

Update on Vision 2020 Meet



Systems Limited

25th November 2017



- Business Presentation Wiring Harness Division
- Business Presentation MATE & MAE
- Business Presentation SMP
- Business Presentation SMR
- Business Presentation Motherson Innovations



Wiring Harness Division





Wiring Harness Division

- Market leader in Passenger cars in India
- Global Market leader in Commercial vehicle segment
- Strong presence in two-wheeler & material handling equipment markets
- New segment of Rolling Stock is added
- Full service supplier
- 70 manufacturing facilities
- Over 75000 people
- Vertically integrated



Industry Segments Served





WHD Growth Story – Journey so far







2015- 2020 Journey Ahead – Growth Drivers





What we said in 2015

- **01** Global market expansion
- 02 Consolidation
- 03 Increased component content
- 04 New customer penetration



01 Global Market Expansion



Focus On: New segments, new geographies

Performance





Global Expansion – Increased Footprint





Growth in India – Increased Footprint







02 Consolidation

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Consolidation - PKC Group a New Member of Motherson Family





Current Customer Segments



- Global Market leader Commercial vehicle wiring harnesses
- Growing market :
 - Truck OEMs in China
 - Construction and agricultural OEMs
 - Rolling stock OEMs

PKC's core competence is managing the complexity

- Unlimited customization
- Sequence production
- Almost real time change management



Strengths Together

- Highly synergistic minimal overlap between the existing operations
- Providing more value to our customers through vertical integration, more global reach, innovation and new technologies
- Inherent advantages with customers and suppliers in offering a larger product portfolio and enhanced capabilities and scale
- Leverage knowhow of both companies to enhance and grow businesses with customers globally







Increasing Content







04

New Customer Penetration

Strong presence in CV market



Supporting all major commercial vehicle manufacturers



Added new customers in different segments & geographies





Market leading supplier for Rolling Stock electrical



Rolling Stock products











Recognitions





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Wiring Harness



What we said in 2015	Where have we reached today 2017
01 Global market expansion	 • Non Passenger car business expanded across geographies • Leading Supplier to Commercial vehicle segment • 22 countries, 70 manufacturing facilities
02 Consolidation	 O2 • Successful integration of MWSI • Acquisition of PKC Group • Entry into China Market
03 Increased component content	03 Added new technologies- over foaming harnesses for engine applications, Vehicle electronics- smart Power Distribution Centres, aluminum cables etc.
04 New customer penetration	 • New customers added across geographies and segments • Two new segments added- Rolling Stock & Recreational Vehicle

Vibrant Team Delivering Outstanding Results!



Nurturing Employees





Empowering people through involvement in Quality Circles



Benchmarking practices to enrich domain expertise of people







Learning through spreading awareness on quality, safety & productivity



Mentoring employees through examples

Employees Winning Customer Hearts!





GIM Quality Circle from MWSI Recognized as Most Innovative Circle at SMQCC 2017 Star Quality Circle from MSSL Noida (Sector-60) stands tall as National Champion at HMSI NH Circle Competition Juran Quality circle from MSSL Bangalore Bidadi secured No. 1 Position in TKSA Regional Competition

Prerna Quality Circle from MSSL Gurgaon wins the Maruti Suzuki Quality Circle Award







Motherson Automotive Technologies and Engineering

Motherson Automotive Elastomers Technologies



"Business Covered"

✓ Polymer

✓ Tooling

2

✓ Elastomer

Global Footprint





Our Journey





Our Journey





Journey with Wiring Harness (Polymer & Tooling)





Support to SMP (Polymer & Tooling)





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Journey with Wiring Harness (Elastomer) 232 24 Components Components 2016-17 2017-18 2014-15 2011-12 2009-10 State of art Localization of Capacity Vertical **New Plant** Rubber **Imported Parts** Enhancing Integration **Established** Components **Automated** Rubber Rubber Injection 24 Parts Capacity New Plant @ **Grommets &** Molding m/c moved from Increasing for Seals are Noida to installed and **Multiple** Support MSSL Localized in **MSSL** in become state of North and West Chennai and **India Which** Suppliers to art Rubber Region MSSL was Noida MAE Chennai Component Importing supplier for **MSSL**
Support to SMP (Elastomer)





Our Journey





Product Range & Technologies – Elastomer



Sun Roof Drain Hose Development







BMW gave the challenging task to develop Sun Roof Drain Hoses which does not fall in core competency of MAE MAE however took the challenge to develop the special compound for this application. Key point of material suitability with paint. MAE took 9 months to complete the task from design to development. MAE got system approval from BMW and received nomination too.

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Product Range & Technologies – Interiors







MATE as Full System Supplier



Renault KWID





Growth Drivers 2020

Growth Drivers





Growth Through Evolution in Technology







Growth Through Evolution in Technology









Proud to be part of...





... The wellbeing of the communities we work in



SMP presentation





What we said in 2015

- 01 Increase global market share
- 02 Increase content per car
- 03 Extend customer base
- 04 Increase vertical portfolio
- 05 Extend footprint

Introduction

Joined SMG Group











19891990

4

- Peguform acquisition → SMP
- Global Tier 1 manufacturer of polymer based automotive modules specializing in high quality interior and exterior products
- acquired in Nov 2011
- Headquarter in Bötzingen, Germany
- Product portfolio

1995

- Complete modules (door panels, instrument panels and bumpers)
- Other complex plastic modules and systems

2000



2010

2015

Joined SMG Group



Samvardhana Motherson Innovative Autosystems





1995

19891990

5

Scherer & Trier acquisition \rightarrow SMIA

- Specialist supplier of extruded & injection moulded exterior and interior components
- Acquired in Jan 2015
- Headquarter in Michelau, Germany
- Product & Technology
 - Injection-moulding, extrusion, stretchbending, painting and assembly
 - Expertise in tool making

2000

 Exterior components such as rear spoiler, roof molding, rocker panels and variety of interior decorative components

2005

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2010



Joined SMG Group







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1995

Kobek acquisition \rightarrow MIL

- Acquired in Jan 2017
- Solution provider ranging from CAD data processing to turnkey printed products
- Specialist in silk-screen printing of threedimensional items with expertise in lighting and automotive industries
- Product & Technology
 - LED Solutions: Unique LED based solutions that provide shadow-free and uniform diffused lighting over an entire slim-mount panel
 - Acrylic Glass: Processing of Plexiglas or other plastics including dust-free printing, scratchproof coatings and precise milling or laser cutting
 - Silk-Screen Printing: Shaping and forming of Plexiglas in a downstream process for design applications, painted or powder-coated instrument panels

2000

2005

Proud to be part of samvardhana motherson ill

2010

vertical integration of Illuminated/nonilluminated interior in-mold decoration parts for global platforms

2017

2015 2017

1989**1990**

SMP – Product overview



	<u>Bumpers</u>		Instrument	panels	Door pane	els
	2014	2016	2014	2016	2014	2016
Market Share emium*	18%	20%	8%	11%	22%	28%
			•	•		

*Premium segment refers to passenger cars with premium brand image, including those produced under the Acura, Audi, BMW, Cadillac, Infinity, Jaguar, Land Rover, Lexus, Lincoln, Mercedes-Benz, Porsche and Tesla brands, as well as luxury cars, sports cars and selected high-priced vehicles of other brands

M S

Pre





Content per Car





Content per Car



Instrument panel

0

Sourcer

Audi Q5 2017 INTERIOR

Door panels

Cockpit technology: PVC-Slush backfoamed on PP-LGF carrier Invisible passenger airbag Optional: hood in leather

A/B/C covers

Customer

Strategic long-standing customer relationships with leading global OEMs



	Key Models	Key Products supplied				
Key Customers		Bumpers	Inst. Panels	Door Panels	Key Geographies	Relationship length
	A			✓		
(33377)	B C	\checkmark		√ √	Europe, China, Brazil,	
ADDER.	D		•	~	Europe, China, Brazil, Mexico	> 30 years
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	F	\checkmark	~			
	А		✓			
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	С	✓			Europe	> 30 years
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	А	✓				
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	G			✓		
	A	\checkmark				
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	C	× _			Europe, Brazil	> 20 years
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- Long track record average relationship duration with top eight OEM customers of ~30 years
- Strong presence in premium segment
 High entry barriers
 due to strict quality
 requirements,
 complex products
 and logistics

White space opportunities to grow even with existing customers

Source: Company data; Note: Only selected models and not an exhaustive list;

Customer portfolio







Moving towards diversified customer base





Continuous mutual appreciation

Volkswagen Group Supplier Award 2015 - category "Global Champion"



Volkswagen Group "FAST" Initiative - selected as global strategic partner in 2015



Volkswagen Group Award 2017 category Innovation & Technology





SMP

Brose Supplier Recognition Award 2016



SMP Germany

1 million door panel Mercedes-Benz E-Class



SMP Beijing

SMP awarded for good launch performance at Mercedes Benz E-Class Offline Ceremony





SMP China (FPAT)

FAW-VW Special Contribution Award (Quality)



SMP China (CPAT)

FAW-VW Top 10 Excellent Suppliers

Footprint

OEM relationships supported by global manufacturing footprint.



Strong manufacturing presence in key automotive clusters



Significant investment in facilities..



Incurred significant capex over the last few years to meet the growing demand, nearing the end of capex cycle for current order book



Operational Expansion



SMP Zitlaltepec Mexico Greenfield exterior plant

Operational Expansion



SMP Tuscaloosa USA

Greenfield Exterior Plant Preparing for launch

Operational Expansion



SMP Kecskemet Hungary Greenfield Exterior Plant Ready for launch-SOP Q4/FY 2018



Technology & Innovations




State of the art manufacturing infrastructure and processes



Moulding and forming

Injection moulding

- High precision plastic parts, ie
 - Gas injection moulding
 - In-mould decorating
 - IK & 2K process



PUR Foaming

- Back-foaming of moulded skin or performed films on carriers
 - High speed foam systems



Natural fibre processing

- Lightweight and recyclable products, environment-friendly
 - New single-stage process

Painting

- Perfect gloss and surface
- 1 to 4 layer painting
- Soft paint for interior trim parts
- Water & solvent based paints

Thermoforming/

In-Mould-GrainingVacuum preforming of polymer-

· For back-foaming, moulding or

direct lamination

Slush Moulding

Decorative surfaces

- Complex shapes with high quality and soft-touch surface
 - Superior surface appearance
 - Bi-coloured slush skins



Stretch-bending

- Stretch bending and roll bending
 - Combination of stretch bending and injection moulding





Extrusion

- Extruded and metal reinforced extruded parts
 - Up to 7 different materials in one extrusion profile





films



Technology Enhancement



Door panel carrier with natural fibres

SMP Boetzingen Germany SMP Beijing China



R&D focus areas	
Light weighting/ emission norms	 Use of renewable raw materials new single stage process for manufacturing natural fibres Bionically designed cockpit-carrier with integrated disruptive solutions
Safety improvement	 New solutions for integration of non visible airbags in cockpits and door panels Integration of various types of sensors in bumpers for autonomous driving
Performance/ efficiency	 Standardized sensor-holder in bumpers leading to reduction of tools PeguTrim® – interior panels with application of up to three surfaces in one production step
Increased focus on aesthetics	 Illuminated surfaces in interior using various technologies i.e. light guides Cost-effective premium appearance using stitched slush skin and foil



Highlight examples of collaborations with customers for product development

- New slush skin for instrument panels weight reduction by 30%
- Very lightweight door trim using expanded polypropylene reduces weight by 50%
- Thin-walled bumper fascia saving of plastic material
- Self-supporting dashboard support replacing metal make use of additive manufacturing
- Airbag integration using all-in-one self-reinforced plastic improves ageing behaviour
- New coating enables translucency for sensors & light
- Screen printed foil for efficient surface heating in interiors (e.g. armrest)
- Single piece underbody module improves car aerodynamics
- Moulded in colour silvery replaces painting
- Multicoloured illuminated scuff plate offering different optical appearances
- Thermoplastic composite improves pedestrian protection





SMP driving future sustainability in close cooperation with Motherson Innovations



EXTERIOR INTERIOR 2025 Cockpit **Bumper module** sensor & light integration

- translucency for sensors & light
- active aerodynamics

- sensor & light integration
- bionically designed dashboard support
- ultralightweight design





Customer recognition

VW Group award for Innovation & Technology!



Certificate Mutherson Sumi Systems Ltd.

GROUP AWARD





What we said in 2015	Where have we reached today 2017
01 Increase global market share	01 market share increase in all 3 main products bumper / doorpanel / instrument panel
02 Increase content per car	 Audi A4 bumper / instrument panel / doorpanel Audi Q5 bumper, all body printed exterior parts, doorpanel, instrument panels, pillars Porsche Sports cars bumper, doorpanel, Instrument panel & centre console Entered Daimler & BMW Interior
03 Extend customer base	03 We entered Scania, PSA, MAN, Iveco
04 Increase vertical portfolio	04 Added lighting capability by M&A Kobek
05 Extend footprint	 05 • New plants in Mexico & China launched • Greenfield at Hungary close to launch • Greenfield at US to launch next year



Samvardhana Motherson Reflectec

Overview

- Catering to a quarter of global automotive exterior rear-view mirrors demand
- Highly diversified customer base
- Strong R&D focus with world class engineering expertise
- Global footprint with presence in 16 countries with 21 state-of-art manufacturing facilities
- Technology leader with over 670 patents



Interior Mirrors





Key Customers (FY 2016-17)





Extensive Global Manufacturing Footprint

• Comprehensive Global Footprint with strategic investments in Vertical Integration





Superior Manufacturing Expertise



Injection moulding 18 Locations



Assembly 20 Locations

Painting 13 Locations







Superior Manufacturing Expertise





Glass manufacturing 4 Locations

Actuators/PF/STI 12 Locations



Electronic Systems
1 Locations

Vertical Integration

Empowered Highly Motivated Employees





Collaborative learning through awareness on Safety, Quality and Productivity



Empowering people through involvement in Quality Circles



Structural approach to continuous enhancement of employee skills

Customer Recognitions





Ford - SMR Thailand



Maruti Suzuki – SMR Noida



Ford Q1 Certificate – SMR Mexico



Hyundai Mobis – SMR Korea



Hyundai MOBIS – SMR USA



Hyundai – SMR Chennai



Mahindra & Mahindra – SMR Pune



Volvo -SMR Spain



Nissan – SMR USA



General Motors – SMR



Ford Q1 Award – SMR Brazil



Toyota – SMR UK



Mahindra – SMR Pune



Hyundai Motors – SMR Chennai



Maruti Suzuki – SMR Noida



Enhancing Product Portfolio

- Caters to all sizes of vehicles and price segments
- Diversified product portfolio ranging from basic low-cost mirrors to premium highly complex mirrors with integrated electronic communication features
- 90% of sales in high value premium and medium segments





Dominant Market Share

• Globally No. 1 position in passenger vehicle segment



Competitive landscape (by volume)

Market share across key geographies

10





Bullish Revenue Growth

 Significant growth in order book with balanced profile across regions and customers









Lifetime order book value split by customer





Organic Growth Footprint Improvements Apr 2015 - YTD

• Footprint improvements to support organic growth and value addition





Investment for Transformation

 Significant investment in new capacity, modernization initiatives for product / process improvements, vertical integration to strengthen margins





SMR India - Horizontal Integration





SMR Korea - Vertical Integration





SMR Yancheng – Vertical Integration



Selected Key R&D Focus Areas







Surround reverse light

Telescopic Mirrors

New technology glass actuator

Improve product properties with new materials and optimized design. Enhance usability and integrate attractive features.

Modular

electronics for lighting in mirrors



1-layer high gloss moulding solutions

Reduce cost by engineering best in class products.

Structural

innovations

Maximise integration and standardization.

Emotions

Performance

Solutions for future market needs

Cost Efficiency

Responsibility



Eco-friendly metallization



Camera-based Driver assistance **Systems**



Light weight design and green materials

Offer solutions for CO₂ reduction and reduced eenergy consumption. Application of innovative and renewable material.



Fusion of coating and lighting technologies



branding"



Attractive light Unique turn signal features and "night solutions

Make attractive products with high-class surfaces and integrated functionality (i.e. lighting and displays).



Offering "New Features" ; Exploring "New Segments"

Developing products to meet the emerging trends in auto industry in cooperation with MI



New Products and Technologies







- EU Legislation to reduce Co2 emission to 95 gms/km. by 21
- Current fleet Size average at approx. 140-150 gms Co2
- Non compliance leading to penalties to OEMS.
- OEMs working to reduce emission (i.e EV, Lightweight/EMS)
- SMR ECO mirror reduce the weight and size by one third.
- Expected to considerably reduce drag



Proud to be part of the future

Motherson Innovations A Journey Towards the Future

Proud to be part of the future

Motherson Innovations A Journey Towards the Future







STRENGTHENING THE CAPABILITIES



The networking principle



The Motherson value creation circle



The focus of Motherson Innovations



Progress update 2 years of Motherson Innovations

Value creation in new business areas



New automotive solutions



Generation 2 LogoLamp

Generation 1 sold 6 million+ units Generation 2 sold to more OEMs

In transfer to SMR

Brighter Sharper Smaller Cost improved motherson

SUPPORTED COMPANY: SMR



Hybrid Camera Monitoring System

SUPPORTED COMPANY: SMR


Hybrid Camera Monitoring System



SUPPORTED COMPANY: SMR



Camera Monitoring System Installed in show-cars

Concept proven on show car Development transferred to SMR Business Development support on-going

SUPPORTED COMPANY: SMR

Camera Monitoring System

Ongoing strategic Business Development support

Increasing Market Potential CHINER MARTI

SUPPORTED COMPANY: SMR



Acquisition of **Motherson Innovation Lights**

Innovative Lighting Expertise Illuminated scuff plate contract through SMIA



SUPPORTED COMPANY: SMIA, SMP



Surface technologies Metallic Finishes & Hidden Lighting

Strategic Dialogue with customers Unique Branding Solutions





SUPPORTED COMPANY: SMR, SMP

motherson innovations

WIFI Charging (G-))

Imagine a World...

...where power is available everywhere.



IN CLOSE COOPERATION WITH: OSSIA



OUR PERSPECTIVE

What is the pivot of a company?

Value creation in new business areas

Non-automotive markets, operational "Pivot"





New Markets New opportunities Built on outstanding performance

Rétain de

TRUST.

And Ministers of Street, Stree

Re-Timer Gen2



IN CLOSE COOPERATION WITH: **RE-TIME**

Australian soccer players using Re-Timer to recover on flights

BIOPEN Stem cell printer pen

Leveraging Medical industry opportunity for Motherson Australia

IN CLOSE COOPERATION WITH: University of Wollongong

Incohore

Bladder cancer Diagnostic Device

Leveraging Medical industry opportunity for Motherson Australia

IN CLOSE COOPERATION WITH: University of South Australia and Flinders University Australia

MAXM Skate

thetherson

Leveraging Medical industry opportunity for Motherson Australia

First test samples in the market



IN CLOSE COOPERATION WITH: MAXM

Alignment to market trends beyond 2020 to satisfy customers' needs

Megatrends in Mobility



Electrification.



Shared mobility.



Autonomous mobility.



Connectivity.

Opportunities in Electrification and shared mobility

f.1

A REPORTED A



Well positioned



Opportunities in Autonomous and connected mobility

Use of time ↓ Adding features More focus on interior ↓ **"Premiumisation"** Interfaces and Sensors ↓

Content and value increase

Increased content Value addition ↓ Customer needs

internet and

Autopitot mode



Future Interior Project

Started 2017-01 Phase 1 Completion 2018-01 "The Empathic Cockpit"

Future Exterior Project

Started 2017 Focus area for 2018.





Future Exterior Project

Started 2017 Focus area for 2018.





Future Exterior Project

Day/Night vision NirVision





Future Exterior Project

Day/Night vision NirVision

Lidar





Future Interior Project

Started 2017-01 Phase 1 Completion 2018-01 "The Empathic Cockpit"

Future interior project The Empathic Cockpit



35 features integrated by Motherson Group companies

15 features integrated by technology partners

Thank you

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Safe Harbour

This presentation contains forward-looking statements based on the currently held beliefs and assumptions of the management of the Company, which are expressed in good faith and, in their opinion, reasonable. Forward-looking statements involve known and unknown risks, uncertainties, market conditions and other factors, which may cause the actual results, financial condition, performance, or achievements of the Company or industry results, to differ materially from the results, financial condition, performance or achievements expressed or implied by such forward-looking statements. Given these risks, uncertainties and other factors, recipients of this presentation are cautioned not to place undue reliance on these forward-looking statements. The Company disclaims any obligation to update these forward-looking statements to reflect future events or developments.