



Empowering R&D with
Optimization AI Software for
Engineers,
Physical testing,
& Simulation



What do we do?

We help teams in the automotive and aerospace industries enhance their designs by 37% and reduce costs by up to 10% by leveraging AI on **small datasets.**

How to use Uptimai

Use Uptimai in one of three ways

1

Make your product better

Enhance the key driving parameter of your product - proven between 11%-63% and on average being **37%** **across all use cases**

2

Make your product cheaper

Cost reduction by an average of **10 %** for customers focusing on cost

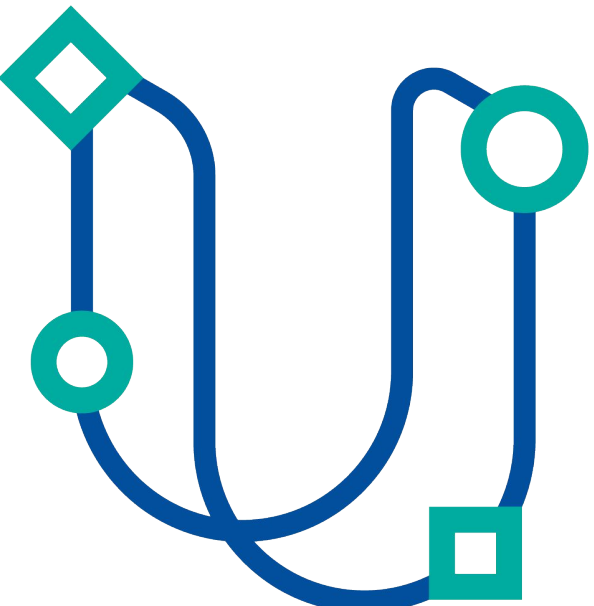
3

Leverage your small data sets

Turn your R&D investments into **actionable decisions** with higher confidence

Easy Integration

We do not replace



Uptim.ai

Engineering Software



OpenFOAM

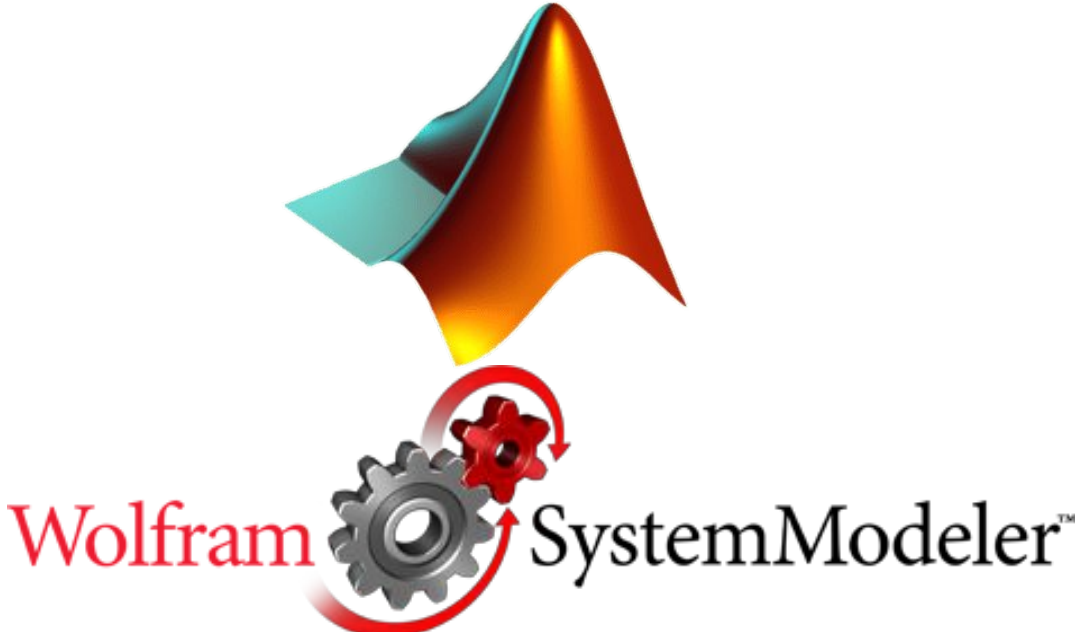


Simulation Software



Simulation enhancement

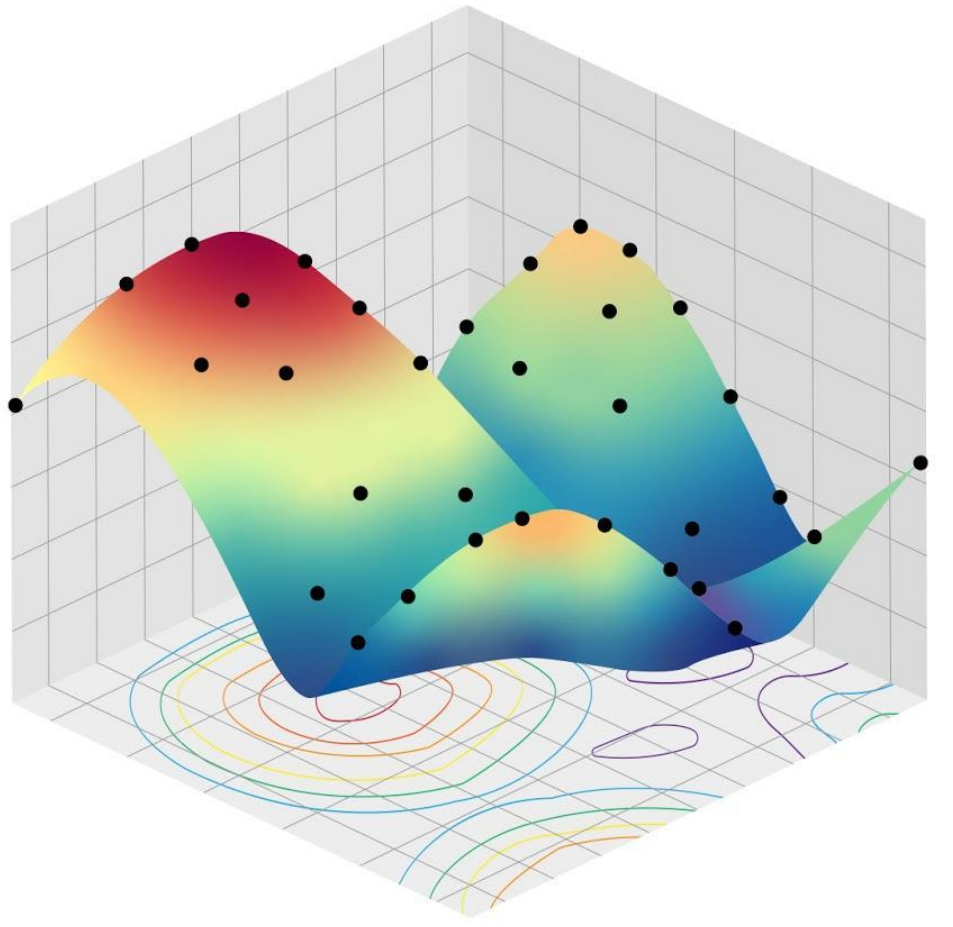
Modelling Software



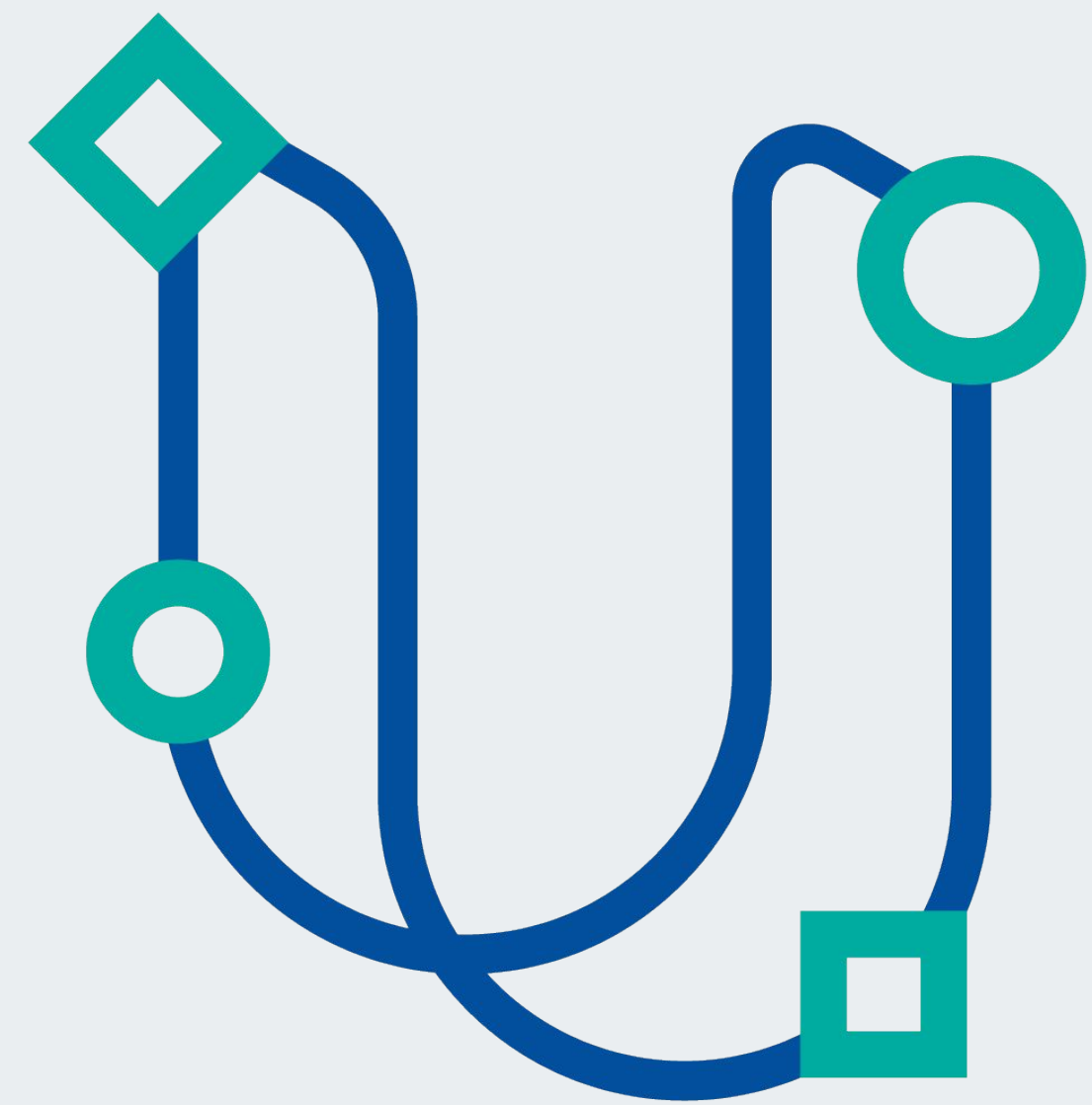
Data analysis



Data Twin Model



Stand-alone solution



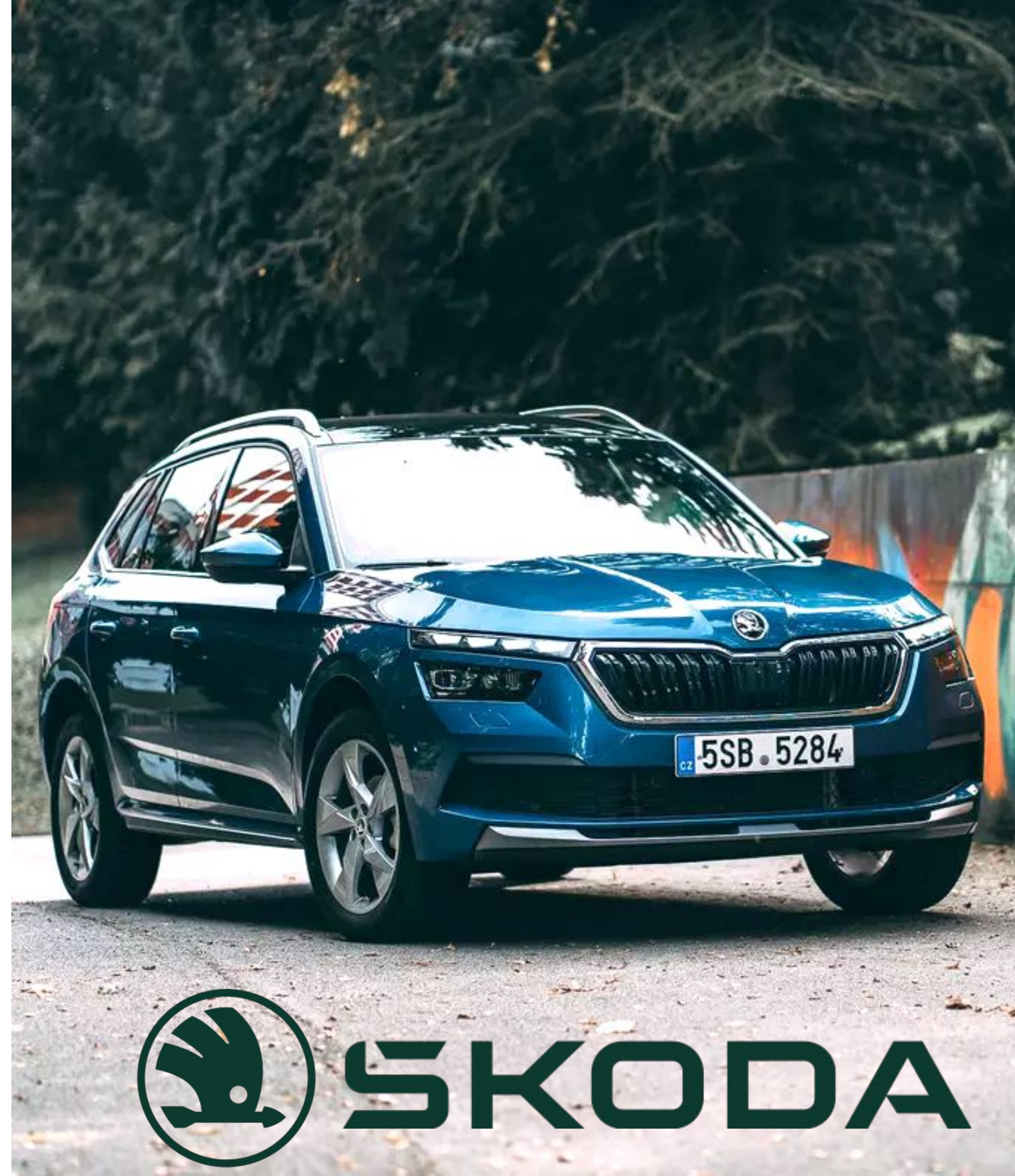
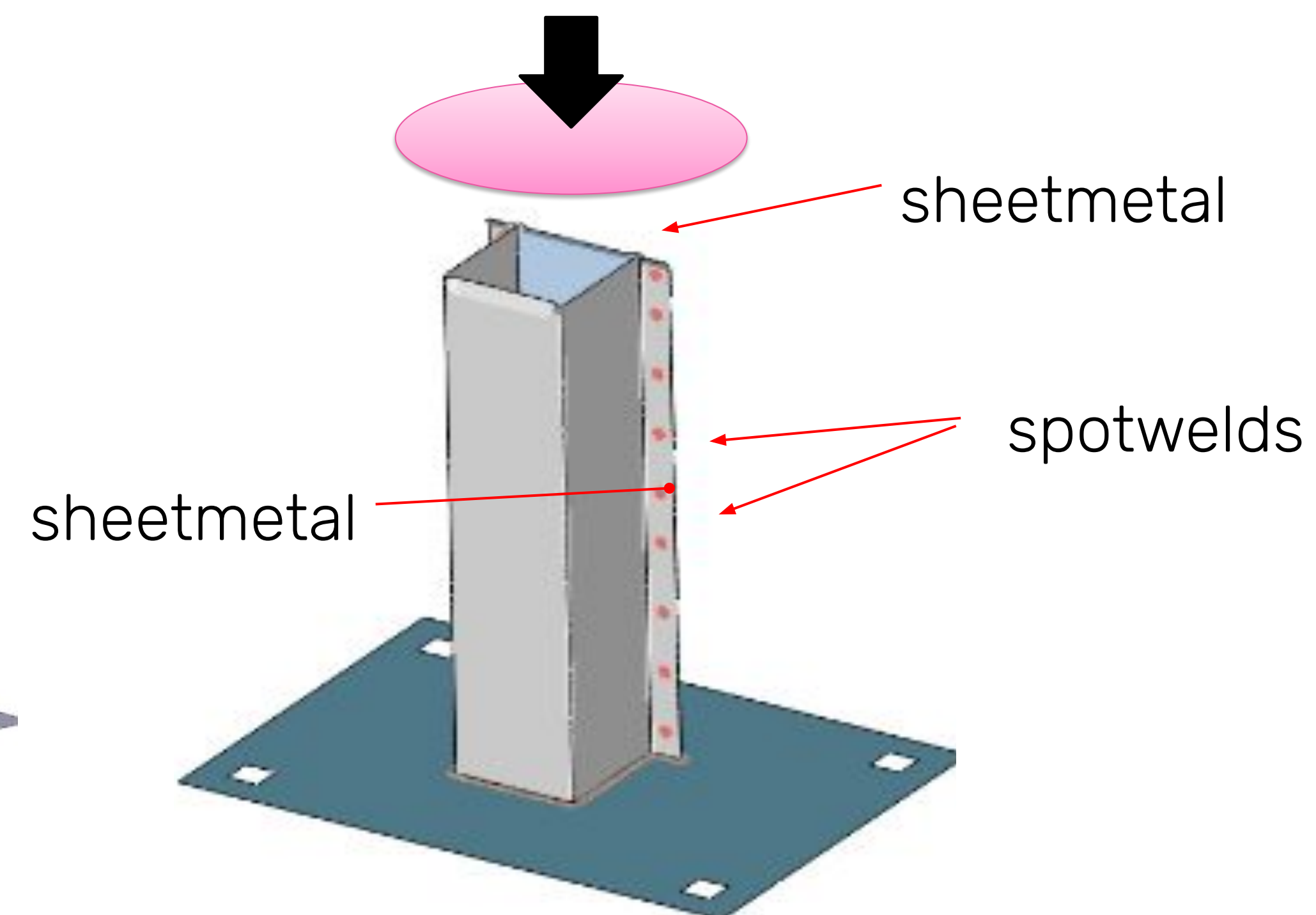
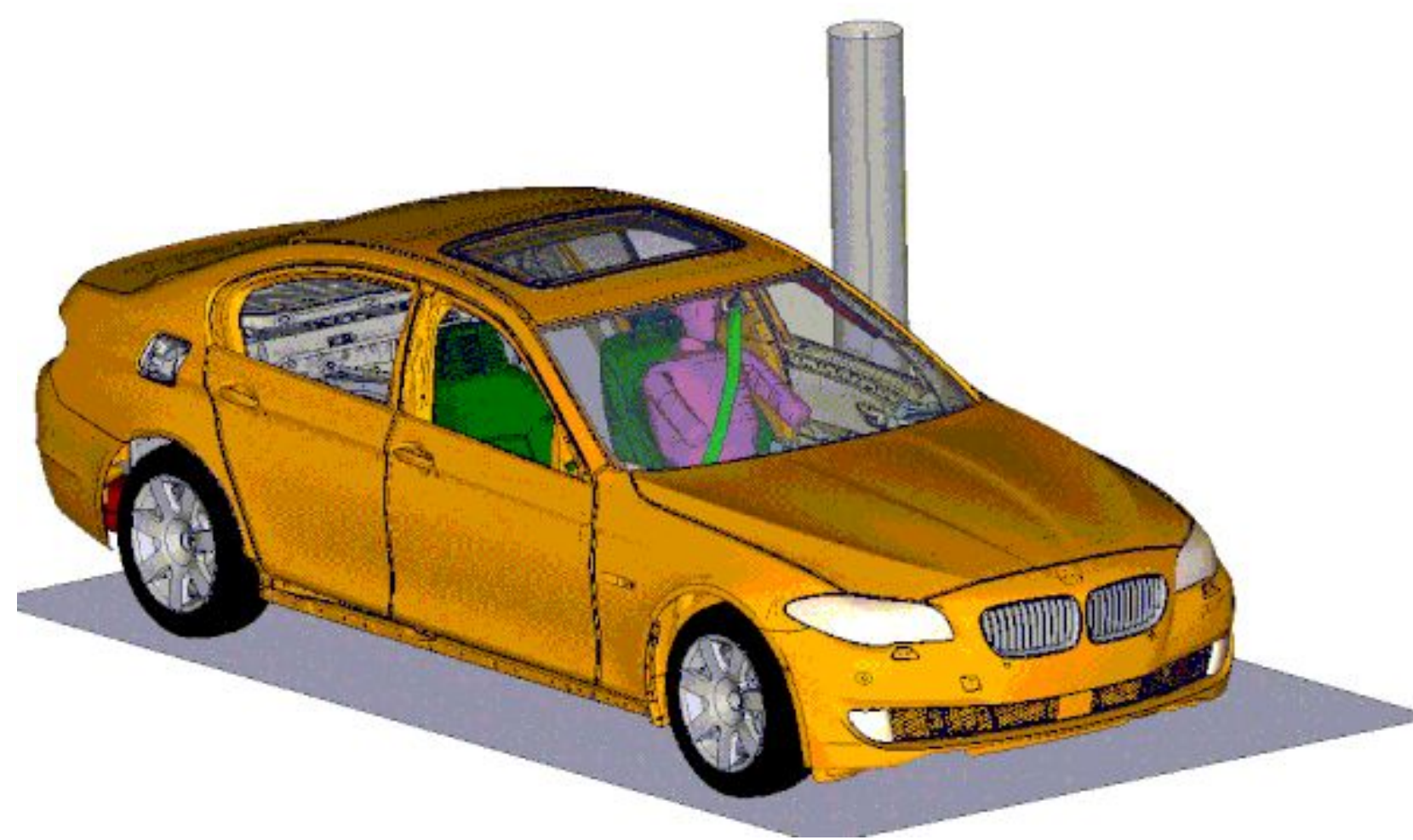
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1. Make your product better
Enhancement

Product Improvement

Main Challenges

- Understand how simulation correlates with experiment
- How parameters influence the absorbed energy
- ◆ Optimize the performance and the absorbed energy of the beam for different crash conditions

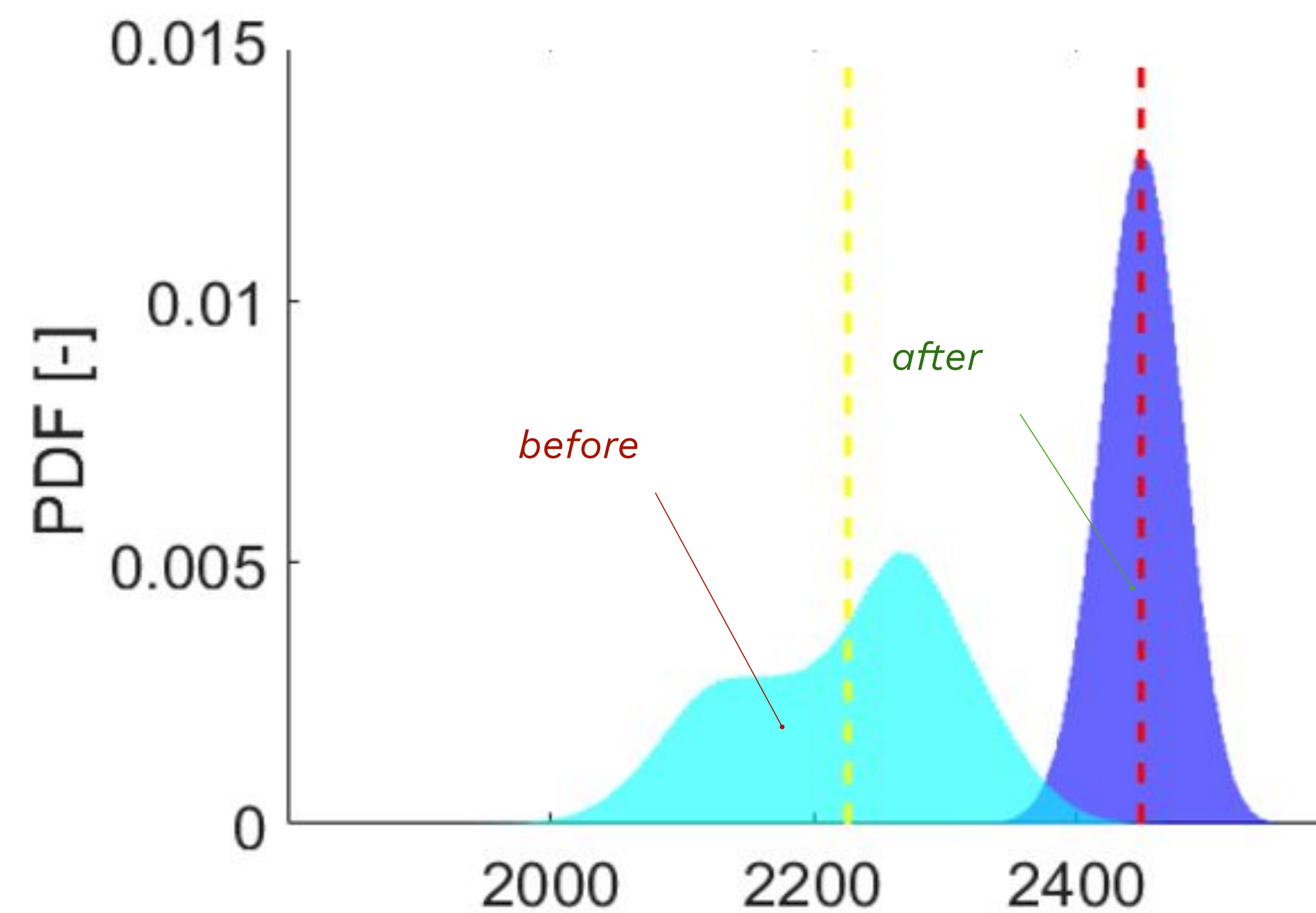


SKODA

Product Improvement

The Solution

- Absorbed impact energy increased by **10%**
- The range of results decreased by **63%**
- ◆ Fast development time
(280 calculations instead of 4060 using standard methods)



SKODA



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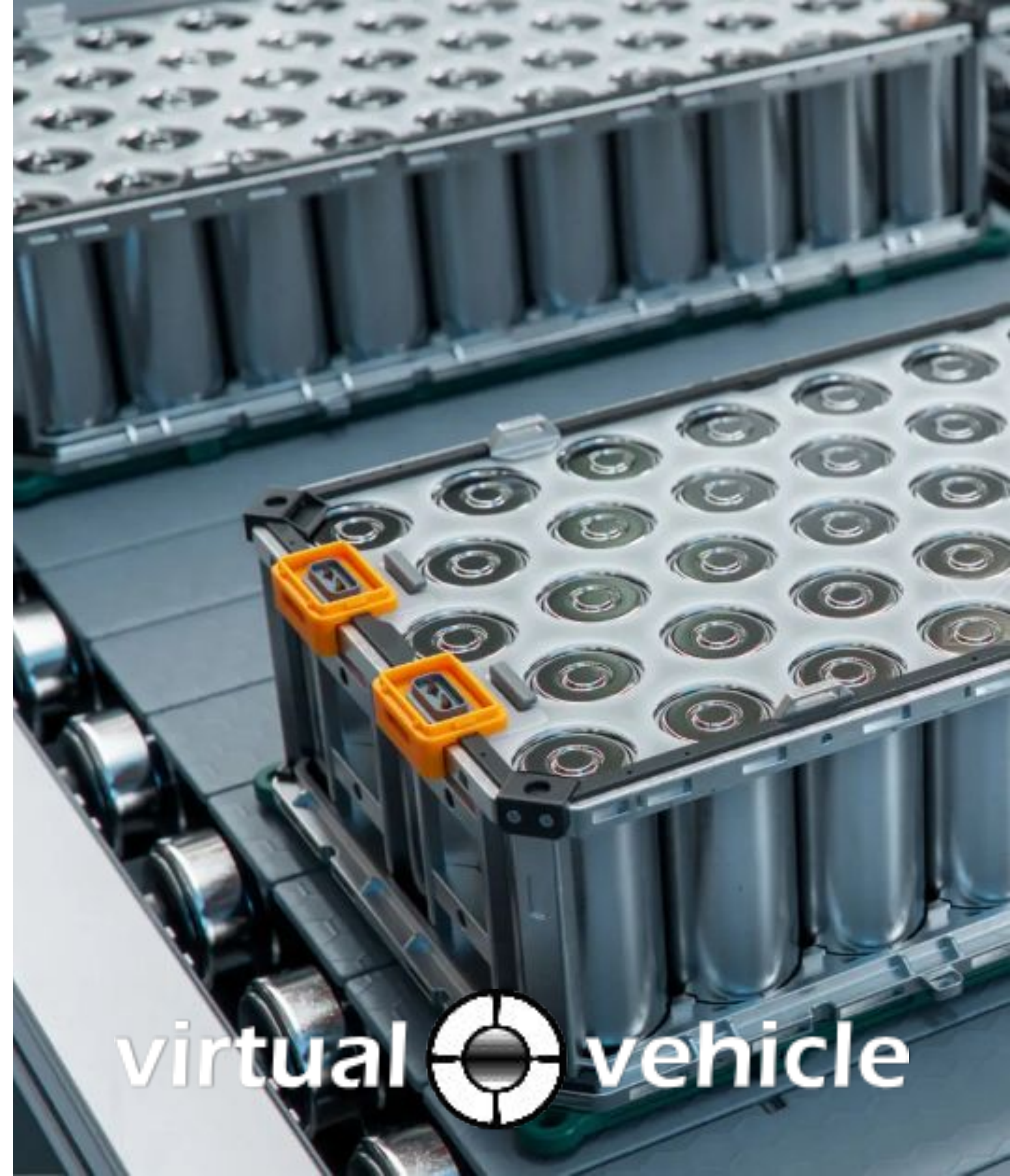
2. Make your product cheaper

Cost Reduction

The Pain

The fast-growing e-cars market requires advanced design methods. VIRTUAL VEHICLE models battery behavior to improve design while optimising **COST**.

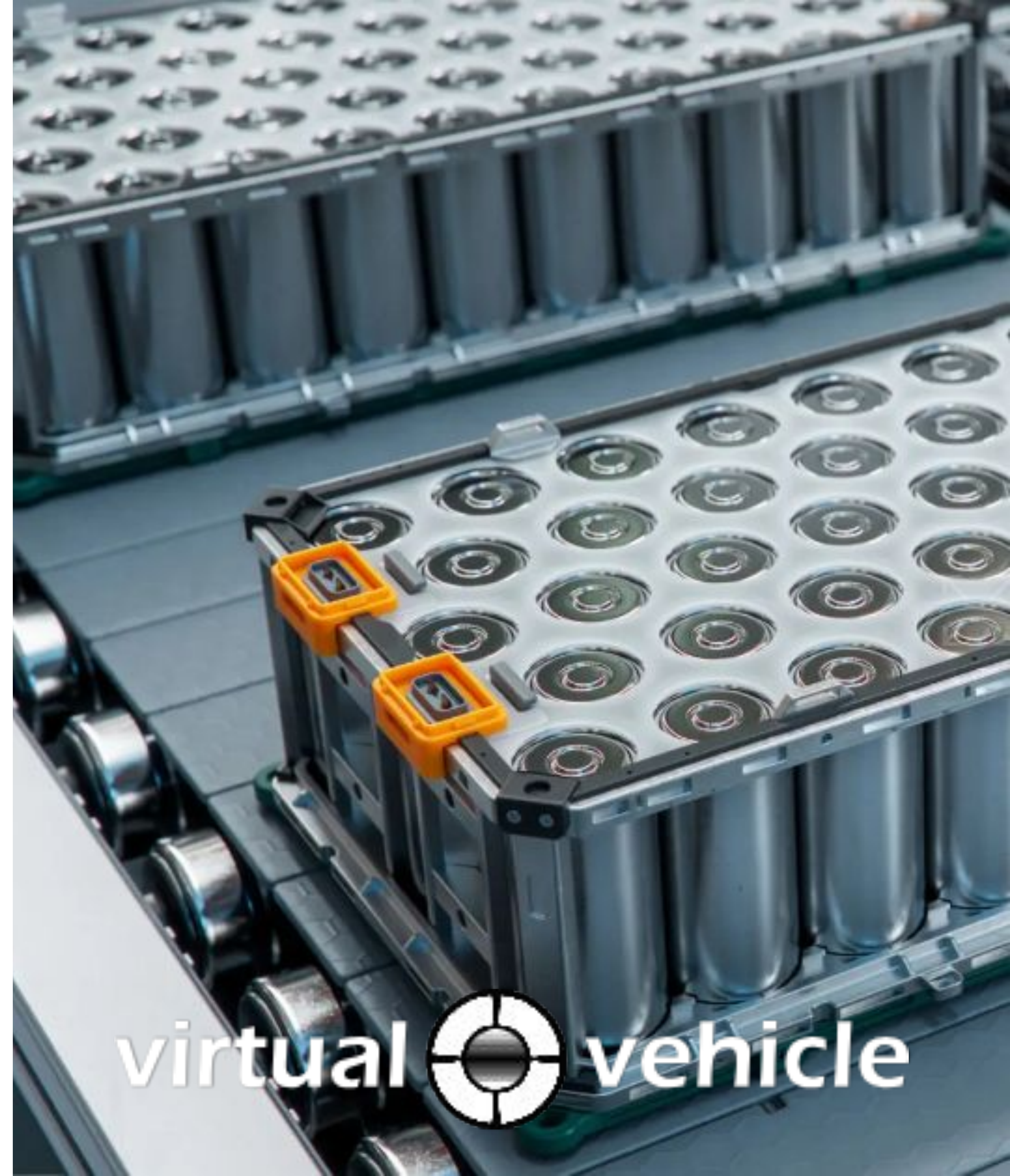
- The e-cars market demands advanced design methods with focus on improving battery behavior models.
- Identify stable parameters, evaluates robustness, and suggests further fine-tuning for supplier decision making
- ◆ Explore **cost reduction methods** for design and production

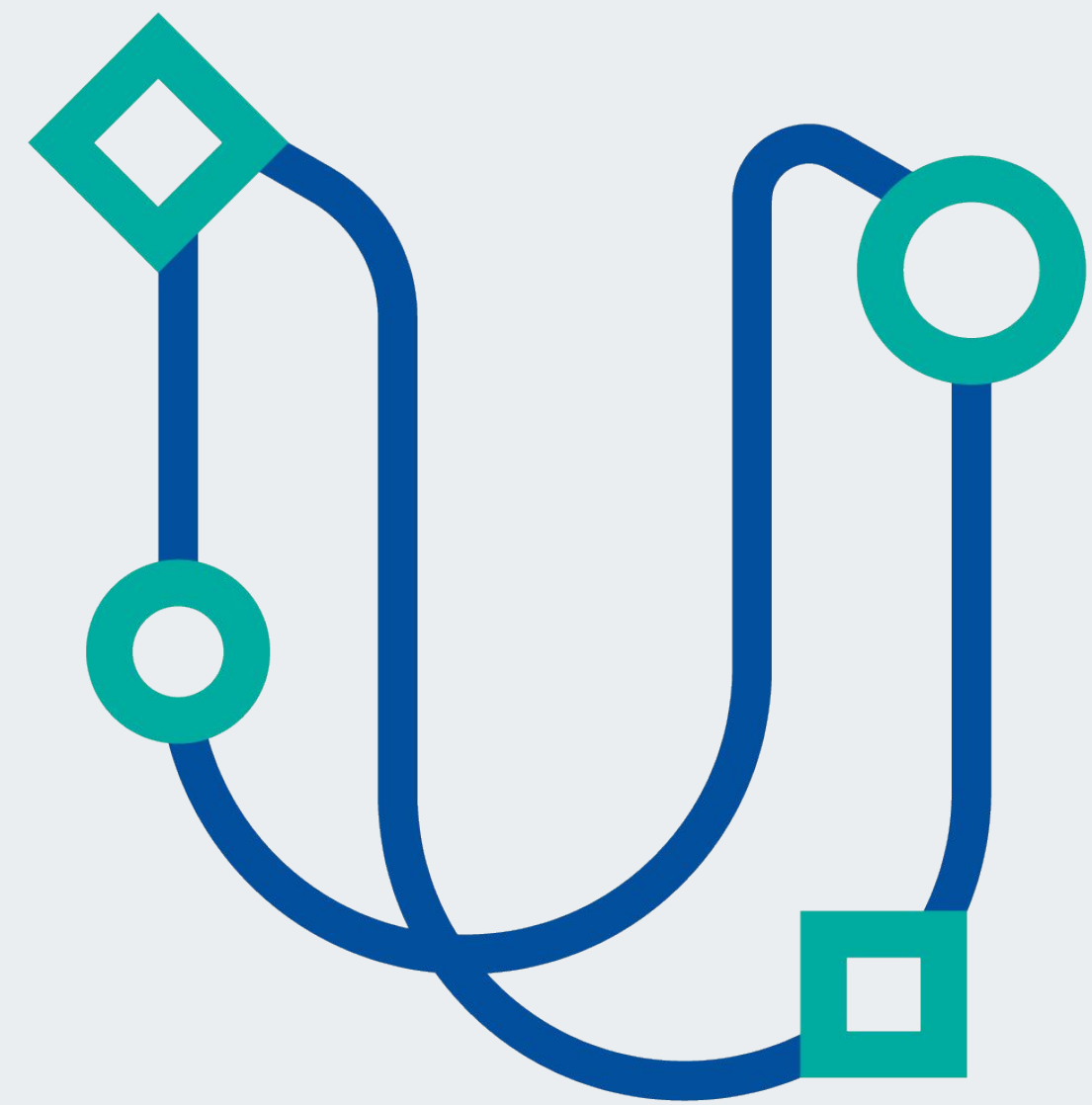


Cost Reduction

The Solution

- Achieved an **80%** reduction in regions of validity identified by Uptimai, greatly enhancing prediction capabilities and reducing the need for additional physical testing.
- Discovered a new optimal design through Uptimai, resulting in a **20%** improvement in design efficiency.
- ◆ Narrowed the impact of key variables, **reducing costs in supplier decision-making** and identified unimportant variables, enabling the discovery of **cost-effective solutions without compromising performance.**





Uptim.ai

3. Modelling and Small Data Sets

Small Data Set Modelling

The Pain

Be able to **predict performance** of actuators based on limited available data from real world performances

- Build an accurate model and provide deep analysis of input and output correlation
- Analyse the relationship between noise and performance and find a way how to improve **customer satisfaction with noise reduction**
- ◆ Include production data and analyse how **reduce production cost**

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Small Data Set Modelling

The Solution

By utilizing only 50 data samples across 16 critical parameters, we achieved an impressive **90%** model accuracy

- Achieved a **32%** improvement in noise reduction and overall performance using our optimization techniques.
- We identified the best balance between performance and **reduced production costs**.
- ◆ Improved **Reduce supplier scrap rates** and **lowered quality control costs** by improving precision in supplier standards



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Who we deliver INDUSTRIAL AI to

AEROSPACE	AUTOMOTIVE	MANUFACTURING INDUSTRY	ACADEMICS	CONSULTING FIRMS	CAE DOMINANT PLAYERS
   	   	 	  	  	   

UptimAI

We helped many companies to successfully handle their data and optimize their products...



Martin Kubicek

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Unlock the full potential of your engineering by better decisions and AI-driven optimization