


INVESTOR PRESENTATION



We live in an age with the
highest level of consumption
our planet has ever seen



Using more resources than ever before. More than our planet can continue to sustain.

TOMRA IS WELL-POSITIONED TOWARDS MEGATRENDS

1 Solutions for optimal resource productivity



2 Leading market position – fit for growth

Collection Solutions
#1

Food Sorting
#1

Recycling Sorting
#1

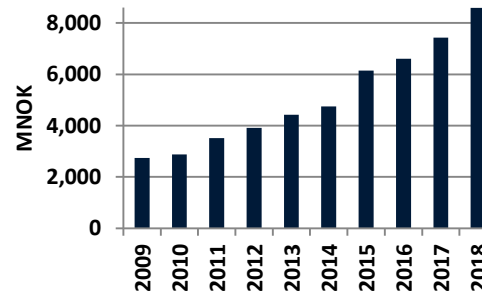
Mining Sorting
#1

3 Pioneer in sensor-based technology

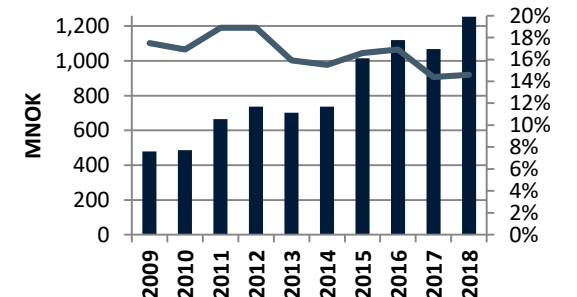


4 Strong financial performance and track record

Revenues



EBITA and margin

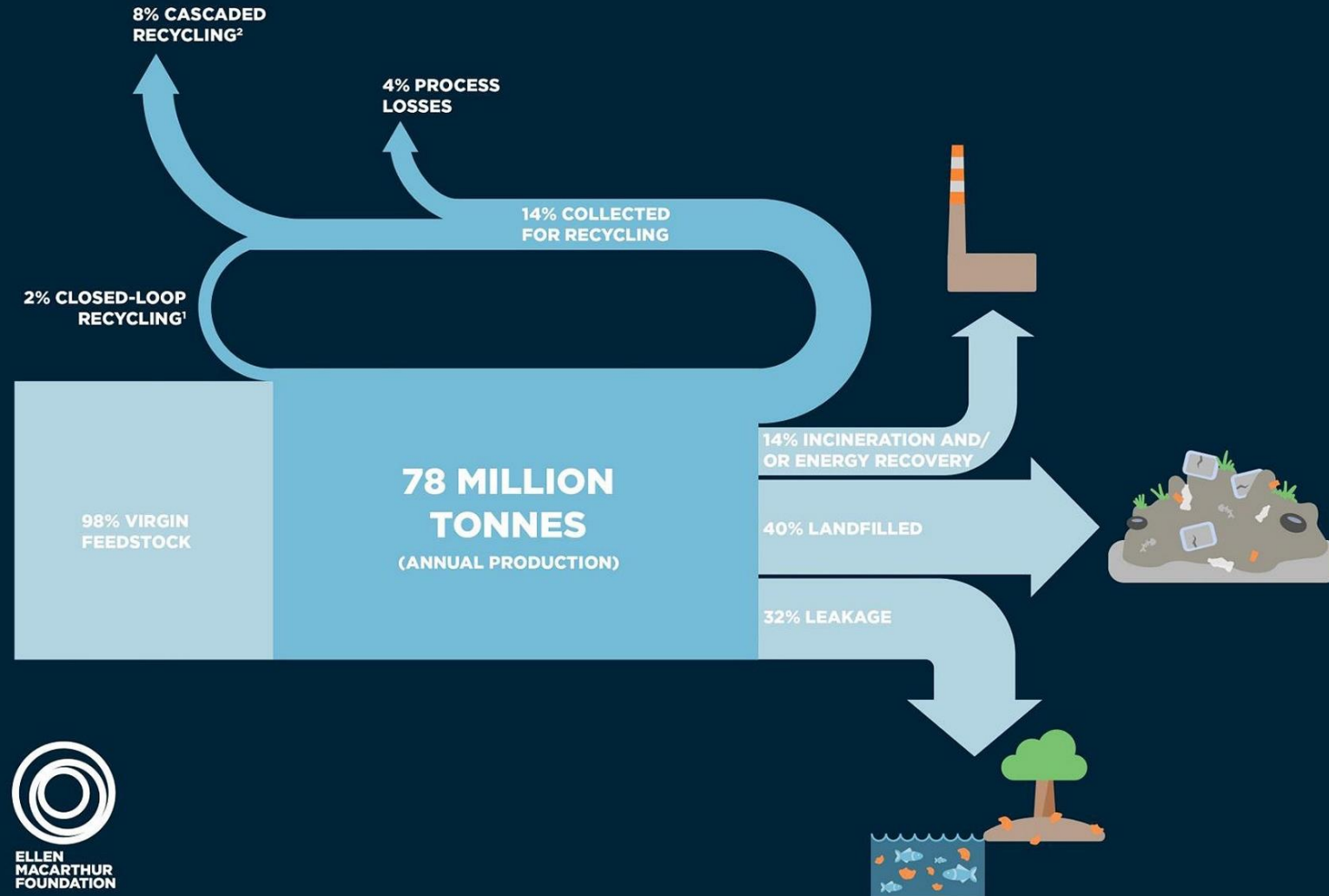


DID YOU KNOW?

- By 2025 solid waste generation will **increase by 70%** compared to 2010 levels
- **32%** of all plastic packaging made **ends up in nature** every year
- **20%** of plastic packaging could be **profitably re-used** and **50%** could be **profitably recycled** if designed for after use systems
- Continuing current practices there will be **more plastic than fish** in the ocean by 2050

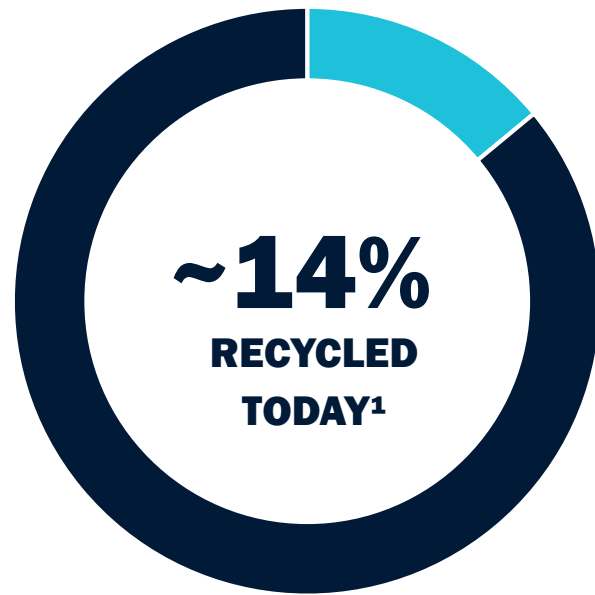


Only 2% of the planet's annual plastic packaging production is reused for the same/similar products



SIGNIFICANT UNTAPPED POTENTIAL TO REUSE GOOD MATERIALS

PLASTIC PACKAGING



**VALUE
PROPOSITION***
\$ 50–80 BN

Total volume of plastic packaging is 78 mln tonne annually whereof ~14% is currently recycled, meaning ~67 mln tonne lost. With a volume yield of 72% and a weighted average price of 1,100–1,600 USD/t, the total value proposition is in the range of USD 50-80 bn. Please note that this is a conservative estimate based on a narrow definition of total annual plastic packaging volume. Applying a wider definition can increase the value proposition up to USD 170-190 bn.

STEEL



**VALUE
PROPOSITION***
\$ 70–150 BN

Worldwide steel production is currently about 1,600 mln tonne annually. 70-90% recycling means ~1,100-1,450 mln tonne recycled and 160-480 mln tonne lost. Assuming ~90% yield in process with market price of ~500 USD/t equals USD 70-220 bn, so conservative range USD 70-150 bn

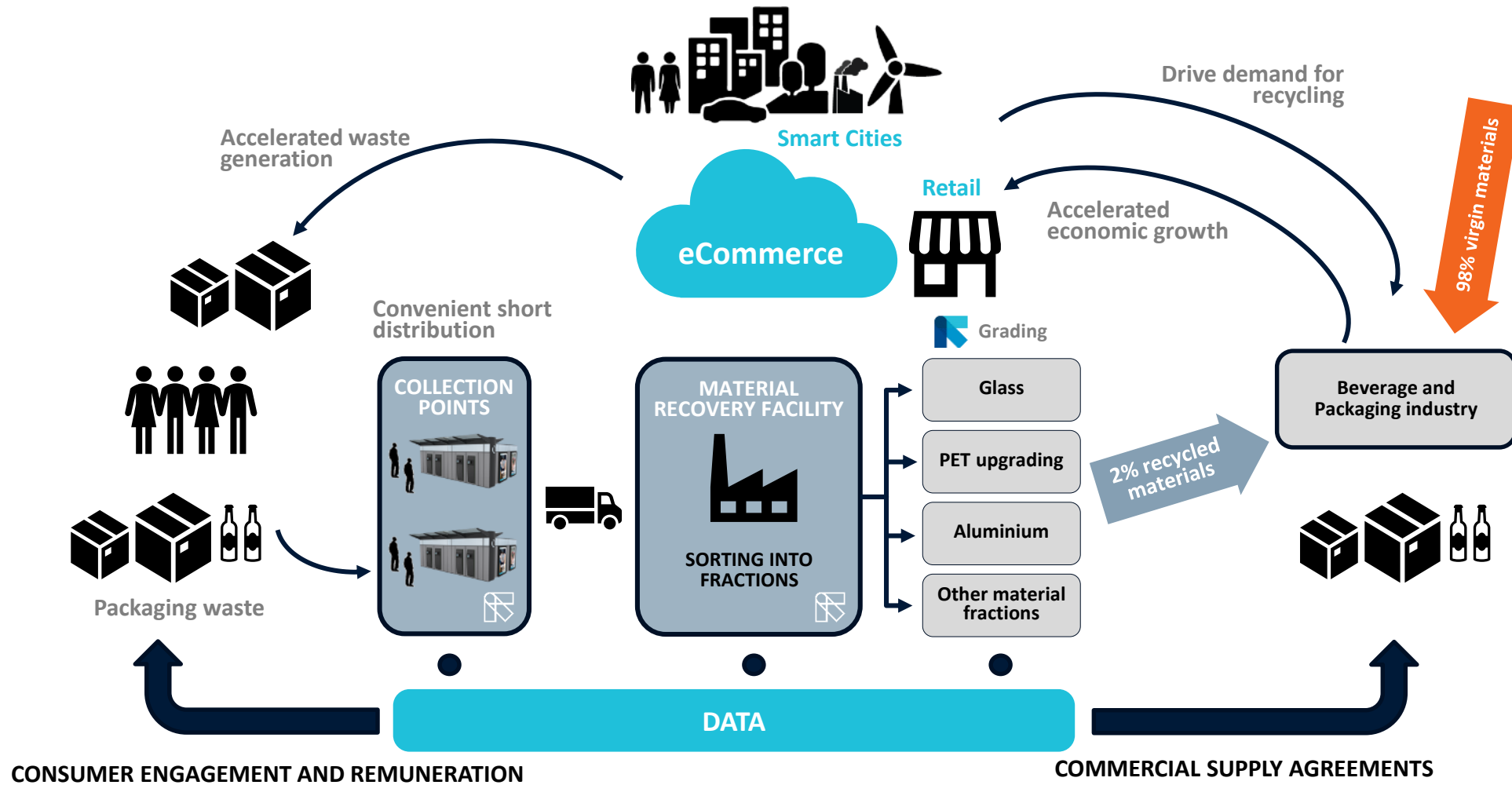
PAPER



**VALUE
PROPOSITION***
\$ 30–40 BN

~80 % of produced paper is potentially recyclable, ~400 mln tonne annually x 80% = 320 mln t/a potentially recyclable paper in the market. Today, ~58 % or 230 mln t/a are recycled, means 90 mln tonnes are lost. If this is recovered and goes into the paper recycling process there will be between 10-30% fibre loss, assuming on average 20%. The value of newsprint paper is ~400-600 USD/t, let's assume 500 USD/t = ~90 mln t/a x 80% x 500 USD/t = USD36 bn

THE CIRCULAR ECONOMY AND THE TOMRA CLOSED LOOP



TOMRA's solutions enable a more predictable offtake of high quality recycled materials for same purpose use: Creating the market

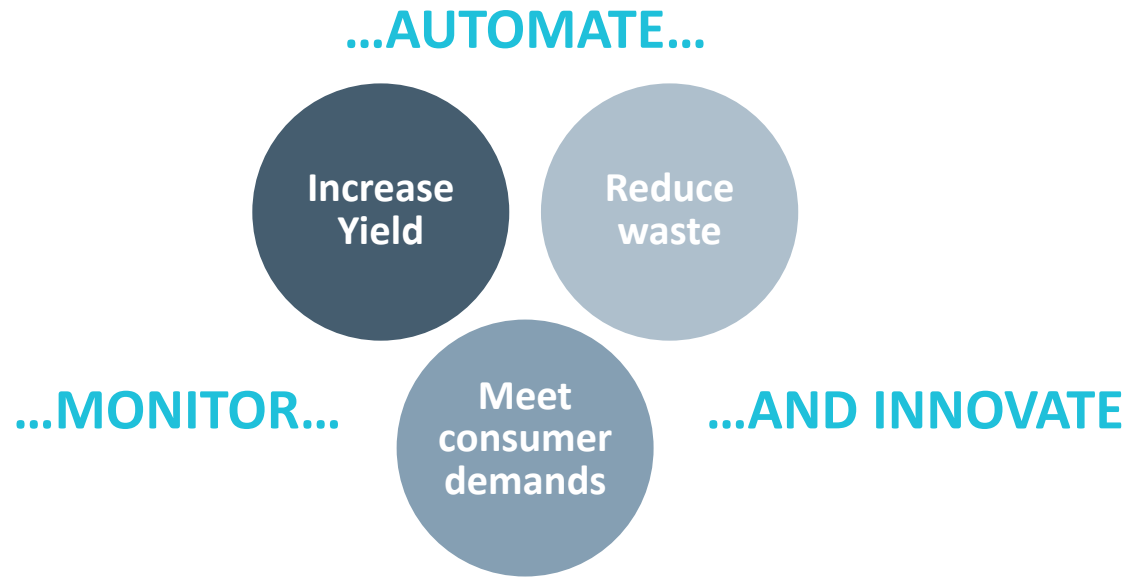


DID YOU KNOW?

- By 2050, a global population of **9.8 billion will require 70%** more food than is consumed today
- We are currently **wasting 33%** of global food production
- The food industry accounts for around **10% of global GDP**
- Agriculture accounts for **20%** of **global greenhouse gas emissions**

NEW WAYS OF FEEDING A FAST GROWING DEMANDING POPULATION...

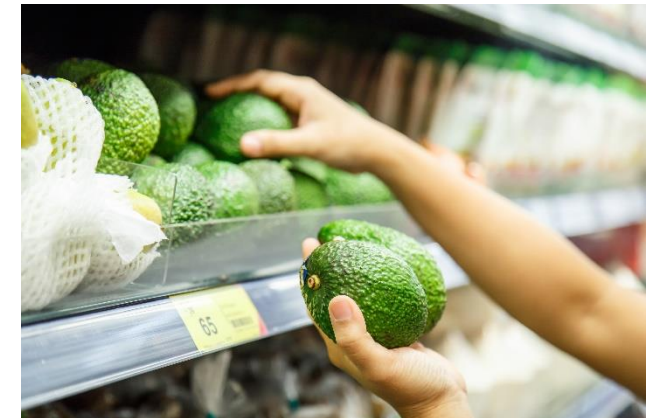
To ensure an efficient food production there is an increased need to...



Feeding a demanding, rapidly growing urbanized population brings opportunities for TOMRA



The digital consumer...



Increased buying power from a growing and wealthier middle-class...

FOOD VALUE CHAIN IS GETTING MORE COMPLEX AND DRIVES THE FOOD MARKET TOWARDS NEW SOLUTIONS



Production

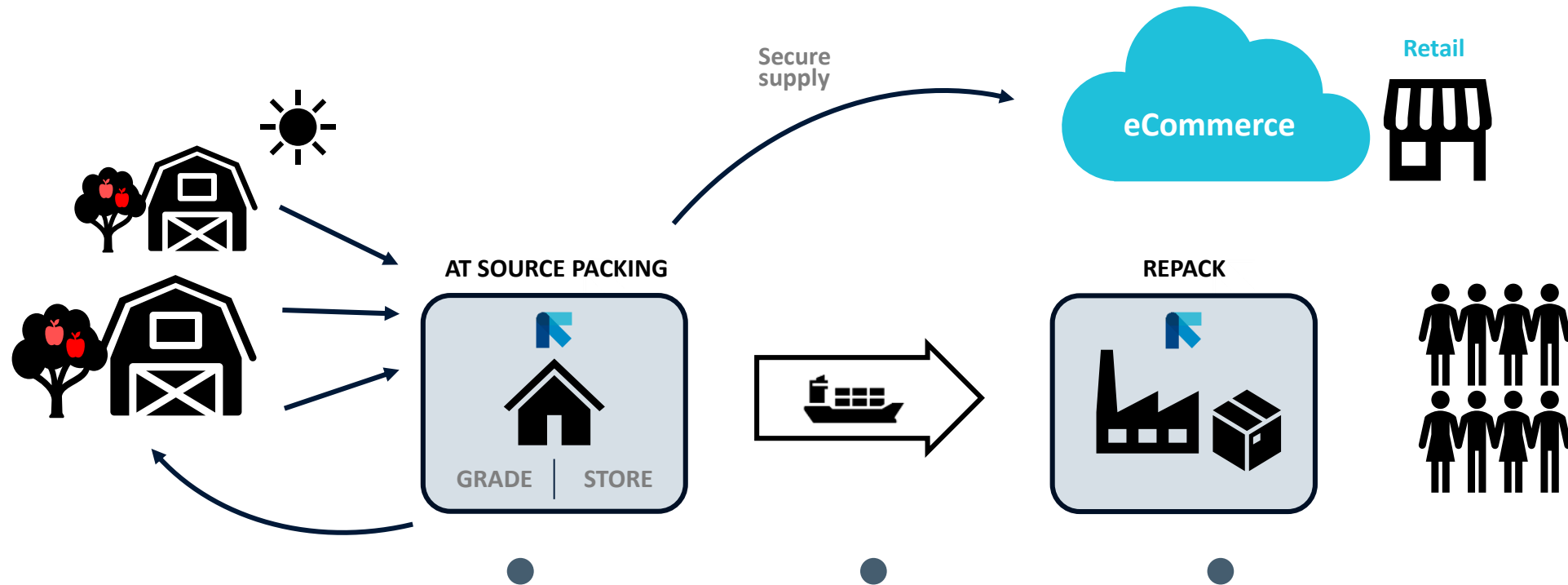


Distribution



Consumption

TOMRA TO PLAY A DIFFERENCE IN THE FUTURE OF FOOD PRODUCTION



DATA GENERATED THROUGH THE VALUE CHAIN SERVE MULTIPLE PURPOSES

Improved Farming	Determine taste, Ripeness & Defects	Reduce food waste	Traceability
Uniform Quality	Increase Yield	Optimise storage	Maximise use

TOMRA's solutions enable improved yield for the producers and sellers of food, as well as reduction of food waste post sorting/grading

OUR BIGGEST GLOBAL CHALLENGES = OUR BUSINESS OPPORTUNITIES



SUSTAINABLE DEVELOPMENT GOALS



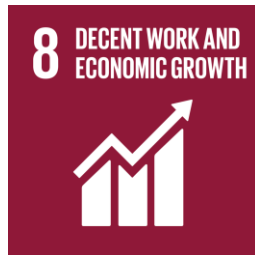
MAKING MEANINGFUL CONTRIBUTION ALONG THE WAY

Thematic Support: Future of Food & Circular Economy



TOMRA's mission is to create sensor-based solutions for optimal resource productivity,
making sustainability profitable
– with increased relevance and meaning

The TOMRA Operations



TOMRA's Corporate Responsibility Program will support the vision of leading the resource revolution,
through the impact of our people, products & services

Tangible actions to demonstrate our purpose of business

FROM PURPOSE INTO PROFITS AND
PROFITS INTO PROGRESS, TOMRA IS
TRANSFORMING WHAT IT MEANS
TO BE RESOURCEFUL.



- Our solutions, in use around the globe, helped keep **~25 millions of tons of CO₂** from being released into the atmosphere in 2017
- **~35 bn used beverage containers are captured every year** through our reverse vending machines
- Our steam peelers process **~15 million tons of potatoes per year with a 1% yield improvement** over other alternatives
- **~715,000 tons of metal are recovered** every year by our metal-recycling machines



TOMRA AT A GLANCE



4000+

EMPLOYEES
GLOBALLY

Publicly listed on Oslo Stock Exchange (OSEBX: TOM)



8.6

BILLION NOK
REVENUES IN 2018



FOOD



RECYCLING



MINING



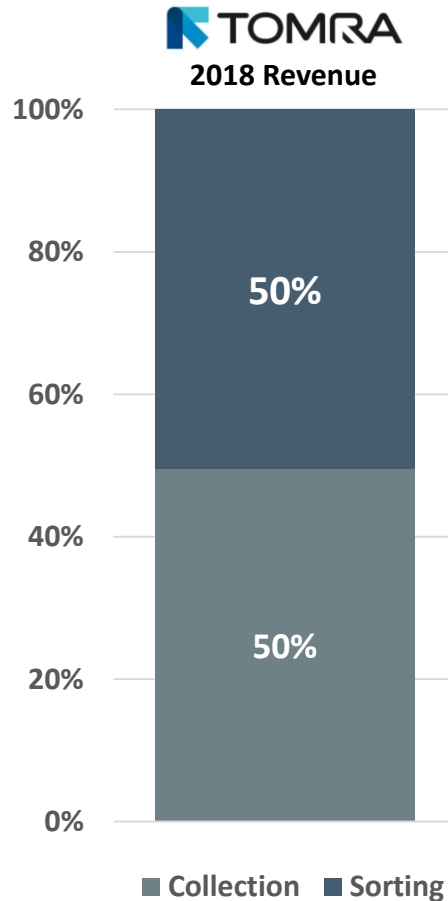
REVERSE VENDING



MATERIAL RECOVERY



CREATING VALUE THROUGH TWO STRONG BUSINESS AREAS

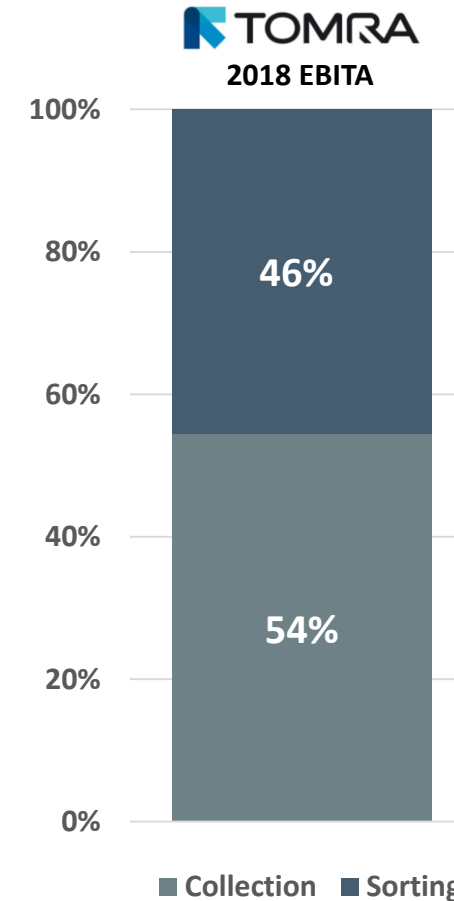


- High growth
- High margins
- Medium cyclicity

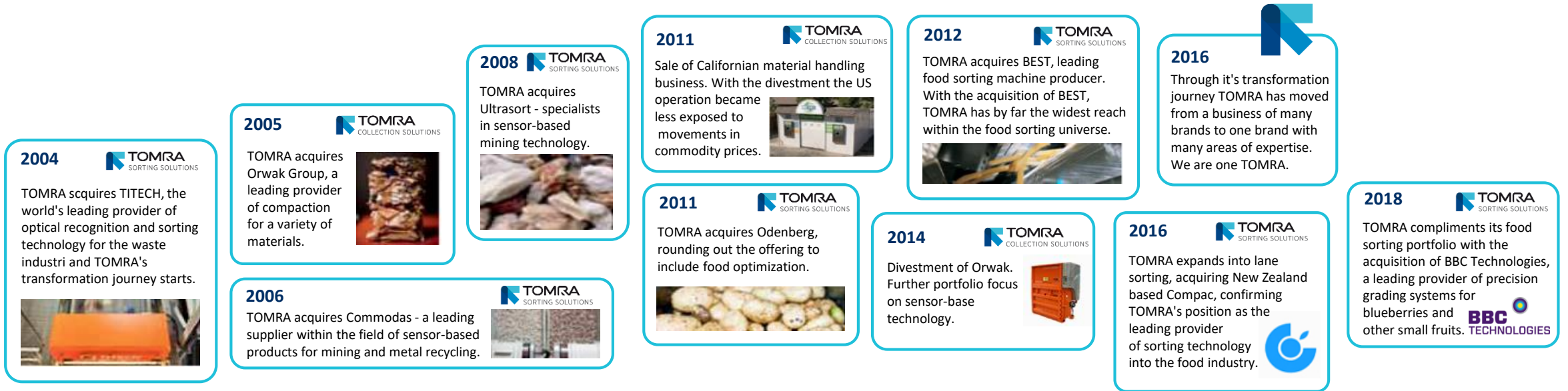
Technology leadership - sustainable business



- Stable
- High margins
- Low cyclicity



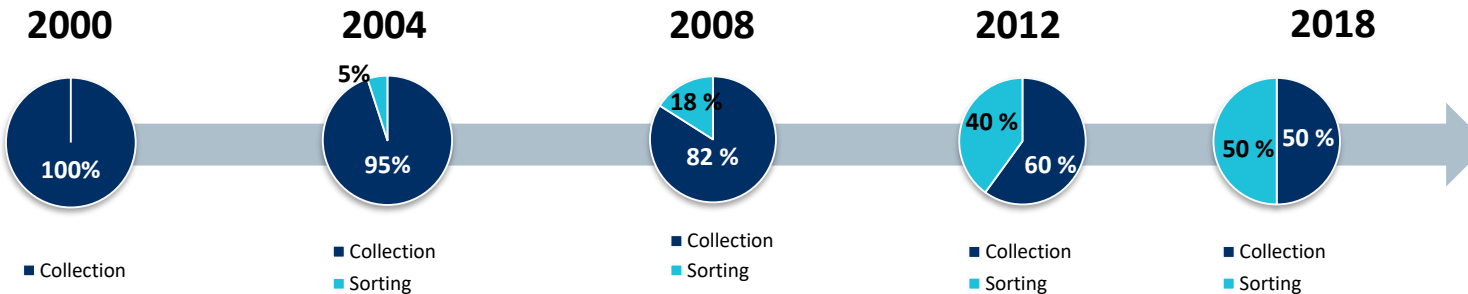
THE TOMRA TRANSFORMATION JOURNEY



FROM:



Helping the world recycle



TO:



LEADING THE RESOURCE REVOLUTION

TOMRA'S TWO BUSINESS AREAS



FOOD

Share of '18 sales	~34%
Employees	1370
Customers	Food growers, packers and processors
Market share	Bulk: ~25% Lane: ~25%

RECYCLING

Share of '18 sales	~13%
Employees	240
Customers	Material recovery facilities, scrap dealers, metal shredder operators
Market share	~55-65%

MINING

Share of '18 sales	~3%
Employees	80
Customers	Mining companies
Market share	~40-60%

TOMRA SORTING GROUP FUNCTIONS & SHARED STAFF

Employees	245
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REVERSE VENDING

Share of '18 sales	~38%
Employees	1,500
Customers	Grocery retailers
Market share	~75%

MATERIAL RECOVERY

Share of '18 sales	~12%
Employees	590
Customers	Grocery retailers and beverage manufacturers
Market share	~60% in USA (markets served)



INSTALLED BASE WORLDWIDE



REVERSE VENDING

Nordic	~15,100
Germany	~30,000
Other Europe	~14,600
North America	~16,000
Rest of the world	~7,400

TOTAL ~83,100



RECYCLING

EMEA	~4,250
Americas	~865
Asia	~820
Other	~25

TOTAL ~5,960

MINING

Europe	~28
US / Canada	~41
Australia	~12
South Africa	~37
Other	~35

TOTAL ~153

FOOD BULK

EMEA	~3,250
Americas	~2,950
Asia	~675

TOTAL ~6,875

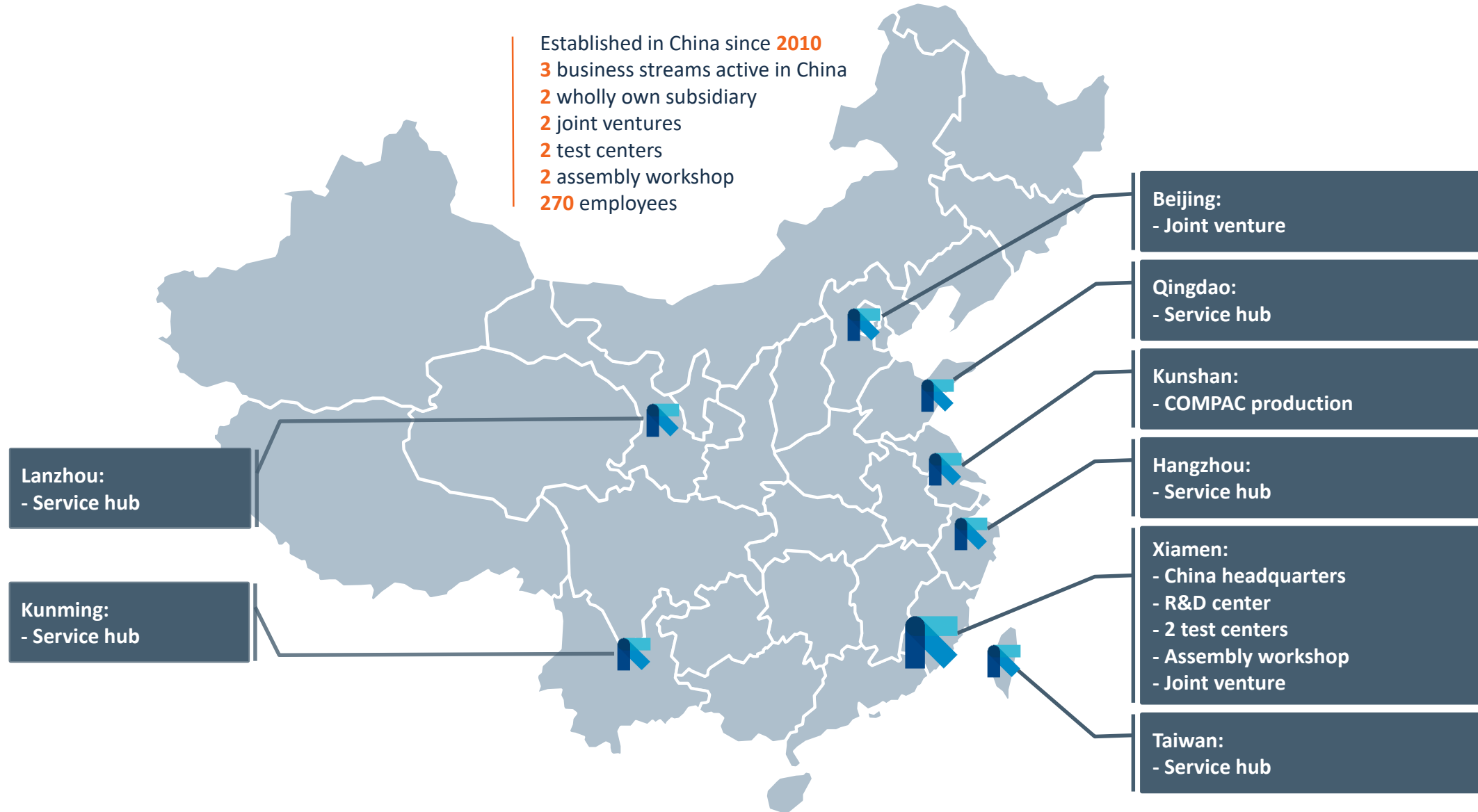
FOOD LANE

EMEA	~790
Americas	~1,705
APAC	~840

TOTAL ~3,335

Food Lane includes Compac and BBC

STRENGTHEN PRESENCE IN CHINA



The image features a futuristic, blue-toned industrial interior. The background shows a long, narrow corridor with a series of parallel, metallic-looking structures that create a sense of depth and perspective. The lighting is soft and diffused, highlighting the metallic surfaces. In the foreground, a large, circular, blue lens-like component is prominently displayed, centered horizontally. This component has a dark, circular opening in the center, giving it the appearance of a camera lens or a sensor. The overall aesthetic is clean, modern, and high-tech.

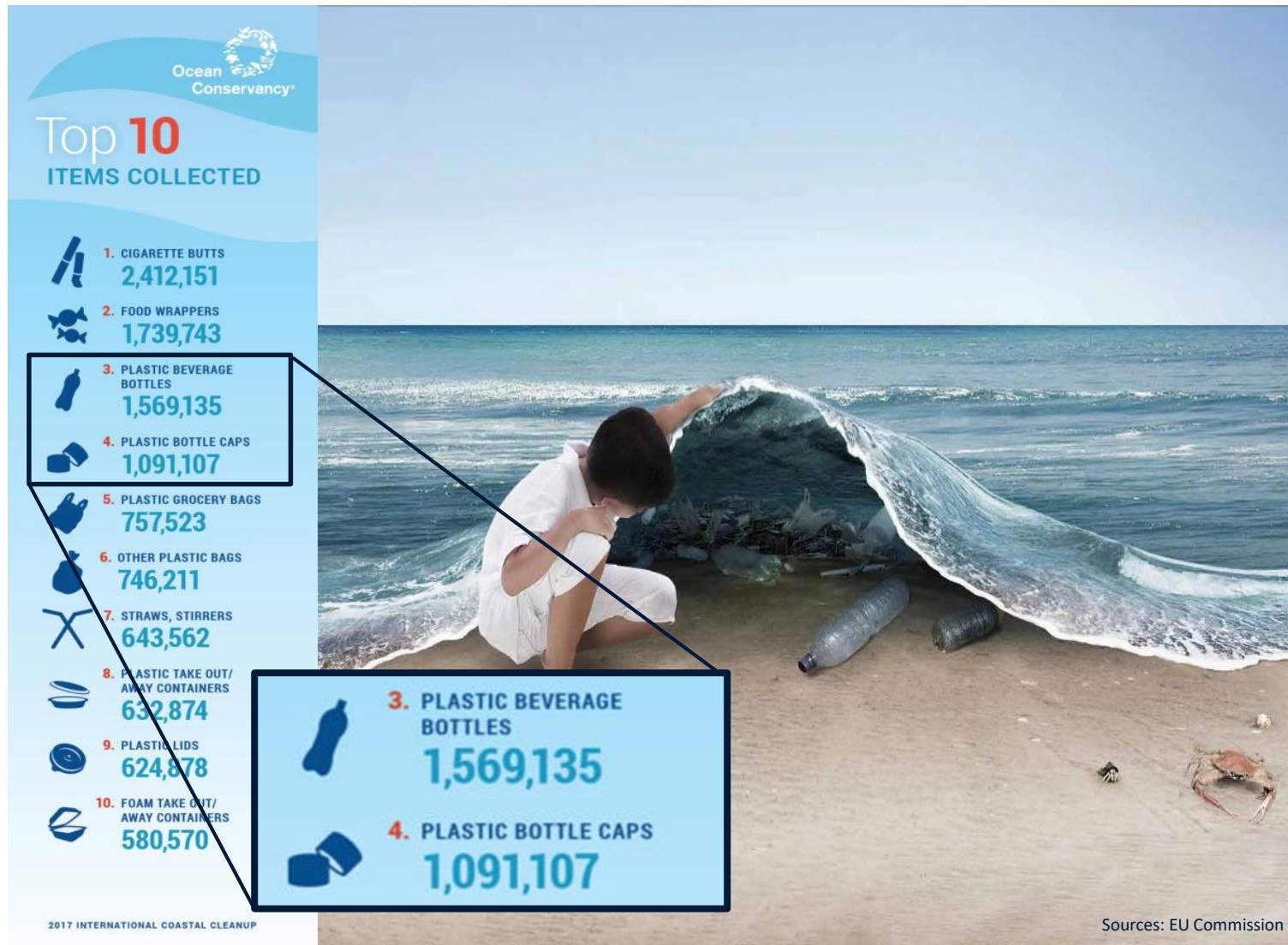
TOMRA COLLECTION SOLUTIONS

RETURNS INTO VALUE

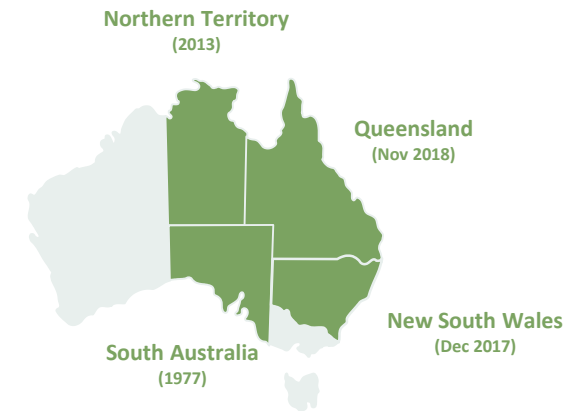
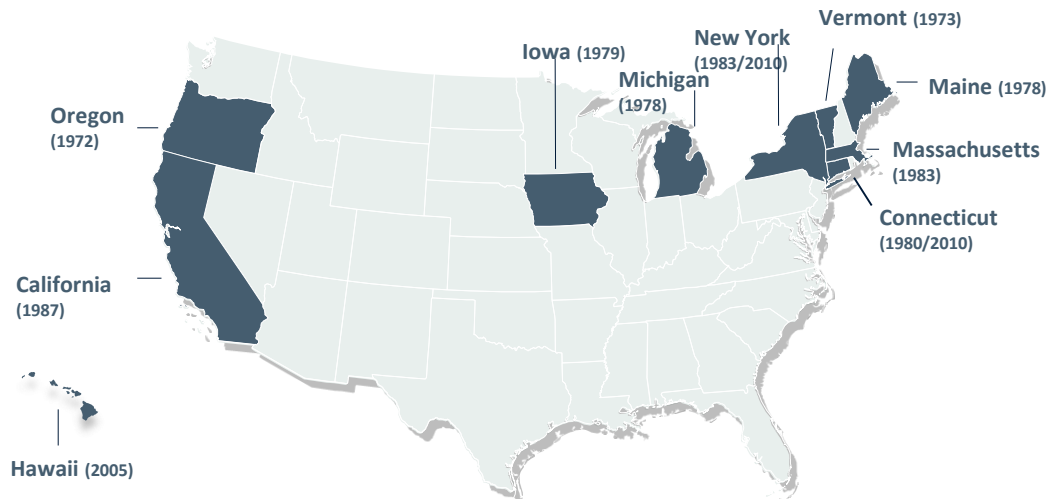
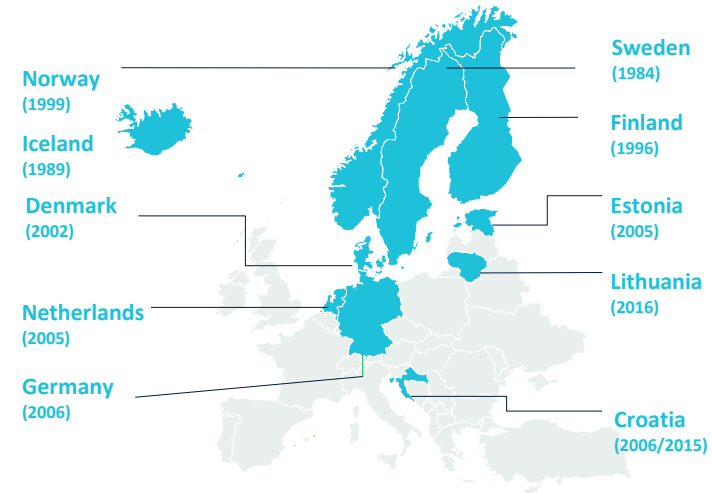
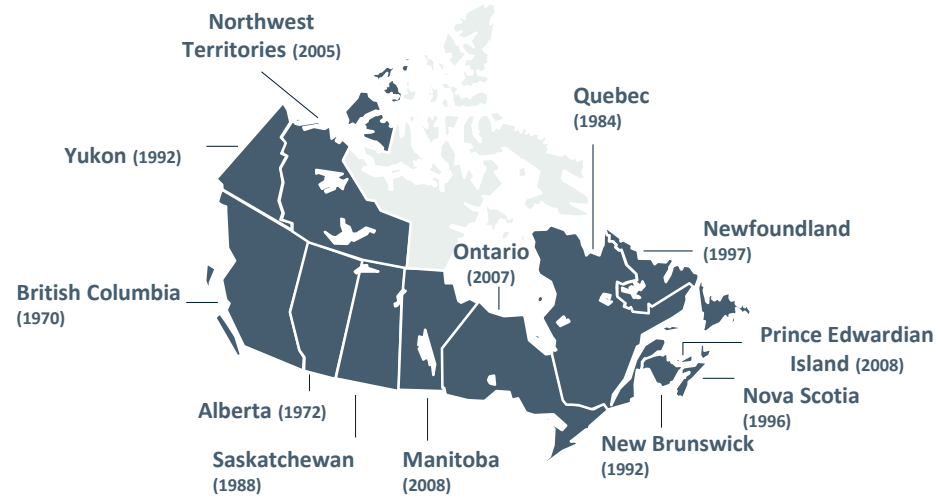
DID YOU KNOW?

- **1 million** plastic bottles are bought around the world every minute
- **Less than half** of all purchased plastic bottles are collected for recycling
- **~ 35bn** beverage containers are **captured by TOMRA** every year...
- ...representing only **2.5%** of all beverage containers sold in 2017

INCREASING PUBLIC PRESSURE TO REDUCE WASTE AND LITTERING



AN OVERVIEW OF CURRENT DEPOSIT MARKETS*



* In addition, some markets have refillable deposit systems such as: Austria, Belgium, Chile, Czech Republic, France, Hungary, Poland and South Korea

UPCOMING DEPOSIT MARKETS ON THE MOVE

— Recently approved
— In progress

North America:

Possible expansion of deposit system in Quebec

Scotland:

Commitment to a Container Deposit Scheme announced in party program

England:

Announced plans for a deposit scheme to reduce plastic pollution. Consultation period to follow

EU Single-Use Plastic Directive:

Targets on recycled content and collection target for plastic bottles. Deposit scheme mentioned as a mean to reach those targets.

Australia:

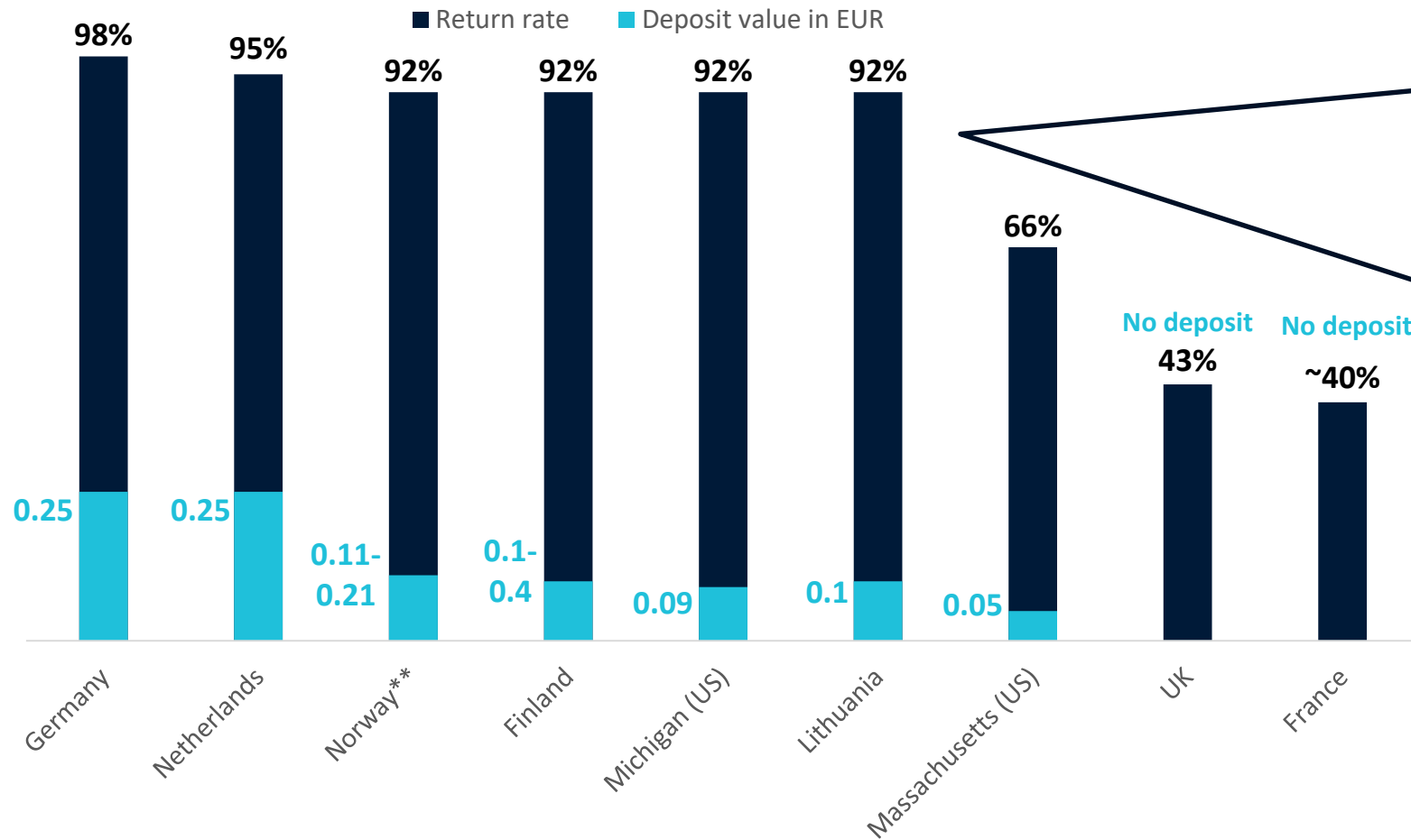
NSW introduced deposit from December 2017
QLD introduced deposit from November 2018

Western Australia might introduce in 2020



A PROVEN SOLUTION TO ACHIEVE HIGH RETURN RATES

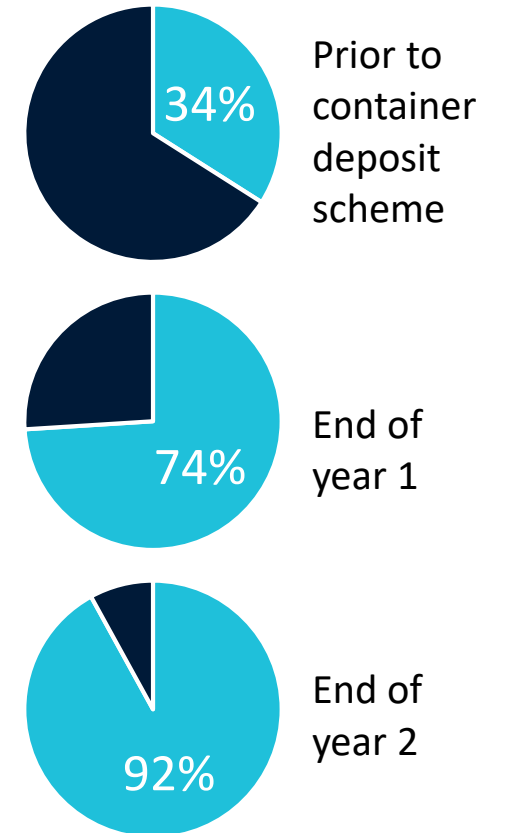
Return rate and deposit value* for various container deposit schemes



*Deposit values converted to EUR for comparison purpose

**Norway increased its deposit value to 0.21-0.31EUR since 01.09.2018

Return rates in Lithuania

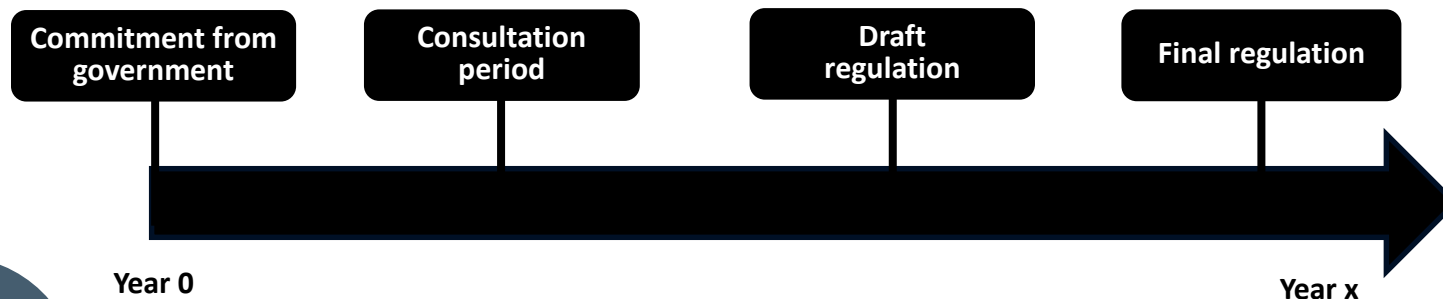


DESIGNING A DEPOSIT SCHEME – LENGTHY PROCESS FROM IDEA TO LAW

Many stakeholders around the table



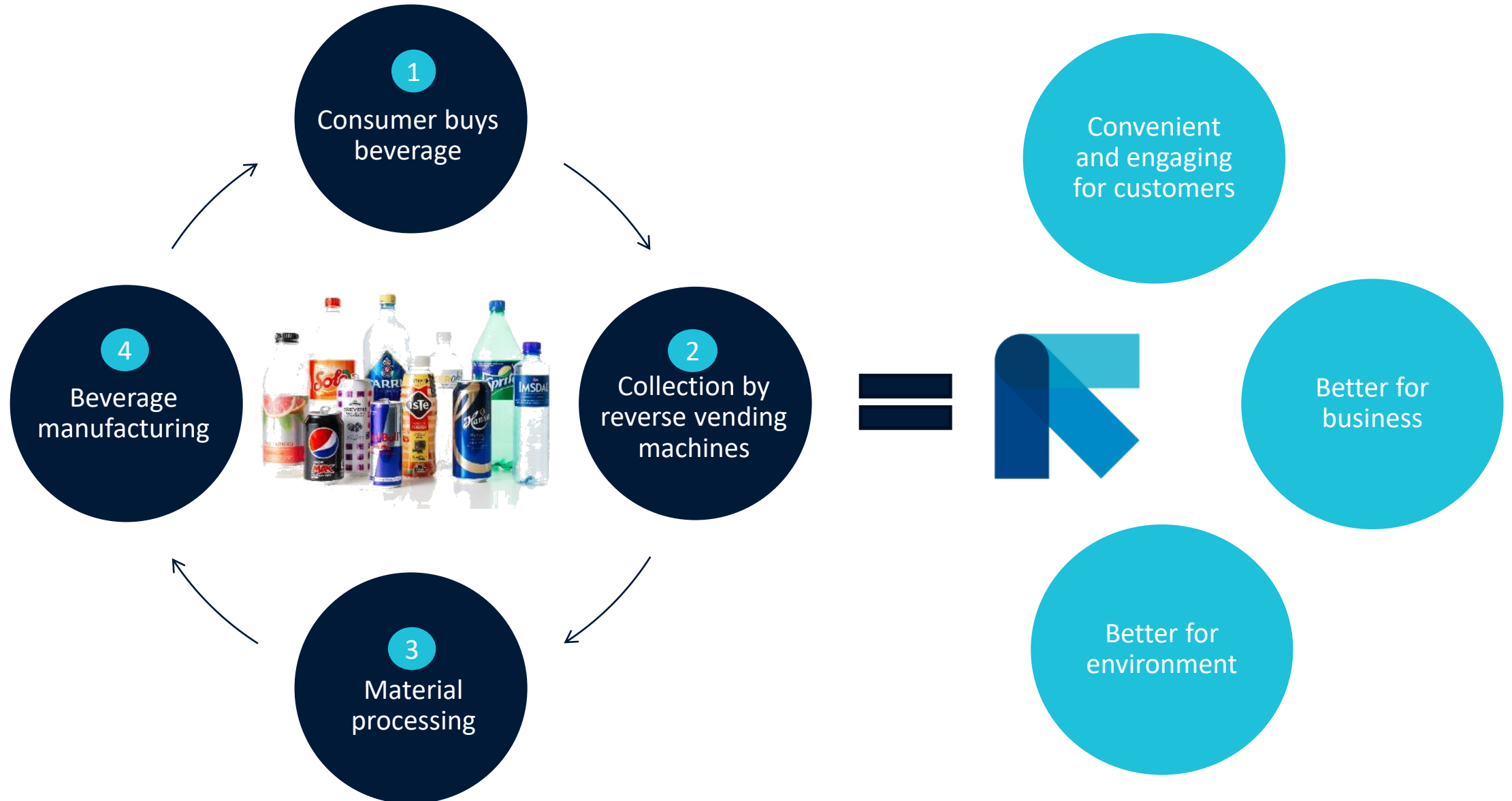
Illustrative legislation process



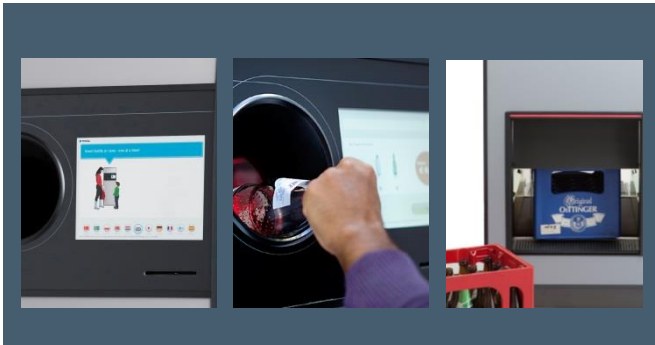
Many questions to address:

- Types of material and product included
- Measurement of success and effectiveness
- Deposit value
- Participants and their role
- Financing of the scheme
- Deployment of infrastructure and logistics
- Fraud prevention
- System regulation and monitoring

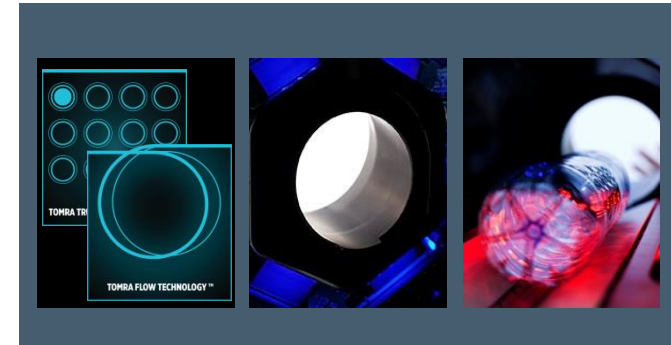
THE BENEFITS OF REVERSE VENDING IN A CONTAINER DEPOSIT SCHEME



ELEMENTS OF A MODERN REVERSE VENDING SYSTEM



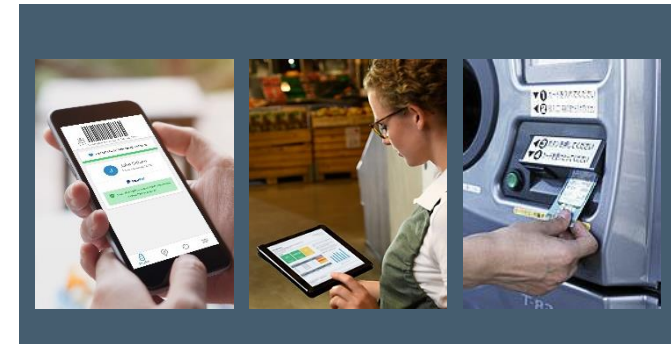
User communication



Recognition system



Sorting & processing



Data administration

Key market and consumer trends drive structural changes...

CONSUMER TRENDS



Bag drop solutions, reverse logistics from e-commerce

RETAILER TRENDS



Bigger chains but smaller stores, self-service

MATERIAL TRENDS



Biodegradable bottles

STAKEHOLDER TRENDS



Beverage producers more proactive to set the scene

...REFLECTED IN SHIFTING BUSINESS MODELS AND STAKEHOLDERS

Sales & Service model



RVM placed inside retail stores with retailers as key customers



Upfront revenue



Profitable service concept



Proven track record



Low risk

Throughput model



Fee-based model with potentially many key customers such as government, recyclers and scheme operators



High recurring revenue



Swift roll-out



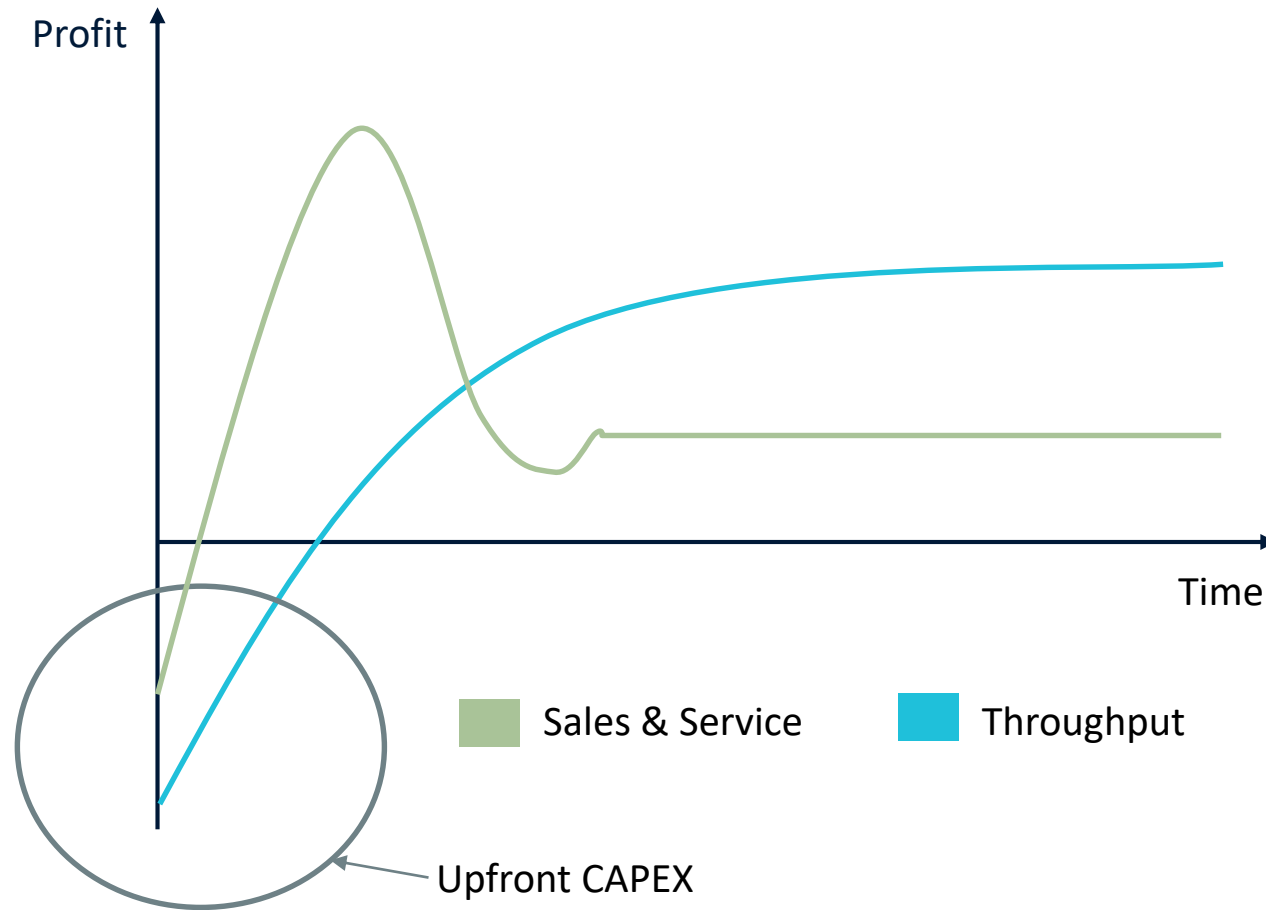
Aligned interests



Holistic approach

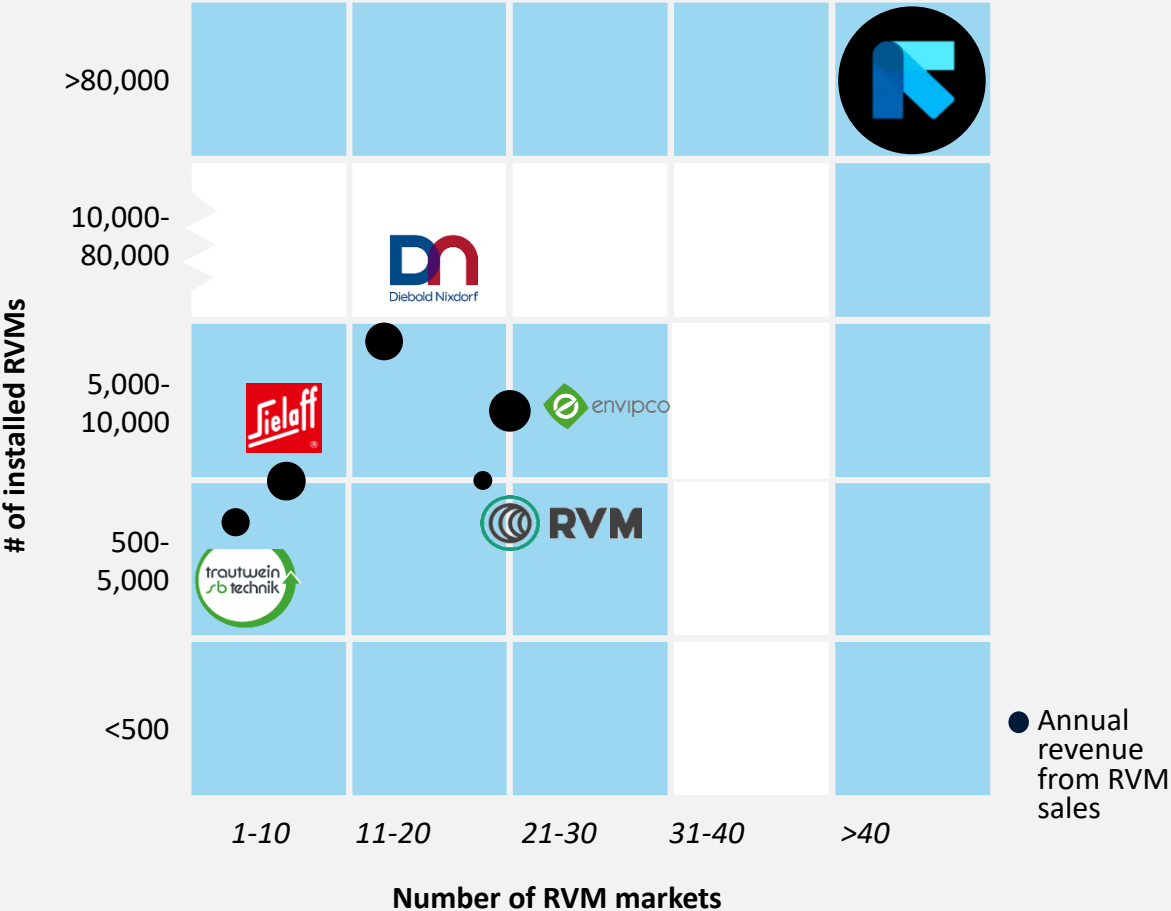
A COMMENT ON THE CAPITAL EXPENDITURE NEEDS

Illustrative revenue profiles for the two main type of business models for Collection Solutions



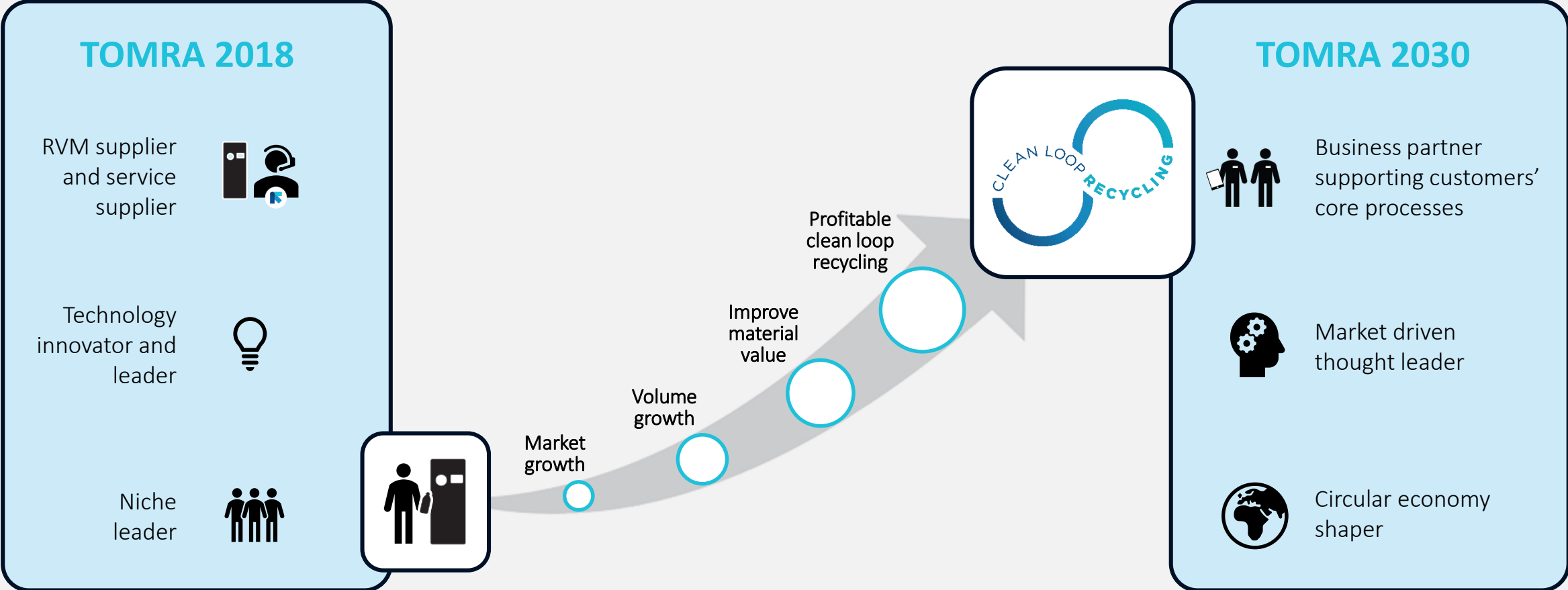
Uncertainties around timing and design of each new container deposit scheme can have significant impact on the revenue profile for Collection Solutions.

Undisputed market leader within reverse vending technology



The smarter TOMRA system.

Moving from a RVM supplier to global frontrunner and thought leader within circular economy



Strong competitive advantages and growth focus

KEY STRENGTHS



Product and service leadership



Production capacity and supply chain



Efficient new market entry



Financial strength to support throughput business models



Human resources to support the growth



Strong brand awareness

PLAYING FIELD

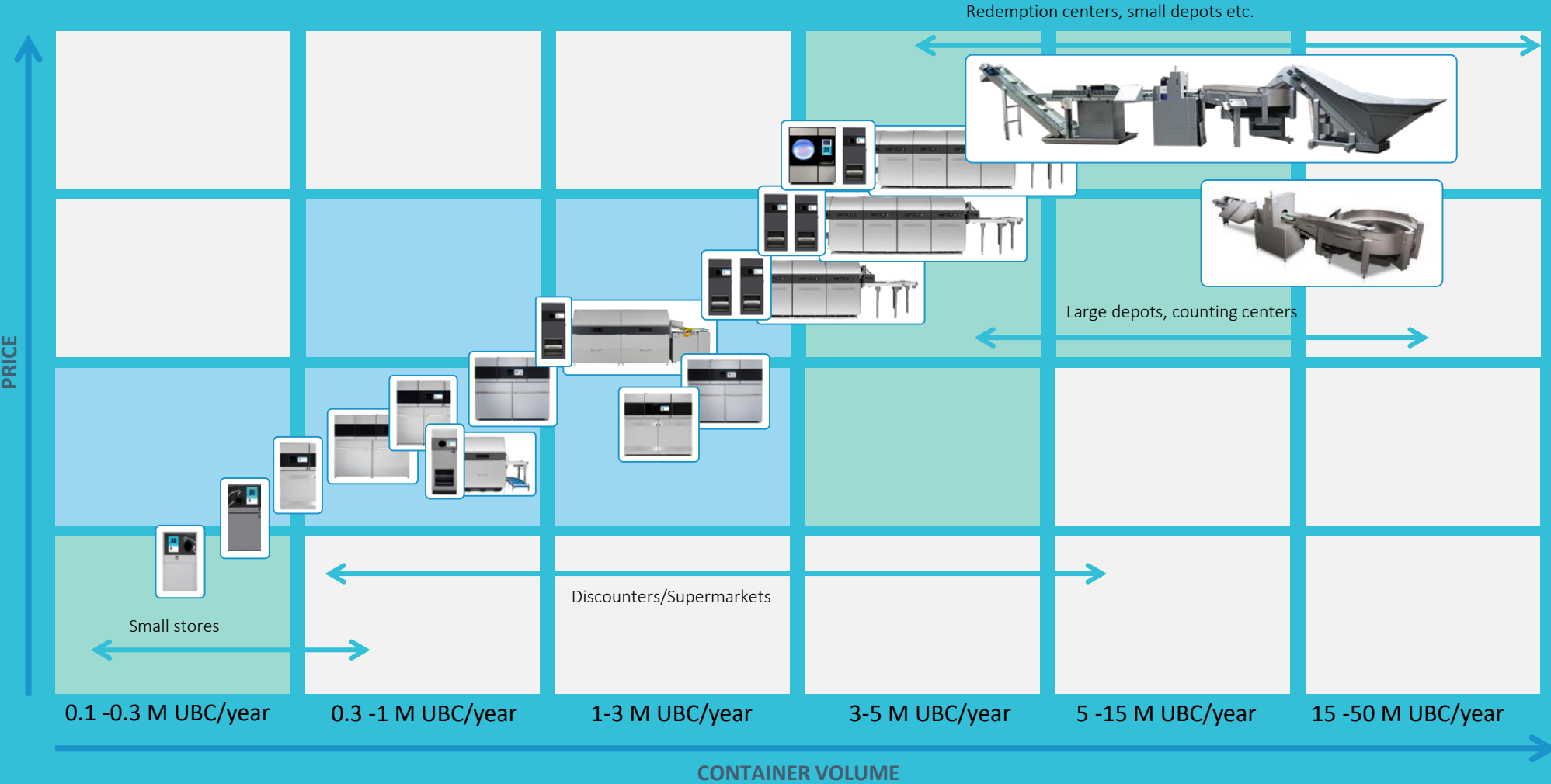


BASE MARKETS



GEOGRAPHICAL EXPANSION

Flexibility and scalability to enable new business models and new market entry



A complete digital portfolio designed to win

1. Win in new markets

2. Drive solutions for volume and throughput growth initiatives

3. Support growth and increase TOMRA's relevance in base markets

4. Industry leading fleet service & operations



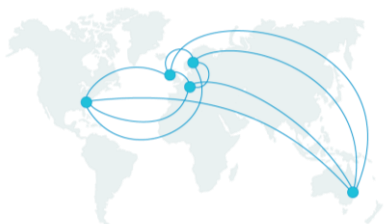
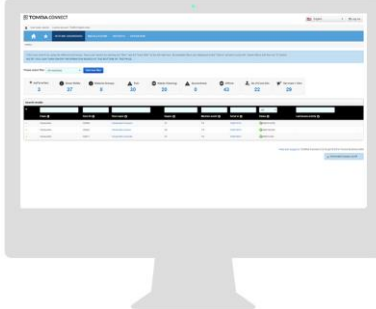
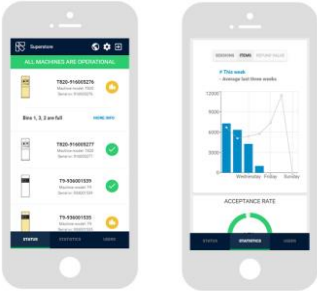
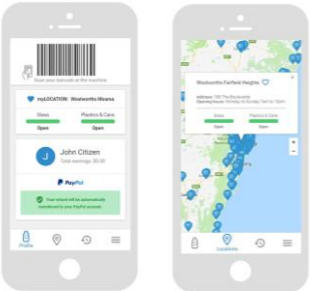
▲
Consumer Services

▲
Applications and SaaS

▲
Data Solutions

▲
Service and Operational Tools

▲
IoT Platform



Engage consumers to drive volume in throughput markets

Deliver a convenient and engaging recycling experience for consumers that increase the participation and drive volume through our installations.



Partner with relevant players



Facilitate and educate



Modernize and enhance the consumer journey



Share stories and inspire change



Drive community engagement



Keep track of your recycling rewards with the myTOMRA app.













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follow us to stay in the Loop



A dynamic organization catered for growth

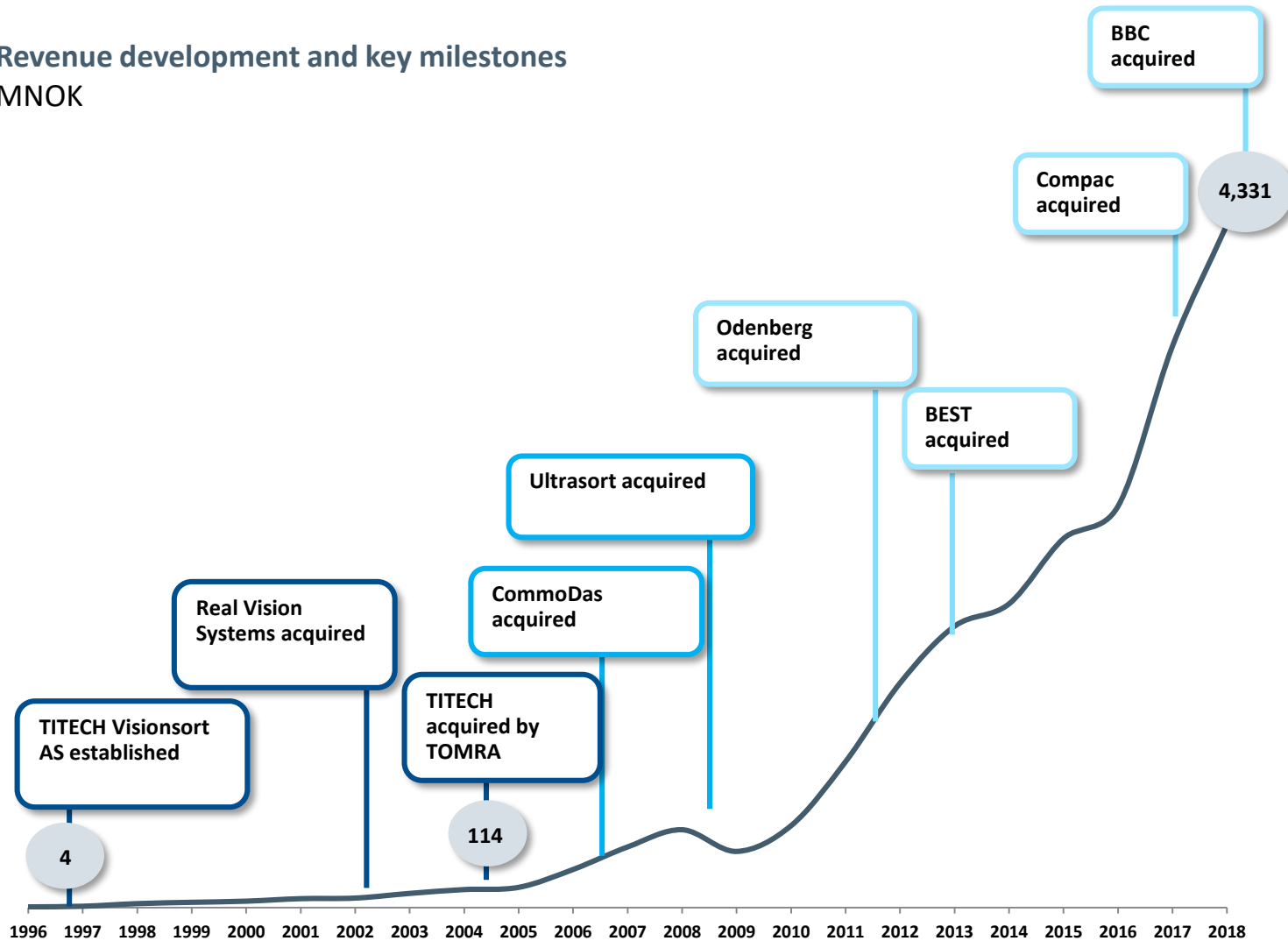
Products and services	FROM	 Machine centric	TO	 Holistic solution partner
Production and supply chain	FROM	 Supplemented by third parties	TO	 Scalable with third parties
New market entry	FROM	 HQ Regions	TO	 HQ Regions New Markets
Financials	FROM	 Sales & Services	TO	 S&S + TP Recurring revenues
Human resources	FROM	 Basic activities	TO	 People development
Brand & marketing	FROM	 B2B	TO	 B2H



TOMRA SORTING SOLUTIONS

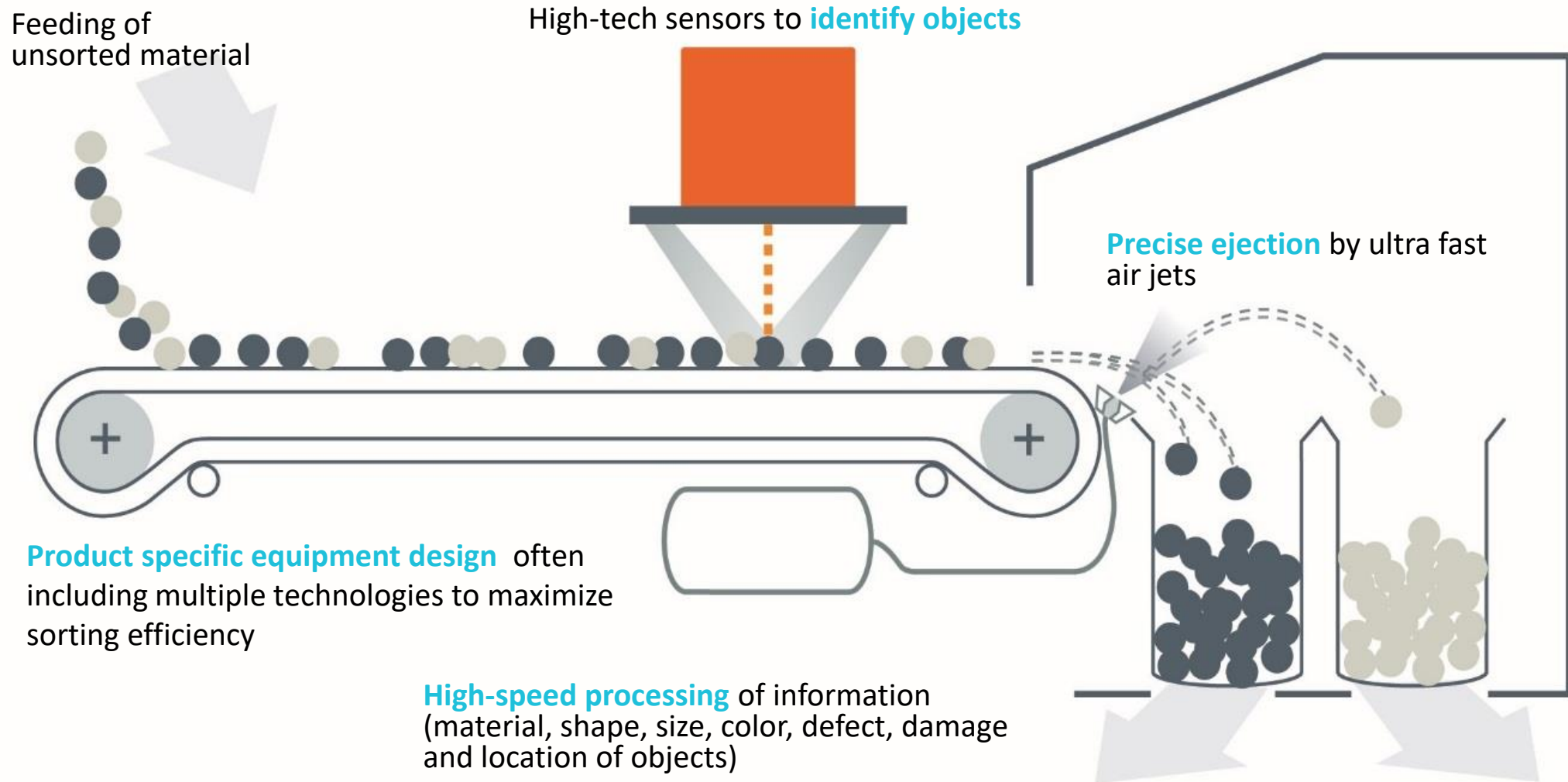
STRONG REVENUE GROWTH SINCE INCEPTION IN 1996

Revenue development and key milestones MNOK

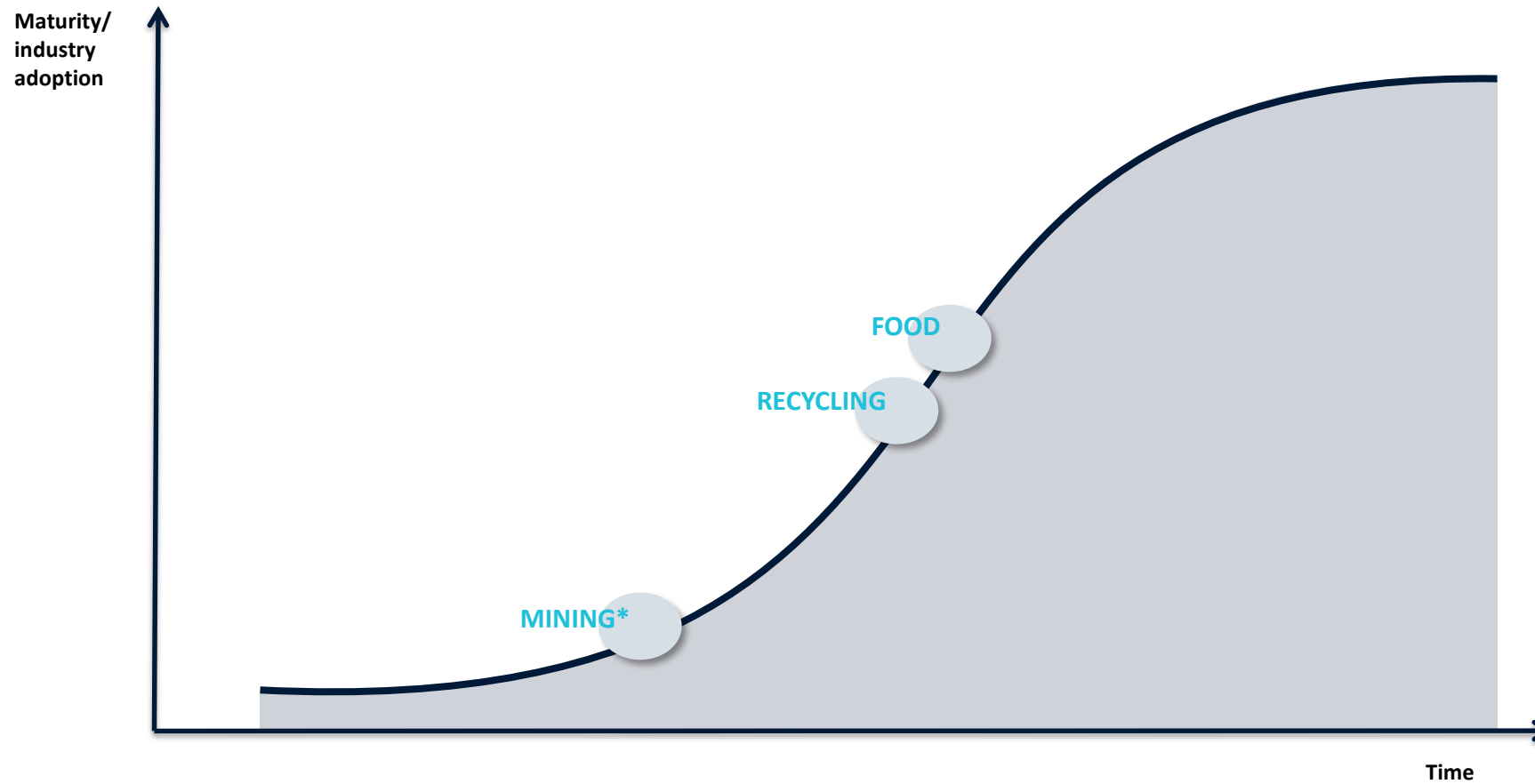


- Total revenue growth (organic plus inorganic) CAGR of ~30% per year from 2004-2018
 - Average annual organic growth for the same period was ~16%
- Technology base and segment/application knowledge expanded both through acquisitions and in-house ventures

HOW DOES SENSOR BASED SEPARATION WORK?

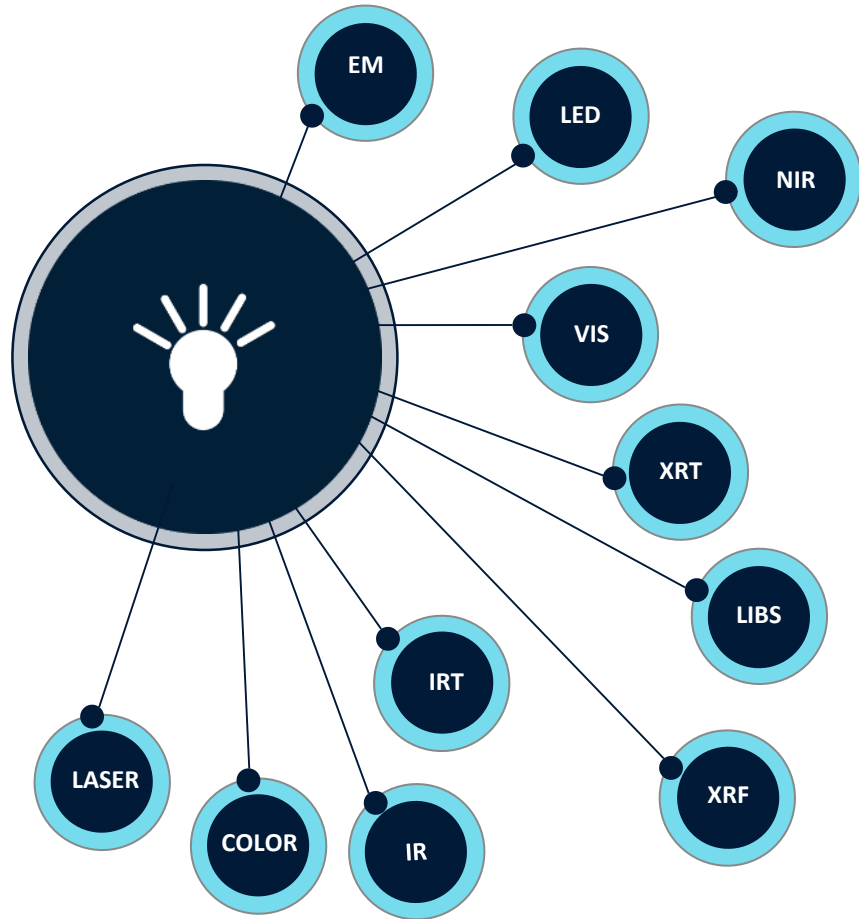


ADOPTION OF SENSOR-BASED SORTING AT DIFFERENT MATURITY LEVELS



* In certain mining sub-segments, such as industrial minerals and diamonds, sensor-based sorting is a more mature technology

A COMMON SENSOR-BASED TECHNOLOGY PORTFOLIO



- **ELECTROMAGNETIC SENSOR (EM)**
Electro-magnetic properties like conductivity and permeability
- **LED SPECTOMETRY (LED)**
Color and spectral properties based on multiple LED light sources in very high optical resolution
- **NEAR-INFRARED SPECTROSCOPY (NIR)**
Specific and unique spectral properties of reflected light in the near-infrared spectrum
- **VISIBLE LIGHT SPECTROMETRY (VIS)**
Specific and unique spectral properties of reflected light in the visible spectrum
- **X-RAY TRANSMISSION (XRT)**
Atomic density irrespective of surface properties and thickness
- **LASER INDUCED BREAKDOWN SPECTROSCOPY (LIBS)**
Elemental composition
- **X-RAY FLUORESCENCE (XRF)**
Elemental composition
- **INFRARED TRANSMISSION (IRT)**
Density and shape properties by light absorption
- **IR CAMERA (IR)**
Heat conductivity and heat dissipation
- **COLOR CAMERA (COLOR)**
Color properties measured in very high optical resolution
- **LASER REFLECTION/FLUORESCENCE (LASER)**
Structural, elemental and biological properties by reflection, absorption and fluorescence of laser light

	RECYCLING	MINING	FOOD
ELECTROMAGNETIC SENSOR (EM)	X	X	X
LED SPECTOMETRY (LED)	X	X	X
NEAR-INFRARED SPECTROSCOPY (NIR)	X	X	X
VISIBLE LIGHT SPECTROMETRY (VIS)	X	X	X
X-RAY TRANSMISSION (XRT)	X	X	X
LASER INDUCED BREAKDOWN SPECTROSCOPY (LIBS)	X		
X-RAY FLUORESCENCE (XRF)	X	X	
INFRARED TRANSMISSION (IRT)			X
IR CAMERA (IR)			X
COLOR CAMERA (COLOR)	X	X	X
LASER REFLECTION/FLUORESCENCE (LASER)	X	X	X

OUR PRODUCTS ARE DETECTING A WIDE RANGE OF PARAMETERS



Color

Removal of discolorations in mono- and mixed-color material



Blemishes

Objects with spots or other (small) blemishes are removed



Defects

Removal of visible and invisible small and substantial defects



Structure

Removal of soft, molded or rotten food



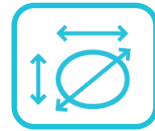
Density

Detection of density differences



Damage

Broken, split and damaged objects are detected and removed



Shape & Size

Sort on length, width, diameter, area, broken-piece recognition, ...



Biometric Characteristics

Sort based on water content and removal of micotoxyn contaminations



Foreign Material

Removal of foreign material in a material stream, e.g. insects, worms, snails or plastics in food applications



Fluo

Based on the chlorophyll level present in produce defects are removed



X-RAY

Analysis of objects based on their density and shape



Detox

Removal of produce contaminated with aflatoxin

 Visible

 Invisible

 Both

EXAMPLES OF CROSS UTILIZATION OF OUR SENSOR TECHNOLOGIES



TITECH NIR + ODENBERG platform

Field Potato Sorter

- The NIR technology allows efficient removal of rocks, dirt and rotten potatoes before the potatoes are stored
- The solution opens up sorting of unwashed potatoes in a way that previously was not possible



BEST LASER + TOMRA mining platform

PRO Laser Duo

- The LASER technology allows detection of quartz of all colors. This opens for sorting of quartz itself, and gold bearing quartz mineralization
- The solution is unique in the market and further underlines our technological leadership



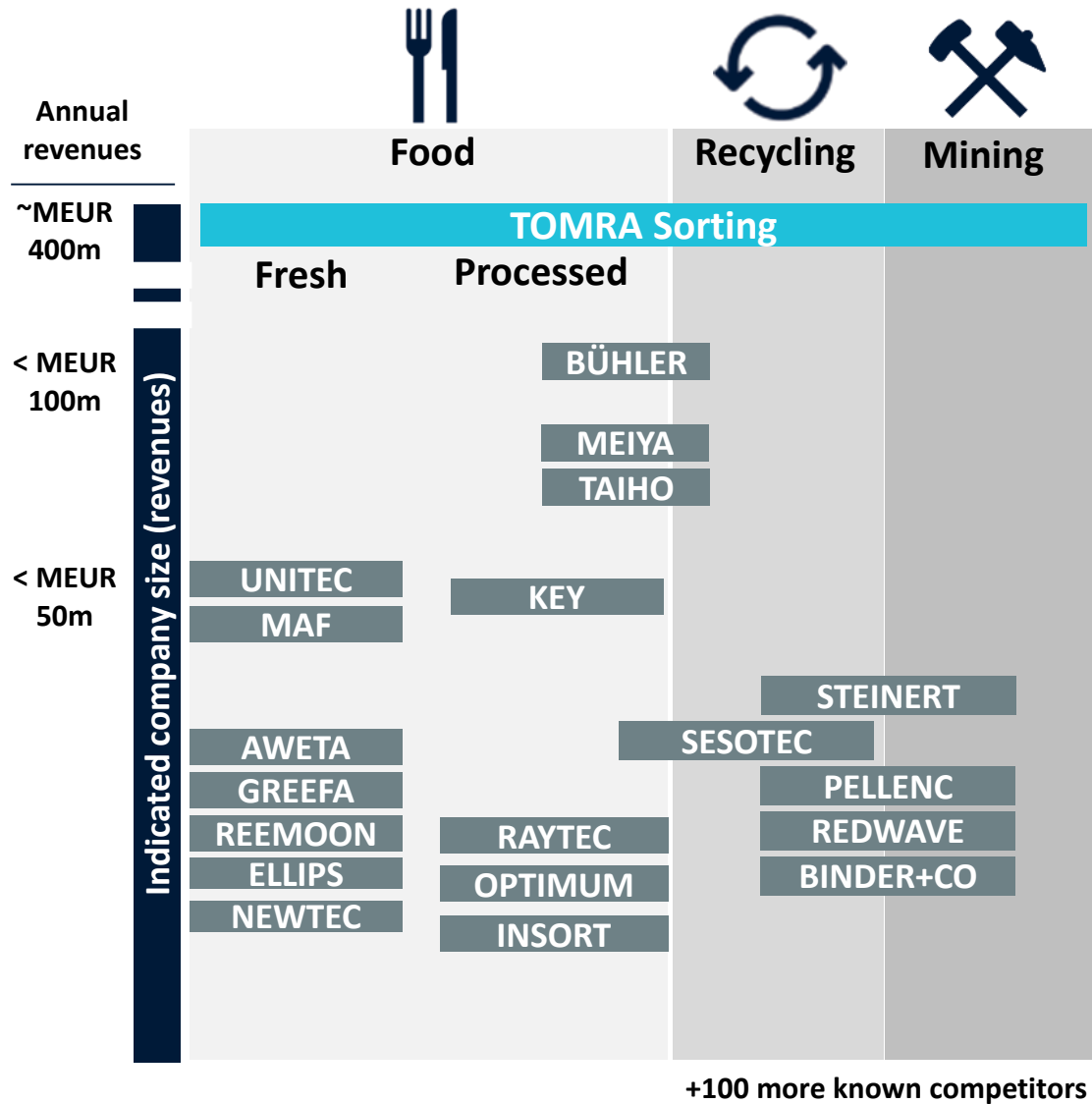
TITECH NIR + BEST LASER

Nimbus BSI

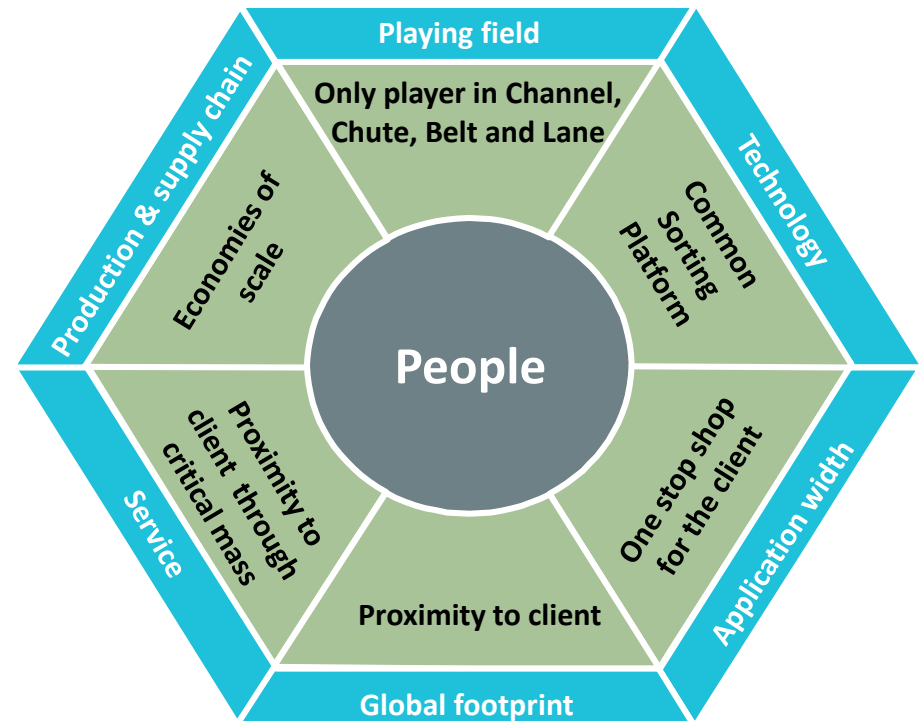
- An NIR sensor has been added to the NIMBUS machine platform
- The new machine increases our competitiveness in the nuts segment

Several more projects on combining technologies into new products in the pipeline

THE BENEFITS OF BEING TOMRA SORTING

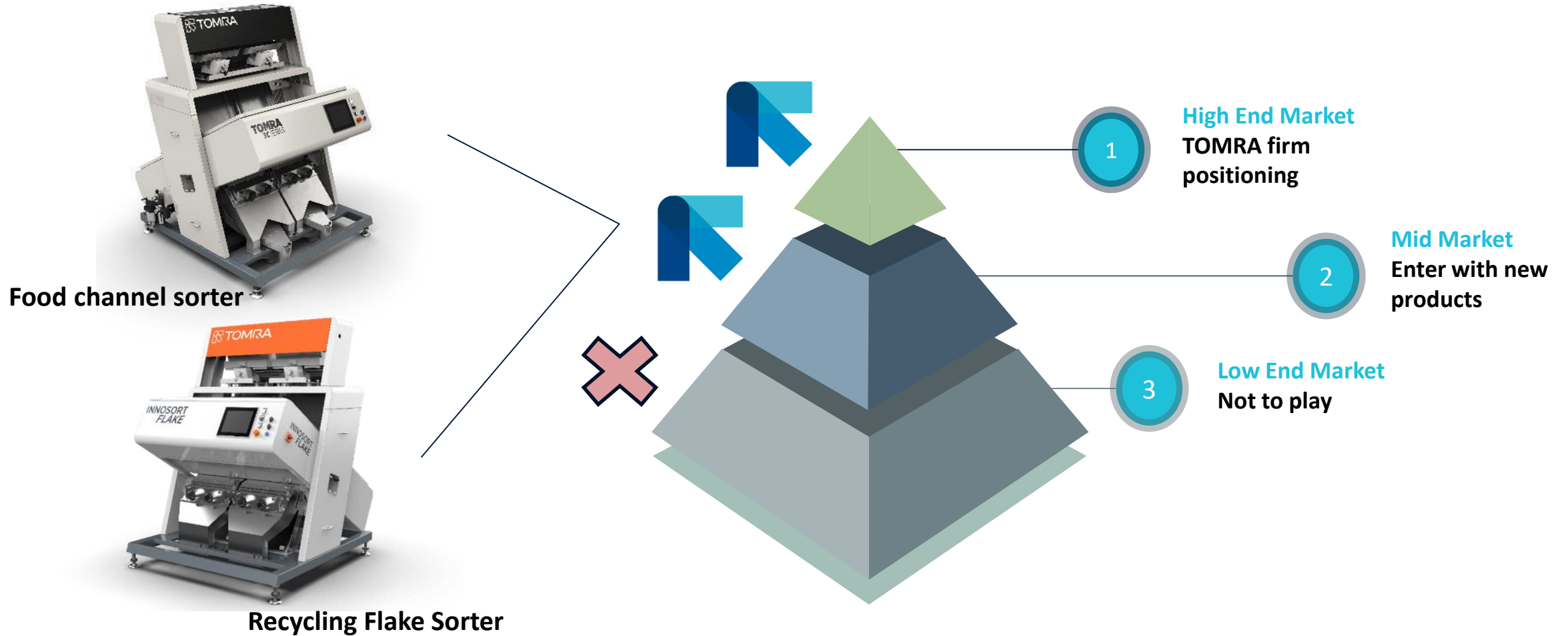


Our position: A solid platform for further growth



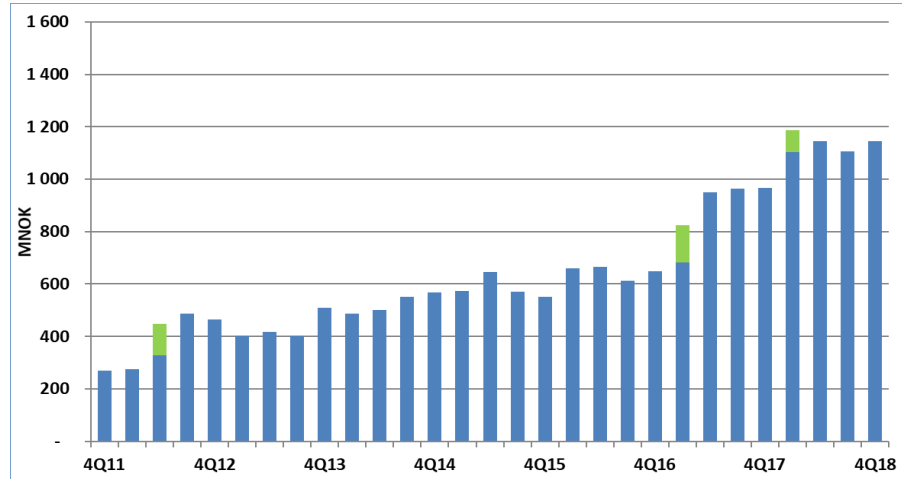
ENTERING NEW MARKETS THROUGH MID-MARKET STRATEGY

Creating competitive offering to fast growing mid-market

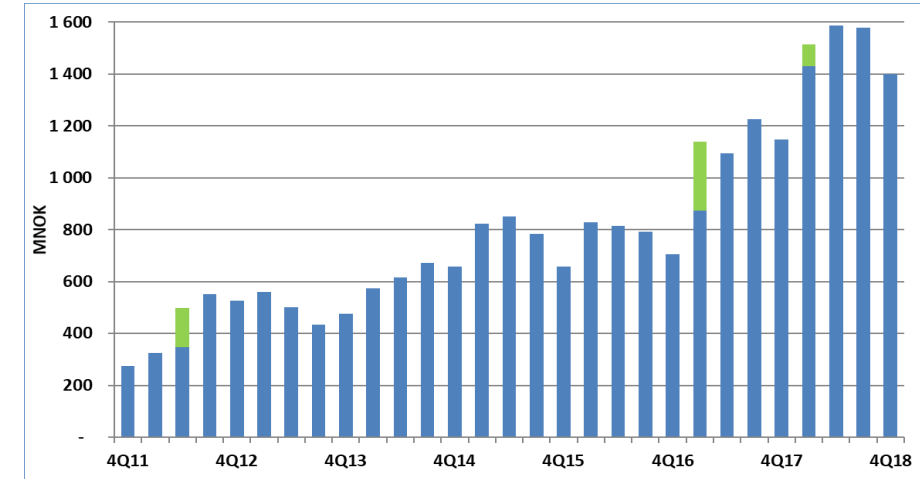


DEVELOPMENT IN ORDER INTAKE AND ORDER BACKLOG

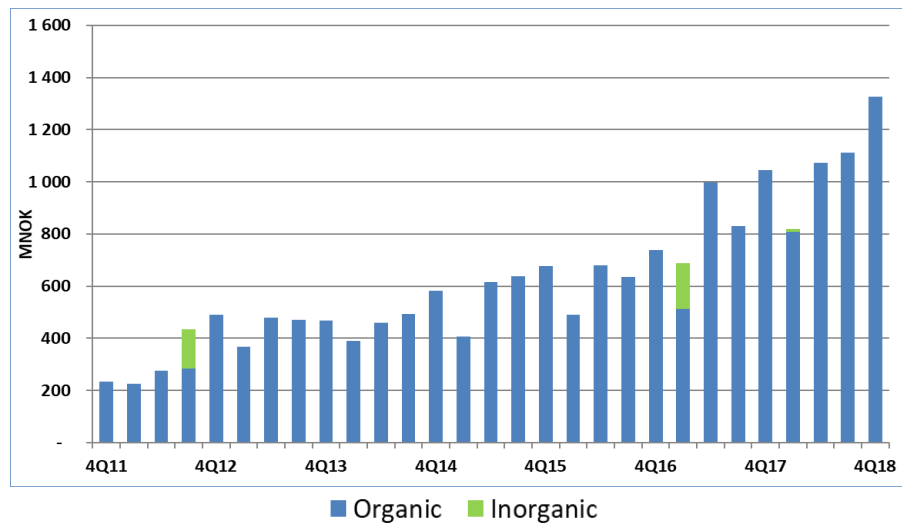
ORDER INTAKE



ORDER BACKLOG



REVENUES



- TOMRA Sorting Solutions (TSS):
 - Revenues of 1,326 MNOK, up from 1,046 MNOK last year
 - Order intake of 1,146 MNOK in the quarter, compared to 967 MNOK last year
 - Despite all time high revenues in the quarter, a strong order intake led to healthy order backlog of 1,399 MNOK by the end of fourth quarter
- Estimated backlog conversion ratio in 1Q19: 75%*

FOOD FOR THOUGHT

- By 2050 we will be close to **10bn** people
- We will need more food in the next 40 years than **all the harvests in history combined**
- But **farmland is constant** – at best
- The food you eat will have **travelled more than you have**

**YIELD
INTO
USAGE**

AUTOMATION CONTINUES ON A STRONG GROWTH TRAJECTORY

From...



To...



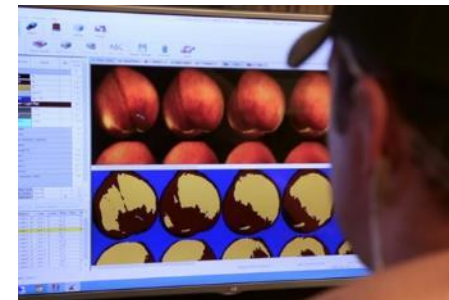
Robotics become cheaper, more advanced and user-friendly

Higher labor cost and labor shortages



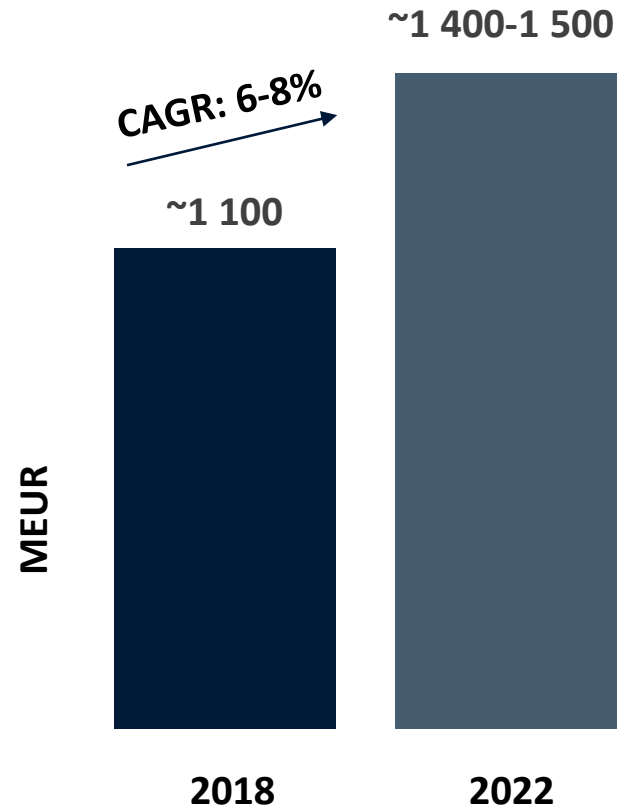
Ensure quality and safety

Improve efficiency



Leverage data insight

MARKET GROWTH EXPECTATIONS – FOOD



MARKET DEFINITION FOOD

Sensor-based sorting and grading equipment

- Including color sorting
- Excluding peripheral equipment and turn-key solutions

Fresh and processed segment

AFFECTING FACTORS

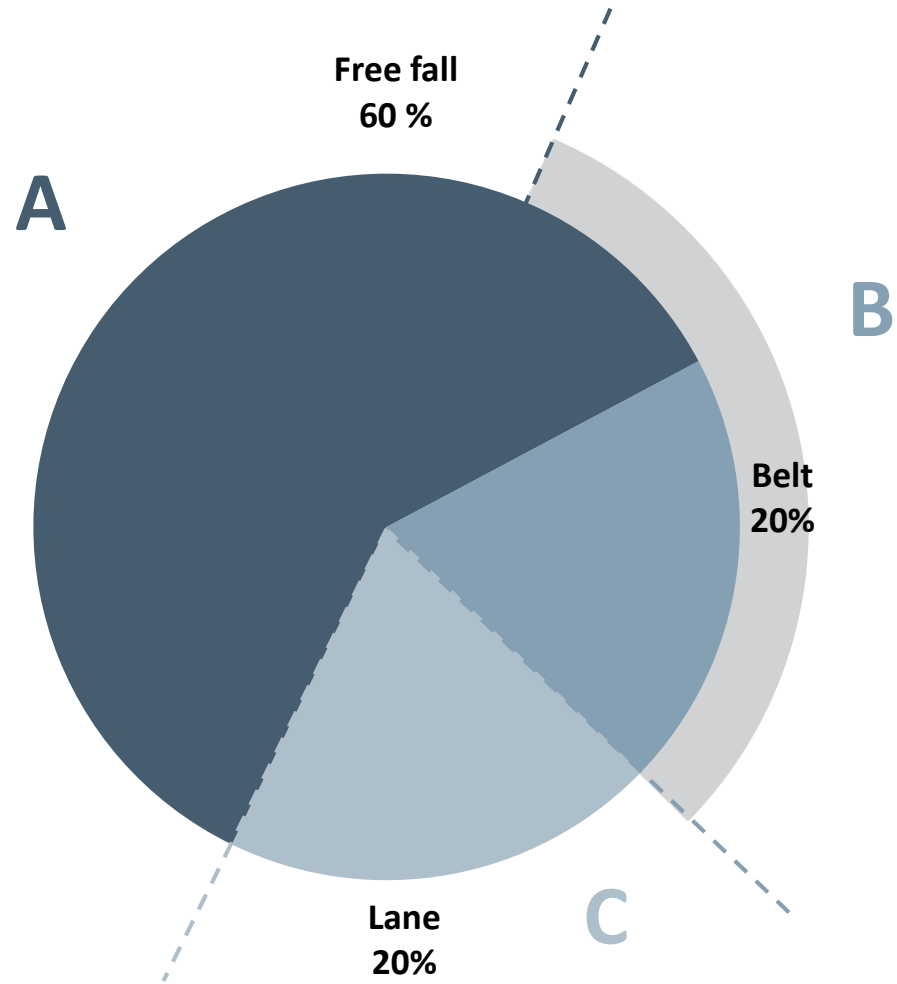
Weather conditions

Raw material pricing

Manual labor cost

Living standards

THREE WAYS OF SORTING WITHIN THE FOOD SEGMENT



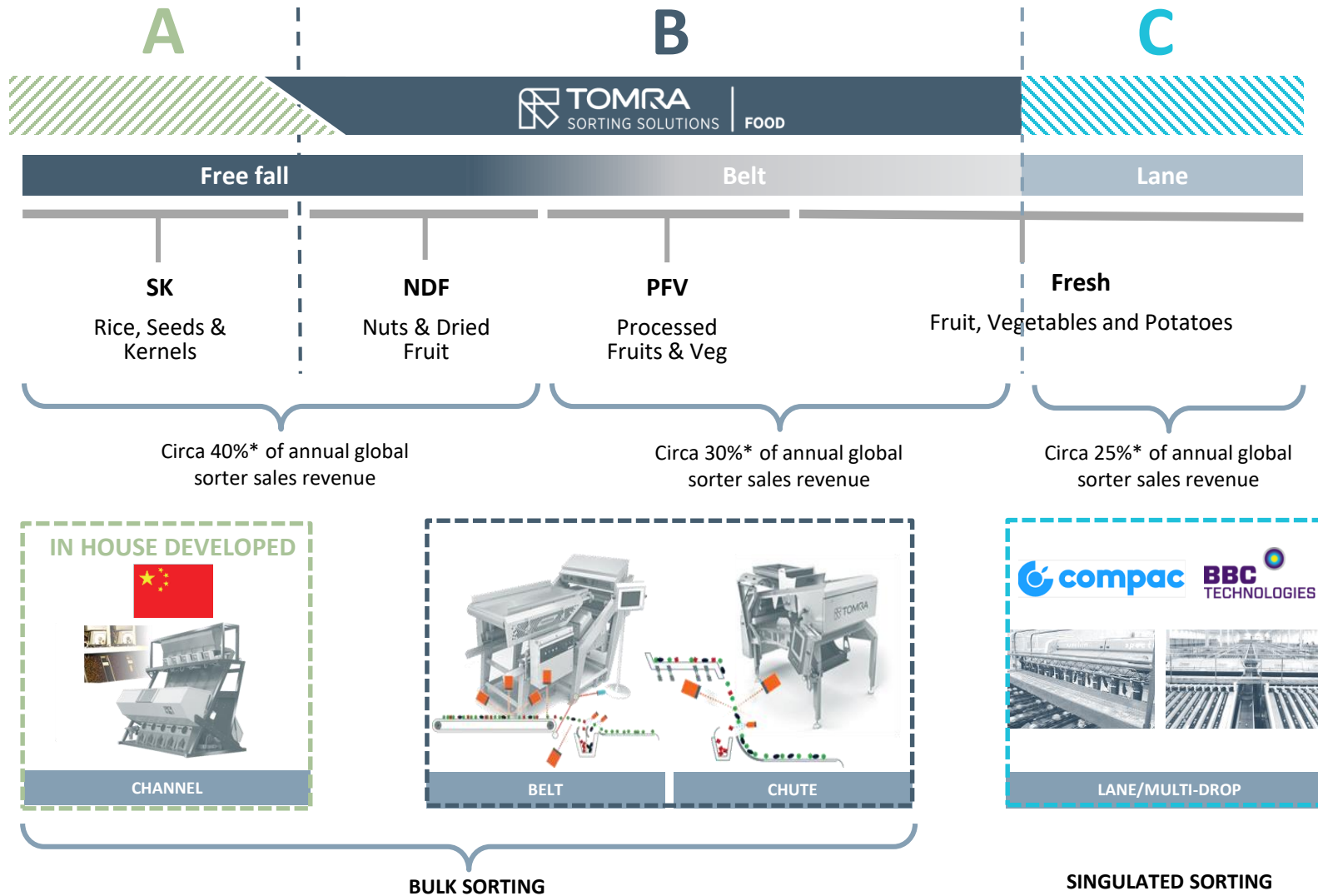
Free fall (Channel / Chute)	
Application	Seeds, rice, grains
Companies	Buhler, Key, Best , Satake, Daewon, Hefei, Orange
Sensor tech.	Camera (simple)

Belt	
Application	Prepared /preserved veg. and fruit
Companies	Best , Key, Odenberg , Raytec
Sensor tech.	Several (complex)

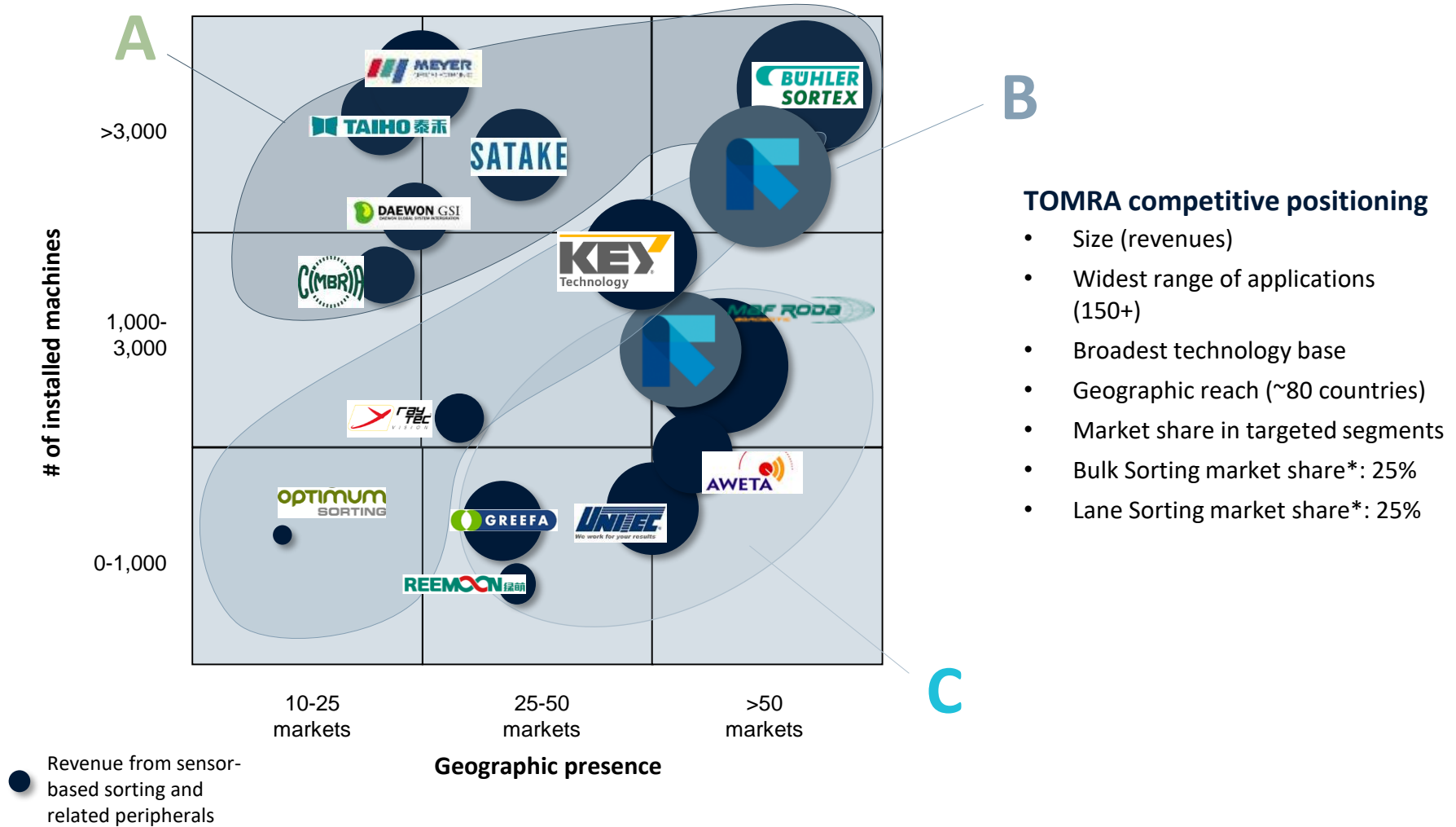
Lane	
Application	Fresh produce
Companies	MAF, Aweta, Greefa, Compac
Sensor tech.	Several (medium)

Note: Piechart showing estimated total revenue within the food sorting segment

TOMRA HAS ESTABLISHED THE BROADEST FOOTPRINT WITHIN FOOD SORTING



FOOD COMPETITIVE LANDSCAPE



FOOD: APPLICATIONS AND SENSOR TECHNOLOGY

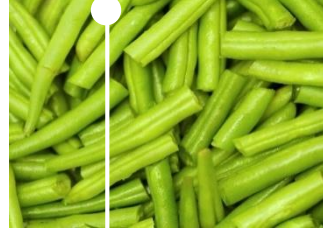
POTATOES



Chips, French fries, peeled, specialty products, sweet potatoes, unpeeled, washed

LASER, CAMERA, BSI, PULSED LED

VEGETABLES



Beans, beets, broccoli, carrots, corn, cucumbers, industrial spinach, IQF vegetables, jalapenos/peppers, onions, peas, pickles

LASER, CAMERA, BSI, PULSED LED

NUTS



Almonds, cashews, hazelnuts, macadamias, peanuts, pecans, pistachios, walnuts

LASER, CAMERA, X-RAY

DRIED FRUIT



Apricots, cranberries, dates, figs, prunes, raisins

LASER, CAMERA, BSI, X-RAY

SEEDS & GRAINS



Barley, coffee, corn, dry beans, lentils, oat, pulses, pumpkin, sunflower and watermelon seeds, wheat

LASER, CAMERA, BSI, X-RAY

FRUIT



Apples, blackberries, blueberries, cherries, cranberries, peaches & pears, raspberries, strawberries, tomatoes

LASER, CAMERA, BSI, PULSED LED

FRESH CUT



Baby leaves, iceberg lettuce, spinach, spring mix

LASER, CAMERA

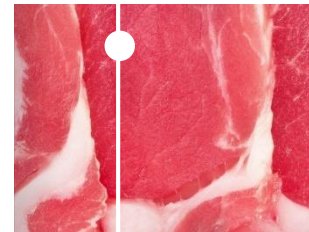
SEAFOOD



Mussels, scallops, seaweed, shrimps, tuna, pet food

LASER, CAMERA, BSI, X-RAY, INTERACTANCE SPECTROSCOPY

MEAT



Bacon bits, beef, chicken breasts, hot dogs, IQF meat, pork, pork rind, sausages, pet food

LASER, CAMERA, BSI, INTERACTANCE SPECTROSCOPY

GUMMIES



LASER, CAMERA

TOBACCO

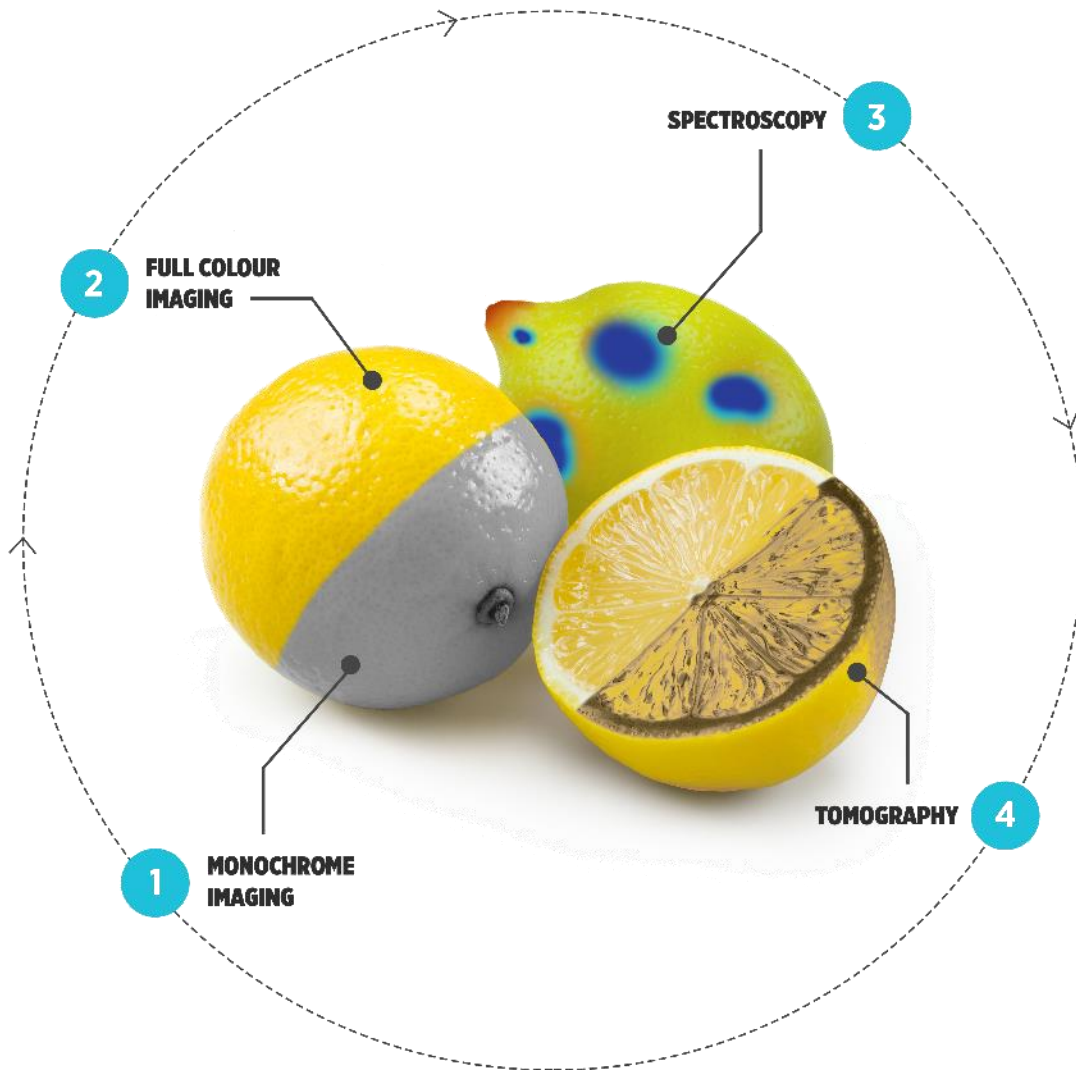


LASER, CAMERA

OUR FOOD SORTING CUSTOMERS



NEW SENSOR TECHNOLOGIES WILL UNLOCK NEW OPPORTUNITIES...



From measuring visual appearance...

... to measuring

Internal defects

Taste

Shelf life / Freshness

Food hazards

RESOURCES ARE FINITE

- **Today:** we are paying to get rid of our waste through landfill fees and incineration
- We are wasting perfectly good materials that can be reused
- **Tomorrow:** The Circular Economy is a driver for change
- Creating **value out of waste**
- That is what the **Circular Economy** is all about



**WASTE
INTO 
VALUE**

THE CIRCULAR ECONOMY DRIVES A LEGISLATIVE PUSH...

Continued ambitious EU regulations and recycling targets:
Attracts capital and drives investments



“A common EU target for recycling 70% of packaging waste by 2030”

The Strategy also highlights the need for specific measures, possibly a legislative instrument, to reduce the impact of single-use plastics, particularly in our seas and oceans

From Green Fence to National Sword: **Short-term demand for recycling solutions in waste exporting countries**



- Limits the import of contaminated recyclable commodities and increases inspections of recyclable commodity imports
- Purity level set to 99.5%

...PROMOTING RECYCLING



2018 CIRCULAR ECONOMY PACKAGE

Description

Targets and measures

Waste Framework Directive	Description	Targets and measures
Packaging and Packaging Waste Directive	<ul style="list-style-type: none"> Rules on the production, marketing, use, recycling and refilling of containers of liquids for human consumption and on the disposal of used containers 2015 revision includes lightweight plastic carrier bags 	<ul style="list-style-type: none"> A common EU target for recycling 70% of packaging waste by 2030
Waste Electrical and Electronic Equipment (WEEE) Directive	<ul style="list-style-type: none"> Collection, recycling and recovery targets for all types of electrical goods 10 categories: Large household appliances, Small household appliances, IT and telco equipment, Consumer equipment, Lighting equipment, Electrical and electronic tools, Toys, Leisure and sports equipment, Medical devices, Monitoring and control instruments, Automatic dispensers 	<ul style="list-style-type: none"> A binding landfill target to reduce landfill to maximum of 10% of municipal waste by 2030 Separate collection of textiles and hazardous waste by 2025
Landfill Directive	<ul style="list-style-type: none"> The objective of the Directive is to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste In particular: impact on surface water, groundwater, soil, air, and on human health by introducing stringent technical requirements for waste and landfills. 	<ul style="list-style-type: none"> Simplified and improved definitions and harmonized calculation methods for recycling rates Concrete measures to promote re-use and stimulate industrial symbiosis
End of Life Vehicle (ELV) Directive	<ul style="list-style-type: none"> Aims at reduction of waste arising from end-of-life vehicles The scope of the directive is limited to passenger cars and light commercial vehicles 	<ul style="list-style-type: none"> Economic incentives for producers to put greener products on the market and support recovery and recycling schemes



...and a market pull

100% reusable, recyclable or
compostable **plastic packaging**
by 2025

Follow their lead



PEPSICO

M&S
EST. 1884



WERNER & MERTZ

L'ORÉAL

MARS
incorporated

The Coca-Cola Company

Large companies committing to use recycled raw materials = increased demand for recycled offtake

RECYCLING: MARKET GROWTH EXPECTATIONS

MARKET DEFINITION RECYLING

Sensor-based sorting equipment

- Excluding cullet glass sorting
- Excluding peripheral equipment and turn-key solutions

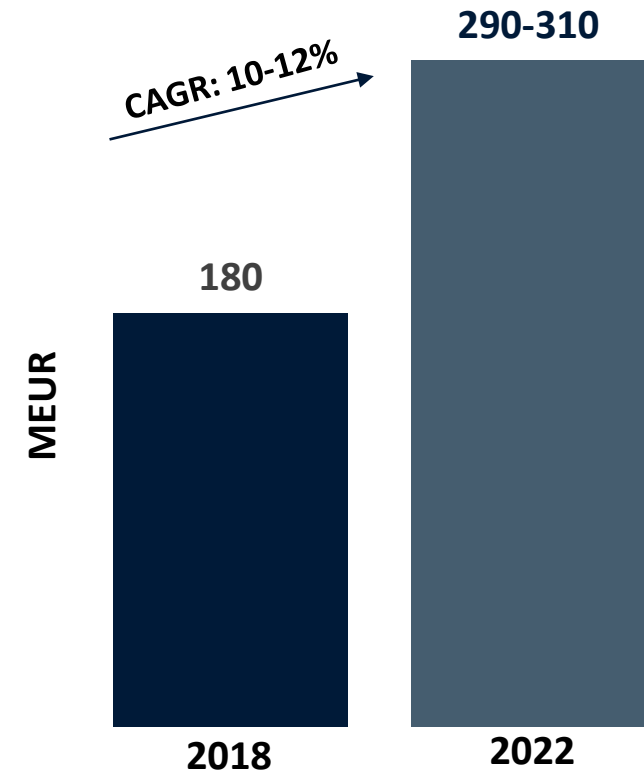
AFFECTING FACTORS

Tightening regulation

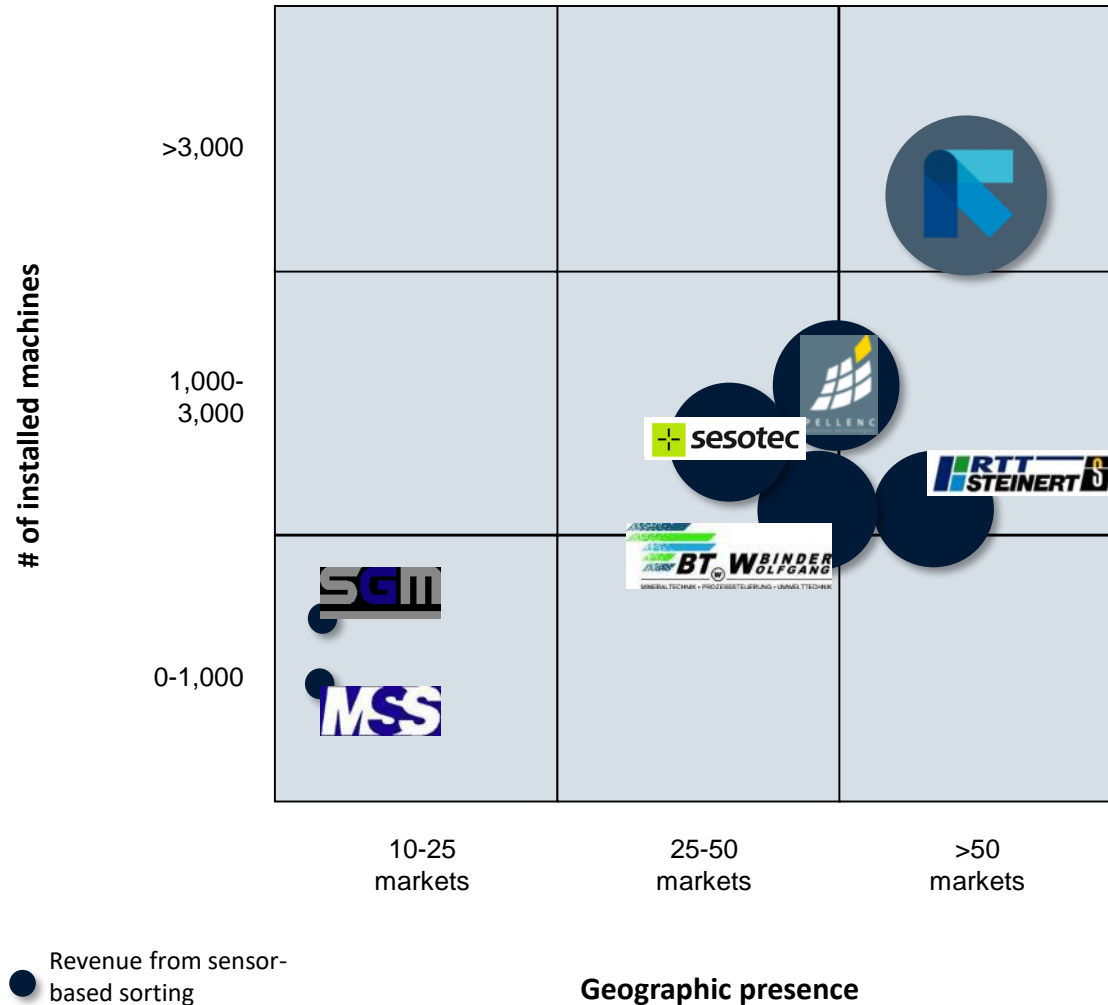
Access to capital

Consumer awareness

Commodity price fluctuations



RECYCLING: COMPETITIVE LANDSCAPE



TOMRA competitive positioning

- Largest installed base
- Highest revenues
- Broadest technology platform
- Highest number of applications and markets served
- Leading brand
- **Market share: 55-65%**

RECYCLING: APPLICATIONS AND SENSOR TECHNOLOGY

MUNICIPAL SOLID WASTE



Hard plastics, plastic film,
mixed paper, RDF,
metals,
organics/biomass

NIR, VIS, XRT, LASER

PACKAGING



Plastics, plastic film,
cardboard, mixed paper,
deinking paper, metal

NIR, VIS, EM

UPGRADING PLASTICS



PET, PE, PP, flakes

NIR, VIS, EM

POST-SHREDDER



NF metal, stainless steel,
copper cables, copper,
brass,
aluminum

**NIR, VIS, XRT, XRF, EM,
COLOR**

ELECTRONIC SCRAP



Printed circuit boards,
non-ferrous metal
concentrates,
cables, copper, brass,
stainless steel

**XRT, XRF, EM, NIR,
COLOR**

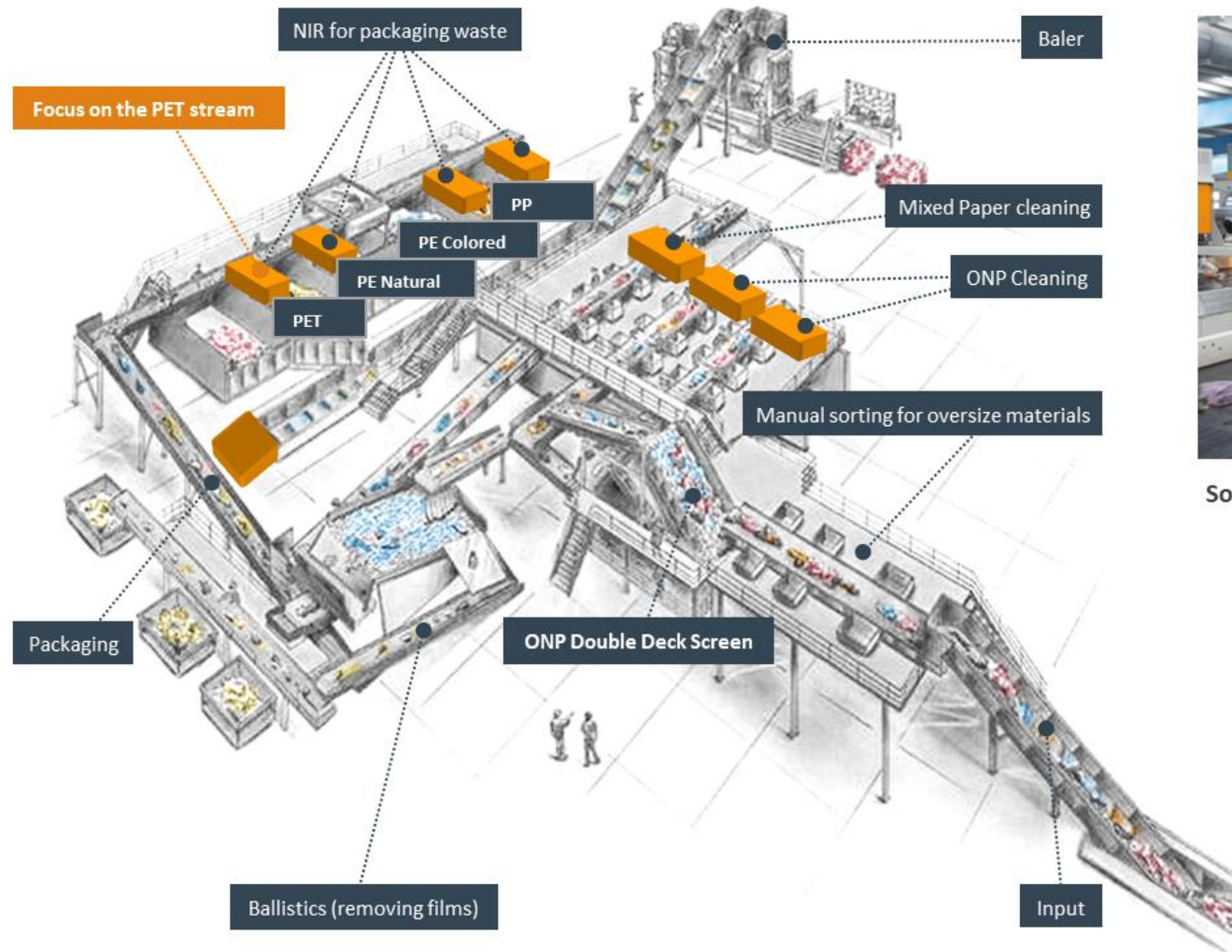
PAPER



Deinking, cardboard,
carton

NIR, VIS, EM

AUTOMATION WITH TOMRA SORTING UNITS

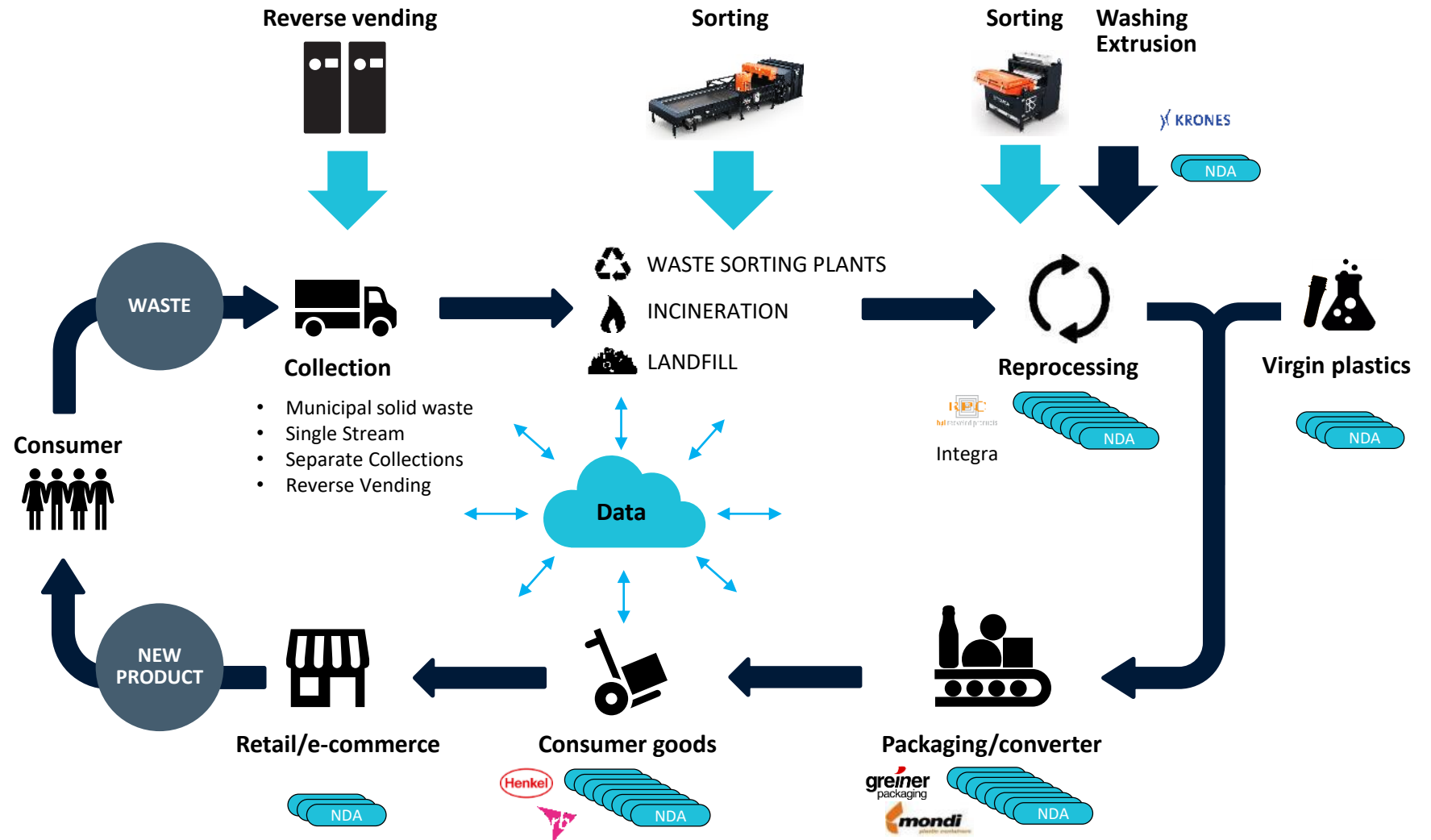


Sorting of Municipal Solid Waste, Cyprus

INDUSTRIALIZING THE PROCESS FOR RECYCLED PLASTIC

GOALS

- Create a **demand** for the plastic through a process
- Output to be of high quality in order to **replace** virgin material
- **Extract plastics** from all waste streams (incl. landfill and incineration) to satisfy demand
- **Feasibility proven, working with multiple partners on commercialization**



INTELLIGENT MINE

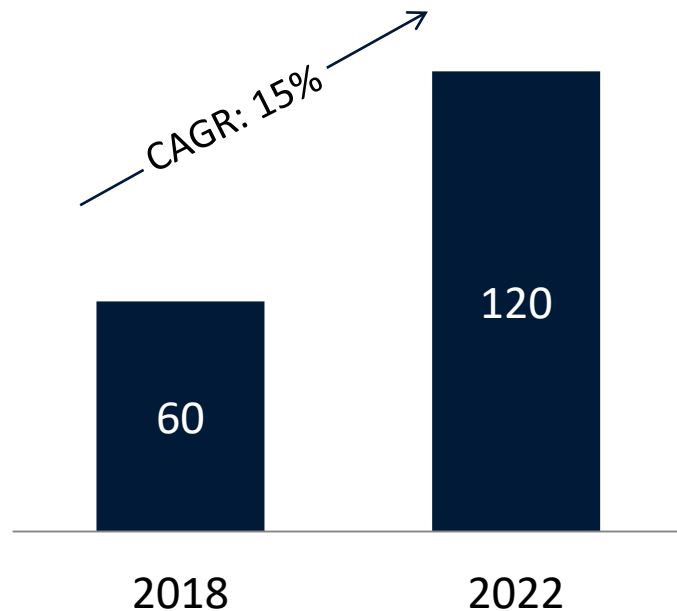
- **Mining** is an old industry. But chances are that it will **look very different** in 10 years time
- Energy intensity and water stress are major drivers...
- **...for disruptive technology forces to reshape the industry**
- Commodity prices and capex impact the investment sentiment

**SOURCE
INTO 
RESOURCE**

MINING: MARKET GROWTH EXPECTATIONS

Total annual market size

EUR million



MARKET DEFINITION MINING

Sensor-based sorting equipment

- is still a technology to be accepted
- Growth is conditional on new applications and technologies being developed

AFFECTING FACTORS

Political climate

Access to capital

Cost drivers

Commodity price
fluctuations

MINING: APPLICATIONS AND SENSOR TECHNOLOGY

INDUSTRIAL MINERALS



Phosphate-silica removal, limestone-silica removal, quartz upgrade, MgO_2 -silica removal, fluorite pre-conc., talc pre-conc., lithium pre-conc., barite pre-conc.,

COLOR, XRT, NIR

NON-FERROUS METALS



Copper, zinc, gold, nickel, tungsten, silver, platinum group metals

XRT, COLOR, EM, NIR

DIAMONDS



Kimberlite-waste removal, diamond ROM conc., diamonds final recovery, emeralds ROM conc., rubies ROM conc.

COLOR, XRT, NIR

FUEL



Coal waste dumps

XRT

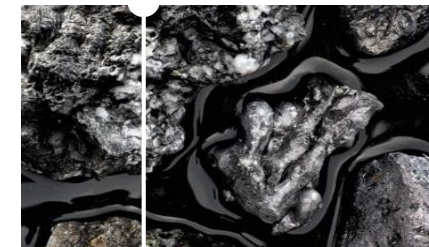
FERROUS METALS



Iron ore grading, hematite pre-conc., manganese pre-conc., chromite pre-conc.

XRT, EM, NIR

SLAG

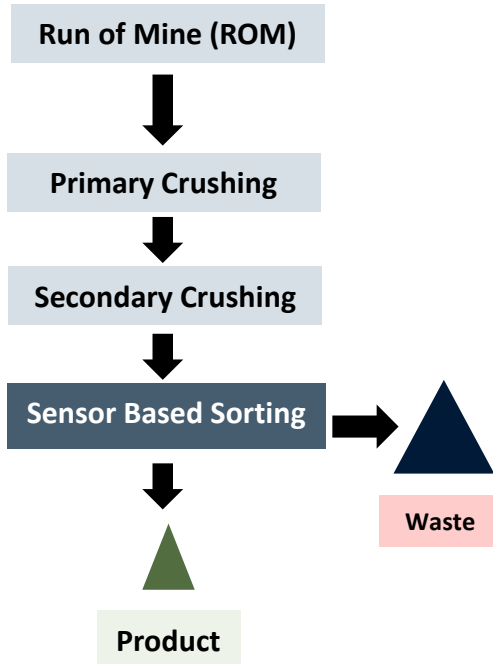


Stainless steel slag, ferro silica slag, ferro chrome slag

XRT, EM

THE CONCEPT OF SENSOR-BASED SORTING IN MINING

Mining process: Industrial minerals

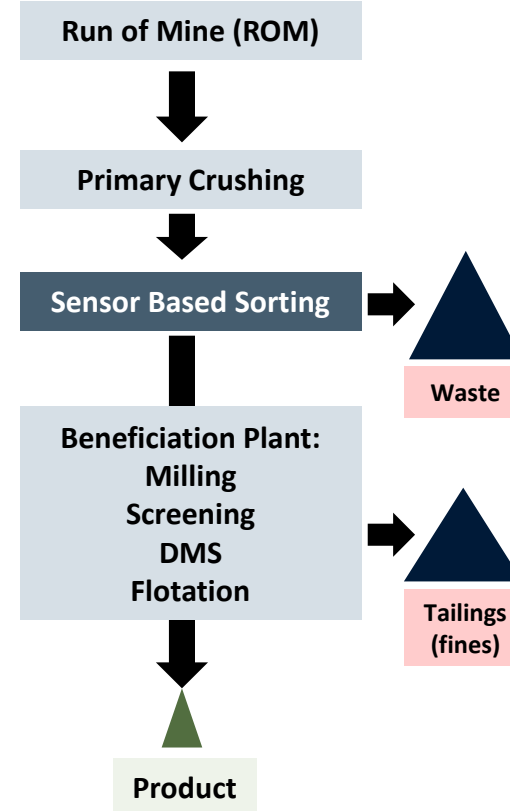


Current segment



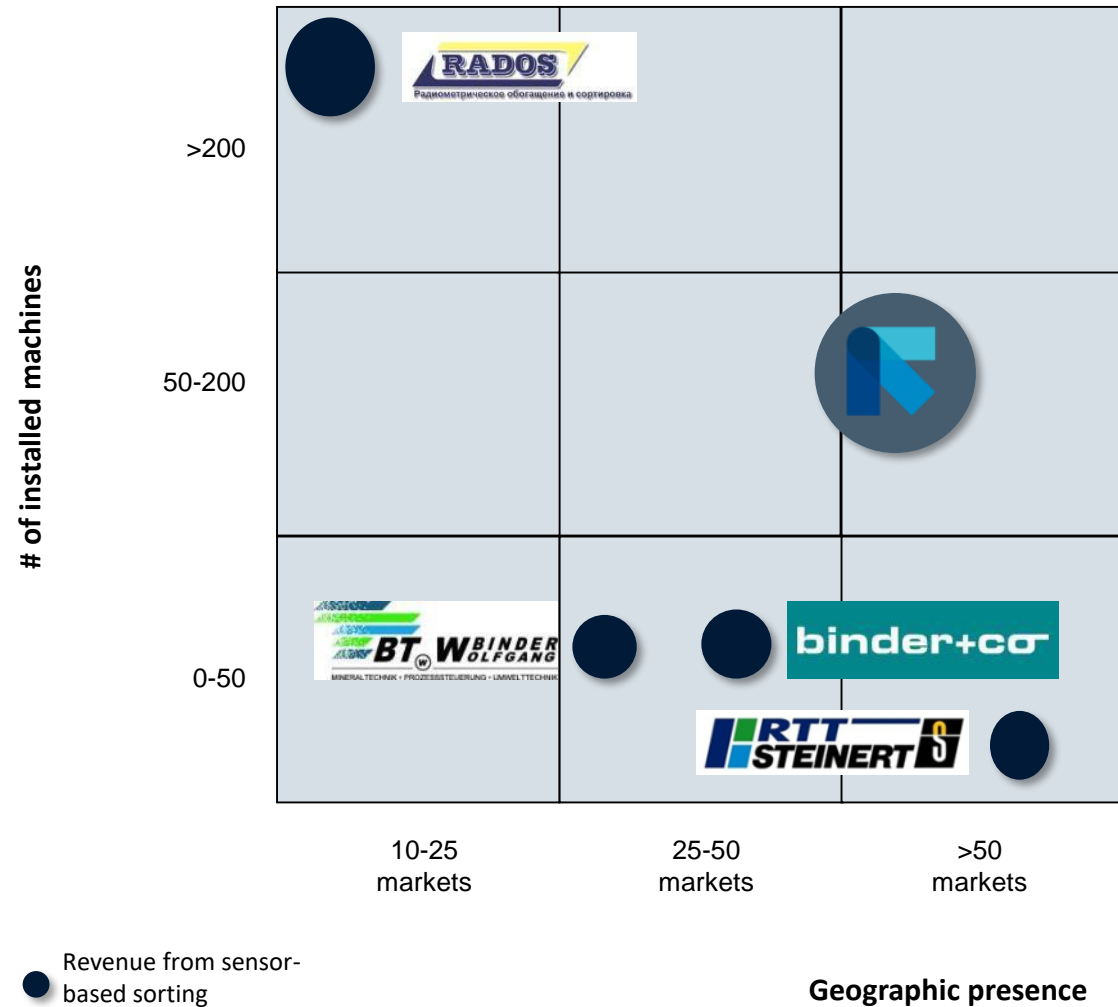
- 15% to 50% of the ROM can be rejected in an early stage of the process (application dependent)
- These low grade waste rocks don't need to be transported, crushed, grinded or further treated

Mining process: Metal mining



Potential new segment

MINING: COMPETITIVE LANDSCAPE



TOMRA competitive positioning

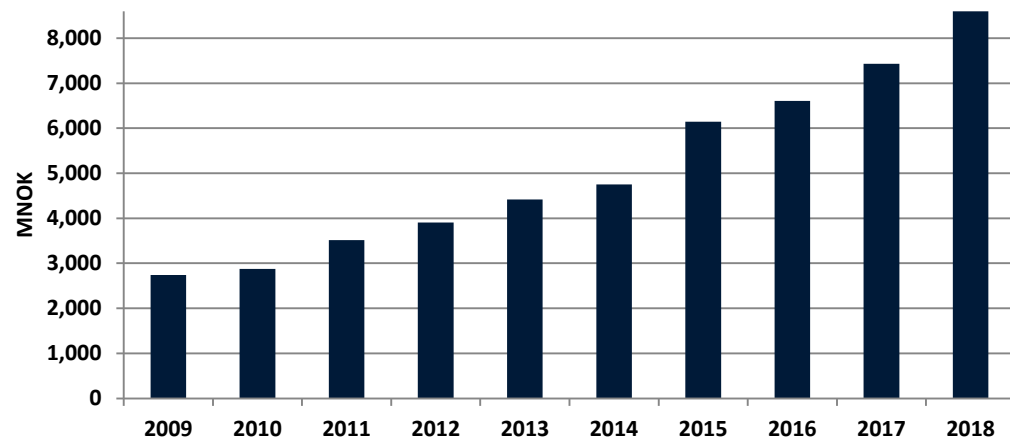
- Wide geographical coverage
- Broadest technology platform
- Leading brand
- **Market share: 40-50%**



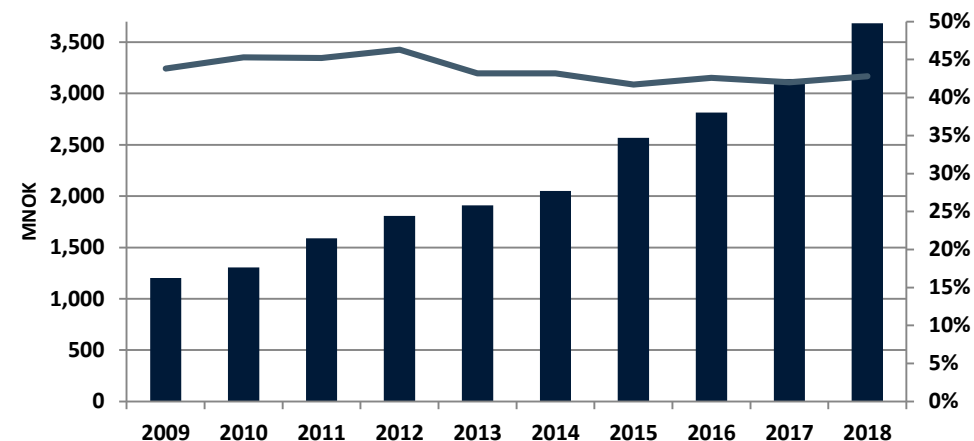
HISTORICAL GROUP FINANCIALS AND TARGETS

GROUP FINANCIALS DEVELOPMENT – SOLID TRACK RECORD

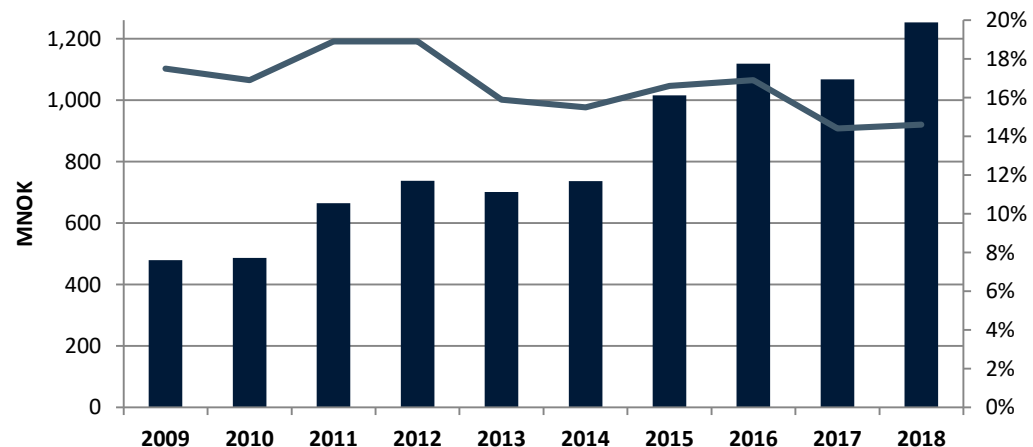
Revenues



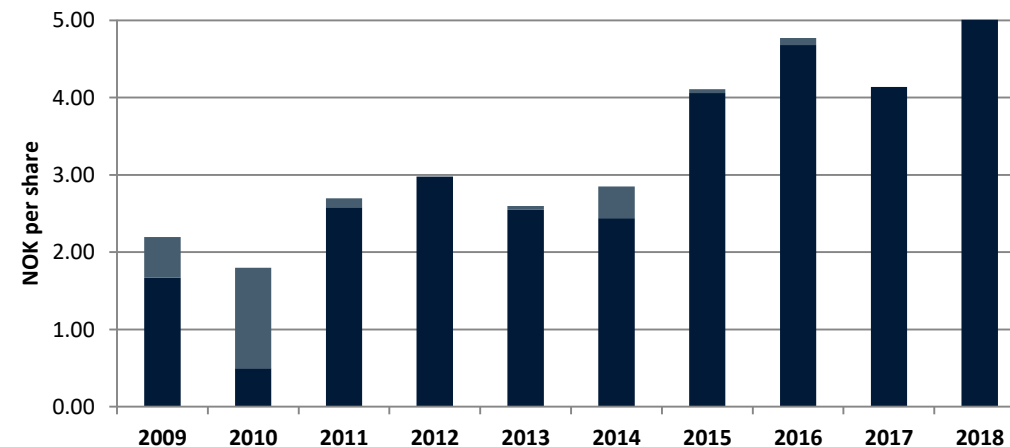
Gross contribution and margin



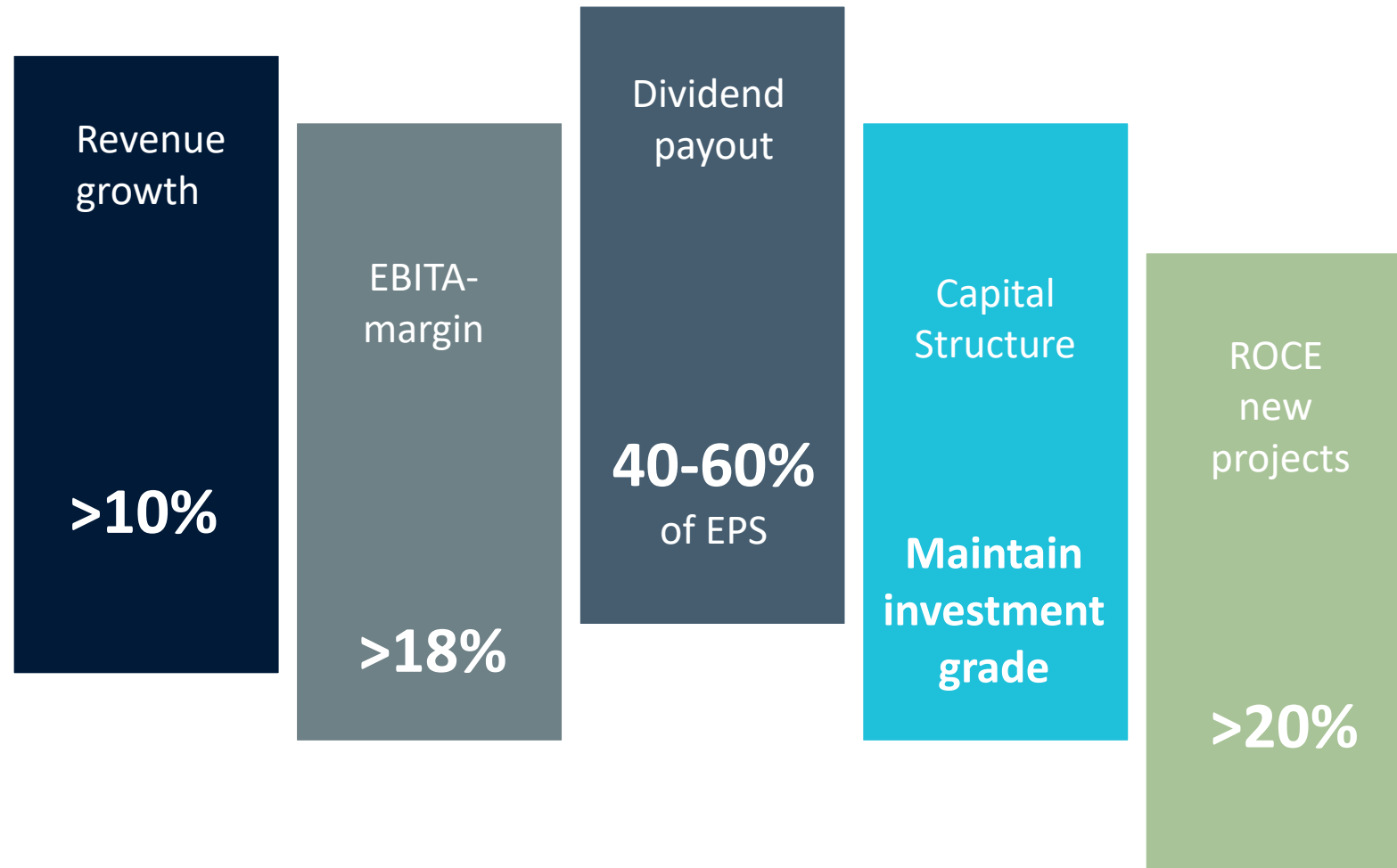
EBITA and margin



Earnings per share



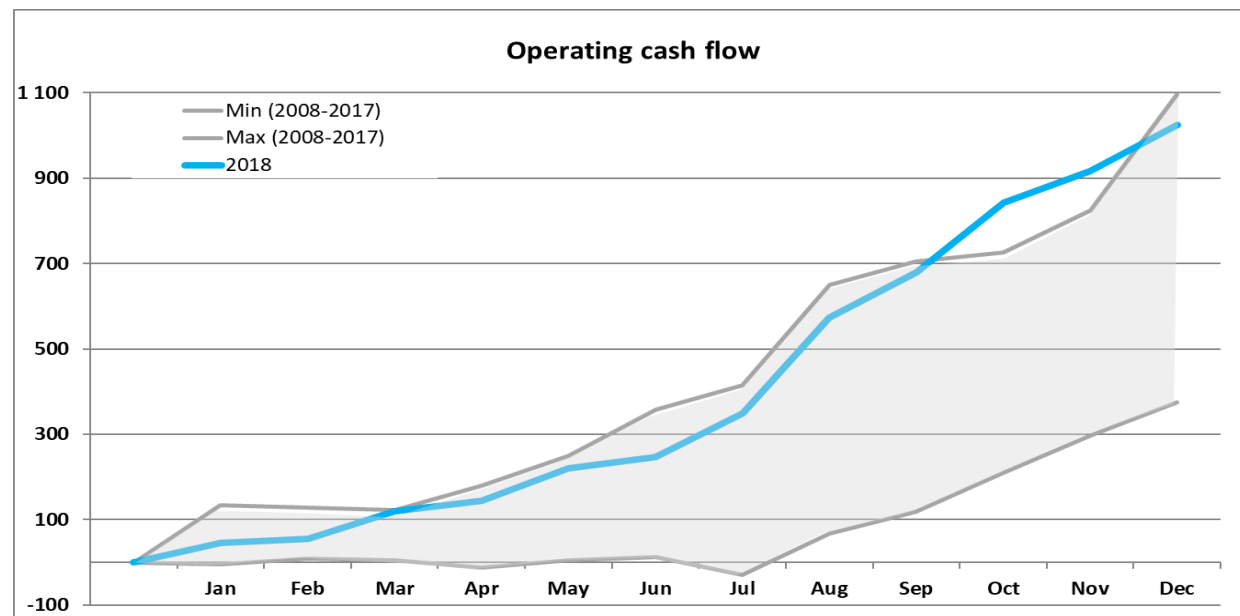
GROUP FINANCIAL TARGETS 2018-2023 – OUR AMBITIONS AFFIRMED



FINANCIAL HIGHLIGHTS

BALANCE SHEET, CASH FLOW AND CAPITAL STRUCTURE

<i>Amounts in NOK million</i>	31 Dec 2018	31 Dec 2017
ASSETS	9,595	8,437
• Intangible non-current assets	3,821	3,412
• Tangible non-current assets	1,276	998
• Financial non-current assets	340	349
• Inventory	1,447	1,197
• Receivables	2,314	1,887
• Cash and cash equivalents	397	594
LIABILITIES AND EQUITY	9,595	8,437
• Equity	5,077	4,594
• Minority interest	159	143
• Interest bearing liabilities	1,524	1,280
• Non-interest bearing liabilities	2,835	2,420



Ordinary cashflow from operations

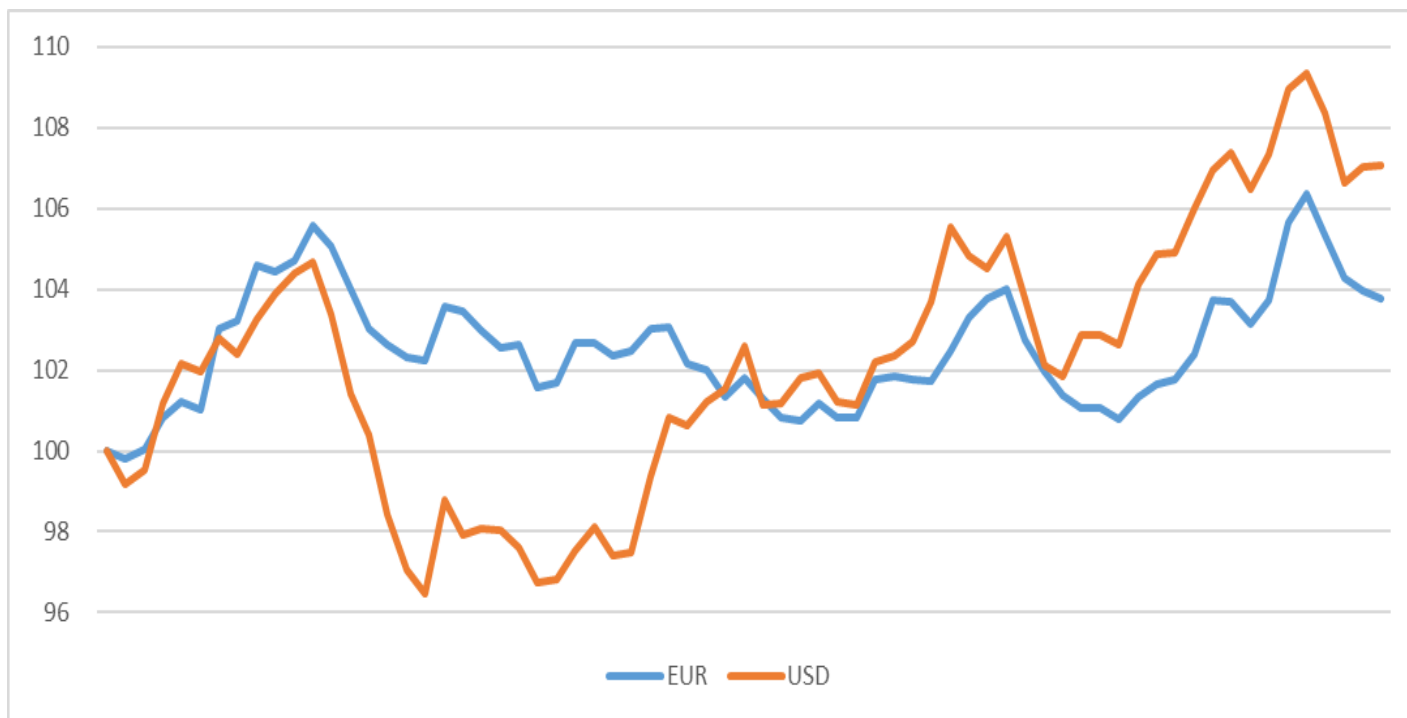
- 346 MNOK (356 MNOK in fourth quarter 2017)

Solidity

- 53% equity
- NIBD/EBITDA = 0.7x (Rolling 12 months)

IFRS 16 leases:
Implementation effect
of IFRS 16 expected to
be between 1.4 and 1.5
BNOK on the B/S as of
first quarter 2019

CURRENCY RISK AND HEDGING POLICY



Positive impact from stronger USD vs EUR in TSS

10% change in NOK towards other currencies will impact:

	Revenues	Expenses	EBITA
EUR*	4.5%	4.0%	5.0%
USD	4.5%	3.0%	10.0%
NZD	0.0%	0.5%	-2.0%
OTHER	1.0%	2.0%	-1.0%
ALL	10.0%	9.5%	12.0%

* EUR includes DKK

Revenues and expenses per currency:

NOTE: Rounded figures

	EUR*	USD	NOK	NZD	OTHER	TOTAL
Revenues	45 %	45 %	0 %	0 %	10 %	100 %
Expenses	40 %	30 %	5 %	5 %	20 %	100 %
EBITA	50 %	100 %	- 20 %	- 20 %	-10 %	100 %

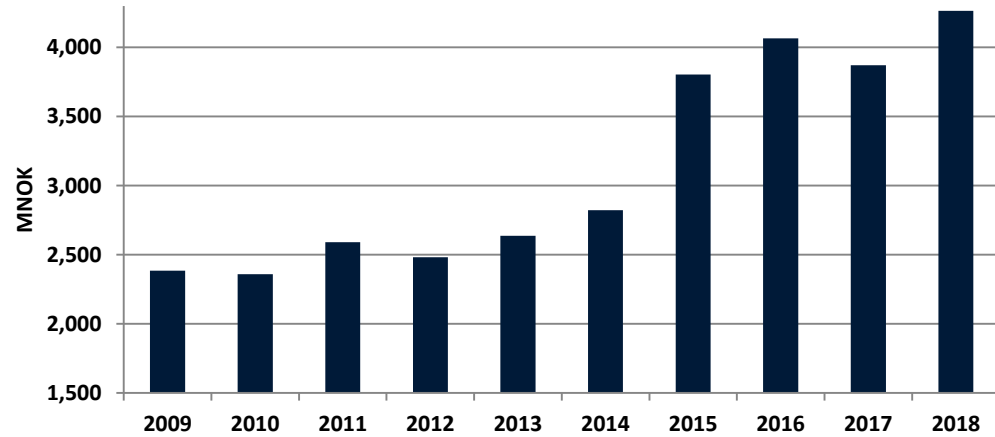
* EUR includes DKK

HEDGING POLICY

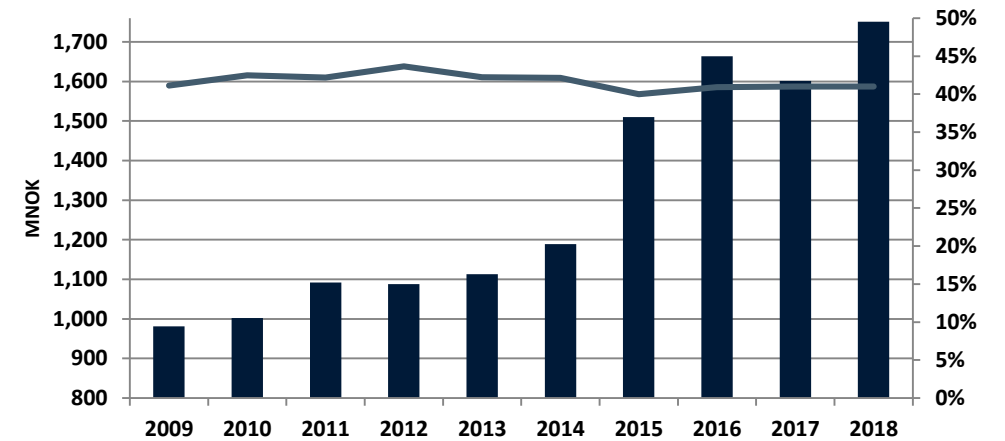
- TOMRA hedges B/S items that will have P/L impact on currency fluctuations
- TOMRA can hedge up to one year of future predicted cash flows. Gains and losses on these hedges are recorded in the finance line, not influencing EBITA

COLLECTION SOLUTIONS – SEGMENT FINANCIALS

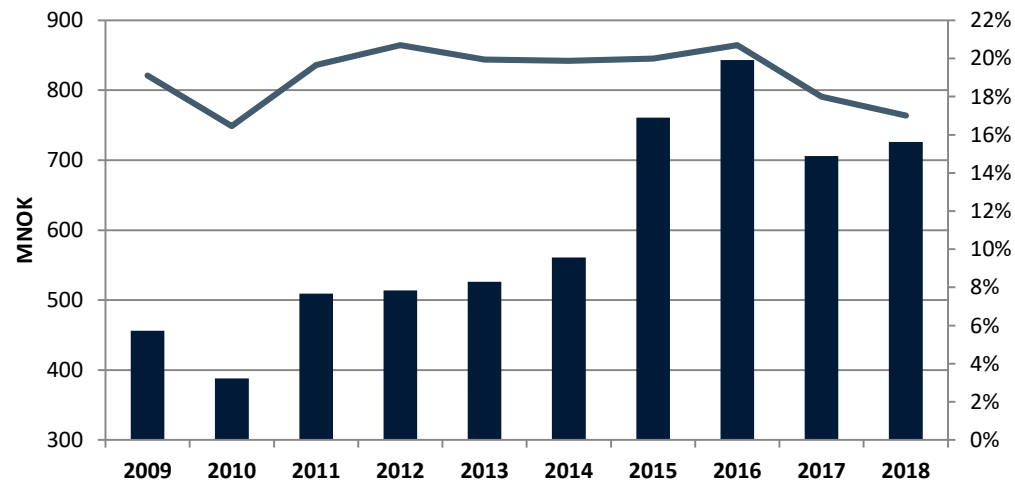
Revenues



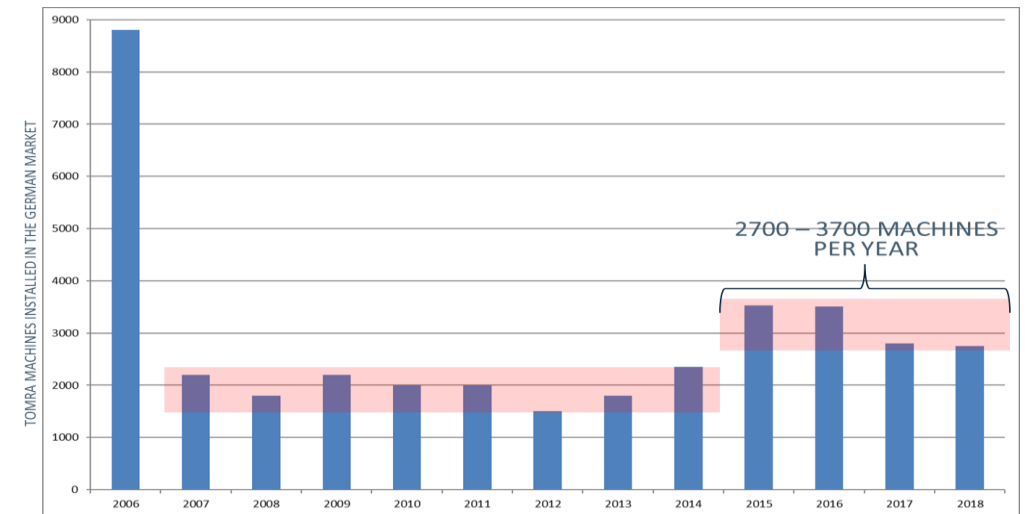
Gross contribution and margin



EBITA and margin

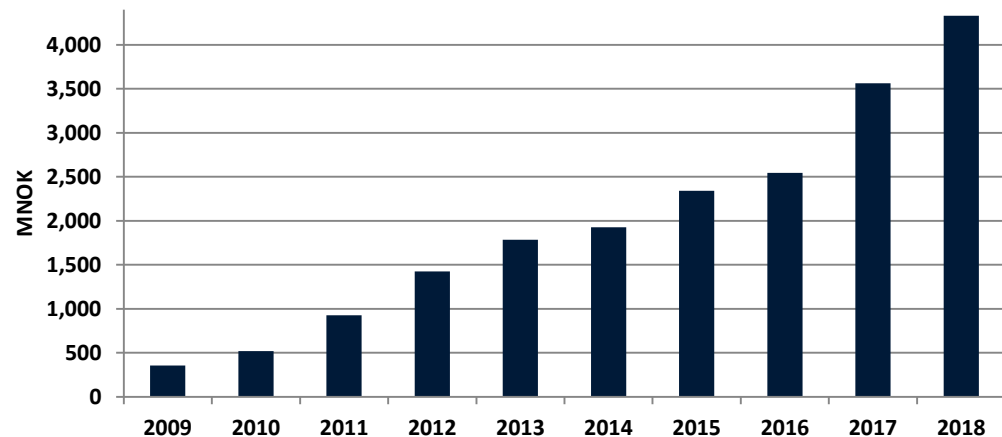


TOMRA machines installed in the German market

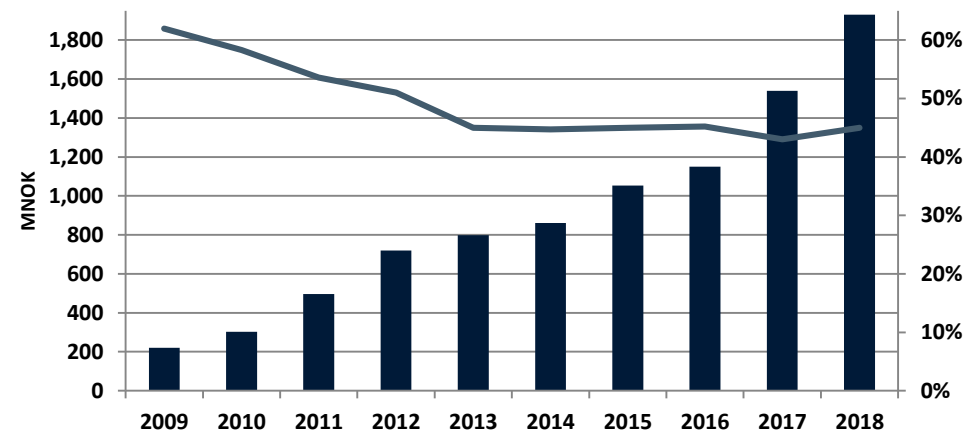


SORTING SOLUTIONS – SEGMENT FINANCIALS

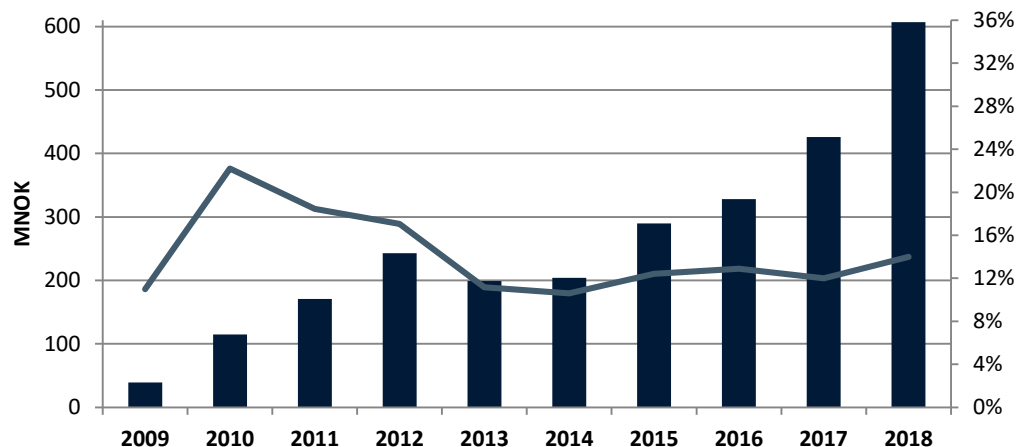
Revenues



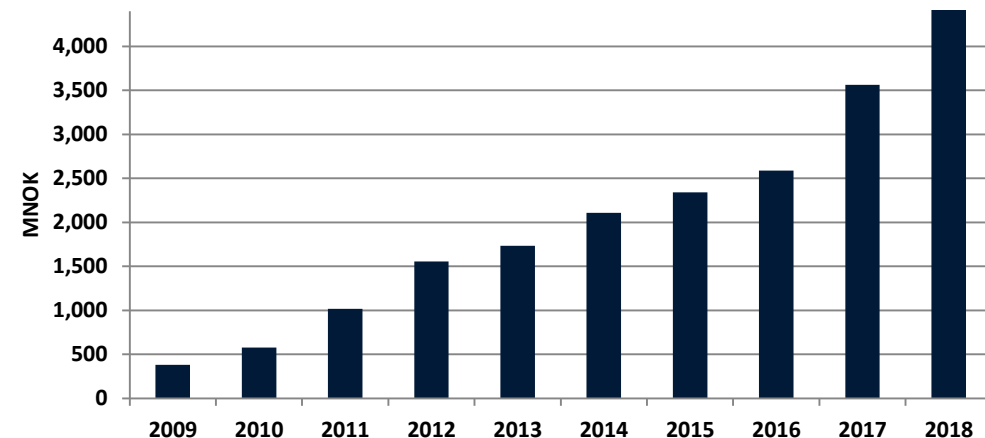
Gross contribution and margin



EBITA and margin



Order Intake

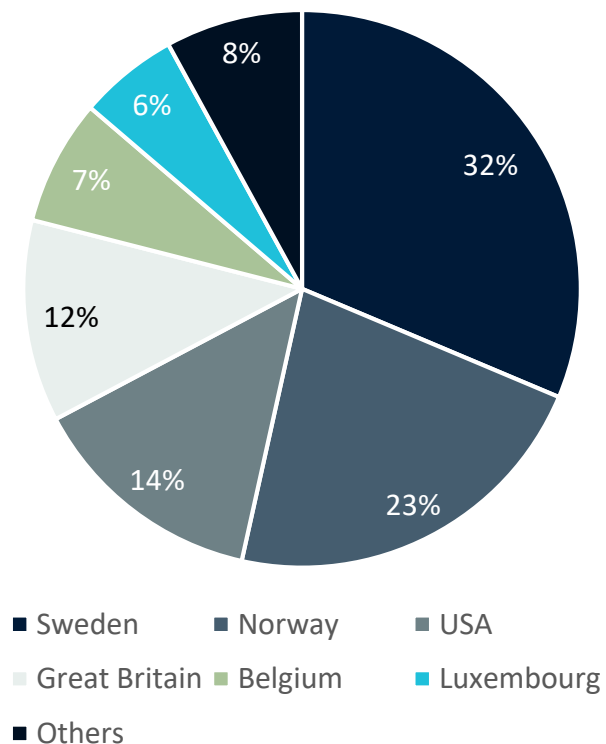


SHAREHOLDER STRUCTURE

Top 10 shareholders as of 03 January 2019

1	Investment AB Latour	39 000 000	26,3 %
2	Folketrygdfondet	11 685 490	7,9 %
3	The Bank of New York Mellon	7 845 000	5,3 % (NOM)
4	State Street Bank	4 533 615	3.1 % (NOM)
5	Clearstream Banking	3 731 437	2.5 % (NOM)
6	Goldman Sachs & Co	3 570 804	2.4 % (NOM)
7	Nordea Nordic Small Cap Fund	2 064 233	1.4 %
8	Danske Invest Norske Instit. II.	1 848 242	1.2 %
9	Lannebo Småbolag	1 843 304	1.2 %
10	JPMorgan Chase Bank	1 659 690	1.1 % (NOM)
Sum Top 10		77 781 815	52.5%
Other shareholders		70 238 263	47.5%
TOTAL (7,975 shareholders)		148 020 078	100.0%

Shareholders by country



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