



# INVESTOR PRESENTATION

# THE DAWN OF THE RESOURCE REVOLUTION

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## THE CHALLENGE:

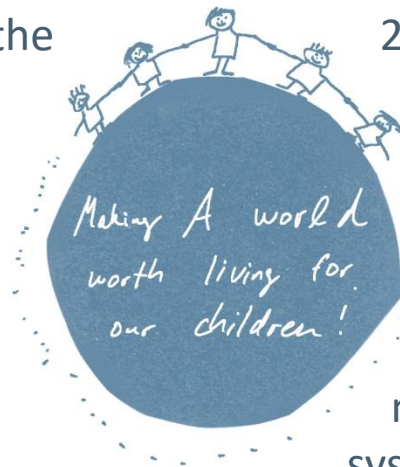
**3 billion** more middle-class consumers expected to be in the global economy by 2030

Up to **\$1.1 trillion** spent annually on resource subsidies

## THE OPPORTUNITY:

**\$2.9 trillion** of savings in 2030 from capturing the resource productivity potential

**At least \$1 trillion** more investment in the resource system needed each year to meet future resource demands





THE WORLD POPULATION AND STANDARD OF LIVING IS INCREASING DRAMATICALLY

WORLD RESOURCES ARE UNDER UNPRECEDENTED PRESSURE



RESOURCE PRODUCTIVITY MUST INCREASE TO ENSURE SUSTAINABLE DEVELOPMENT

**TOMRA creates sensor-based solutions for optimal resource productivity**





# LEADING THE RESOURCE REVOLUTION



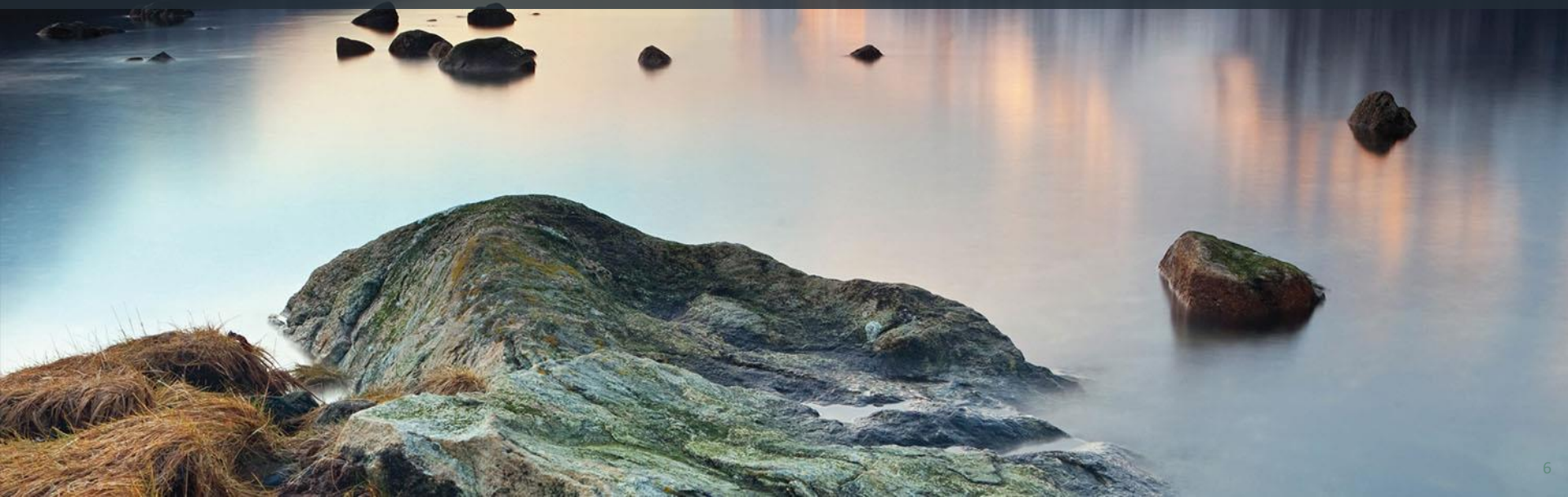
FROM PURPOSE INTO PROFITS AND  
PROFITS INTO PROGRESS, TOMRA IS  
**TRANSFORMING** WHAT IT MEANS  
TO BE RESOURCEFUL.



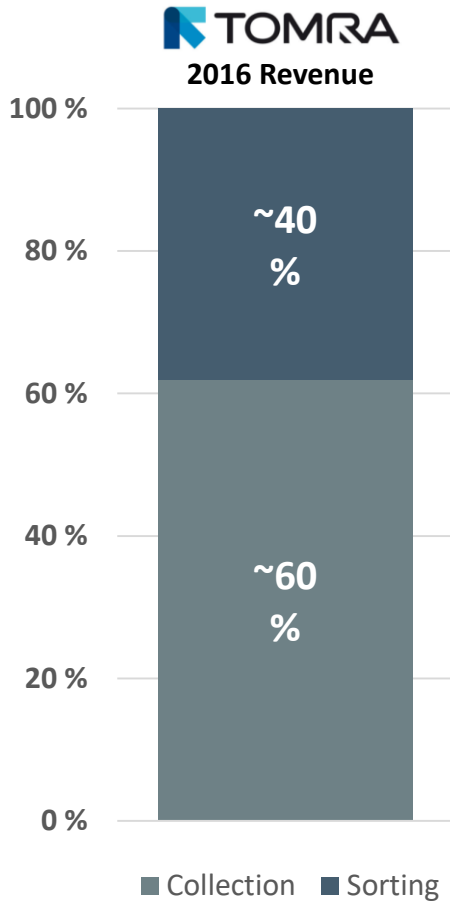
- Our solutions, in use around the globe, helped keep **~25 millions of tons of CO<sub>2</sub>** from being released into the atmosphere in 2016
- **~35 bn used beverage containers are captured every year** through our reverse vending machines
- Our steam peelers process **~15 million tons of potatoes 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 IN SHORT



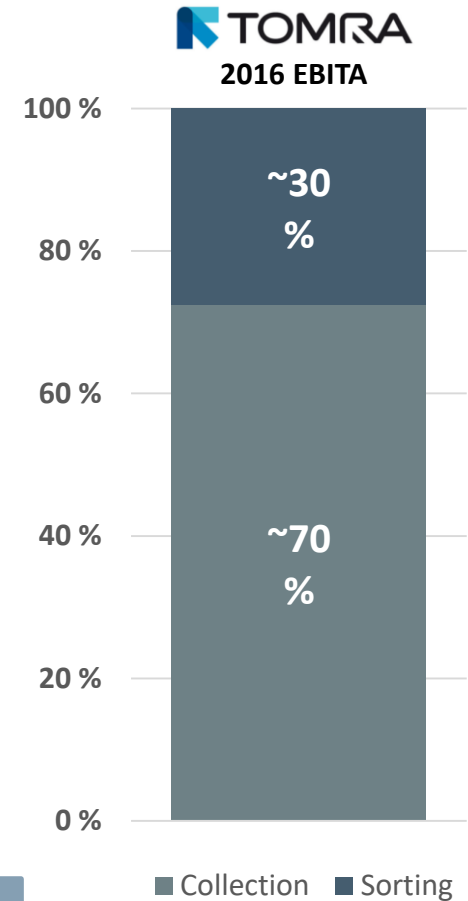
# CREATING VALUE THROUGH TWO STRONG BUSINESS AREAS\*



- High growth
- High margins
- Medium cyclicality

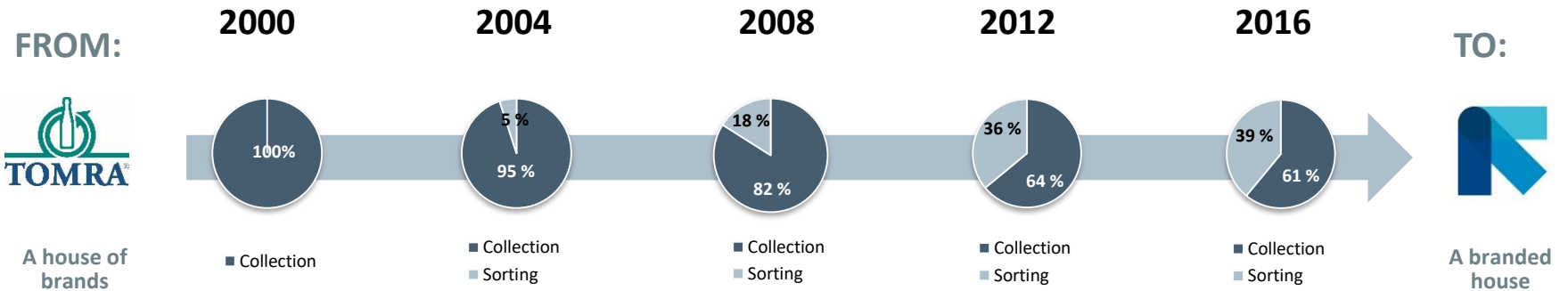
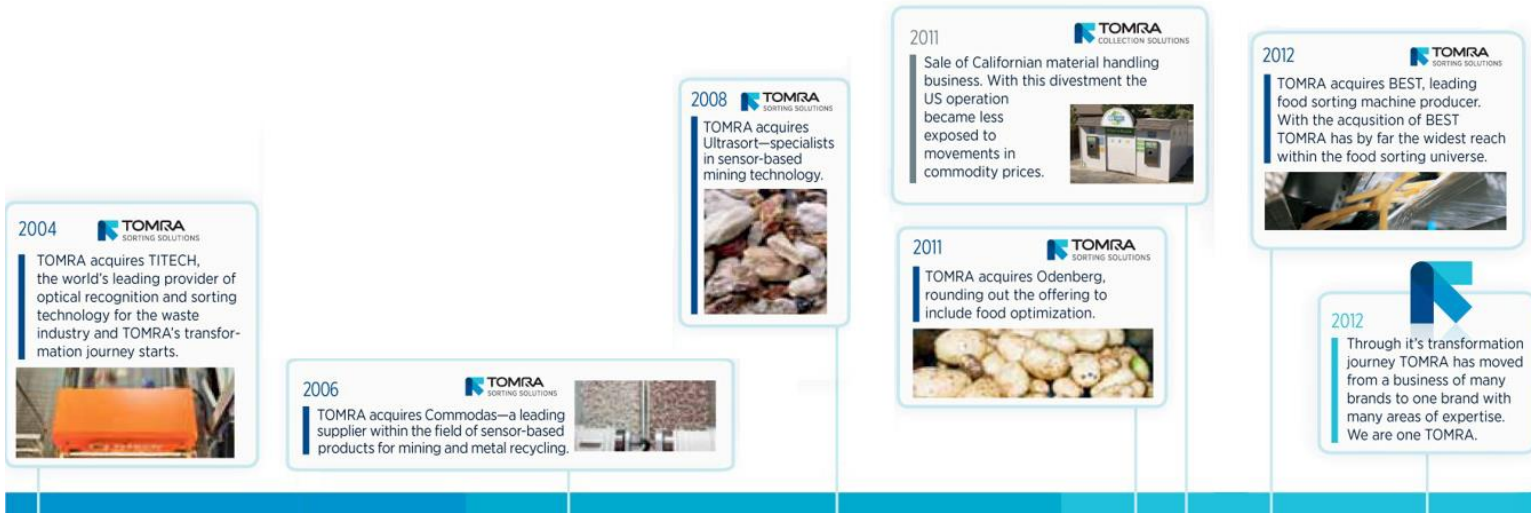


- Stable
- High margins
- Low cyclicality



High technology - sustainable business

# THE TOMRA TRANSFORMATION JOURNEY





# TOMRA WORLDWIDE



# TOMRA'S TWO BUSINESS AREAS



## FOOD\*

Share of '16 sales	~24%
Employees	580
Customers	Food growers, packers and processors
Market share	~25%

## RECYCLING

Share of '16 sales	~11%
Employees	175
Customers	Material recovery facilities, scrap dealers, metal shredder operators
Market share	~55-65%

## MINING

Share of '16 sales	~3%
Employees	60
Customers	Mining companies
Market share	~40-60%

## TOMRA SORTING GROUP FUNCTIONS & SHARED STAFF

Employees	140
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## REVERSE VENDING

Share of '16 sales	~47%
Employees	1,310
Customers	Grocery retailers
Market share	~75%

## MATERIAL RECOVERY

Share of '16 sales	~15%
Employees	500
Customers	Grocery retailers and beverage manufacturers
Market share	~60% in USA (markets served)



# TOMRA INSTALLED BASE



REVERSE VENDING	
Nordic	~15,300
Germany	~29,500
Other Europe	~14,200
North America	~15,900
Rest of the world	~3,500
<b>TOTAL</b>	<b>~78,400</b>

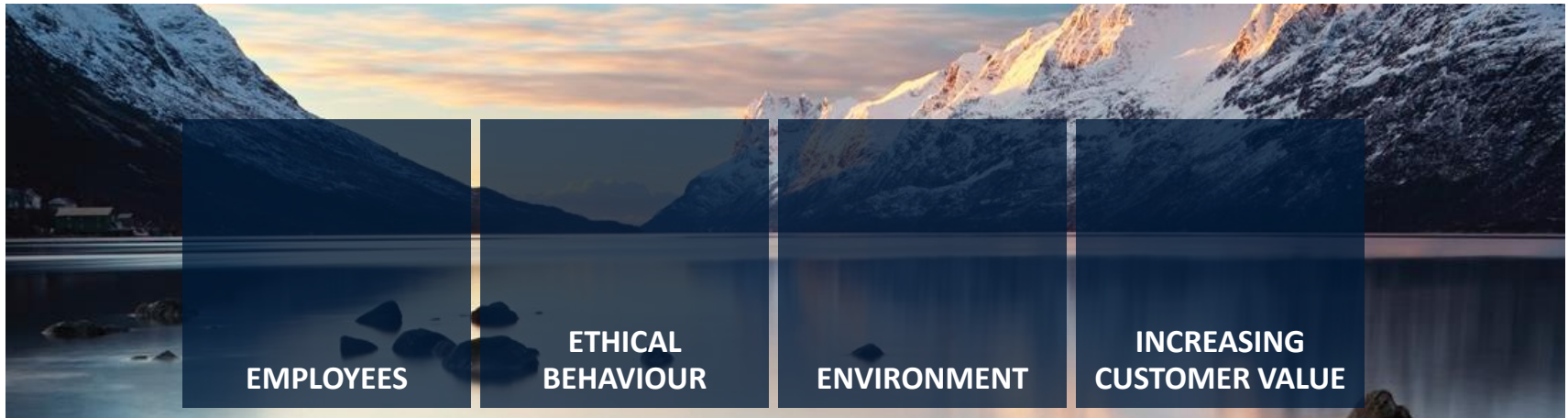


RECYCLING		MINING		FOOD*	
EMEA	~3,500	Europe	~10	EMEA	~2,900
Americas	~700	US / Canada	~30	Americas	~2,700
Asia	~600	Australia	~5	Asia	~600
Other	~20	South Africa	~25		
		Other	~30		
<b>TOTAL</b>	<b>~4,820</b>	<b>TOTAL</b>	<b>~100</b>	<b>TOTAL</b>	<b>~6,200</b>

Not including machines sold on OEM agreements.  
2016 recount of TSS portfolio

# USING THE POWER OF BUSINESS TO DO GOOD

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## EMPLOYEES

77% of our employees say TOMRA is a “Great Place to Work” (2015)

## ETHICAL BEHAVIOUR

Member of UN Global Compact since end 2009  
Implementing ethical policies worldwide

## ENVIRONMENT

We contribute to avoided emissions of about ~25 mill tons CO<sub>2</sub> annually (2016)

## INCREASING CUSTOMER VALUE

Productivity  
Revenues  
Quality



# TOMRA IN DEPTH



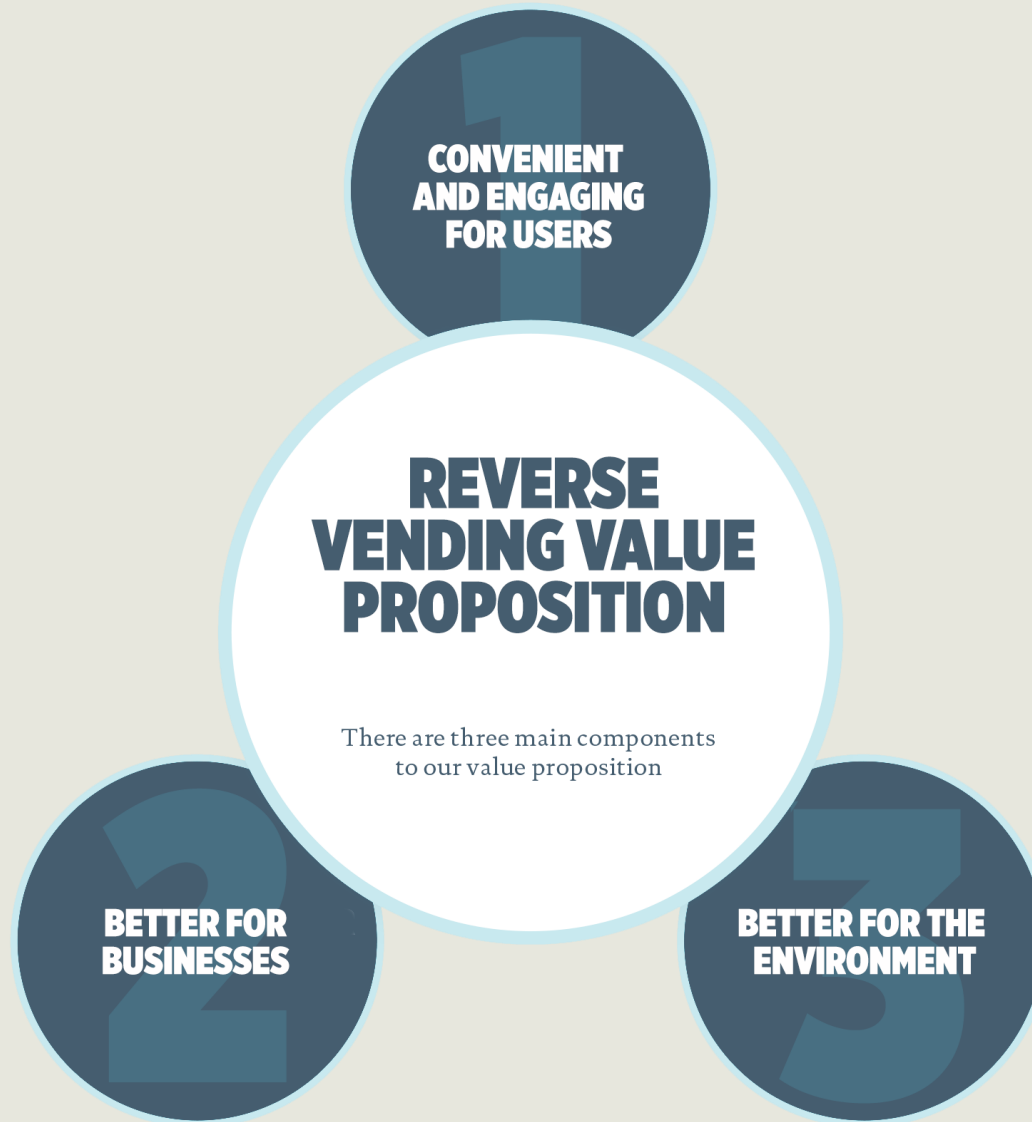
# TOMRA Collection Solutions

RETURNS  
INTO   
VALUE

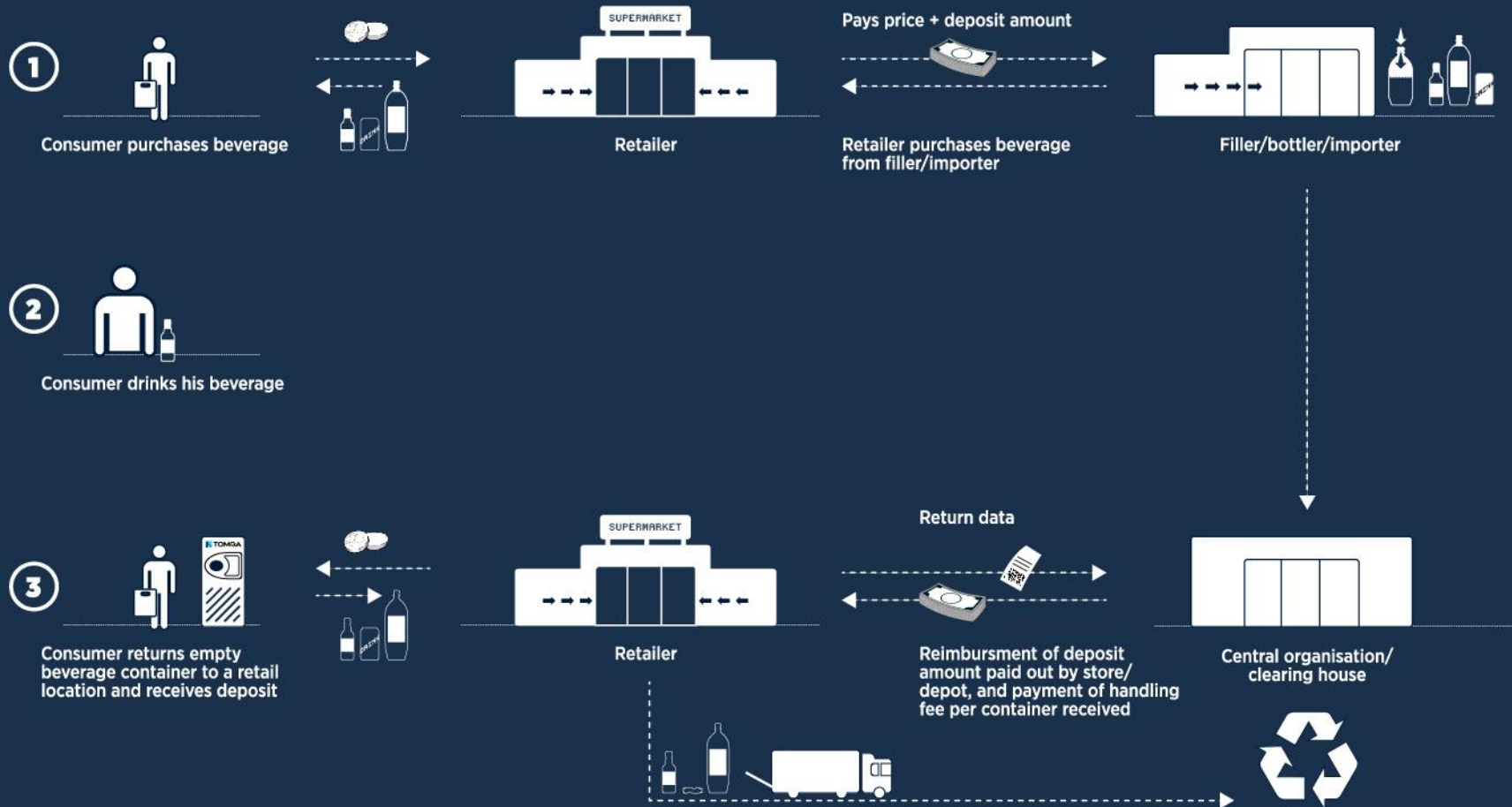


# REVERSE VENDING ADVANTAGES

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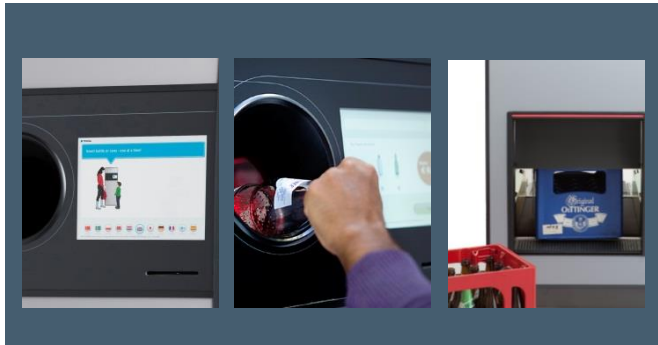


# RECYCLING OF BEVERAGE PACKAGING IN A DEPOSIT SYSTEM

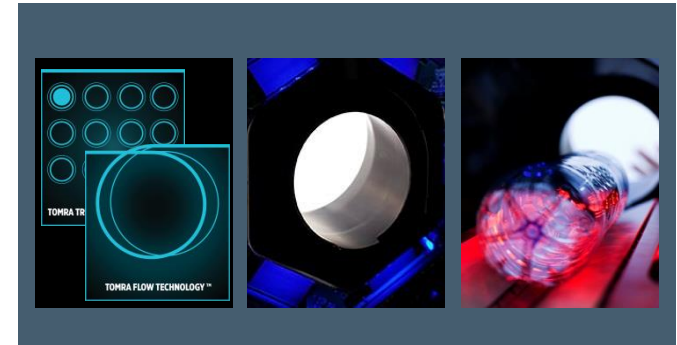




# ELEMENTS OF A MODERN REVERSE VENDING SYSTEM



**User communication**



**Recognition system**



**Sorting & processing**



**Data administration**

# THE USED BEVERAGE CONTAINER RECYCLING VALUE CHAIN

## Generic used beverage container (UBC) recycling value chain



## RVM-based UBC recycling value chain



# T-9: THE FIRST OF A NEW GENERATION OF MACHINES

- In fourth quarter 2013, TOMRA presented the first machine of the **new generation** of machines to come
- T-9 features the first **360 degree recognition** system applied in an RVM and a completely new industrial design
- The machine is **faster, cleaner** and **takes all** types of beverage containers
- **The launch has been successful**
  - Several machines already installed in core markets
  - Key product for replacement sale in e.g. Germany
- **2014** installations: ~1,200 machines
- **2015** installations: ~4,000 machines
- **2016** installations: ~4,600 machines

**TOMRA is setting the standard for reverse vending for the next decade**



# A COMPLETE TRANSFORMATION OF THE PRODUCT PORTFOLIO IN PROGRESS

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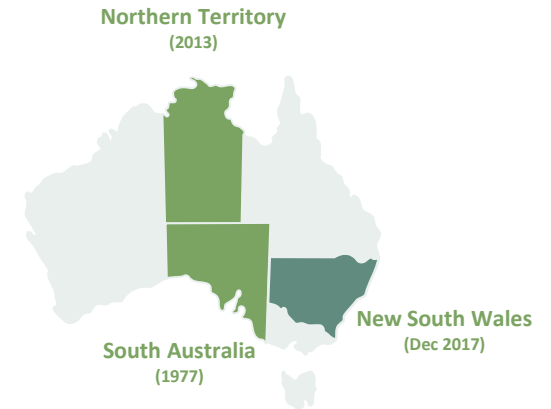
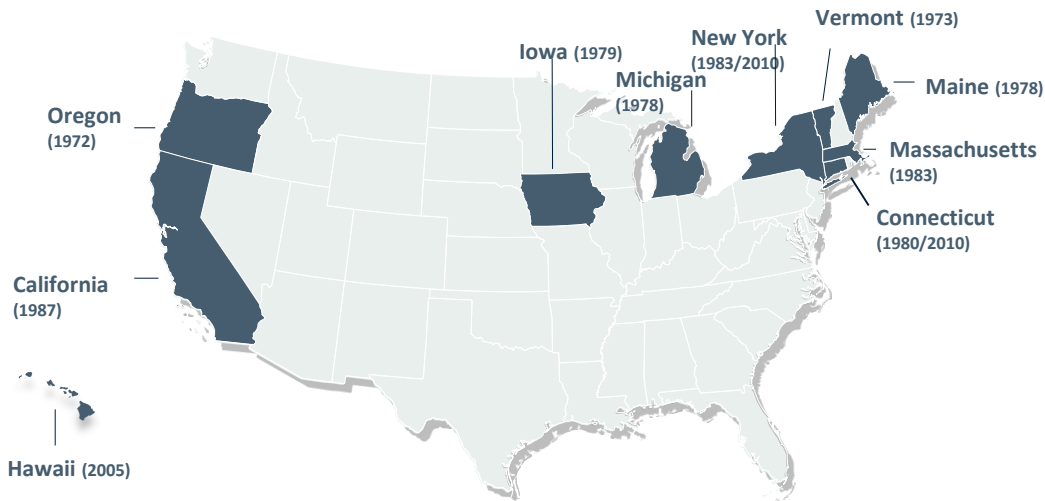
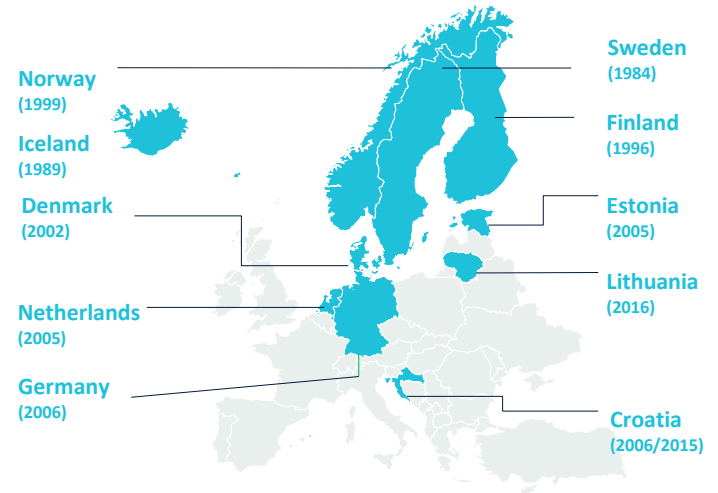
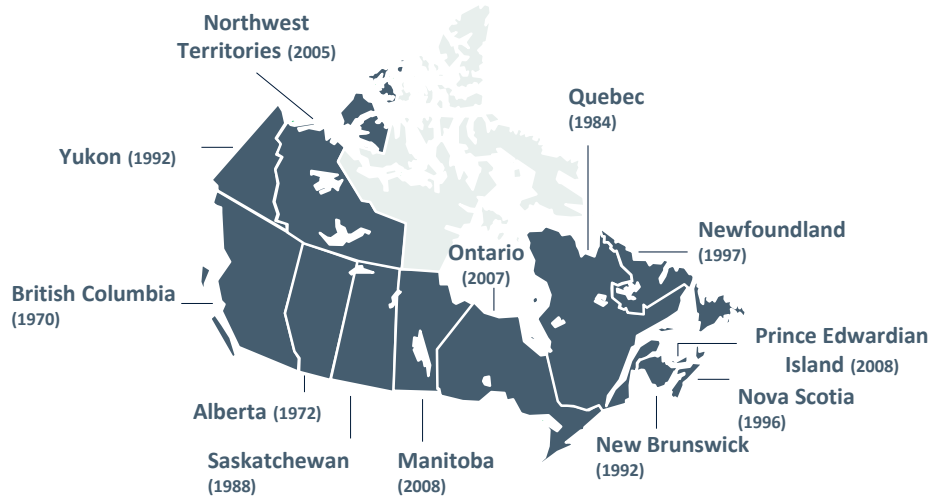
## 2012 Portfolio



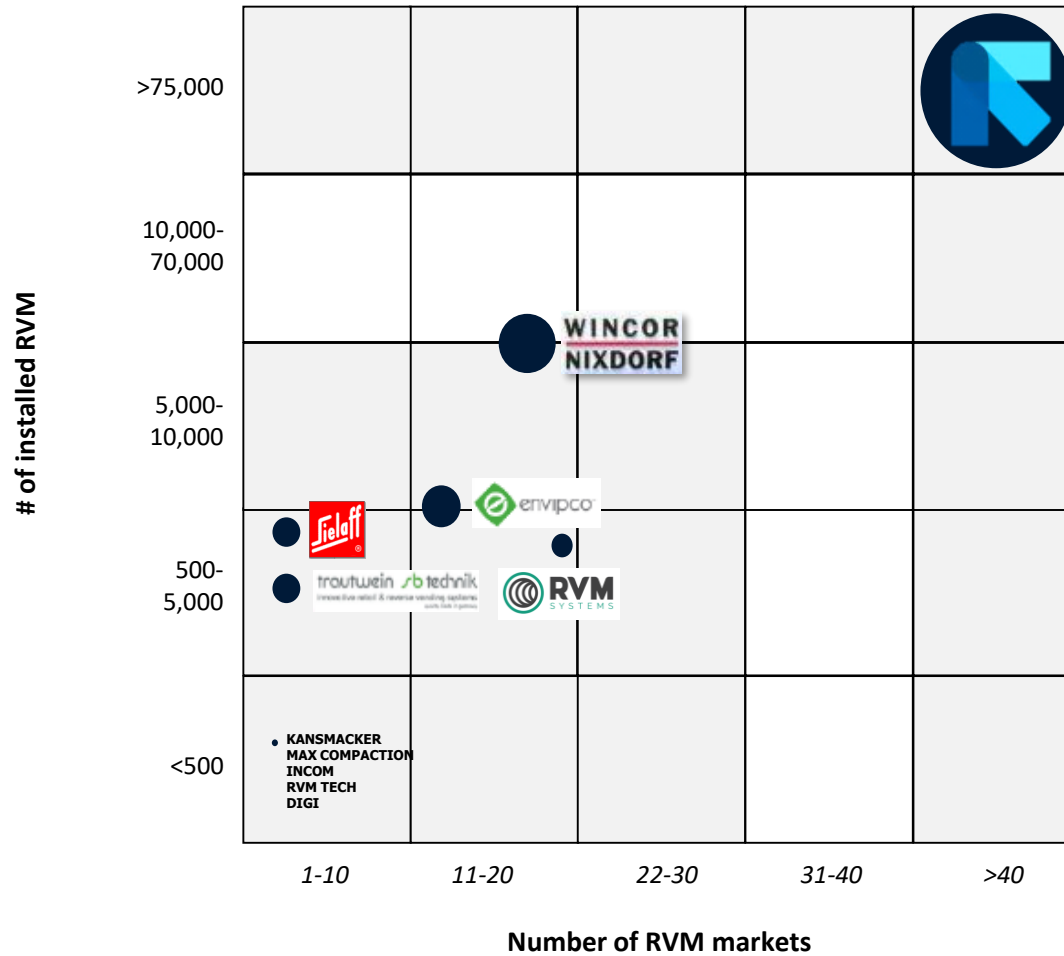
## 2017 Portfolio



# CURRENT DEPOSIT MARKETS\*



# COMPETITIVE LANDSCAPE



● Annual revenue from RVM sales

Source: TOMRA estimates and analysis

# RVM: OUR STRATEGY 2013 -2018

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1

**Defend and nurture core deposit market business**

- Increase differentiation towards competition
- Further reduce the cost of reverse vending systems

2

**Ensure continued relevance of deposit systems**

- Increase scope of existing deposit markets
- Assist in developing new deposit markets

3

**Embrace new business models**

- Capture new volume by entering new segments
- Create new revenue streams from Software/IT

4

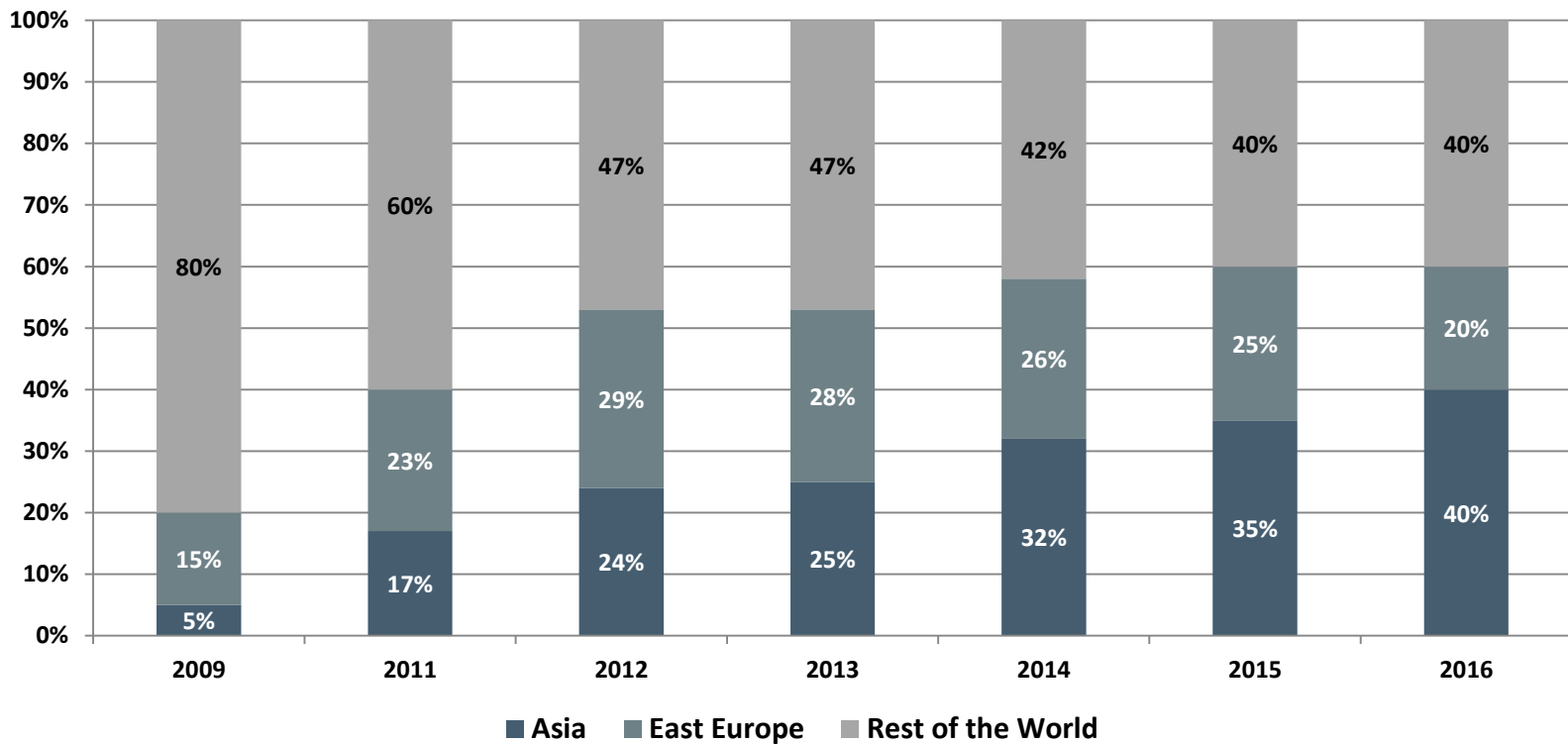
**Expand scope of business**

- Target new material streams

# A NEW SOURCING SETUP IS THE MAIN DRIVER FOR ACHIEVED COGS SAVINGS

## COGS distribution by region (sourcing)

Percent of total



Source: TOMRA analysis

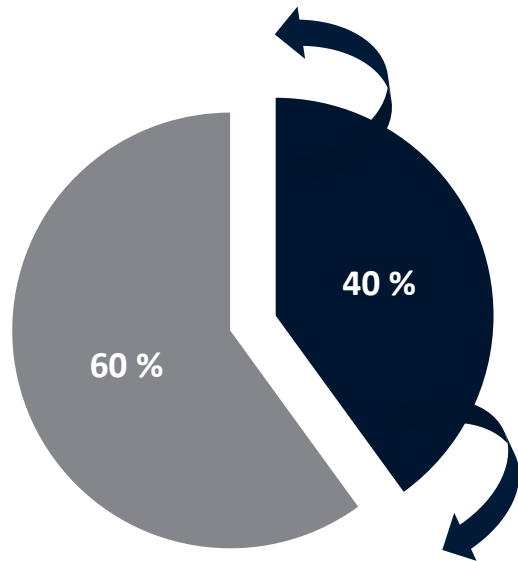


# ENSURE CONTINUED RELEVANCE OF AUTOMATED DEPOSIT SYSTEMS

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## Handling method for deposit containers

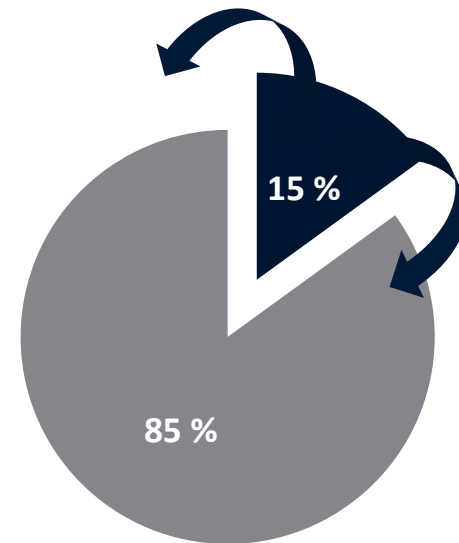
Percent of total



- Handled with RVS
- Handled manually

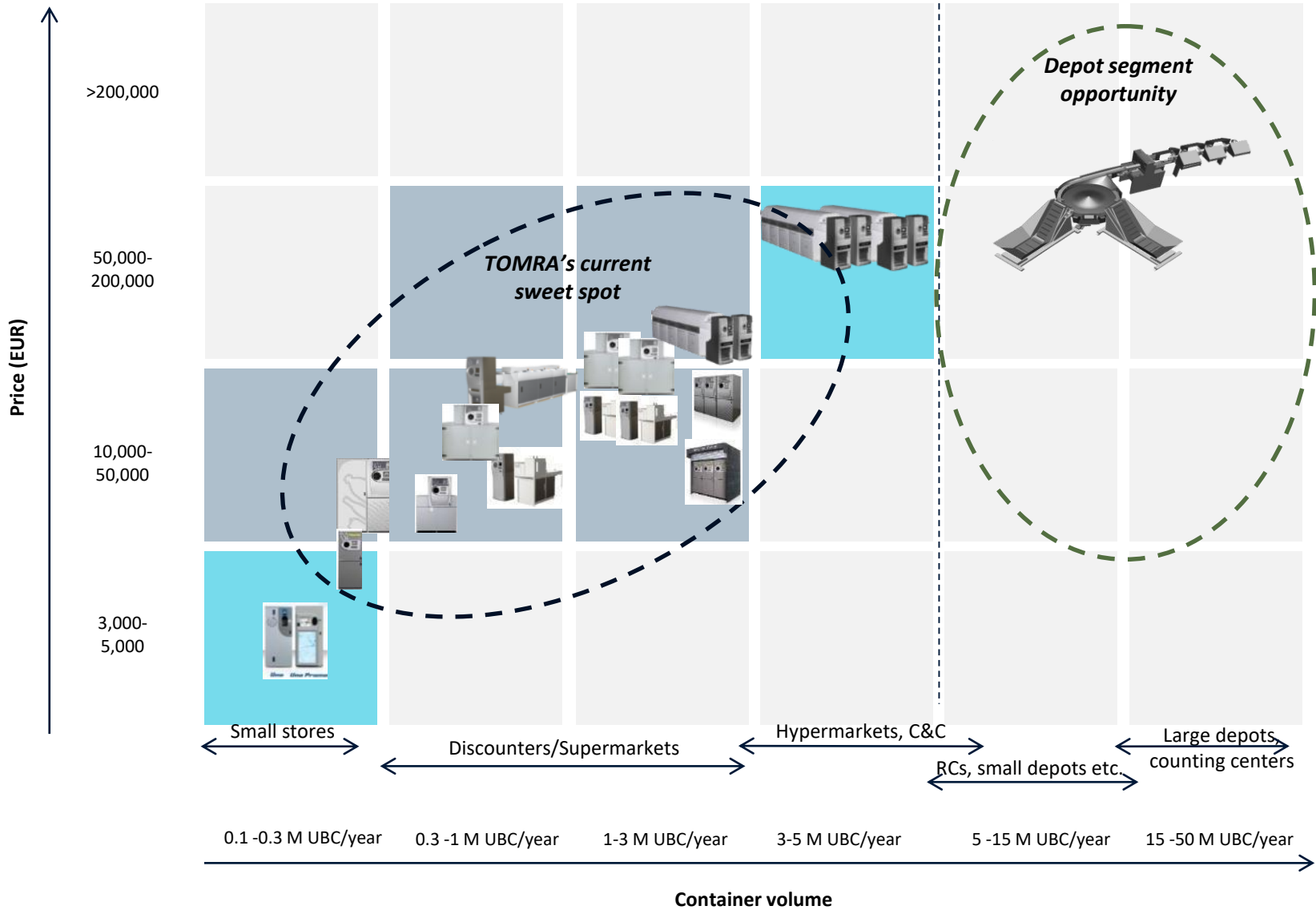
## Share of containers sold with deposit

Percent of total



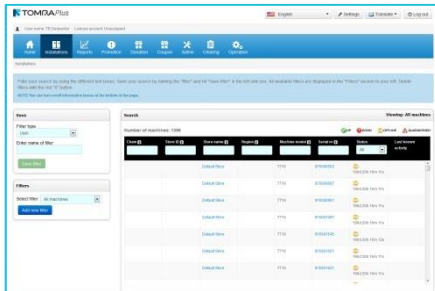
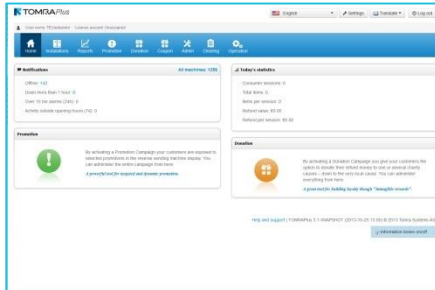
- Containers sold with deposit
- Containers sold without deposit

# ENTER NEW SEGMENTS

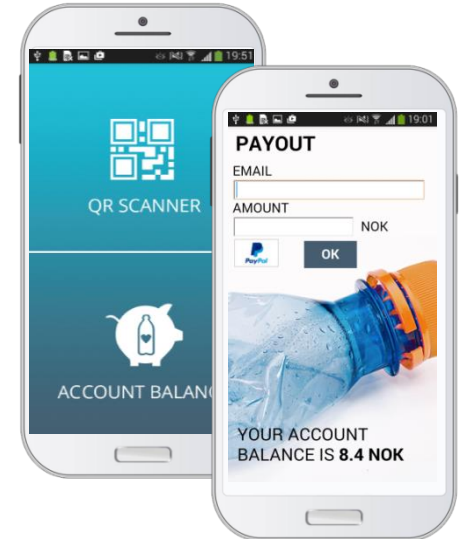


# CREATE NEW REVENUE STREAMS FROM SW/IT

## TOMRAPlus



## TOMRA ReAct/PANTO



### IN-STORE MARKETING



Transform reverse vending machines into customer dialogue tools.

### RECEIPT CONTROL



Validate and devalue deposit refund receipts in real-time through POS.

### RVM INSIGHT & ANALYSIS



Operational metrics, performance monitoring, fleet management, business intelligence and analysis.

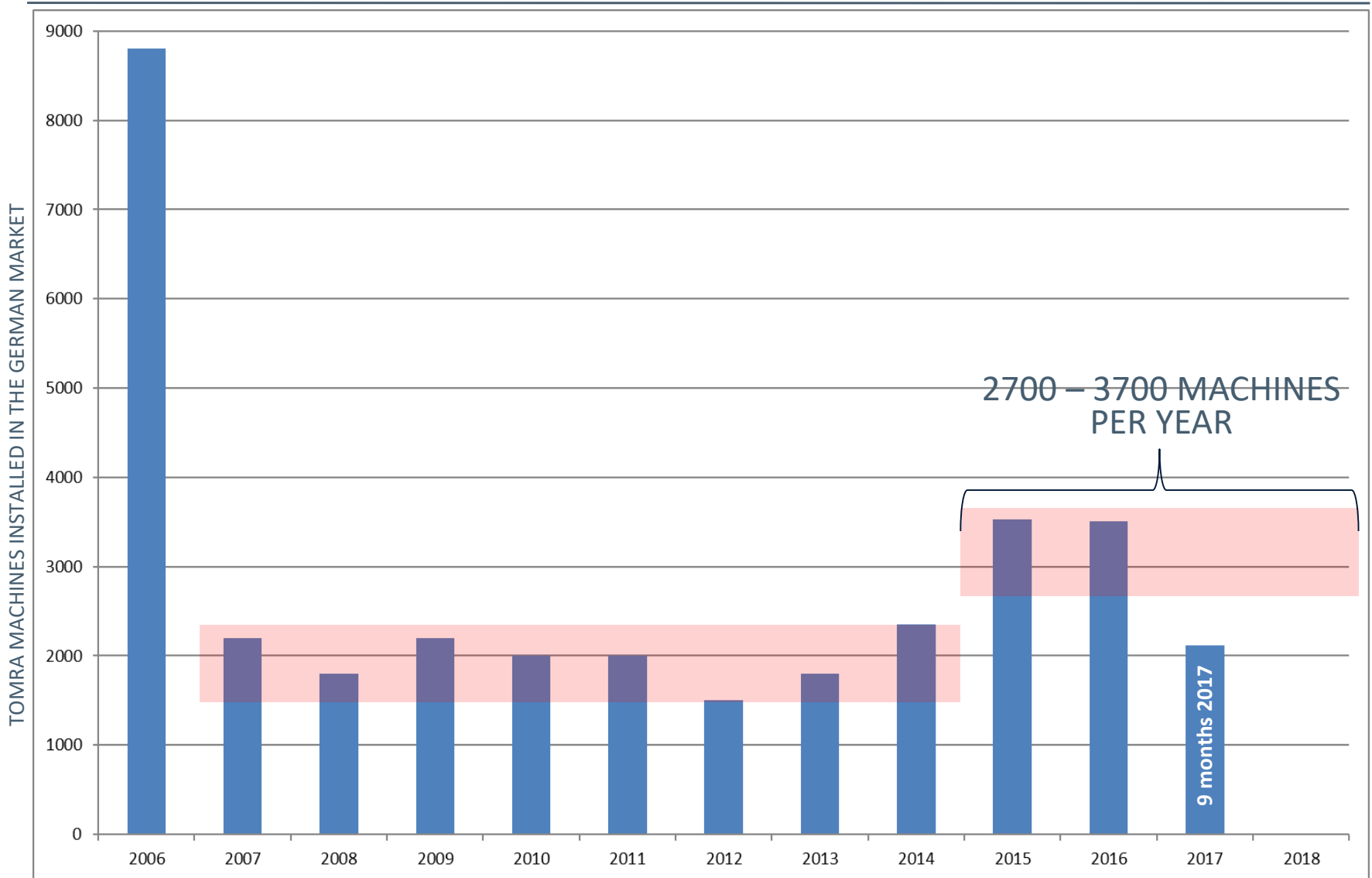
### CONSUMER ENGAGEMENT



Innovative solutions for customer loyalty and engagement with customer identification.

**Integrating hardware and software into attractive and engaging combos**

# GERMANY REPLACEMENT UPDATE



# POTENTIAL NEW DEPOSIT MARKETS

- Recently approved
- Nearly approved
- In progress



# COLLECTION SOLUTIONS – FINANCIAL DASHBOARD



## TARGETS 2013 -2018

Yearly growth 4 – 8%

EBITA-margin 18% – 23%

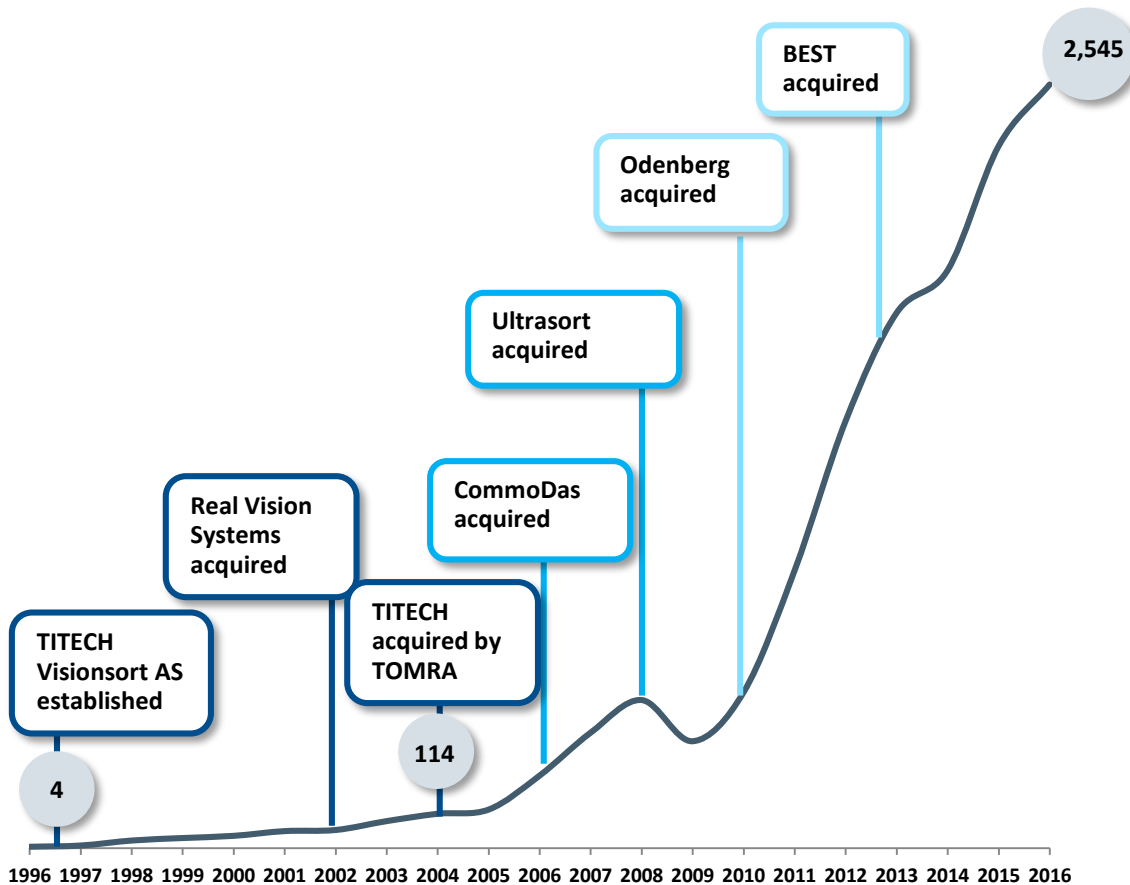
# TOMRA Sorting Solutions

**WASTE  
INTO  
VALUE**



# STRONG REVENUE GROWTH SINCE INCEPTION IN 1996

## Revenue development and key milestones MNOK

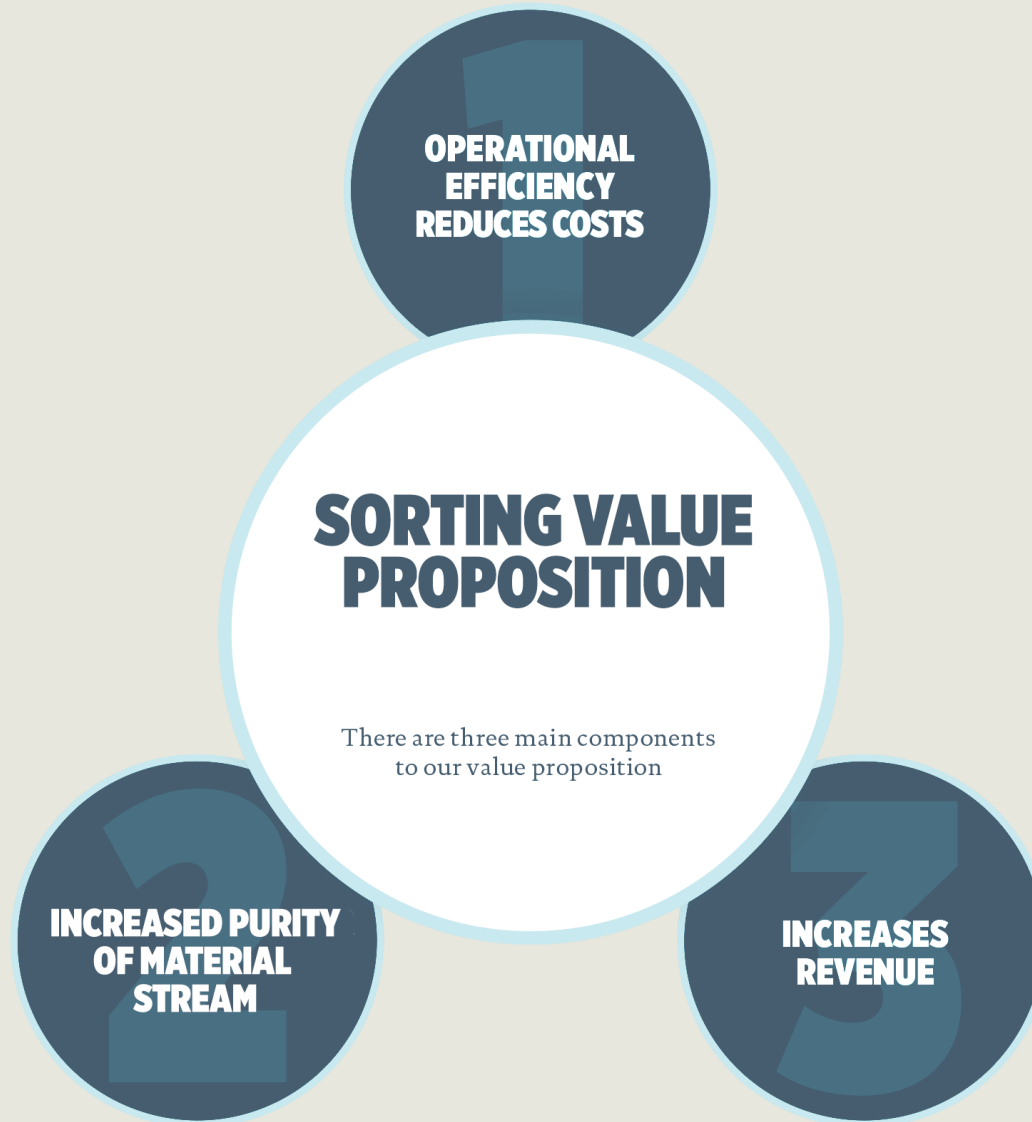


- Total revenue growth (organic plus inorganic) CAGR of ~30% per year from 2004-2016
  - Average annual organic growth for the same period was ~17%
- Technology base and segment/application knowledge expanded both through acquisitions and in-house ventures



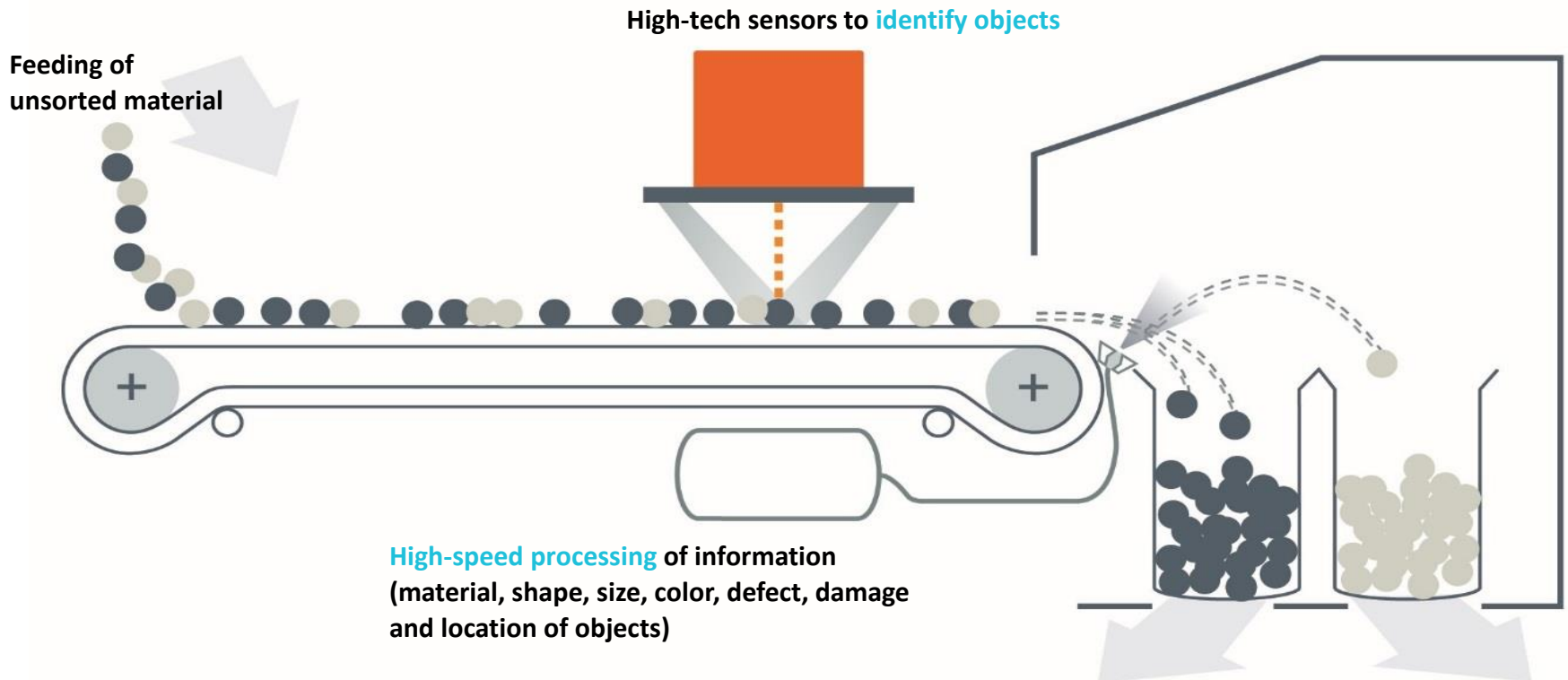
# SORTING VALUE PROPOSITION

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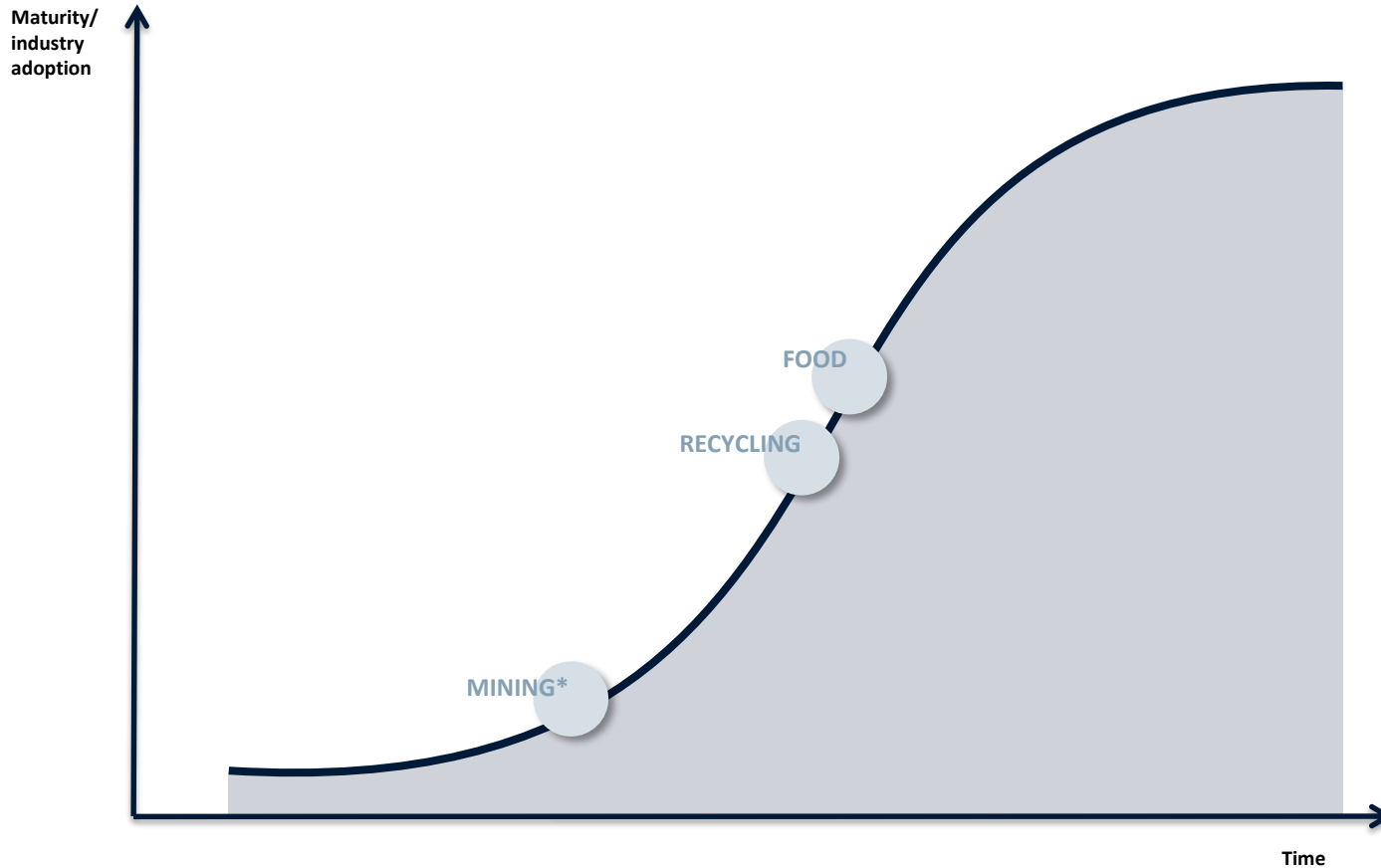


# HOW DOES SENSOR BASED SEPARATION WORK?

- High-tech sensors to **identify objects**
- **High speed processing** of information (material, shape, size, color, defect, damage and location of objects)
- **Precise sorting** by air jets or mechanical fingers
- Product **specific equipment design** often including multiple technologies to maximize sorting efficiency



# 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

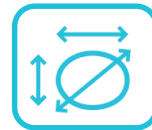
	[m]	Sensor/ Technology	Material Property	Segment
Gamma-radiation	$10^{-12}$	RM (Radiometric)	Natural Gamma Radiation	Mining
	$10^{-11}$			
X-ray	$10^{-10}$	XRT (X-ray transmission) Low Energy X-ray	Atomic Density	Recycling, Mining, Food
	$10^{-9}$			
Ultraviolet (UV)	$10^{-8}$	XRF	X ray fluorescence (Elemental Spectroscopy)	Recycling, Mining
	$10^{-7}$			
Visible light (VIS)	$10^{-6}$	COLOR (CCD Color Camera)	Reflection, Absorption, Transmission	Recycling, Mining, Food
	$10^{-5}$			
Near Infrared (NIR)	$10^{-4}$			
	$10^{-3}$	Laser attenuation and PM (Photometric)	Monochromatic Reflection / Absorption of Laser Light Scattering analysis of Laser Light	Mining, Food
Infrared (IR)	$10^{-2}$			
	$10^{-1}$			
Microwaves	$10^0$	NIR / MIR (Near/Medium Infrared Spectrometry)	Reflection, Absorption (Molecular Spectroscopy)	Recycling, Mining, Food
	$10^1$			
Radio waves	$10^2$	LIBS	Laser induced breakdown spectroscopy	Recycling, Mining
	$10^3$			
Alternating current (AC)	$10^4$	EM (Electro- Magnetic sensor)	Conductivity, permeability	Recycling, Mining, Food

# OUR PRODUCTS IS SERVING A WIDE RANGE OF DETECTION PARAMETERS



## Color

Removal of discolorations in mono- and mixed-color material



## Shape & Size

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



## Blemishes

Objects with spots or other (small) blemishes are removed



## Biometric Characteristics

Sort based on water content and removal of micotoxyn contaminations



## Defects

Removal of visible and invisible small and substantial defects



## Foreign Material

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



## Structure

Removal of soft, molded or rotten food



## Fluo

Based on the chlorophyll level present in produce defects are removed



## Density

Detection of density differences



## X-RAY

Analysis of objects based on their density and shape



## Damage

Broken, split and damaged objects are detected and removed



## Detox

Removal of produce contaminated with aflatoxin

 Visible

 Invisible

 Both

# CROSS UTILIZING OUR PORTFOLIO 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

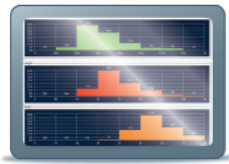
### Nimbus BSI

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

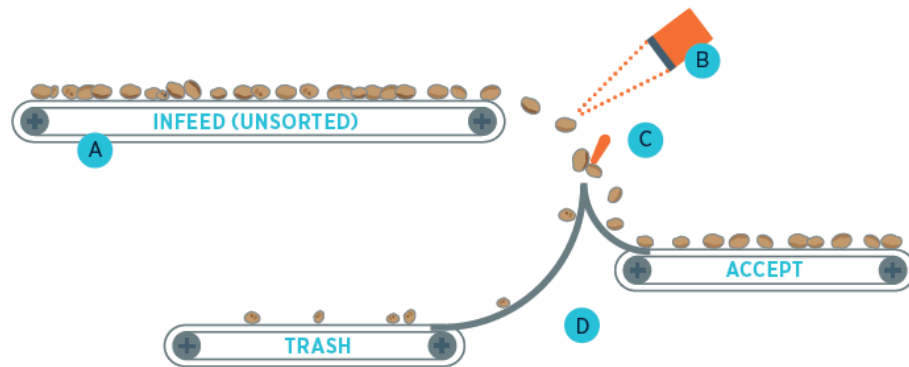
Several more projects on combining technologies into new products in the pipeline

# SORTING UNWASHED POTATOES: WORKING PRINCIPLE

The product is spread uniformly onto the infeed belt and will be scanned by cameras in the different inspection zones. A few milliseconds later one type of material will be rejected by intelligent finger ejectors, positioned at the end of the conveyor belt, while the good products continue their way along the sorting line.



- A** Infeed (unsorted)
- B** Full width NIR and Color Vision sensors
- C** Intelligent finger ejectors
- D** Gentle handling conveyer chutes (optional)



## DEFECTS & BLEMISHES



Dirt Clod



Rot



Stones



Golf Ball

## REPORTING

Reports can be generated with the following data:

### Product Data

- + Average Length & Width mm(ins)
- + Length and Width distribution (size bins) mm(ins)
- + Total potato count #
- + Total reject count #
- + Stone, soil clod, rot, other %

### Sorter Operation Data

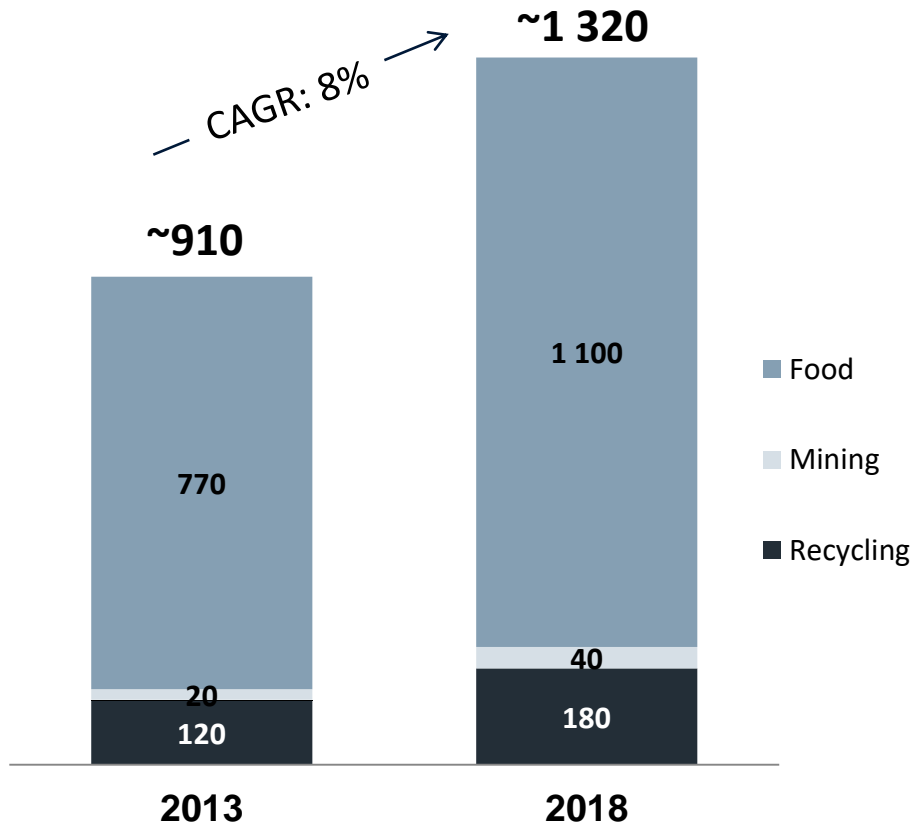
- + Belt speed, average belt fill %
- + Object counts/second
- + Program running

- The Field Potato Sorter is ODENBERG's first venture into the **unwashed potato market**
- The machine uses unique near **infra-red technology** to remove soil clods, stones and rotten potatoes, in addition to the foreign material commonly found in fields such as golf balls, plastics, wood etc
- The FPS sorter should be used after a soil remover and is designed to fit existing grading equipment or be used as a standalone unit and can operate on harvested potato crop before and after storage
- The system also provides online potato size data for logging, plus sorter operating information

# MARKET SIZE AND POTENTIAL

## Total annual market size

EUR million



## Market growth

- Market expected to grow at rate of around 7-9% per year
- A large part of growth from unlocking of dormant potential – only possible by developing new applications and technologies
- Some growth in “old world”, but faster growth in “new world”

Source: TOMRA estimates and analysis

\* Market size for food includes peeling, meat/process analytics, virgin materials and tobacco.



# SORTING SOLUTIONS: OUR STRATEGY

Food

Recycling

Mining

1 Revenue growth of 10-15% over the period

More than doubling of emerging markets revenue (but North America and Europe still 60% of business in 2018)

New applications representing 25% of revenue in 2018

15 M€ growth in new segments

Significant expansion of sales network

New segments representing 10% of revenue in 2018

50% growth in service revenue

Succeed in high volume segments

Grow with existing customers and double service revenue

2 Extend technology leadership

Common sorting platform for all new product developments

Cross-utilization of sensor portfolio, e.g. NIR/BSI in food and laser in mining

Extend current leadership in core NIR and laser technologies, and develop new cutting edge sensors

3 Improve operational efficiency

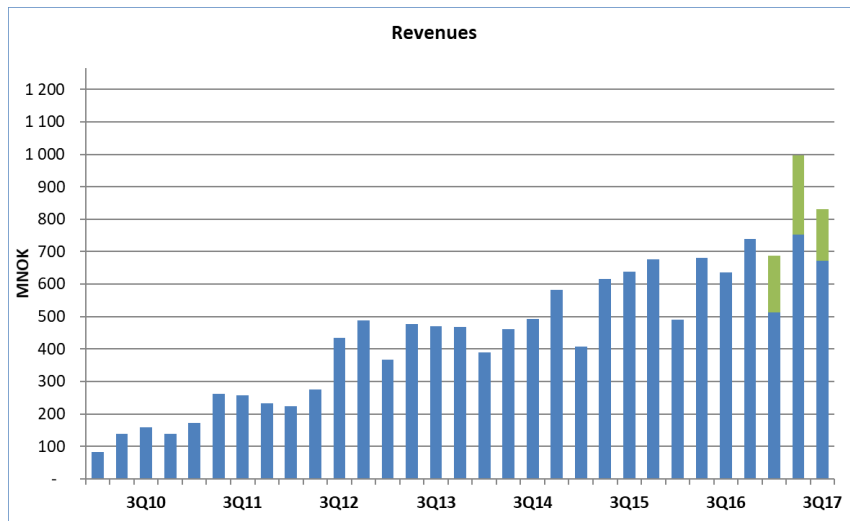
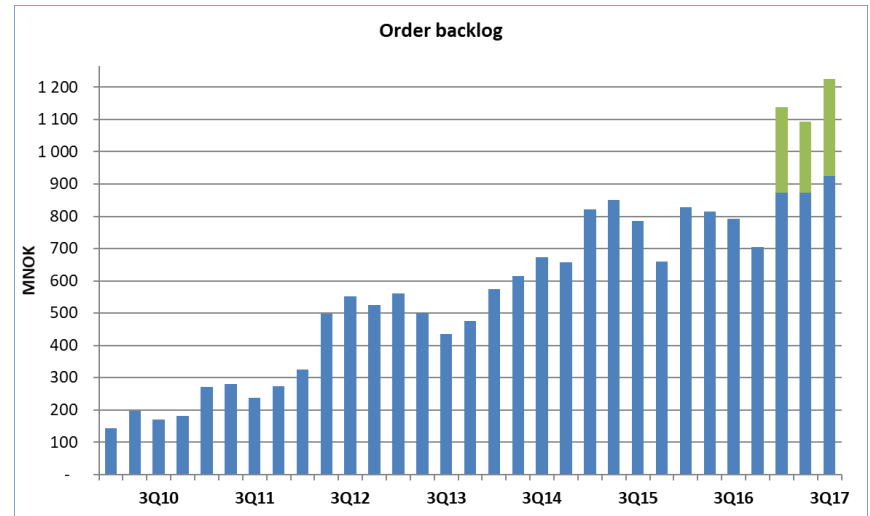
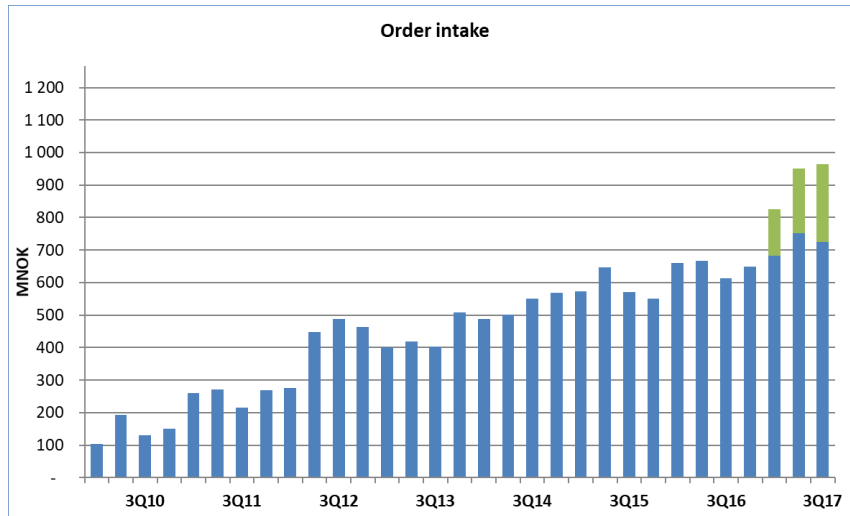
Design changes, economies of scale and purchasing power to lower COGS

Consolidation of manufacturing and sourcing; increased sourcing from low cost countries

Streamlining of organization and processes to take out synergies across business units

Target to grow profits at several percentage points faster than revenue

# BACKLOG DEVELOPMENT AND MOMENTUM



■ TSS ex Compac ■ Compac

## TOMRA Sorting Solutions (TSS) without Compac:

- Delivered order intake of 724 MNOK in the quarter, compared to 613 MNOK same quarter last year, up 22% currency adjusted
- Revenues came in at 673 MNOK (up from 636 MNOK in 3Q16)
- All time high order backlog of 924 MNOK, up from 793 MNOK at the end of September 2016

## Compac

- Reported revenues of 158 MNOK in the quarter and finished the quarter with a backlog of 302 MNOK
- Estimated backlog conversion ratio in 4Q17, including Compac: 75%-80%\*

# FINANCIAL DASHBOARD – SORTING SOLUTIONS

Industry  
Growth



Recurring  
revenue



Profitability  
(ROCE)\*



Food

Recycling

Mining

Market share



Geographical  
diversity



Cyclicality



## TARGETS 2013 -2018

Yearly organic growth 10-15%

Geographical expansion

EBITA-margin 18-23%

(i) In markets served. Total food sorting (incl. rice and lane sorting\*) 12-15%



# YIELD INTO USAGE

# GROWTH IN GLOBAL FOOD DEMAND WILL SPUR INVESTMENTS IN AUTOMATION

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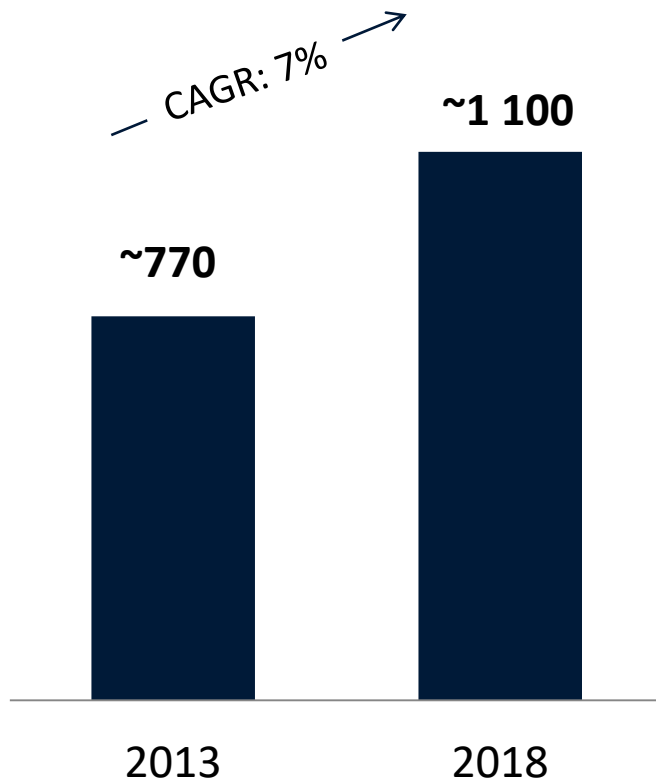
## Drivers and trends

- **Increasing food consumption in emerging markets**, more mid-class consumers
- Industry focus on **increased productivity** and **reducing costs** through automation & quality control
- **Higher quality demands** from the consumers
- **Stricter regulations** from governments concerning **food safety , health & traceability**
- Shift towards packaged **convenience food and fast food**
- **Risk of claims & recalls**
  - Social media snowball effect (Twitter, Facebook, etc.)
- Globalization of brands and sourcing set up
- Scarcity & expense of (seasonal) **manual labor**
- Consolidation in the retail and processing sectors
- Adoption of technology in emerging markets

# MARKET SIZE FOOD SORTING\*

## Total annual market size

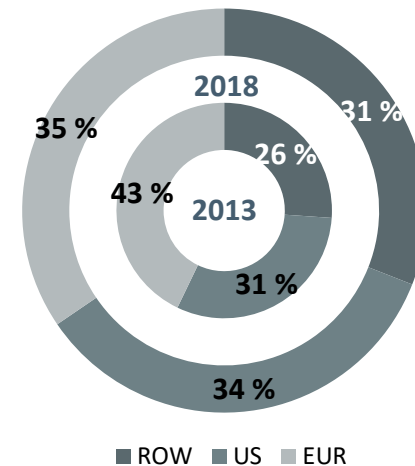
EUR million



## Market growth

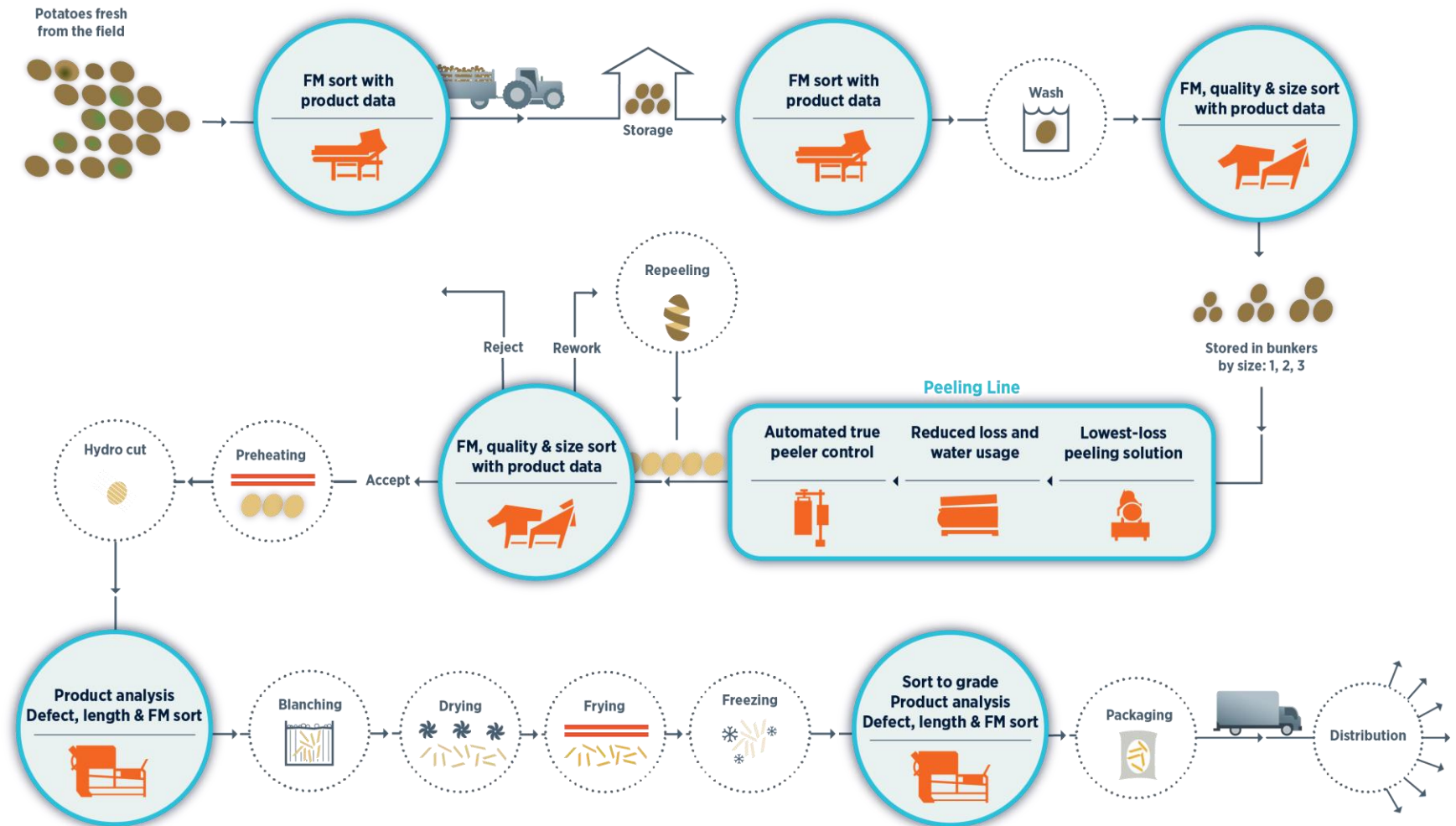
- Total market for food sorting growing around 6-8% per year
- Approximately a third of total growth is dormant potential
  - only unlocked by development of new applications and technologies
- New world share grows but the two old world champions (Europe & Americas) remain strong

## Expected development in geographical revenue contribution



\* Market sizes shown include peeling, meat/process analytics, virgin materials and tobacco.

# WE ARE UNIQUELY POSITIONED TO SERVE THE ENTIRE VALUE CHAIN WITH OUR PRODUCT PLATFORM



Sales of potato-related products account for about 25% of the sales in the food division

# INTRODUCTION TO COMPAC (ANNOUNCED 12.10.16)

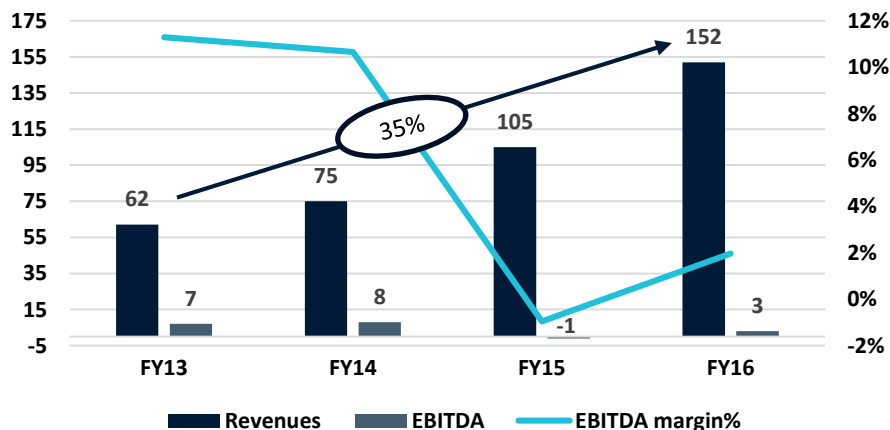
## Introduction

- Compac is a New Zealand-based provider of post-harvest solutions and services to the global fresh produce industry
- Founded in 1984 by Hamish Kennedy with HQ in Auckland NZ and has around 700 employees
- Compac has a leading position within sorting of apples, kiwifruit, cherries, citrus, stonefruit, avocados and tomatoes
- The company designs, manufactures, sells and services packhouse automation systems that sort produce based on their weight, size, shape, colour, surface blemishes and internal quality
- Fruit handling equipment singulates fruits into lanes, in-feeds (wash and wax), inspects, sorts/grades and partly packages
- About 6,000 Compac sorting lanes have been sold worldwide in over 40 markets

## Spectrim: Compac's latest sorter

- The sorter was launched in 2015
- Represents an unmatched capability of external defect detection and an advanced 3D imaging and modelling
- For sorting of apples, citrus, stone fruit and kiwi fruit
- Uniform lighting that minimizes shadows and reflections
- Sensors and cameras generate up to 500 images of every piece of produce, creating an accurate 3D model of each fruit
- Three different wavelengths that can be configured to target specific defects: color, blemishes, bruising

## Key Financials (NZDm)<sup>1</sup>

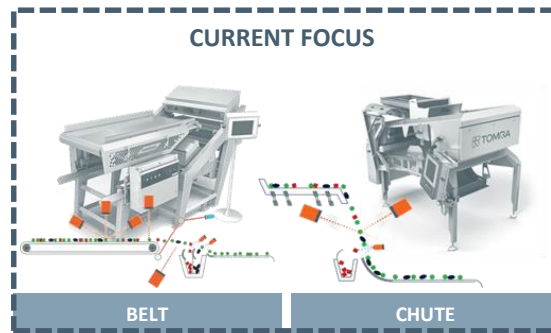
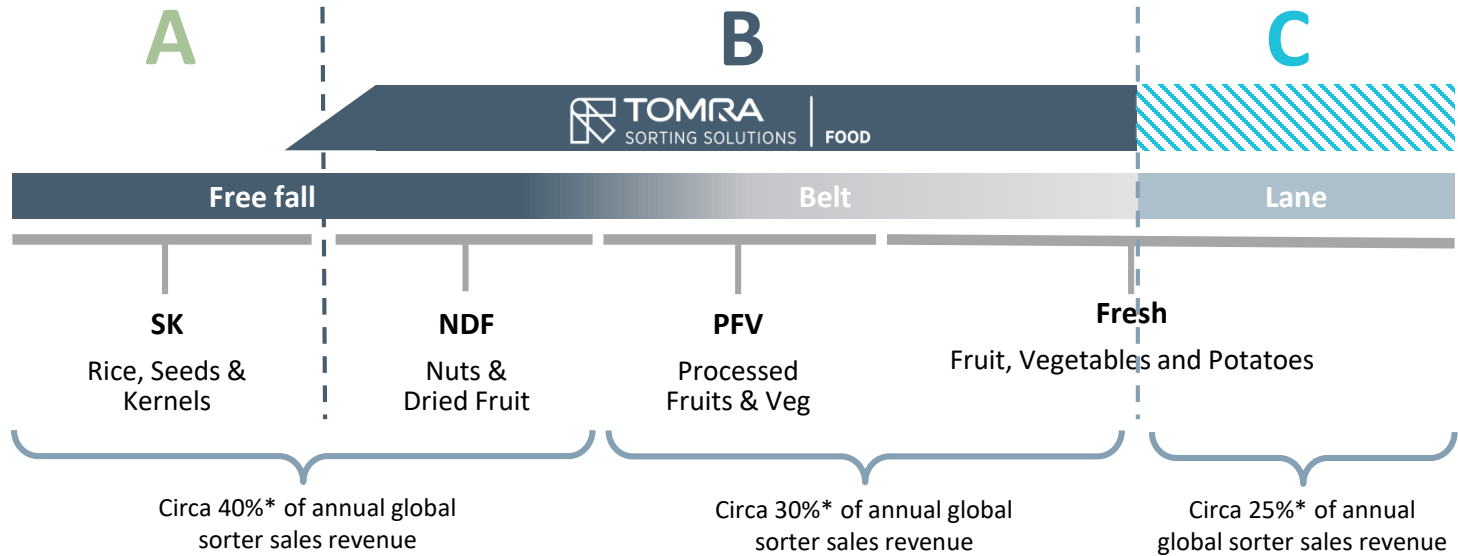




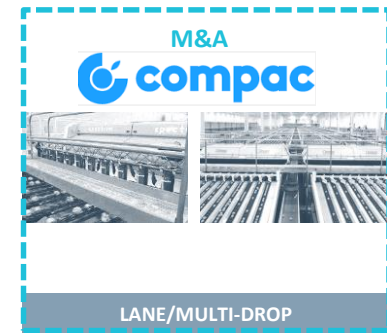
# TRANSACTION RATIONALE ELABORATED

<b>Attractive Market</b>	<ul style="list-style-type: none"><li>• Lane sorting is a <b>fast-growing adjacent segment</b> with a ~8% historical CAGR and strong future outlook</li><li>• <b>Key market trends drive further growth</b>, especially in the developing markets as a substitute for manual labor as we see wages increase</li><li>• The industry is <b>yet to mature</b> and fully industrialize</li></ul>
<b>Complimentary geographical footprint</b>	<ul style="list-style-type: none"><li>• <b>Geographic expansion:</b> Utilizing the different footprint and strengths in certain markets</li><li>• Stronger in <b>China</b> together</li></ul>
<b>Application fit expansion</b>	<ul style="list-style-type: none"><li>• TOMRA is currently present in processed fruit and vegetables, Compac serves as a “natural” <b>expansion also into fresh fruit</b></li></ul>
<b>Confirming our leading position in food</b>	<ul style="list-style-type: none"><li>• Lane and Bulk Sorting <b>cater to same client needs</b>, but offers complimentary functionality</li><li>• Possibility to create a comprehensive <b>Food Sorting solution provider</b></li><li>• <b>First mover advantage in combining Lane and Belt sorting:</b> TOMRA to be the first company, which is active in all technology platforms used for sensor-based sorting of Food</li></ul>
<b>Mutual benefits</b>	<ul style="list-style-type: none"><li>• Potential in <b>data capability, IoT and solution development</b></li><li>• Combine current offering: <b>Bulk presorter in front of lanes</b></li><li>• Potato business: Utilizing TSS strength in potatoes and the <b>upcoming demand for sizing</b></li><li>• Complimentary fit within <b>food traceability and food safety</b> (emerging demand)</li></ul>
<b>Why Compac</b>	<ul style="list-style-type: none"><li>• Strong <b>potential</b>. Ongoing and planned business improvement initiatives and funding to get in shape</li><li>• Strong <b>brand</b> name, recognized as the technology leader (Spectrim)</li><li>• <b>Established complimentary footprint</b> in the US, NZ, Australia and Latin America</li><li>• Good platform for growth</li></ul>

# TOMRA HAS THE BROADEST FOOTPRINT WITHIN THE FOOD SORTING UNIVERSE

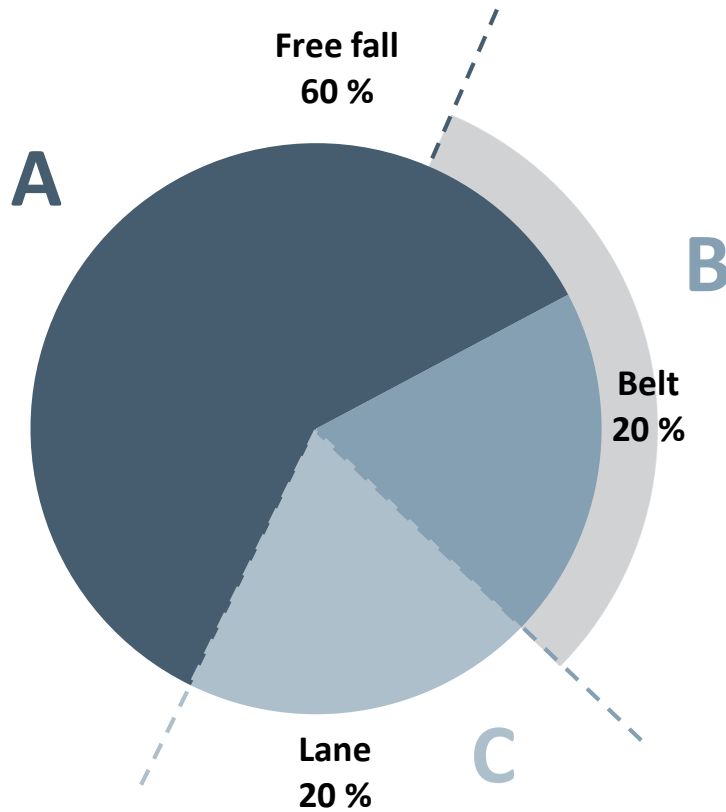


**BULK SORTING**



**SINGULATED SORTING**

# THREE WAYS OF SORTING WITHIN THE FOOD SEGMENT



## Free fall (Channel / Chute)

Application	Seeds, rice, grains
Companies	Buhler, Key, <b>Best</b> , Satake, Daewon, Hefei, Orange
Sensor tech.	Camera (simple)

## Belt

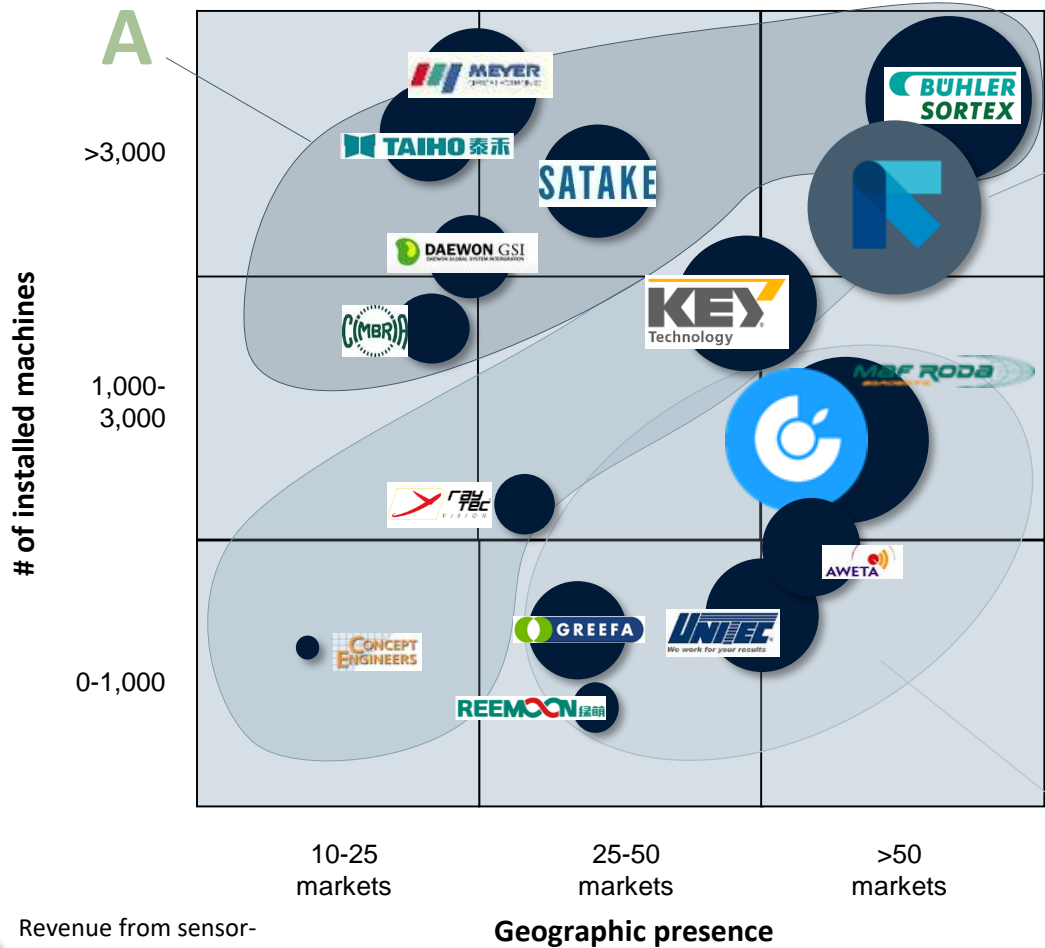
Application	Prepared /preserved veg. and fruit
Companies	<b>Best</b> , Key, <b>Odenberg</b> , Raytec
Sensor tech.	Several (complex)

## Lane

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

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

# FOOD COMPETITIVE LANDSCAPE



## TOMRA competitive positioning

- Size (revenues)
- Widest range of applications (150+)
- Broadest technology base
- Geographic reach (~80 countries)
- Market share in targeted segments
- Transformative solutions (Q-Vision)
- **Market share: 40-50%** in markets served\*

Source: TOMRA estimates and analysis

\* Total Food sorting (also including rice and lane sorting): 12-15%

# OUR BROAD COVERAGE AND TECHNOLOGY BASE IS SETTING US APART IN BULK SORTING

	DRIED FRUIT	NUTS	FRESH CUT	FRUIT	VEGETABLES	MEAT	POTATOES	SEAFOOD
<b>FOOD</b>	<ul style="list-style-type: none"> <li>• Apricots</li> <li>• Craisins</li> <li>• Figs</li> <li>• Prunes</li> <li>• Raisins</li> </ul>	<ul style="list-style-type: none"> <li>• Almonds</li> <li>• Cashews</li> <li>• Hazelnuts</li> <li>• Macadamias</li> <li>• Peanuts</li> <li>• Pecans</li> <li>• Pistachios</li> <li>• Seeds</li> <li>• Walnuts</li> </ul>	<ul style="list-style-type: none"> <li>• Baby leaves</li> <li>• Iceberg lettuce</li> <li>• Spinach</li> <li>• Spring mix</li> </ul>	<ul style="list-style-type: none"> <li>• Apples</li> <li>• Blackberries</li> <li>• Blueberries</li> <li>• Cherries</li> <li>• Citrus</li> <li>• Cranberries</li> <li>• Peaches &amp; pears</li> <li>• Raspberries</li> <li>• Strawberries</li> <li>• Tomatoes</li> </ul>	<ul style="list-style-type: none"> <li>• Beans</li> <li>• Beet</li> <li>• Broccoli</li> <li>• Carrots</li> <li>• Corn</li> <li>• Cucumbers</li> <li>• IQF vegetables</li> <li>• Jalapenos/ Peppers</li> <li>• Onions</li> <li>• Peas</li> <li>• Pickles</li> </ul>	<ul style="list-style-type: none"> <li>• Bacon bits</li> <li>• Beef</li> <li>• IQF meat</li> <li>• Pork</li> <li>• Pork rind</li> </ul>	<ul style="list-style-type: none"> <li>• Washed</li> <li>• French fries</li> <li>• Unpeeled</li> <li>• Peeled</li> <li>• Potato chips</li> <li>• Specialty products</li> <li>• Sweet</li> </ul>	<ul style="list-style-type: none"> <li>• Mussels</li> <li>• Scallops</li> <li>• Shrimps</li> </ul>
<b>SENSOR TECHNOLOGY</b>	<b>LASER</b> <b>NIR</b> <b>VIS</b> <b>X-RAY</b>	<b>LASER</b> <b>CAMERA</b> <b>X-RAY</b>	<b>LASER</b> <b>CAMERA</b>	<b>LASER</b> <b>CAMERA</b> <b>NIR</b> <b>VIS</b>	<b>LASER</b> <b>CAMERA</b> <b>NIR</b> <b>VIS</b>	<b>LASER</b> <b>CAMERA</b> <b>NIR</b>	<b>LASER</b> <b>CAMERA</b> <b>NIR</b> <b>VIS</b>	<b>LASER</b> <b>CAMERA</b> <b>NIR</b> <b>VIS</b> <b>X-RAY</b>

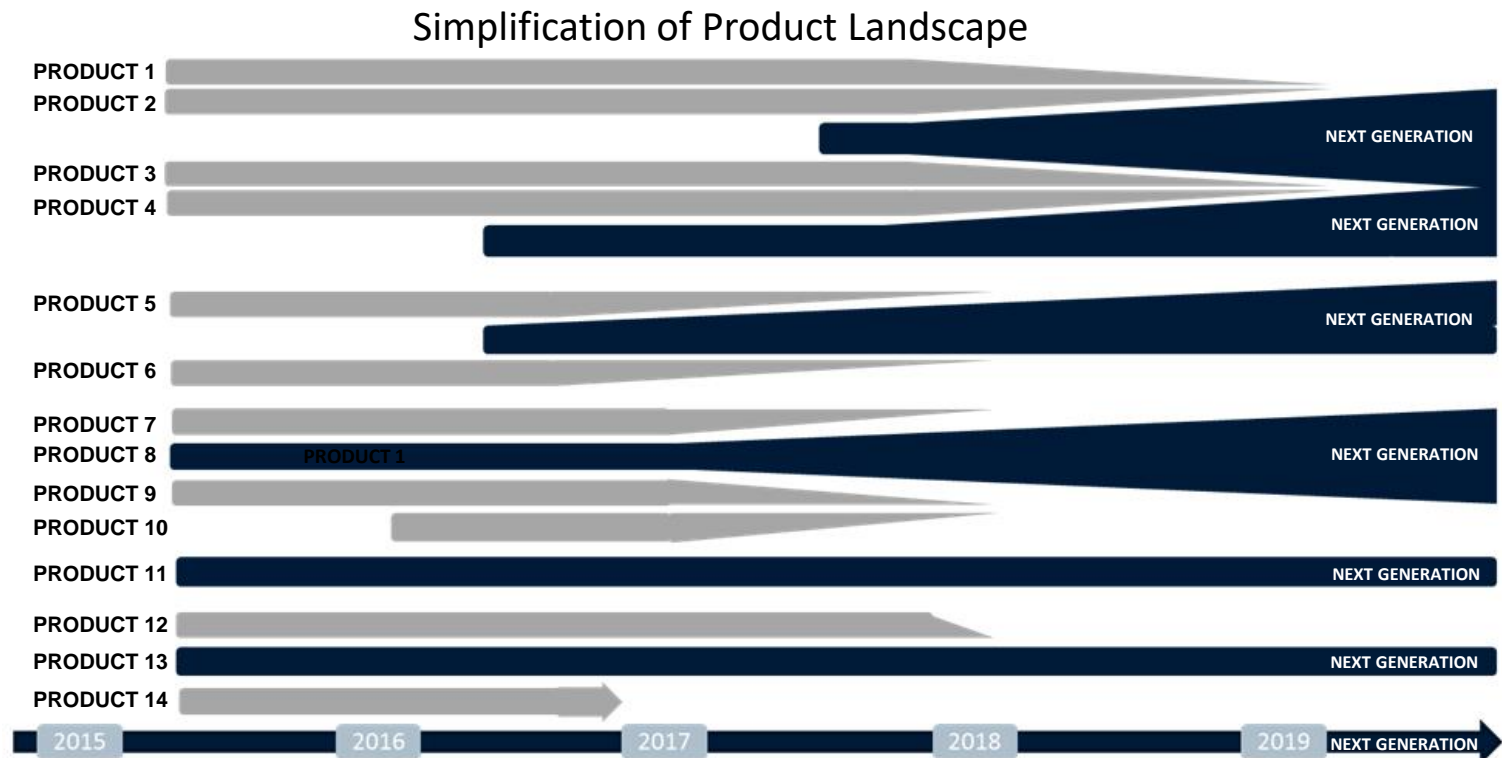


# OUR FOOD CUSTOMERS



# REDUCING COMPLEXITY: MERGING PLATFORMS FOR OUR NEXT GENERATION MACHINES

## High-Level Product Roadmap FOOD (Illustrative)



14 platforms today will be reduced to 6 platforms over the next five years



**ONCE  
INTO   
AGAIN  
AND AGAIN**



# GLOBAL DRIVERS FOR THE RECYCLING SEGMENT

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## Drivers and trends

- **Consumption and industry production level increase**
- Favorable changes in **regulatory framework** (DSD, WEEE, ELV, etc)
- **Commodity price levels and fluctuation**
- **Access to financing**
- **Demand** for recycled **raw materials**
- Increasing **labor costs** in emerging world drive adoption of automatic sorting technologies
- Some countries in Western Europe partly saturated
- Pre-sorted (plastics) still door opener in new markets
- Municipal Solid Waste (MSW) important in emerging countries
- More aggressive pricing from competitors affect market

# ONLY A FRACTION OF THE WASTE VOLUME IS HANDLED BY SENSOR BASED SORTING

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Sensor based sorting is competing with different technologies

Landfill



Incineration



Separate Collection



Scavengers







Hand Sorting



# LEGISLATIVE FRAMEWORK - PROMOTING RECYCLING



	Description	Target	
<b>Packaging Directive</b>	<ul style="list-style-type: none"> <li>Rules on the production, marketing, use, recycling and refilling of containers of liquids for human consumption and on the disposal of used containers</li> <li>2014 review included new targets</li> <li>2015 revision includes lightweight plastic carrier bags</li> </ul>	<ul style="list-style-type: none"> <li>Recycling and reuse of municipal waste: 70% by 2030</li> <li>Recycling and reuse of packaging waste: 80% by 2030</li> <li>Phasing out landfilling by 2025 of recyclable waste in non hazardous landfills</li> </ul>	
<b>Waste Electrical and Electronic Equipment (WEEE) Directive</b>	<ul style="list-style-type: none"> <li>Collection, recycling and recovery targets for all types of electrical goods</li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>The overall aim is for the EU to recycle at least 85% of electrical and electronics waste equipment by 2016</li> </ul>	
<b>Landfill Directive</b>	<ul style="list-style-type: none"> <li>The objective of the Directive is to prevent or reduce as far as possible negative effects on the environment</li> <li>In particular: surface water, groundwater, soil, air, and on human health from the landfilling of waste by introducing stringent technical requirements for waste and landfills.</li> </ul>	<ul style="list-style-type: none"> <li>Amount of biodegradable municipal waste reduced to 50% in 2009 and to 35% in 2016 (compared to 1995 levels)</li> </ul>	
<b>End of Life Vehicle (ELV) Directive</b>	<ul style="list-style-type: none"> <li>Aims at reduction of waste arising from end-of-life vehicles</li> <li>The scope of the directive is limited to passenger cars and light commercial vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Reuse and recycling: 85%</li> <li>Reuse and recovery: 95%</li> </ul>	

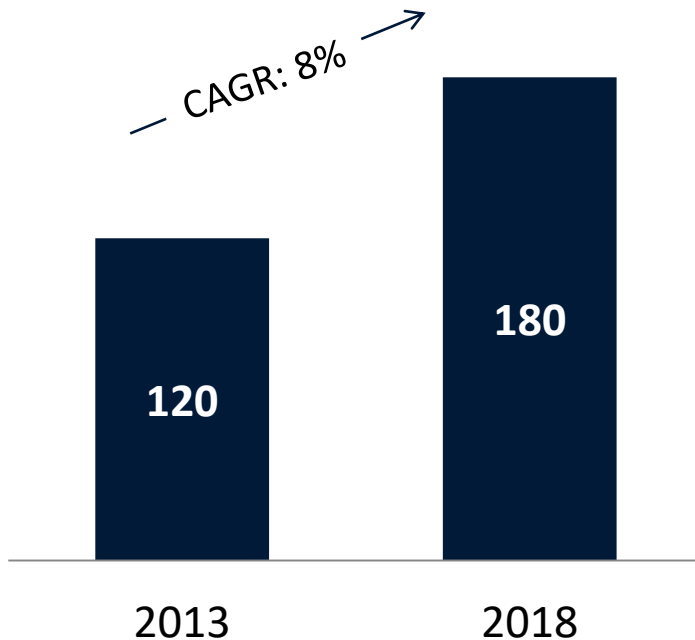
Source: [www.ec.europa.eu](http://www.ec.europa.eu), [www.Eurometrec.org](http://www.Eurometrec.org), [wastemanagementworld.com](http://wastemanagementworld.com),

# MARKET SIZE RECYCLING

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## Total annual market size

EUR million



## Market growth

- Market expected to grow at around 7-9% per year, lower than previous expectations due to economic slowdown
- Demand in old world flattening, while new markets expected to drive growth
- Existing segments will serve as a base, whilst the majority of growth will come from:
  - New geographies
  - New applications
  - New products

# RECYCLING: APPLICATIONS AND SENSOR TECHNOLOGY

	HOUSEHOLD WASTE	PACKAGING	C & D	AUTOMOBILE SHREDDER	ELECTRONIC SCRAP
MATERIAL	<ul style="list-style-type: none"> <li>• Hard plastics</li> <li>• Plastic film</li> <li>• Mixed paper</li> <li>• RDF</li> <li>• Metals</li> <li>• Organics/ Biomass</li> </ul>	<ul style="list-style-type: none"> <li>• Plastics</li> <li>• Plastic film</li> <li>• Cardboard</li> <li>• Mixed paper</li> <li>• Deinking paper</li> <li>• Metal</li> </ul>	<ul style="list-style-type: none"> <li>• Inert material</li> <li>• Plastic film</li> <li>• Metals</li> <li>• Wood</li> <li>• Paper &amp; Cardboard</li> <li>• Plastics</li> </ul>	<ul style="list-style-type: none"> <li>• NF metal</li> <li>• Stainless steel</li> <li>• Copper cables</li> <li>• Copper</li> <li>• Brass</li> <li>• Aluminum</li> <li>• Meatball sorting</li> </ul>	<ul style="list-style-type: none"> <li>• Printed circuit boards</li> <li>• Non-ferrous metal concentrates</li> <li>• Cables</li> <li>• Copper</li> <li>• Brass</li> <li>• Stainless steel</li> <li>• Meatball sorting</li> </ul>
SENSOR TECHNOLOGY	<p><b>NIR</b> <b>EM</b> <b>VIS</b> <b>XRT</b></p>	<p><b>NIR</b> <b>VIS</b> <b>EM</b></p>	<p><b>NIR</b> <b>VIS</b> <b>XRT</b> <b>EM</b></p>	<p><b>NIR</b> <b>VIS</b> <b>XRT</b> <b>EM</b> <b>COLOR</b> <b>XRF</b></p>	<p><b>XRT</b> <b>EM</b> <b>NIR</b> <b>COLOR</b> <b>XRF</b></p>



Mixed paper

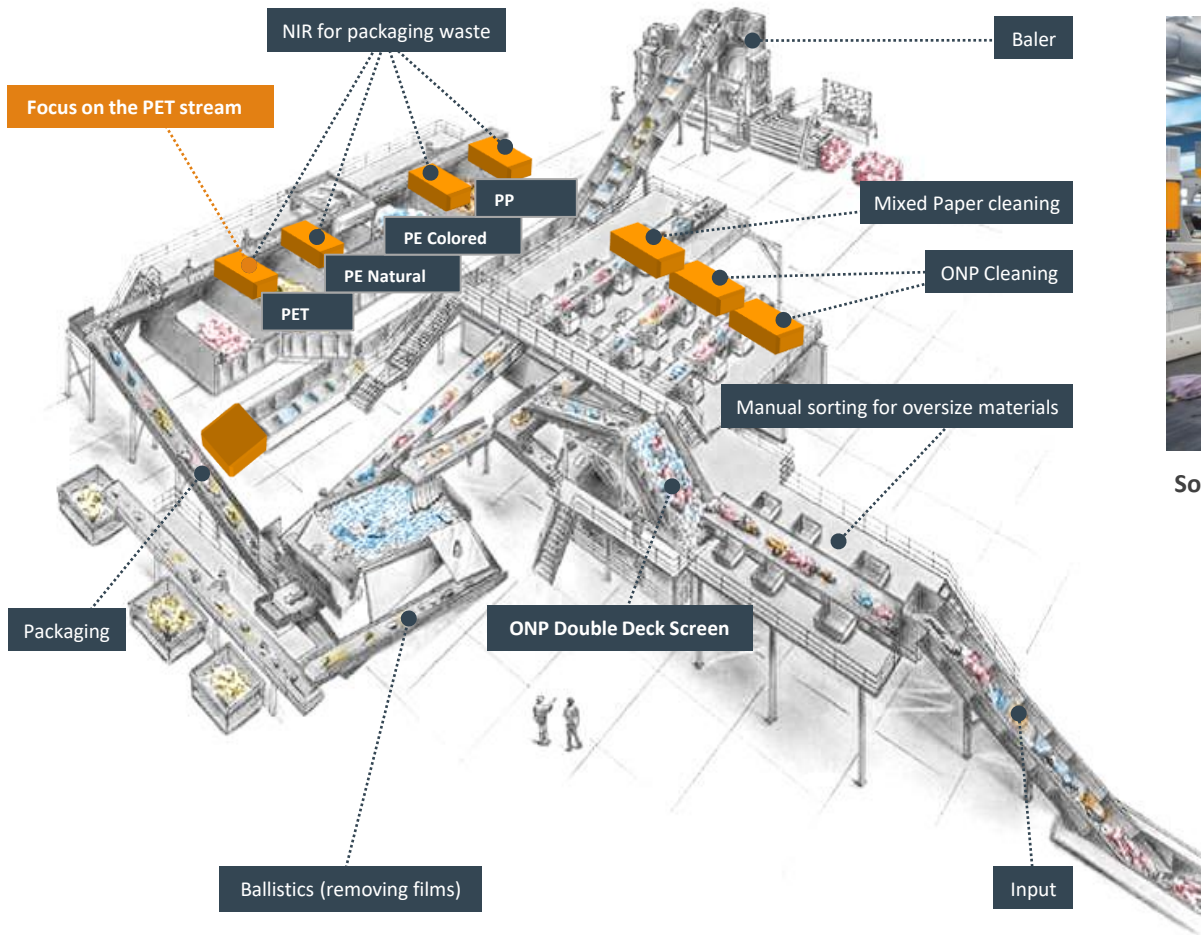
PE/PP flakes

Cleaned wood

Copper Wire

Brass

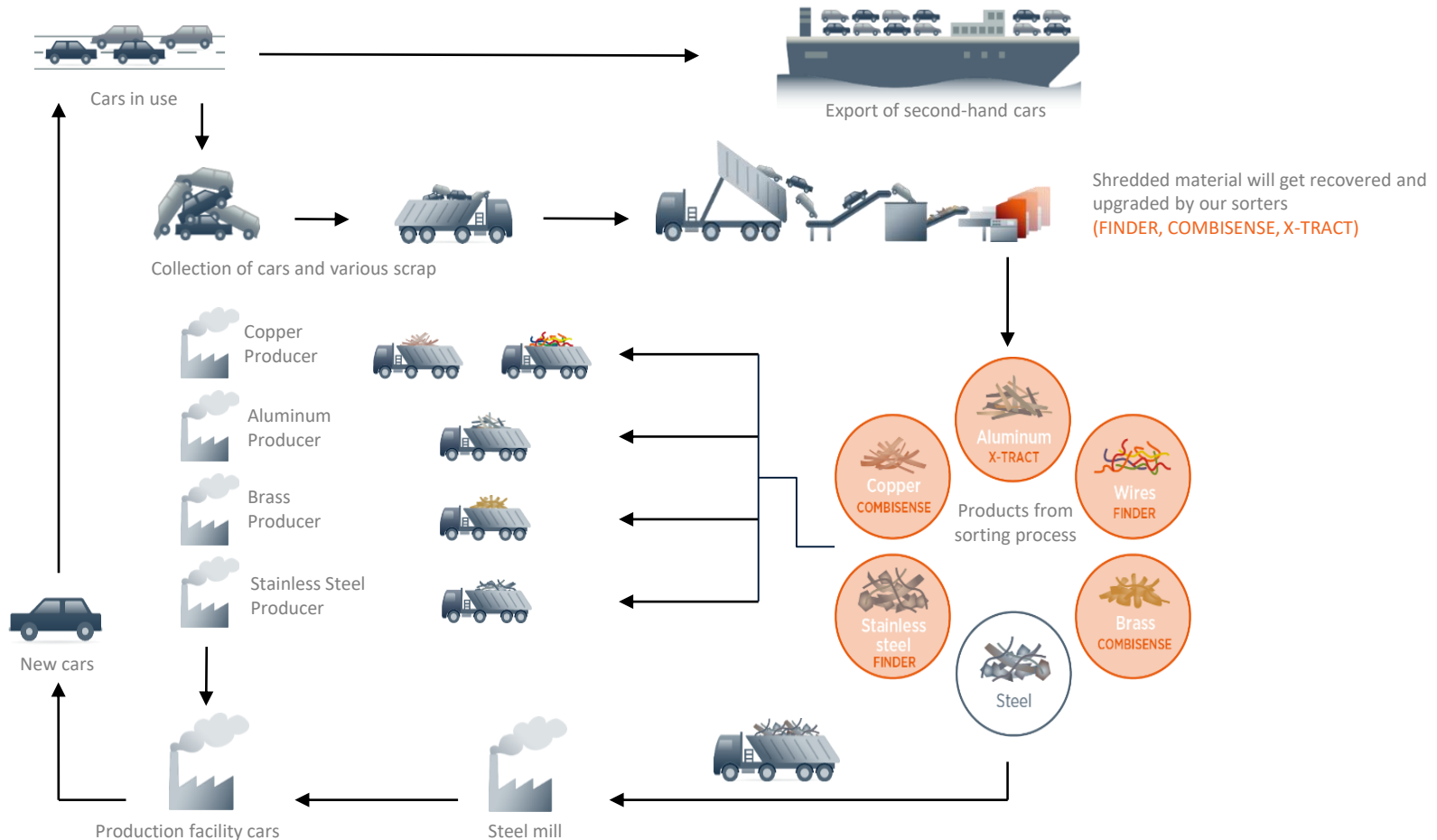
# AUTOMATED WITH TOMRA SORTING UNITS



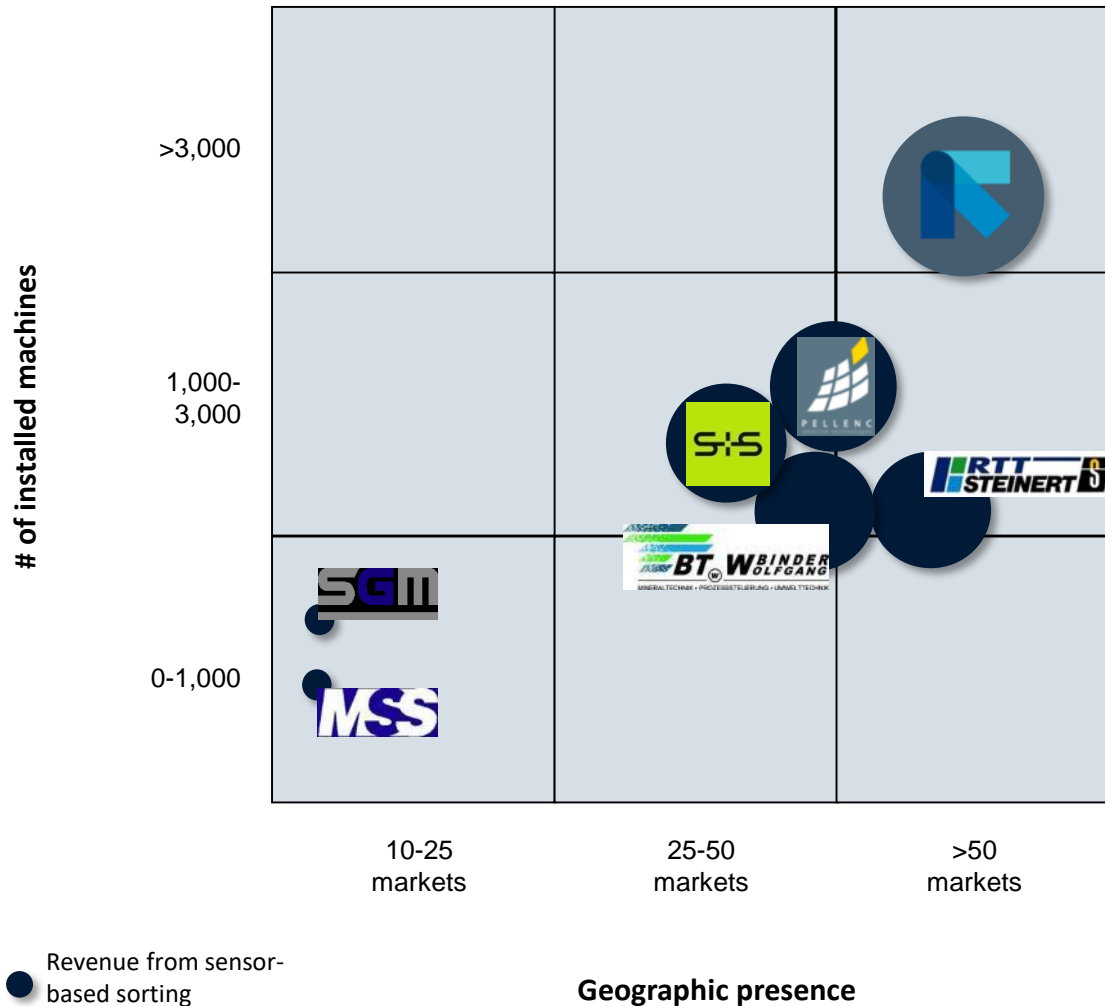
Sorting of Municipal Solid Waste, Cyprus

# SENSOR-BASED TECHNOLOGY CREATES VALUE IN VARIOUS PARTS OF A RECYCLING PROCESS

## Life cycle of Steel from End-of-life vehicles



# 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%**

Source: TOMRA estimates and analysis





# SOURCE INTO RESOURCE

# GLOBAL DRIVERS FOR THE MINING SEGMENT

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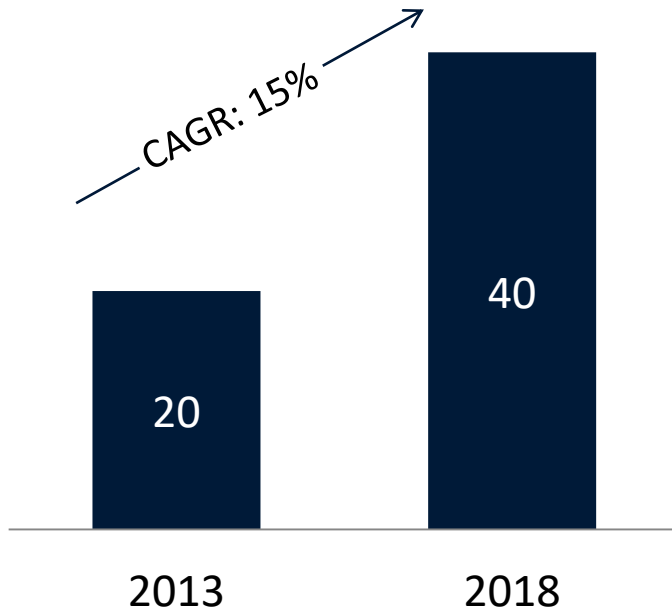
- **Energy costs** and **water stress** are major drivers
- **Demand of all commodities** is expected to grow with increased population and urbanization in the drivers seat
- **Increasing labor costs** in emerging world drive adoption of automatic sorting technologies
- **Mining companies capex** impact the investment sentiment
- Sensor based sorting is considered to be a future solution
  - Hardest competition comes from alternative well proven technologies

# MARKET SIZE MINING

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## Total annual market size

EUR million



## Market growth

- Capex has declined recent years
- Sensor based machines sales expected to grow at around 15% per year
  - Growth is however conditional on new applications and technologies being developed
- Sensor based sorting is still a technology to be accepted and growth in this niche has been limited in recent years

# MINING: APPLICATIONS AND SENSOR TECHNOLOGY

	INDUSTRIAL MINERALS	BASE & Fe METALS	FUEL/ ENERGY	PRECIOUS METALS	DIAMONDS & GEMS	METAL SLAG
COMMODITY	<ul style="list-style-type: none"> <li>• Calcite</li> <li>• Quarts</li> <li>• Feldspar</li> <li>• Magnesite</li> <li>• Talcum</li> <li>• Dolomite</li> <li>• Salt</li> </ul>	<ul style="list-style-type: none"> <li>• Copper</li> <li>• Zinc</li> <li>• Nickel</li> <li>• Tungsten</li> <li>• Iron</li> <li>• Manganese</li> <li>• Chromite</li> </ul>	<ul style="list-style-type: none"> <li>• Coal</li> <li>• Uranium</li> </ul>	<ul style="list-style-type: none"> <li>• Gold</li> <li>• Platinum</li> </ul>	<ul style="list-style-type: none"> <li>• Diamonds</li> <li>• Tanzanite</li> <li>• Colored gemstones</li> </ul>	<ul style="list-style-type: none"> <li>• Stainless steel</li> <li>• Copper</li> <li>• Chrome</li> </ul>
SENSOR TECHNOLOGY	COLOR XRT NIR XRF	XRT COLOR EM NIR	XRT RM	XRT COLOR XRF NIR	COLOR XRT XRF NIR	XRT XRF EM



Calcite

Copper

Coal

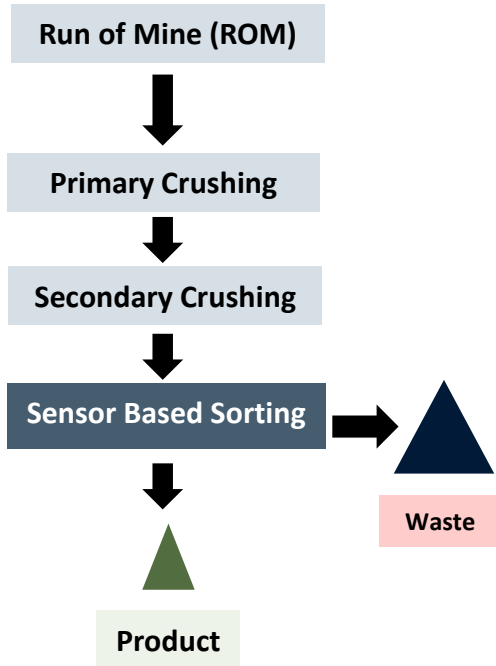
Gold

Diamonds

Ferro Silica Slag

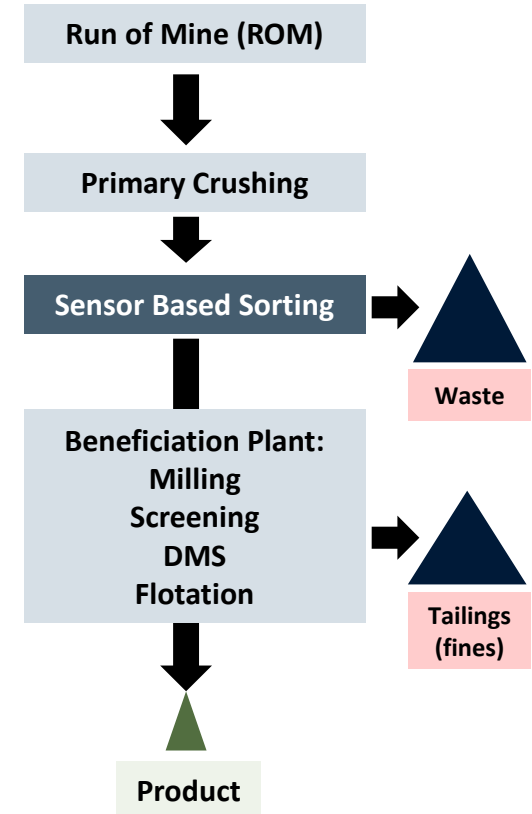
# THE CONCEPT OF SENSOR-BASED SORTING IN MINING

## Mining process: Industrial minerals



- 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

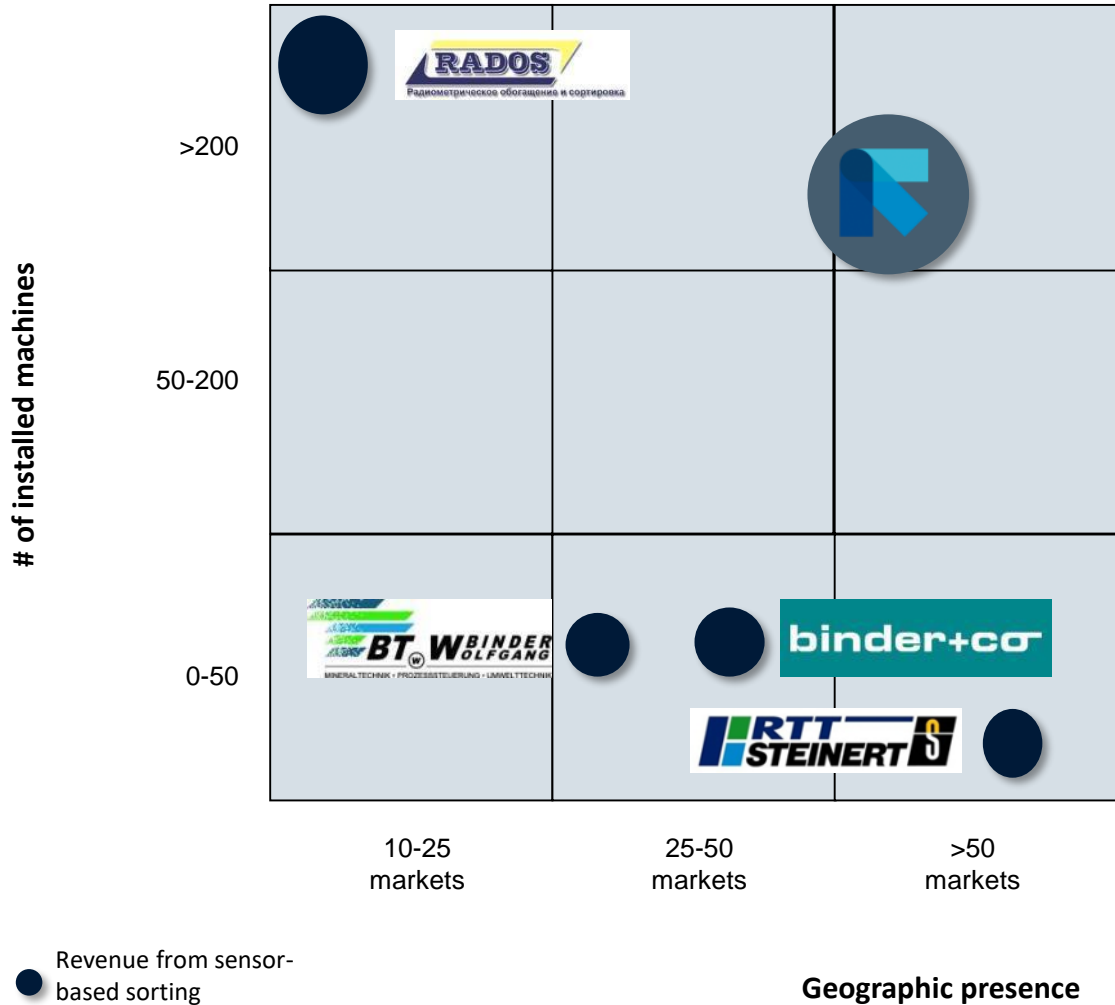
## Mining process: Metal mining



Current segment

Potential new segment

# MINING COMPETITIVE LANDSCAPE



### TOMRA competitive positioning

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

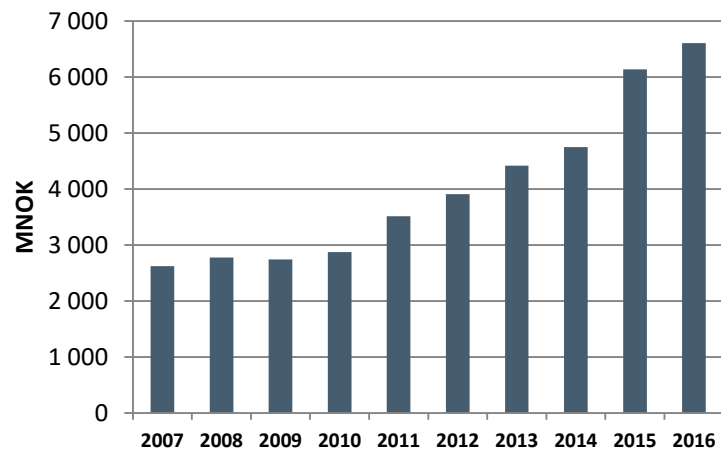
Source: TOMRA estimates and analysis

# Historical financial performance

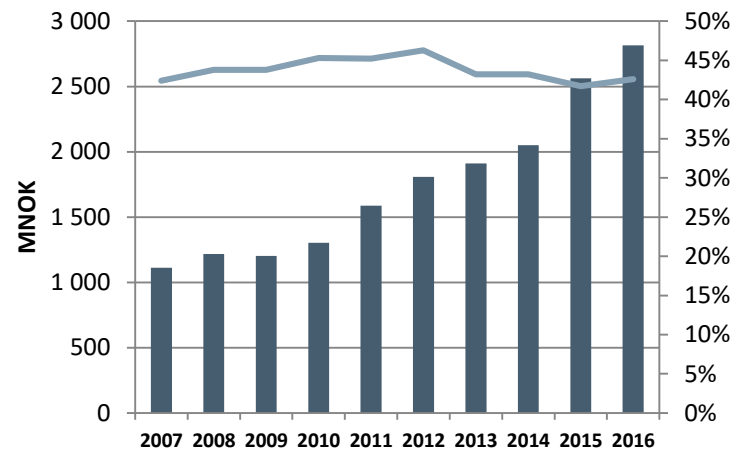


# KEY FINANCIALS DEVELOPMENT

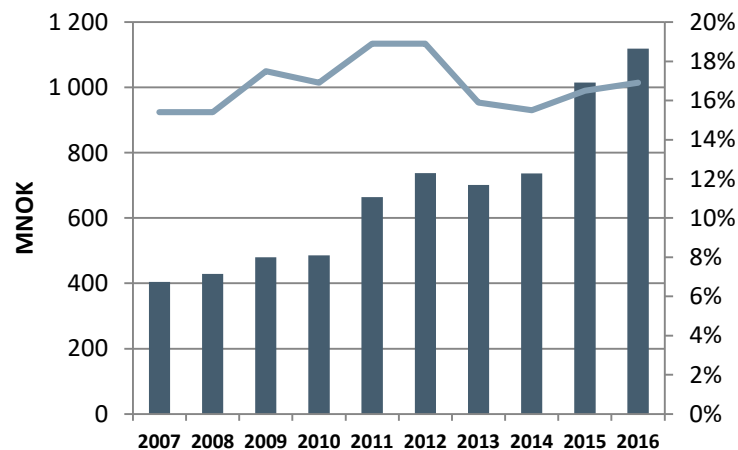
## Revenues



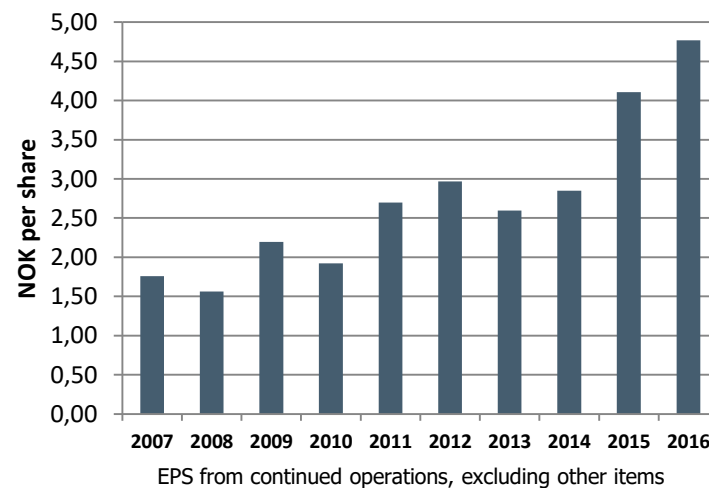
## Gross Contribution and margin



## EBITA and margin



## Earnings per share

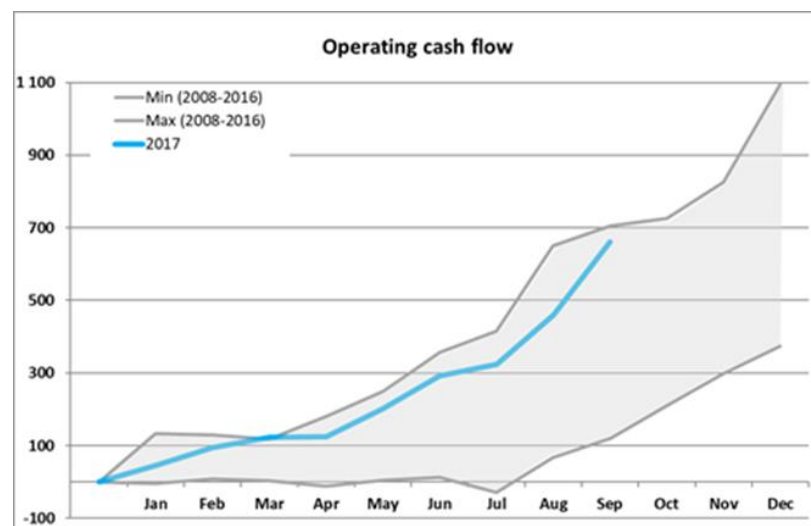




# FINANCIAL HIGHLIGHTS

## BALANCE SHEET, CASH FLOW AND CAPITAL STRUCTURE

<i>Amounts in NOK million</i>	30 Sep 2017	30 Sep 2016	31 Dec 2016
<b>ASSETS</b>	<b>8,214</b>	<b>7,206</b>	<b>7,115</b>
• Intangible non-current assets	3,313	2,745	2,750
• Tangible non-current assets	849	755	801
• Financial non-current assets	307	322	342
• Inventory	1,204	1,235	1,127
• Receivables	2,067	1,815	1,696
• Cash and cash equivalents	474	334	399
<b>LIABILITIES AND EQUITY</b>	<b>8,214</b>	<b>7,206</b>	<b>7,115</b>
• Equity	4,326	3,925	4,192
• Minority interest	175	173	178
• Interest bearing liabilities	1,214	980	760
• Non-interest bearing liabilities	2,499	2,128	1,985



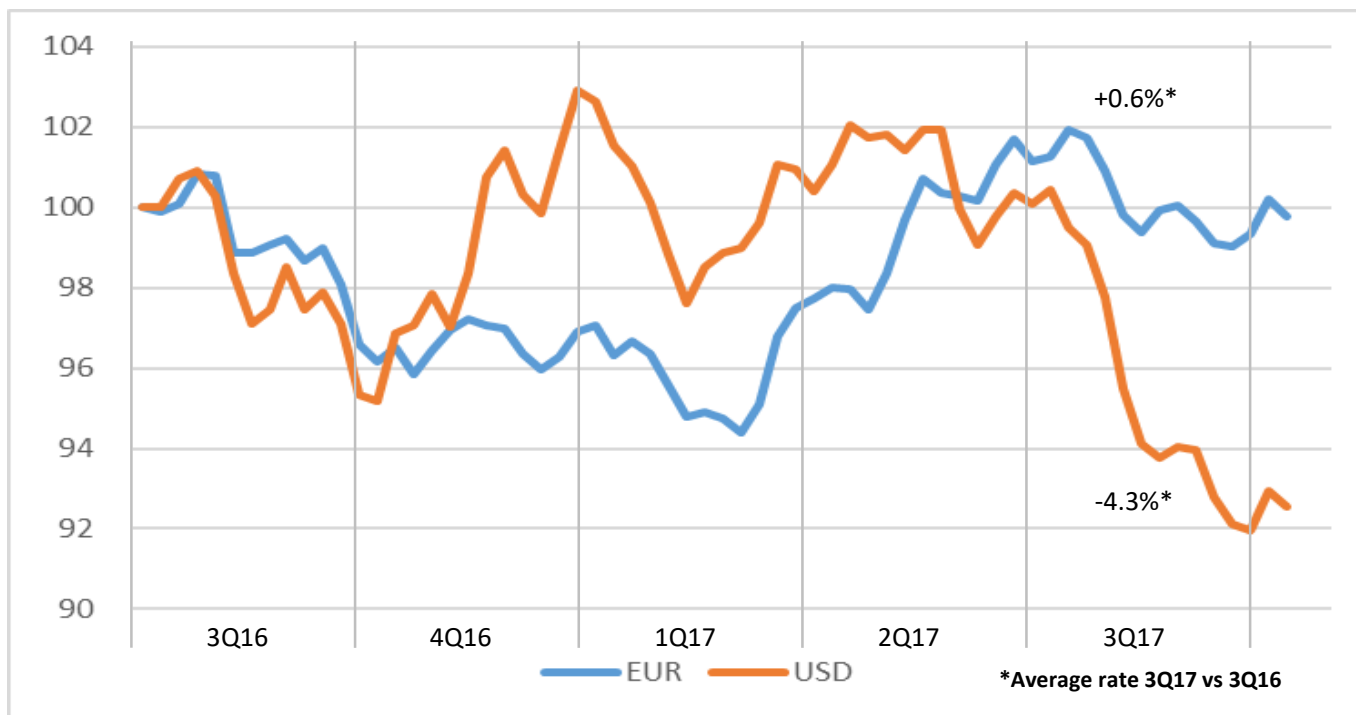
### Ordinary cashflow from operations

- 375 MNOK (348 MNOK in 3Q 2016)

### Solidity

- 53% equity
- NIBD/EBITDA = 0.6x (Rolling 12 months)

# CURRENCY



**Negative impact from USD in 3Q17 vs 3Q16**

## 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

# CURRENCY EXPOSURE

## 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

## 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%
<b>ALL</b>	<b>10.0%</b>	<b>9.5%</b>	<b>12.0%</b>

\* EUR includes DKK

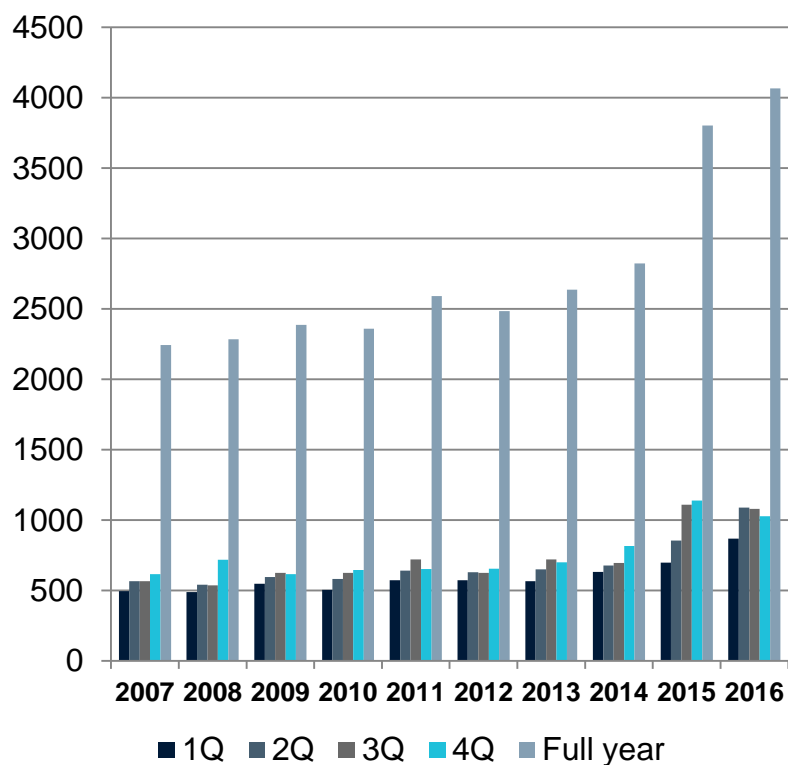
## HEDGING POLICY

- 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

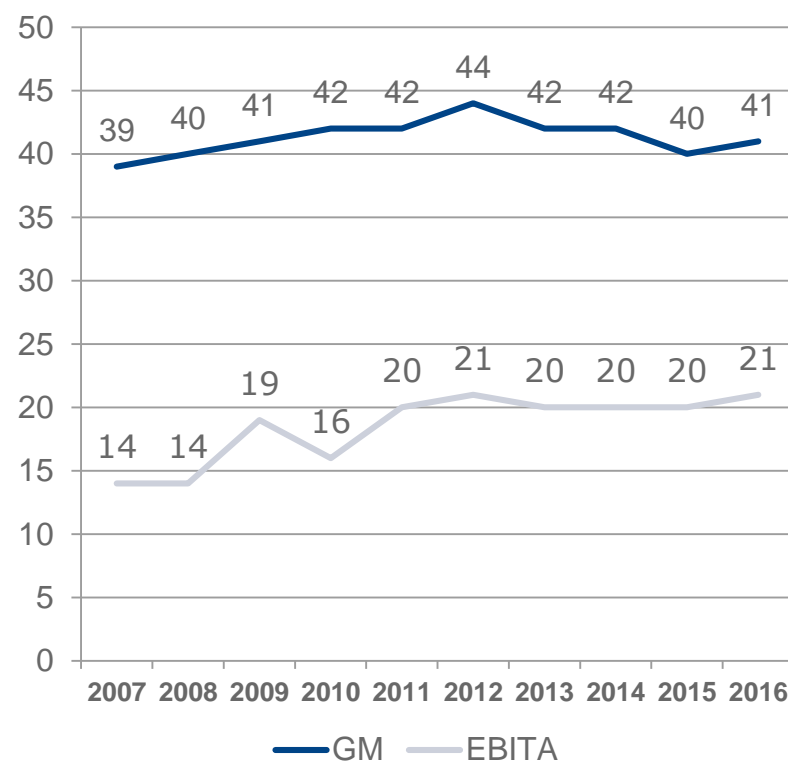
## Revenue development

NOK million



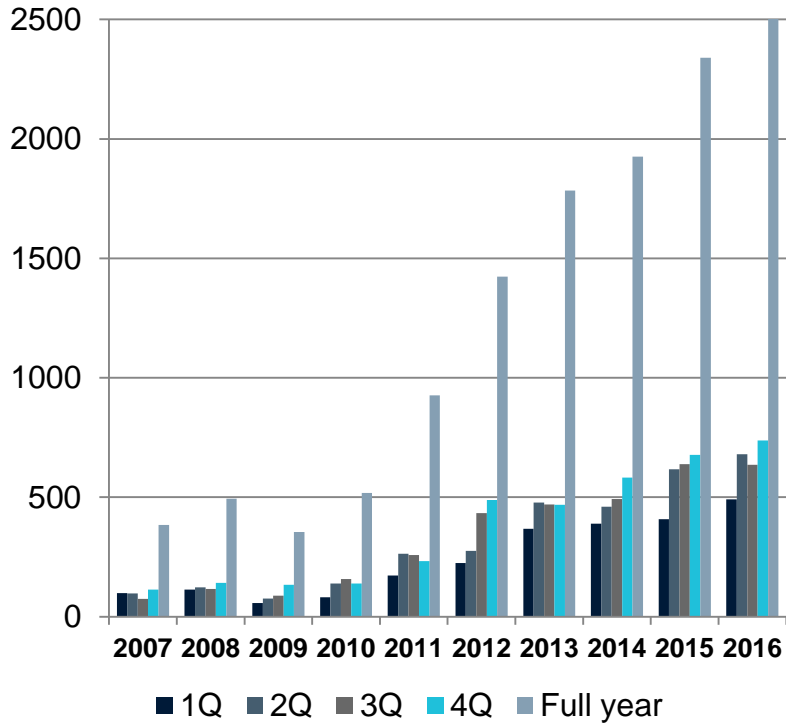
## Gross and EBITA margin development

Percent

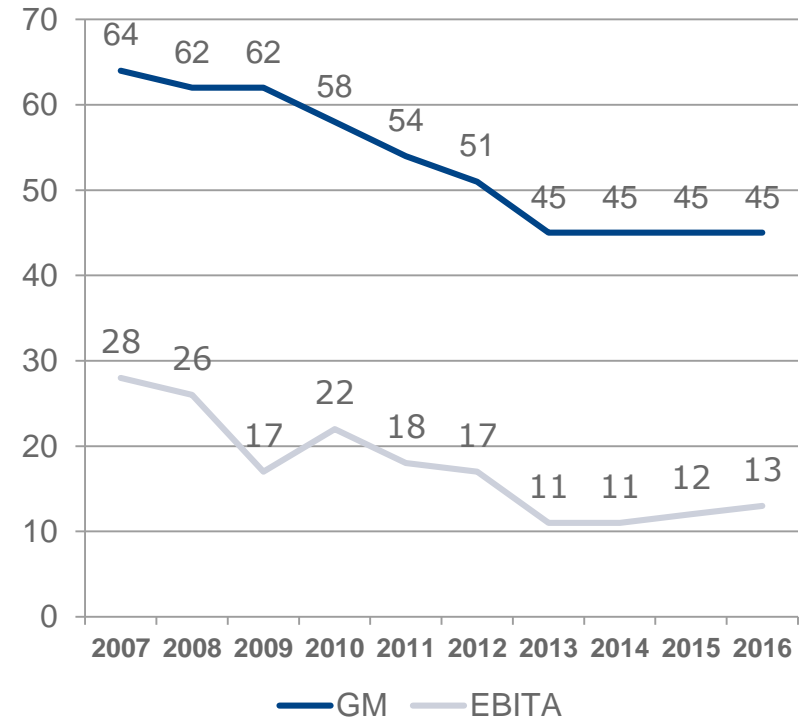


# SORTING SOLUTIONS – SEGMENT FINANCIALS

Revenue development  
NOK million



Gross and EBITA margin development  
Percent



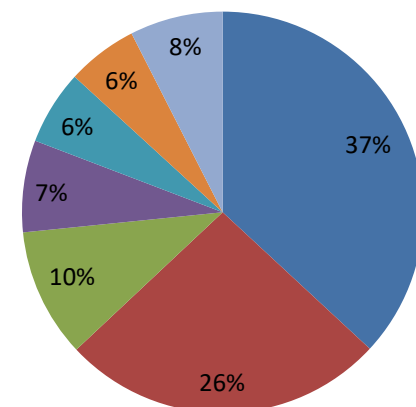
# TOMRA SHAREHOLDER STRUCTURE

## Top 10 shareholders as of 4<sup>th</sup> of October 2017

1	Investment AB Latour	39 000 000	26.3%
2	Folketrygdfondet	8 679 393	5.9%
3	The Bank of New York BNYM, Stichting Dep	7 845 000	5.3% (NOM)
4	Skandinaviska Enskilda SEB AS, UCITS V	4 775 557	3.2% (NOM)
5	Goldman Sachs & Co	4 247 510	2.9% (NOM)
6	Clearstream Banking	2 969 622	2.0% (NOM)
7	ODIN Norge	2 280 188	1.5%
8	Danske invest Norske C/O Danske Capital A	2 190 530	1.6% (NOM)
9	Nordea Nordic Small	2 149 276	1.5%
10	SEB Sverigefond SMAB	2 042 250	1.4%
<b>Sum Top 10</b>		<b>76 179 346</b>	<b>51.5%</b>
<b>Other shareholders</b>		<b>71 840 732</b>	<b>48.5%</b>
<b>TOTAL (5,781 shareholders)</b>		<b>148 020 078</b>	<b>100.0%</b>

Source: VPS

## Shareholders by country



■ Sweden    ■ Norway    ■ USA  
■ Great Britain    ■ Netherlands    ■ Luxembourg  
■ Others

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