

GLOBAL PACKAGING INSIGHTS DEVELOPMENTS AND TRENDS IN GLOBAL PACKAGING

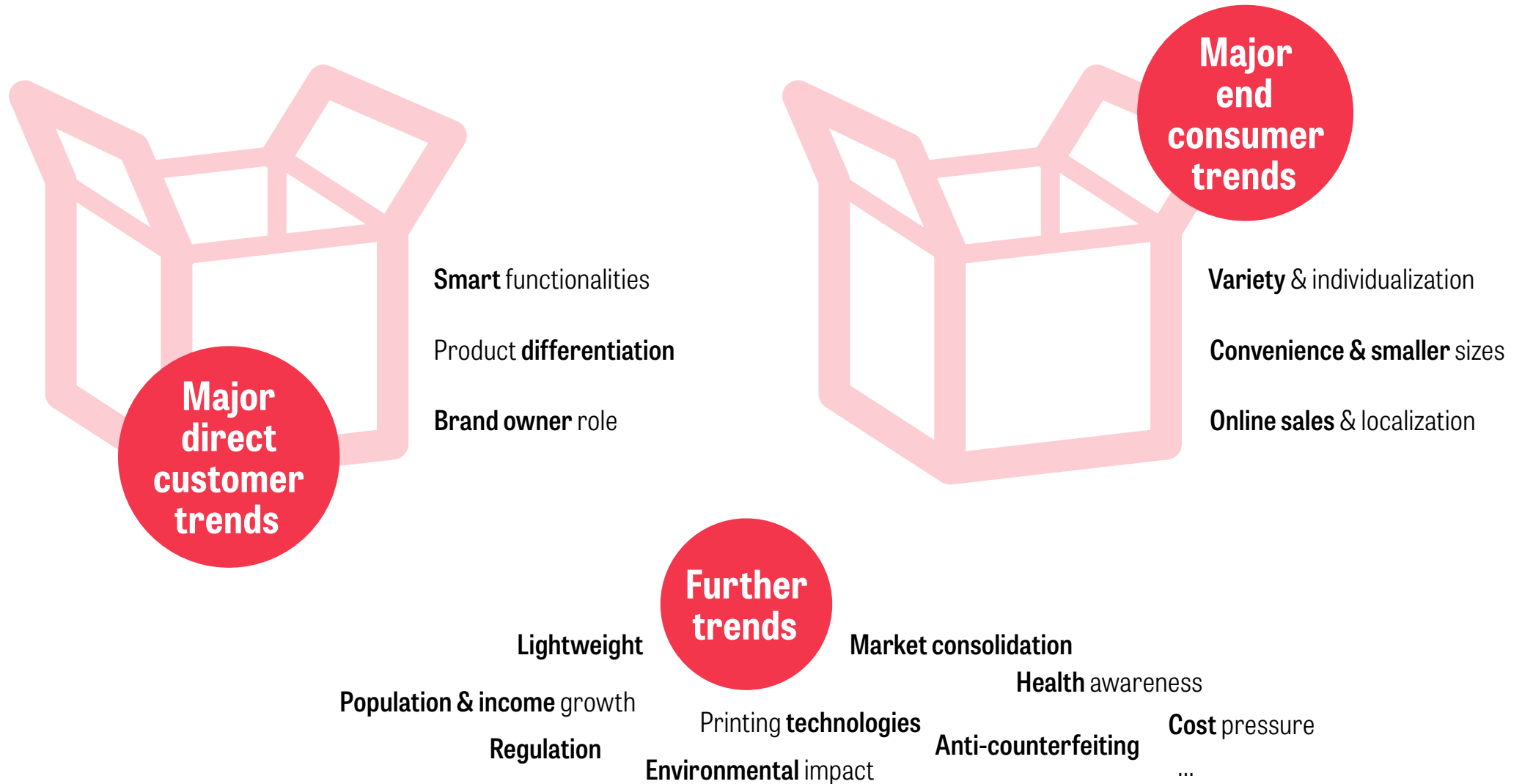
FACTS TO UNPACK THE BOX...

Facts Implications

- 1 Continuous deal flow drives consolidation** Determine **own role** and **strategy in consolidation** play
 Up to 300 transactions p.a., thereof ~80% acquiring small players (up to 100 m\$ deal volume)
- 2 Flexible packaging highly attractive** Stay **focused on flexibles**, but **reach critical mass**
 Growth at 4% p.a., taking share from other packaging types, reaching over 220 bn\$ globally in 2020
- 3 Food and Healthcare most promising** Drive **exposure to growing end-use applications** and add solutions (e.g. closures)
 Food growing at 3.7% p.a. reaching over 300 bn\$ in 2020, Healthcare expanding by 4.1% p.a.
- 4 Asia growing from large base, frontier markets accelerate** Consider **exposure to growing geographies**, potentially following global customers
 Asia growing 4.4% p.a. reaching close to 400 bn\$ in 2020; Middle East and Africa accelerate from low base



OVERARCHING TRENDS IN GLOBAL PACKAGING



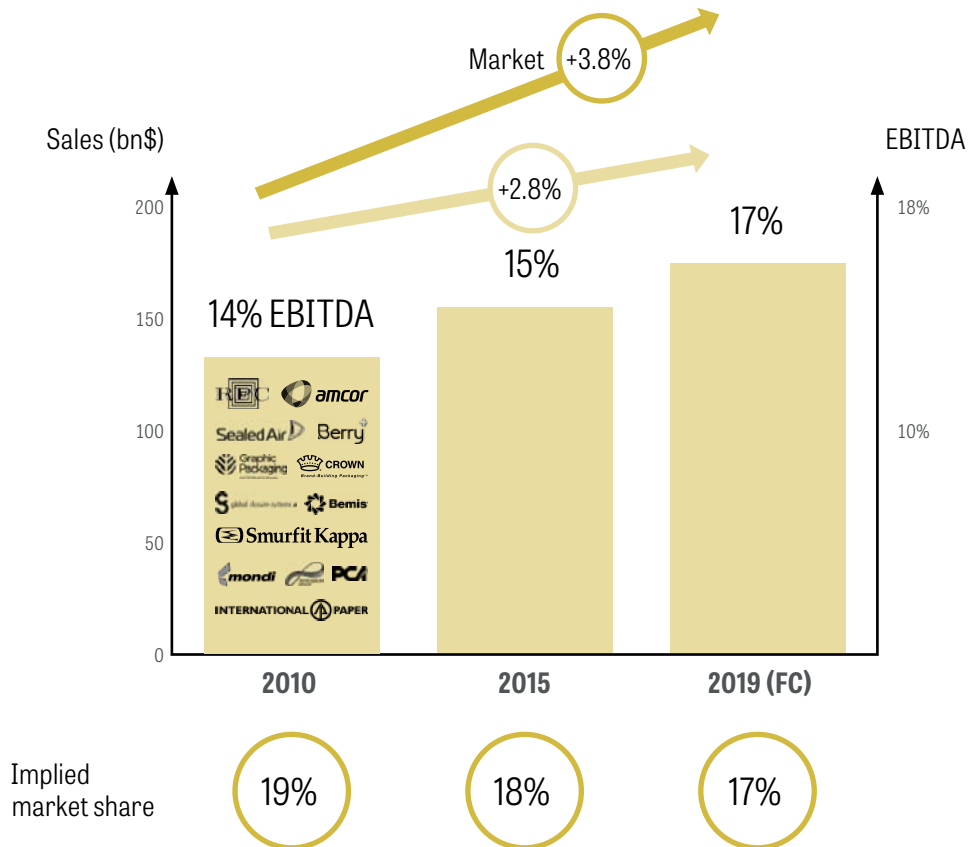
PERS PECT IVES ON PACK AGING

- I MARKET STRUCTURE & CONSOLIDATION
- II GEOGRAPHIES & END USE APPLICATIONS
- III PACKAGING TYPES & TECHNOLOGIES

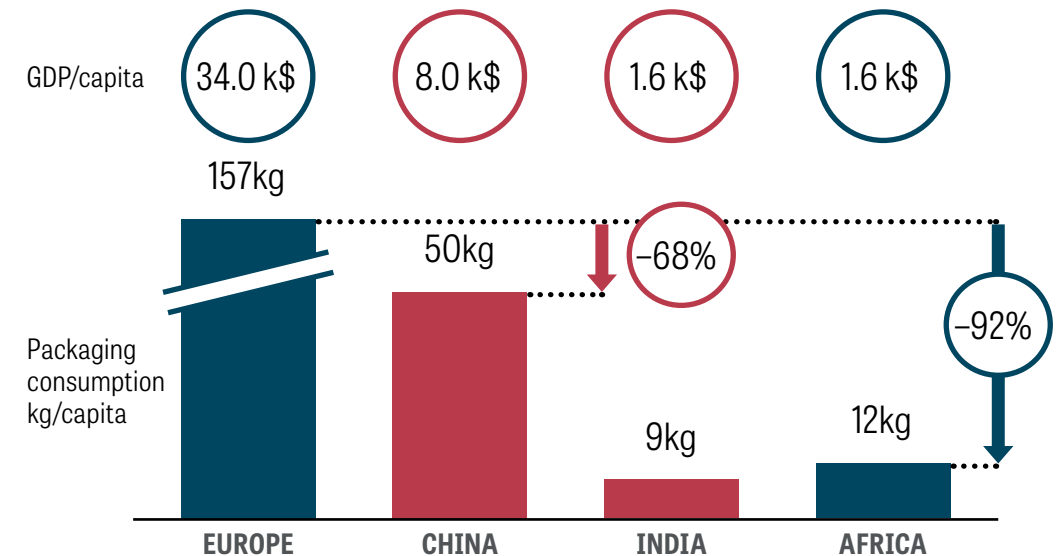
MARKET DYNAMICS

PUT PRESSURE ON SMALL PLAYERS

LARGE PLAYERS GROW LESS THAN MARKET, ACQUIRE SMALLER PLAYERS...



...AND FOLLOW THEIR CUSTOMERS GLOBALLY



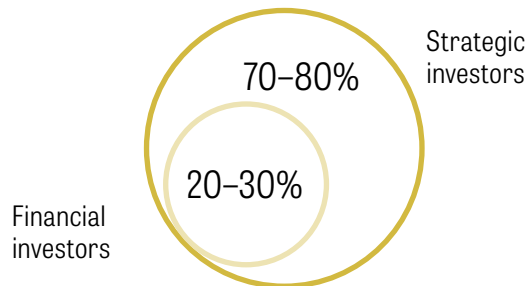
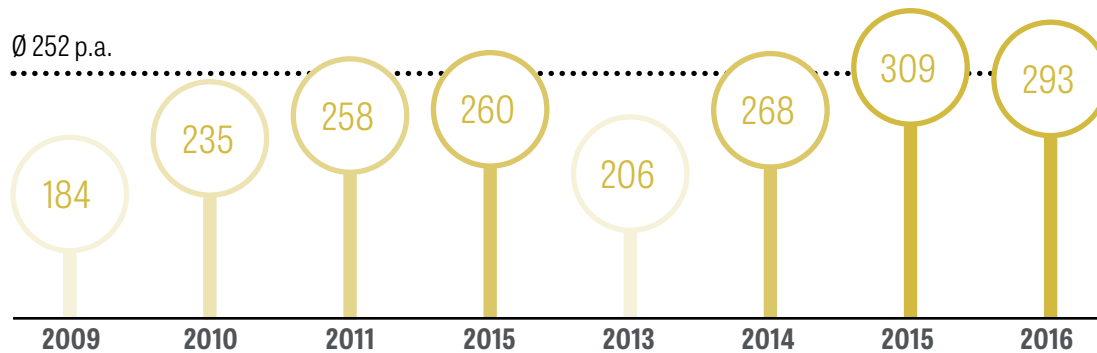
CONVERTER	LATAM	AFRICA	MIDDLE EAST	INDIA
WestRock	•	×	×	•
amcor	•	•	×	•
CCL	•	•	•	•
Ball	•	•	•	•

➔ **Large players grow under-proportionally**, medium players benefit from localization & niches, small players consolidate

➔ **FMCG companies enter emerging markets**, global **converters follow their customers**

M&A ACTIVITY FURTHER DRIVES CONSOLIDATION

Transactions – thereof ~80% below 100 m\$ deal volume¹⁾



Multiple
7x // 9x
EBITDA



Exposure to emerging markets

- Exposure to growing Latin America Market
- Possibility to serve global customers there



Extension of portfolio

- Broaden product portfolio adding closures
- Complement product offering



Increasing size, realizing synergies

- Merger boosted size
- Synergy potential and negotiation power

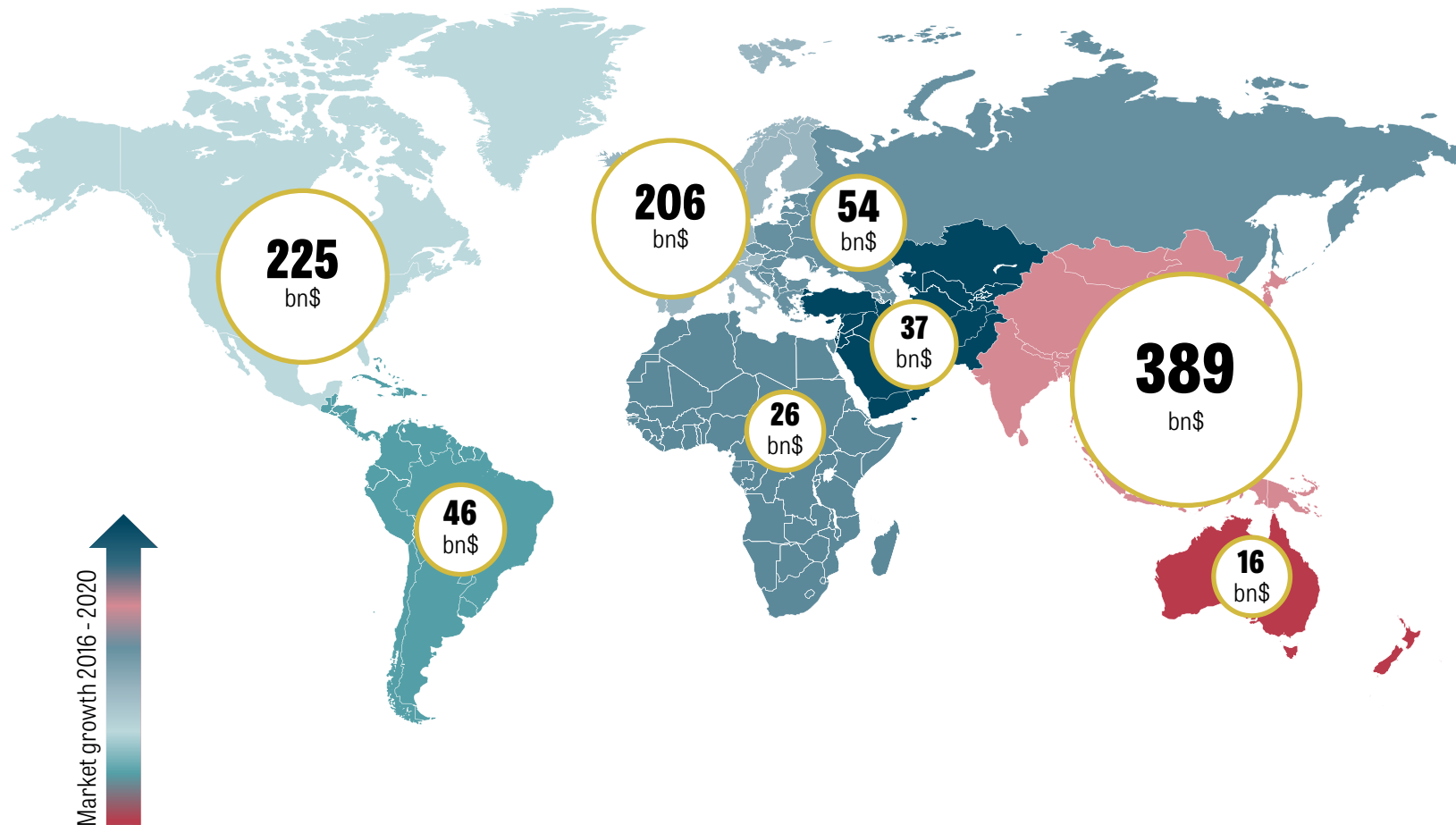
➔ Constantly **high M&A activity and Financial Investor involvement** drive consolidation

➔ Acquisitions to gain **emerging market exposure**, extent the **product portfolio** and gain size & realize **synergies**

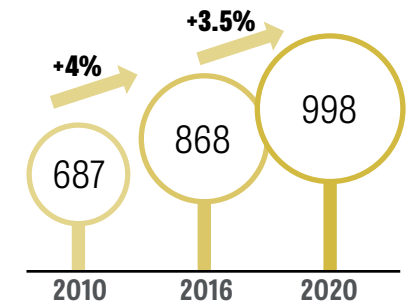
PERS PECT IVES ON PACK AGING








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GEOGRAPHICAL SPLIT OF GLOBAL PACKAGING



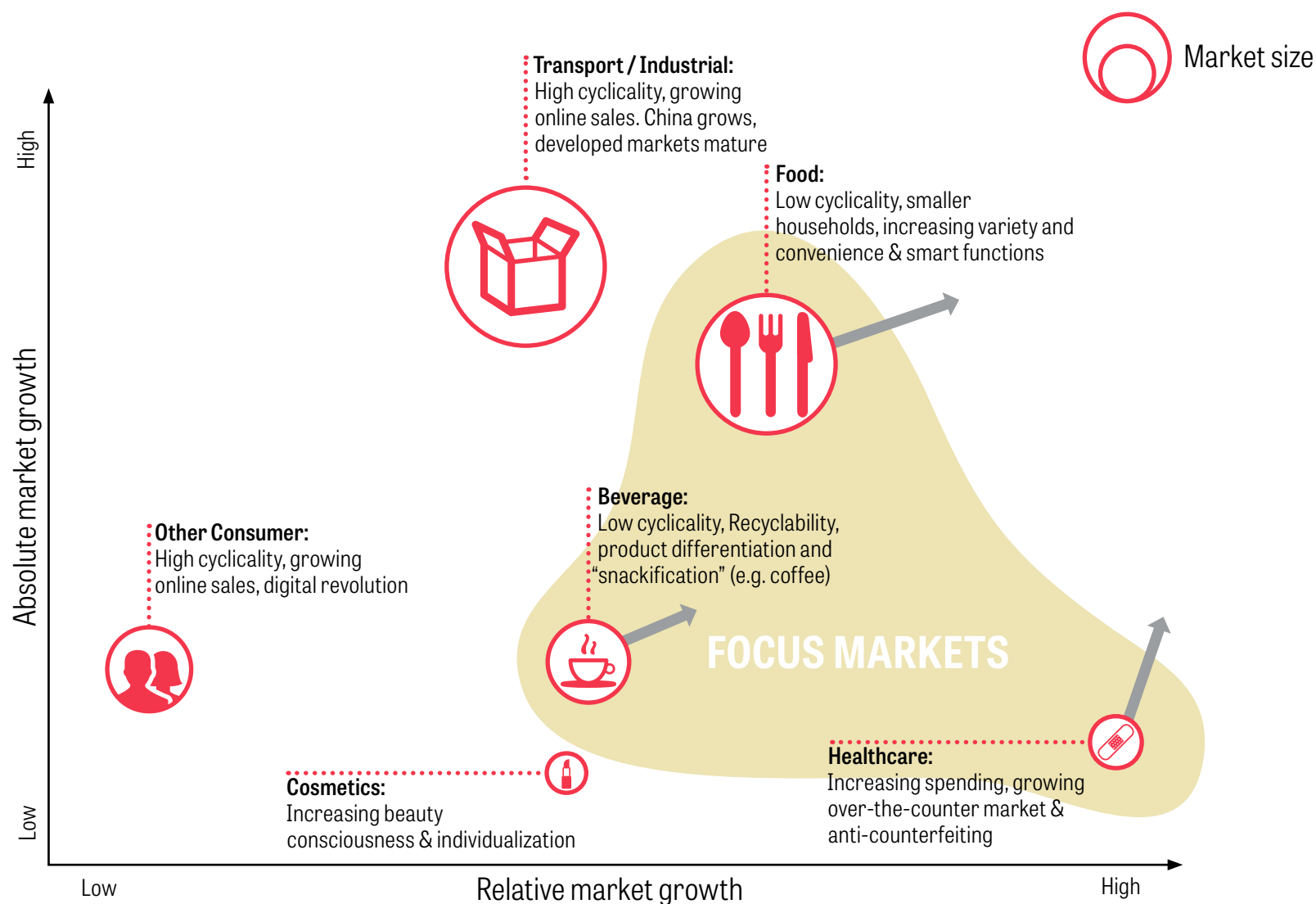
GLOBAL MARKET SIZE (BN\$)



186		China
175		USA
50		Japan
40		South Korea
38		Germany
31		France
28		Italy

➔ Asia, Middle East & Africa strong growth, China and USA
~42% of global market

OVERVIEW END USE APPLICATIONS



	SIZE 2016 (BN\$)	CAGR 16-20 (%)
Food	266	3.7
Beverage	93	3.6
Healthcare	37	4.1
Cosmetics	23	3.5
Other consumer	101	3.1
Transport / Industrial	348	3.5
Total	868	3.5

➔ Food, beverage & healthcare focus markets – strong growth, dynamics & high resilience

BREAKDOWN END USE APPLICATIONS BY REGION

		FOOD	DRINKS	HEALTHCARE	COSMETICS	OTHER CONSUMER	INDUSTRIAL / TRANSIT
EMEA	Western Europe	68 ¹	24	8	6	25	76 ¹
	Eastern Europe	15 ³	7	2	2	5	23
	Middle East	11	4	1	1	3	18
	Africa	9 ²	3	1	0	3	9
Americas	North America	78 ¹	26	13	6	34	69
	South and central America	11 ³	5	3	3	3	20
APAC	Asia	110 ⁴	35 ⁴	15	9	40	180 ⁴
	Australasia	6	3	1	0	2	4
	World	308 ⁵	107	43 ⁶	27	114	399

Market size 2020 (bn\$)

- Strong growth (>4%)
- Medium growth (2.5%–4%)
- Slow growth (<2.5%)

- 1 Medium growth from high basis in **Western Europe**
- 2 **Middle East** and **Africa** strong, but low basis
- 3 **South America** and **Eastern Europe** weaker
- 4 **Asia** strong from large basis
- 5 **Food** and **Beverage** large, esp. in Asia
- 6 **Healthcare** strong, but from small basis

➔ Asian Food & Beverage and global Healthcare most promising

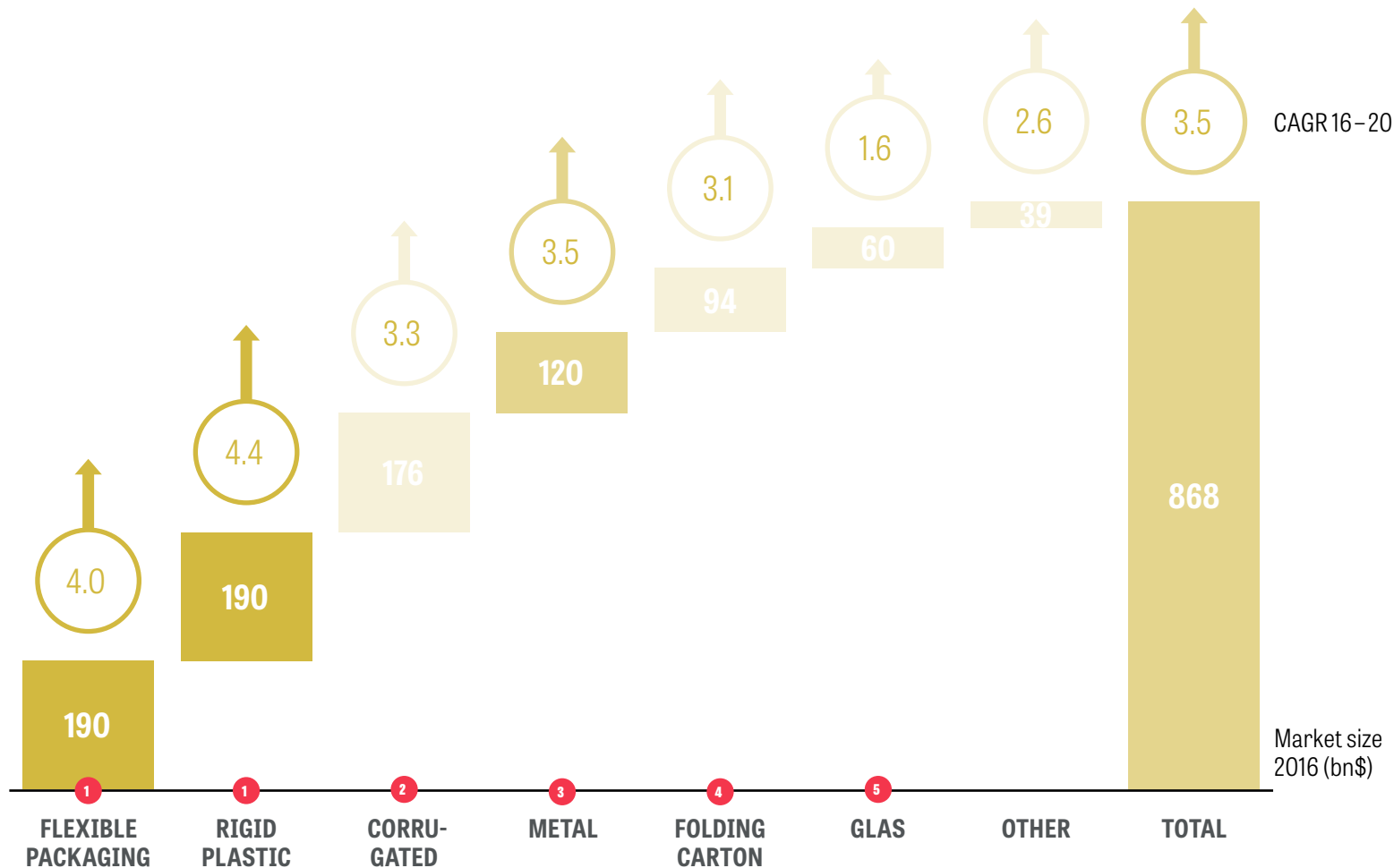
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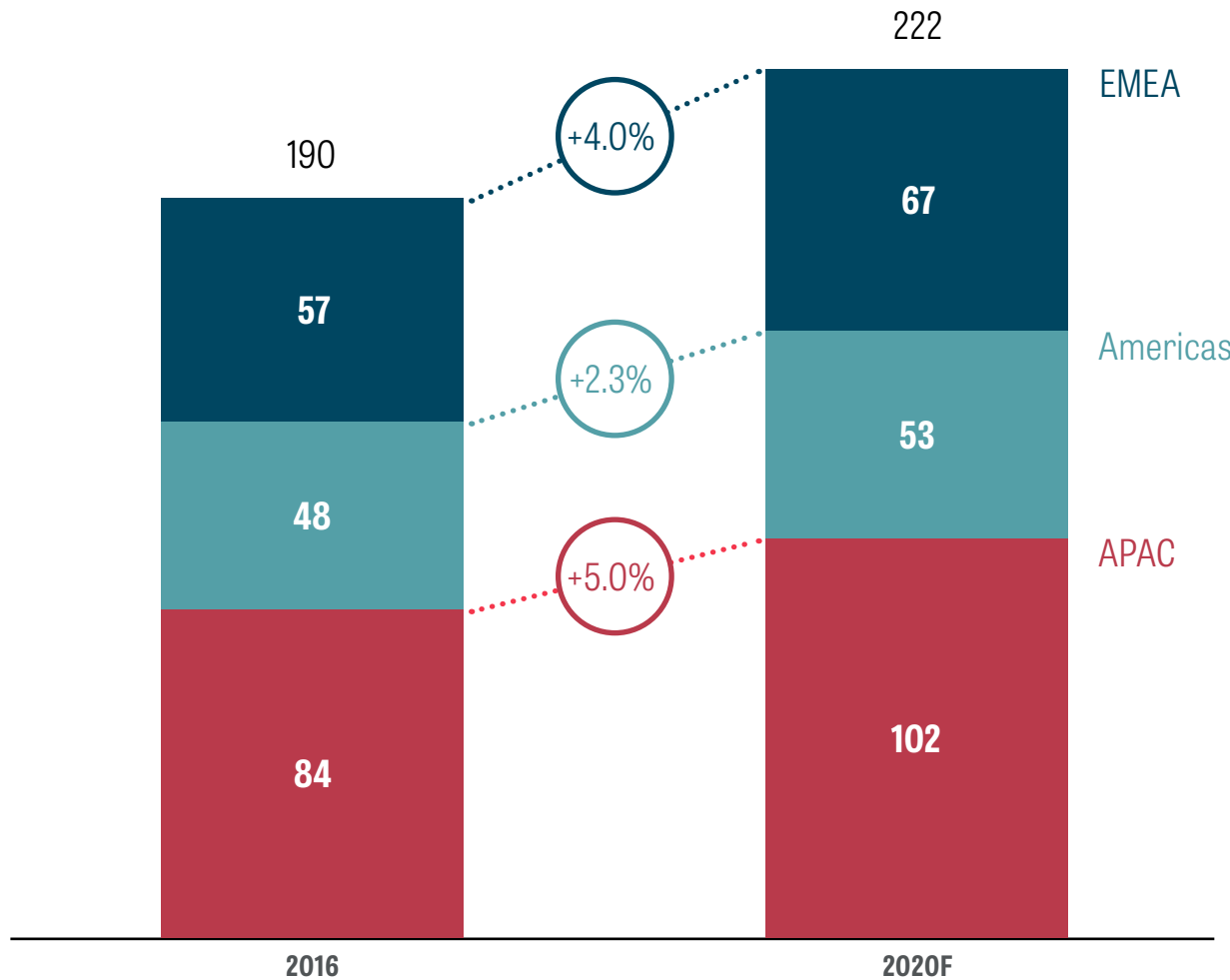
OVERVIEW **PACKAGING TYPE** BREAKDOWN



- 1 **Flexible packaging** and **rigid plastic** above market
 - **Superior functionality**, taking share from other types...
 - ...plus exposure to **growth applications**
- 2 **Corrugated** reached certain saturation, growth in frontier markets (M. East / Africa)
- 3 **Metal** in line with market, competition from flexible
- 4 **Folding carton** saturated in developed markets, growth in Asia
- 5 **Glass** growing only in niches

➡ Flexible and rigid plastic show strongest growth, representing ~44% of total market

GLOBAL MARKET FLEXIBLE PACKAGING – BENEFIT FROM FUNCTIONAL SUPERIORITY



➔ APAC largest and growing strongly

OVERARCHING GROWTH DRIVERS

- **Flexible plastic strong**, flexible paper weaker
- Exposure to **growing applications**
- **Lightweighting, cost effectiveness** and **recyclability**
- Beneficiary **from advanced functions**
- **Taking share from folding cartons** – better appearance & convenience
- Benefit from **modern retail**

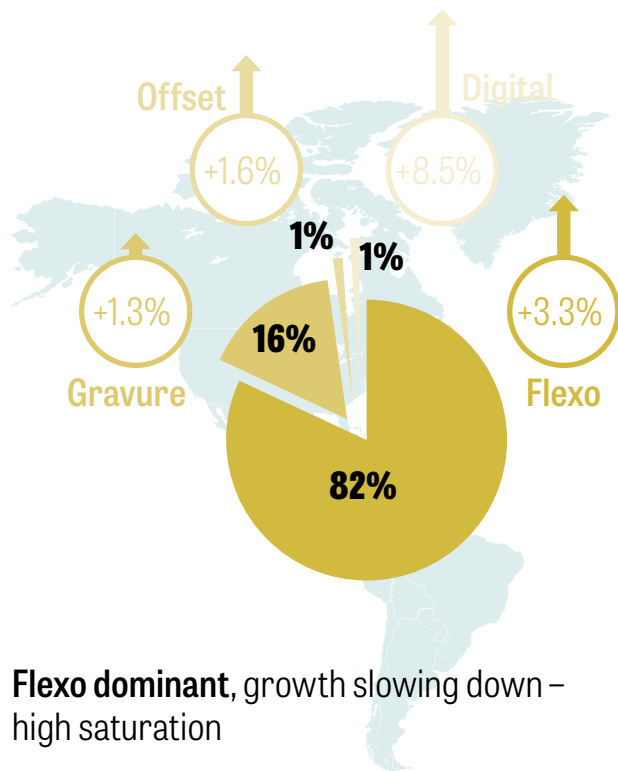
REGION SPECIFIC TRENDS

- **EMEA:** demand for sustainable, high end products
- **Americas:** Impulse from **regulatory changes**
- **APAC:** Chinese **export** growth & **internet** penetration

➔ Flexible to take share from other packaging types

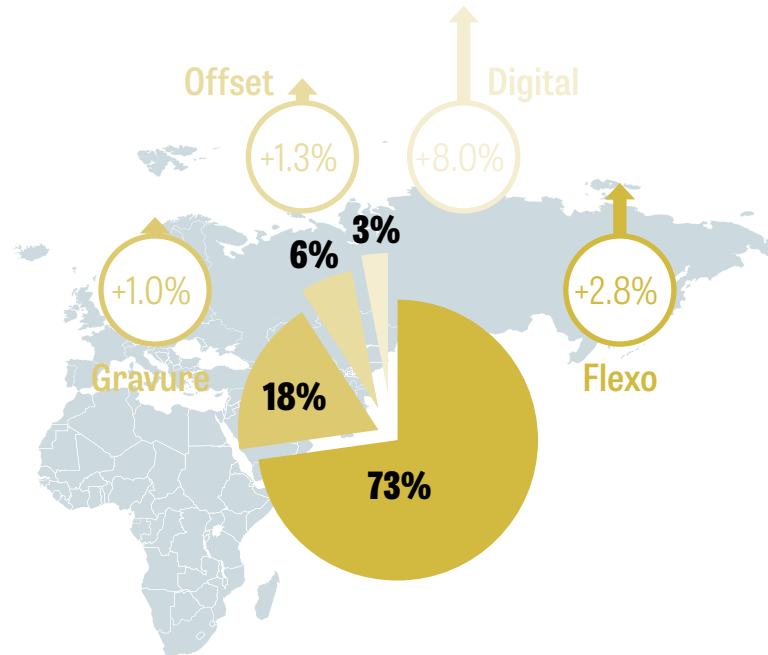
DEEP DIVE FLEXIBLE PACKAGING PRINTING TECHNOLOGY – DIGITAL ACCELERATING

Flexible packaging Americas



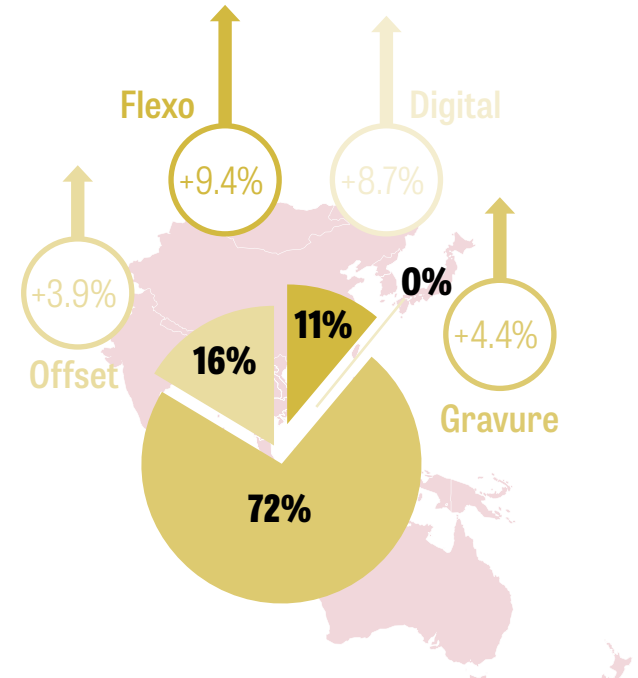
- **Flexo dominant**, growth slowing down – high saturation
- **Digital print still small, but gaining share** – push to shorter run length and individualization

Flexible packaging EMEA



- **Flexo dominant**, increasing share – technology advancements in quality and productivity
- **Digital print still small, but accelerating** – higher productivity (esp. speed) and low set-up costs

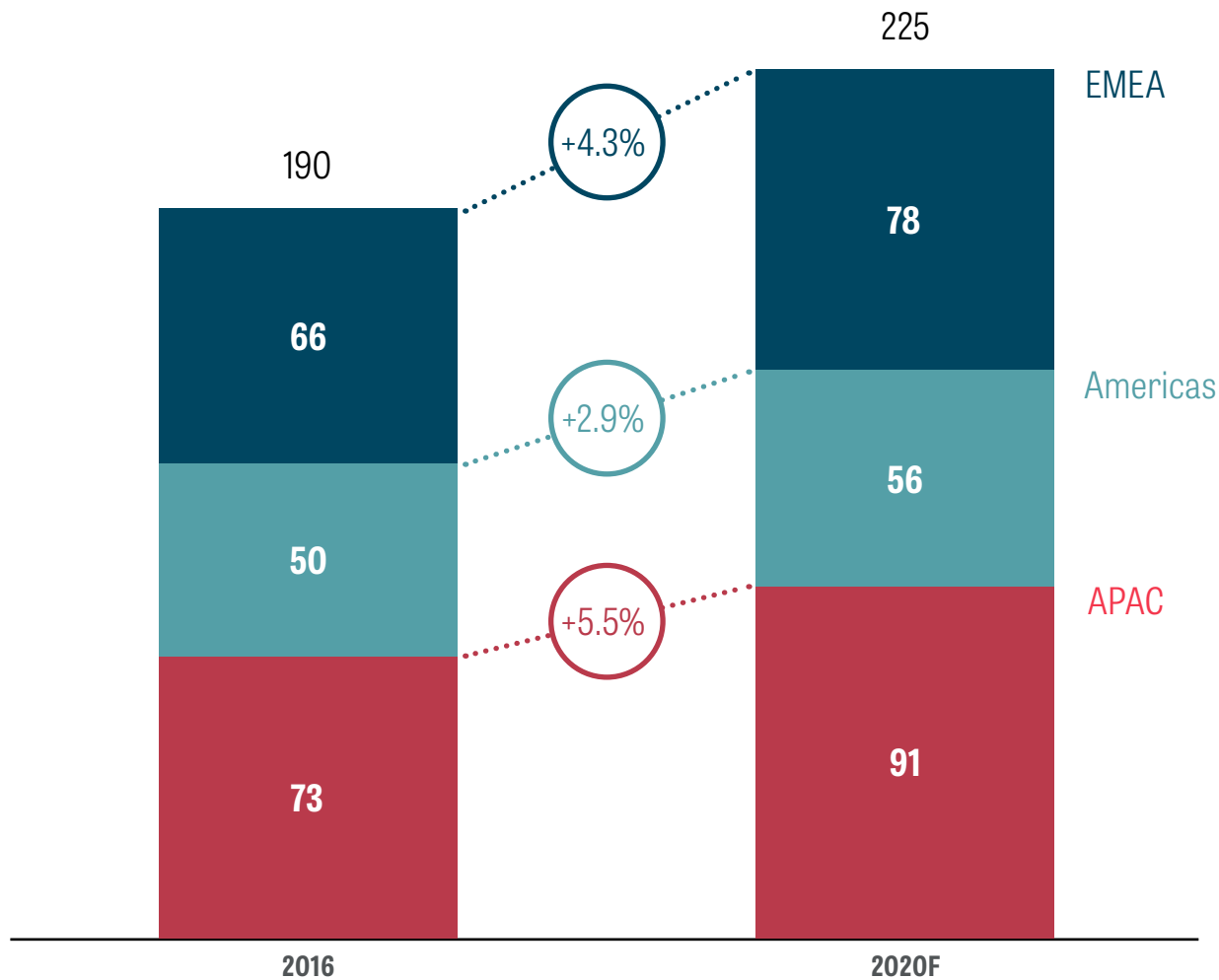
Flexible packaging APAC



- **Gravure leading** – high installed base and lower regulation
- **Flexo catching up** – tightening environmental protection, **decreasing run length, growing variety**

➔ Digital with strong growth from small basis, Flexo caught-up on quality improvement but expected to cool down

GLOBAL MARKET RIGID PLASTIC – STRONG GROWTH FROM END USE APPLICATIONS



➔ Strong growth in Asia, Middle East & Africa

OVERARCHING GROWTH DRIVERS

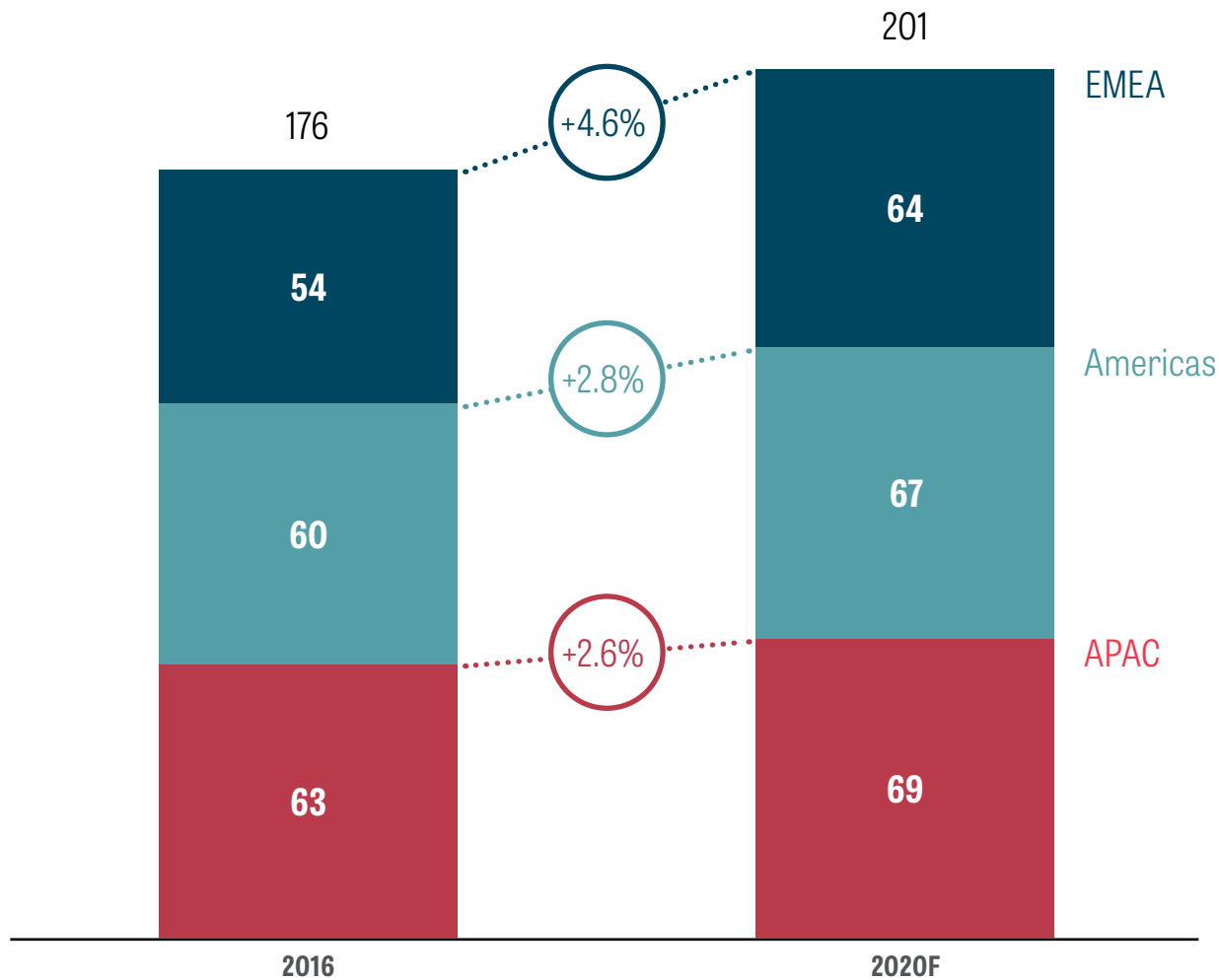
- Applications **beverages, pre-packaged food, healthcare**
- **Carbonates** weak, **bottled water** strong
- **Lightweight, shatter proof, flexibility & cost efficiency**
- **Bio-degradability** and recycling
- Competition from **flexible packaging**
- But taking **share from glass and metal cans, folding carton, PET bottles** strong in emerging markets

REGION SPECIFIC TRENDS

- **EMEA:** emission laws
- **Americas:** certain **saturation**
- **APAC:** potential in **beverages** (incl. alcoholic drinks)

➔ Rivalry from flexible, taking share from other types

GLOBAL MARKET CORRUGATED BOARD – GROWTH IN FRONTIER MARKETS



OVERARCHING GROWTH DRIVERS

- Benefit from increasing **online sales**
- Reduction of **double packaging**
- **Retail ready** packaging
- Loosing share to **flexible** and **rigid plastic**
- Growth from **non-food** in **developing countries**

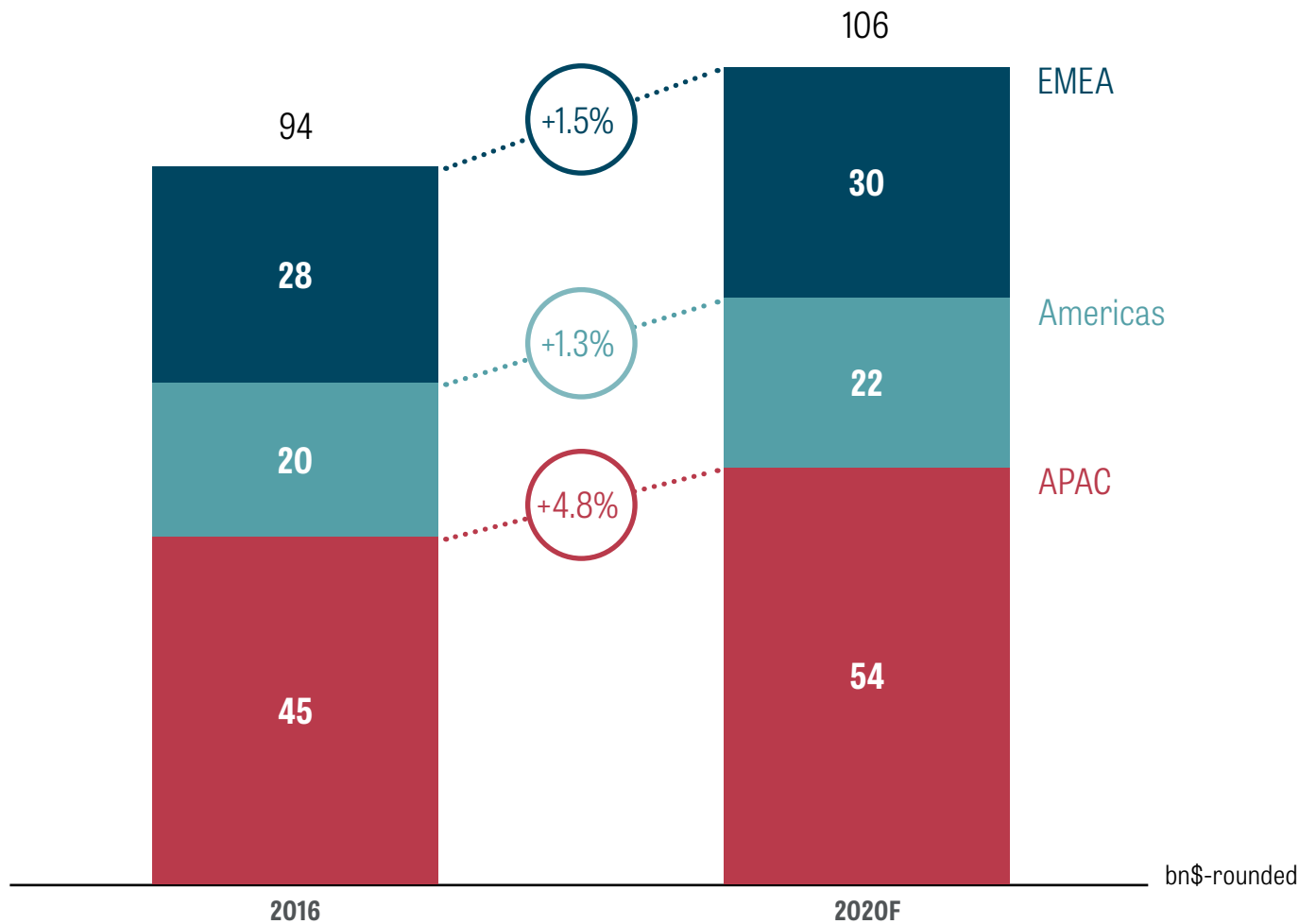
REGION SPECIFIC TRENDS

- **EMEA:** strong growth in **frontier markets**
- **Americas:** Rising industrial activity, **U.S. manufacturing**
- **APAC:** threat from **Chinese regulation**

➔ Middle East, Africa & Eastern Europe drive EMEA

➔ Saturation in developed countries, threat from plastic

GLOBAL MARKET FOLDING CARTON – GROWING END-USE APPLICATIONS IN ASIA



OVERARCHING GROWTH DRIVERS

- Growth exposure to **Healthcare, cosmetics and frozen food**, especially in Asia
- **Higher standard** packaging, esp. cosmetics & luxury products
- **Individualization** and premiumization in high-end segment
- Strong competition from flexible in **developed markets**

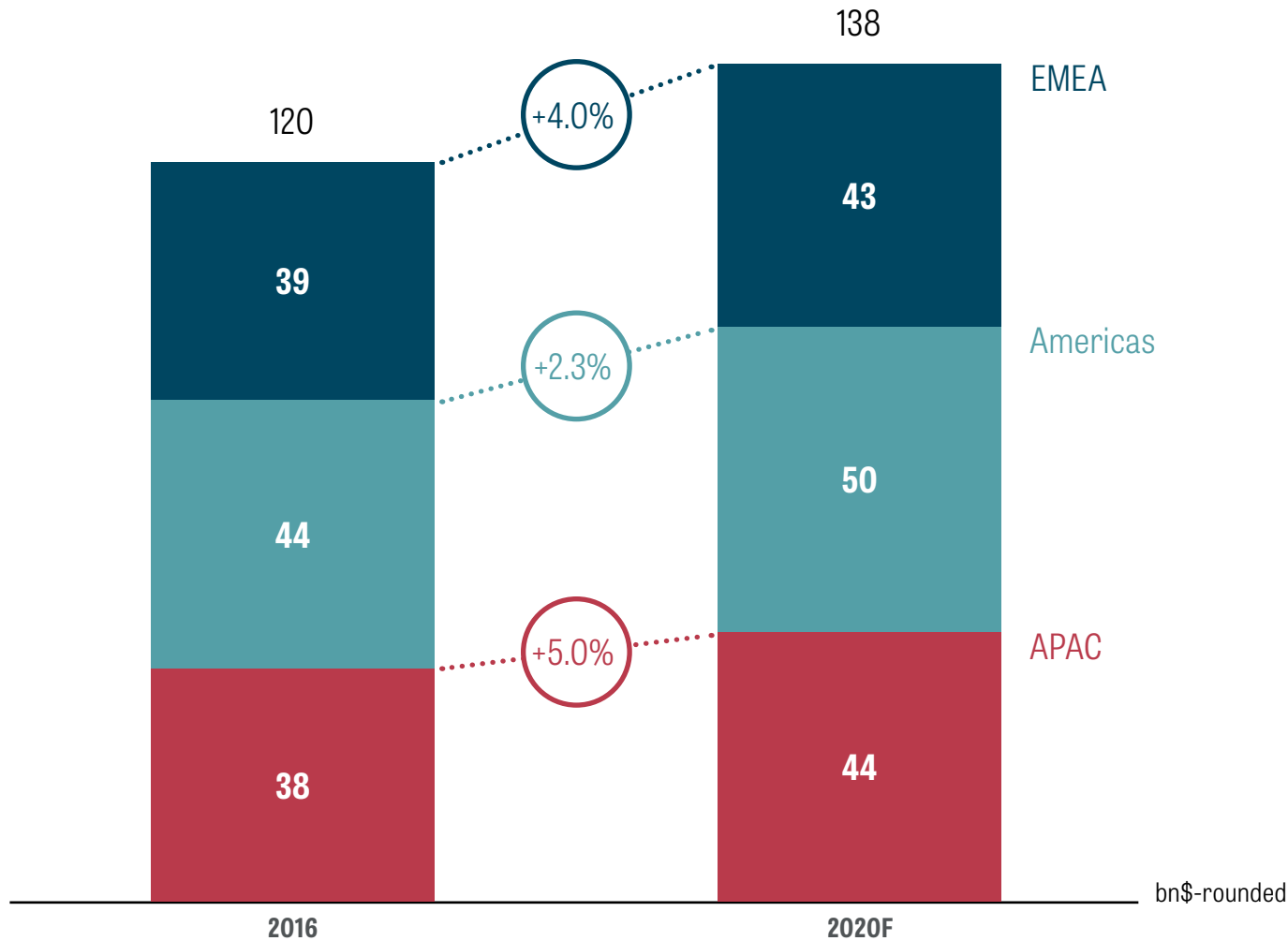
REGION SPECIFIC TRENDS

- **EMEA: Overcapacities** in production and saturation
- **Americas: Retail ready** packaging
- **APAC: potential** from low **per capita consumption**

➔ In 2020 APAC will take more than 50% of global market

➔ Food and healthcare in Asia drive growth

GLOBAL MARKET METAL PACKAGING – GROWTH IN LINE WITH MARKET



OVERARCHING GROWTH DRIVERS

- High portion **beverage cans**
- **Canned food saturated** in developed markets
- Competition from **flexible (pouches) and liquid carton**
- Improvements in **lightweight**, appealing **surfaces**

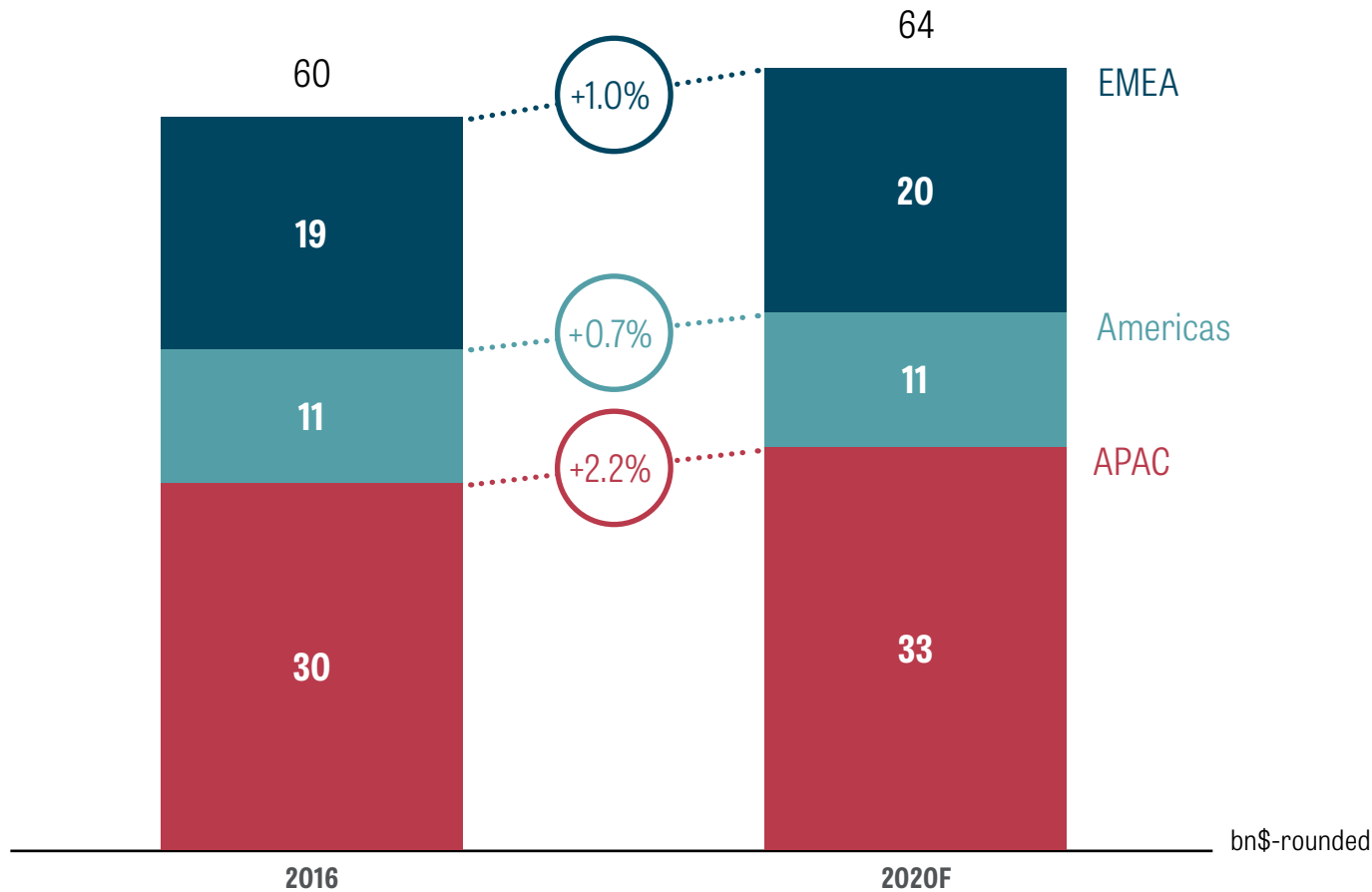
REGION SPECIFIC TRENDS

- **EMEA:** **health** and **environmental concerns** limiting
- **Americas:** high portion of **pre-cooked foods**
- **APAC:** **cultural preference** versus plastic, alcohol and soft drinks strong

➔ Even regional split and moderate growth rates

➔ Moderate growth driven by food & drink application

GLOBAL MARKET GLASS PACKAGING – GROWTH IN NICHE



OVERARCHING GROWTH DRIVERS

- Heavy to transport, but **more sustainable**
- Competition from **rigid plastic and metal**
- **Growth in niches** – luxury, fragrances
- Taste preservation and **aesthetic qualities**

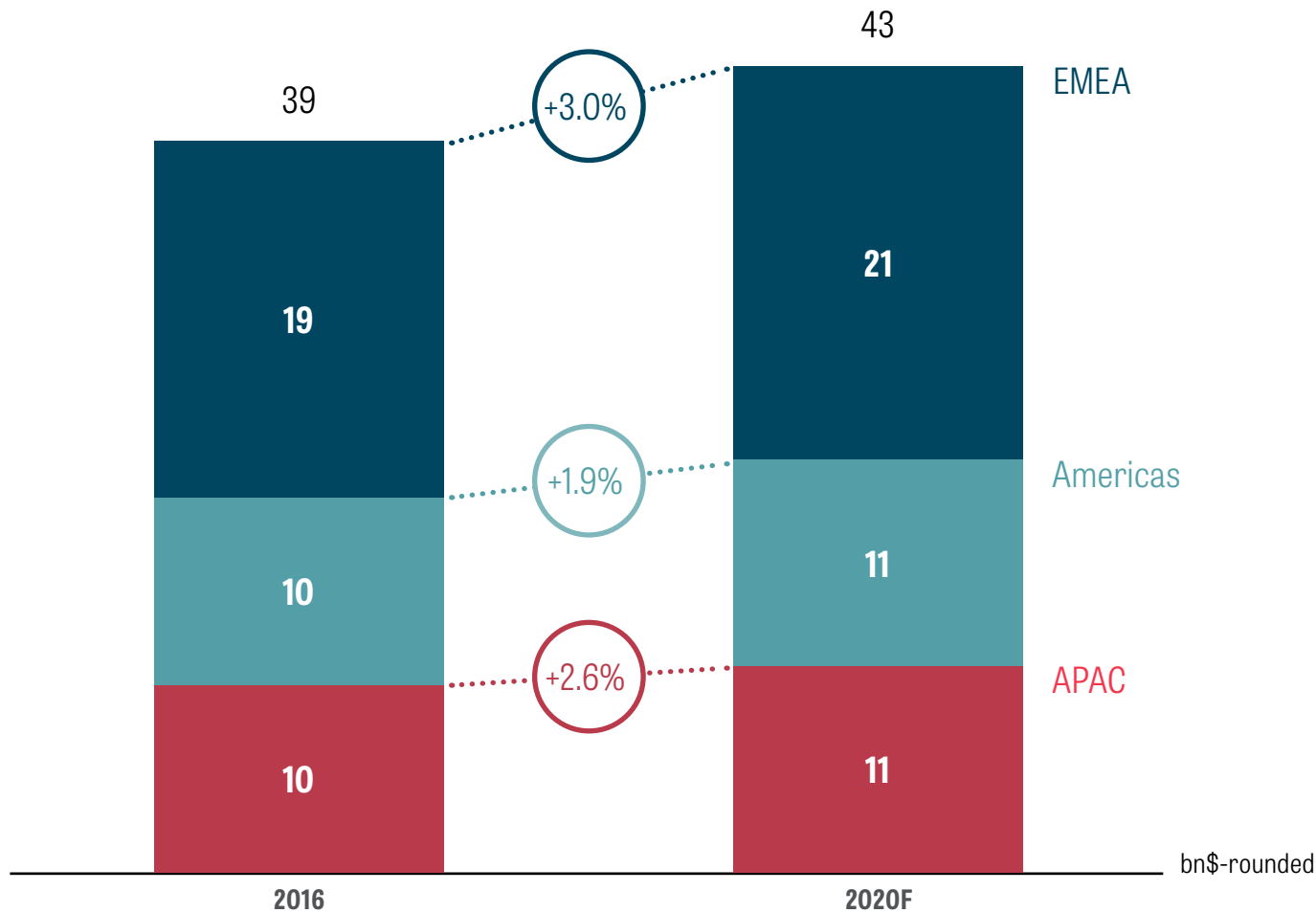
REGION SPECIFIC TRENDS

- **EMEA:** Growth in **high-end segment**
- **Americas:** **predisposition for plastics** rather than glass
- **APAC:** Growth in **cosmetics, alcohol** consumption

➔ Asia largest, developed countries saturated

➔ Growth in luxury and cosmetic niches

GLOBAL MARKET OTHER PACKAGING – MIXED DRIVERS AND DERIVED DEMAND



➔ EMEA ~50% of global market with moderate growth

OVERARCHING GROWTH DRIVERS

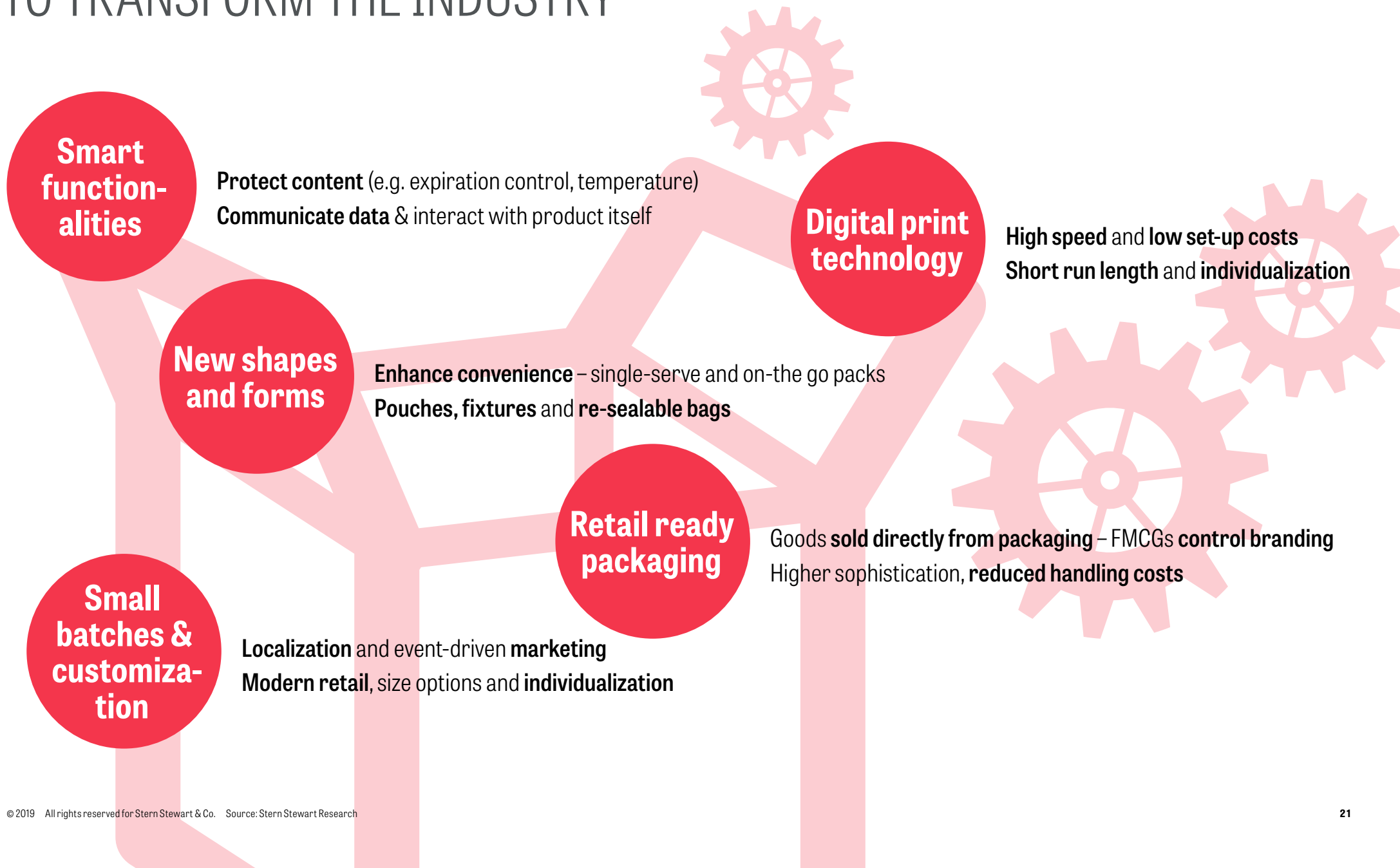
- Includes **pallets**, wooden **barrels**, **corks**, wooden boxes
- Strongly tied to **beverages and food**
- Correlations with **rigid plastic / glass**
- Heavy, but **sustainable** materials
- Pallets grow with **industrial output**

REGION SPECIFIC TRENDS

- **EMEA**: growth with **economic development**
- **Americas**: growth in **manufacturing, construction**
- **APAC**: Chinese **export**, **alcohol** consumption

➔ Small market with strong link to main packaging types

PRODUCT TRENDS TO TRANSFORM THE INDUSTRY



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