

## Surface Finishing of Interior Trim: Film and Liquid Coatings

Stuttgart 13<sup>th</sup> June 2012



# AkzoNobel key facts

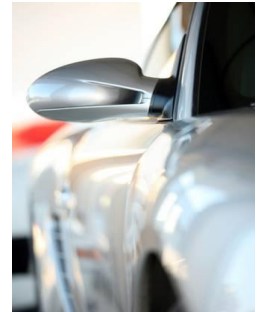
## 2011

- Revenue €15.7 billion
- 55,590 employees
- EBITDA: around €1.8 billion\*
- Net income: close to €469 million
- Around 40 percent of revenue from high-growth markets
- One of the leaders in sustainability

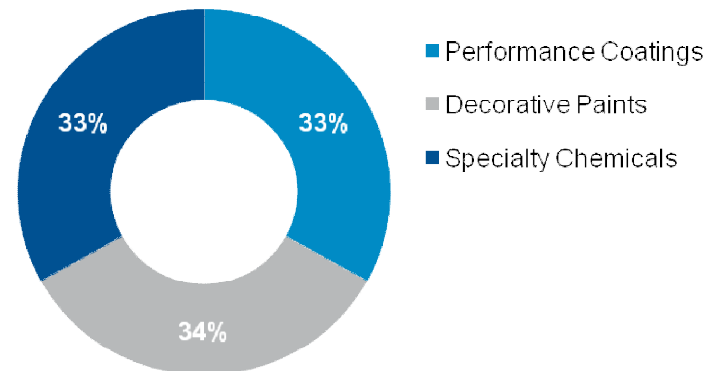
## Creating one of the world's leading industrial Companies

- World's largest decorative paints company
- Global leader in performance coatings
- Leading specialty chemicals business

\* Before incidentals



## Revenue by business area



# Our strategic ambition is to be

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The world's leading  
coatings and specialty chemicals company



# Strategic ambitions

We are the global partner to industrial clients with innovative coatings and film technology

We will strengthen our leadership position through

- Product line extensions
- Growth in high growth markets
- Technology leadership through resins capability
- Color and design
- The right people

Embed **safety and sustainability** in everything we do



# AkzoNobel Specialty Finishes

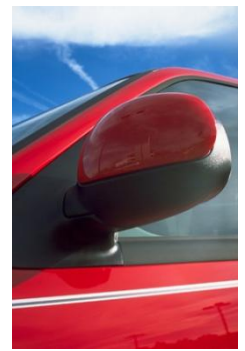
AkzoNobel Specialty Finishes offer design solutions combined with the performance that is needed for various markets.

Automotive - IT – Wireless – Lifestyle



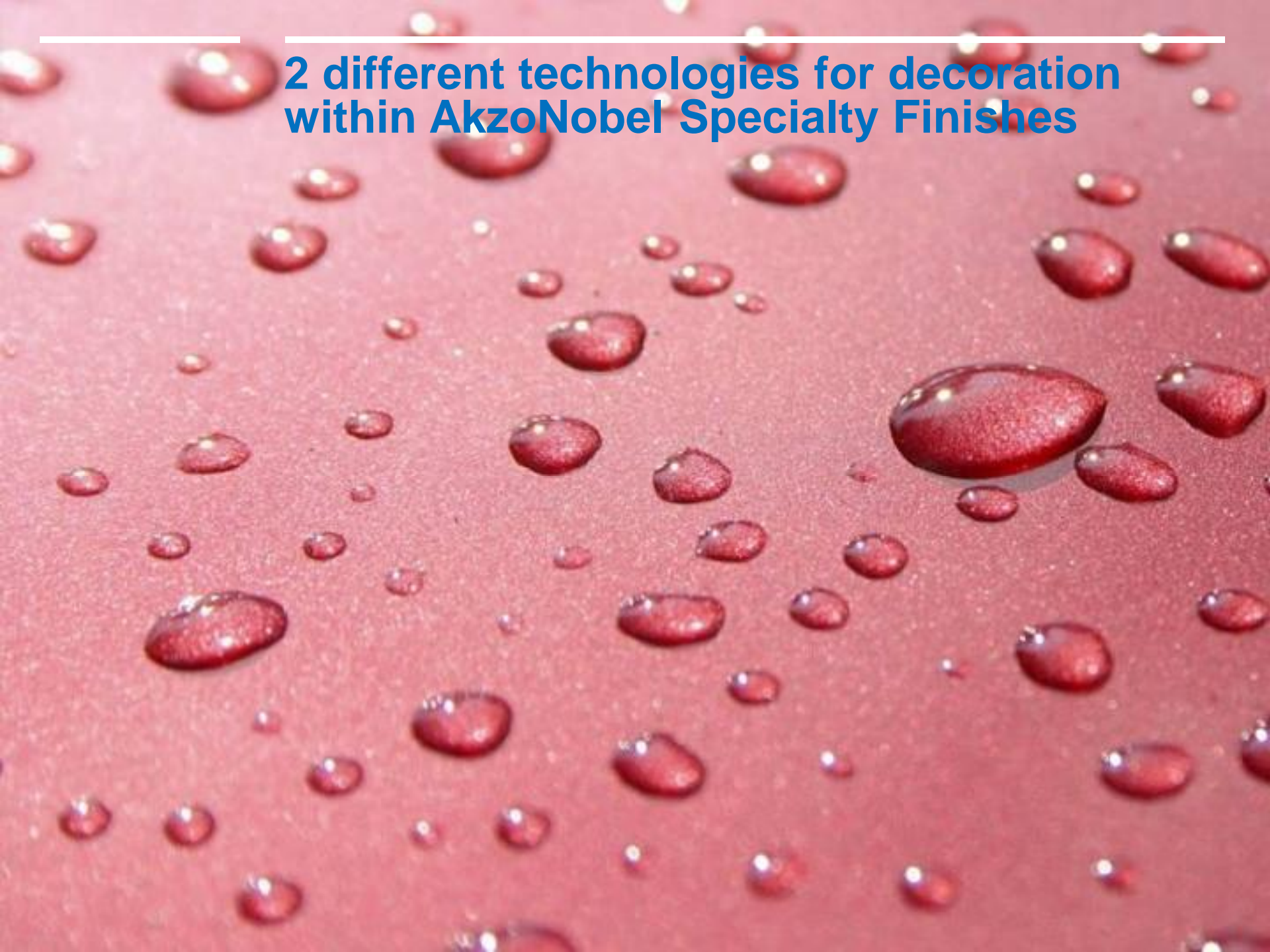


Liquid and film color coatings with special effects:



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## 2 different technologies for decoration within AkzoNobel Specialty Finishes



# Liquid Coating Technologies



**Reflex**  
*Holographic 3D-effect –  
Toshiba Dynabook X200*



**Cracking**  
*Coating that “bursts” during curing –  
Logitech Laser Mouse G5*



**Marble**  
*Natural high def grain-effect –  
Philips LivingColors in Anthracite*



**Laser etch**  
*Day/Night effect –  
Car stereo controls*





# Film Technologies



**Body colour**  
*Exterior automotive (GM)*



**Soft Feel**  
*Rose petal tactile-effect –  
Laptop*

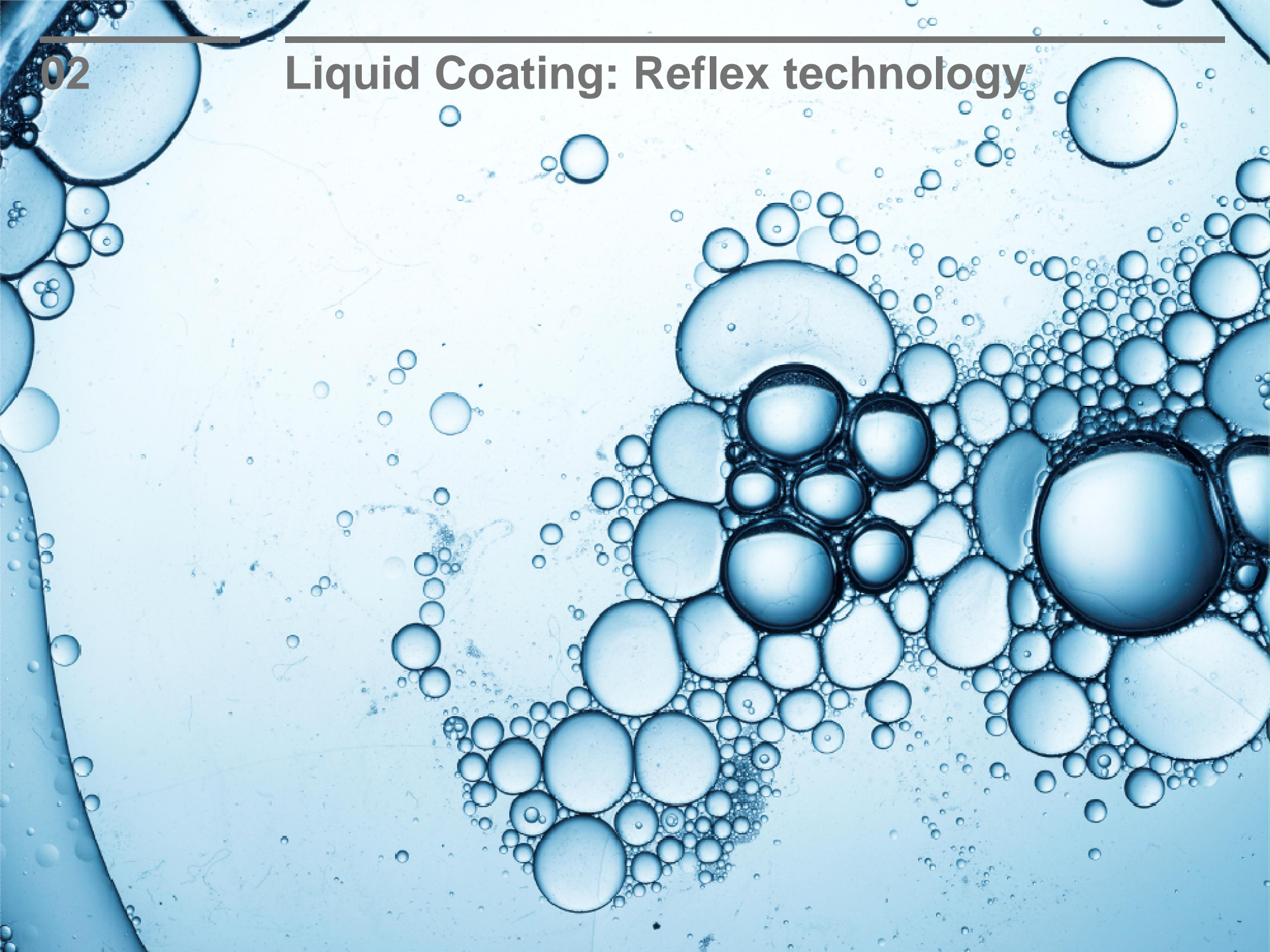


**Chrome finish**  
*Exterior Automotive (Hyundai)*

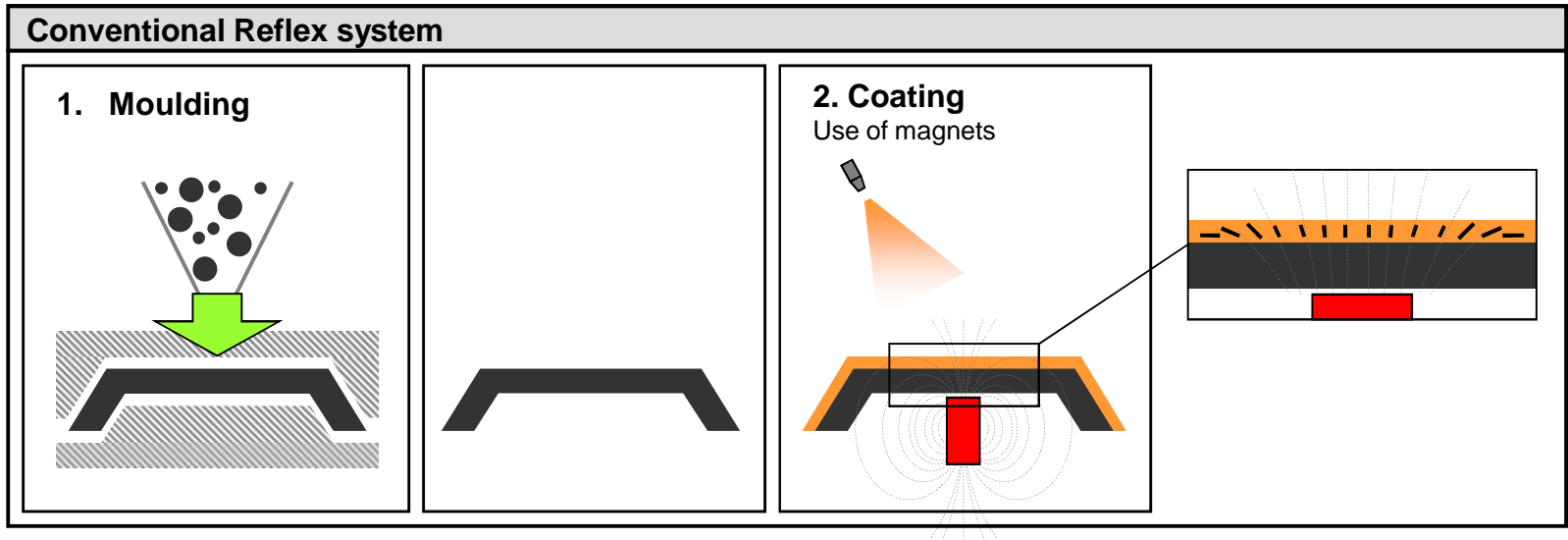


**Graphics**  
*Interior Automotive*





## REFLEX-effect







Logitech G3

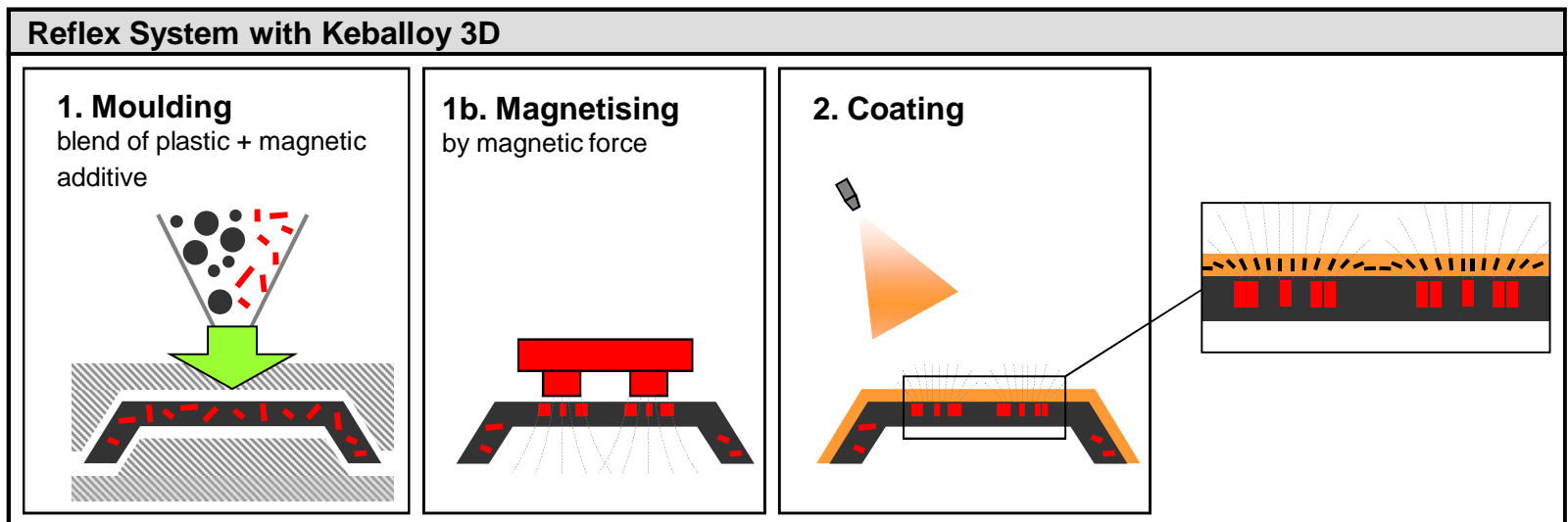


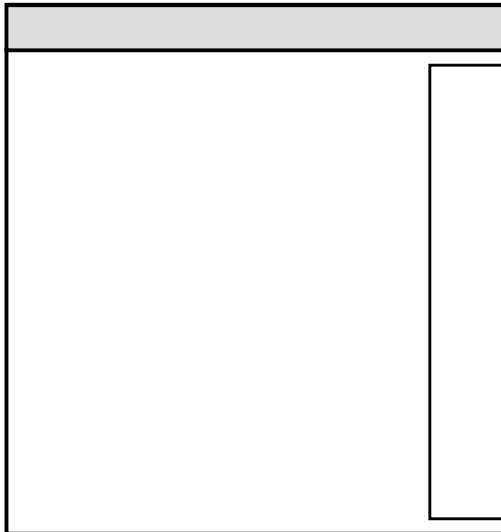
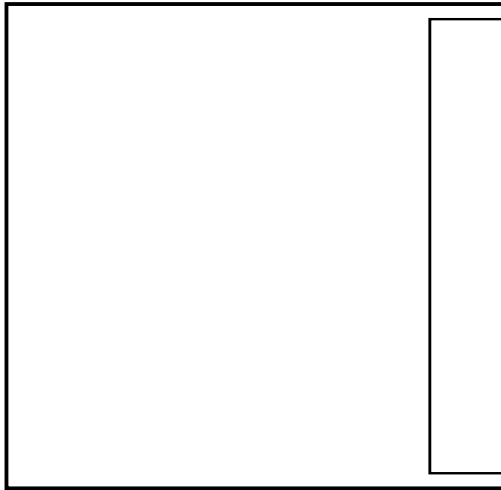
Toshiba Dynabook X200



## New Method: with KEBALLOY 3D

- Patented system
- Plastic compound with magnetic additives, for injection molding
- Incorporating the logo/pattern/design by using a magnetic tool

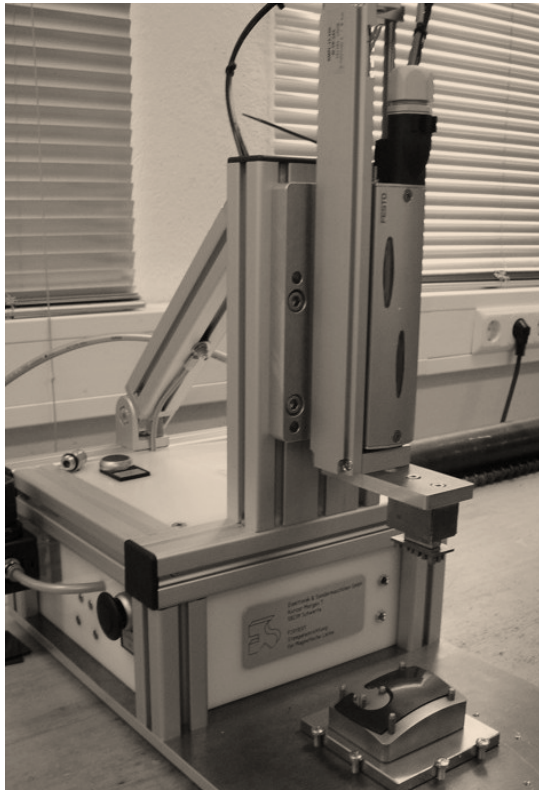


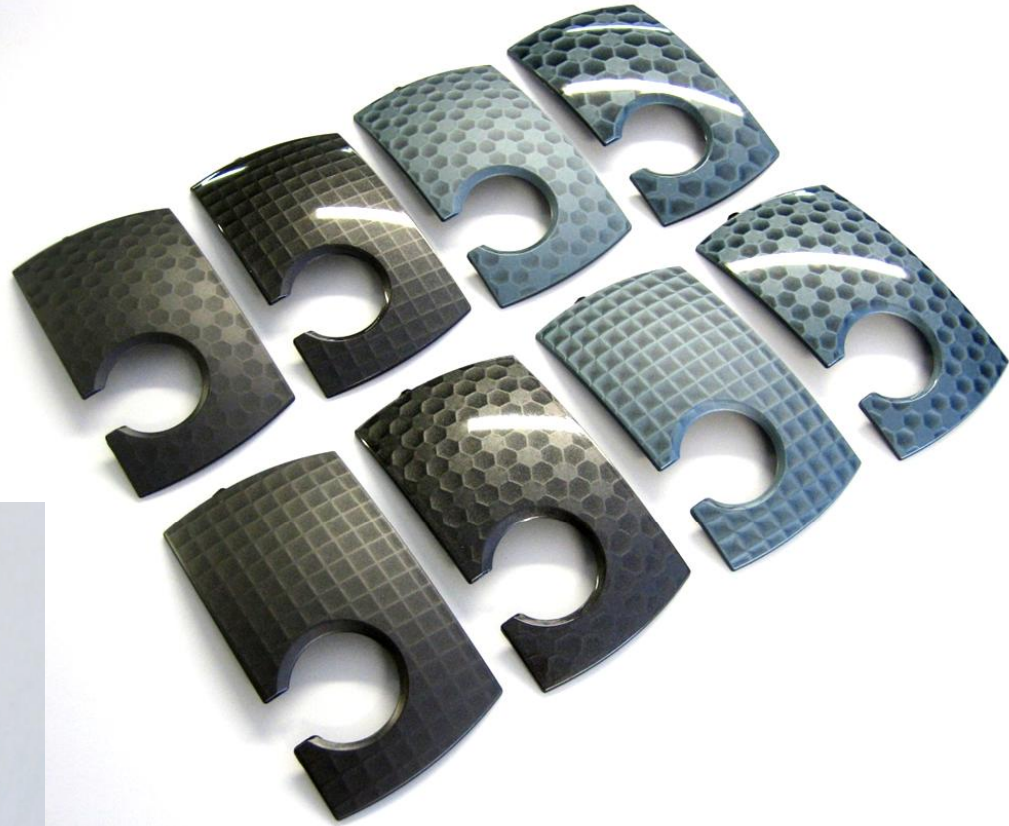
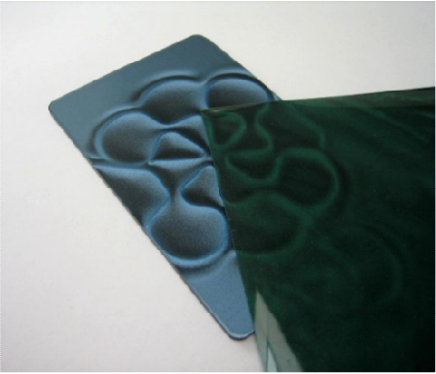


### Advantages:

- Distance between magnetic field and coating is zero  
=> High detailed images, logos
- No need for additional magnets during the painting process  
=> Yield will increase, mass-production friendly
- Flexible designs, customisation

## Magnetizing







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# Film Technology

An abstract graphic featuring a vibrant blue liquid dripping down a white background. The liquid forms thick, rounded droplets at the top, which then taper into long, thin streams falling towards the bottom. The blue color is a rich, saturated hue, and the white background is a clean, bright white. The overall effect is dynamic and fluid.

## Specialty Finishes – Decorative Film



- Thermoformable films coated with multiple layers to provide a variety of finishes:

- colours
- patterns
- textures
- chrome
- metal

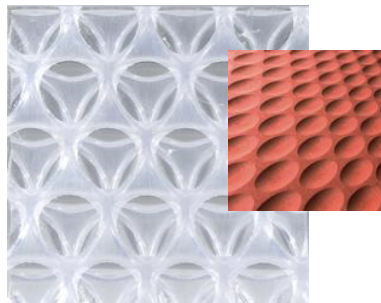
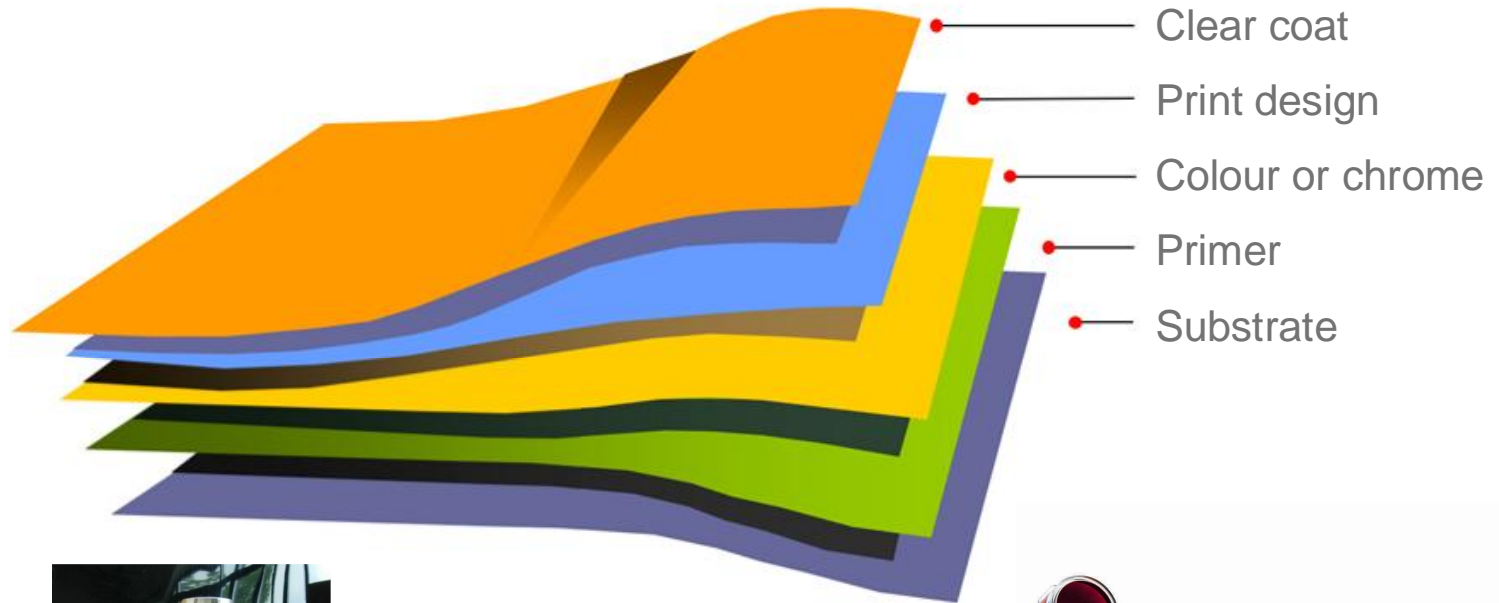


- Properties

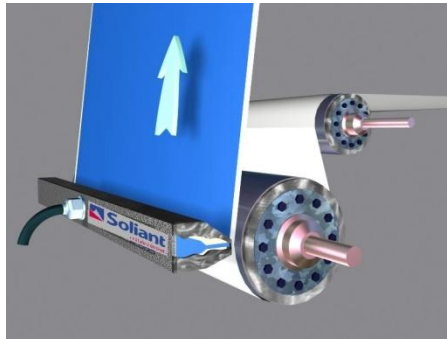
- Design flexibility
  - Variety of colours, patterns, gloss levels and textures
  - Compatible with complex geometries
  - Available for PP, ABS, PC
- Process-friendly constructions for insert moulding, IMD or extrusion lamination
- Meet automotive performance requirements (PVDF construction)



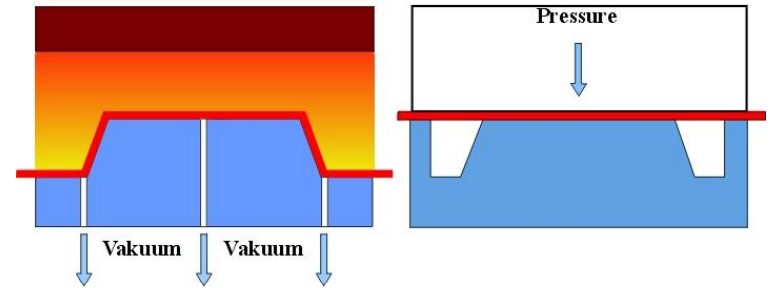
# Specialty Finishes - Paint Film



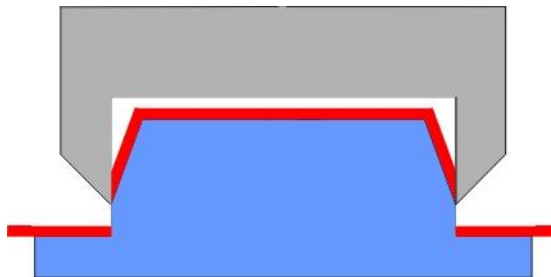
# Decorative Paint Film in 'Insert Moulding'



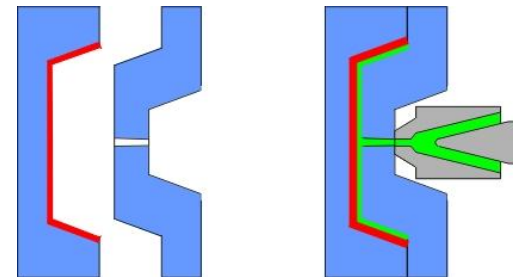
1. Coating of the film



2. Forming process



3. Cutting



4. Injection moulding



# Decorative Paint Film in 'Insert Moulding'

## Production Steps



Forming



Die-cutting



Insert molding



# Film Technologies



**Chrome**  
*Exterior (Hyundai)*



**Brushed chrome**  
*Interior (GM)*



**Satin - Chrome**  
*Interior (Renault)*



**Chrome (Backlighting)**



# Decorative Paint Film – Automotive Interior



**Technical / Woodgrain**  
Interior (Nissan)



**Brushed chrome / Technical**  
Interior (GM)



**Anodised Aluminium**  
Interior (Renault)



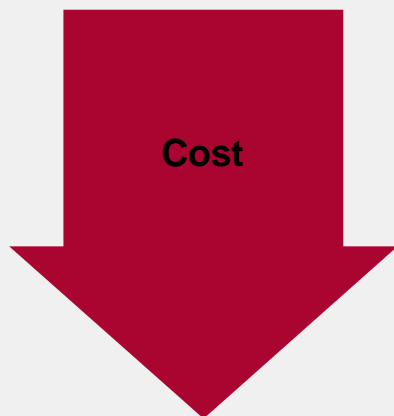
**Silver**  
Interior (Chrysler)



## Film has both performance and cost benefits



- **Durability:**
  - Flexibility
  - Chemical resistance
- **Design options:**
  - Patterns & prints
  - Chrome finishes without Chromium
  - Excellent color control
- **Environmental friendly:**
  - Reduction of VOC's
  - Recyclable



- **Application:**
  - Simplified decoration process
  - Different trim models without retooling (Low end: only color, High end: metal look)
  - Quick color changeover
  - Higher yields





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# Outlook



Decoration with these products have 2 common threads:

- PERFORMANCE = technology
  - ❑ Metalised films and Tinted Chromes
  - ❑ Soft feel in film technology
  - ❑ UV curable hardcoats for film
- APPEARANCE = look & feel = design
- Design is the reason why Foresee was created

(fore)sē



## Design services : Global Color Trend Presentation

- Global Color Trend presentation
  - ❑ 10<sup>th</sup> Edition – annual initiative
  - ❑ Assess global trends, incorporate into new, highly-relevant designs



## Design services : Customized colour solutions

-Customized color / graphic solutions

- ☐ Work closely with automotive design teams
- ☐ Customized projects for specific segments (market, product line, region)
- ☐ Global team







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