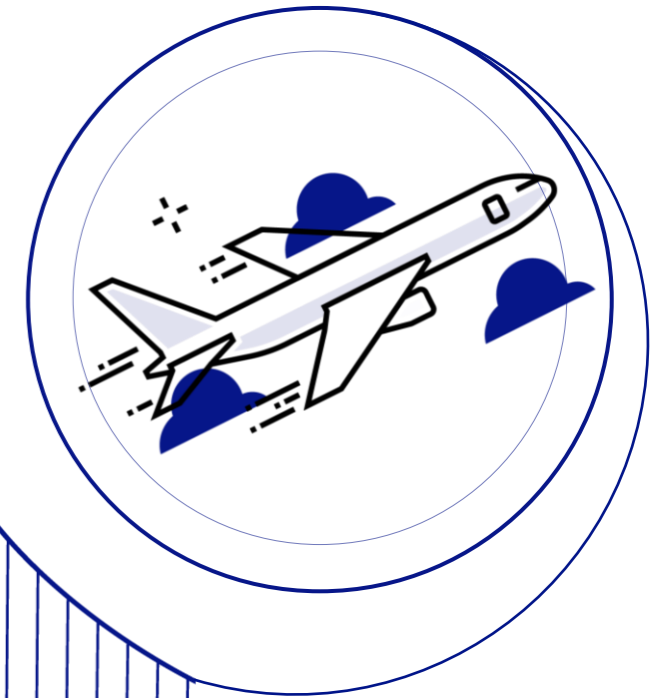


KORDSA

THE REINFORCER



Kordsa Investor Presentation

Aug, 2019

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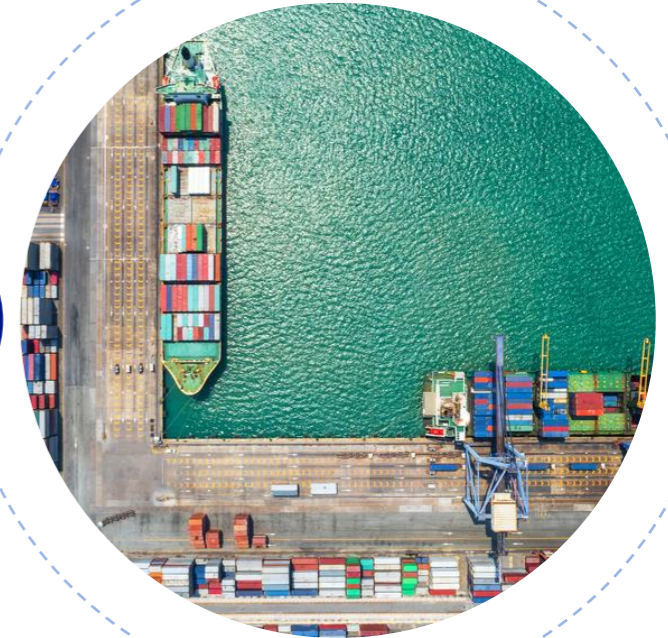
Global Footprint

4 continents
12 facilities*

~4,500
employees

2 R&D
Centers

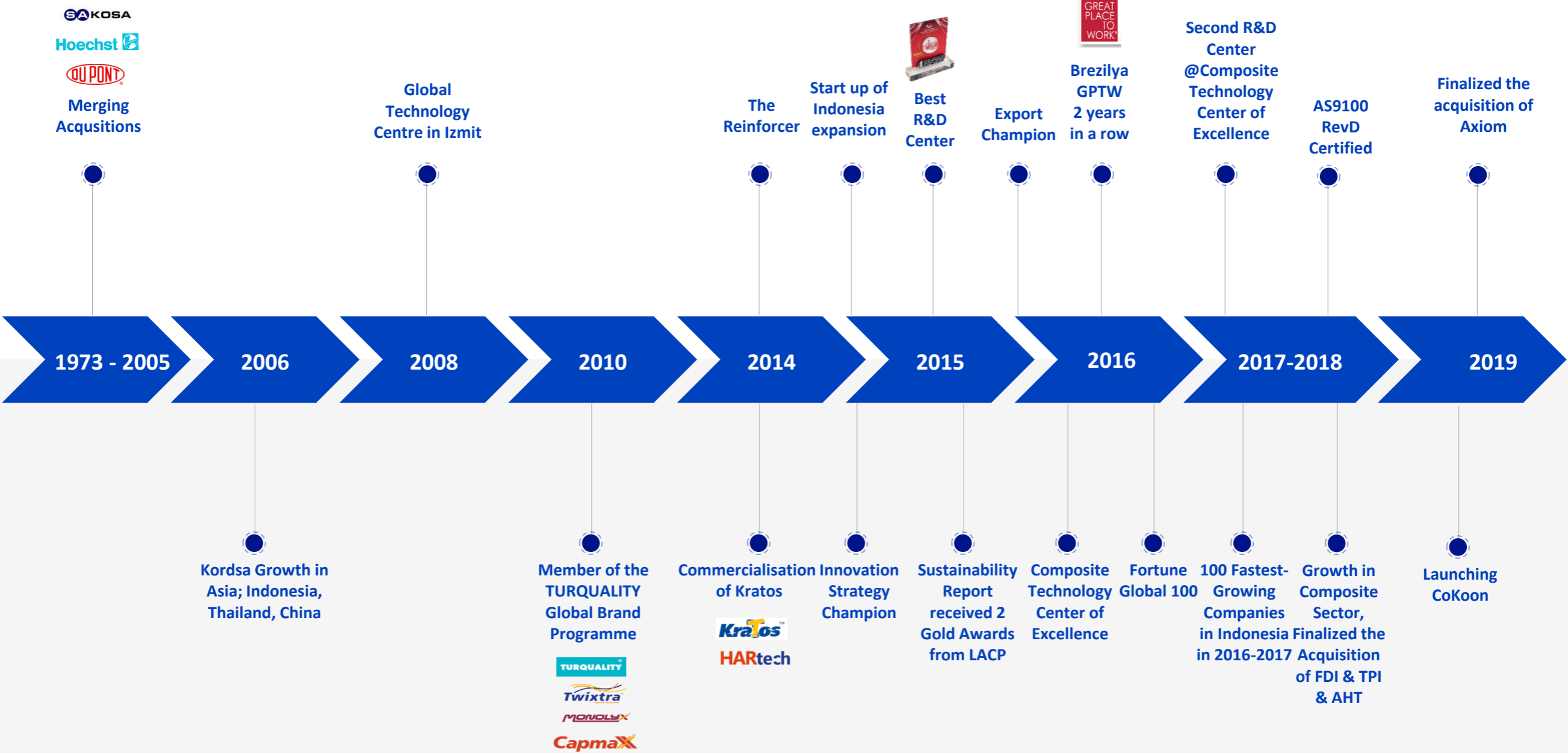
852 patent applications
184 patents
186 inventions



WE REINFORCE LIFE

* Axiom Materials Acquisition LLC included

Milestones



Strategy House

Our Vision

Agile Kordsa in High Value Businesses
for Sustainable Growth

Pillar Initiatives

Operational Excellence

- ❖ Competitive Cost
- ❖ Product and Service Quality Leadership
- ❖ Lean and Agile Processes and Teams

Growth in Tire Industry

- ❖ Profitable Growth for Tire Industry
- ❖ New Products for High Performing Tires

Growth in Adjacent Ind.

- ❖ Reinforcements for Composites Industry
- ❖ Reinforcements for Construction Industry
- ❖ Fibers for Alternative/ Adjacent Industries

Foundations

Our Values

SHE

Ethics

Continuous Improvement

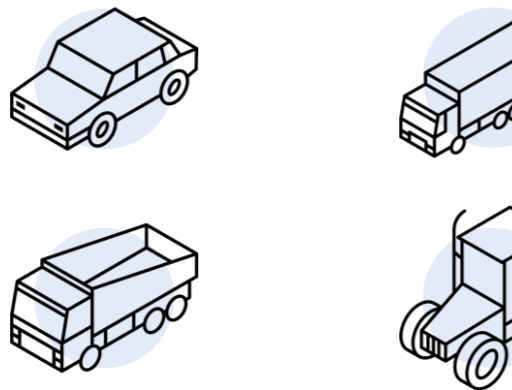
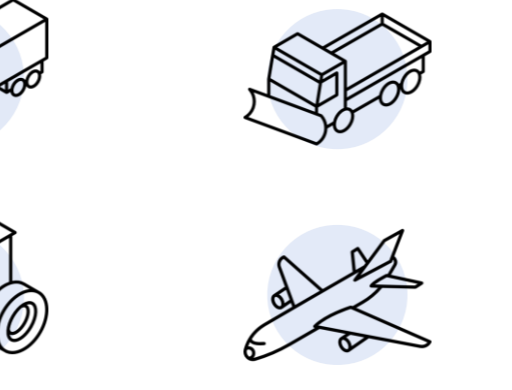
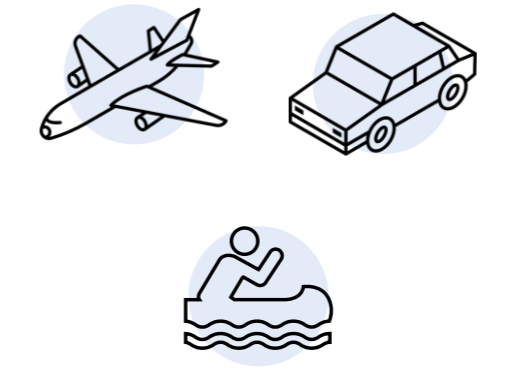
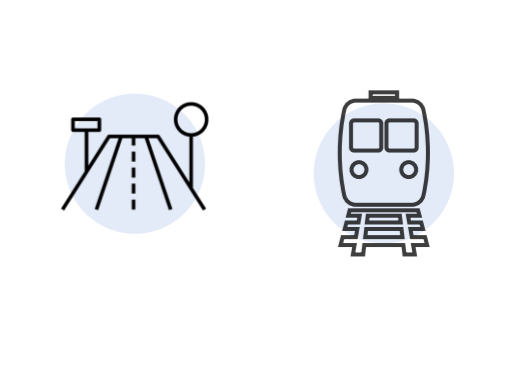




Courage

Passion

Global Collaboration

Continuous Improvement

Kordsa in Brief

Description	Tire cord fabrics ("TCF")	Next generation fabrics	Composite	Construction
End markets				
Selected end-market participants				

Must Win Battles

1. Operational Excellence

- a. Continue TPM implementation at every site for zero incident, zero defect, zero downtime
- b. High capacity utilization and/or optimisation at all entities
- c. Local Talent Development for cost and productivity

2. Profitable Growth in Tire Industry

- d. Focus on high value added segments
- e. Investing for smart plant, deployment of Industry 4.0 developments to support growth - future plant concept
- f. Continuous Renewal of Product Portfolio – new product revenue and increase approval base

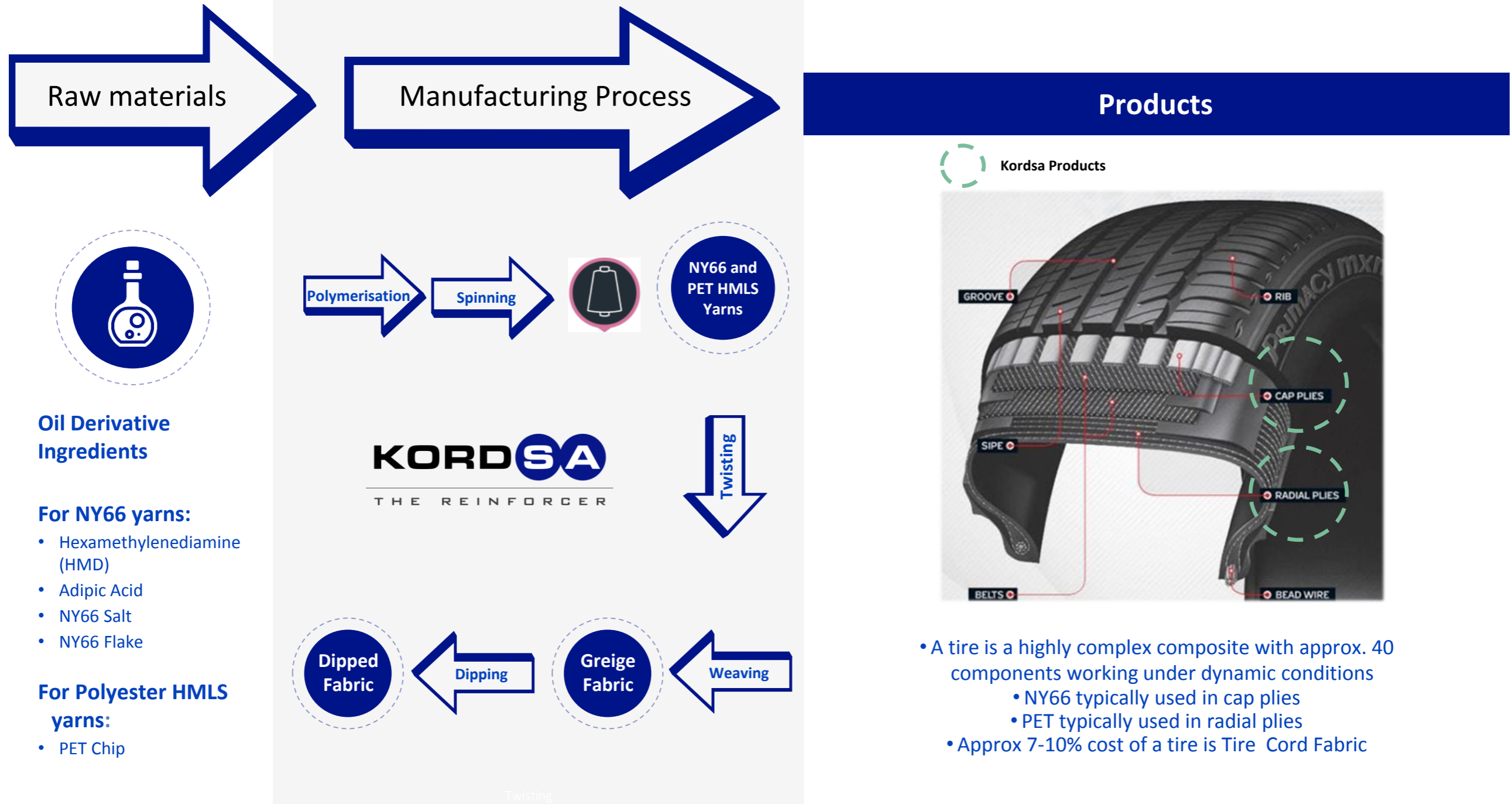
3. Profitable Growth in Adjacent Industries

- g. Ramp up Composite Reinforcement Business and complete inorganic growth
- h. Ramp up Construction Reinforcement Business - PP line start up and global collaboration/ partnership
- i. Find out Alternative end uses for NY6.6

Focus on tire industry for profitable growth, selectively grow adjacencies



Overview of The Tire Cord Fabric Value Chain

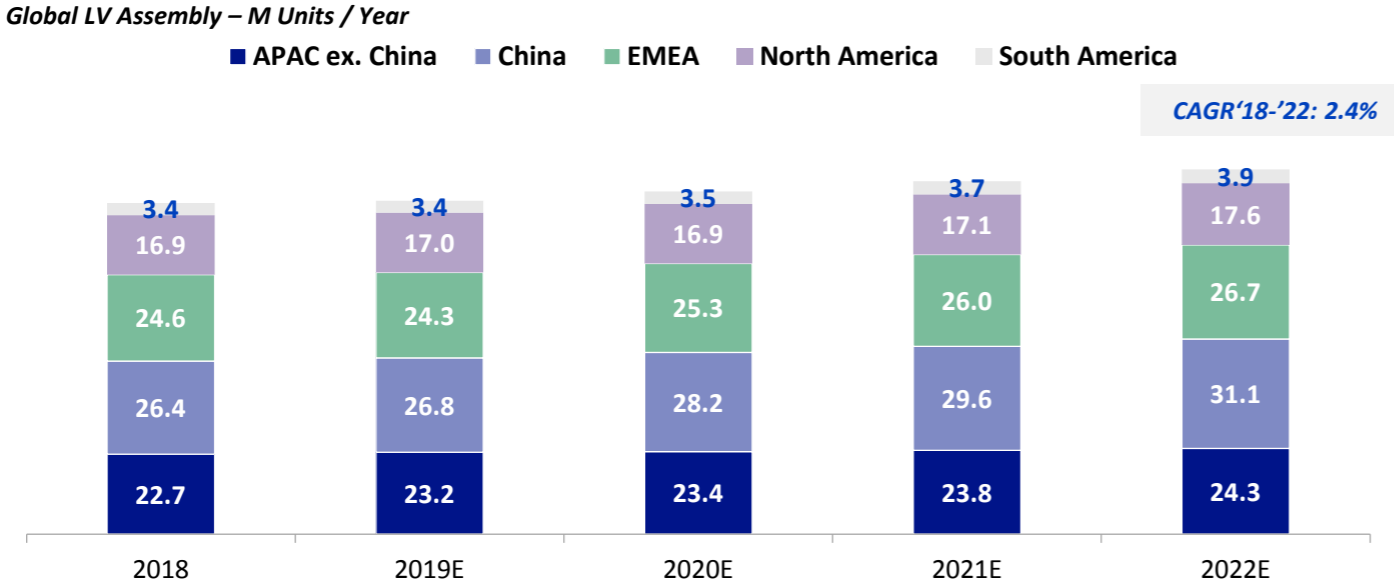


- A tire is a highly complex composite with approx. 40 components working under dynamic conditions
 - NY66 typically used in cap plies
 - PET typically used in radial plies
- Approx 7-10% cost of a tire is Tire Cord Fabric

Kordsa fabrics are developed for specific requirements and are custom made

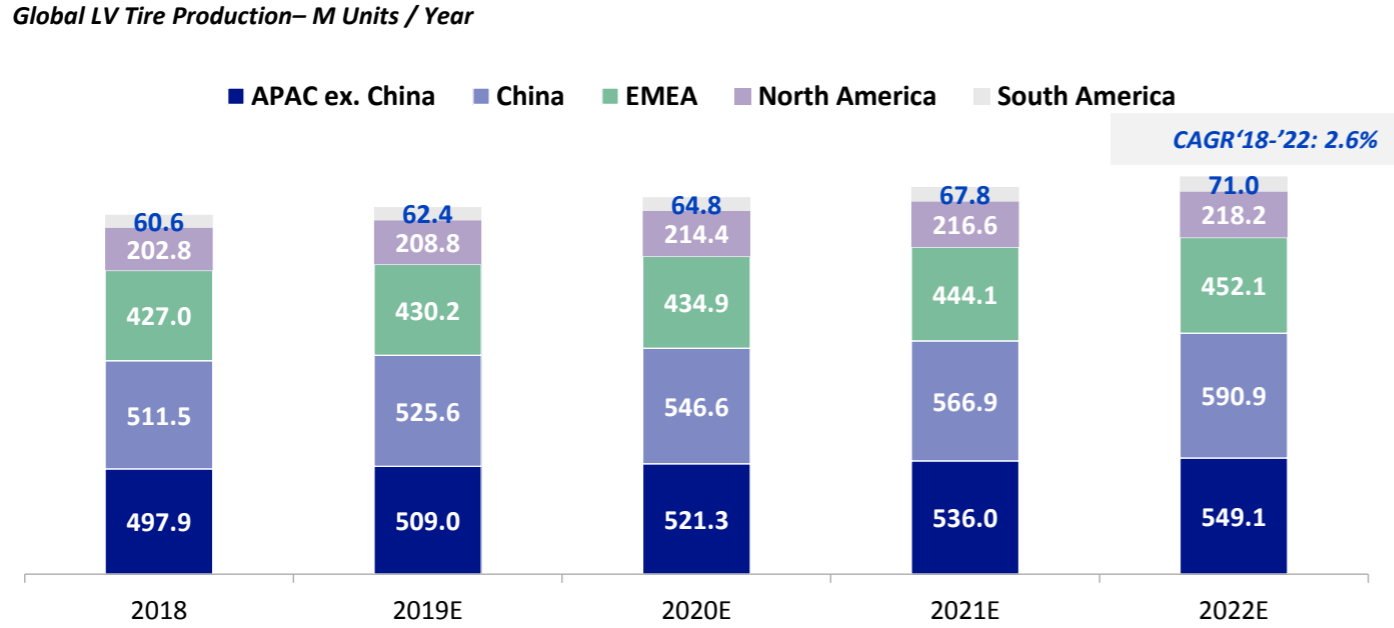
Market Dynamics – Tire Cord Fabric

Global Automotive Market



Source: LMC Tyre Forecast

Global Tire Market



Source: LMC Tyre Forecast

2019 Expectations

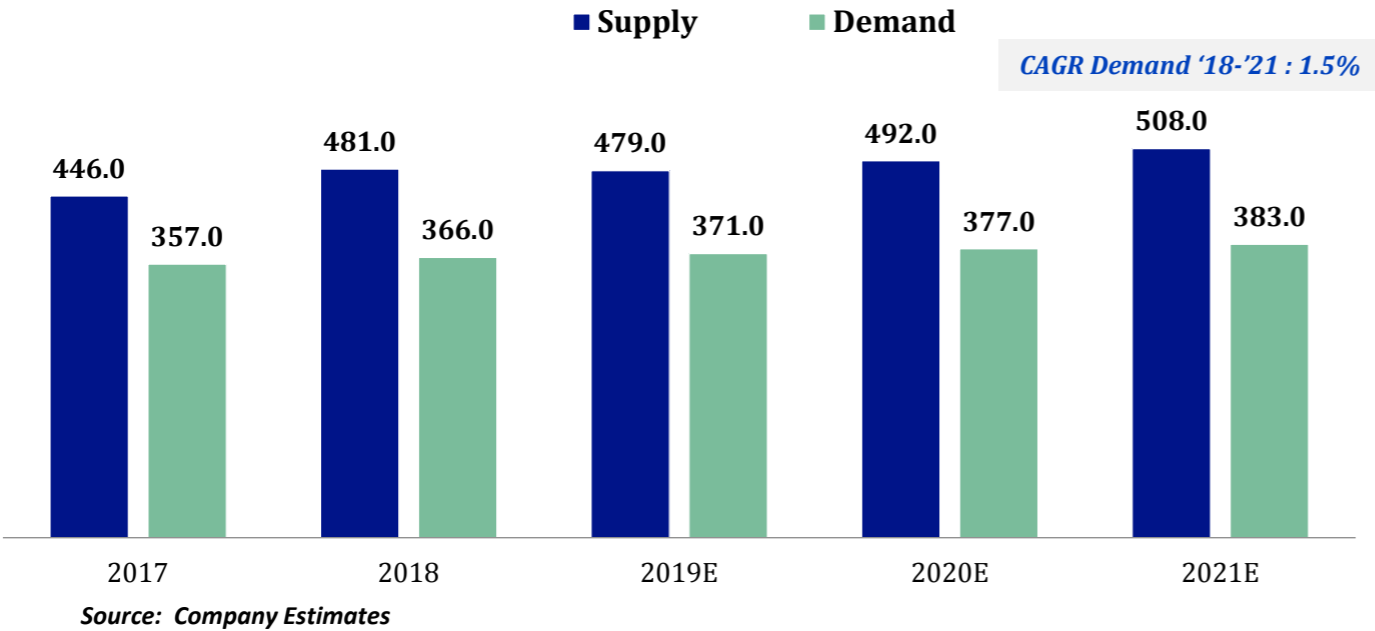
- **AP Exc. China:** +2.4% Highest growing region because of slowing other regions
- **China:** +1.6% Effected by tariff wars
- **EMEA:** -1.3%
- **NA:** 0.3% Crossover segment demand is strong
- **SA:** -2.1% Expected market recovery was not utilized in 2018 as a result of economic developments, slow trend to continue in 2019

2019 Expectations

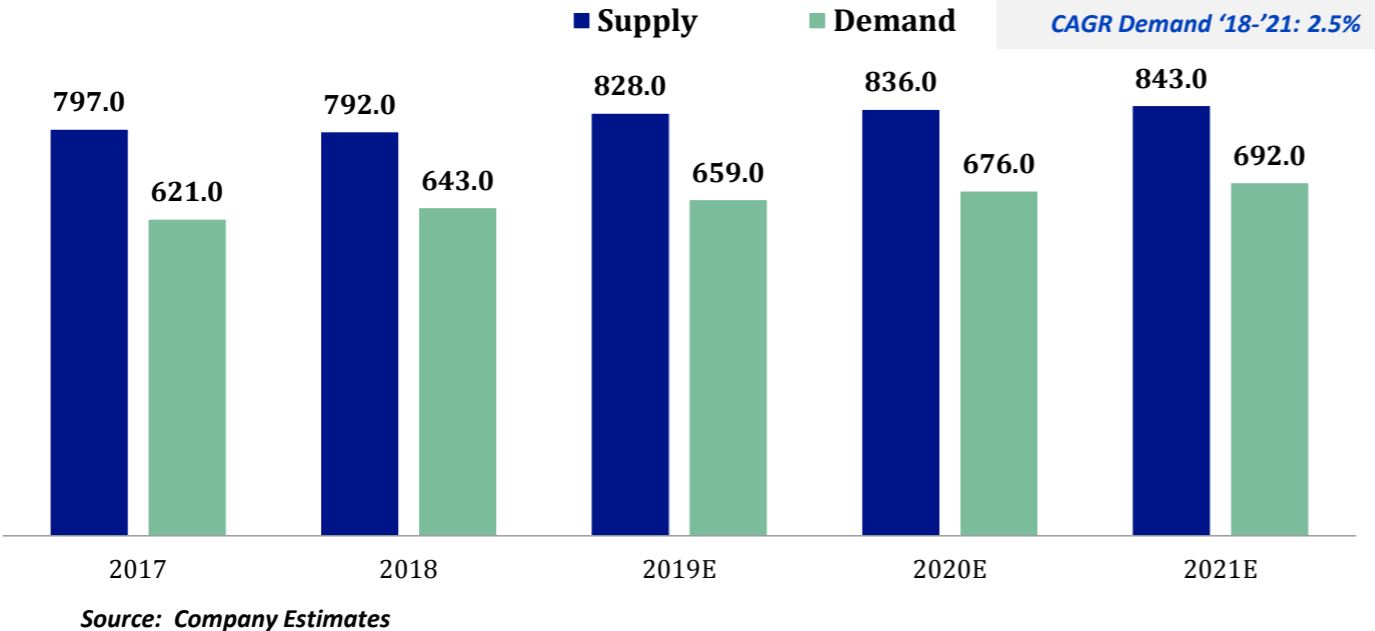
- **OE:** Sales were 6.6% lower during the first four months of 2019, with declines in China, US and no growth for Europe,
- **Replacement:** Decrease in miles driven especially in China, replacement cycle of tires are moving from 4 years to 5 years. Also tire lives are improving.

Market Dynamics – Tire Cord Fabric

Tire Reinforcement Market (NY6.6)



Tire Reinforcement Market (PET)



Nylon 6.6

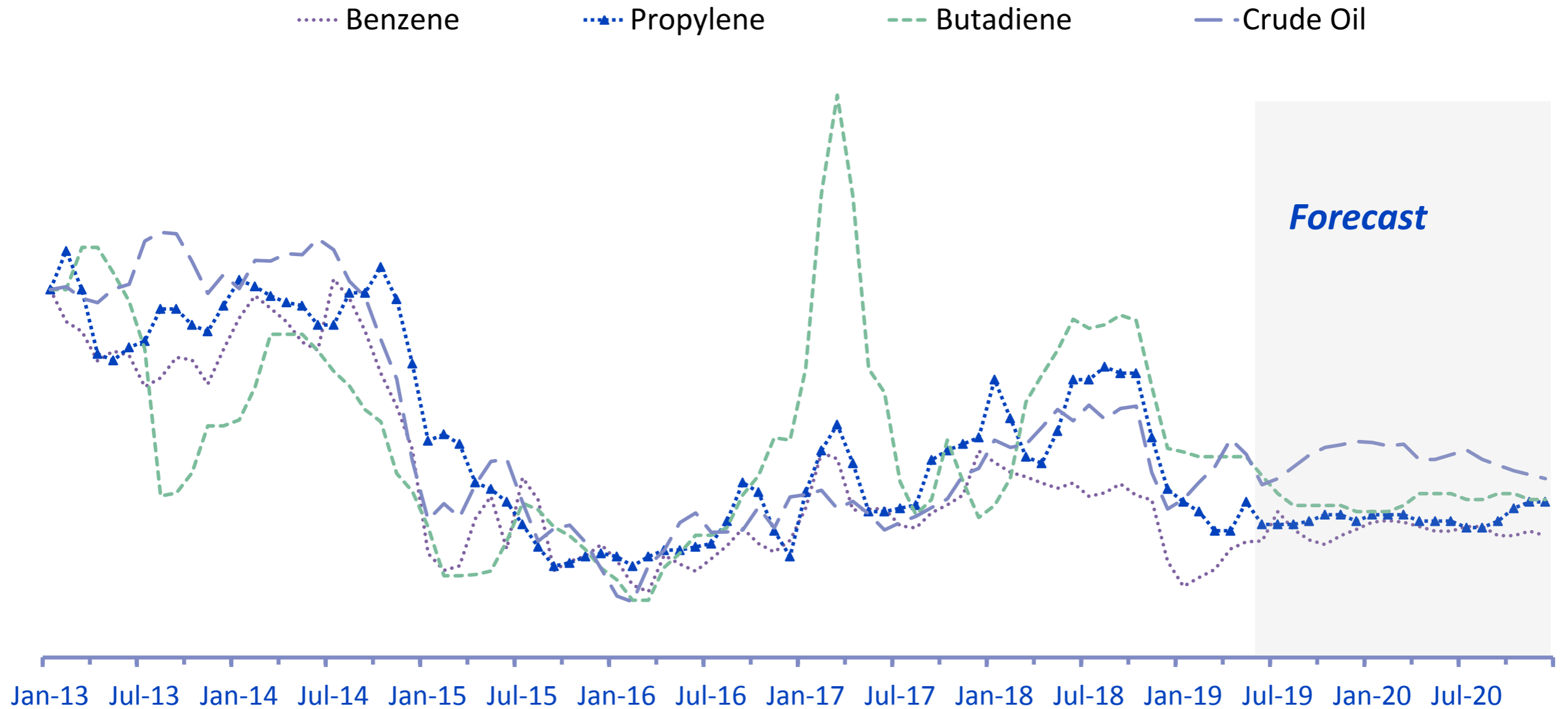
- Utilization rates lower compared to previous years
- Engineering plastics is affected by Automotive markets' slow down
- Switching to NY66
- Market slow-down is reflected to market estimations. NY66 demand increase updated as 1.5%

PET HMLS

- Consolidation by Indorama (acquiring PF Kaiping, Glanzstoff, Durafiber)
- Increasing PET usage in Tire
- Market slow-down is reflected to market estimations. PET demand increase updated as 2.5%

RM Price Drivers – Tire Cord Fabric

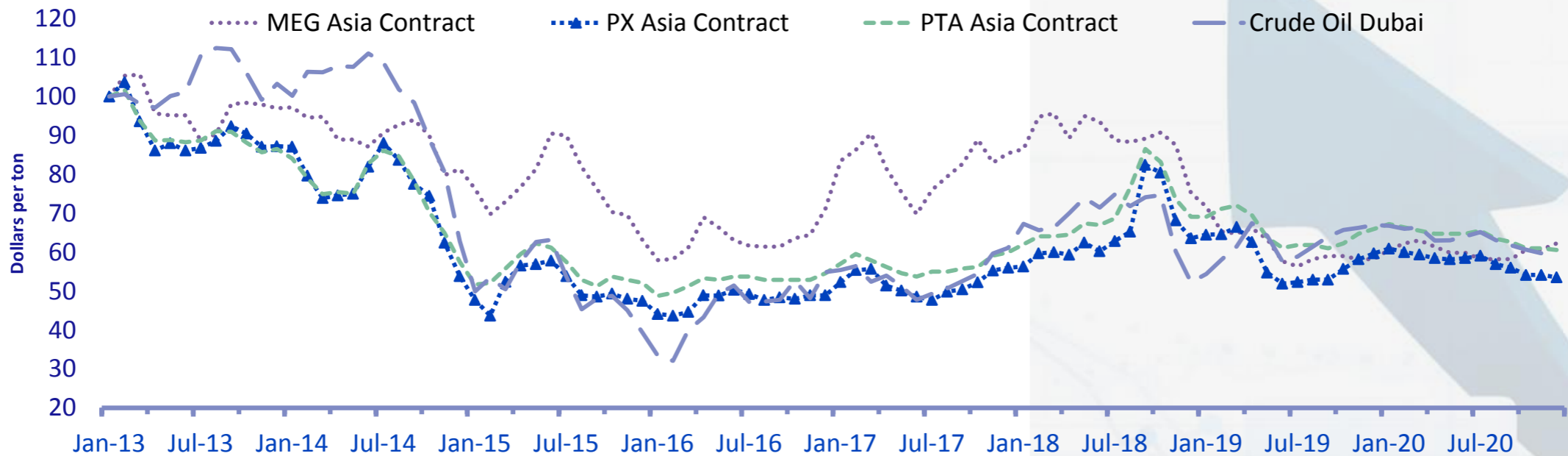
NY Raw Material Trend (Indexed)



Source: Company Estimates

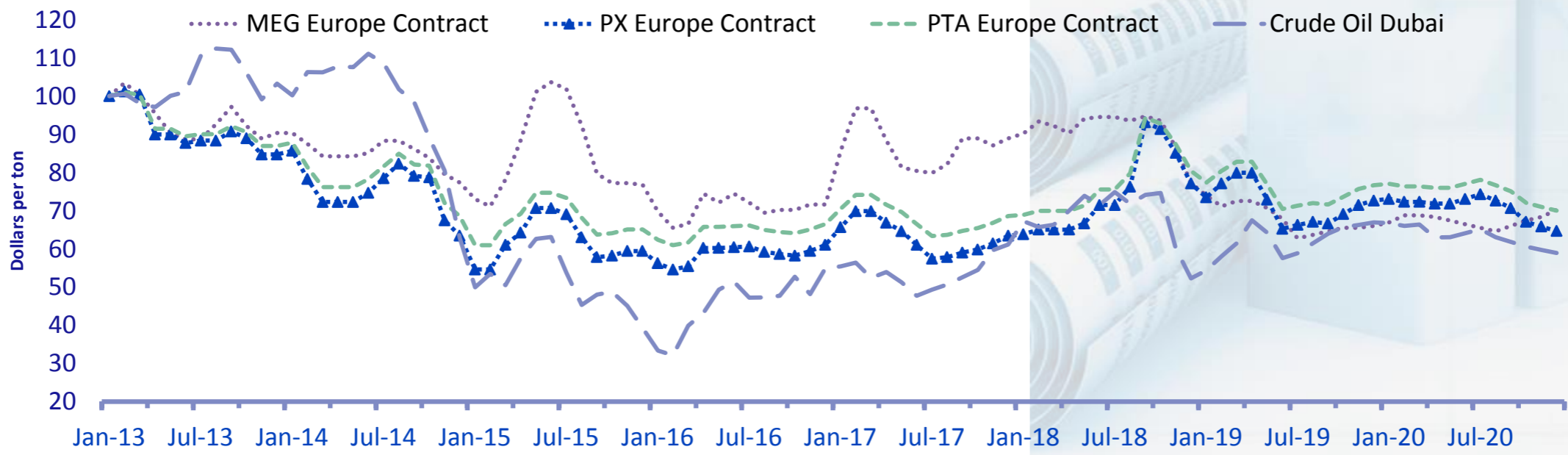
RM Price Drivers – Tire Cord Fabric

PET Feedstock Asia



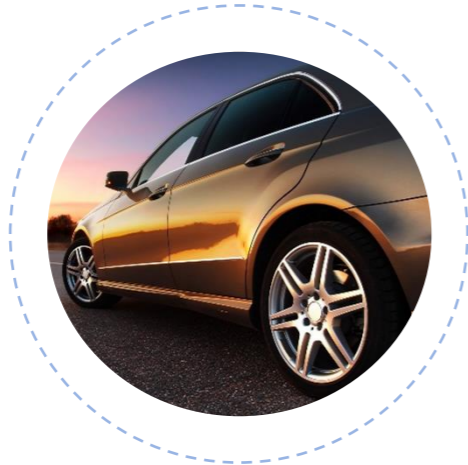
Source : IHS Markit

PET Feedstock West Europe



Further Growth Opportunities: Composite

Mid-term opportunity: composites reinforcement



Current status

- Composite Technologies Center of Excellence opened in 2016 (~30 MM\$ investment)
- Ongoing development programs & joint projects with aerospace & automotive customers and major universities in both Turkey and Europe.
- Our target markets are Aviation, Automotive, Maritime and also Rail Systems

Buy & Build

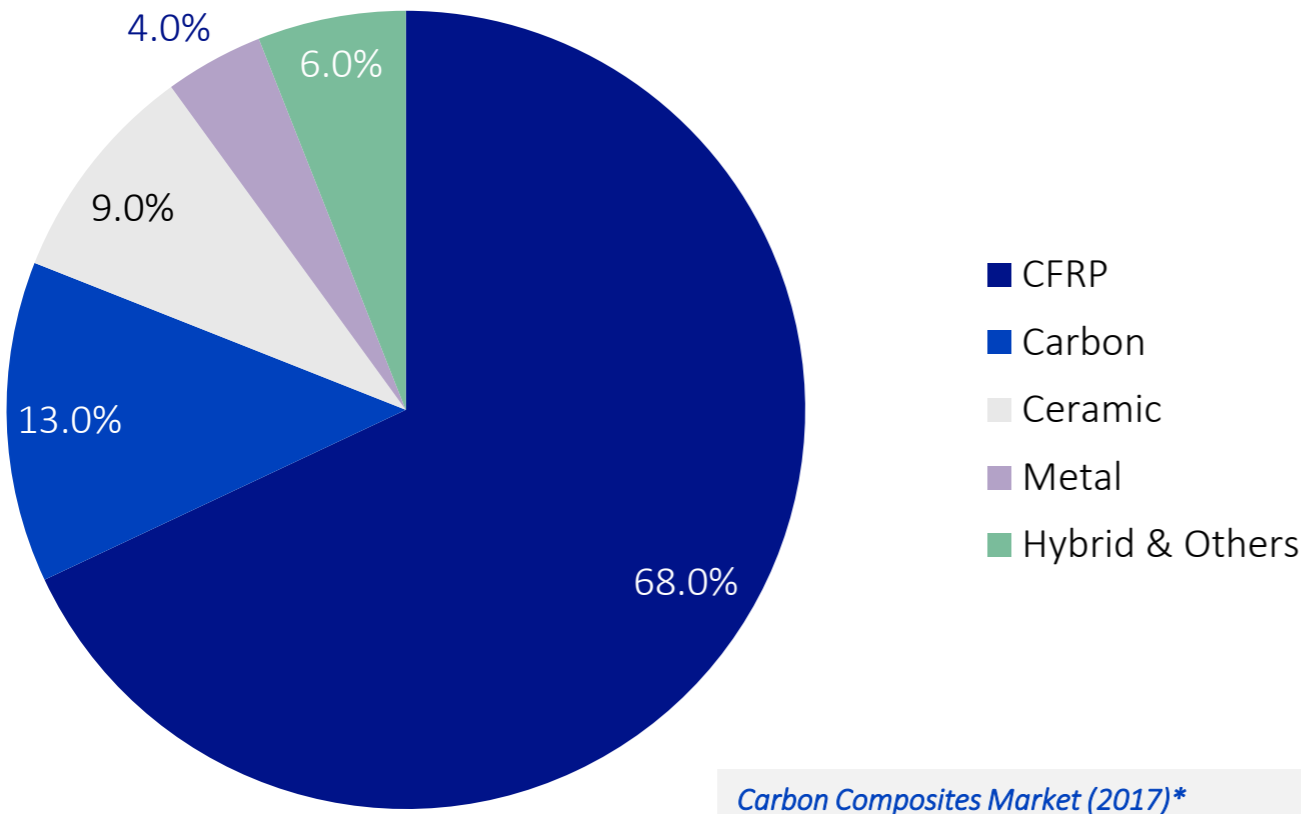
- Finalized acquiring Axiom Materials which provides advanced composite materials to the aerospace industry as well as the next generation transportation vehicles in the US in 24th July, 2019
- 280 M\$ acquisition expenditures in the last two years can help us to create 150 M\$ annual sales.
- Potential M&A targets are always under consideration

Overview of The Composites Value Chain



Kordsa fabrics and prepregs offer cutting edge solutions for aerospace & automotive markets

Market Dynamics – Composite



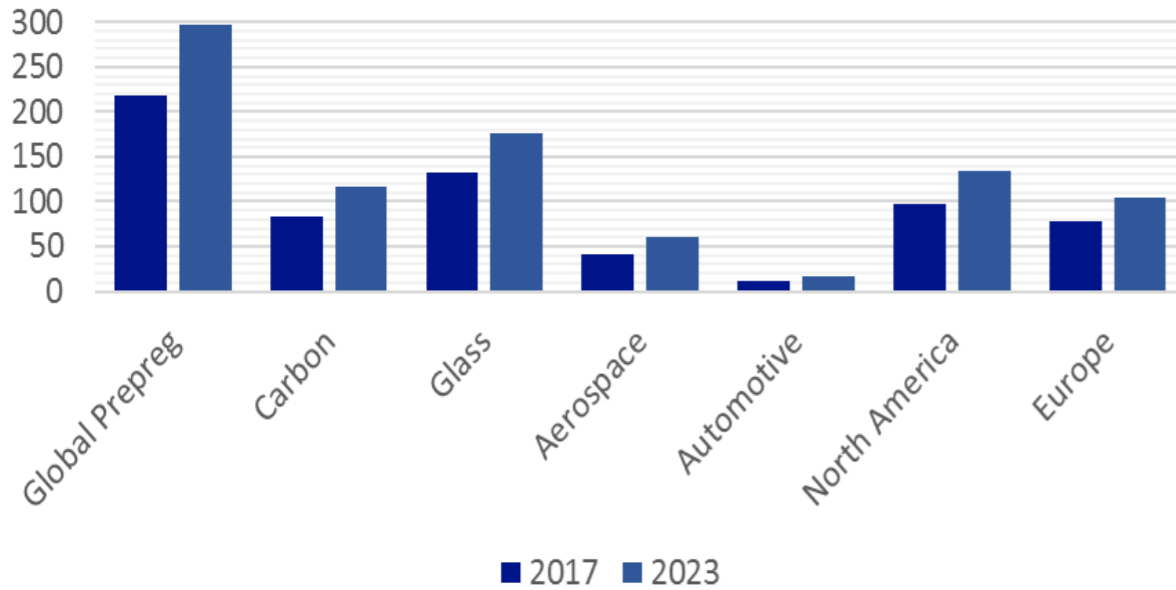
*Carbon Composites Market (2017)**
19.2 B\$ ----> 38.6 B\$



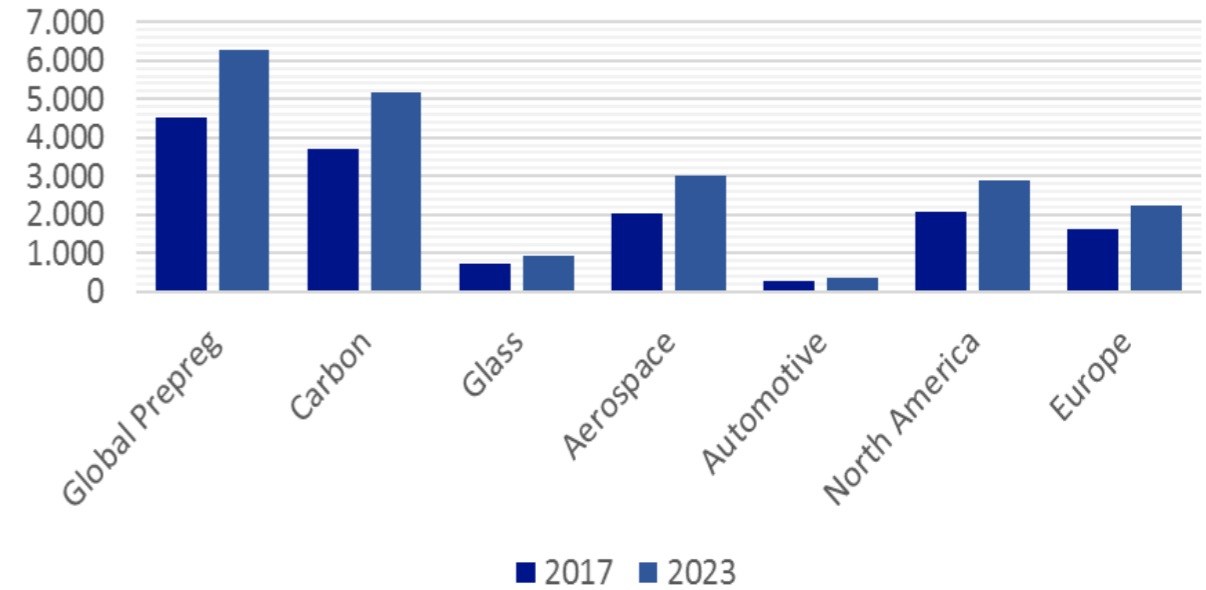
* AVK Composites Market Report - 2017

Market Dynamics – Composite

Prepreg Market Volume (Tons)



Prepreg Market Value (MUSD)



Thermosets → 95% of prepreg market (by value in 2017)
 Thermoplastics expected CAGR → 10.3% (2017-2022) (by value)

Prepreg Market by Weave Type: UD preregs 49% & Fabric preregs 51% (by volume) and will remain nearly the same till 2023

Global prepreg market is expected to grow with **5.3% CAGR** by volume and with **5.6% CAGR** by value.

Kordsa Investment Highlights

1

Market leadership based on longstanding strategic partner status with all global tire players

2

Global footprint with large presence at growing regions

3

Volume growth supported by favourable OE and replacement tire demand

4

Technology leadership at the cutting edge of reinforcement

5

Growth opportunities from new tire reinforcement products and adjacent construction and composites reinforcement sectors

6

Strong cash generation and dividend payout

7

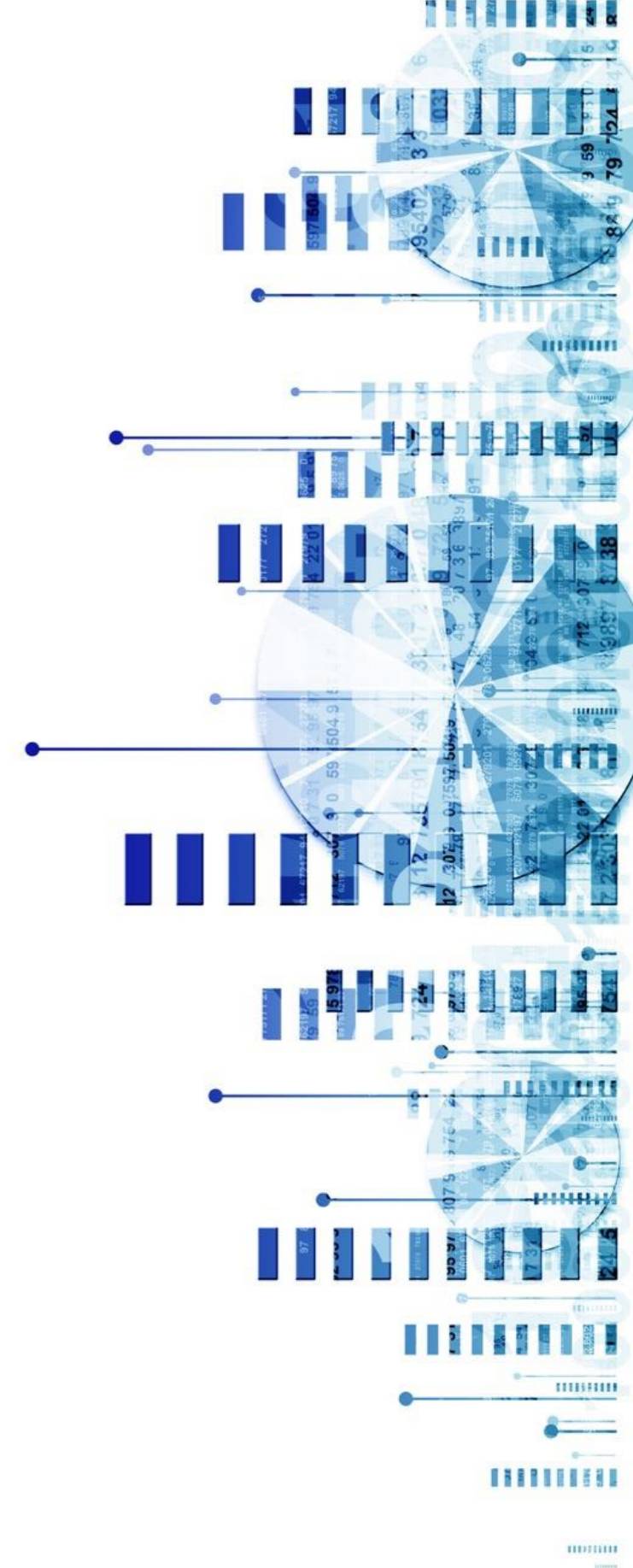
Experienced management team with proven track record



Kordsa in Brief

Key Financials				
	Million TL		Million USD	
	2018 1H	2019 1H	2018 1H	2019 1H
Sales	1,538	2,586	377	461
Gross profit	328	526	80	94
<i>Gross profit margin</i>	21.3%	20.3%	21.3%	20.3%
EBITDA* (a)	263	407	64	73
<i>EBITDA* margin (a)</i>	17.1%	15.8%	17.1%	15.8%
<i>OPEX margin</i>	8.2%	8.1%	8.2%	8.1%
Net income	155	219	38	39
<i>Effective Tax Rate</i>	18.1%	21.6%	18.1%	21.6%
WC Turnover	2.95	3.55	2.95	3.55
CAPEX	105	71	26	13
Net Debt/EBITDA	2.21	1.88	2.38	1.82
Dep./Amort.	62	92	15	16

(a) EBITDA* = Gross Profit – OPEX + Depreciation/Amortization



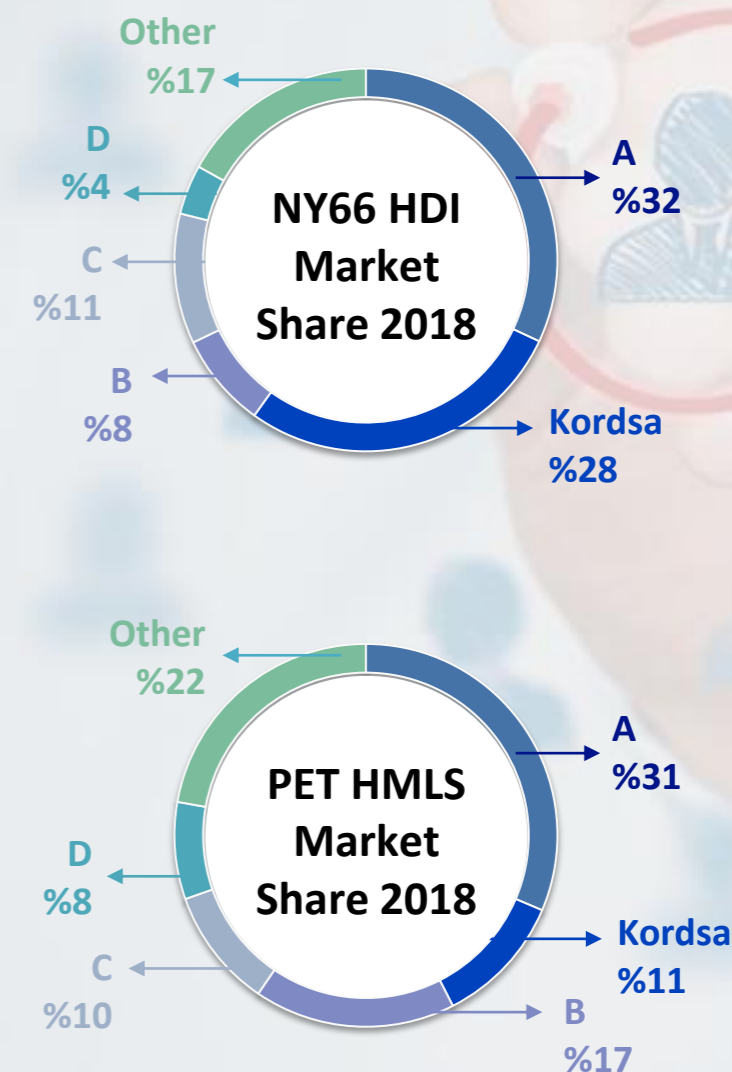
Market Leadership Based on Longstanding Strategic Partner Status with All Global Tire Players

Nature of customer relationship as key barrier to entry

	Length of relationship	Typical length of approval period ^(a)	Co-development projects
Global Tire Player 1	Since 1986	~ 5 years	✓
Global Tire Player 2	Since 1995	~ 5 years	✓
Global Tire Player 3	Since 1973	~ 3 years	✓
Global Tire Player 4	Since 1985	~ 2 years	✓
Global Tire Player 5	Since 1973	~ 3 years	✓
Global Tire Player 6	Since 1987	~ 2 years	✓

(a) For a new supplier

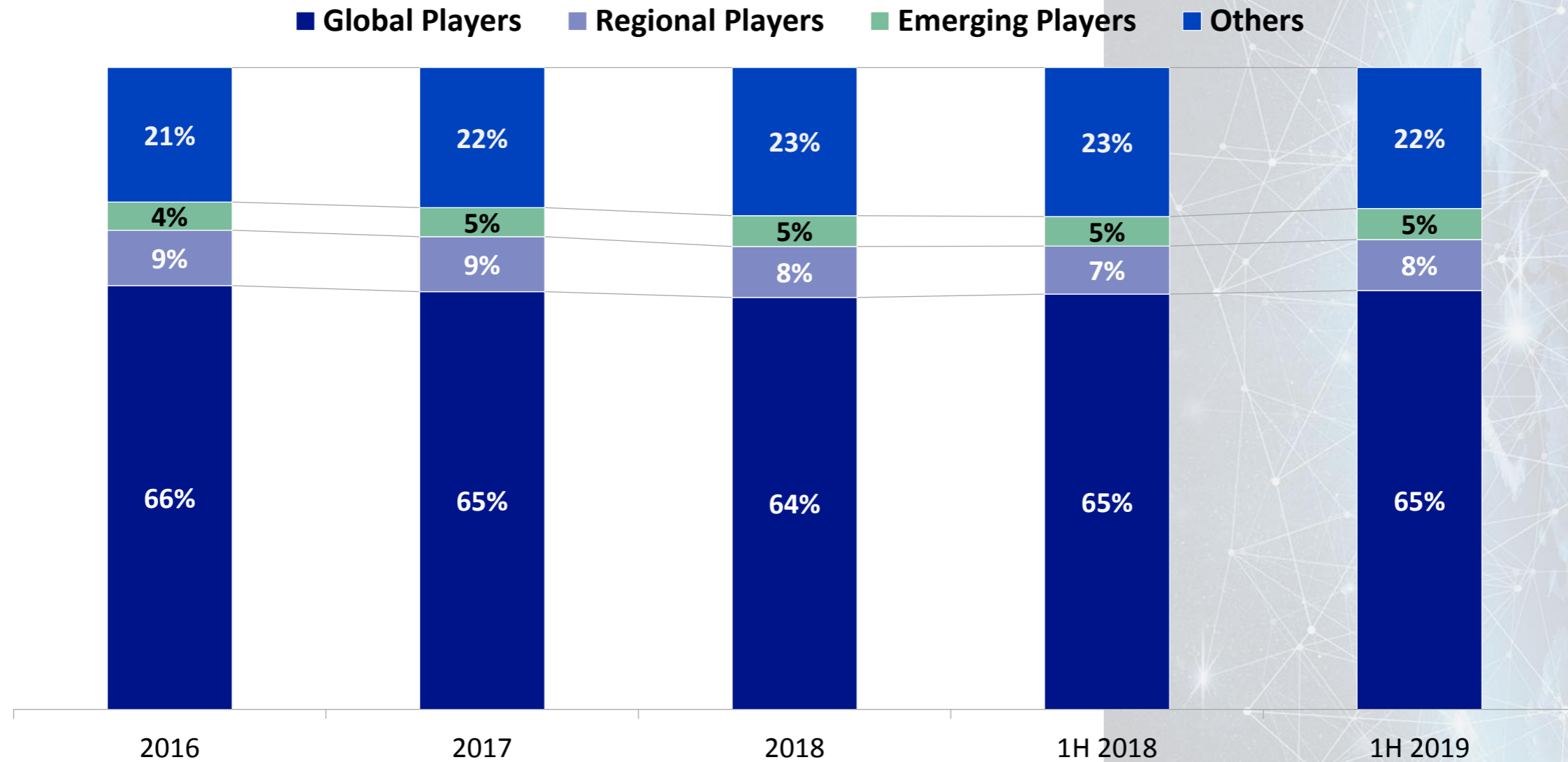
Leading market shares



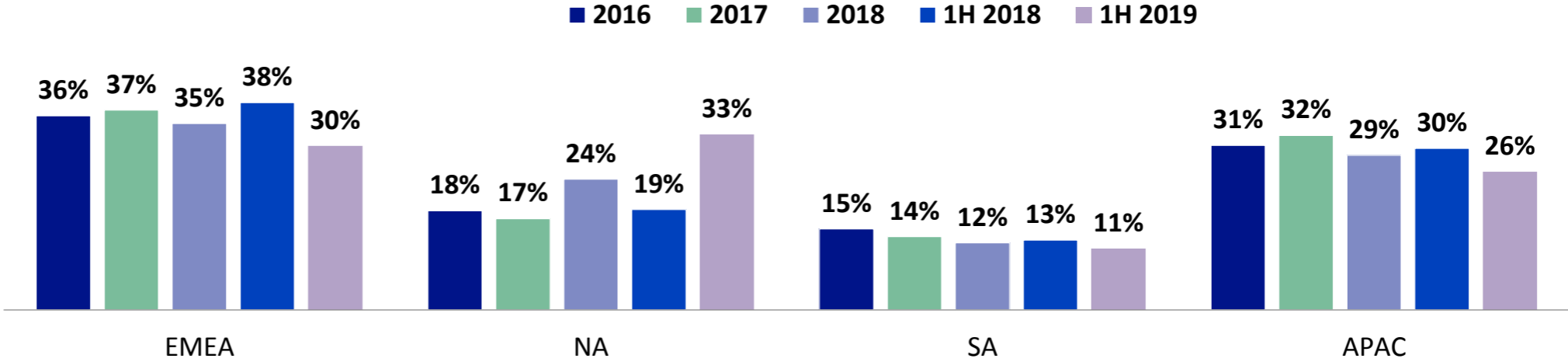
Source: Company Estimate

Strong barriers to entry for new comers

Capitalize on Global Footprint and Entrenched Supplier Status with All Key Tire Manufacturers - Segmental Progress



Global Footprint – Regional Breakdown of Revenues



Regional footprint versus key competitors



Kordsa market position

- #1 NY TCF producer
- #1 PET TCF producer

- #1 NY TCF producer in the US

- The only PET yarn, TCF and SEC producer in LATAM

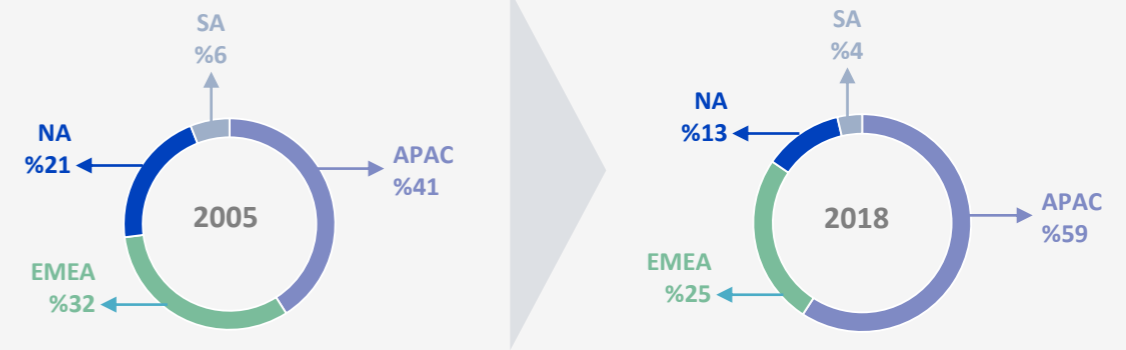
- #2 NY TCF producer
- #2 PET TCF producer

Well – Positioned to Enable Volume Growth

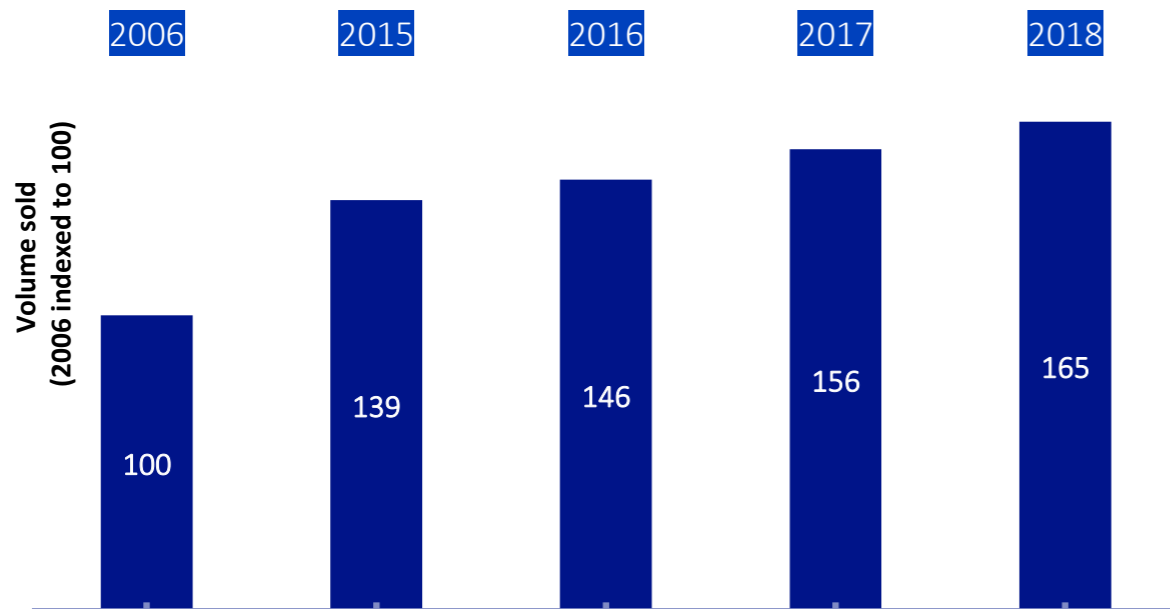
Comments

- Fabric form contributes the highest value add
- Disciplined approach to optimizing footprint
- 2015 investment in Indonesia has increased polyester tire cord fabric capacity by 18 ktors
- Enables regional growth in technology-advantaged PET segment with global and emerging customers
- Further investment in PET HMLS for new generation yarns
 - In TR for 6-6.5 ktors – completed in 1H 2019.
 - In Indo for 6,5 ktors – completed in Jan-2018.

Light Vehicle Tire manufacturing market evolution

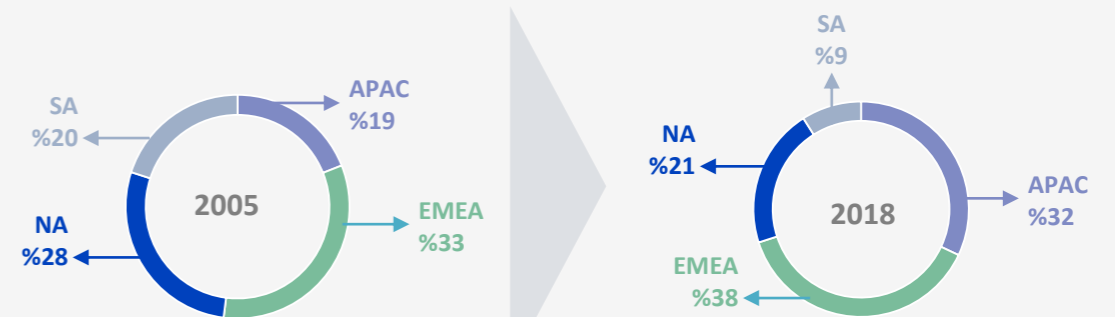


Kordsa volume development(a)



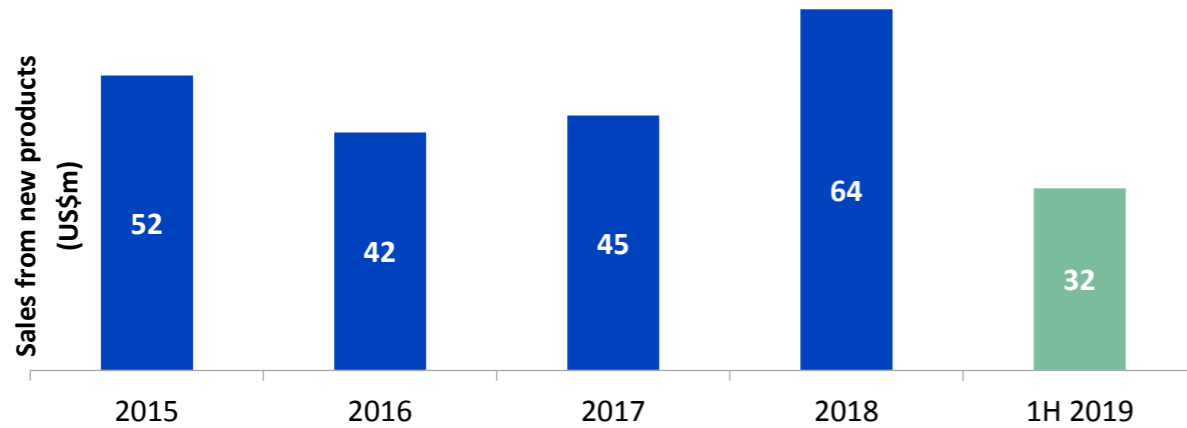
(a) Volume development adjusted for divested volumes

Kordsa regional capacity development



Technology Leadership at The Cutting Edge of Reinforcement

Strong focus on R&D



Selected collaborations(a)



(a) includes both, universities as well as individual academics from the names institutions

Cutting edge new products



✓ Rolling resistance improvements through higher modulus for high performance tires



✓ Protection layer for truck & bus tires; reduces tire weight

T802

✓ 7% higher tenacity and better fatigue performance for aircraft tires (bias)

4G PET

✓ 10% higher dimensional stability for better tire performance (improved labeling)

Leadership in Innovation and Technology”



- Kordsa puts into operation the USD 18 million worth additional polyester yarn line at Izmit Plant.



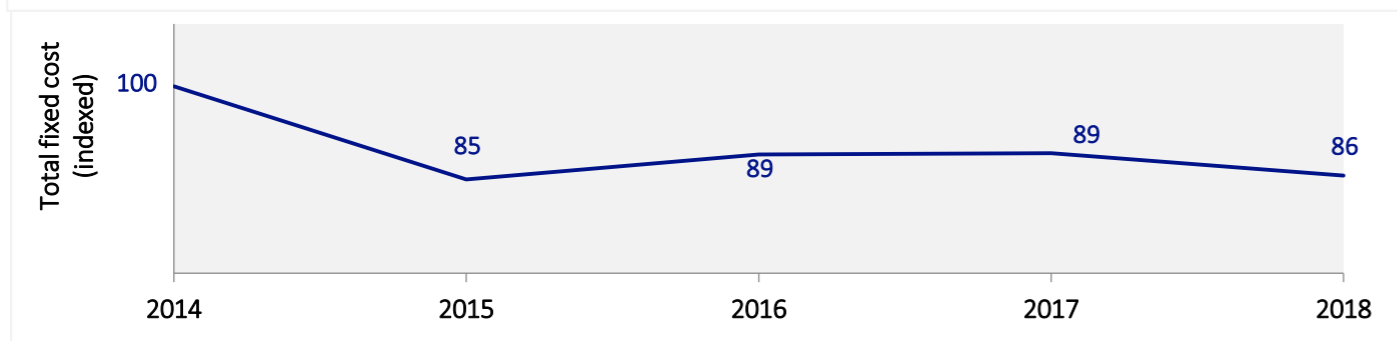
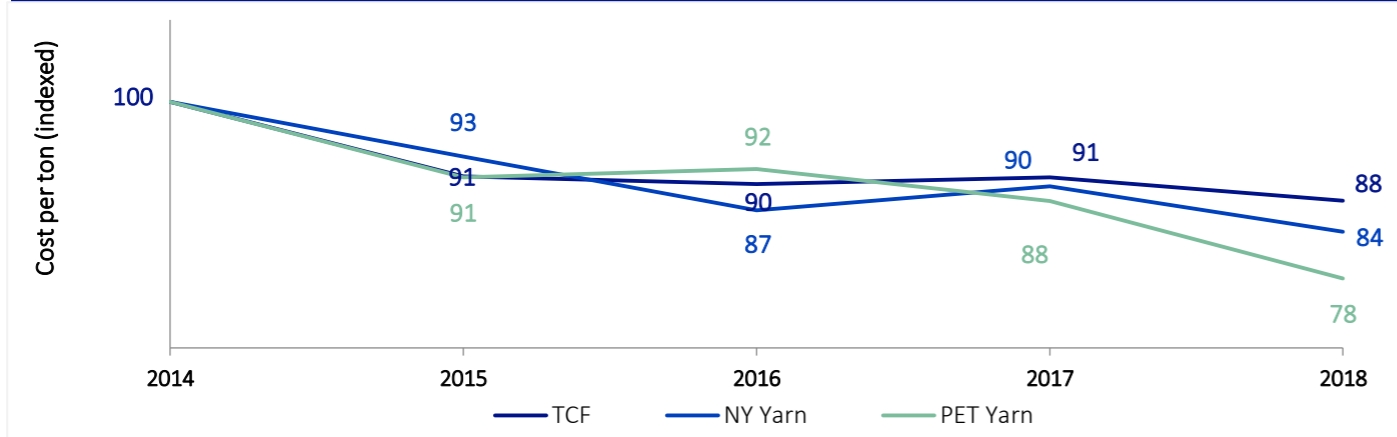
- Kordsa is the main sponsor of the International Conference of the Polymer Processing Society, which is one of the most important gatherings in the industry



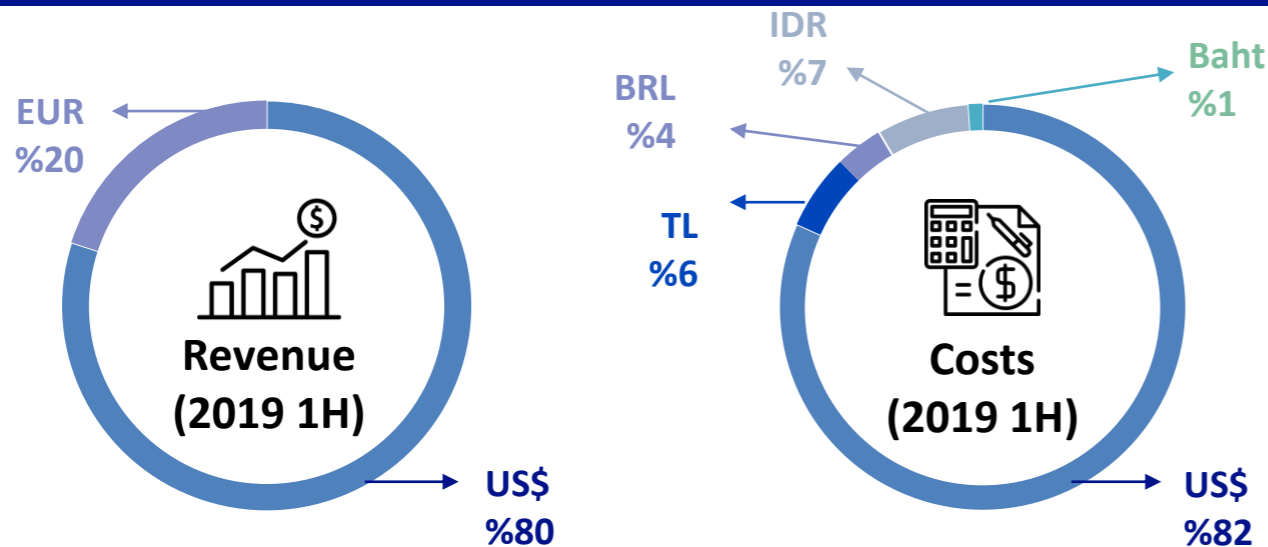
- 34 companies applied for a sample of CoKoon technology, the environmentally friendly formula – co-jointly developed by Kordsa and Continental – that will replace the 80-year old formula

Well-Positioned for Strong Cash Generation and Dividends

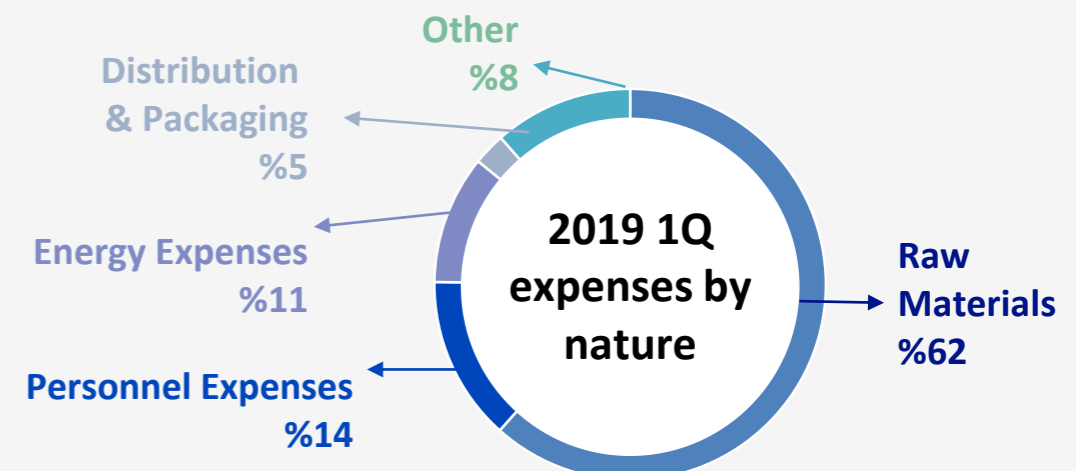
Cost development (US\$)



FX exposure



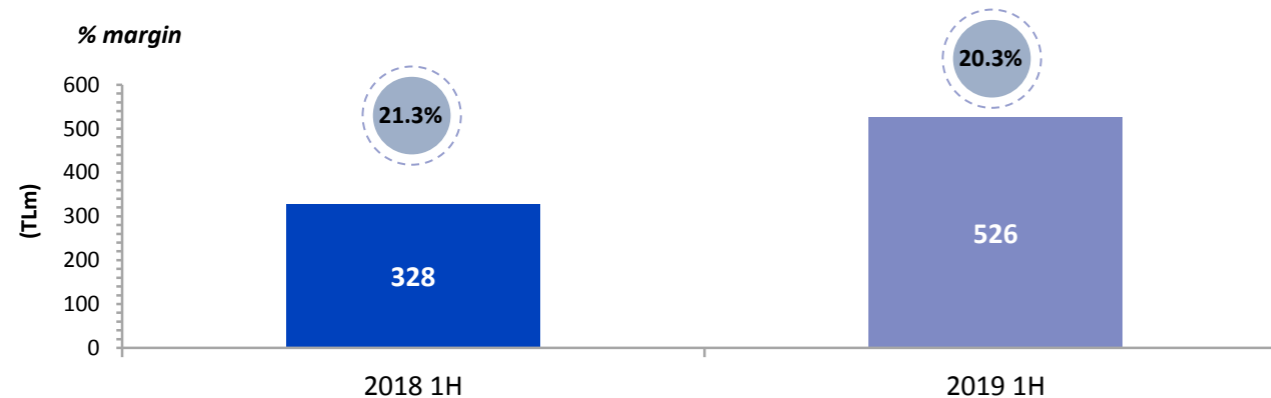
- Demonstrates value-based pricing model
- Ability to pass through raw material price volatility:
(Revenue – raw material costs) tracked as a KPI by sales team
- Conversion costs as a key metric for management KPIs (main components are personnel expenses and energy costs)



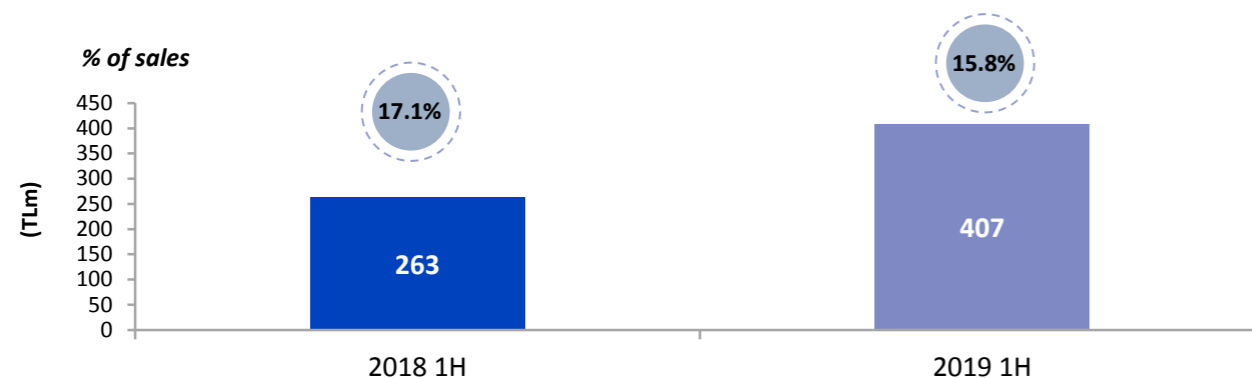
- Hard currency revenues
- FX exposure on costs => EM footprint on local costs + hard currency priced raw materials
- Benefit from US\$ appreciation vs. TL, IDR and BRL

Well-Positioned for Strong Cash Generation and Dividends

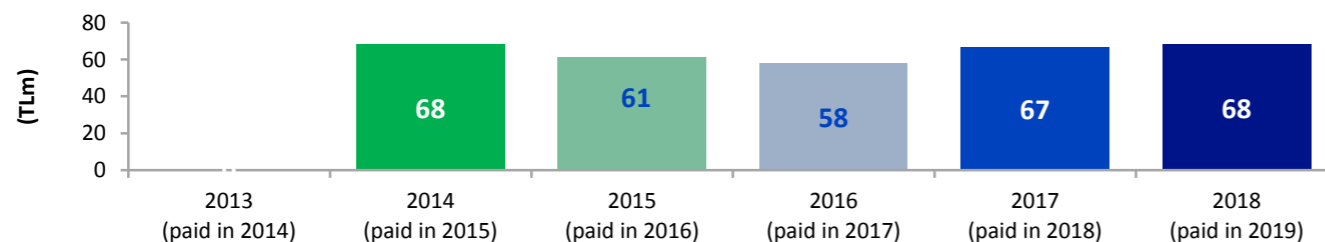
Gross profit



EBITDA*



Dividend distribution



Comments

- **Price is a function of**
 - Value Proposal of Product including services offered
 - Product type (nylon vs polyester or fabric vs yarn)
 - Raw Material Price Movement (formula based pricing with adjustment on raw material indexes)

- **10 yrs avg EBITDA margin 12,0%**
- **Target is progressive improvement in EBITDA margins over the medium term**
 - Focus on value
 - Improved Total and per kg Fixed Cost
 - Successful selling, general and administrative (“SG&A”) cost reduction initiatives across all business units
 - Positive contribution of new products and adjacent businesses

EBITDA* = Gross Profit – OPEX + Depreciation/Amortization

Kordsa's Financial Policy

Our company guidance for financial year 2019 is as follows:

- Revenue : 30%-40% TL basis; 10%-15% USD basis
- EBITDA : 30%-40% TL basis; 10%-15% USD basis
- Composite business segment revenue : 105-115 M\$

EBITDA margins

Kordsa is targeting progressive improvement in EBITDA margins over the medium term

Dividend policy

Distribution of all the distributable profits

- which is lower of the Kordsa Turkey local GAAP (VUK) or Kordsa Consolidated TFRS (IFRS) net income
- in the form of cash and/or bonus shares
- subject to general assembly approval

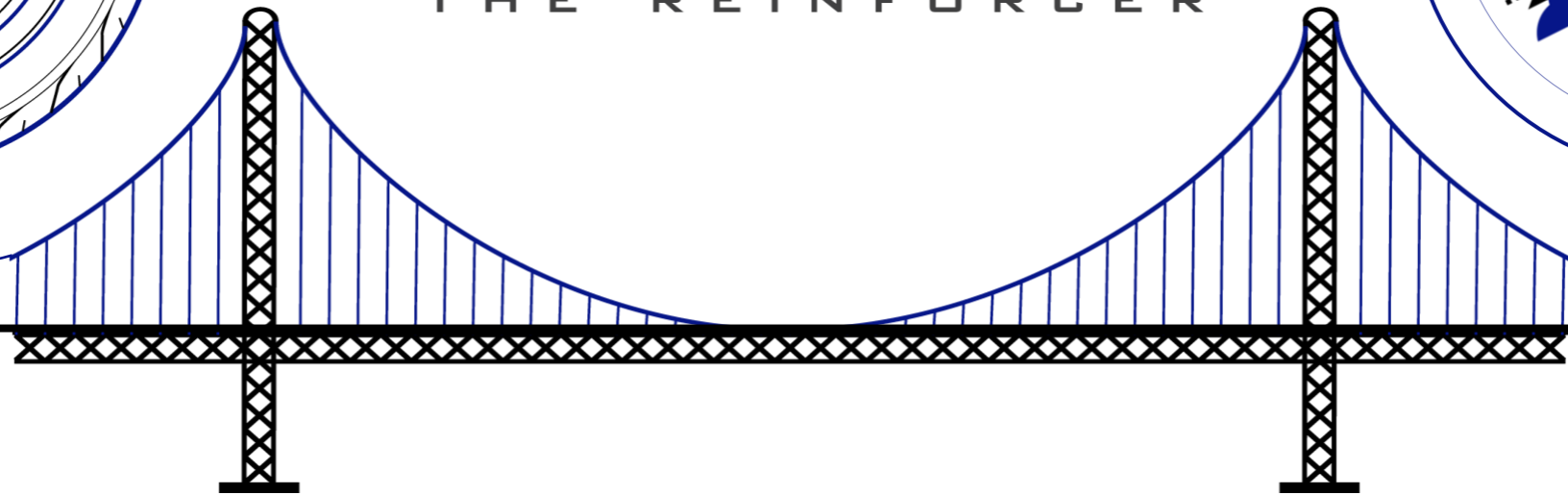
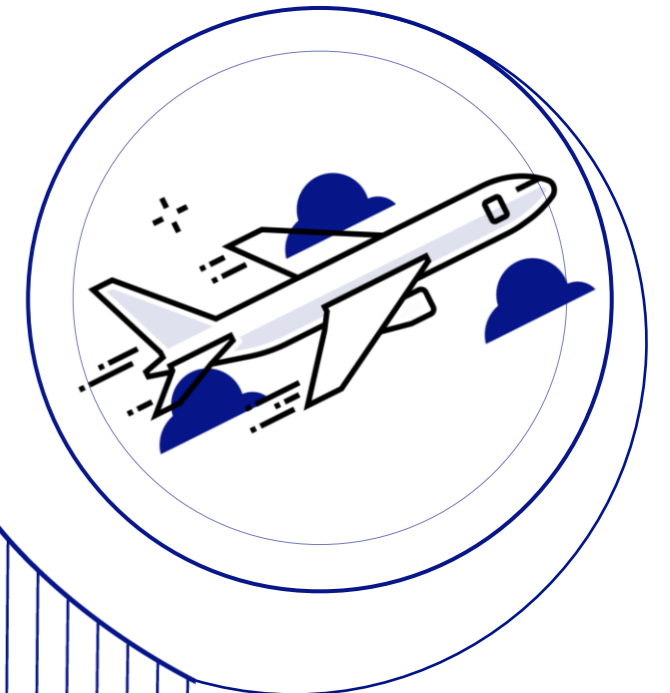
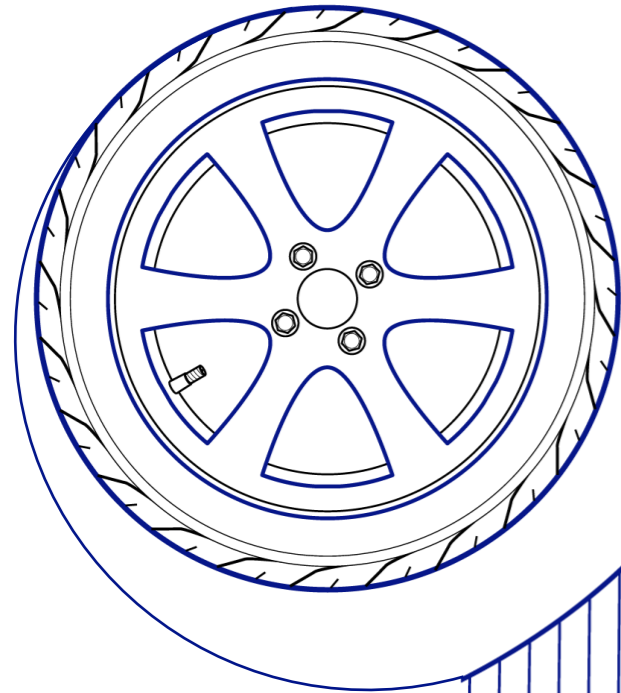
The distribution decision is agreed taking into consideration the sizable fixed asset purchases, acquisitions, covenants of current liabilities and the Company's mid and long term strategies, national and global economic conditions

Reoccurring Creep Capex

USD 23 million

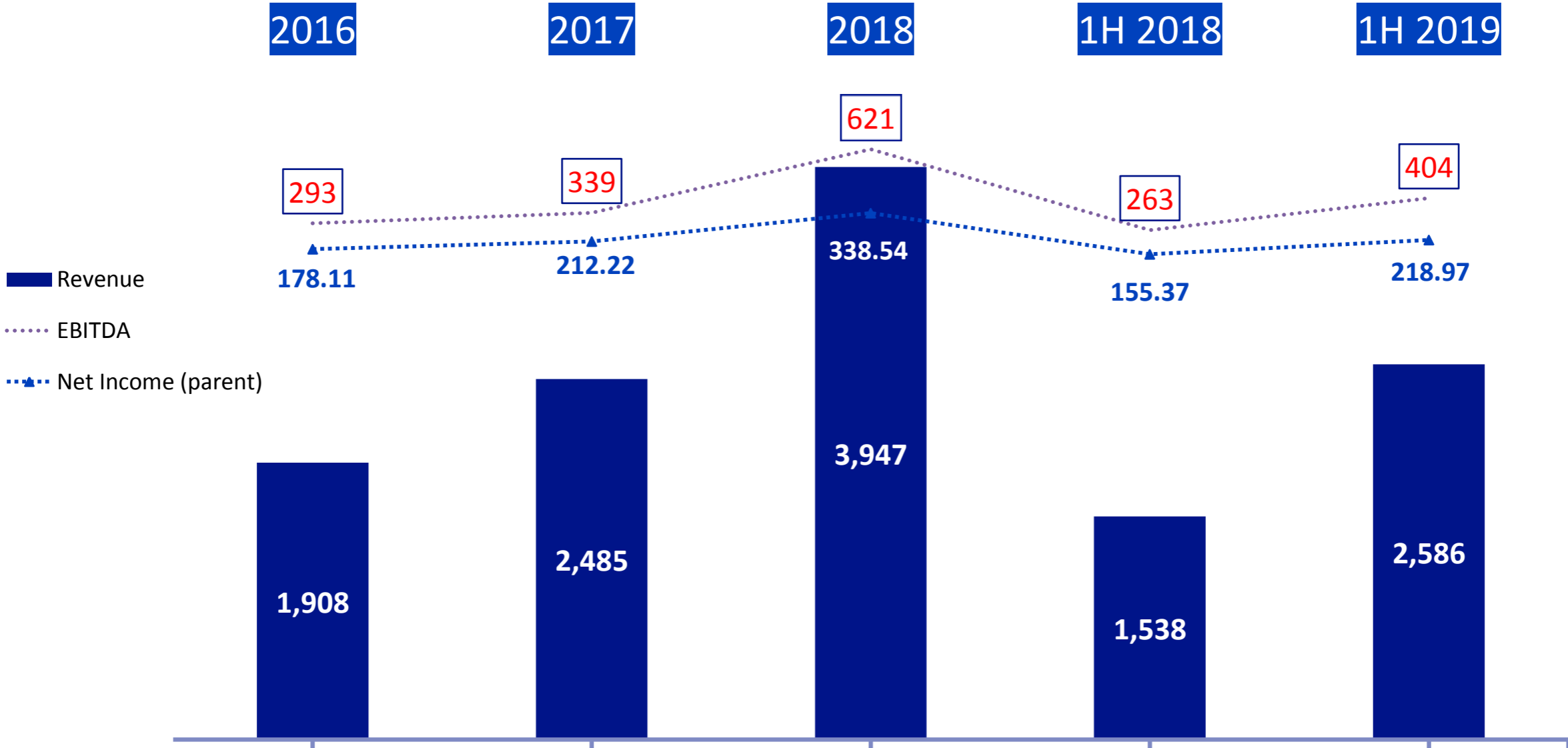
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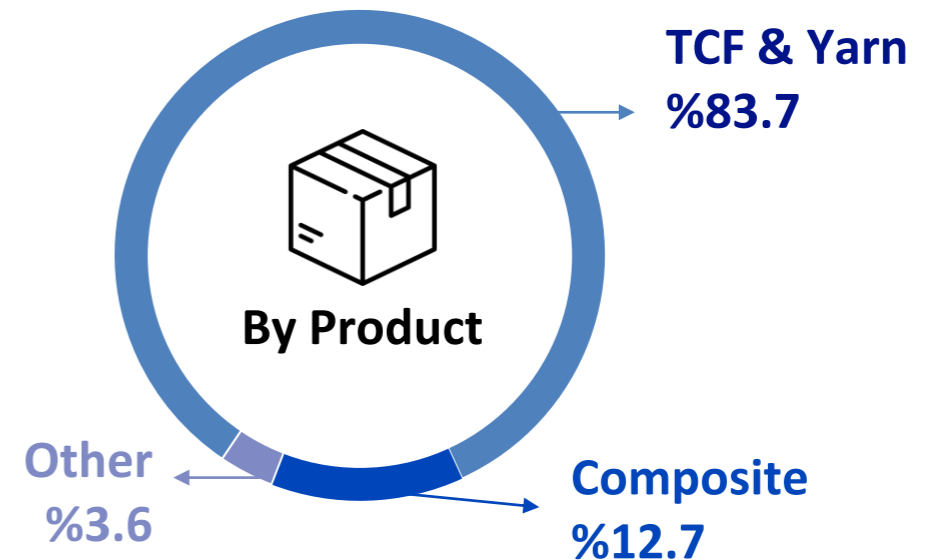
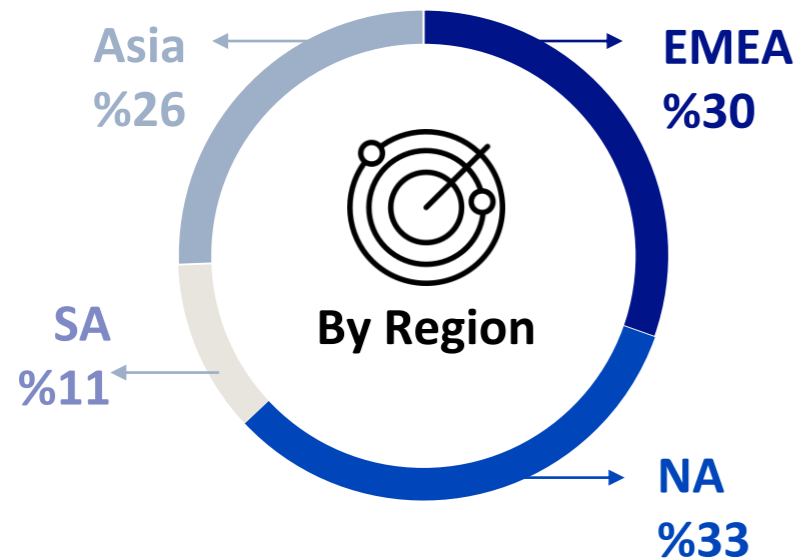
Appendix

2016 – 2019 Financial Trend (MTL)

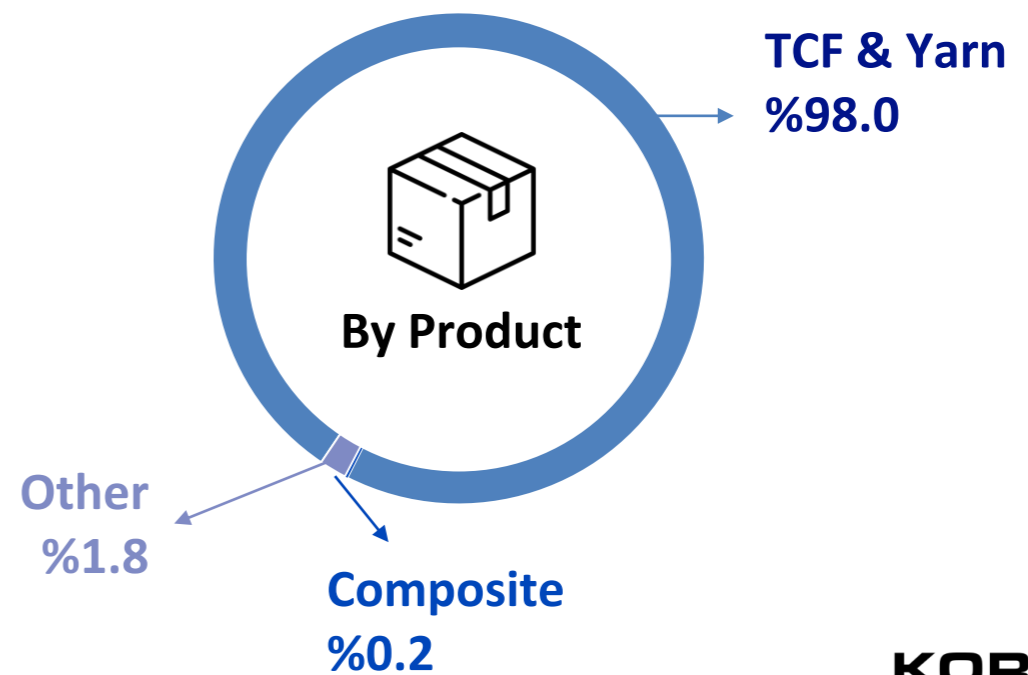
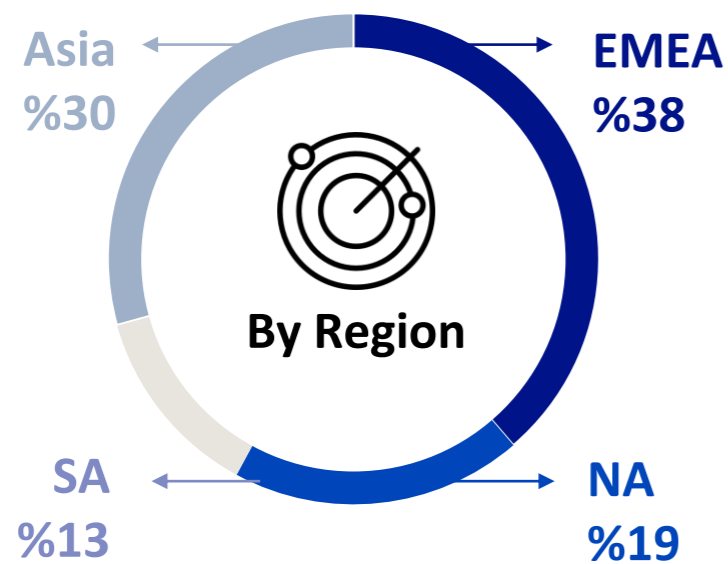


Kordsa in Brief

1H 2019 Revenue Split



1H 2018 Revenue Split



FX Rates

FX Rates as of Mar,19

Monthly Avr	1H'19	1H'18	2018 YE
\$/TRY	5.61	4.08	4.81
EUR/\$	1.13	1.21	1.18
\$/BRL	3.84	3.42	3.65
\$/IDR	14,193	13,771	14,237
\$/THB	31.60	31.73	32.31
Month End	1H'19	1H'18	2018 YE
\$/TRY	5.57	4.56	5.26
EUR/\$	1.11	1.16	1.15
\$/BRL	3.76	3.86	3.87
\$/IDR	14,026	14,404	14,481
\$/THB	30.80	33.17	32.45

Overview of The Construction Reinforcement Value Chain



Oil Derivative Ingredients

For NY66 Fibers:

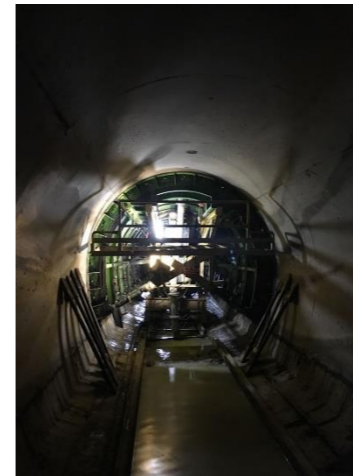
- Hexamethylenediamine (HMD)
- Adipic Acid
- NY66 Salt
- NY66 Flake

For PP Fibers:

- Polypropylene Chips



Reinforced Concrete Structures



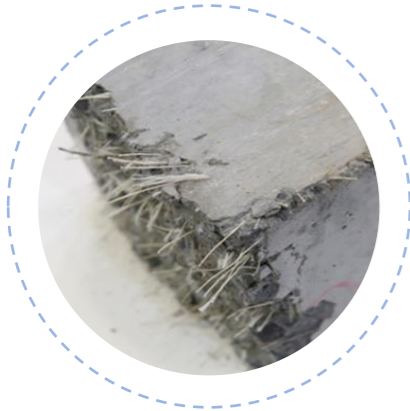
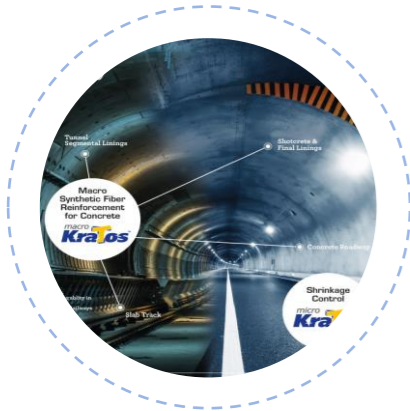
Major applications:

- Tunneling
- Shotcrete
- Slab on ground concretes
- Screed concrete
- Concrete roads

Kordsa's Kratos Fiber Reinforcement are applied in Superstructure & Infrastructure Solutions

Growth Opportunities: Construction

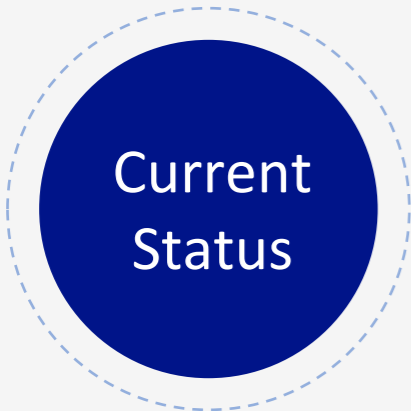
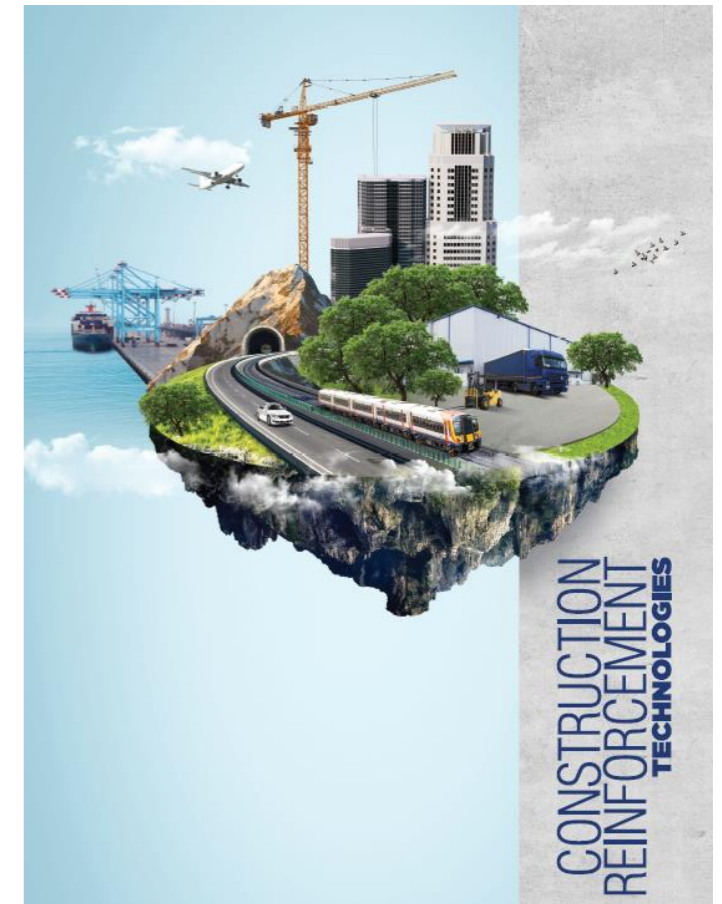
Construction Reinforcement



Samsun 2nd and 3rd Stage Light Railway Track Slab (Non-Conductivity Concrete Reinforcement) KraTos Macro Reinforcement

3rd Bosphorus Bridge Toll Booths and Electronic Pass Areas (Non-Conductivity Concrete Reinforcement) KraTos Macro Reinforcement

Asyaport Tekirdağ Port KraTos Macro Reinforcement



- KraTos Macro & Micro Synthetic Fibers are approved and applied in over 50 significant superstructure, industrial and infrastructure reference projects.
- Non-conductivity concrete reinforcement applications with KraTos Synthetic Fiber Reinforcements are approved in significant government-funded infrastructure projects.
- Kordsa Izmit Plant, R&D Concrete Lab technical and test equipment capabilities have increased. Technical Project Report service will be available for infrastructure projects.



July 2018

We have launched our new **Polypropylene Monofilament Fiber Reinforcement** production line.

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