

Philip A. Hodges
Executive Vice President Supply Chain

ENSURING AN
INTEGRATED WORLD-
CLASS SUPPLY CHAIN

**INTEGRATED
SUPPLY CHAIN**

Running a successful integrated supply chain

1. Continue building on the solid foundation led by Fund the Journey and SAIL'22
2. SAIL'22 priorities impacting supply chain
3. Providing Supply Chain solutions to changing consumer landscape
4. Driving margin improvement
5. Delivering against our Together Towards ZERO commitments



We have moved from pockets of excellence to global, integrated and end-to-end

THEN Patches of excellence



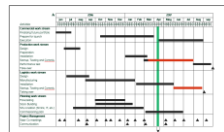
Health & safety routines



In-plant quality



Cutting SKUs



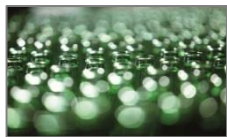
Capacity solver projects



Top tier in customer service



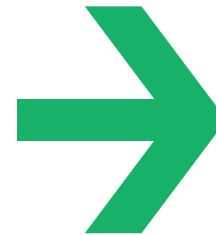
World class B&P



Traditional procurement levers



Reducing environmental costs



NOW Global, integrated, end-to-end



ZERO accidents culture



Beer-in-hand quality



Holistic portfolio management



Customer driven supply network



Maintain top SSL position



E2E efficiencies using COM driven Lean/TPM



Total cost of ownership



Environmental leadership

Unchanged objectives: deliver SAIL'22. Enable growth, optimise cost & assets and master processes

Enable commercial growth agenda

- Support innovation and premiumisation
- Respond to growth in complexity

Optimise cost and asset utilisation

- Carlsberg Excellence
- Gross/net Savings
- Capital Investment
- ROIC

Master cross-functional processes

- Digitalisation
- Transactional processes

Quality, health & safety, sustainability

TOGETHER
TOWARDS
ZERO



Measured against a balanced scorecard

Live by our Compass, our purpose and winning culture

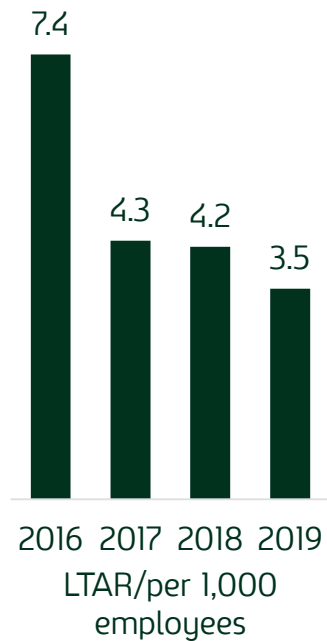
We are brewing for a better
today & tomorrow



We have improved the overall health of our operations

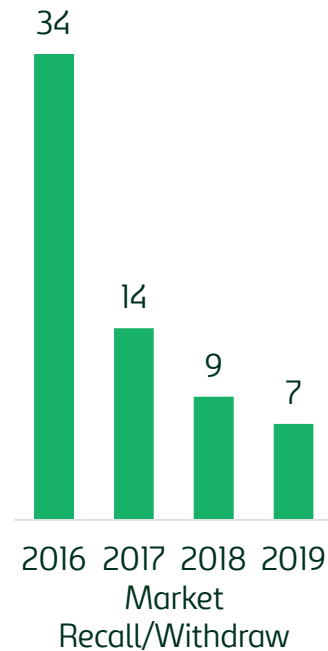
Lost-time accidents

Achieved significant reduction in LTAR...



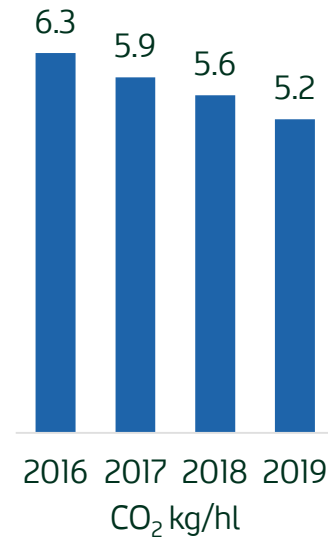
Quality

Boosted our public reputation...



Together towards ZERO

Meeting our sustainability targets...



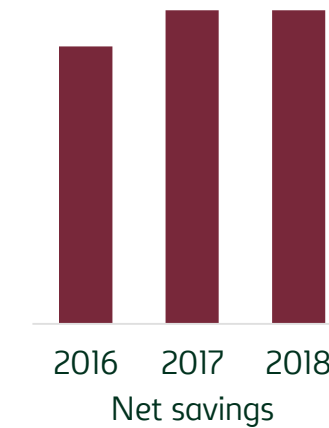
Production efficiency

Strong focus on Carlsberg excellence...



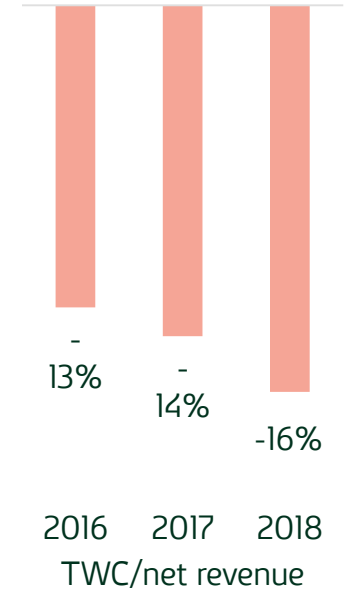
Funding the Journey

Delivered significant savings...



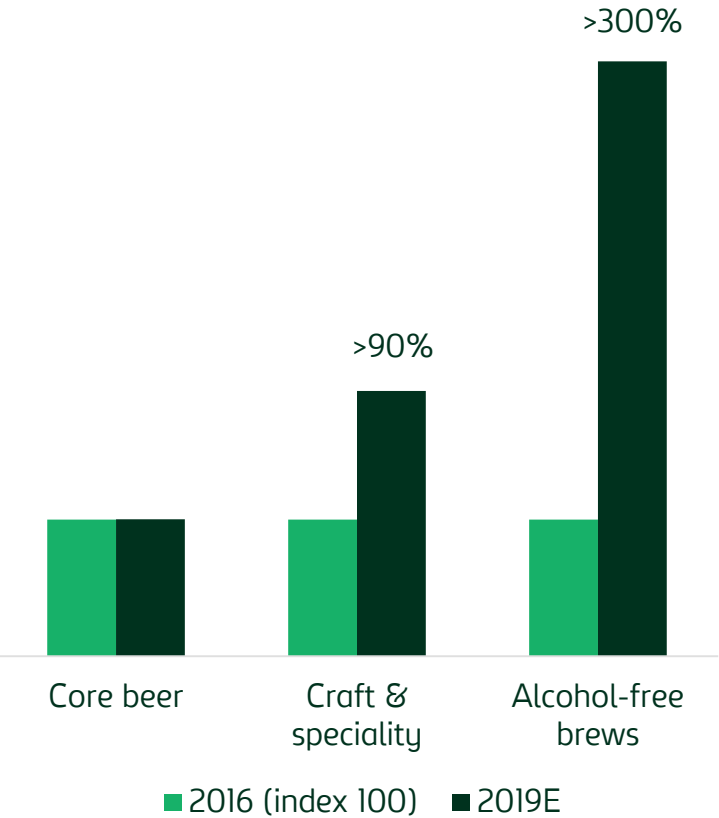
Production efficiency

Maintained a disciplined cash focus...

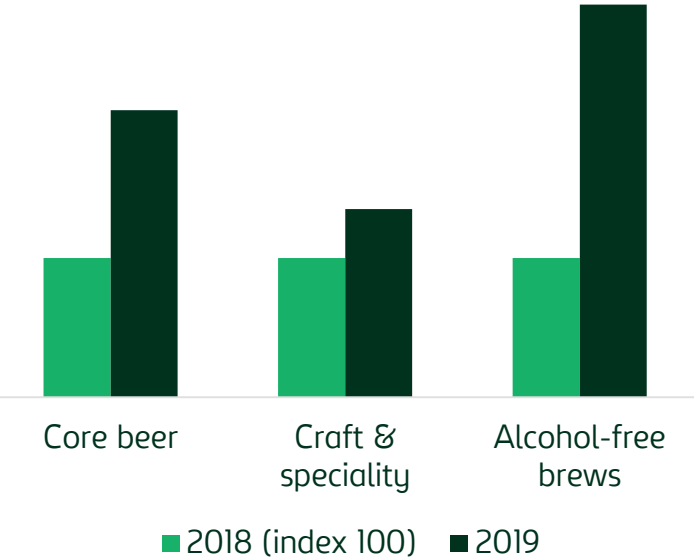


Our supply chain must manage volume growth in Asia and an increased level of complexity across the Group

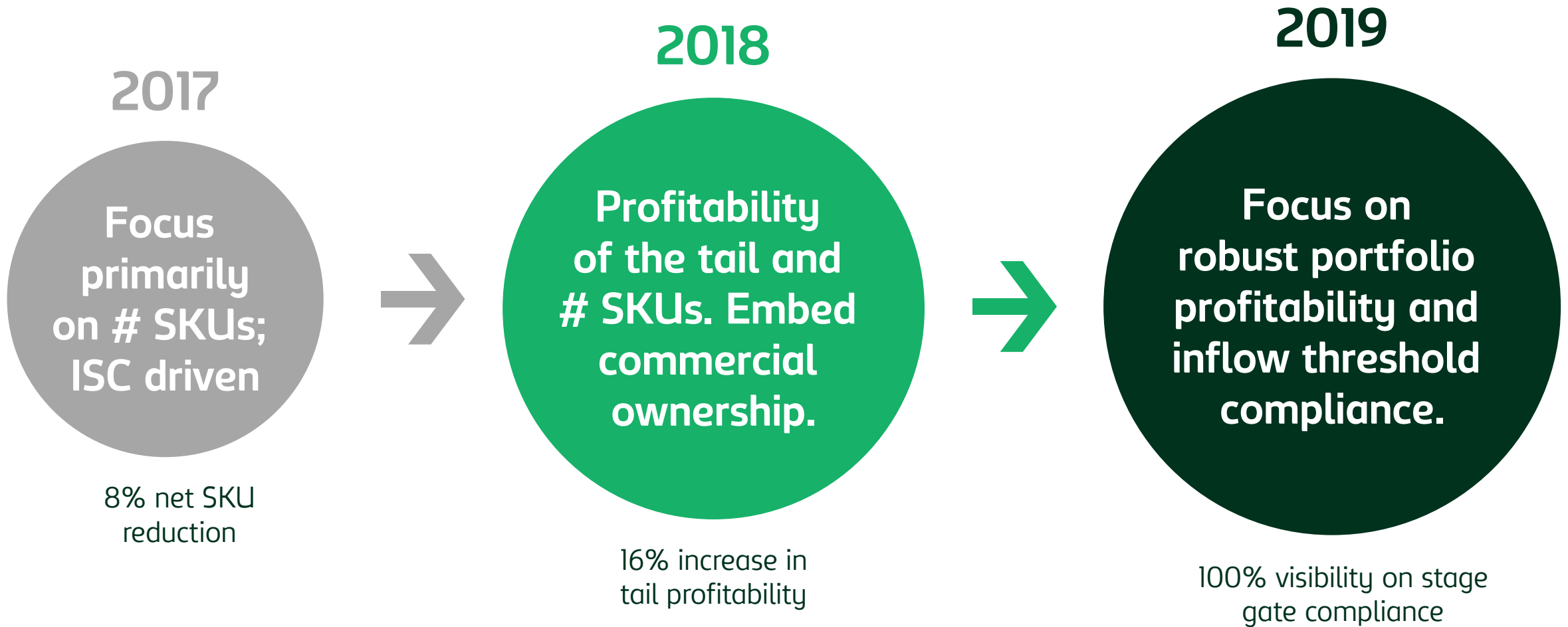
Growing categories...



... and increased level of innovations



We are managing portfolio complexity and strengthening capabilities in the organisation



We are transforming core operations & aligning our structure to the consumer shift

BREWING AND PROCESSING

Large breweries

- Big batch sizes

Flexibility through late differentiation

- Big mother brews differentiated at filling

Brewery in Brewery

- Build smaller brew sets in large brewery
- Leveraging scale

Increase microbreweries

- Small, specialised brew
- Build on local heritage
- Innovative brews

FILLING AND PACKING

Scale “high capacity” lines

- Change minimum order quantity to e.g. 1 shift

Match filler capacity to run requirement

- Smaller fillers

Install “flexible” Lines

- Efficient smaller runs
- Quick change-over modules
- Multiple end pack solutions

Microbrewery

- Small runs, complex portfolio
- Semi-manual equipment



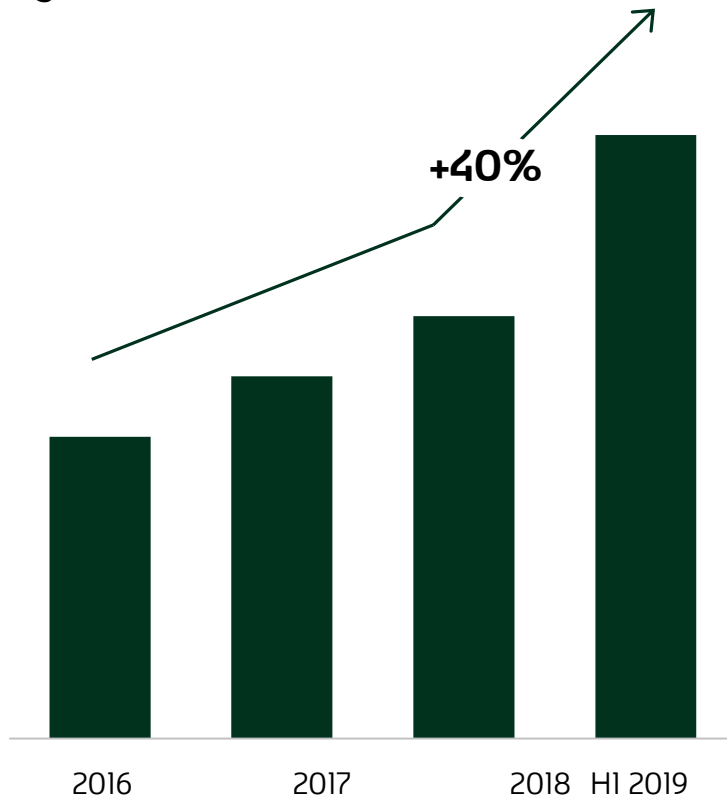
Our network of micro-breweries increases, serving as “hot beds” of new brews

-> 2017	2018	2019	2020
6	13	15	18
Ny Carnegie SE EC Dahls NO Aldaris LV Valaisanne CH Zatec CZ Jacobsen DK (Ph 1)	Valaisanne Brew Pub CH Svyturus LT Berlin Container DE Astra Brewpub DE Ringnes Brewpub NO Tigre Brewpub FR Nizhniy Novgorod RU	London Fields UK Tian Dao C&S China	Jacobsen in Fredericia DK Valby Brew Pub DK Grimbergen BE Cardinal CH (Jacobsen becomes brewpub)



Supporting the continuous DraughtMaster growth across regions

DraughtMaster volume growth



>15 line locations

NORDICS
Started full conversion

Norway (2x),
Finland
Sweden,
Denmark

WESTERN EUROPE
Continued growth

Portugal, Italy
Greece, Serbia,
Romania

ASIA
Started to test growth opportunities

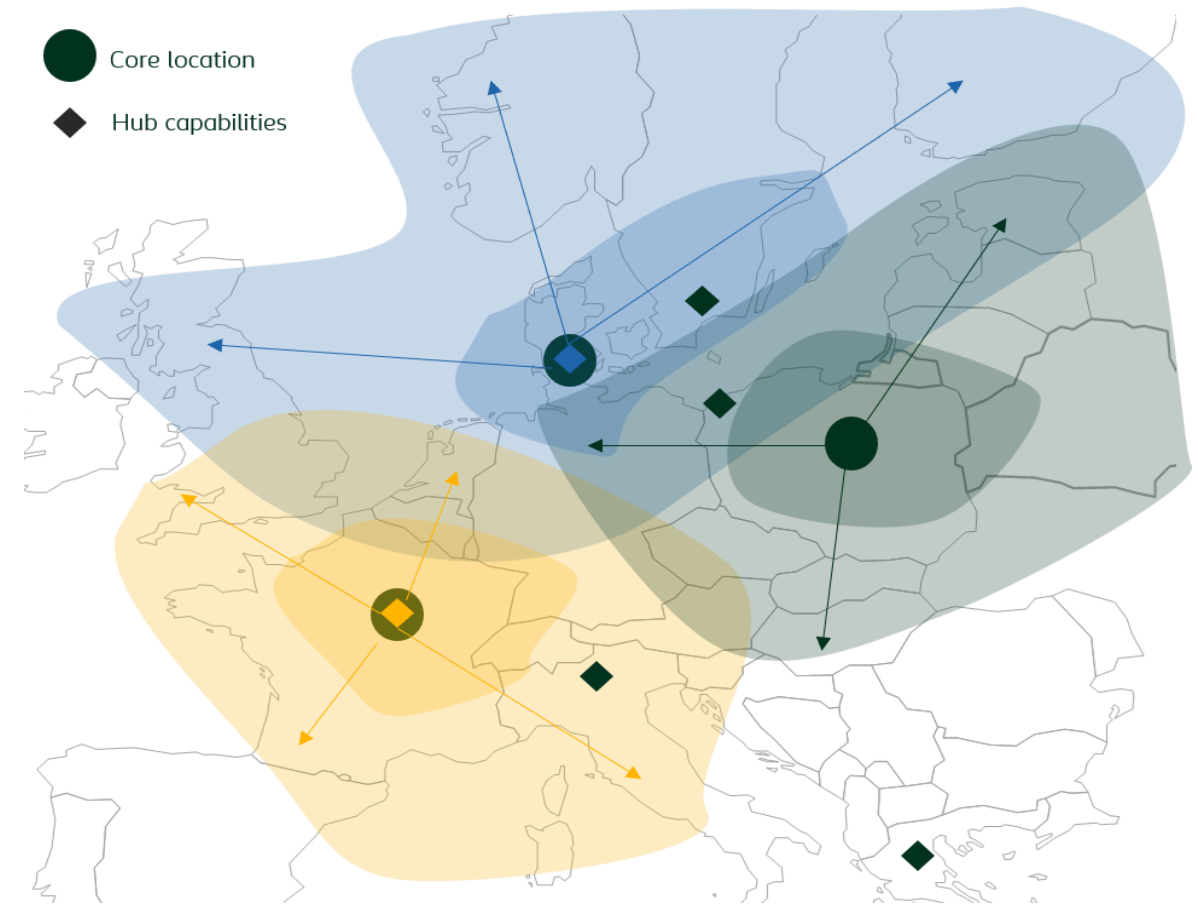
China, India
Malaysia



Handling the portfolio by optimising asset location while respecting heritage and Together Towards ZERO

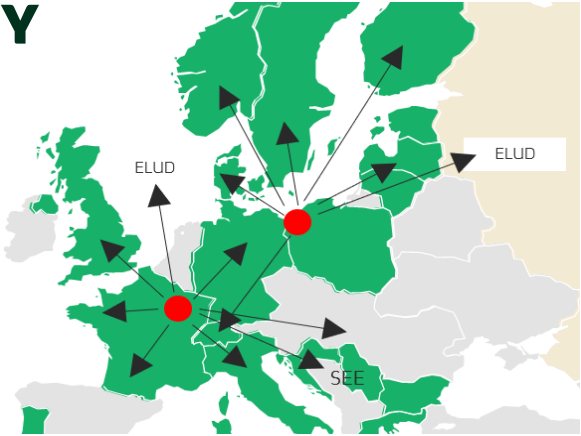
Specialisation in HUB locations drives asset investment decisions

- Scale for efficiency
- Standardise processes
- Firepower in the right locations
- Invest in brewing & processes and packing to create hubs for:
 - Segments
 - Pack types

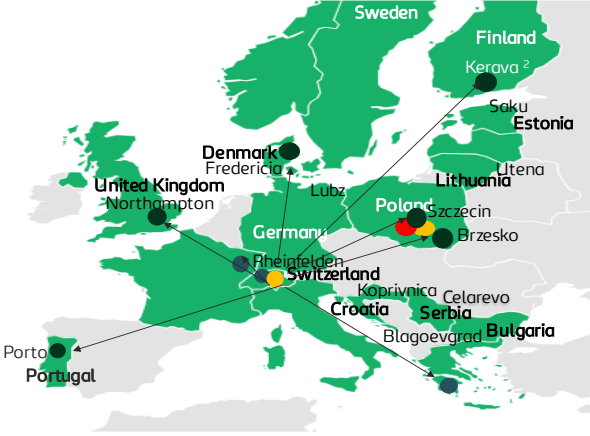


Network “hub” concept in Western Europe

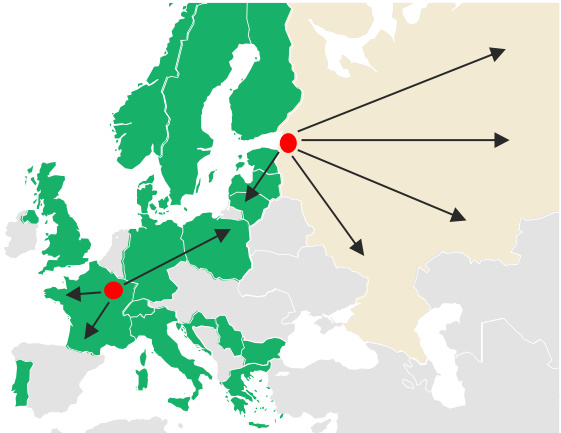
CRAFT & SPECIALITY Western Europe



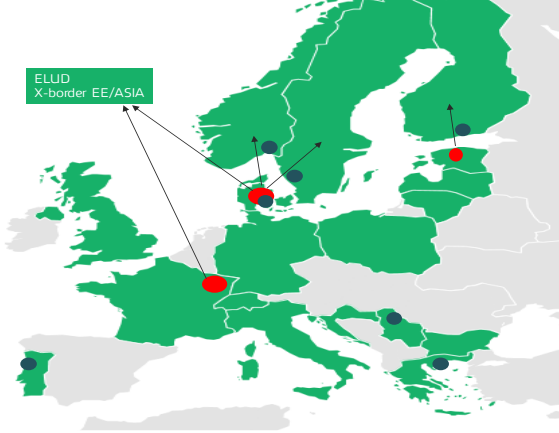
O.O BREWS Western Europe



BARLEY BROS St. Pete Obernai

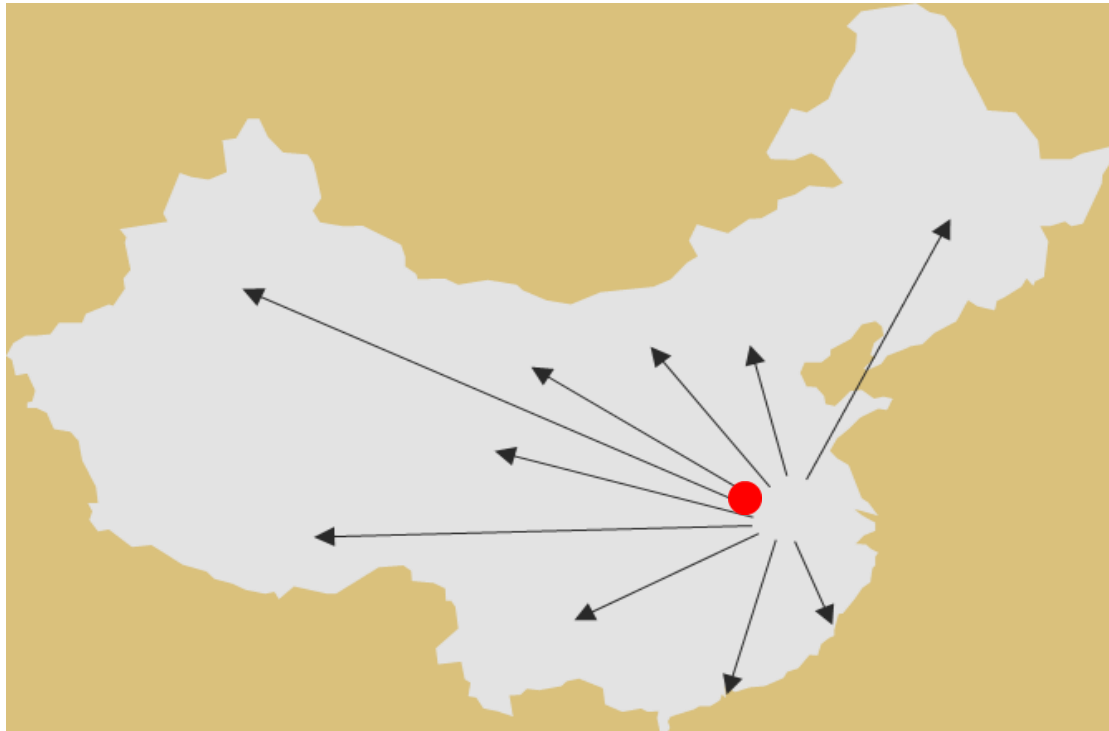


STEEL KEG Western Europe

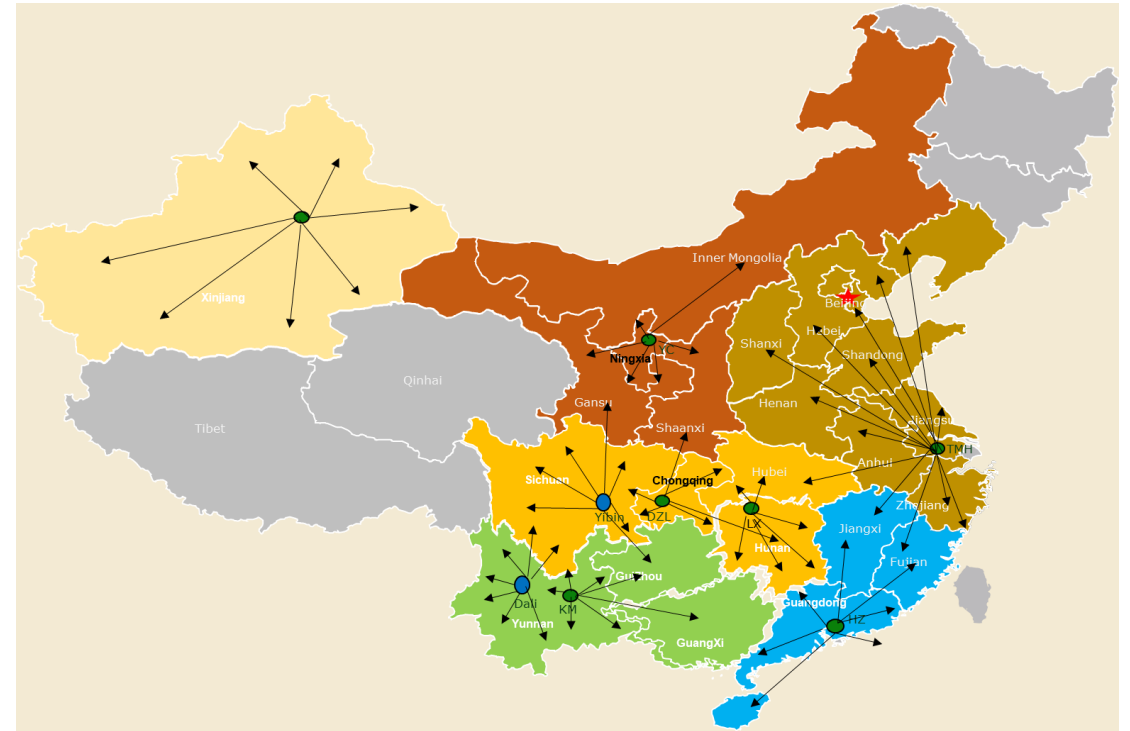


Growth in China is facilitated via national and regional hubs

National HUB drives efficiency on small batches of craft & speciality variants...



... and regional HUBs optimises network via demand-zone split



Our capex programme is driven by

Enable growth

Replace assets and infrastructure

Cost reduction/automation

Environmental commitments

Becoming more efficient and shifting capex to our SAIL'22 priority areas, supporting growth and premium-led complexity

EXAMPLES OF CAPEX IN COMING YEARS

Can capacity in China, Nordics



SnapPack can capability in UK, DK



DM roll-out Nordics, Asia



TTZ commitments, water management



ZERO CARBON FOOTPRINT



ZERO WATER WASTE

AFB capabilities in Europe, Asia



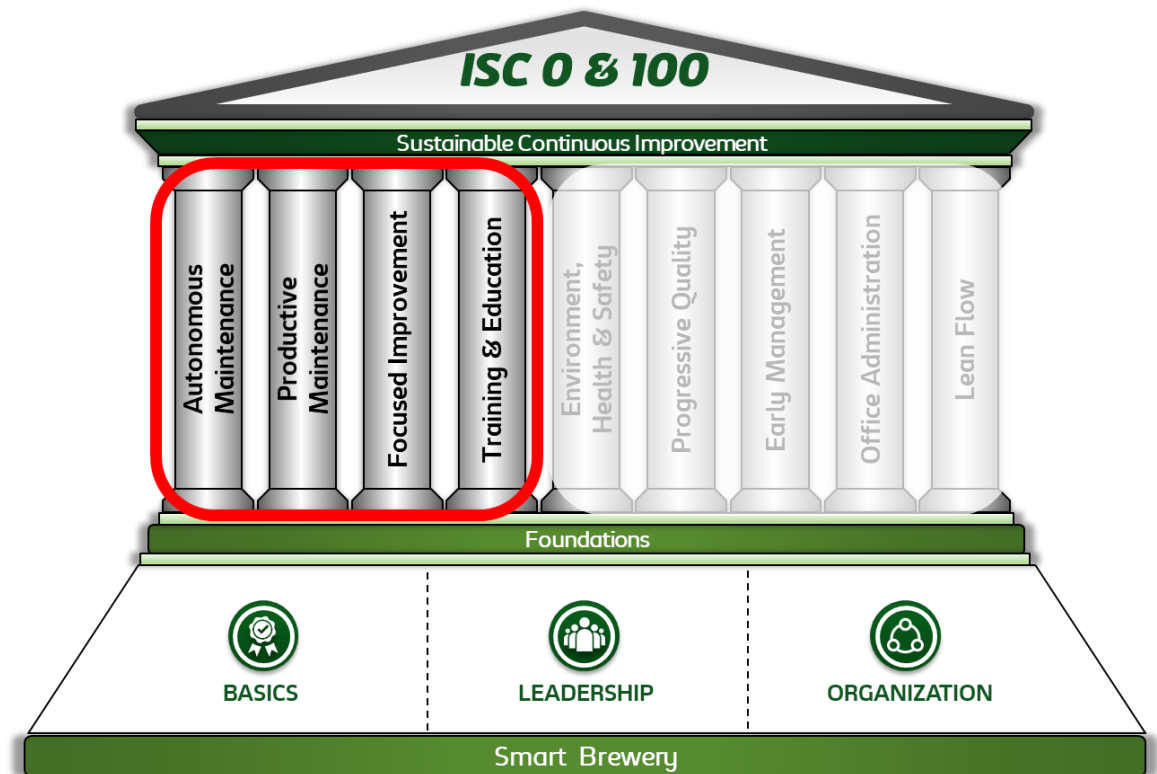
Increased line efficiency and “free” hectolitre generated through Carlsberg Excellence

CARLSBERG EXCELLENCE

One culture – One system – One language

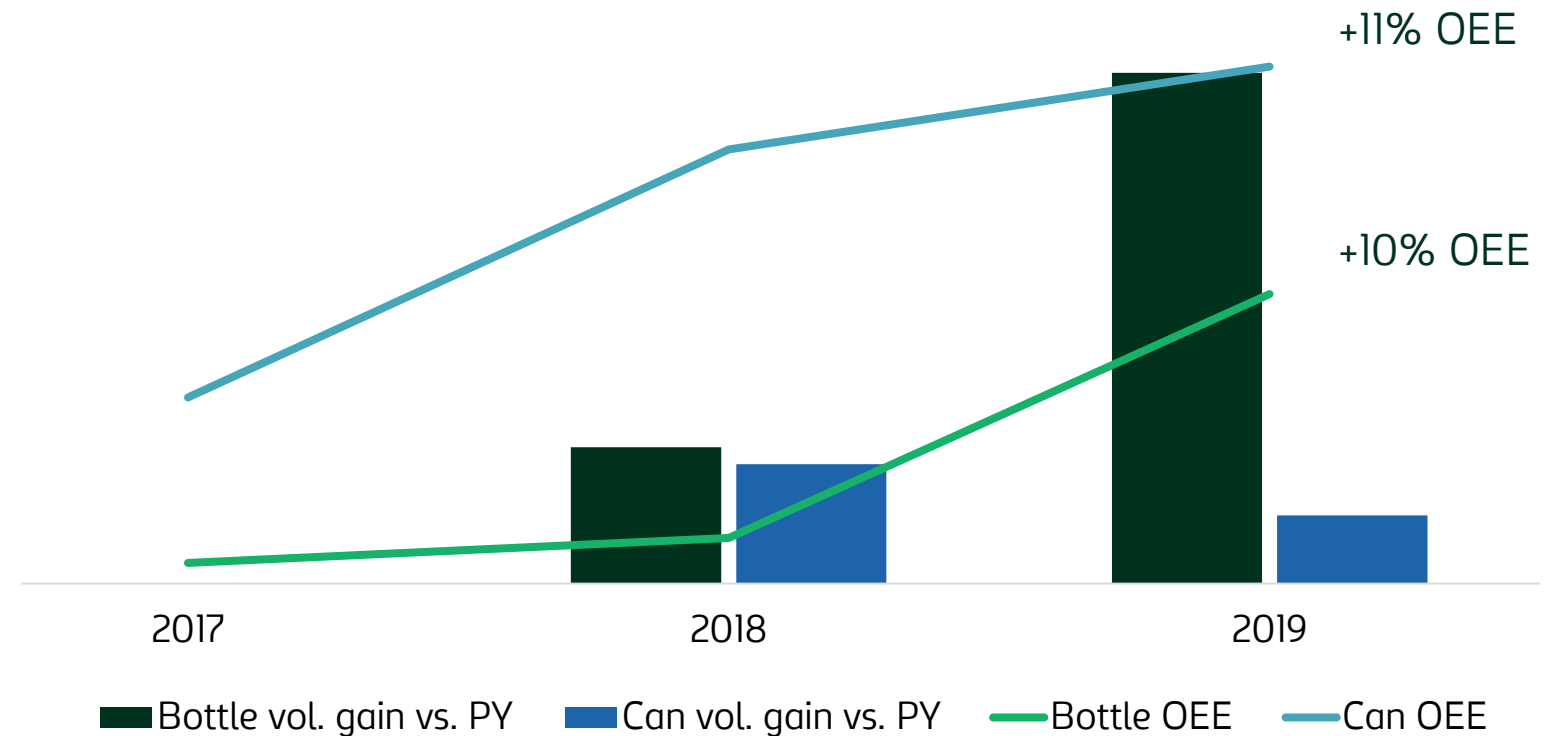
	2018	2019	2020	2021	2022
Breweries started	26%	63%	75%	80%	88%

- >10pp improvement in overall equipment efficiency
- Capacity released = 3-5 large breweries



Improving existing asset efficiency is a critical enabler for delivering on growth

Enabling China volume growth by improving OEE



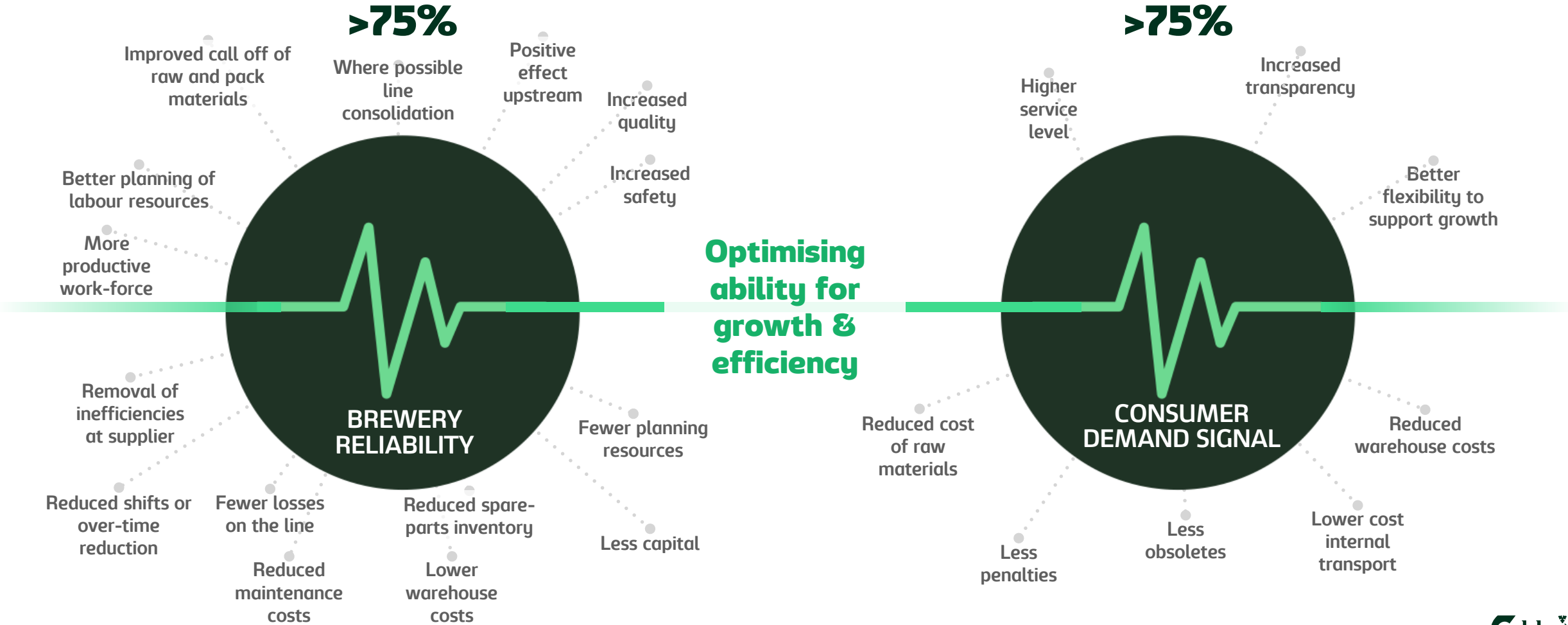
MAJOR DRIVERS OF OEE IMPROVEMENT

- Upskilling line colleagues
- Upskilling maintenance teams
- Breakdown/defect rate reduction
- Minor stops reduction

OEE IMPROVEMENTS HAVE UNLOCKED

- 4 million hl bottle capacity (equivalent to 5 lines)
- 0.6 million hl can capacity (equivalent to 1 line)
- Economies of scale

Building a smart supply chain with digital, improving line reliability and demand forecasting accuracy



Promising digital solution under development to alleviate expected planning bottlenecks

Improvement of demand forecasting
Traditional → Machine Learning

FRANCE OFF-TRADE DIGITAL VS CURRENT PLANNING SYSTEM

3 MONTHS
OUT

+9 ppt

4 WEEKS
OUT

+9 ppt

1 WEEK
OUT

+15 ppt

SKU ship from
warehouse location

We will face inflationary headwinds, which we will manage through our gross savings programmes

COMMODITIES / FOREX

- Hedges & spot purchases (barley, alu, sugar, etc.)

GROSS SAVINGS

- Value excellence (light-weighting glass)
- Procurement contracts (long-term commitments)
- Brewery/W&D efficiencies (CarlEx)
- Fixed cost reduction (overhead benchmarking)

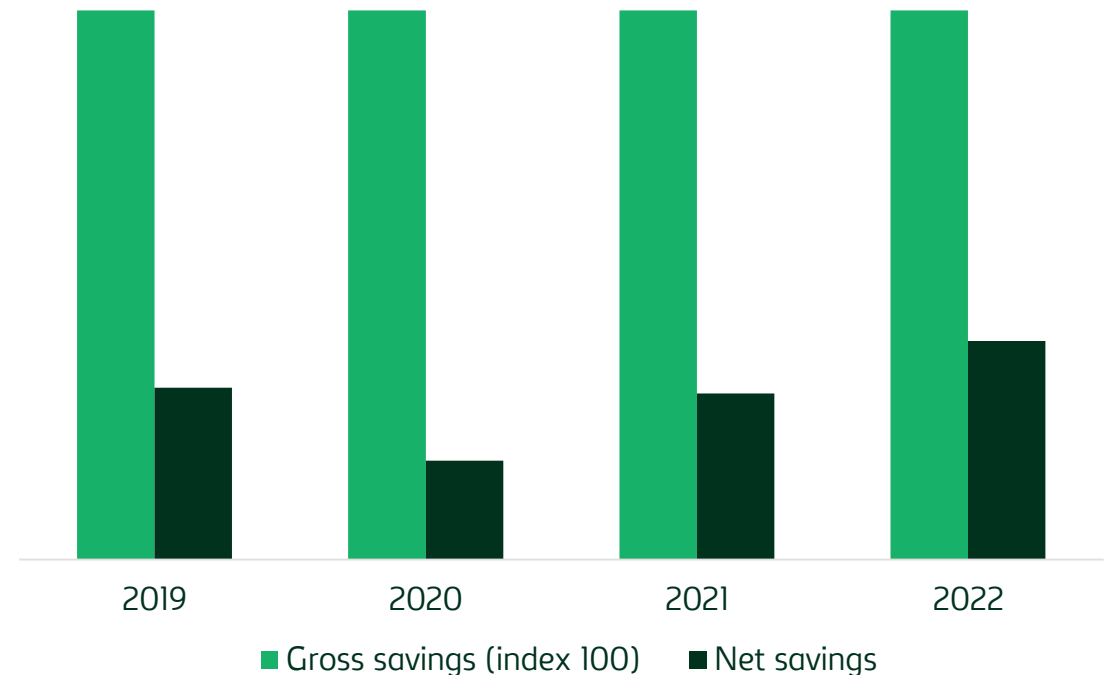
NEGATIVES

- Inflation (glass, labour)
- Depreciation (capital investments)
- External events (rail road closure, CO₂ shortage)

NET SAVINGS

- Result to the P&L

Gross versus net savings



Significant share of Western Europe net savings delivered via structural improvements in production

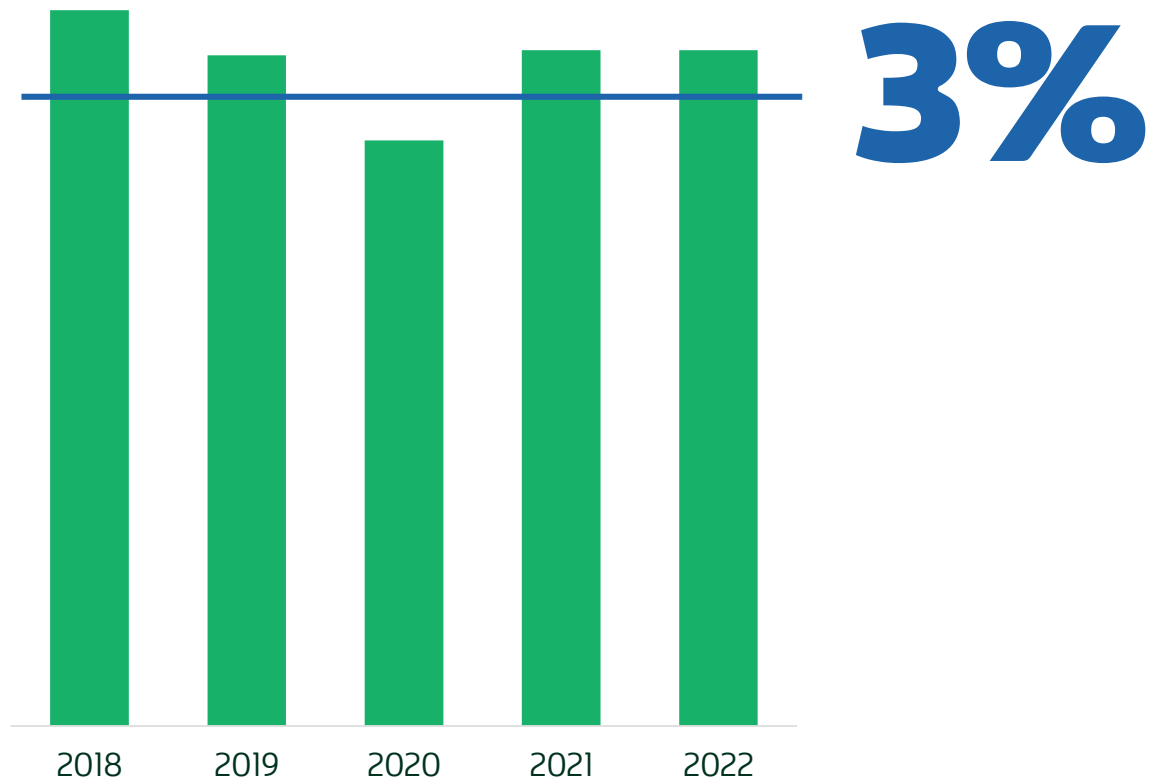
Structural cost base transformation will deliver net savings of ~3% in production costs year-over-year via

- Carlsberg Excellence, driving production to world class levels
- Line manning
- Network optimisation
- Central overhead reduction

New (patented) technologies

- Hop dosing
- Fermentation

Net savings from production



We continue to follow our strategic health & safety roadmap

HEALTH & SAFETY TOP OF MIND

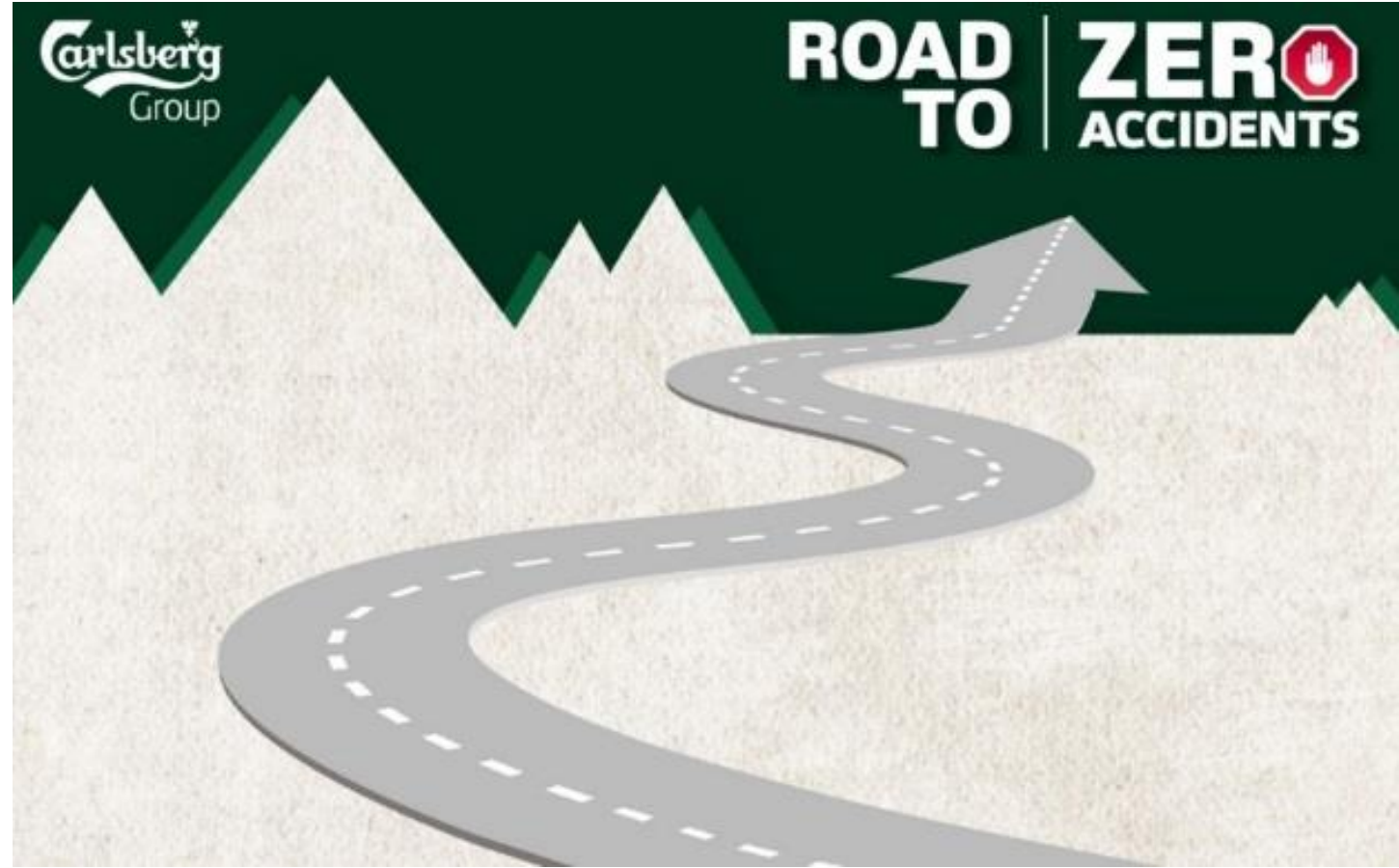
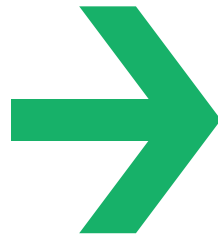
- Leadership training, shop floor engagement
- Life Saving Rules

ZERO FATALITIES AND SERIOUS INCIDENTS

- High risk activities
- Machinery safety
- Contractor management

RISK EXPOSURE REDUCTION

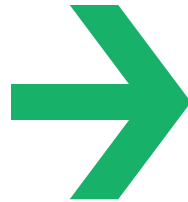
- Comprehensive risk assessments
- Occupational health management



Quality focus is on food safety and hygiene programmes



Consumers demand the right quality, every time

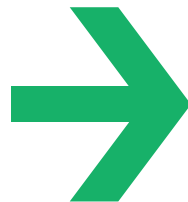


QUALITY PERFORMANCE MANAGEMENT

- Zero quality incidents, defects, losses



Alcohol-free brews - higher sugar content liquids

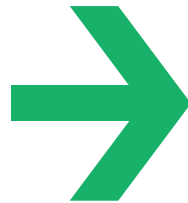


DEPLOYMENT OF QUALITY STANDARDS

- Increased minimum hygiene requirements
- Investment in infrastructure (floors, basement, walls)



Craft – new liquids, new risks



SEAMLESS INTERFACE WITH DESIGN QUALITY

- Clear product and processes standards
- Supplier capability

Our target of 30% beer-in-hand CO₂ reduction will require an end-to-end strategy, with particular focus on brewing and packaging

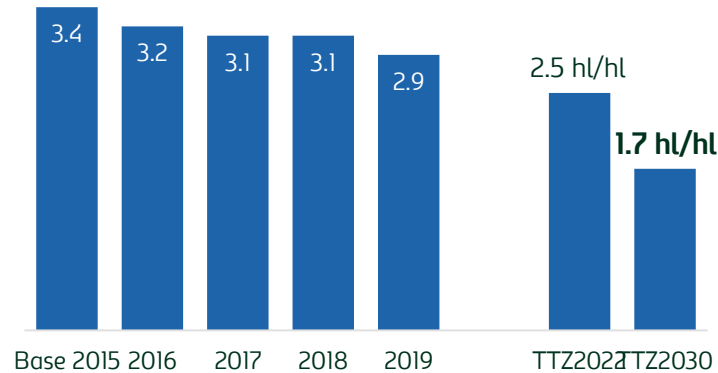
THE PROPORTION OF GREENHOUSE GAS EMISSIONS RELATING TO EACH STAGE IN THE LIFE CYCLE OF OUR PRODUCTS



	2022 (15pp)	2030 (30pp)
Breweries carbon-neutral	-7pp	-14pp
Leveraging packaging suppliers programs	-6pp	-11pp
Malting energy, logistics (e.g. e-trucks)	-1pp	-2pp
Refrigeration	-1pp	-3pp

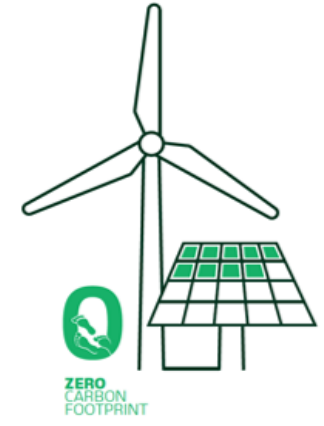
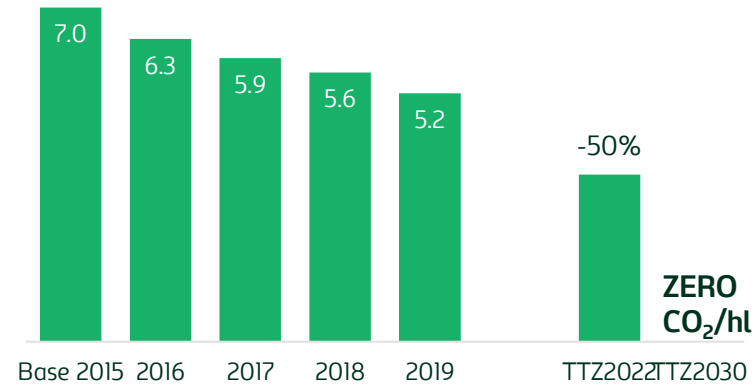
We are on track to meet our Together Towards ZERO commitments in our breweries

Water consumption (hl/hl)



9%
improvement in water efficiency, since 2015 baseline

Relative carbon emissions (CO₂/hl)



20%
reduction in relative carbon emissions, since 2015

Main levers to achieve our 2022 targets for water

- Carlsberg Operating Manual (COM) deployment
- Investment into Waste Water Treatment (WWT), replacement of bottle washers / pasteurisers

Main levers to achieve our 2022 targets for CO₂

- COM deployment
- Renewable electricity purchase
- Coal to gas
- Investments, CHP, boiler replacements
- Carbon reduction plans with 8 key suppliers



Installation of a waste water treatment plant and water recycling unit

Will enable recycling of 90% of all process water

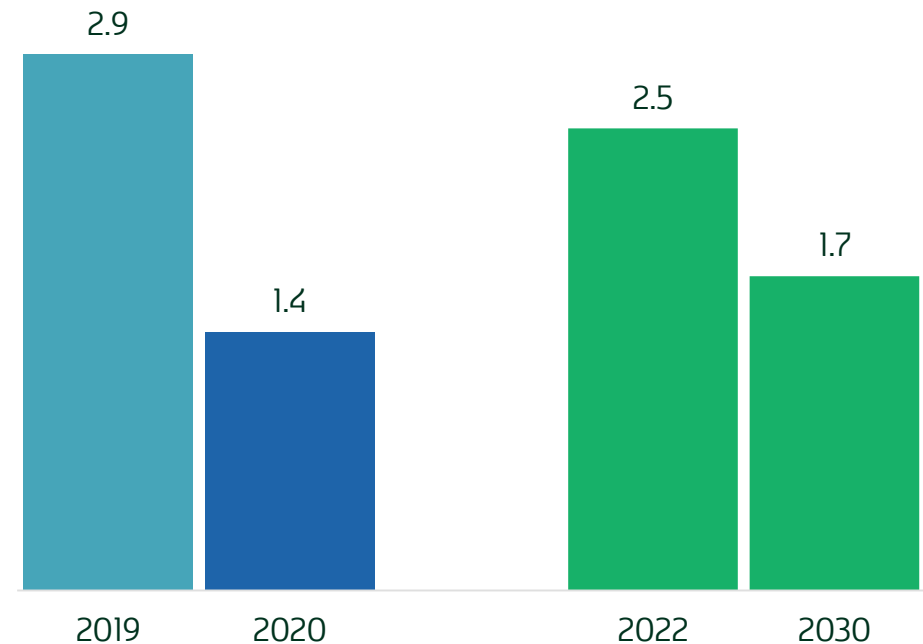
Current water consumption to be reduced by half

The investment in advanced water treatment will significantly reduce waste water



Fredericia (DK)

Group target



Our integrated supply chain, in summary

01

Continue building on a solid foundation led by Fund the Journey and SAIL'22

02

Commercial growth signalling three key challenges

- Lack of capacity on growth engines
- Portfolio fragmentation increasing
- Recipes becoming more intricate and sensitive

03

Our supply chain solutions to challenges

- Adapt production: flexible, late differentiation, micro-breweries, hub concept
- Enable DraughtMaster growth
- Improve hygiene for new recipes
- Digitalise consumer demand, complement Carlsberg Excellence with digital

04

Drive margin improvement, despite higher input costs

05

Deliver against our Together Towards ZERO commitments

João Abecasis,
Managing Director Kronenbourg

PREMIUMISING IN **FRANCE**

Kronenbourg: Carlsberg's French business

Today's agenda

01

The French beer market

02

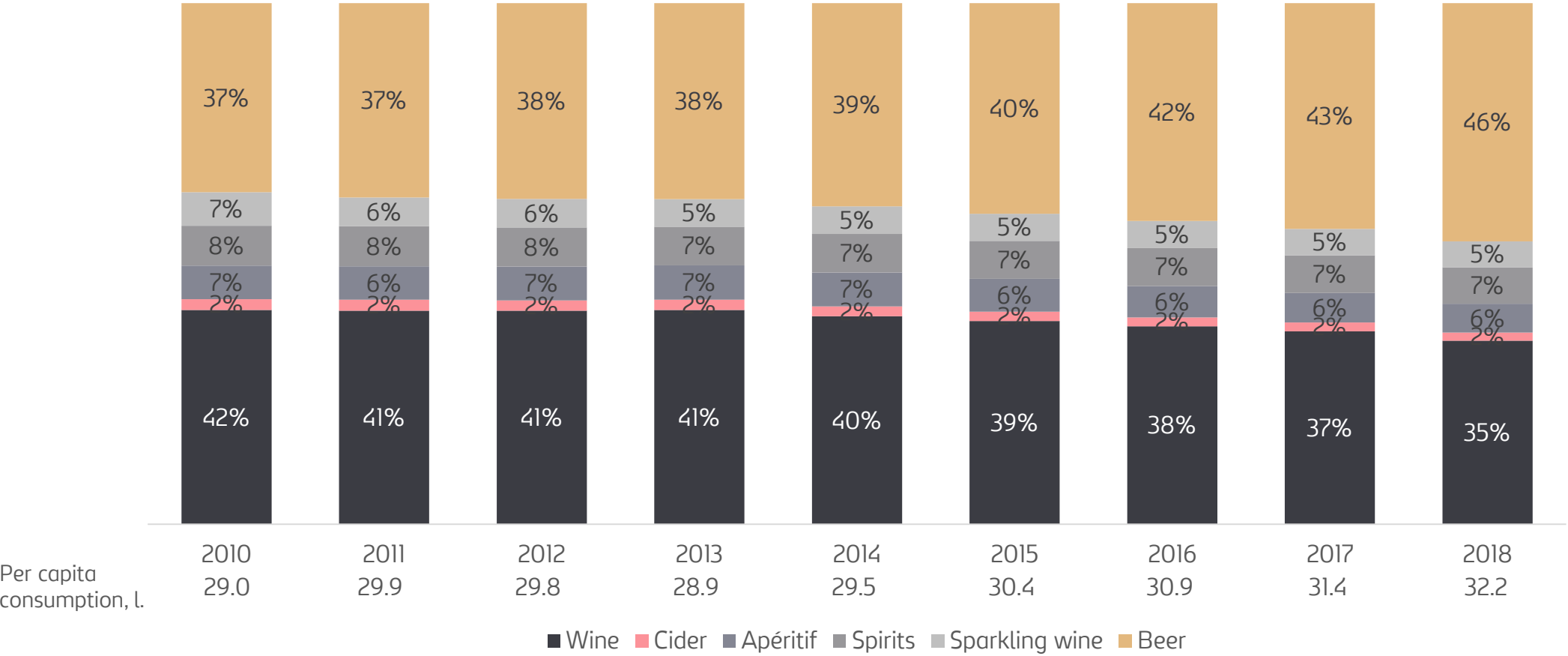
Transforming Kronenbourg

03

Delivering strong results

In recent years, the French beer market has consistently taken share from wine and CSDs

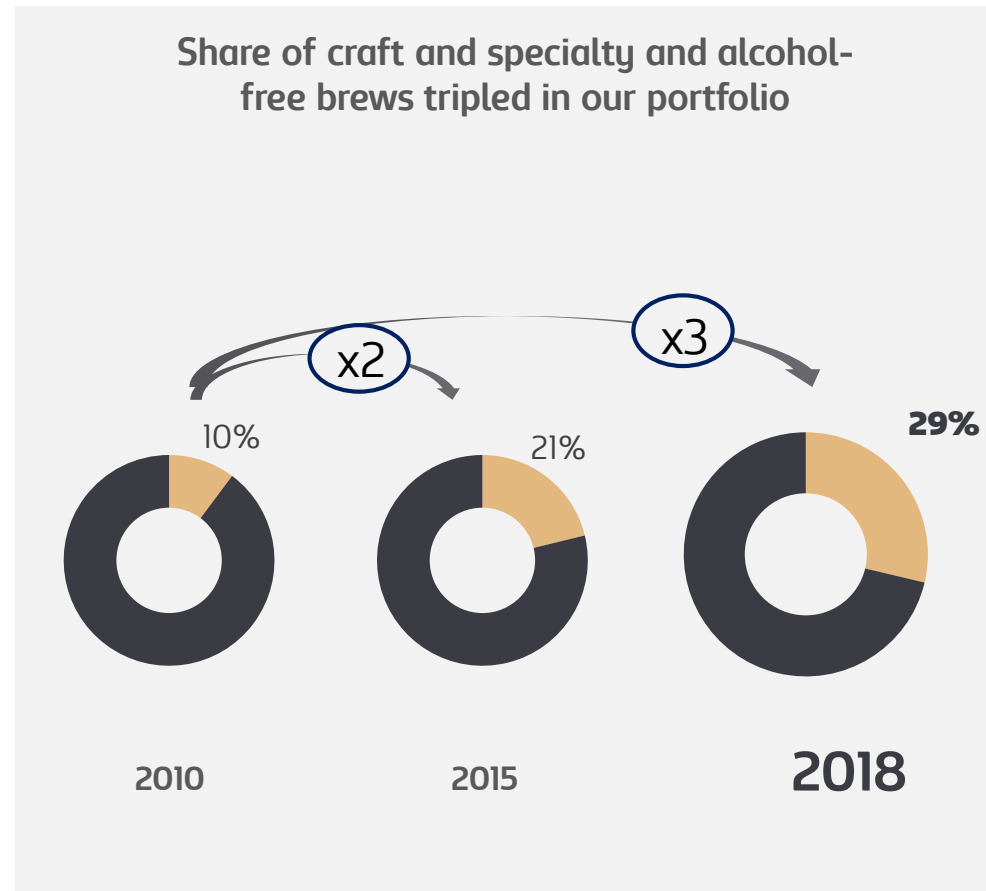
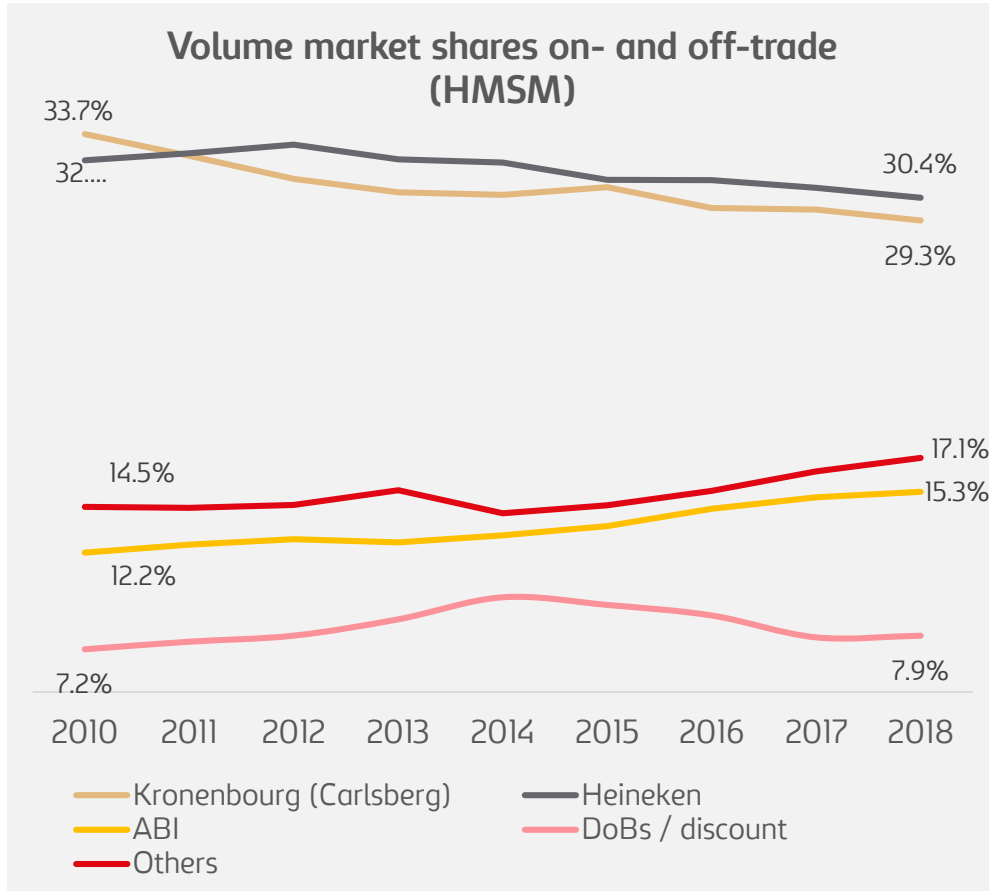
Alcoholic drinks – Volume market share HMSM



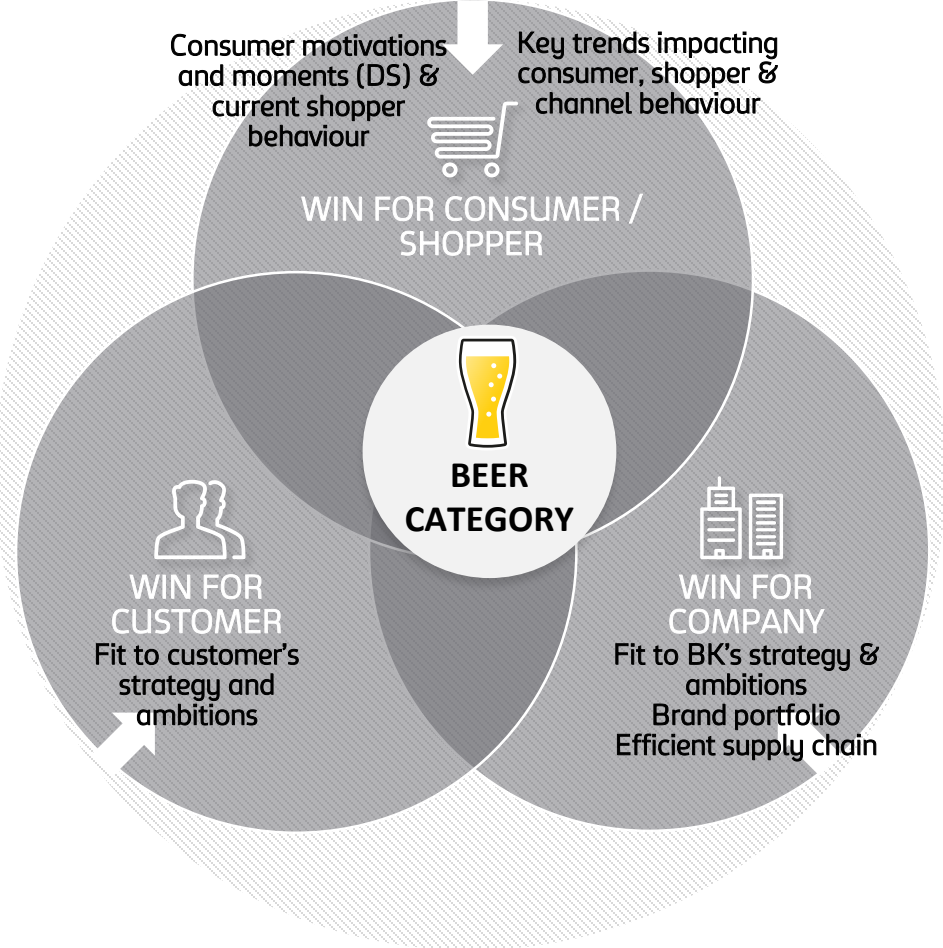
Source: IRI panel – HMSM – volume market share; Global data – Total France - 2018



We have managed to stabilise our market share in France, thanks to portfolio evolution



How to unleash the full potential of beer category?



WIN IN BEER by rejuvenating our local power brands to win in core beer with 1664

WIN IN BEER
Secure our fair share in the beer category

1. Revise brand fundamentals: Positioning, architecture, look and feel



2. Step up on-trade experience



3. Innovation pipeline in sync with market trends



KRONENBOURG BRAND MARKET SHARE

↶ 45% in 2018
43% in 2014

VOLUME

-4% market segment
-0.2% Kronenbourg
2014 - 2018

SHARE OF OWN LAGER VOLUME

	2014	2018
1664	34%	44%
Kronenbourg	59%	52%



Source: IRI, Total OFF





**1664 : ENCOURAGE PEOPLE TO ENRICH
THEIR SHARED TREAT MOMENTS
BY CULTIVATING THEIR FRENCH SPIRIT**



SAVOIR-FAIRE
— FRANÇAIS —



**PAS
MAL**
"Expression française
synonyme de qualité"
DÉCOUVREZ NOTRE GOÛT UNIQUE



WIN WITH BEER by driving craft & speciality segment growth and our share within the segment

WIN WITH BEER

Increase share of beer in adjacent categories



Craft & speciality expansion positively impact brewers' image that is now ahead of winery



Craft & speciality beers have strong opportunities to trade in from wine in key consumption occasions

Share in key Demand Spaces	Craft & speciality beer	Wine
Shared Treat & Celebration	6%	31%
Knowing the Best	5%	17%
Reward & Indulge	6%	15%

CRAFT & SPECIALITY SEGMENT

+38%

2014 - 2018

GRIMBERGEN

+108%

2014 - 2018

KRONENBOURG CRAFT & SPECIALITY PORTFOLIO

+83%

2014 - 2018

Source: IRI, Total OFF

Bringing Grimbergen to life in Reward and Indulge Demand Space

SOURCE OF GROWTH

TRADE ACROSS ABBEYS

DEFEND VS CRAFT BEERS

TRADE IN FROM WINE

1

MAKE GRIMBERGEN A CONTEMPORARY ABBEY BEER

Reduce mass market perception and premiumise

COMMUNICATION



BRAND XP



ACTIVATION OFF & ON & RENEWED LOOK & FEEL



2

DISCOVERY & CIRCULATION

Clarify, premiumise and push the range

PALE ALE LAUNCH



FOOD PAIRING



TASTING



3

BRAND ADVOCACY

Reignite the flame with a more expert approach

GLORIFY NEW GLASSWARE ON & OFF



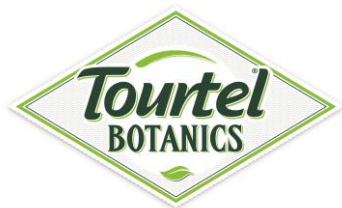
BREW & SERVE



WIN WITH BREWS by trading in from CSD to drive alcohol-free brews growth

WIN WITH BREWS

Expand our portfolio further into brew based adjacencies beyond beer



1. Successfully launch of Tourtel Twist in 2015

Current plan focus on Tourtel Twist performance and profitability



2. Expand beyond beer as of 2019



ALCOHOL-FREE BEER SEGMENT

+180%

2014 - 2018

TOURTEL TWIST

43%

market share in AFB segment after three years

+33% growth in 2018

KRONENBOURG AFB MARKET SHARE

65% in 2018

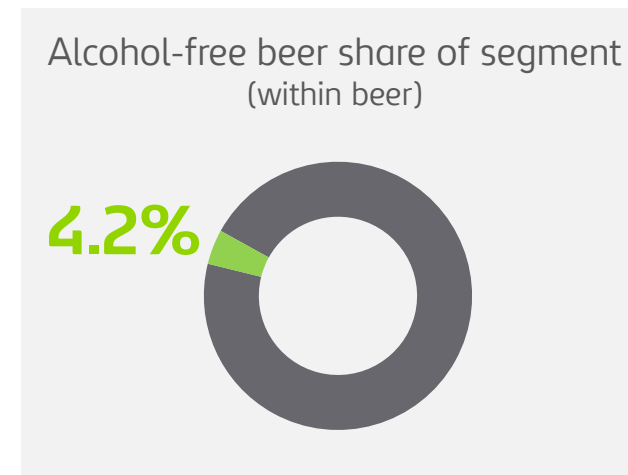
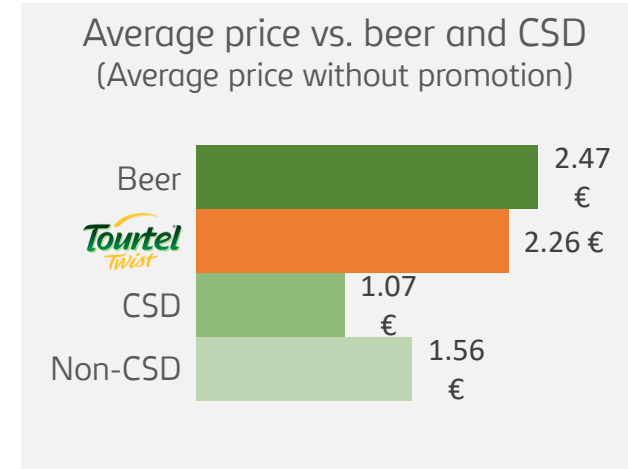
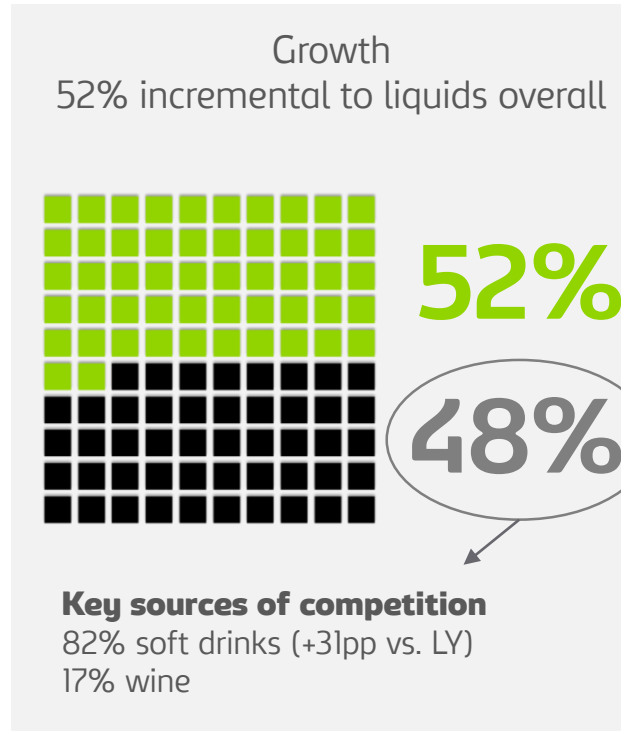
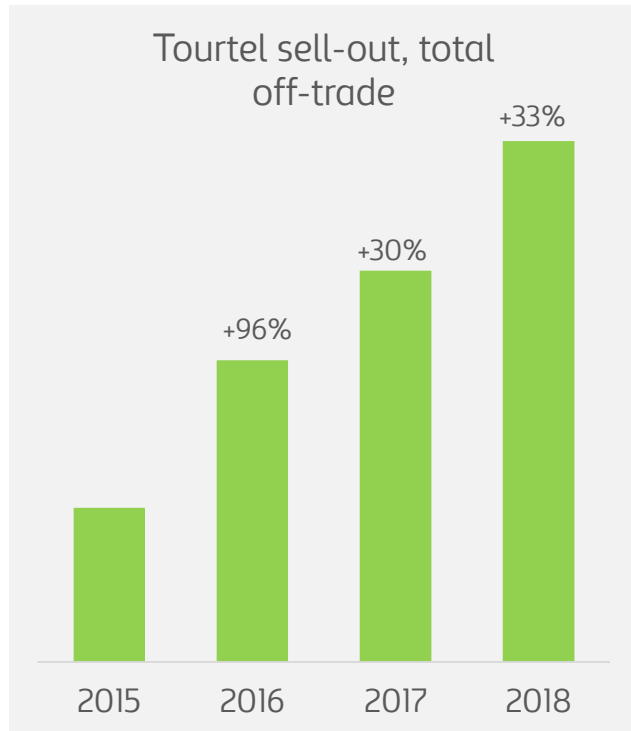
52% in 2014

In France, Tourtel is growing, sourcing volume from non-beer categories



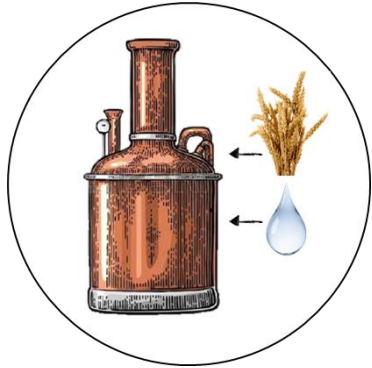
Expand the category by capturing

1. Wine and spirits occasions with our beers
2. Non-alcoholic occasions with our alcohol-free brews



WIN WITH BREWS by launching Tourtel Botanics

BARLEY BREWED... ... WITH PLANTS & FRUITS...



... 0.0% ALCOHOL...

... AND CLEAN LABEL



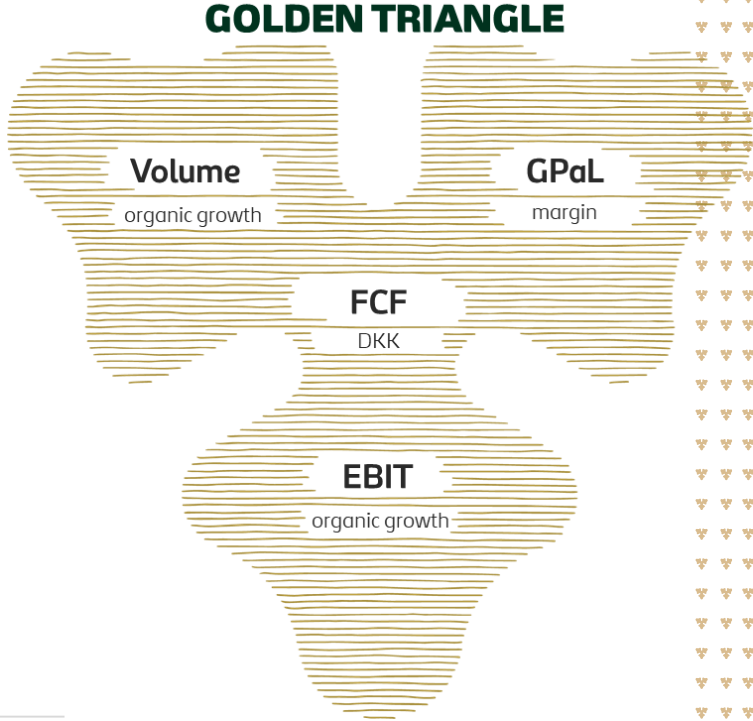
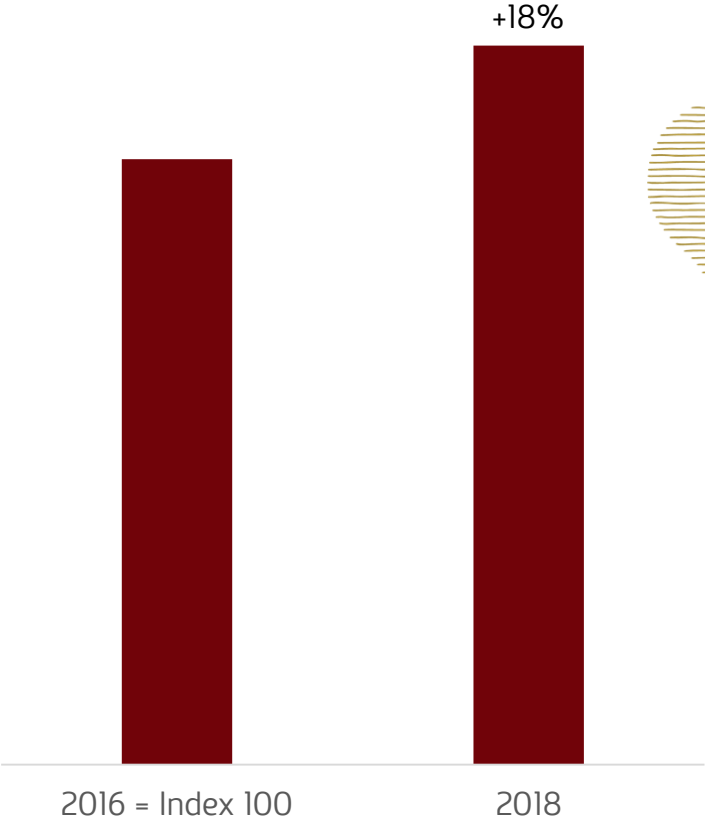
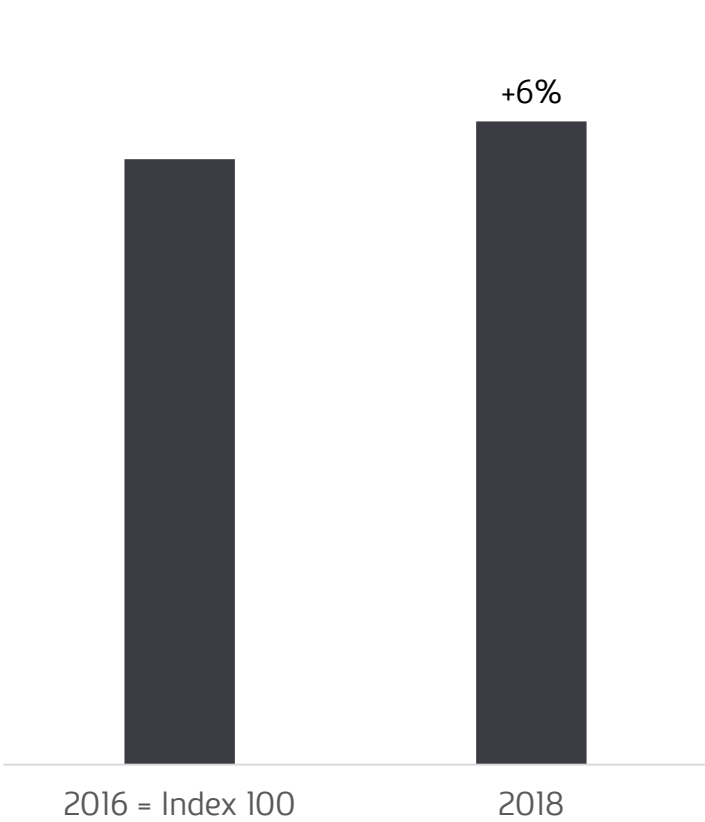
20k hl
Est. Year 1

Profitability
index
196 vs. BK
Aug. 2019

We have achieved good Golden Triangle results in 2016-2018

Volume growth

Operating profit growth



In summary, Kronenbourg has successfully grown value by premiumising portfolio

01

Significant transformation of our portfolio over the last decade

02

Achieved by being a key contributor to market innovation

03

Transformation and innovation supported by Demand Space and growth story approach



Heine Dalsgaard
Chief Financial Officer Carlsberg Group

DELIVERING SHAREHOLDER VALUE

Driving consistent value creation

1. Reviewing SAIL'22 performance
2. Continuing the Funding the Journey culture
3. Maintaining financial discipline
4. Ensuring optimal capital allocation
5. Delivering shareholder value



SAIL'22 – delivering shareholder value



STRENGTHEN THE CORE

Leverage our strongholds
Excel in execution
Funding the Journey culture



POSITION FOR GROWTH

Win in craft & speciality
Win in alcohol-free brews
Grow in Asia



DELIVER VALUE FOR SHAREHOLDERS

Organic growth in operating profit
ROIC improvement
Optimal capital allocation



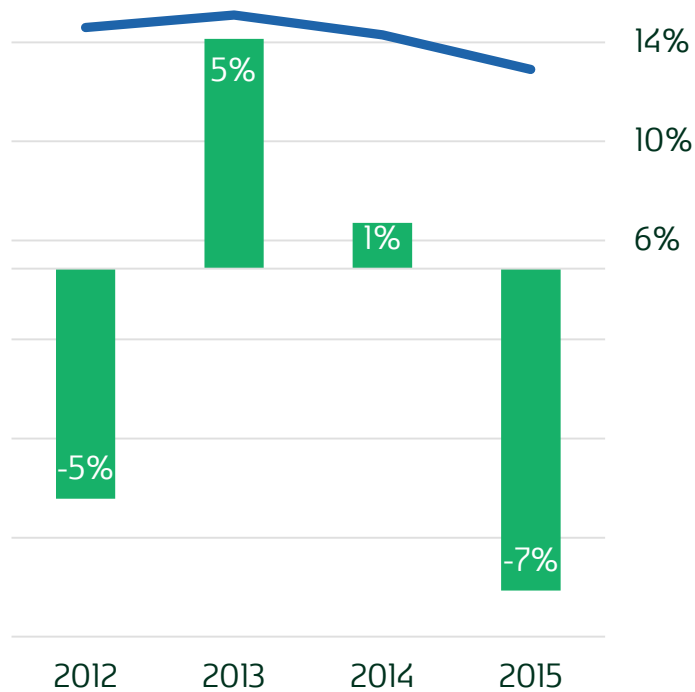
CREATE A WINNING CULTURE

Team-based performance
Together Towards ZERO
Compass

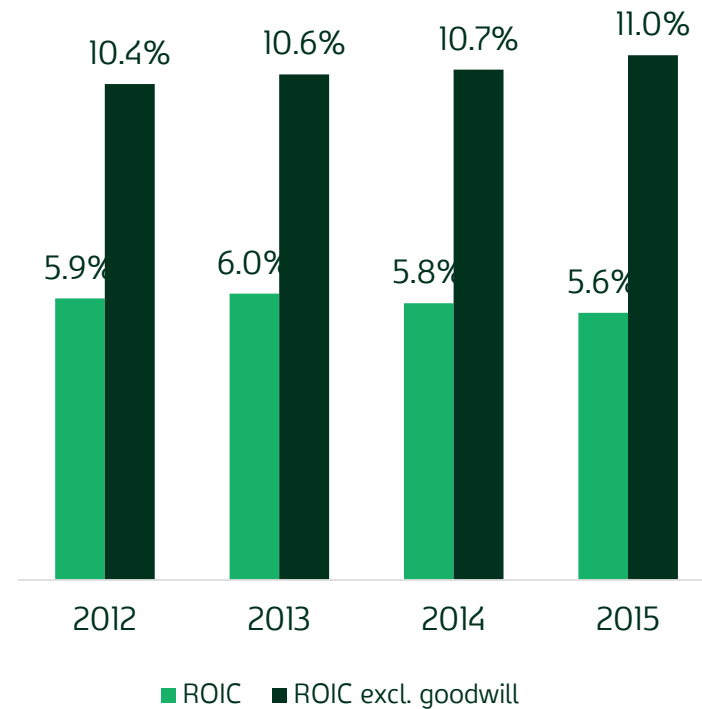


The starting point required action...

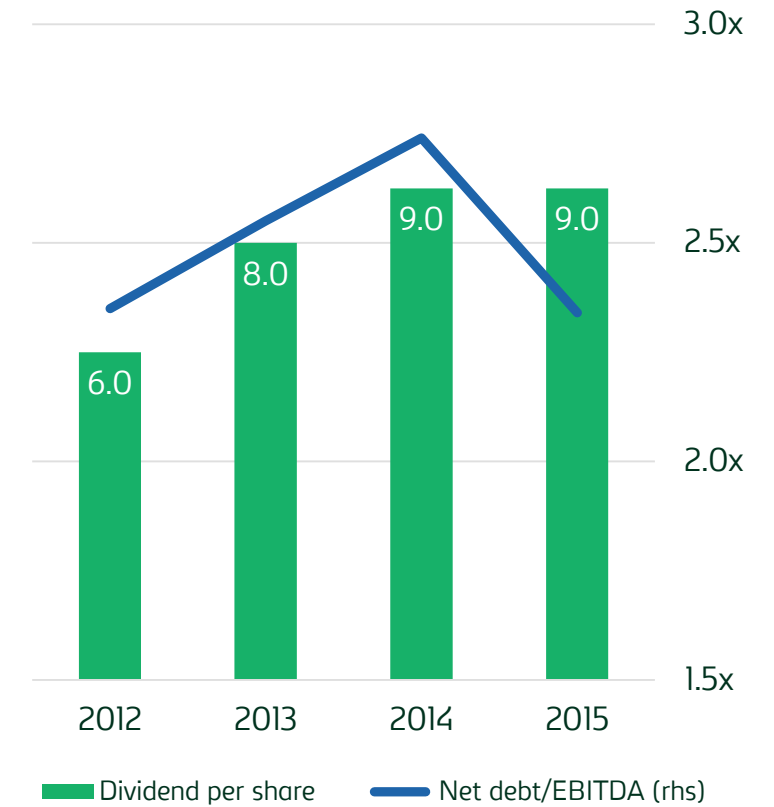
Operating profit organic growth and margin (rhs)



Return on invested capital

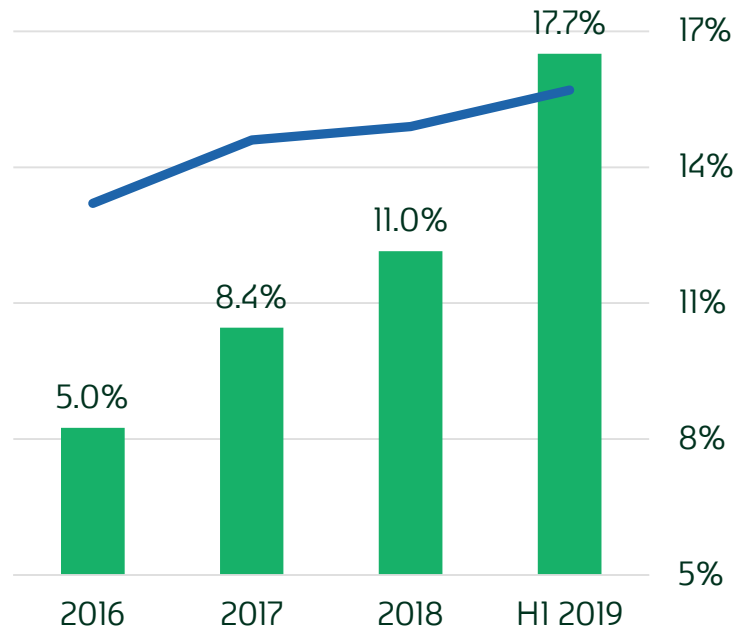


Capital allocation

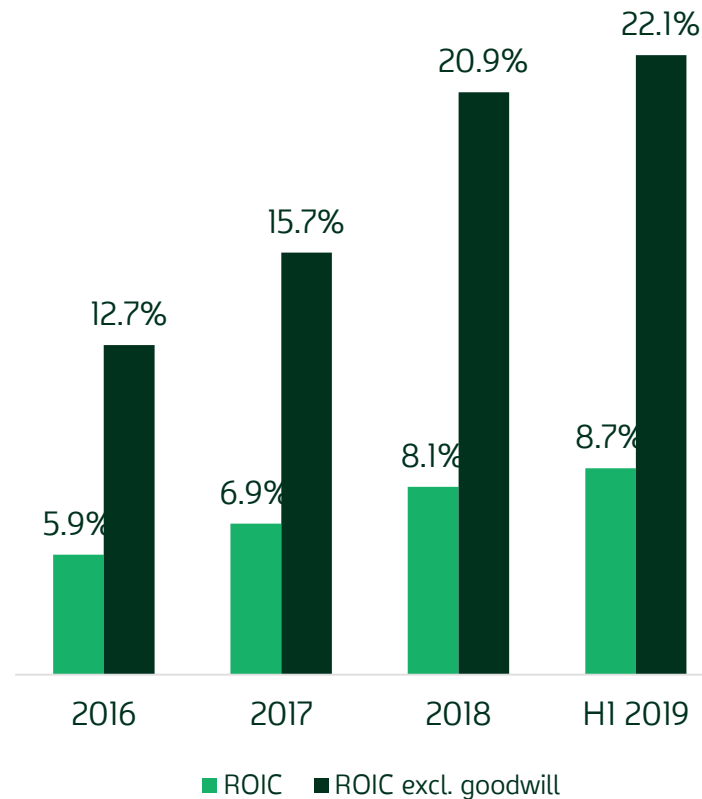


... since 2016, we have consistently improved our performance...

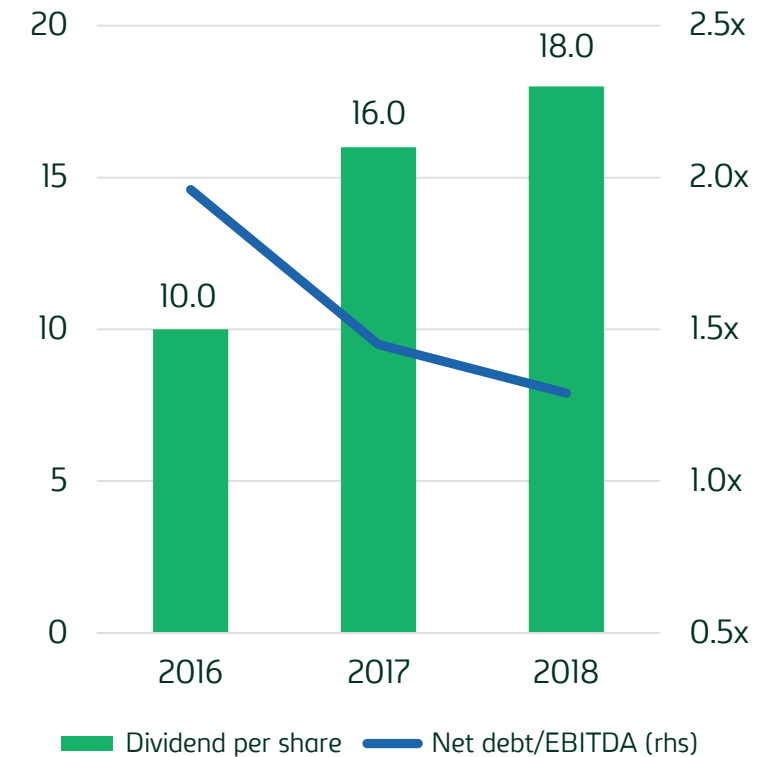
Operating profit organic growth and margin (rhs)



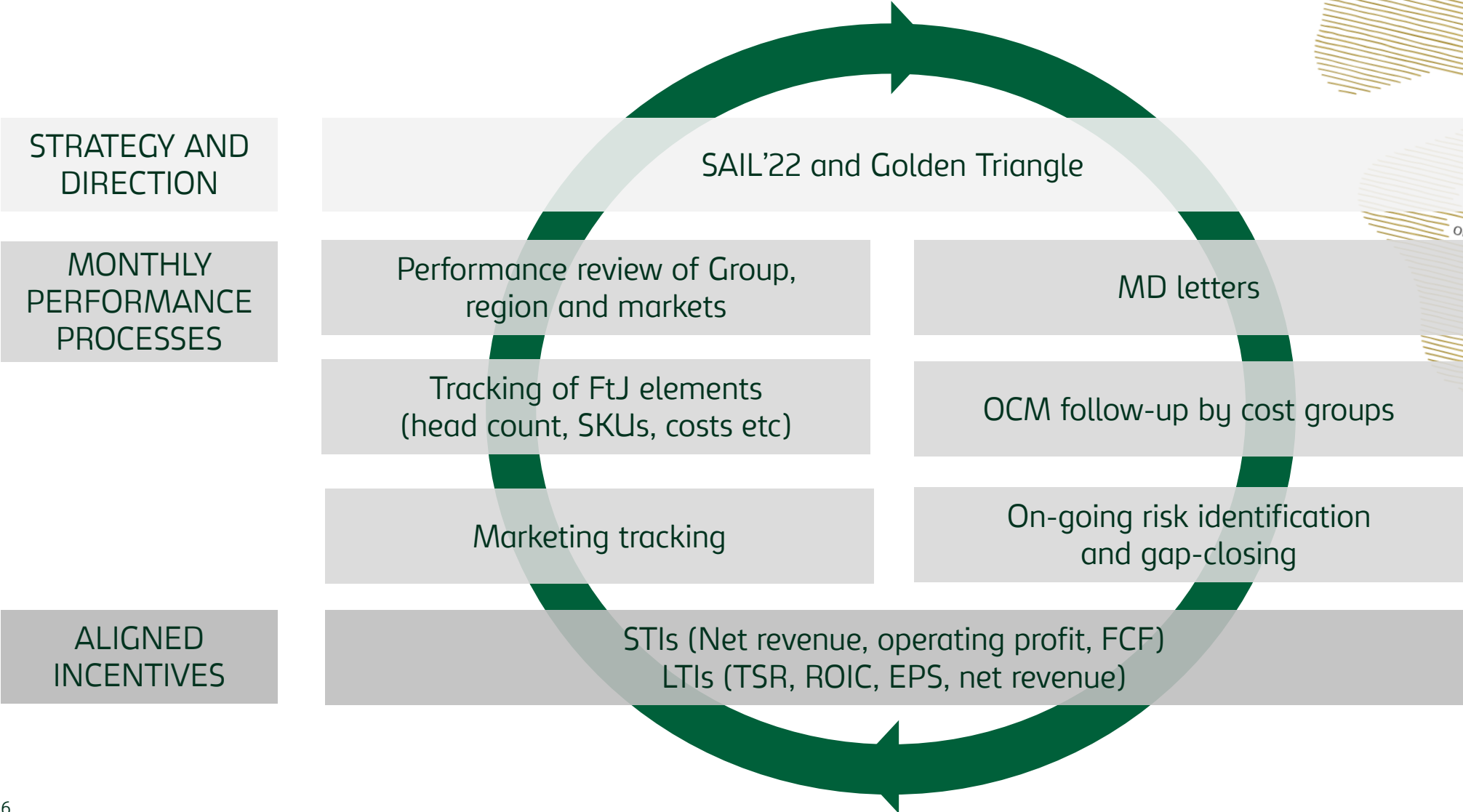
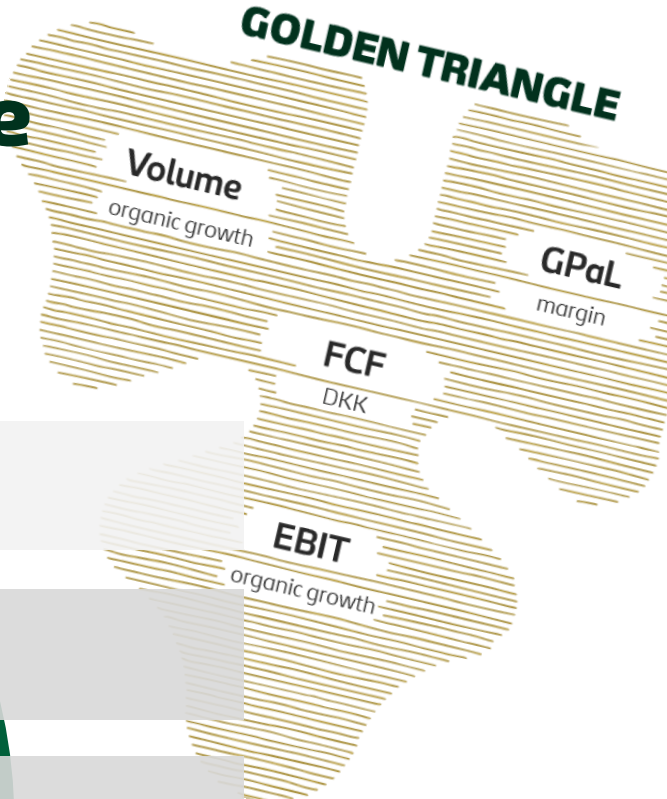
Return on invested capital



Capital allocation



...enabled by a step-change in performance management and processes



Funding the Journey was launched with two purposes ...



Funding the Journey

DKK ~3bn

Total benefits from Funding the Journey delivered by 2018

01

REINVEST IN THE BUSINESS

in support of SAIL'22 growth priorities

02

IMPROVE OPERATING PROFIT

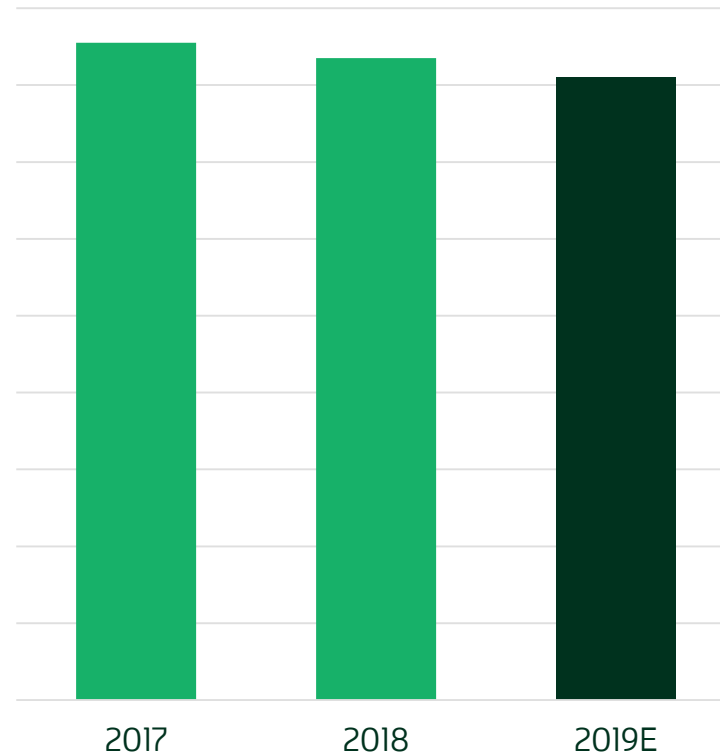


Funding the Journey
should not be seen
as a DIET.
It is a change of
LIFESTYLE

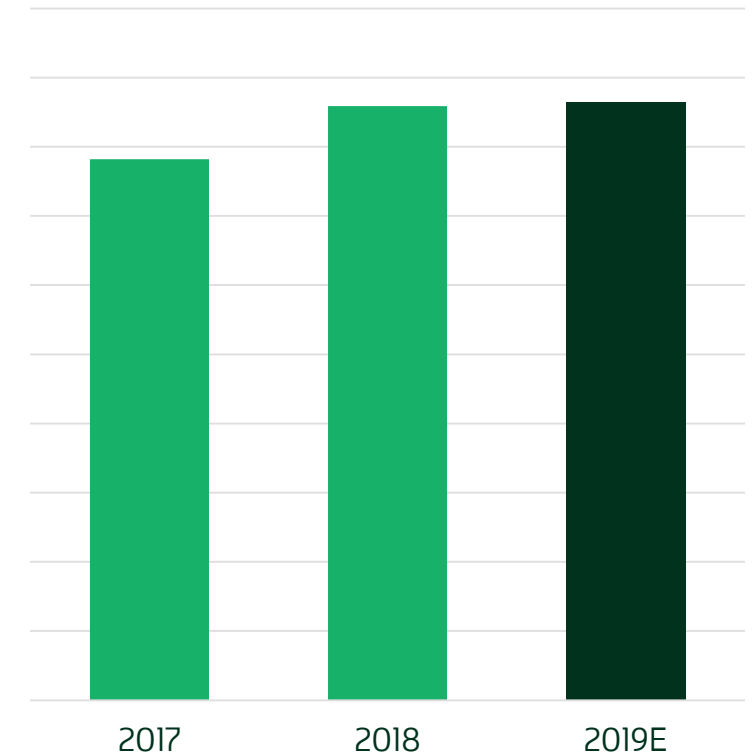


... and we will continue with Funding the Journey...

SG&A/revenue



Marketing/revenue



... embedded across four themes



VALUE MANAGEMENT

CONTINUE current focus and actions on pricing and mix
Strengthen reporting and tracking

SUPPLY CHAIN EFFICIENCY

CONTINUE current focus and actions
Strengthen reporting and tracking

OPERATING COST EFFICIENCY

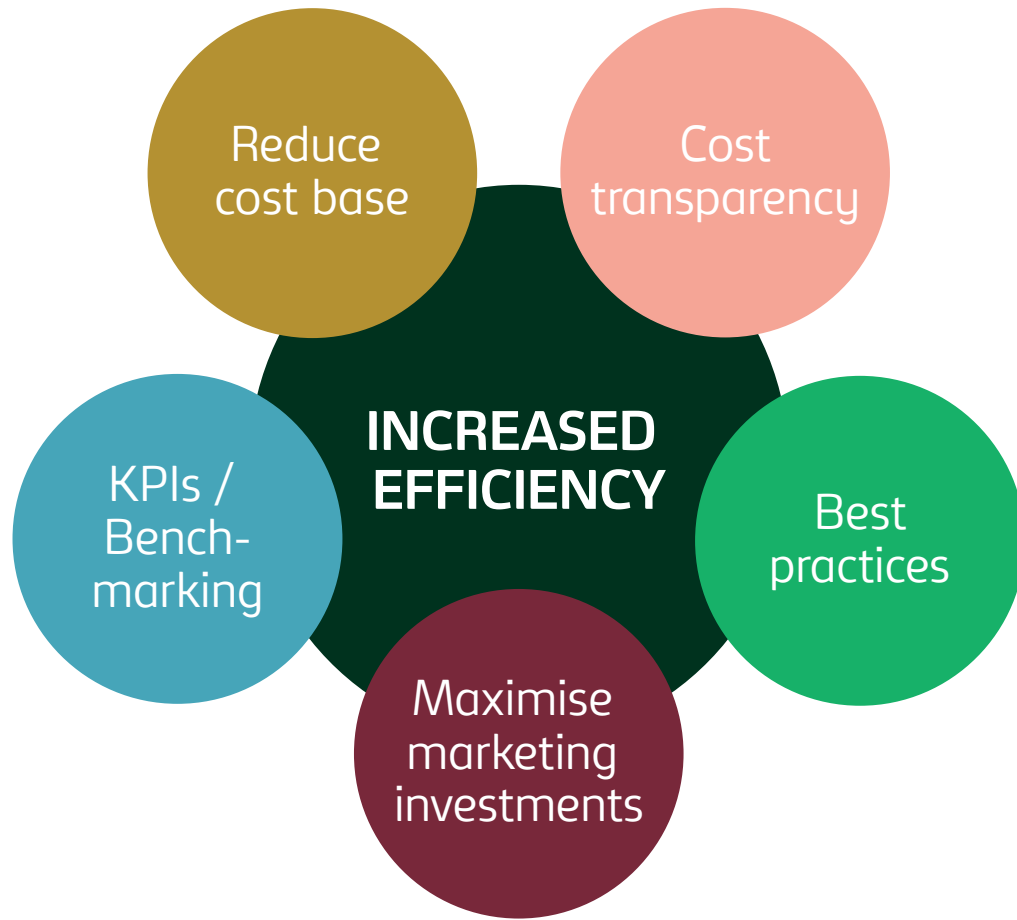
RE-ENERGISE OCM processes
Step-change benchmarking and analysis
Sprint approach to cost group reviews

COMMERCIAL SPEND EFFICIENCY

OPTIMISE brands' marketing and point-of-sale spend
Further develop and improve reporting and tracking



Enhanced Operating Cost Management (OCM) will capture further benefits from enhanced processes...



OCM introduced in 2015

- Establishment of granular, reliable and transparent data sets
- Routinely monitoring
- Benchmarking
- Sharing best practices

Introducing enhancements

- 5 weeks sprints per cost group
- Deep dives on commercial spend cost groups
- Stronger cost group leadership
- Review per functional cost group

... and still further potential for process standardisation and digitalisation ...

END-TO-END PROCESS EXCELLENCE

Standardise and improve processes and IT tools

SHARED SERVICES 2.0

Professional, scalable, agile, performance driven Shared Services

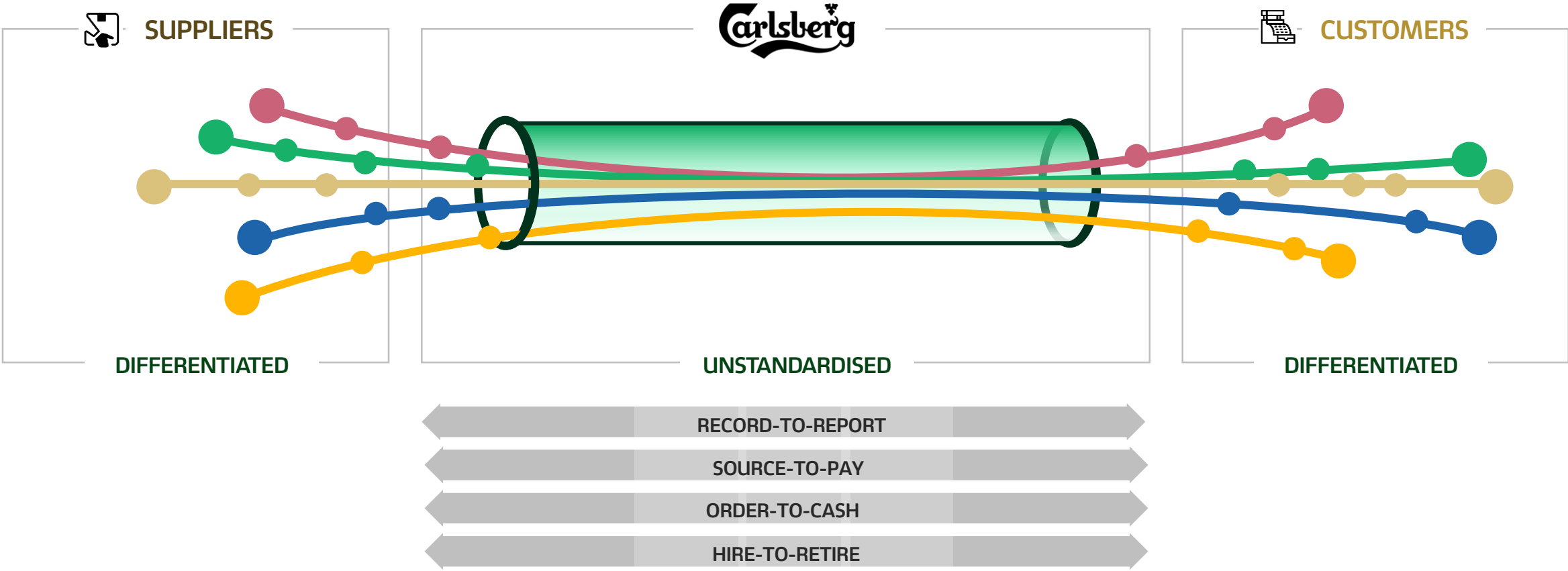
DATA, REPORTING, ANALYTICS

Improved insights and data transparency supporting improved business decisions

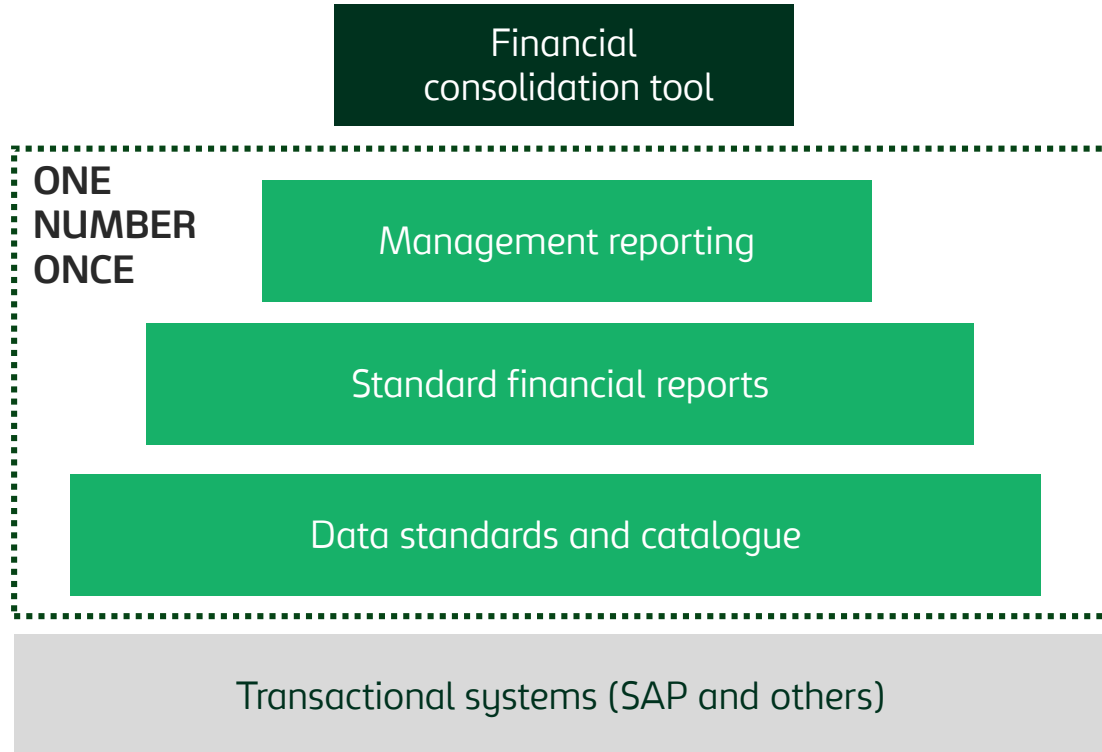
INTELLIGENT AUTOMATION

Using technology to allow people to focus on value-adding activities

...by standardising E2E processes and optimising the use of shared service center...



... enabled by a standardised and automated way of delivering the financials



Better decision making



Simplification of systems and data sources



Improved reporting processes, governance and controls



Increased efficiencies

Funding the Journey will continue to support growth investments and margin improvement

INVESTING IN



Craft & speciality

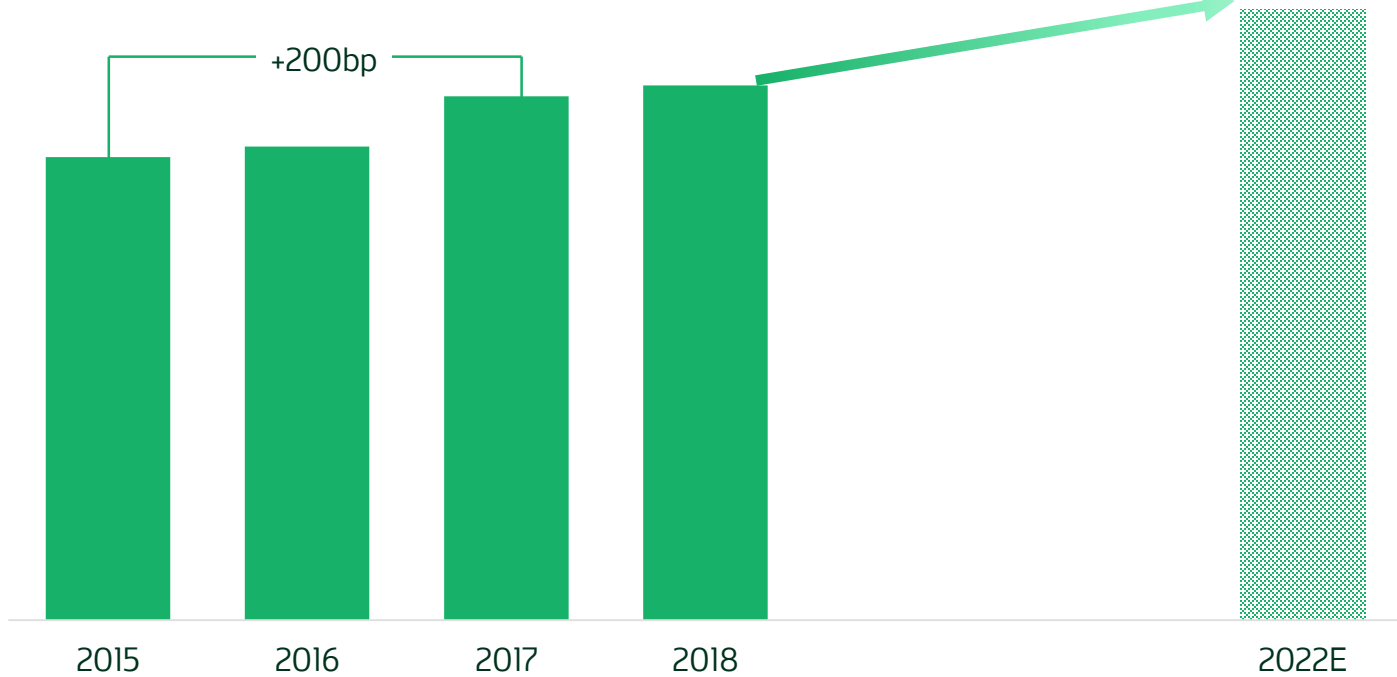


Alcohol-free brews



Grow in Asia

Operating margin

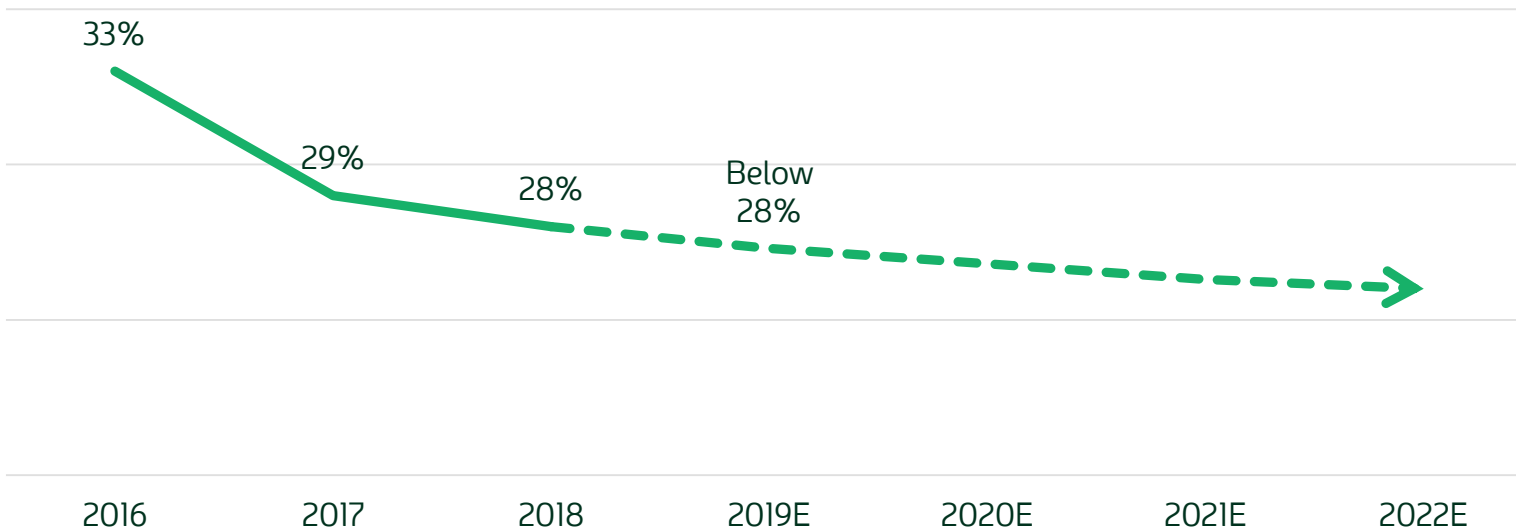


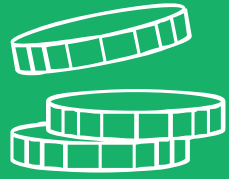
Further opportunities to optimise our tax position

Strengthening tax compliance

Optimising effective tax rate

Effective tax rate





**ACCUMULATED
CASH FLOW**

DKK

5.6bn

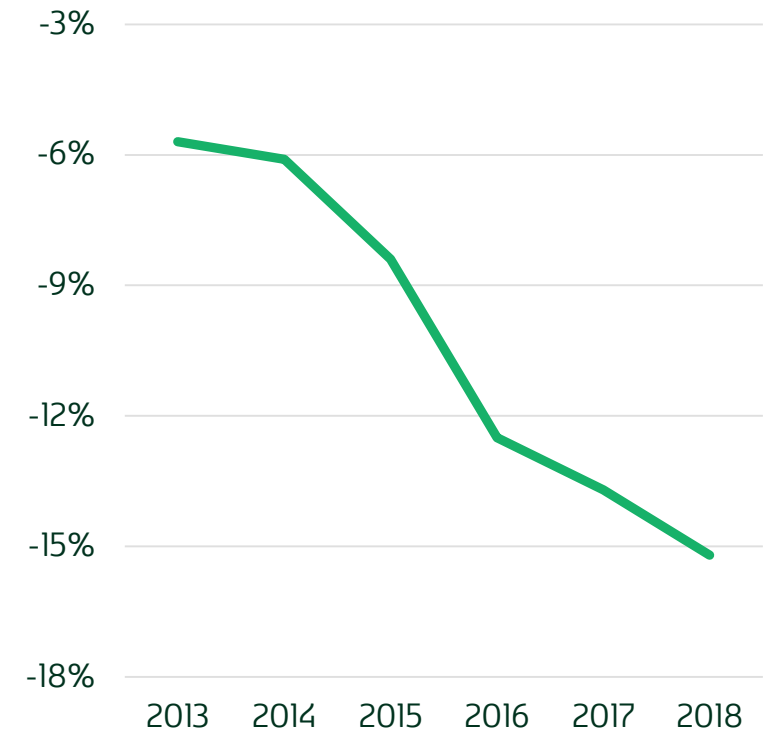
TWC improvement
2013-2018

Continued strong trade working capital ...

Trade working capital/net revenue improvement of +1070bp since 2013 driven by:

- Focus/KPIs
- Stronger processes
- Strict follow-up
- Detailed targets

Trade working capital/
net revenue



... and strict capex discipline...

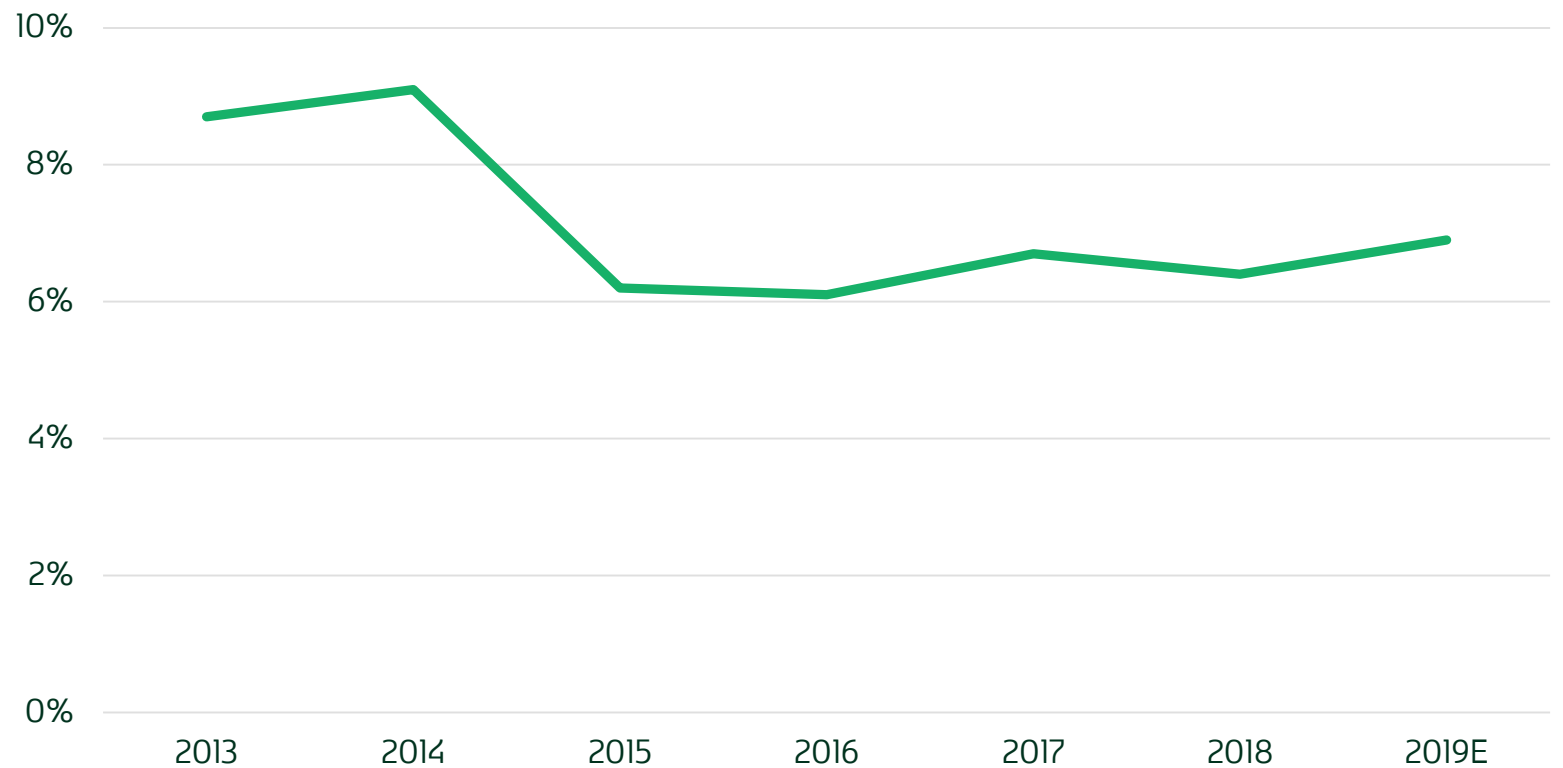
Capex approval process strengthened

- Business case with ambitious financial KPIs

Key areas of capex spending

- Flexibility
- DraughtMaster
- Sales equipment (coolers)
- Asian capacity expansion
- Efficiency improvements
- Environment
- Digital

Capex/net revenue



... will support consistent ROIC improvement

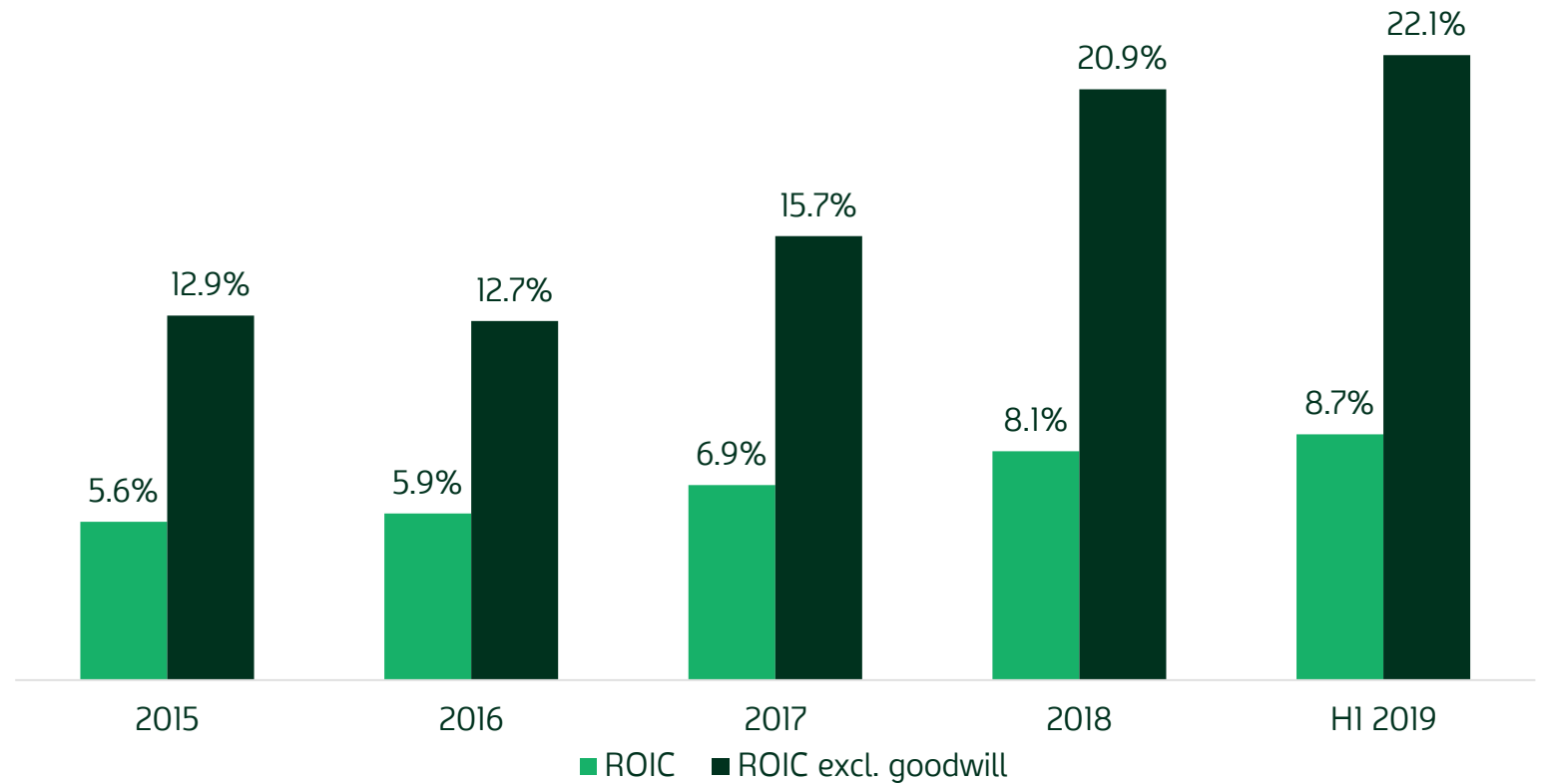
ROIC improvement driven by ...

- Operating profit growth
- Optimising tax position
- Strict TWC and cash flow discipline
- Disposal of redundant assets

...and a cultural change

- Increased focus through target setting
- Continued follow-up
- Focus on ROIC in incentive scheme

Return on invested capital



Leverage target of below 2x...

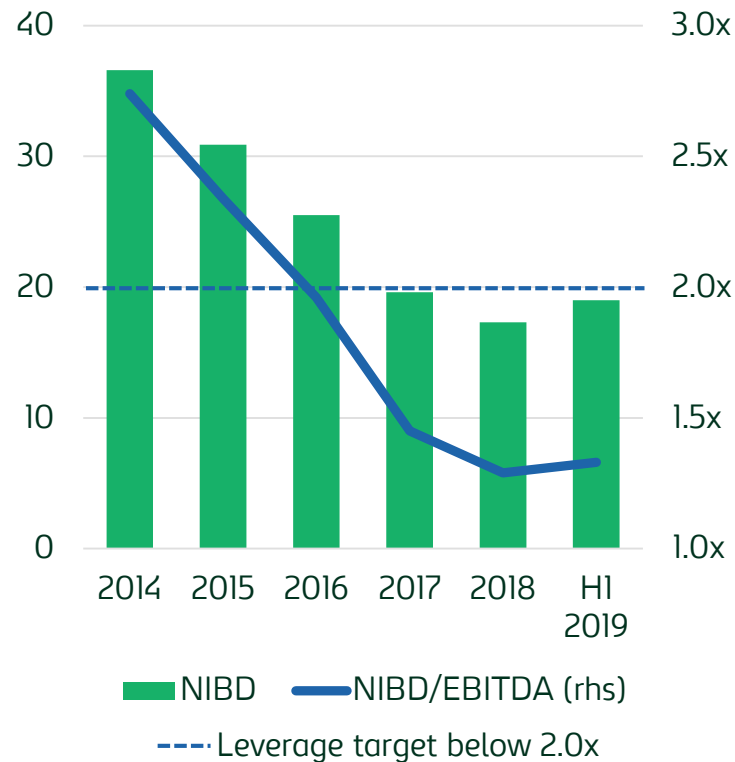
Net debt reduction driven by

- Strong free operating cash flow due to
 - Earnings growth
 - TWC improvement
 - Strict capex spend
 - Lower finance costs
- Right-sizing
 - Disposal of non-core assets

Future net debt

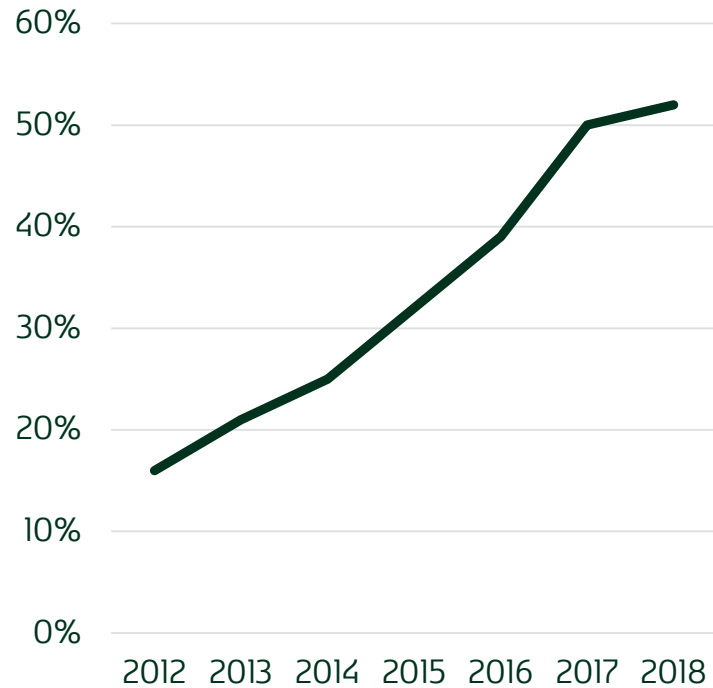
- Will be managed in accordance with capital allocation principles

NIBD (DKKbn) and NIBD/EBITDA

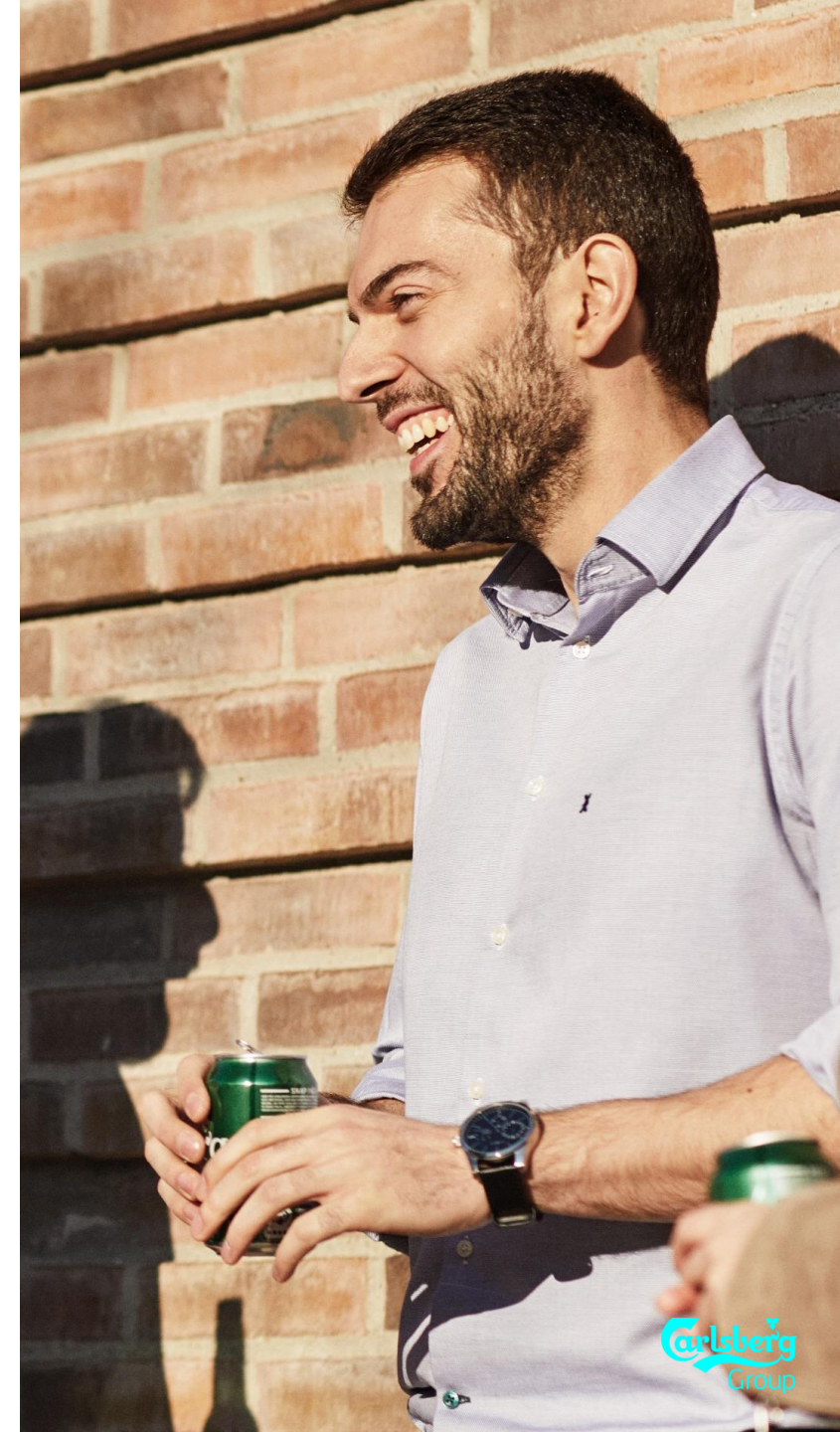
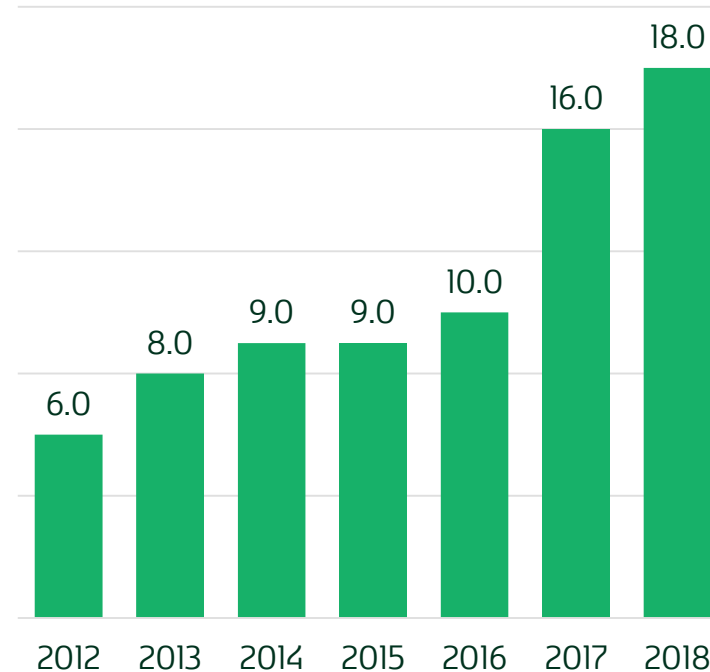


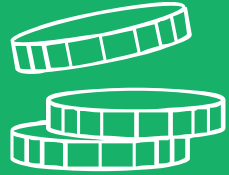
... and a target pay-out ratio of around 50%

Pay-out ratio



Dividend per share (DKK)





DKK

~3bn

Net acquisitions
2018-2019

We will maintain a strong balance sheet to have the opportunities for value-enhancing acquisitions...

Disposals in 2016/17

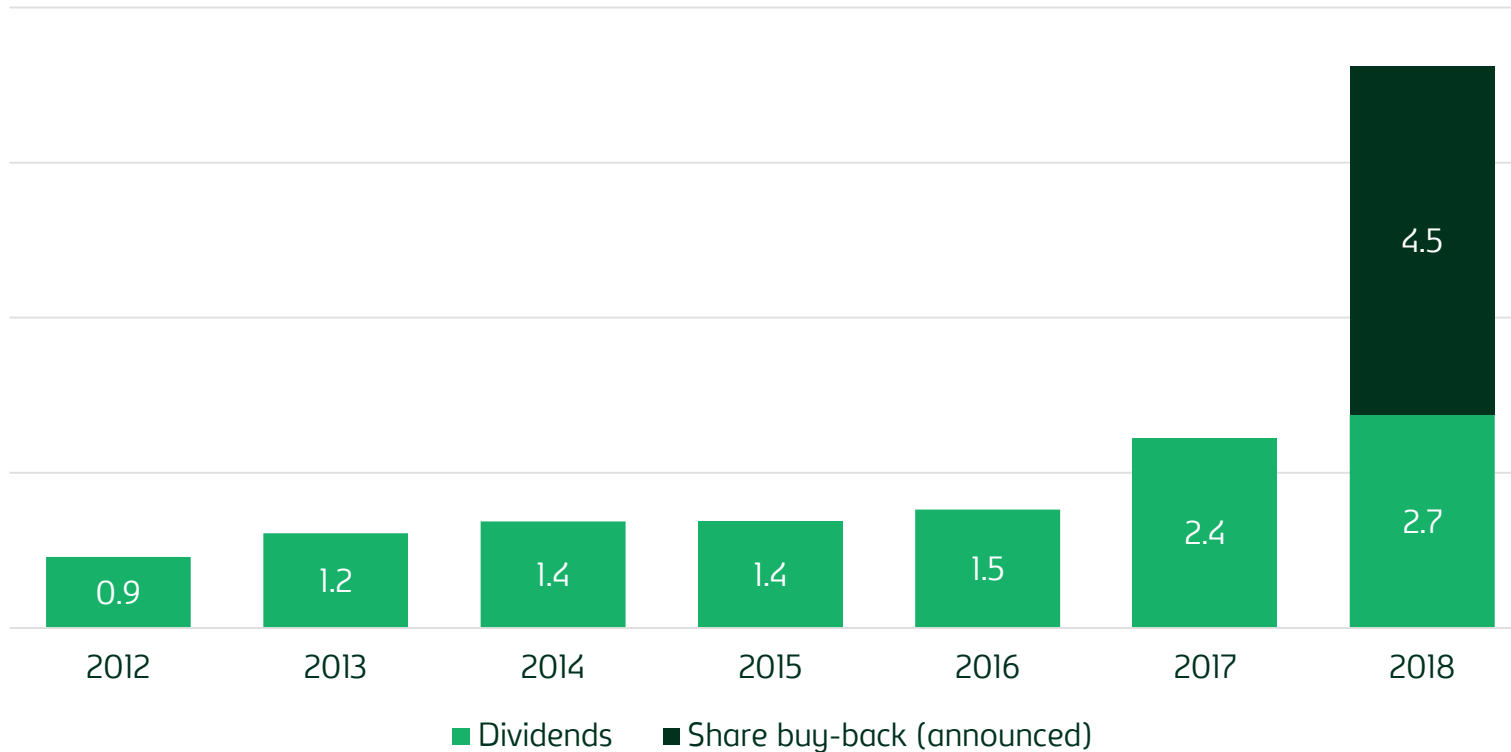
- Danish Malting Group
- Vung Tau, Vietnam
- Carlsberg Malawi
- Sejet
- Carlsberg Uzbekistan
- United Romanian Breweries
- MSSP, Russia
- Nordic Getränke, Germany

Acquisitions in 2018/19

- Olympic Brewery, Greece
- Cambrew, Cambodia
- Brewery Alivaria, Belarus
- Super Bock, Portugal
- Jing-A Brewing Co, China
- Carlsberg Ukraine

... and continue to distribute excess cash to shareholders

TOTAL CASH RETURNS TO SHAREHOLDERS
Dividends and share buy-back (DKKbn)



EXCESS CASH

distributed to
shareholders via

**EXTRAORDINARY
DIVIDENDS**

and/or

SHARE BUY-BACK

Continued focus on ensuring optimal capital allocation

01

Invest in our business to drive long-term value creation

02

NIBD/EBITDA
< 2.0x

03

Dividend pay-out ratio
of around 50%

04

Excess cash to be redistributed through buy-backs and/or extraordinary dividends

05

Deviating from the above only if value-enhancing acquisition opportunities arise

Delivering consistent shareholder value

NET REVENUE

Grow net revenue organically every year by

- Expand in high-growth categories and markets
- Leverage our strongholds

OPERATING PROFIT & MARGIN

Deliver organic operating profit growth ahead of top-line growth by

- Embed Funding the Journey culture and value management
- Grow in high-margin categories and markets

STRICT FINANCIAL DISCIPLINE

Ensure strict discipline on

- Costs, tax, working capital, capex and ROIC

OPTIMAL CAPITAL ALLOCATION

Maintain a financial leverage enabling growth in shareholder returns and/or value-enhancing acquisitions



Disclaimer

FORWARD-LOOKING STATEMENTS

The presentations may contain forward-looking statements, including statements about the Group's sales, revenues, earnings, spending, margins, cash flow, inventory, products, actions, plans, strategies, objectives and guidance with respect to the Group's future operating results. Forward-looking statements include, without limitation, any statement that may predict, forecast, indicate or imply future results, performance or achievements. Any such statements are subject to risks and uncertainties that could cause the Group's actual results to differ materially from the results discussed in such forward-looking statements. Prospective information is based on management's then current expectations or forecasts. Such information is subject to the risk that such expectations or forecasts, or the assumptions underlying such expectations or forecasts, may change. The Group assumes no obligation to update any such forward-looking statements to reflect actual results, changes in assumptions or changes in other factors affecting such forward-looking statements.

Some important risk factors that could cause the Group's actual results to differ materially from those expressed in its forward-looking statements include, but are not limited to: economic and political uncertainty (including interest rates and exchange rates), financial and regulatory developments, demand for the Group's products, increasing industry consolidation, competition from other breweries, the availability and pricing of raw materials and packaging materials, cost of energy, production and distribution related issues, information technology failures, breach or unexpected termination of contracts, price reductions resulting from market driven price reductions, market acceptance of new products, changes in consumer preferences, launches of rival products, stipulation of fair value in the opening balance sheet of acquired entities, litigation, environmental issues and other unforeseen factors. New risk factors can arise, and it may not be possible for management to predict all such risk factors, nor to assess the impact of all such risk factors on the Group's business or the extent to which any individual risk factor, or combination of factors, may cause results to differ materially from those contained in any forward-looking statement. Accordingly, forward-looking statements should not be relied on as a prediction of actual results.