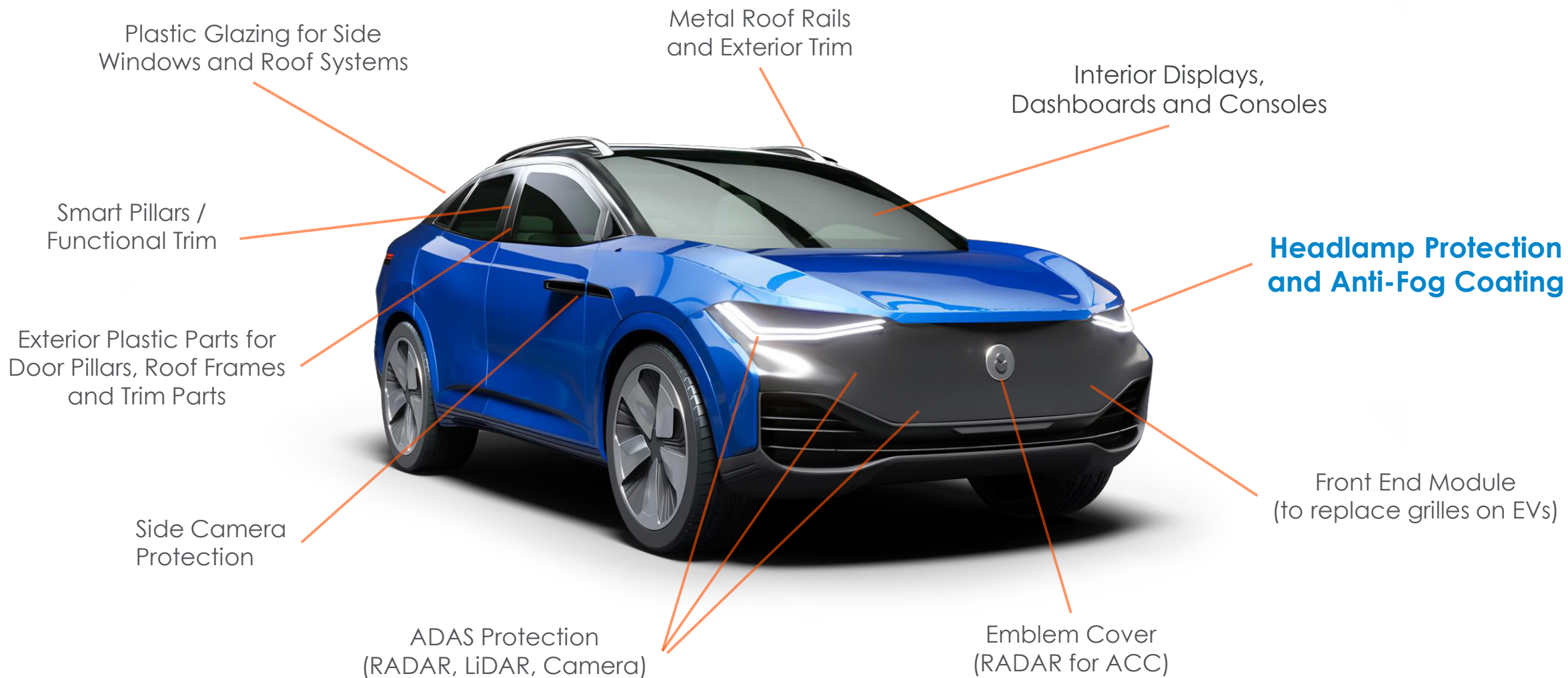


Maximize the Handprint: Functional Coatings for *Mobility* Lighting

2026-02-03 / Dr. Andreas Haeuseler



Momentive is a premier global advanced materials company with a cutting-edge focus on silicone-chemistry and specialty products



OSi



- **~2.5 Billion Leader in Silicones and Specialties**
- **5000+ Employees**
- **40+ Locations**
- **20+ Countries**



UV-Cure

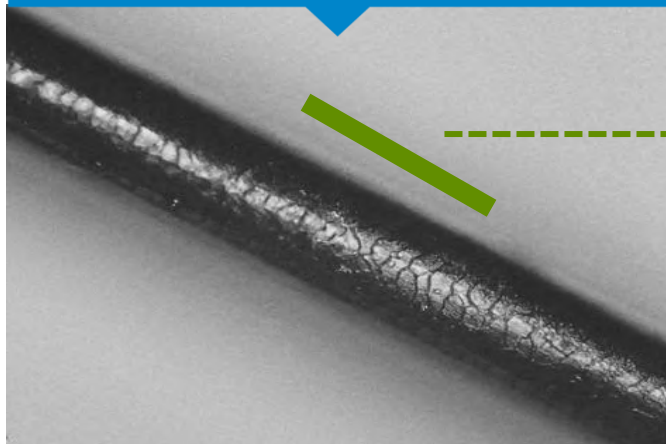
- One-layer coating system
- Siloxane-modified acrylic
- Fast curing via UV radiation

Thermal-Cure

- One / two-layer coating systems
- Chemically crosslinked siloxane resin
- Curing @ 90 – 130°C

All SilFORT Hardcoats
formulated w/o PFAS

Coatings are 7x thinner than a
human hair



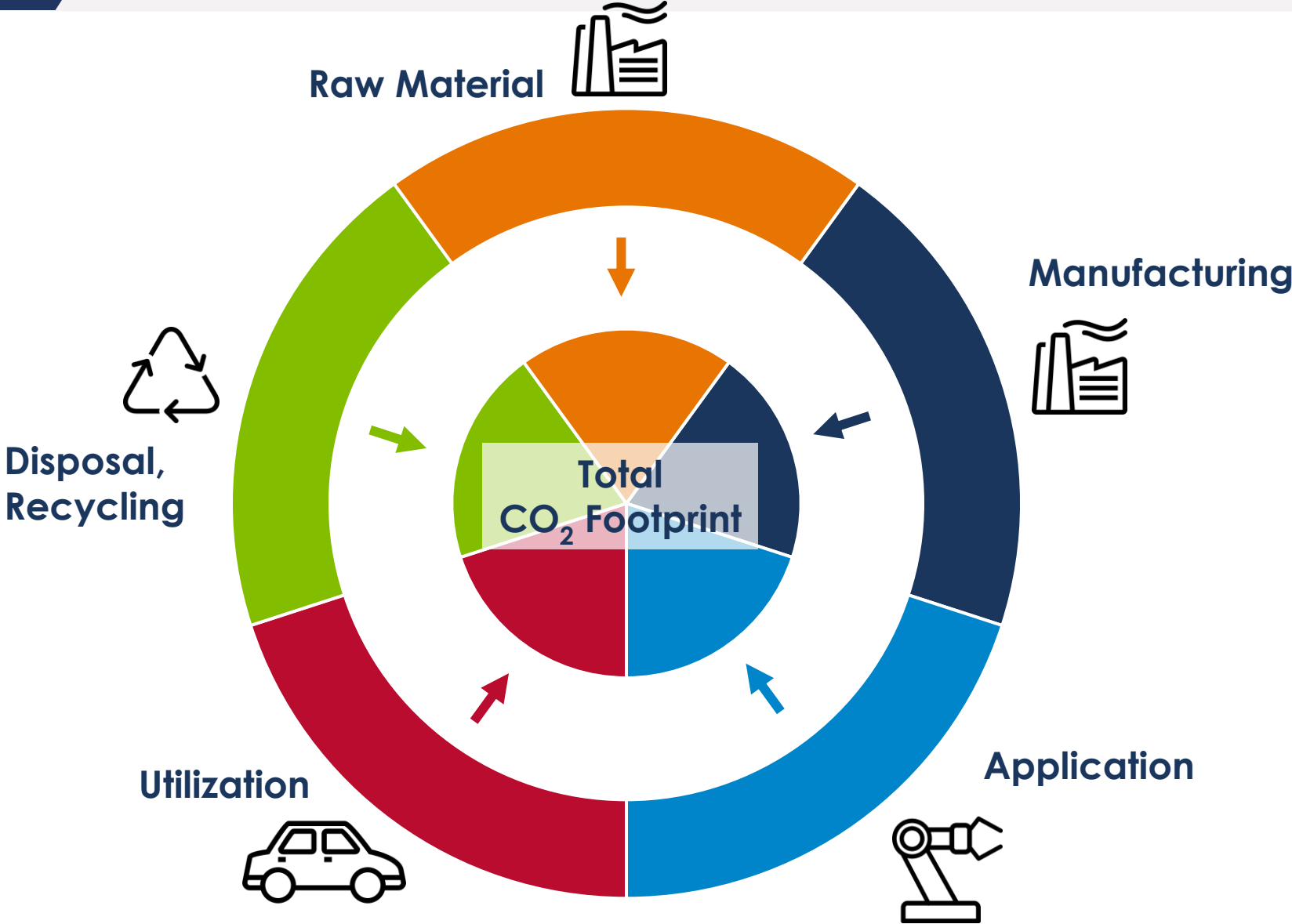
Cross Section: Coating
thickness of 10 µm



5000:1

10µm

Product Life Cycle – Headlamp Lenses



Product Life Cycle – Coated Headlamp Lenses

Total CO₂ Footprint

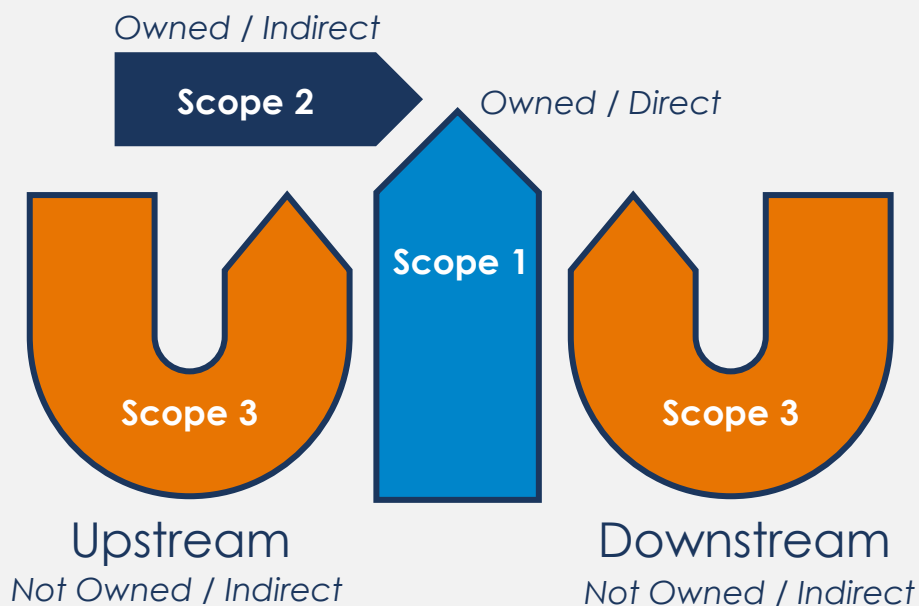


Product Life Cycle Steps for a coated headlamp lens

- **Raw Material** of Coating and Polycarbonate
- **Manufacturing** of the formulations
- **Application of the coating** on the molded PC part
- **Utilization** in a headlamp of a vehicle
- **End-of-life** treatment



Greenhouse Gas Protocol (GHG)

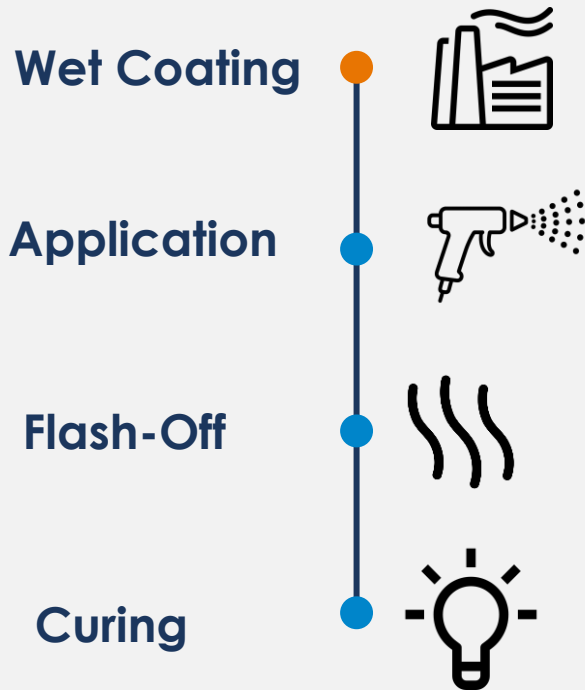


Examples for Momentive Hardcoats

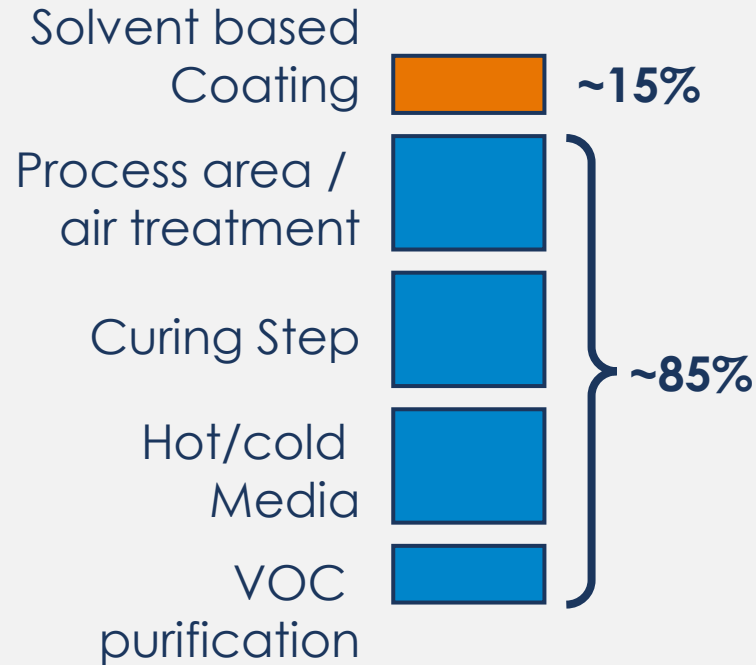
- **Scope 1 + Scope 2**
 - **Momentive 2025 Sustainability Goals:**
 - - **0.45 kg CO₂e/kg** total GHG emissions
 - - **50%** electricity from renewable sources
- **Scope 3 Upstream (Supplier)**
 - Green solvents (e.g. ISCC+)
 - Raw materials from renewable sources
- **Scope 3 Downstream (Customer)**
 - Efficient coating application (see next page)
 - Lower energy consumption (see next page)



Coating Process



CO₂ Emissions from Process



Increase Handprint

1) AS4700 Reduced Bake

- ✓ Lower Process Time (-30%)
- ✓ Lower Energy Cost (-25%)
- ✓ Lower Curing Temperature



2) Switch Hg-bulbs to UV-LED

- ✓ No warm-up
- ✓ Low temperature
- ✓ No Mercury



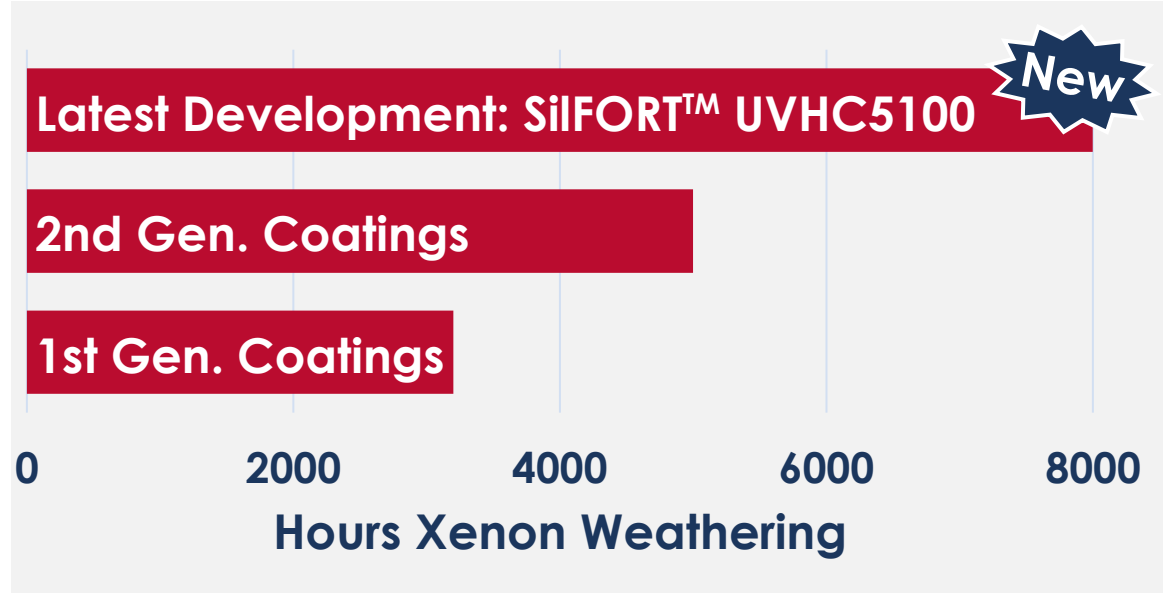


Environmental Parameters & Failure Modes

- Solar Irradiation
 - Temperature
 - Humidity
- 
- Yellowing
 - Haze & Cracks
 - Delamination



Durability Improvements over Years



End-of-Life: Disposal, Recycling

Chemical Hydrolysis

Mechanical Removal
of Coating Layer

Melt Filtration

Product Footprint



Reduce the CO₂ Footprint

Reduce PCF* value of Coating by introducing

- A) Low PCF Raw Materials
- B) Low PCF Solvent
- C) Green electricity

* PCF = product carbon footprint [kg CO₂-eq]

Product Handprint

Increase the CO₂ Handprint



- Improve Process Efficiency
- Environmental Efficiency
- Improve Product Durability
- Enable Recyclability

Thank You!

How can we support you with your protective and functional coating needs?

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