

# Enabling Innovative Exterior Front Design in the new Mercedes GLC

**LIGHTING**  
MEETS **CHROME** +



# Lighting meets Chrome

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**GERHARDI**

Impressing design, impressing numbers.

+ Over **75** components per finished front panel  
(excl. the ART-plate)

+ **2,5** years development time  
(from initial design concepts to SOP)

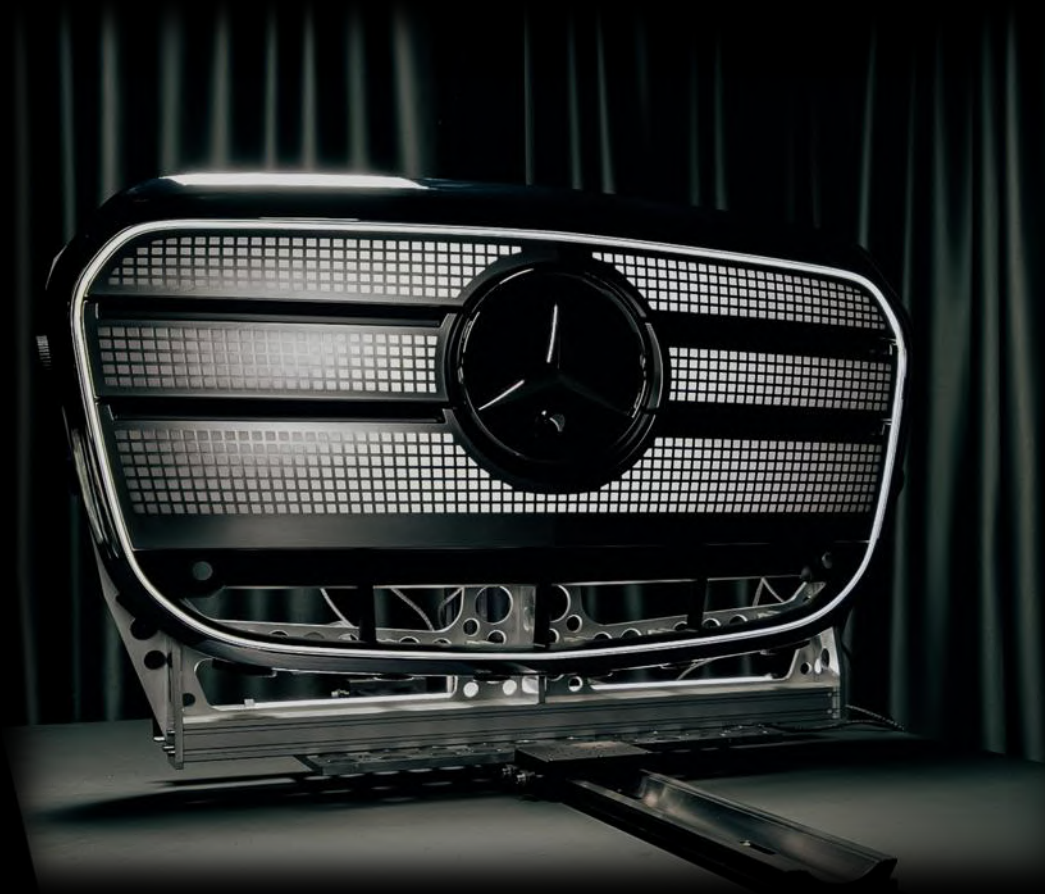
+ **2** lighting systems:  
contour light and surface light

+ **~65%** of the A-surface is chrome plated

The surface light:

+ **942** dots – illuminated and animated

+ **140** LEDs

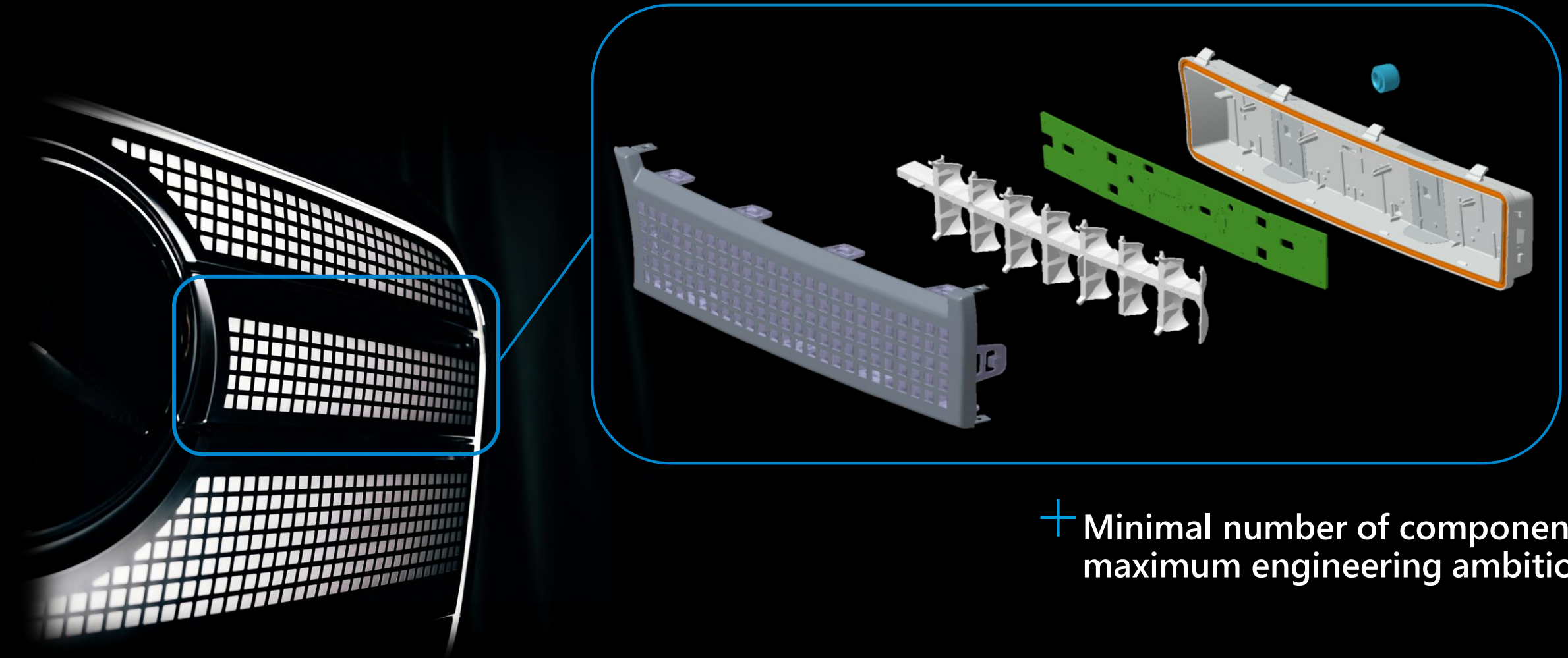


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**GERHARDI**

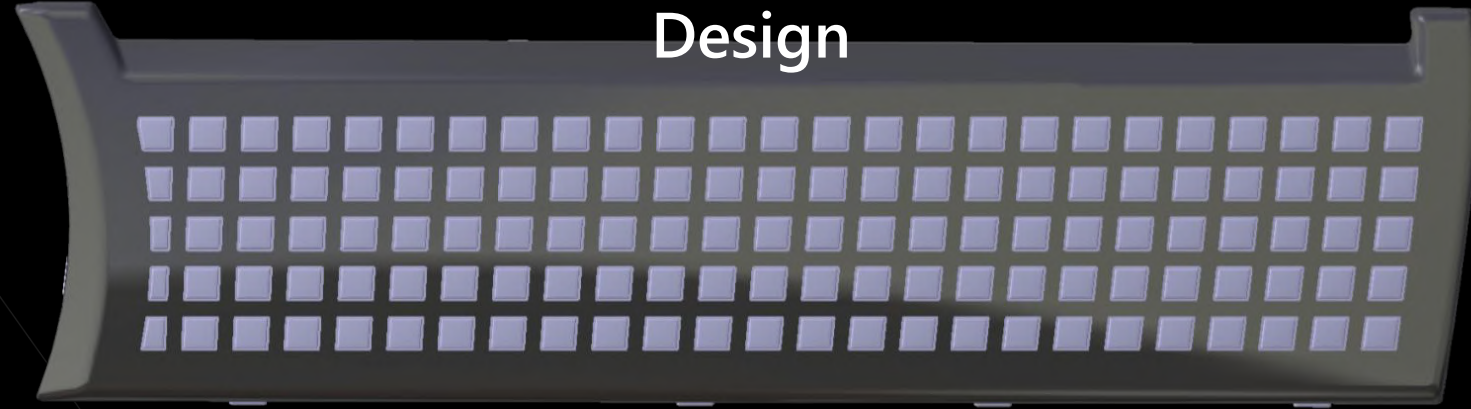
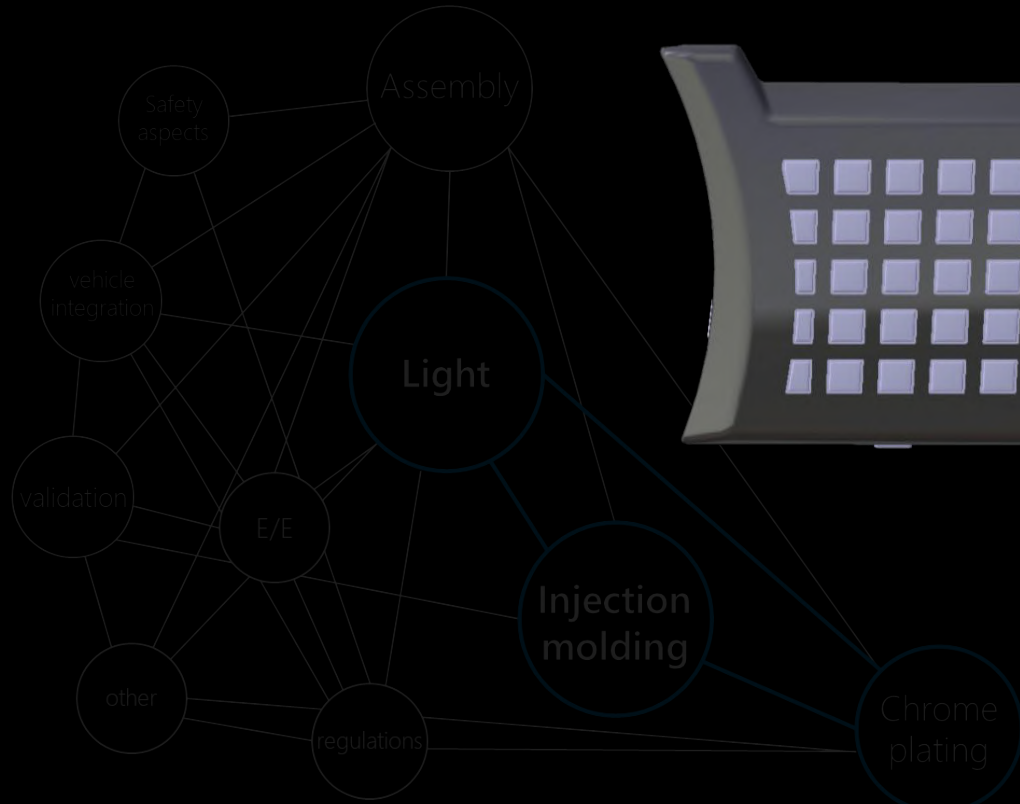
+ Simple system architecture from a distant perspective



+ Minimal number of components,  
maximum engineering ambition.

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## Day

Chrome plated grid  
+ seamless surface  
+ 3D-topography

## Night

Uniform pixel light  
+ animation  
+ secret until lit

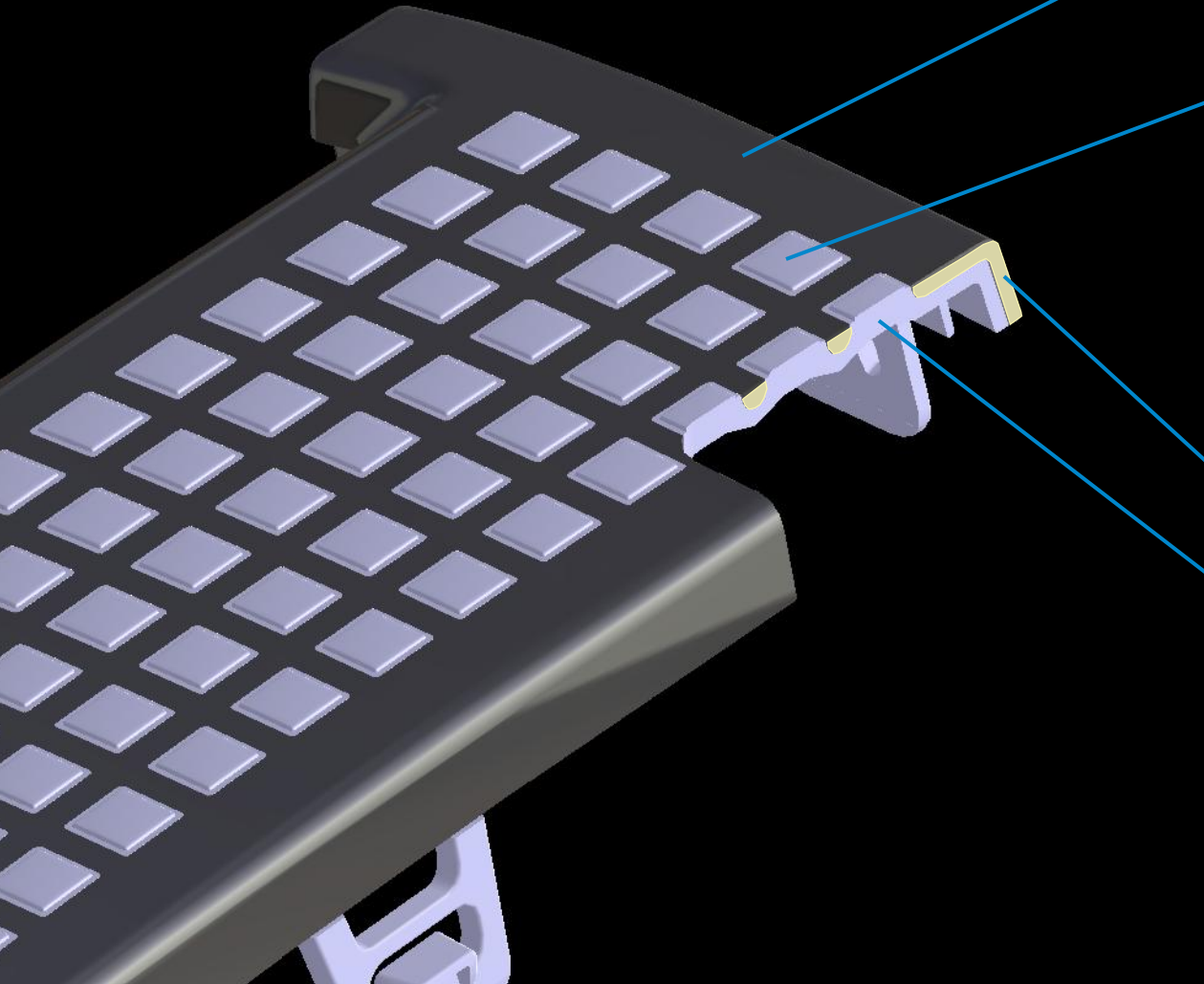
**Equal value**

**+ Equal value =  
Equal priority in development.**

# Lighting meets Chrome

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**GERHARDI**



+ The chrome surface

+ The light emitting surfaces

+ The two plastic components

+ ABS

+ PC

+ 1 design component –  
3 technologies.

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1<sup>st</sup> impression, 1<sup>st</sup> technology: The shiny chrome

- + Complex 12-step process
- + Exclusive and robust surface
- + Perfectly recyclable

+ But: A chrome plated surface can only be as good as the injection molded part below.

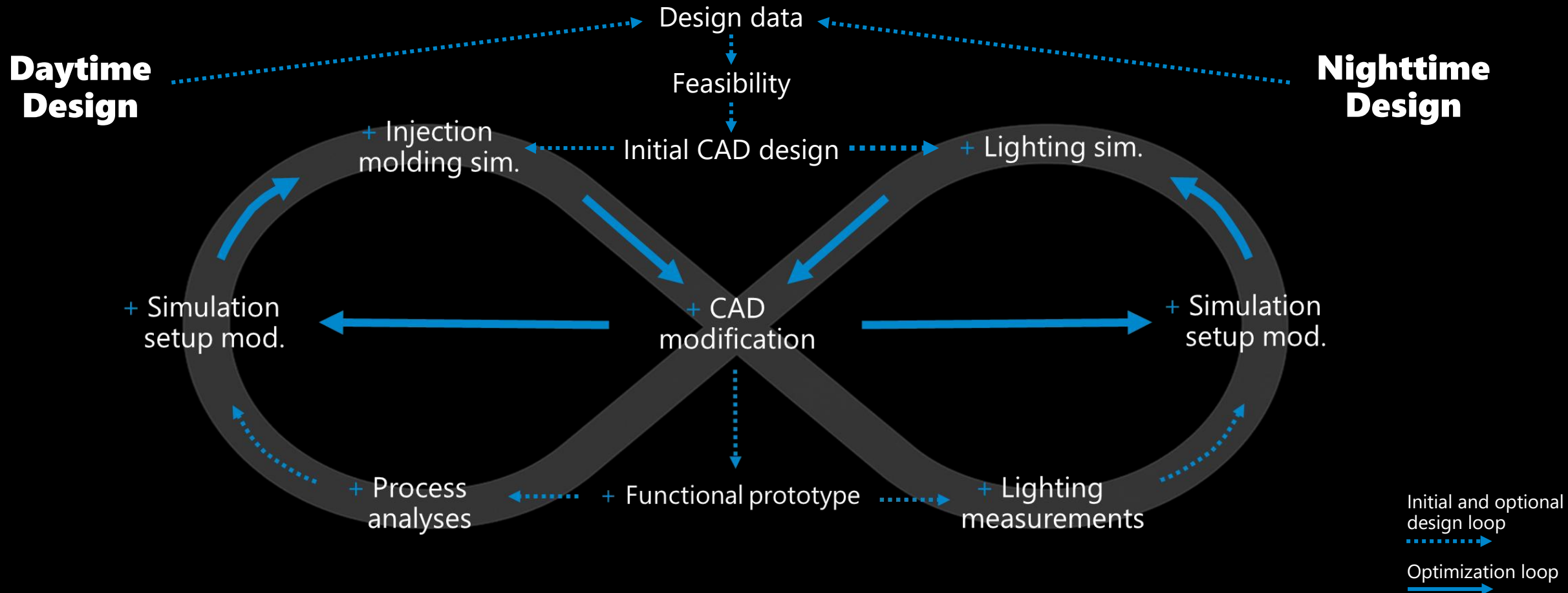


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**GERHARDI**

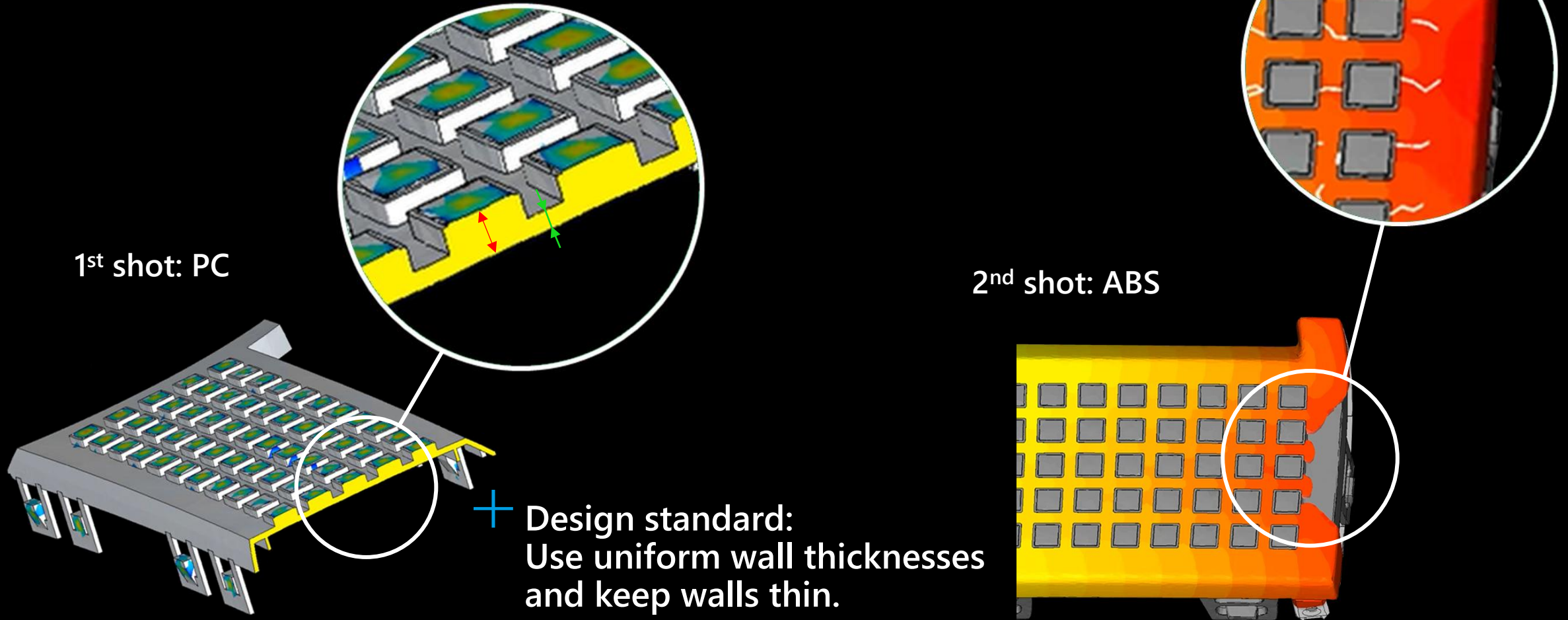
2<sup>nd</sup> and 3<sup>rd</sup>: injection molding and lighting



# Lighting meets Chrome

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Optimizing the plastic part by injection molding simulation

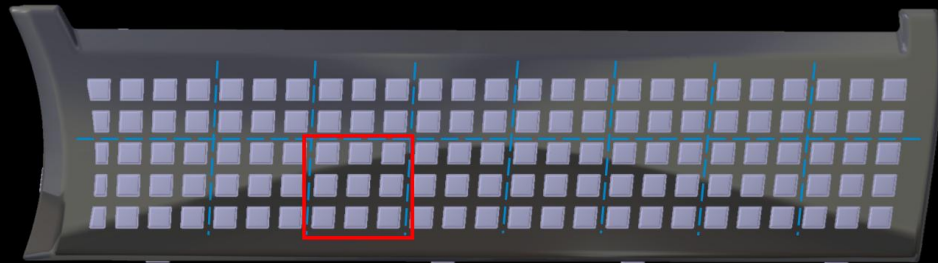
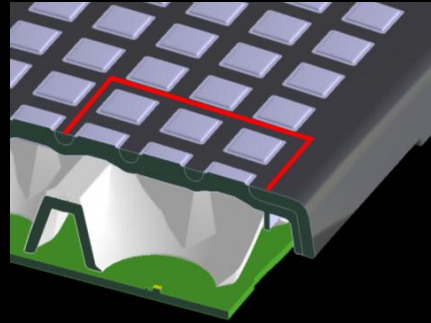


# Lighting meets Chrome

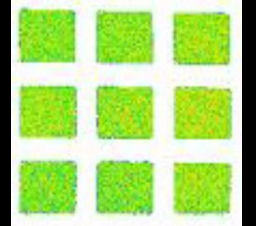
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Optimizing the wall thickness of PC by lighting simulation

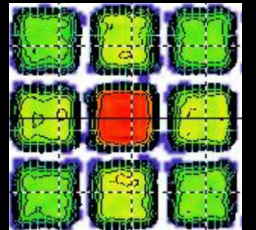
1 LED per  
3x3 pixels



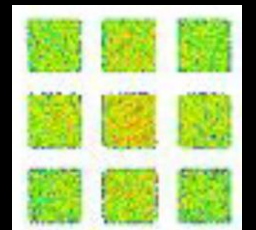
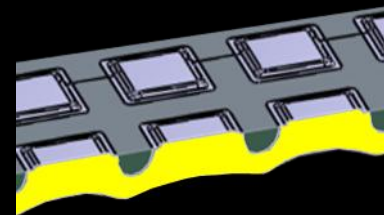
Best for the  
lighting homogeneity



Best for the  
surface quality



Best for the  
system



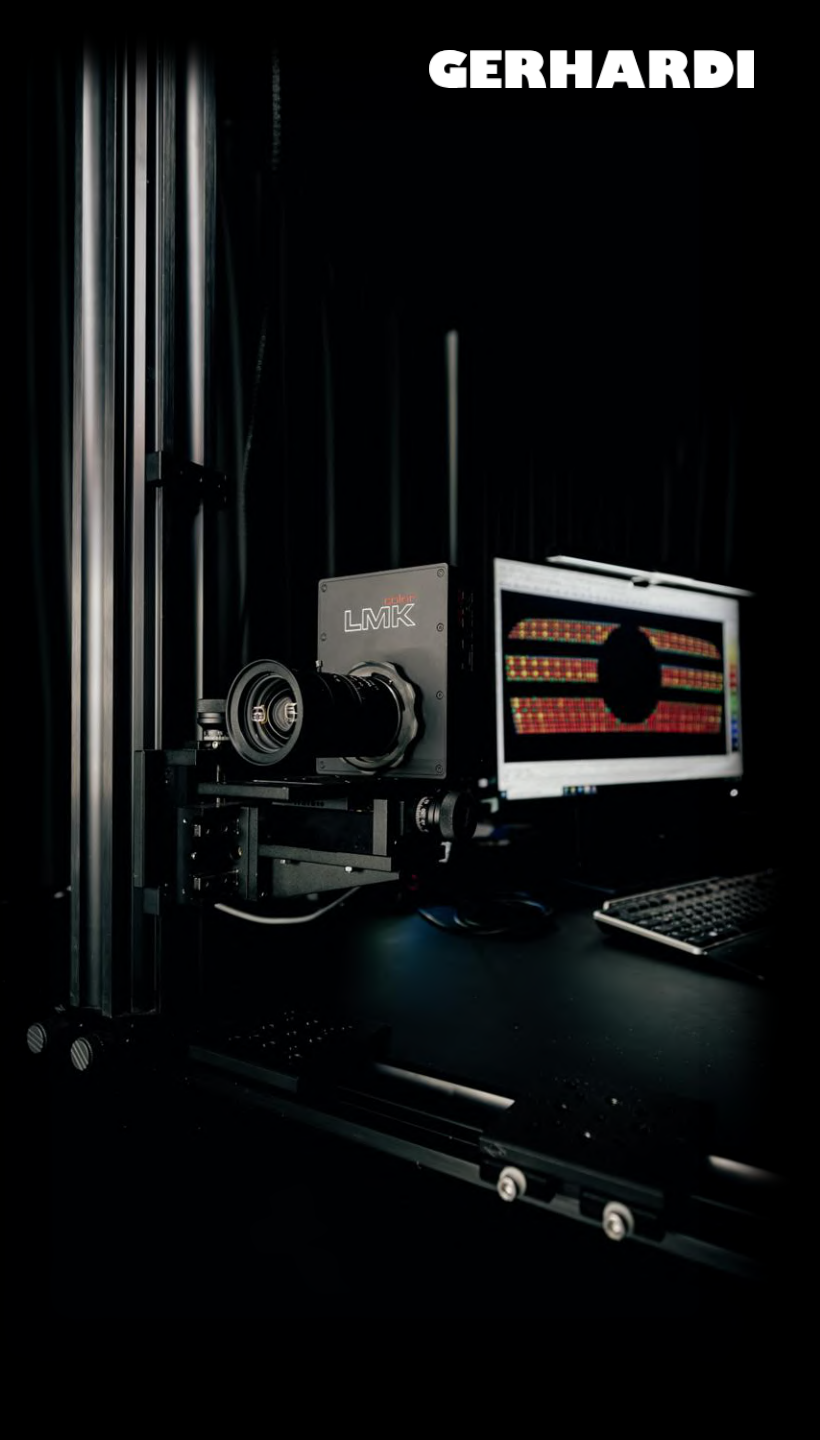
+ Optimized as a system, not a discipline  
→ over 90% homogeneity.

# Lighting meets Chrome

Enabling Innovative Exterior Front Design in the new Mercedes GLC

How we enabled the Exterior Front Design in the new Mercedes GLC:

- + Acknowledge daytime and nighttime design as equal
  - + System-first thinking
  - + Consider dependencies between different technologies
  - + Strong commitment to quality
  - + Dual-track development
  - + Question technical standards and routines
- + Innovation is driven by the courage to step beyond established standards.



**GERHARDI**  
Booth S24

# **CHROME** AT NIGHT? LOVE AT FIRST **LIGHT**.

GLC is evidence:

Appealing Design needs more than visual elements. It needs surfaces that can be truly experienced.

