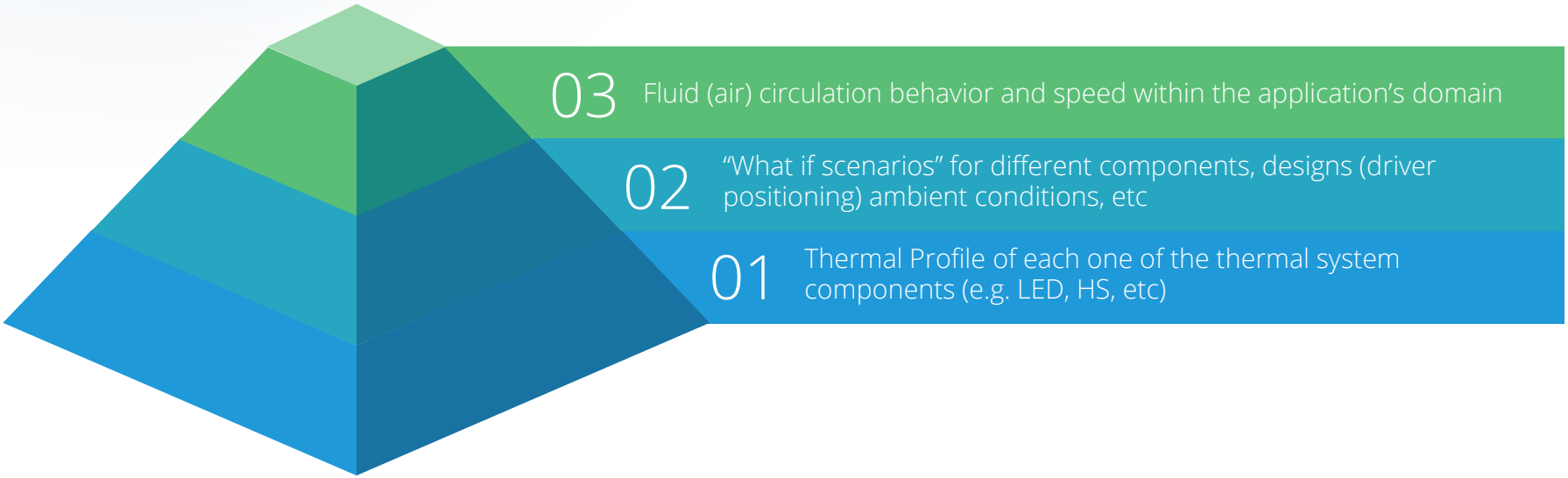

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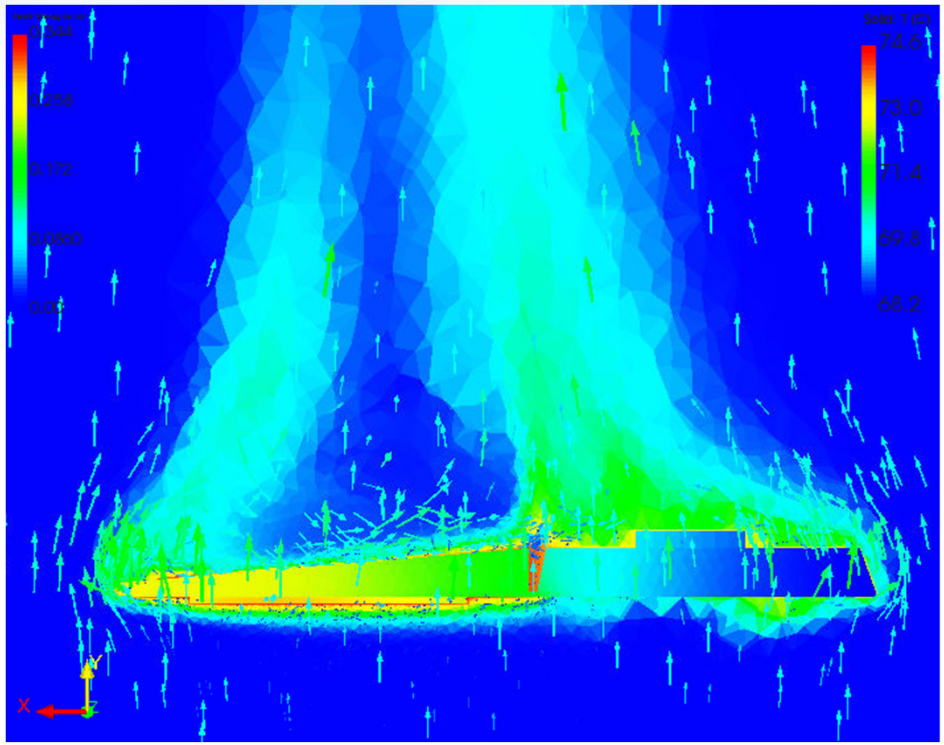

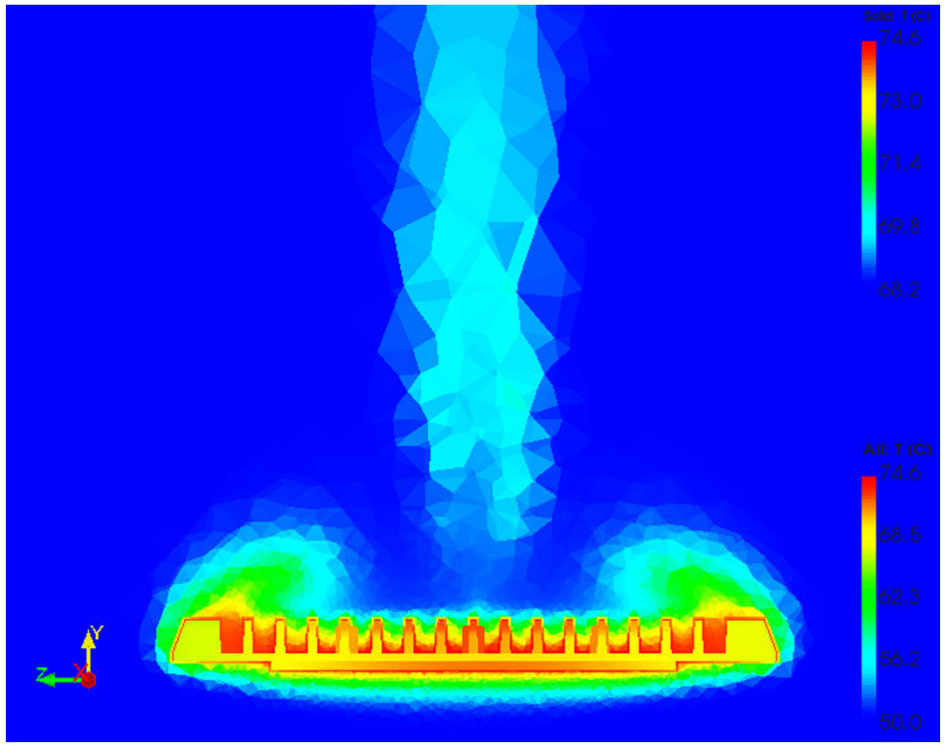

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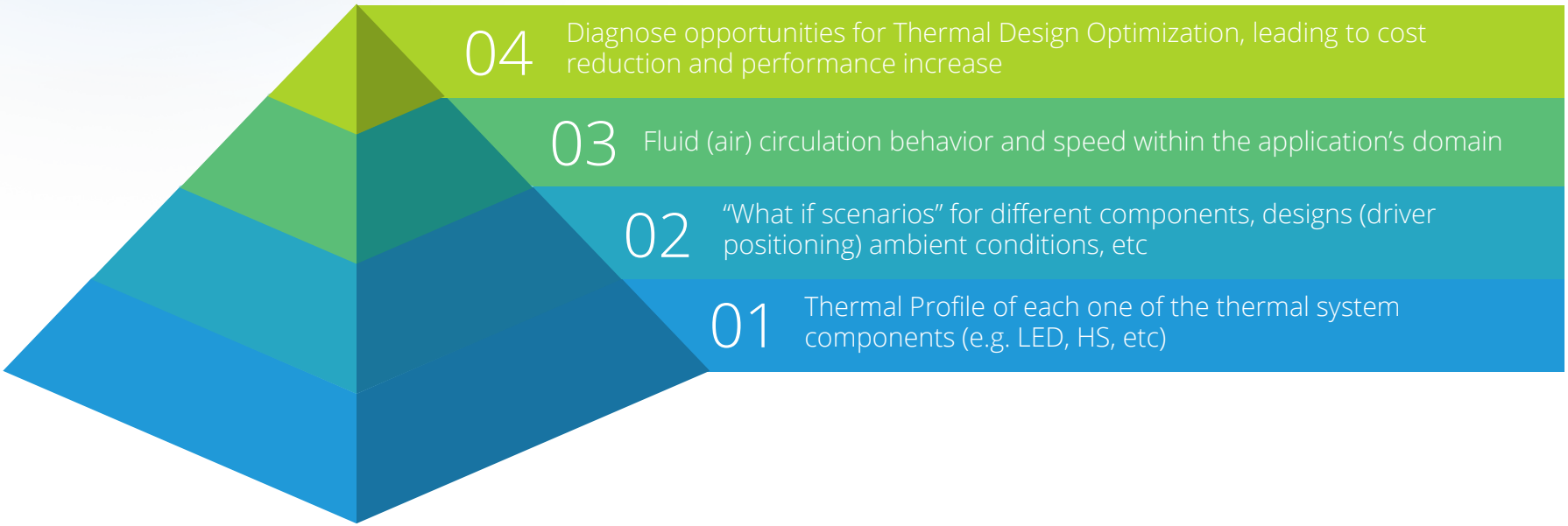

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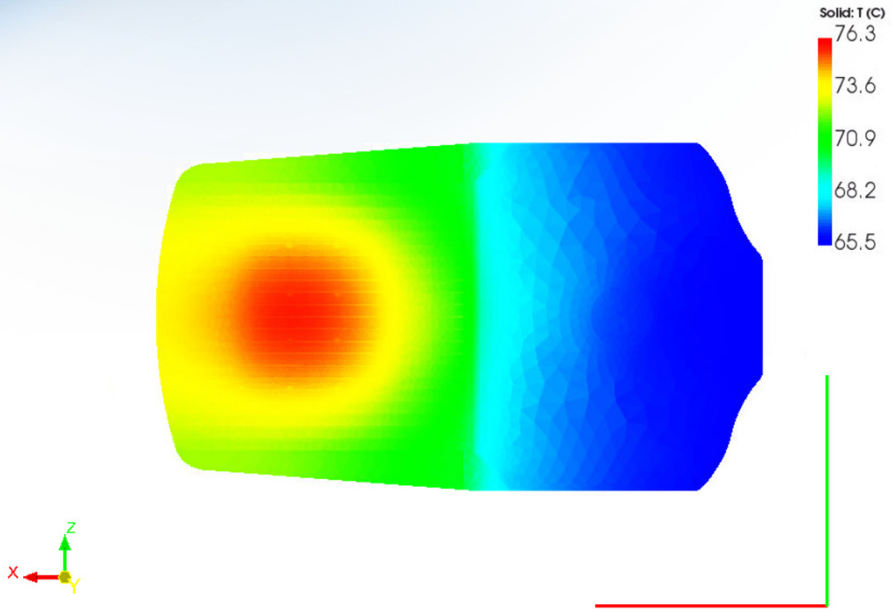
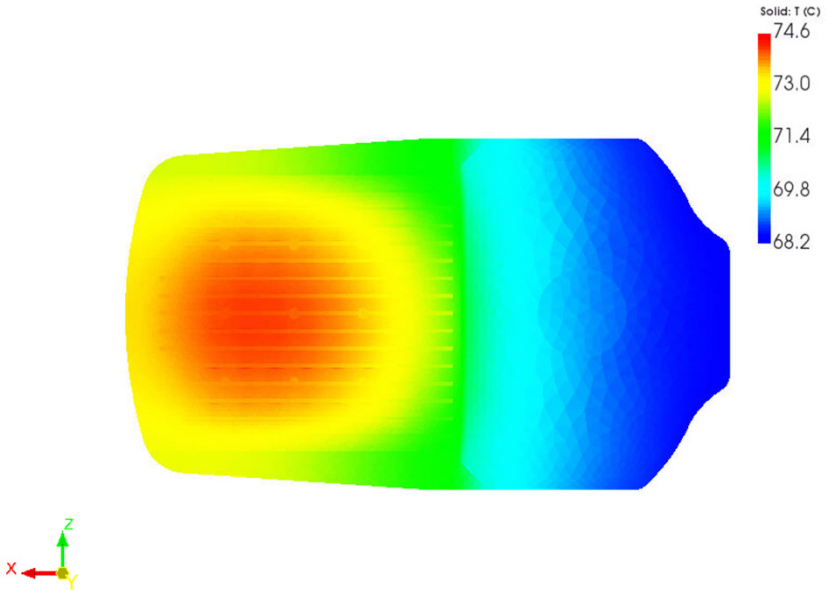


Design 1
T_{max} 76,3°C



Design 2
T_{max} 74,6°C

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How does it work?

Customer
submits product's 3D solid drawing, operational parameters and ambient conditions to be simulated

Thermal Model
Is created inside our CFD Plataform, using customer inputs

Mesh
Is developed around the application's domain and the Simulation is run on our dedicated Server

Report
Is generated and presented to customer