

NISSHA

Film technology illuminating the next
step in automotive exterior lighting

Tino Theer

NISSHA

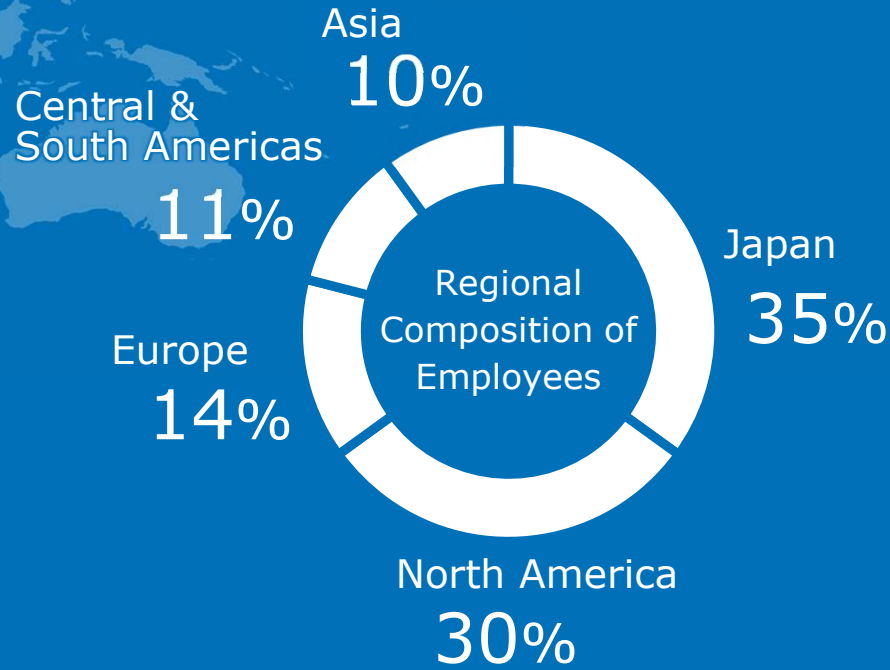


Founded
1929

Bases
49 (Japan:14, Overseas:35)

Consolidated Number of Employees
5,397 *As of the end of Dec. 2024

Stock Listings
Tokyo Stock Exchange,
Prime Market (TSE Code:7915)



- Sales
- Production
- Sales & Production
- Others

Our Core Technologies

Six Core Technologies Driving the Growth of Our Products



Printing



Coating



Laminating



Molding



Patterning

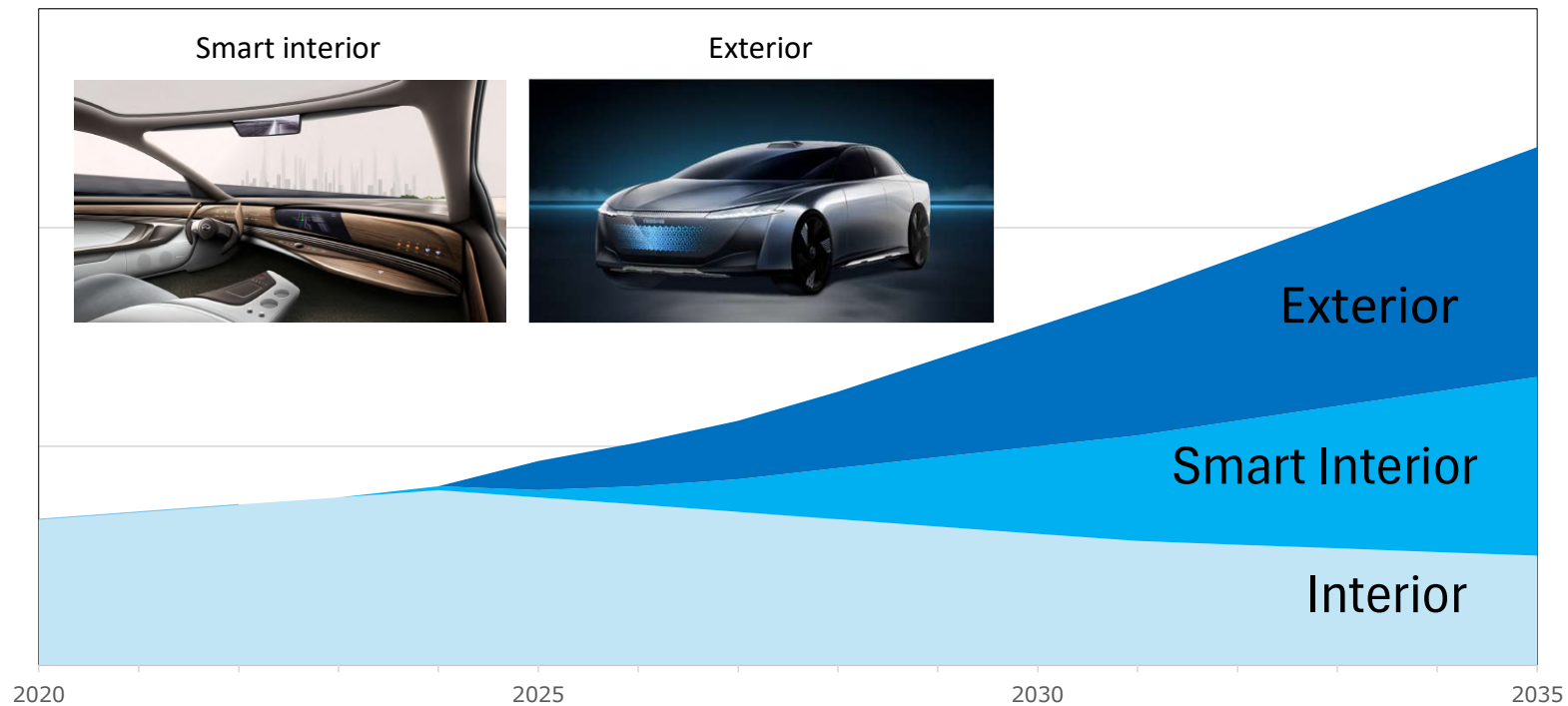


Metal Processing

NISSHA Strategy in Mobility



- Expanding usage from “Interior” to “Exterior”
- Smart Interior integrating Function into Design
 - Optical, Tactile, Electrical, Sensing, Heating and other possibilities functions integrated onto the Surface of Mobility products



Our Latest Product Applications



Exterior

2020 TOYOTA MIRAI (Heater film)



2023 Polestar 3 (Printed body color + Heater film)



2024 GMC Yukon Denali (Decorative inner lens)



Smart Interior

2024 TOYOTA Camry (Hidden graphic)



2024 BMW X5/X6/X7 (lighting trim)



2025 GWM Gao Shan (lighting trim)



Comparison with IMD vs. IML parts



	IMD-TR	IML
Layer structure		
Decoration provided to molding	<p>Roll to Roll</p>	<p>Formed insert</p>
Geometry	Shallow	Flexible (sharp radius, deep drawn)
Forming	Not required or in molding tool	Form sheet before molding
Molding process	Ink transfer process	Insert molding process
Equipment required for film	Foil feeder, cleaning, UV curing	Forming, trimming, molding automation
Printing resolution / Backlit	Excellent	Good
Stretch ratio	Low	Good

Mobility Development: Three Key Areas

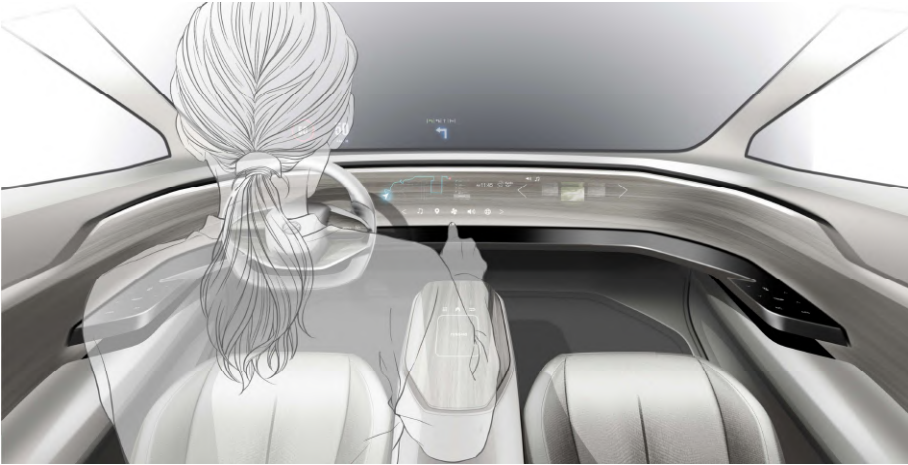


Exterior Functional Lamp/Panels

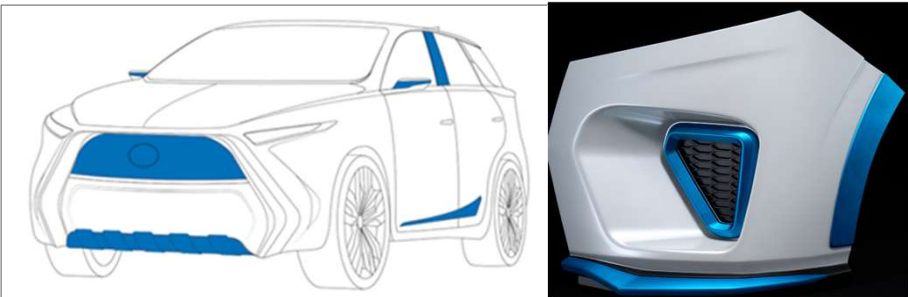


- Combining decoration and functionality
- Enhancing customer value and differentiating designs

Interior Functional Trim



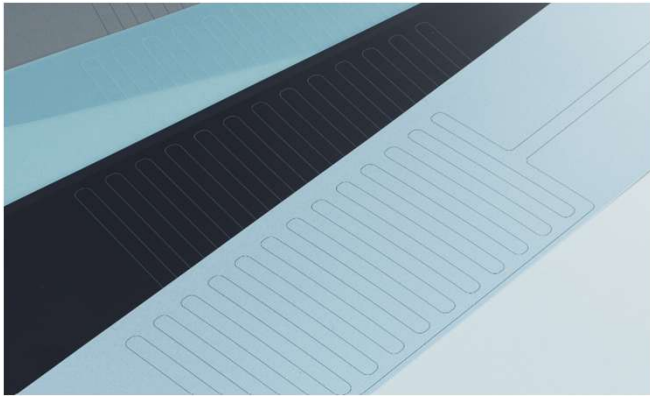
Exterior Plastic Decoration



Exterior Functional Panel

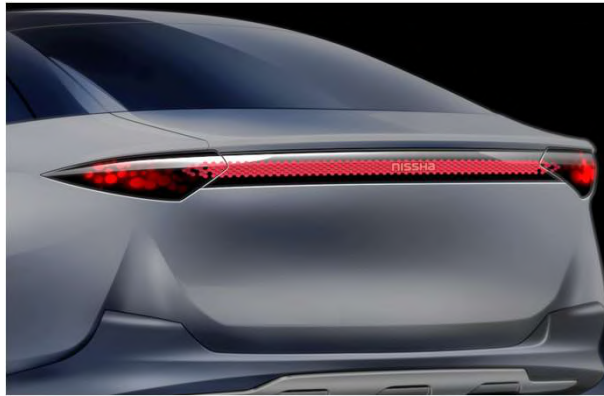


Heating



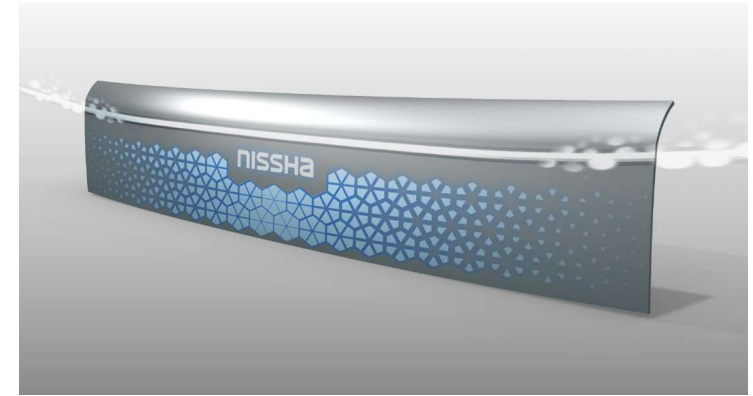
- High Heater Performance
- Integrated on the deco film
- 2D and 3D

Lumistyle



- Hidden-till-lit
- Multi-transmittance
- Fine line pattern design
- Body color

PUReCoat[®]



- High hard coat performance
- High depth effect
- Process efficiency



Lumistyle for inner lens

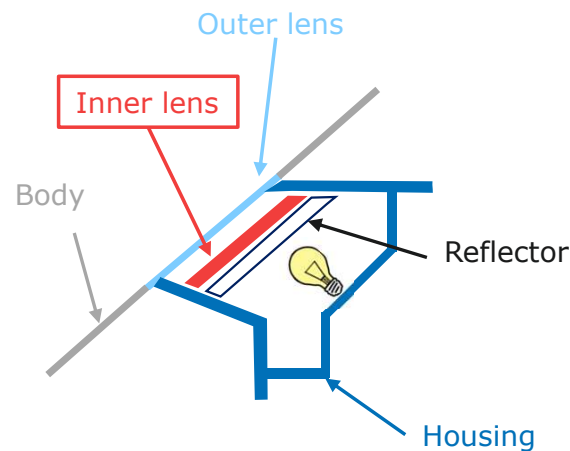
Lumistyle = Lumi 【 luminous 】 + Style 【 style/design 】

■ Rear combination lamp

■ Tail lamp



Cross section of the lens



- Based on well established IMD and IML technologies
- Realizing designs that were not possible with conventional inner lenses
- Reducing tact time vs. conventional process (paint + laser)

Lumistyle for front lamp



● Film for cover lenses

- Combining decoration and function in 3D
- Seamless decoration design
- combination with heating technologies
- High transmission at high scattering rates
- Forming simulation capabilities



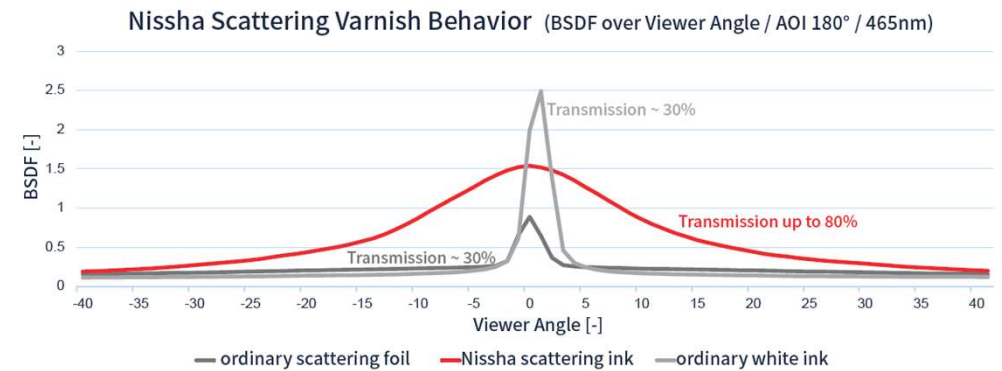
Scattering ink test result



Ordinary scattering foil

Scattering ink

Ordinary white ink

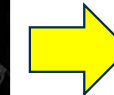
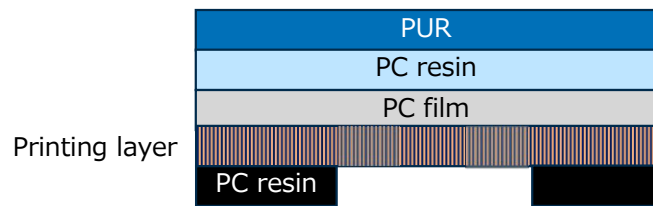


Lumistyle for front grill



● Functional design proposal

- Translucent and opaque graphic printing with fading effects
- Self-healing function of PUR ensures chipping durability

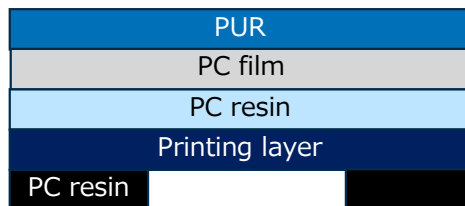


Light on



● Translucent car body parts

- Lower overall CO₂ foot print compared to spray painting
- Low color shift



Light on



Summary



- Large size printing and forming capabilities
- Added value through functional films (IMD / IML)
- Support from prototyping to mass production globally



As part of BMW's 'Neue Klasse' program Nissha is contributing to the next generation of vehicles by developing and manufacturing decorative and functional components.

Booth S29

NISSHA