



WMF 2018

– Session 2 –

Which KPI's for using Materials Smarter, Less and Longer

Guala Closures approach



Guala Closures Group

WMF KPIs 2018: Relevance for GC

How we «Use Less»

How we «Use Smarter»

Concluding remarks



Guala Closures Group Values





Guala Closures Group Strategy

Driving Value in Closures Markets



From Standard to Added Value



Simple Closure



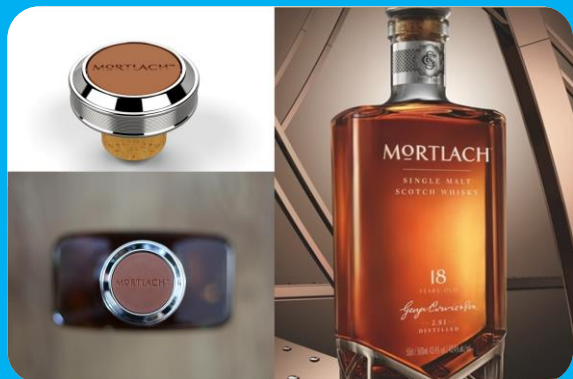
Safety non refillable closure



Luxury Closures



Our Passion



WAK®
Trust your potential

Endless Customization Solutions

Choose your colours, sizes, shapes, and benefits from the most advanced techniques of silkscreening, hot-stamping, offsetting, lithography and embossing.

Customize your OTR!
For a longer and a better quality wine conservation, Cencosol® developed in collaboration with MGJ, allows you to fine tune the aging of your wine.

ONYX 100% black	IVORY 100% white	CORAL 100% red
Density: 960 kg/m³ Thickness: 2 mm Frame: Aluminium-PVDC OTR: 100000 cc/m²/24h	Density: 960 kg/m³ Thickness: 2 mm Frame: PVDC-Clear OTR: 100000 cc/m²/24h	Density: 960 kg/m³ Thickness: 2 mm Frame: PVDC-Clear OTR: 100000 cc/m²/24h

the premium closure solution for sealing and protecting natural and sparkling waters

Fit for a king

STANDARD RANGE

1031 OLIO
The safest

ALUSNAP OLIO
Premium protection

VERSÒ
The most practical

ONE WAY
Simple but safe

ROSC

- Aluminium shell + plastic inner cap
- OP version, pouring from glass

1235

- Aluminium outside, plastic inside
- 8 piece pre-assembled closure
- Non-refillable device



Long Lasting Trusted Partner

with world's leading spirits and wine companies

Global players



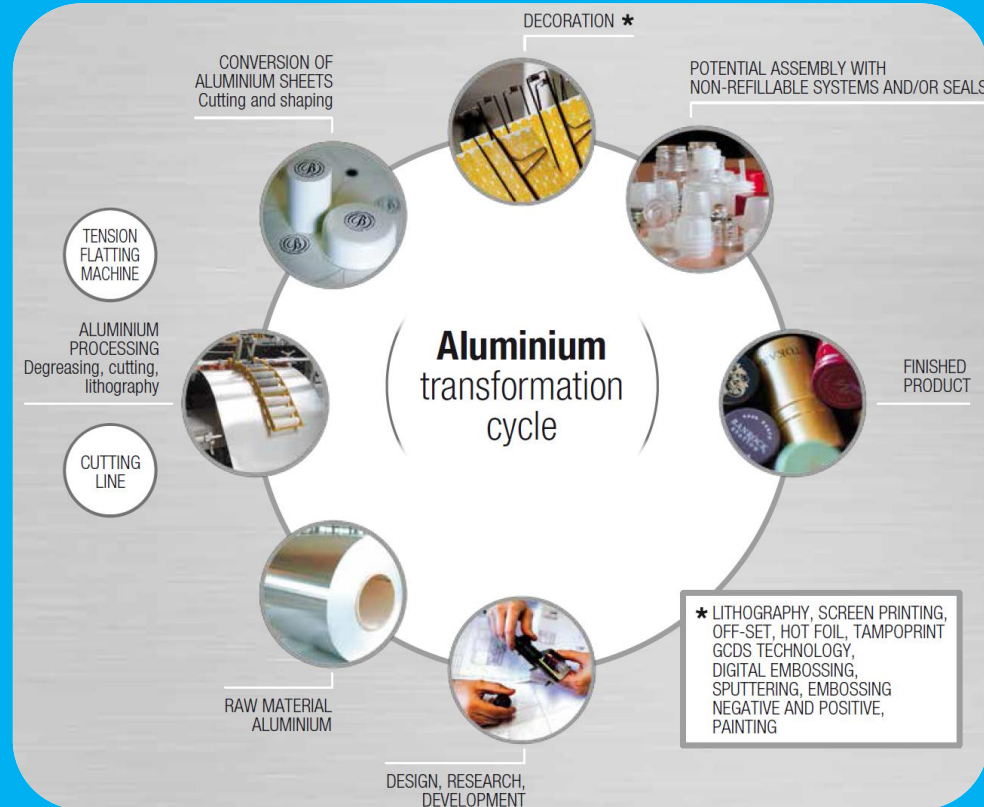
+

Regional champions





Production Processes



EMISSIONS



ENERGY



WASTE



RAW MATERIALS



WATER



EFFICIENCY



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WMF KPIs 2018: Relevance for GC

How we «Use Less»

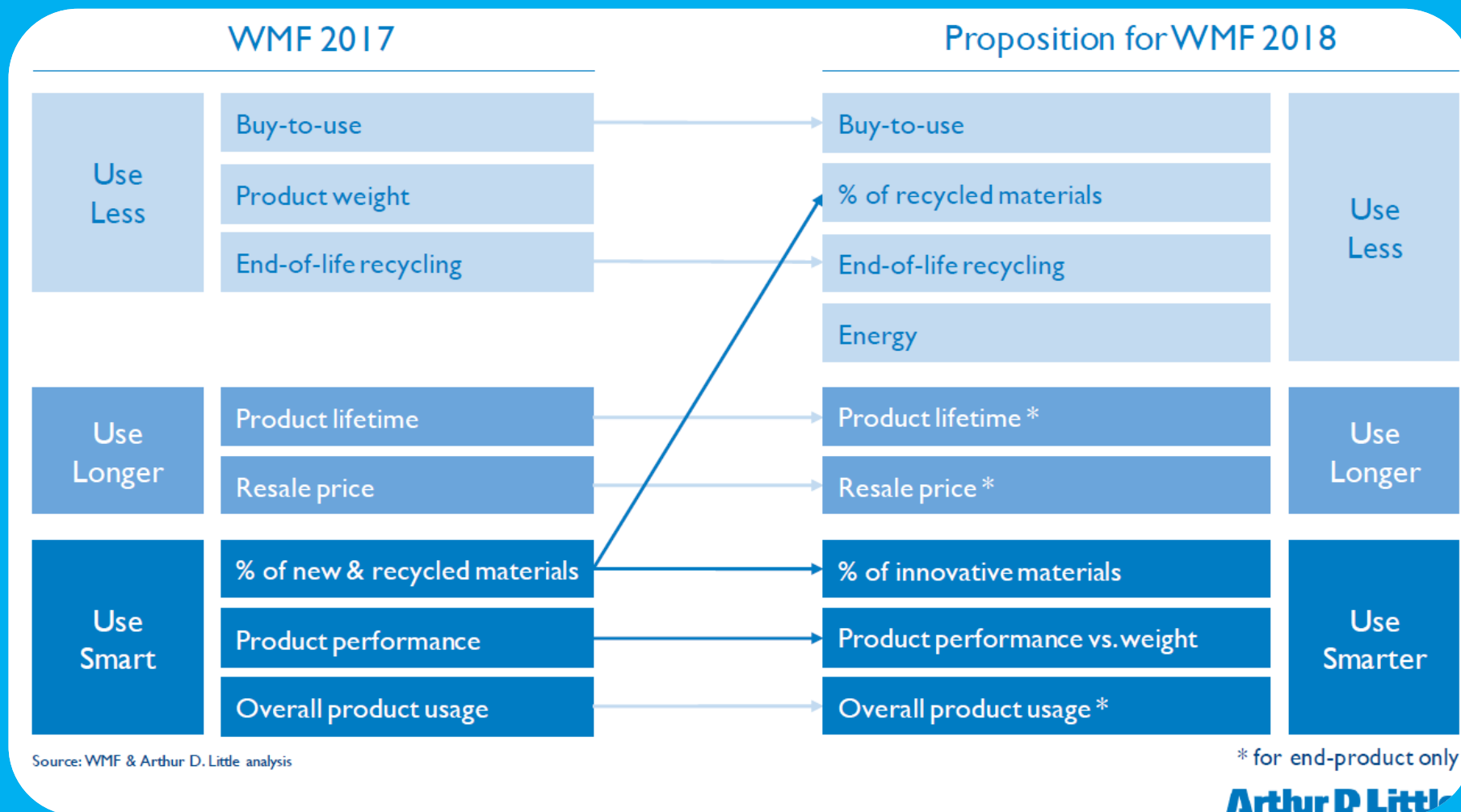
How we «Use Smarter»

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KPI's WMF 2018 for GC:

Use Less & Use Smarter are more relevant





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Use less:

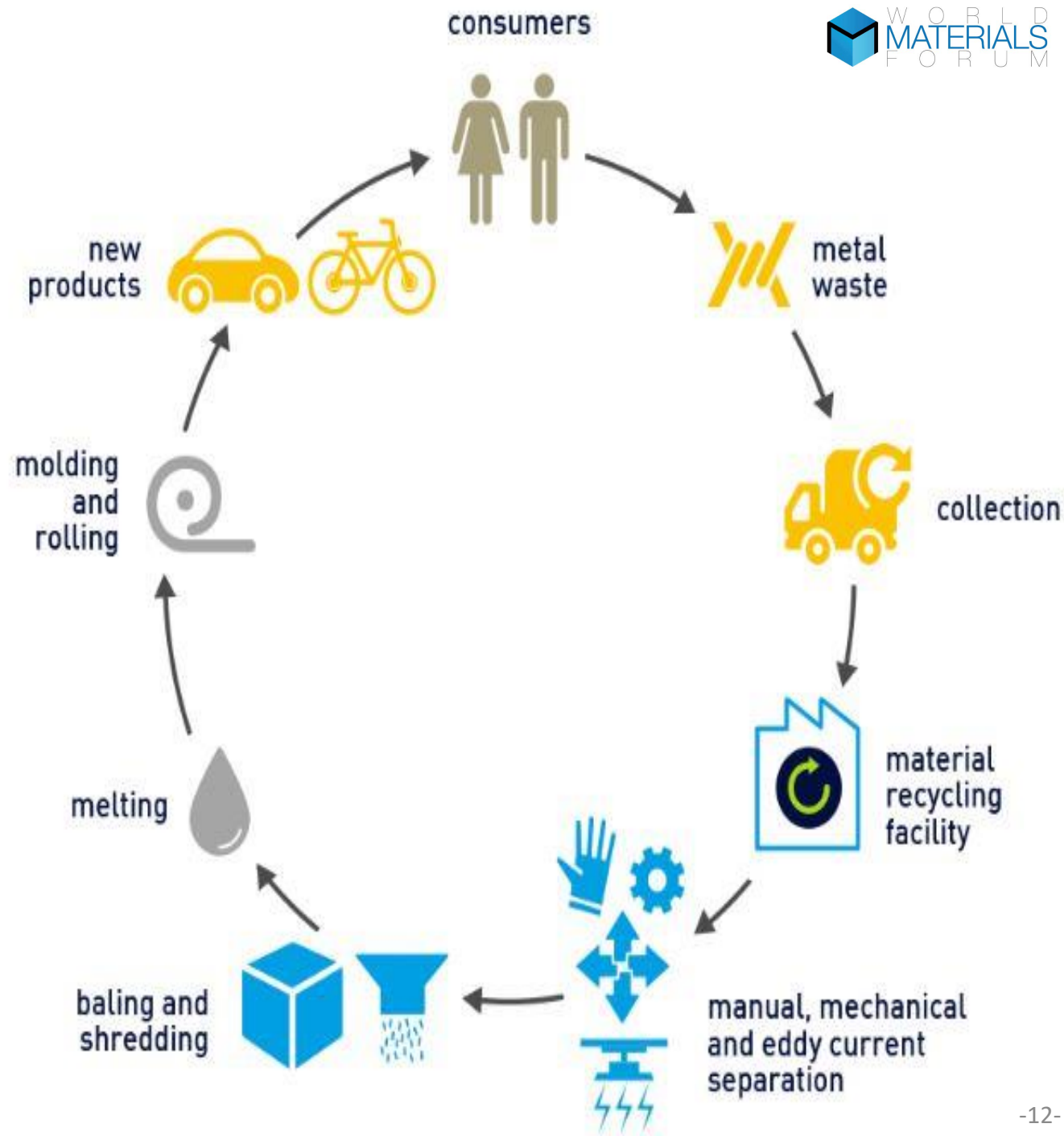
Use of recycled materials

■ % of recycled aluminium in our supply

Our suppliers certify that their material contains recycled aluminium: between 35% to 90%.

**FOOD
SAFETY
FIRST !**

Note: Due to stringent Food safety regulations, it is not possible to use recycled plastics resins in direct contact with food.





Use less:

End-of-life recycling

■ % of recycled aluminium (internal policy)

Aluminium scraps are compacted, fused and transformed back into raw materials. In Magenta, in 2016:

- Total Aluminium bought: 14.500 tons
of which 12.000 tons are from recycling

→ Recycled Aluminium use: 83%

■ Products developed towards full recycling:

- by our customers *e.g.* «Wave»:

130 Mio of closures are recycled every year and turned into
a different application,

→ saving > 2.100 tons of PE/year

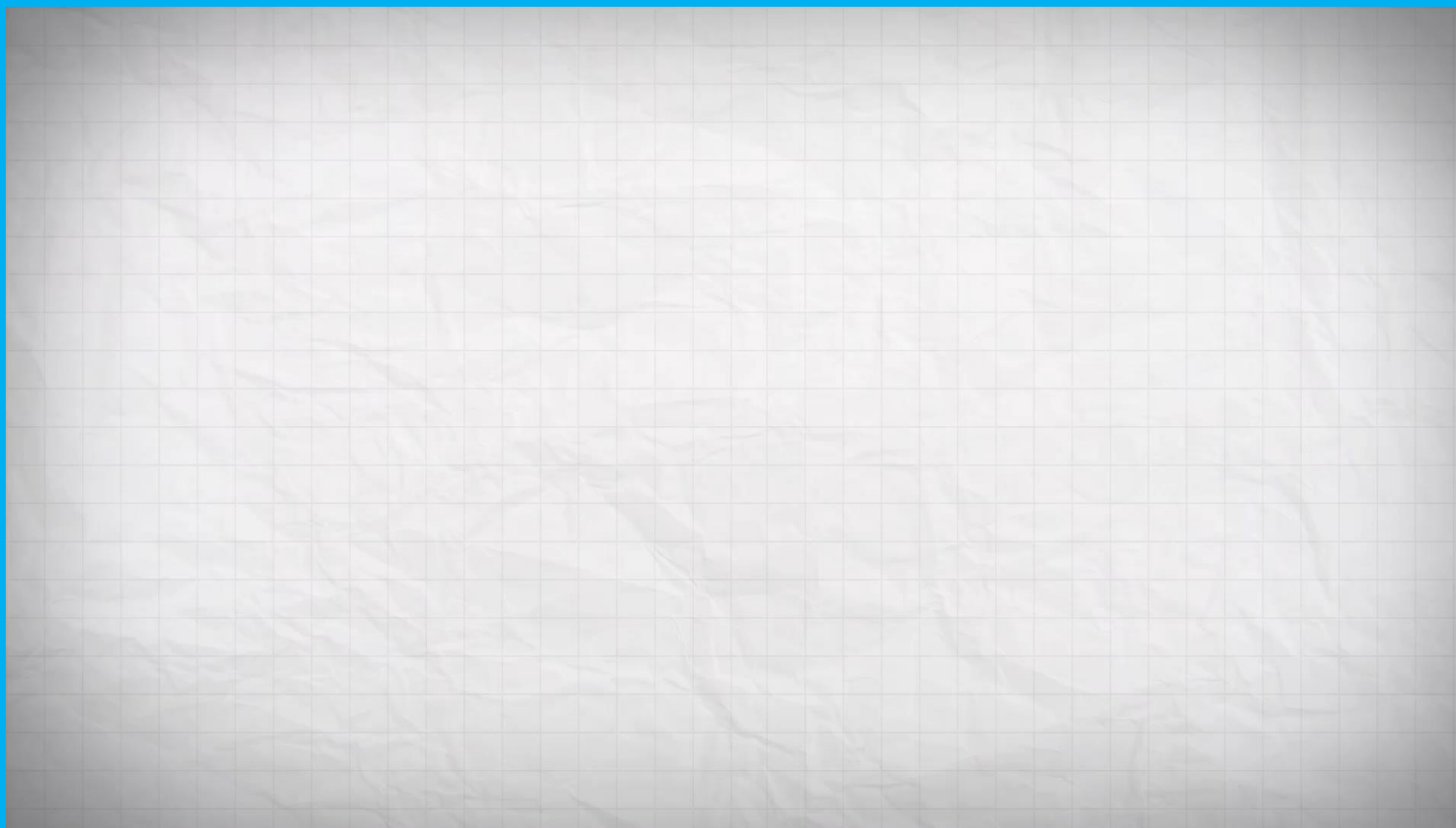




Use less: End-of-life recycling

- Products developed towards full recycling:

- by end users e.g. «Green Cap», to be launched in 2018 in Japan

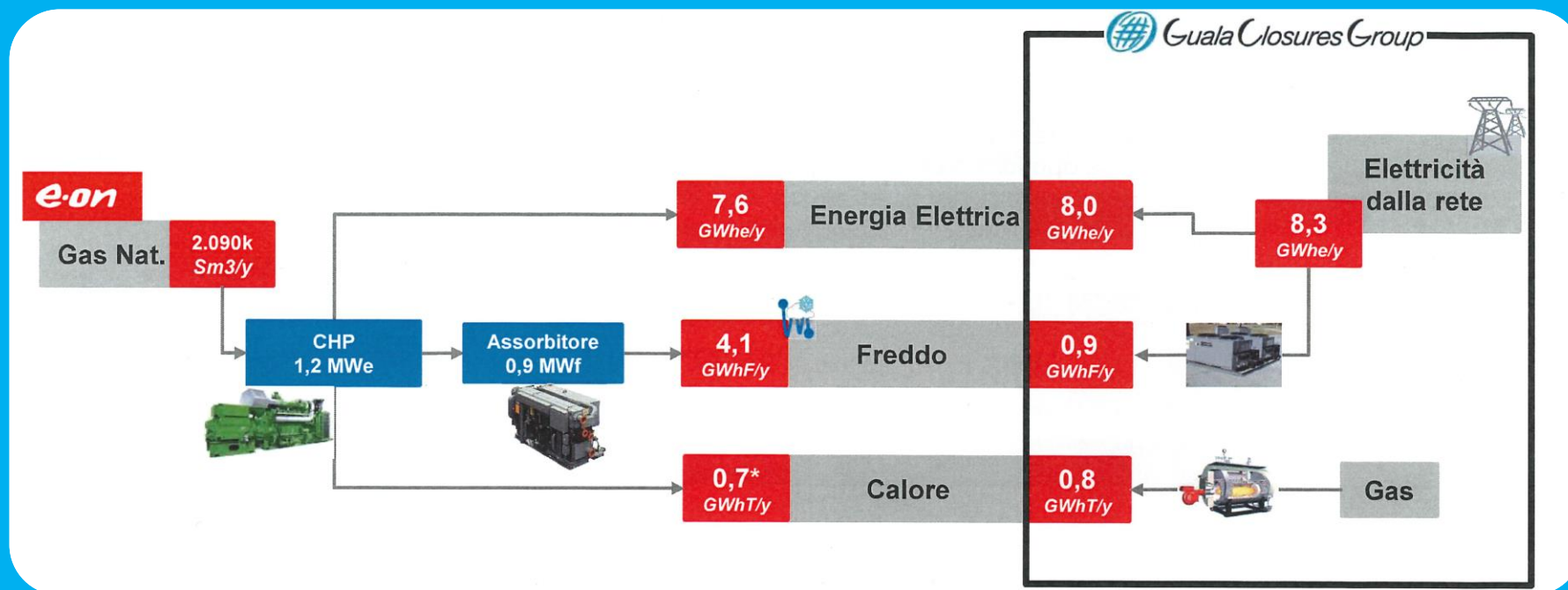




Use less: Energy

■ Energy consumption per finished product (GJ/ton Finished Product)

- Switching to electrical & hybrid injection machines : *e.g.* 40% conversion in Spinetta



■ Supply of energy from renewable resources *e.g.* 35% in our biggest plant in 2015, 25% in 2016



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Use Smarter: innovative materials

Use of alternative alloy to achieve down-gauging

For all short caps in Spain and Italy, Changing aluminium alloy enabled us to reduce thickness saving 4% of aluminium, 36tons.

SPECIFICHE DELL'ORDINE / ORDER SPECIFICATIONS					
Prodotto Product	lega alloy	stato fisico temper	spessore thickness (mm)	larghezza width (mm)	lunghezza length (mm)
NASTRO	3105 PK	H24	0,230	980	

Composizione chimica / Chemical composition [%]												
Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ga	V	Ti	Pb	N.Coil
0,1277	0,4424	0,0795	0,4140	0,5527	0,0054	< 0,01	0,0151	< 0,01	< 0,01	0,0385	< 0,01	3232000101
0,1209	0,4293	0,0849	0,3903	0,4760	0,0029	< 0,01	0,0120	< 0,01	< 0,01	0,0394	< 0,01	3231900101

Caratteristiche meccaniche / Mechanical Properties					
Codice rotolo / Coil number			3232000101	3231900101	
Carico di rottura/Tensile Strenght	Rm MPa		178,0	178,0	
Limite di snervamento/Proof Stress	Rp02 MPa		154,0	154,0	
Allungamento a rottura/Elongation	A50 %		6,1	5,6	
Erichsen	mm				
Anisotropia/Baring	%		1,40	1,40	
Durezza/Hardness	HB				

SPECIFICHE DELL'ORDINE / ORDER SPECIFICATIONS					
Prodotto Product	lega alloy	stato fisico temper	spessore thickness (mm)	larghezza width (mm)	lunghezza length (mm)
NASTRO	8011 PK	H14	0,270	1035	

Composizione chimica / Chemical composition [%]												
Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ga	V	Ti	Pb	N.Coil
0,5695	0,9354	0,0771	0,0288	0,0102	0,0019	< 0,01	0,0137	< 0,01	< 0,01	0,0239	< 0,01	3282700101



Use Smarter: innovative materials

■ Valorisation of local by-products

Residues from distillation processes can be used as natural fillers.

The advantage is twofold:

- Aesthetics and natural feel, aligned with current trends
- Reduction in the use of petrol-based resins

■ Use of Agave fibres from Tequila distillation in Mexico:

2018: 3 Mio overcaps planned
~ 30tons resin





Use Smarter: Product performance vs Weight

■ Standardization of minimum thicknesses:

Fostering the synergies of the Group and sharing best practices, seemingly minor differences can lead to significant material saving

230 tons aluminium saved going from 0.230 → 0.225 mm (*it is ½ A380!*)

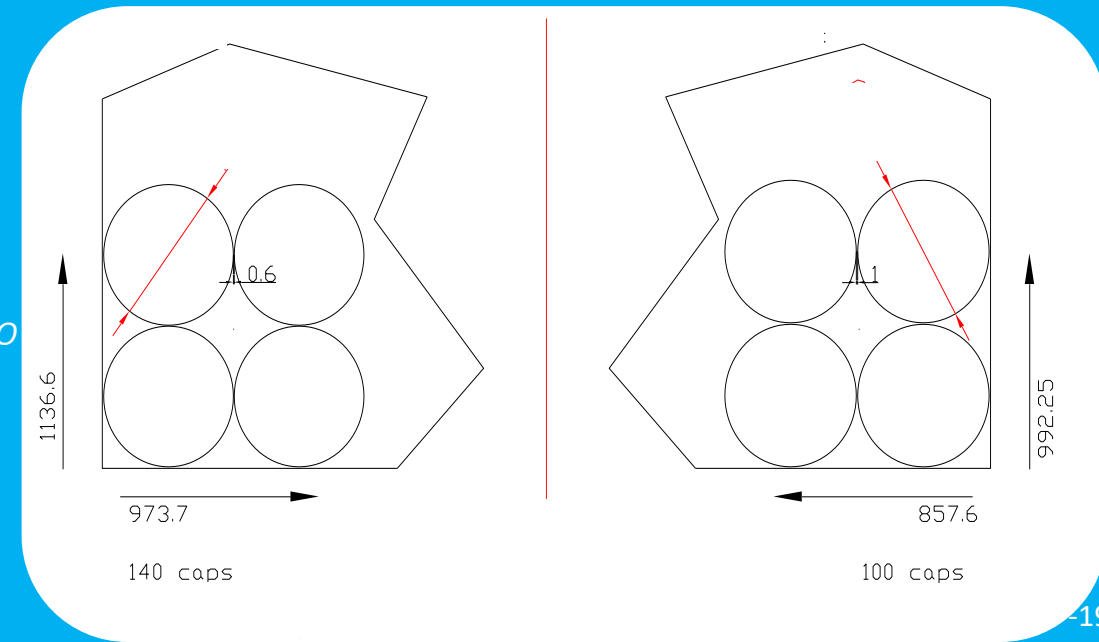
■ Optimized number of punched caps on larger aluminium sheets

1- Spring closures Italy: switch from aluminium strips to full sheets

→ Industrial scraps decrease by 3%
~ 40 tons

2- New Punching sequences in Poland, New Zealand & Mexico

→ Industrial scraps decrease by 4%
~ 300 tons





Use Smarter: Industry 4.0

With 27 factories in the world and a very precise know-how to teach, we started to work with industry 4.0 to improve production efficiency, decrease down time, work instructions, training, quality validation, maintenance thanks to augmented reality to replace human interface:

INDUSTRY 4.0





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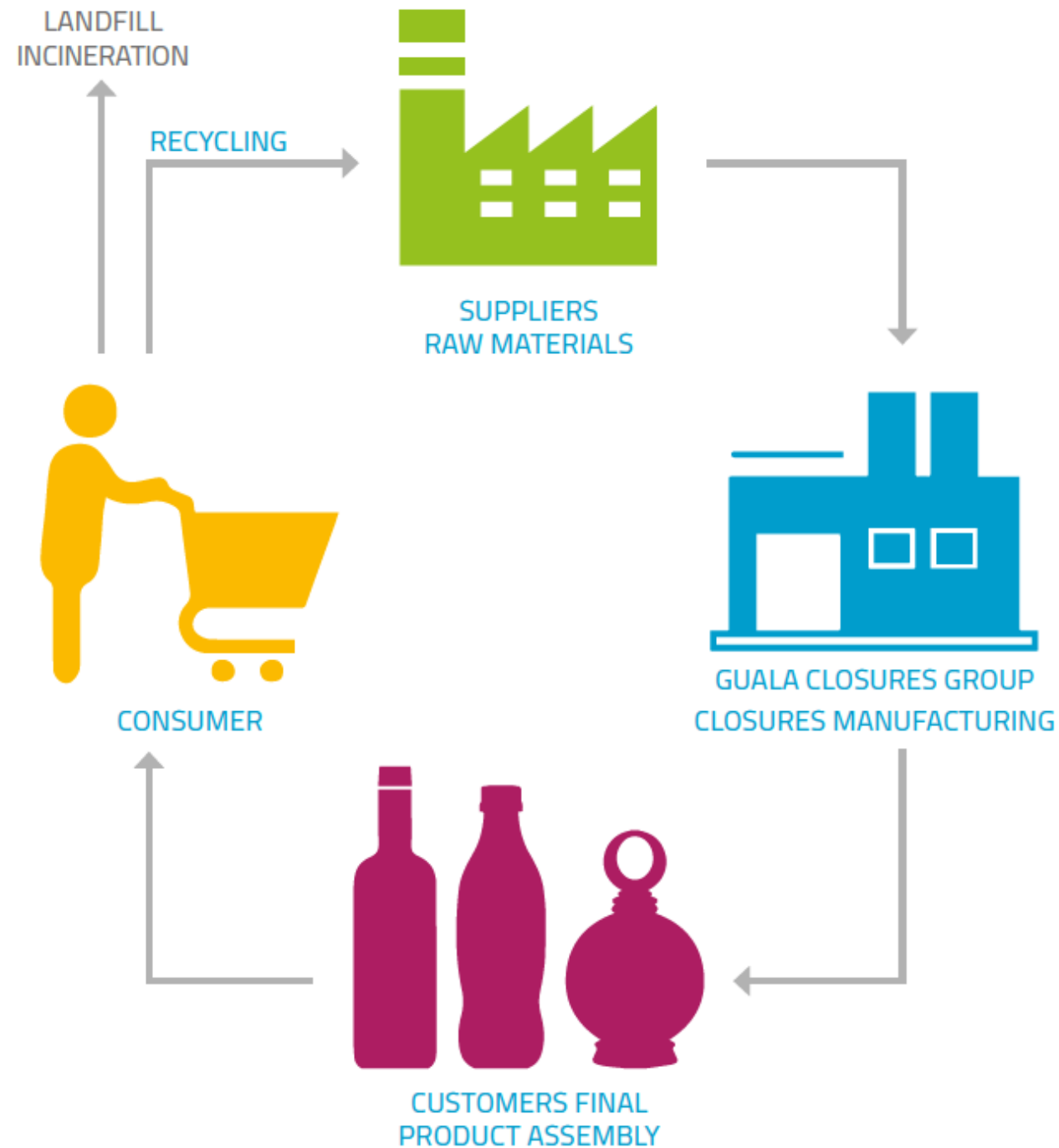


Since 2011,
Publication of GC's Sustainable Report...





...we are part of a complex supply chain...



... where partnership is of paramount importance...

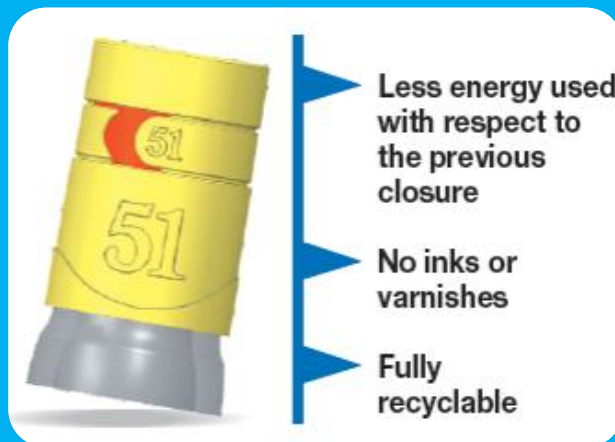
GC Brazil – «WAVE»



Innovative, minimum environmental impact
exclusively for the Cachaça 51 brand

100% PE:

- the material can be fully recovered
- shredded and re-used for other purposes



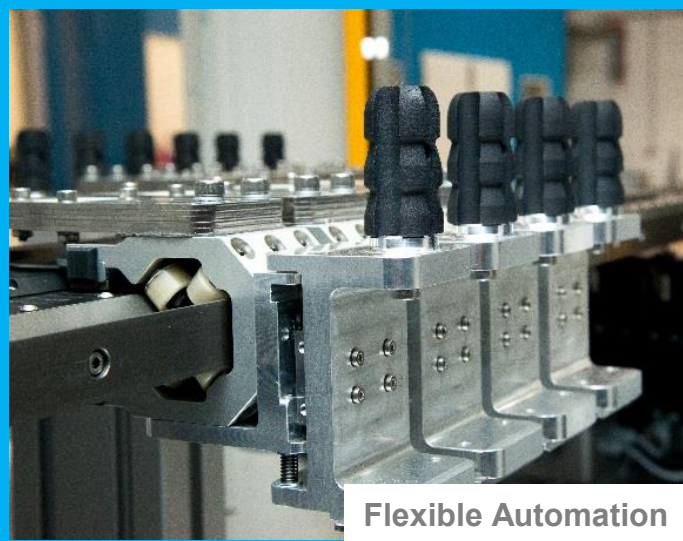
...as well as Innovation Process through
New Technologies



Magneto Shaping



3D Printing



Flexible Automation





Thanks...