INVESTOR PRESENTATION

THE DAWN OF THE RESOURCE REVOLUTION

THE CHALLENGE:

THE OPPORTUNITY:

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

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

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

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

Making A world worth living for our children!

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

Obtaining resources

Using resources

Reusing resources

OUR BIGGEST GLOBAL CHALLENGES ARE ALSO BUSINESS OPPORTUNITIES

TOMRA: POSITIONED TOWARDS MEGATRENDS

√ **Industry 4.0 Smart data solutions –** providing value-add solutions for TOMRA's current and future opportunities

√ **Sorting solutions in food to leverage #1 position**

√ **Collection and sorting solutions for "circular" smart cities**

√ **Collection and sorting solutions for "circular" plastics**
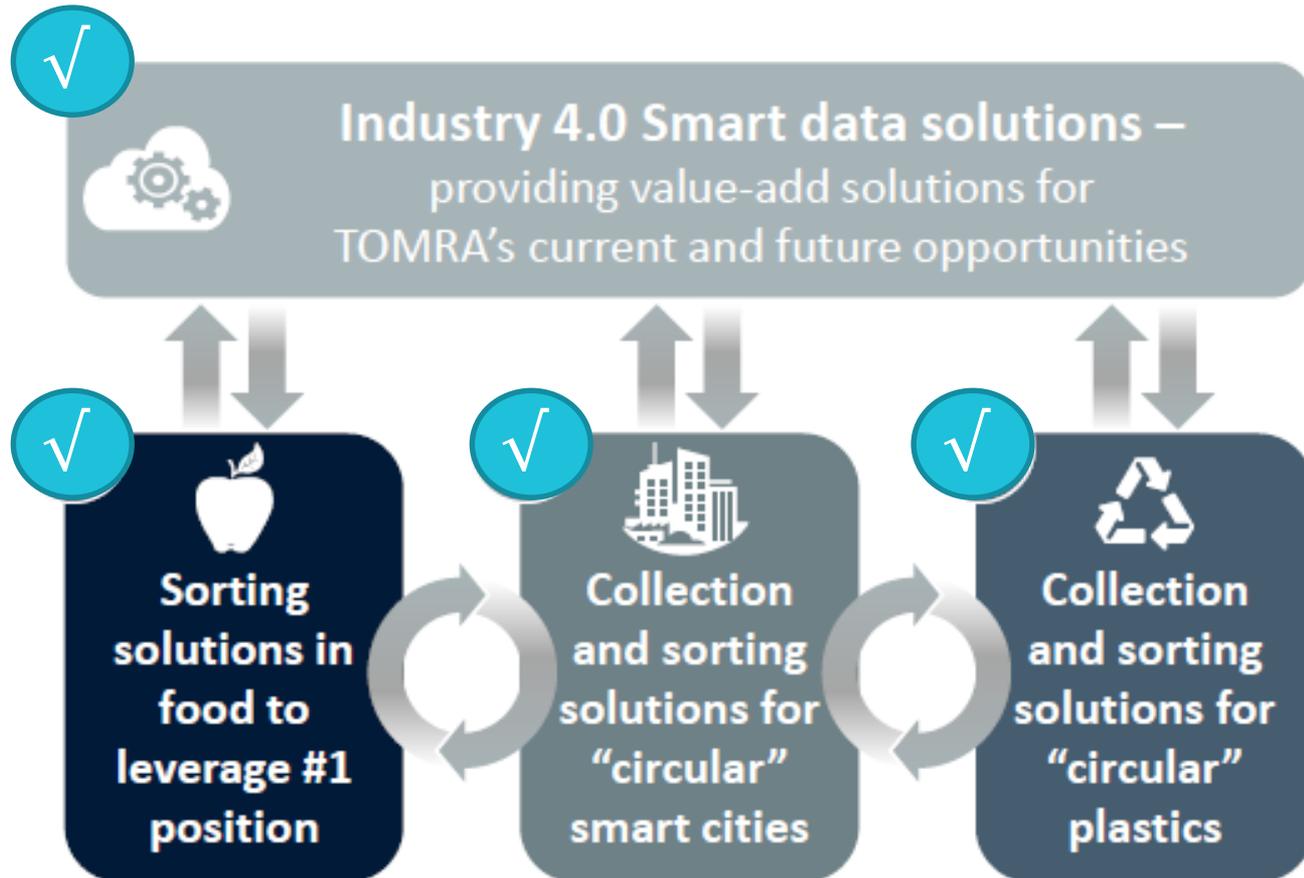
FROM PURPOSE INTO PROFITS AND PROFITS INTO PROGRESS, TOMRA IS **TRANSFORMING** WHAT IT MEANS TO BE RESOURCEFUL.

- Our solutions, in use around the globe, helped keep ~**25 millions of tons of CO_2** 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 IN SHORT

CREATING VALUE THROUGH TWO STRONG BUSINESS AREAS*

TOMRA
2017 Revenue

- Sorting: 48%
- Collection: 52%

TOMRA SORTING SOLUTIONS
- High growth
- High margins
- Medium cyclicality

TOMRA COLLECTION SOLUTIONS
- Stable
- High margins
- Low cyclicality

■ Collection ■ Sorting

High technology - sustainable business

TOMRA
2017 EBITA

- Sorting: 38%
- Collection: 62%

■ Collection ■ Sorting

THE TOMRA TRANSFORMATION JOURNEY

2004 TOMRA SORTING SOLUTIONS
TOMRA acquires TITECH, the world's leading provider of optical recognition and sorting technology for the waste industry and TOMRA's transformation journey starts.

2005 TOMRA COLLECTION SOLUTIONS
TOMRA acquires Orwak Group, a leading provider of compaction solutions for a variety of materials.

2006 TOMRA SORTING SOLUTIONS
TOMRA acquires Commodas—a leading supplier within the field of sensor-based products for mining and metal recycling.

2008 TOMRA SORTING SOLUTIONS
TOMRA acquires Ultrasort—specialists in sensor-based mining technology.

2011 TOMRA COLLECTION SOLUTIONS
Sale of Californian material handling business. With this divestment the US operation became less exposed to movements in commodity prices.

2011 TOMRA SORTING SOLUTIONS
TOMRA acquires Odenberg, rounding out the offering to include food optimization.

2012 TOMRA SORTING SOLUTIONS
TOMRA acquires BEST, leading food sorting machine producer. With the acqusition of BEST TOMRA has by far the widest reach within the food sorting universe.

2014 TOMRA COLLECTION SOLUTIONS
Divestment of Orwak. Further portfolio focus on sensor-based technology.

2016
Through it's transformation journey TOMRA has moved from a business of many brands to one brand with many areas of expertise. We are one TOMRA.

2016 TOMRA SORTING SOLUTIONS
TOMRA expands into lane sorting, acquiring New Zealand based Compac, confirming Tomra's position as the leading provider of sorting technology into the Food industry.

FROM:

TOMRA
Helping the world recycle

2000
100%
■ Collection

2004
5 %
95 %
■ Collection
■ Sorting

2008
18 %
82 %
■ Collection
■ Sorting

2012
40 %
60 %
■ Collection
■ Sorting

2017
48 % 52 %
■ Collection
■ Sorting

TO:

LEADING THE RESOURCE REVOLUTION

TOMRA WORLDWIDE

- Head Office
- TOMRA Collection Solutions offices (19)
- TOMRA Sorting Solutions offices (24)
- Compac offices (9)
- Production entities (6)
- Test centers (13) (TSS)
- Agents/distributors (~60)

Food test center
in Leuven, Belgium

Mining test center
in Hamburg, Germany

Recycling test center
in Koblenz, Germany

TOMRA

TOMRA'S TWO BUSINESS AREAS

TOMRA
SORTING SOLUTIONS

TOMRA
COLLECTION SOLUTIONS

FOOD

Share of '17 sales	~33%
Employees	1,110
Customers	Food growers, packers and processors
Market share	Bulk: ~25% Lane: ~25%

REVERSE VENDING

Share of '17 sales	~38%
Employees	1,375
Customers	Grocery retailers
Market share	~75%

RECYCLING

Share of '17 sales	~12%
Employees	185
Customers	Material recovery facilities, scrap dealers, metal shredder operators
Market share	~55-65%

MATERIAL RECOVERY

Share of '17 sales	~14%
Employees	550
Customers	Grocery retailers and beverage manufacturers
Market share	~60% in USA (markets served)

MINING

Share of '17 sales	~3%
Employees	60
Customers	Mining companies
Market share	~40-60%

TOMRA SORTING GROUP FUNCTIONS & SHARED STAFF

Employees	140

TOMRA

TOMRA INSTALLED BASE

TOMRA COLLECTION SOLUTIONS

TOMRA SORTING SOLUTIONS

REVERSE VENDING

Nordic	~15,100
Germany	~30,000
Other Europe	~14,600
North America	~16,000
Rest of the world	~6,300

TOTAL	~82,000

RECYCLING

EMEA	~3,850
Americas	~800
Asia	~700
Other	~20

TOTAL	~5,370

MINING

Europe	~20
US / Canada	~35
Australia	~5
South Africa	~40
Other	~40

TOTAL	~140

FOOD BULK

EMEA	~3,100
Americas	~2,850
Asia	~600

TOTAL	~6,550

FOOD LANE

EMEA	~435
Americas	~690
APAC	~555

TOTAL	~1,680

Not including machines sold on OEM agreements

TOMRA

EXPANDING IN CHINA SINCE 2010

TOMRA IN CHINA
陶朗在中国

2010 年进入中国市场	**Established in China since 2010**
3 大业务已进驻中国市场	**3 business streams active in China**
2 个外商独资全资子公司	**2 wholly-owned subsidiaries**
2 个合资公司	**2 joint ventures**
2 个测试中心	**2 test centers**
2 个组装车间	**2 assembly workshops**
150 名员工	**150 employees**

兰州 | Lanzhou:
服务中心 Service hub

北京 | Beijing:
合资公司 Joint venture
康派代表处 COMPAC rep office

青岛 | Qingdao:
服务中心 Service hub

昆山 | Kunshan:
康派工厂 COMPAC production

杭州 | Hangzhou:
服务中心 Service hub

厦门 | Xiamen:
中国总部 China headquarters
中国研发中心 R&D center
分选测试中心 2 test centers
组装车间 Assembly workshop
合资公司 Joint venture

台湾 | Taiwan:
服务中心 Service hub

昆明 | Kunming:
服务中心 Service hub
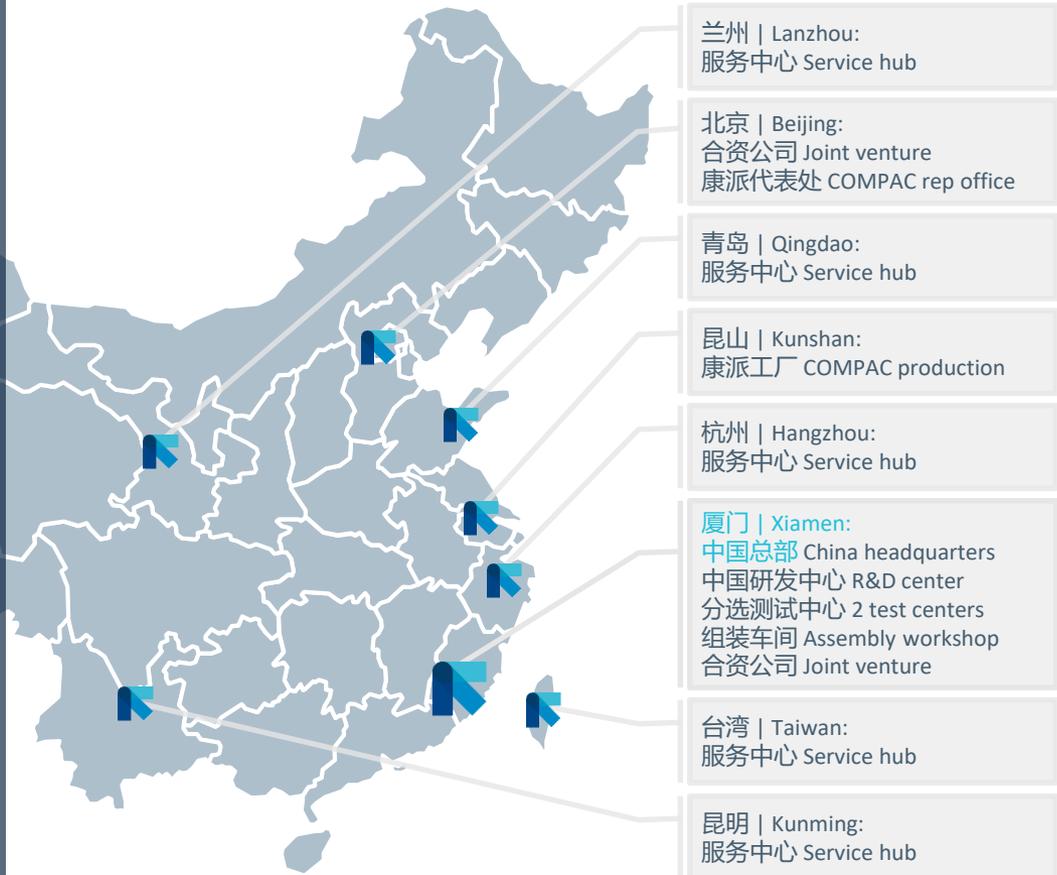
TOMRA

USING THE POWER OF BUSINESS TO DO GOOD

EMPLOYEES

ETHICAL BEHAVIOUR

ENVIRONMENT

INCREASING CUSTOMER VALUE
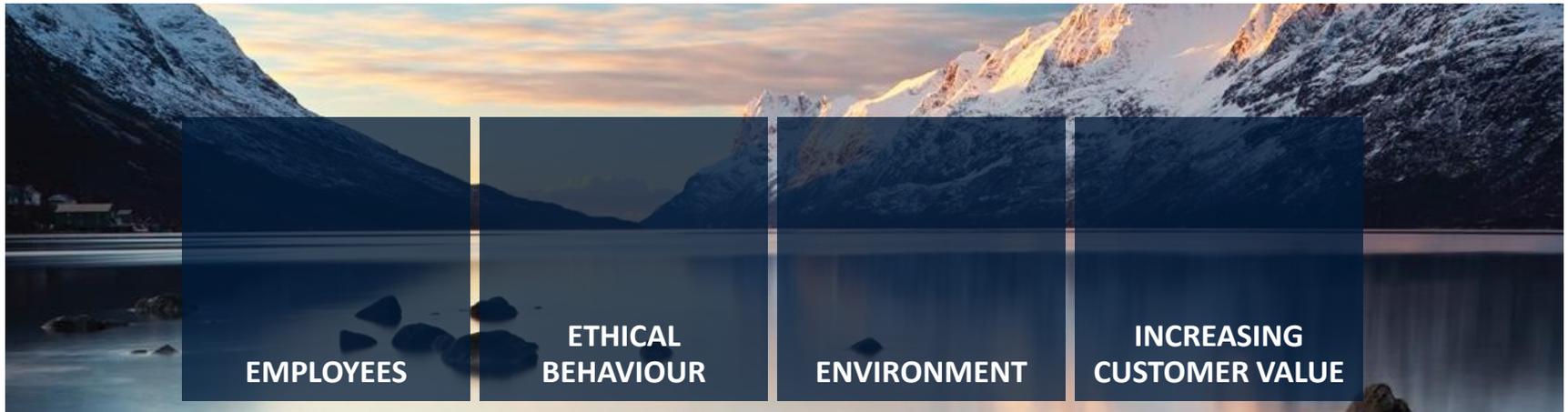
78% of our employees say TOMRA is a "Great Place to Work" (2017)

Member of UN Global Compact since end 2009

Implementing ethical policies worldwide

We contribute to avoided emissions of about ~25 mill tons CO_2 annually (2017)

Productivity

Revenues

Quality

TOMRA'S CR PROGRAMME 2016 – 2020

Decent work and economic growth – SDG 8

TOMRA will promote sustained, inclusive and sustainable economic growth and decent work for all

Industry, Innovation and infrastructure - SDG 9

TOMRA will contribute to building infrastructure by supporting sustainable use of natural resources and fostering sustainable innovation in the industry

Sustainable cities and communities – SDG 11

TOMRA will contribute to making cities and communities more sustainable by delivering sorting and recycling solutions that ensure safe handling of waste and other material streams

Responsible consumption and production – SDG 12

TOMRA will contribute to ensuring sustainable consumption and production patterns

TOMRA IN DEPTH

TOMRA Collection Solutions

ONLY 2% OF THE ANNUAL PLASTIC PRODUCTION IS REUSED FOR SAME/SIMILAR PURPOSE APPLICATION
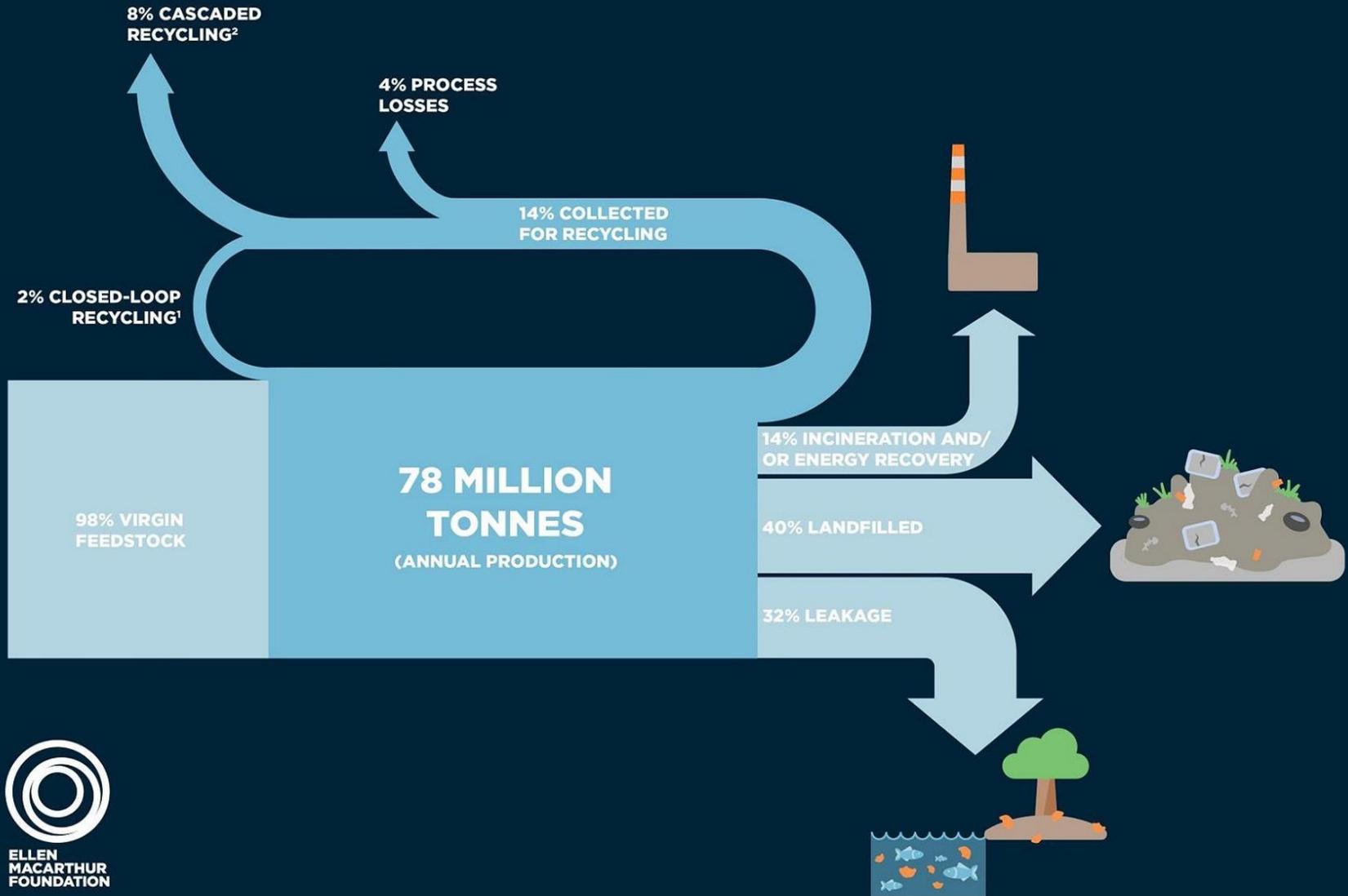
THE BEVERAGE PACKAGING MARKET CONTINUES TO GROW

In 2015 the Global beverage packaging mix counted ~1.6 trillion units (3% growth vs. 2014)

Other* 15
Glass 33
Cans 21
PET 31
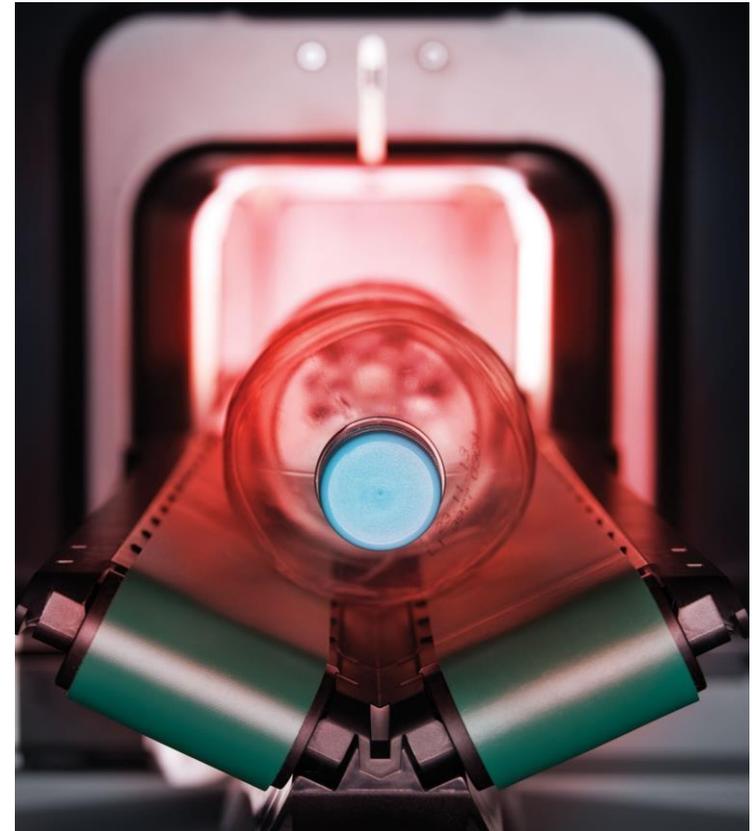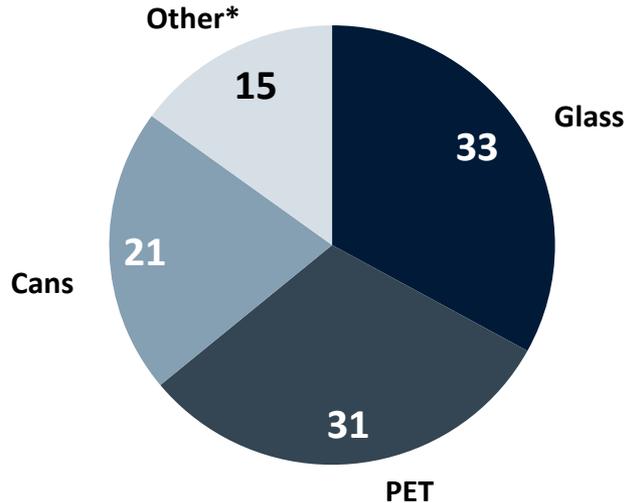
TOMRA collect approximately 35bn containers annually - this represents <u>only 2.2%</u> of all beverage containers

*Cartons, pouches, sachets etc. Source: REXAM Annual report 2015

TOMRA

REVERSE VENDING ADVANTAGES

1

CONVENIENT
AND ENGAGING
FOR USERS

**REVERSE
VENDING VALUE
PROPOSITION**

There are three main components
to our value proposition

2

BETTER FOR
BUSINESSES

3

BETTER FOR THE
ENVIRONMENT

TOMRA

CURRENT DEPOSIT MARKETS*

Northwest Territories (2005)

Quebec (1984)

Yukon (1992)

Newfoundland (1997)

Ontario (2007)

British Columbia (1970)

Prince Edwardian Island (2008)

Nova Scotia (1996)

Alberta (1972)

New Brunswick (1992)

Saskatchewan (1988)

Manitoba (2008)

Norway (1999)

Sweden (1984)

Iceland (1989)

Finland (1996)

Denmark (2002)

Estonia (2005)

Lithuania (2016)

Netherlands (2005)

Germany (2006)

Croatia (2006/2015)

Vermont (1973)

Iowa (1979)

New York (1983/2010)

Maine (1978)

Michigan (1978)

Oregon (1972)

Massachusetts (1983)

Connecticut (1980/2010)

California (1987)

Northern Territory (2013)

South Australia (1977)

New South Wales (Dec 2017)

Hawaii (2005)

* In addition, TOMRA has some activity in markets with refillable deposit systems like: Austria, Belgium, Chile, Czech Republic, France, Hungary, Poland and South Korea

TOMRA

THE USED BEVERAGE CONTAINER RECYCLING VALUE CHAIN

Generic used beverage container (UBC) recycling value chain

COLLECTION

The process of obtaining recyclable materials from the public

TRANSPORT

The process of picking up and transporting recyclable materials to sorting and processing facilities

SORTING & PROCESSING

The process of ensuring that materials are separated according to specific fractions and compacted for efficient transport

RECYCLING

The process of transforming materials into a form that can be used to produce new product

RVM-based UBC recycling value chain

RVM TECHNOLOGY › **SERVICE/ SUPPORT** › **DATA ADMIN/ CLEARING** › **MATERIAL PICK-UP** › **MATERIAL PROCESSING** › **MATERIAL BROKERAGE** › **MATERIAL RECYCLING**

RECYCLING OF BEVERAGE PACKAGING IN A DEPOSIT SYSTEM

① Consumer purchases beverage

Retailer

Pays price + deposit amount

Retailer purchases beverage from filler/importer

Filler/bottler/importer

② Consumer drinks his beverage

③ Consumer returns empty beverage container to a retail location and receives deposit

Retailer

Return data

Reimbursment of deposit amount paid out by store/ depot, and payment of handling fee per container received

Central organisation/ clearing house

ELEMENTS OF A MODERN REVERSE VENDING SYSTEM
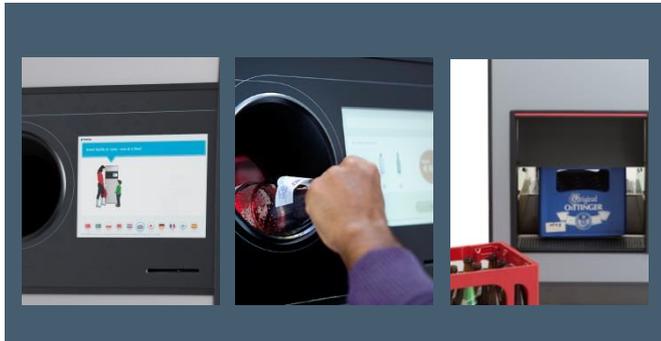
User communication
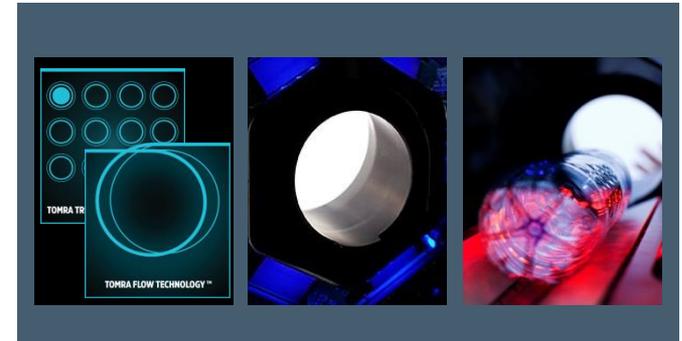
Recognition system

Sorting & processing

Data administration

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 was successful**
  - Large number of machines installed in core markets
  - Key product for replacement sale in e.g. Germany

Number of machines installed

Year	Machines
2014	~1 200
2015	~4 000
2016	~4 600
2017	~3 900

TOMRA FLOW TECHNOLOGY™

The world's first 360-degree instant-recognition system in retail reverse vending raises the bar.

FASTER   **CLEANER**   **TAKES ALL**

T-9 THE FIRST OF A NEW GENERATION
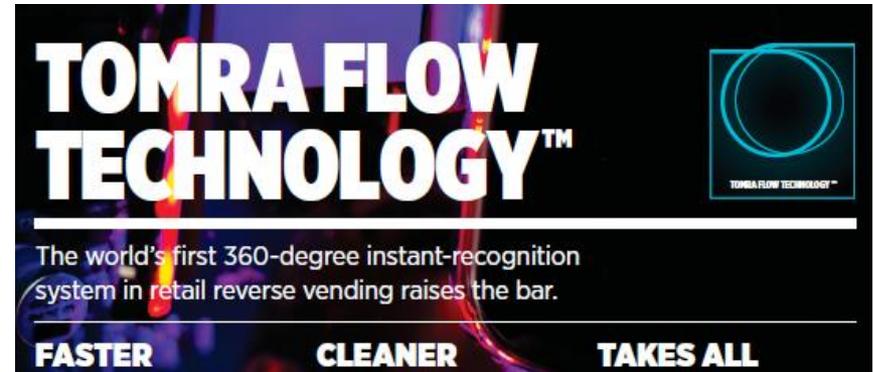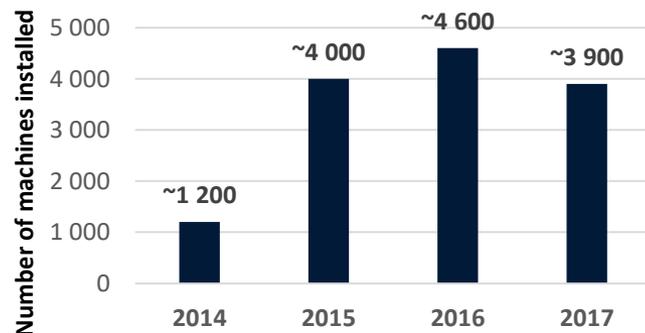
A COMPLETE TRANSFORMATION OF THE PRODUCT PORTFOLIO

2012 Portfolio

2017 Portfolio: Flow technology

WIDE RANGE OF SOLUTIONS SUITABLE FOR DIFFERENT TYPES OF MARKETS AND APPLICATIONS

To set up **an optimal reverse vending system**, a number of factors need to be taken into consideration:

● Weekly container return **volume** and container **mix**

● **Logistics/bin handling**

● Available **space**

TOMRA offers a complete solution ranging from the smallest store to the industrial segment

Price (EUR)

>200,000

200,000 - 50,000

50,000- 10,000

5,000 - 3,000

Depot segment

TOMRA's current sweet spot

Small stores
Discounters/Supermarkets
Hypermarkets, C&C
RCs, small depots etc.
Large depots, counting centers

0.1 -0.3 M UBC/year   0.3 -1 M UBC/year   1-3 M UBC/year   3-5 M UBC/year   5 -15 M UBC/year   15 -50 M UBC/year

Container volume

COMPETITIVE LANDSCAPE

# of installed RVM (y-axis)

- >80,000
- 10,000-70,000
- 5,000-10,000
- 500-5,000
- <500

DIEBOLD NIXDORF

envipco

Sielaff

troutwein sb technik
innovative retail & reverse vending systems

RVM SYSTEMS

KANSMACKER
MAX COMPACTION
INCOM
RVM TECH
DIGI

Number of RVM markets (x-axis): 1-10, 11-20, 22-30, 31-40, >40

● Annual revenue from RVM sales

Source: TOMRA estimates and analysis

THE SOURCING STRATEGY IS AN ENABLER FOR CONTINUED COST CONTROL

COGS distribution by region (sourcing)
Percent of total

Phase 1 - Turnaround	Phase 2 – Standardisation & localisation

Chart — COGS distribution by region (Percent of total), Asia / East Europe / Rest of the World:

Year	Asia	East Europe	Rest of the World
2009	5%	15%	80%
2011	17%	23%	60%
2012	24%	29%	47%
2013	25%	28%	47%
2014	32%	26%	42%
2015	35%	25%	40%
2016	40%	20%	40%

Legend: ■ Asia   ■ East Europe   ■ Rest of the World
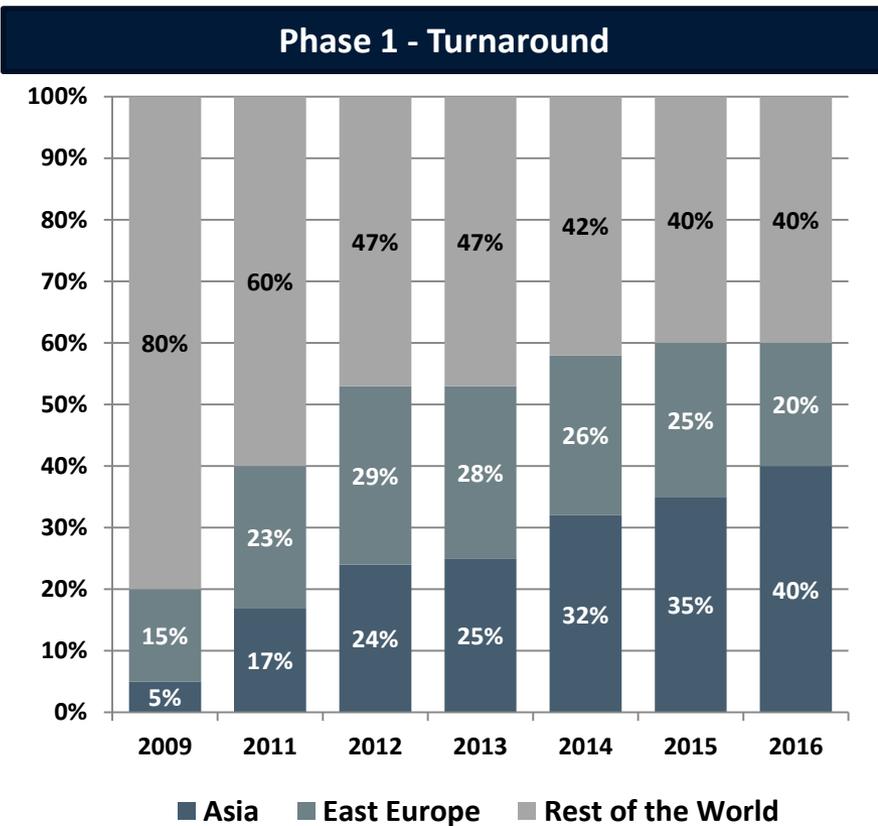
Phase 2 – Standardisation & localisation

- Standardisation and cost optimising product portfolio

- Economies of scale, automation/robotisation and efficiency in supply chain and production

- China localised product development and product portfolio

Cost effective product design, optimized supply chain and China localised product development will enable cost control

Source: TOMRA analysis

TOMRA

CREATING NEW REVENUE STREAMS FROM SW/IT

TOMRA*Plus*
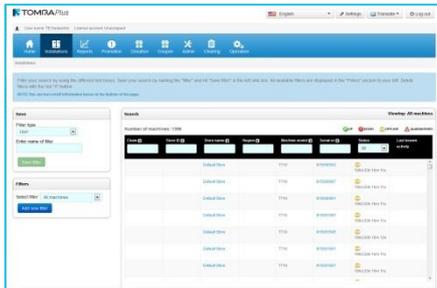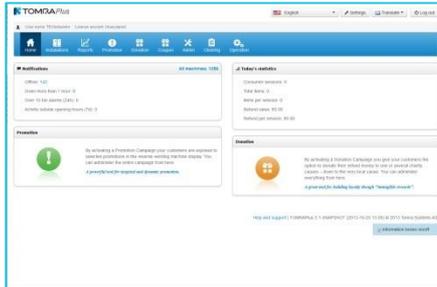
TOMRA ReAct/PANTO
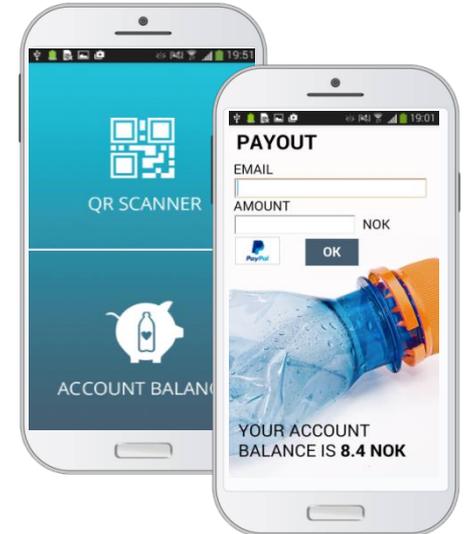
IN-STORE MARKETING

Transform reverse vending machines into customer dialogue tools.

RECEIPT CONTROL

Validate and devaluate 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

Y-axis: TOMRA MACHINES INSTALLED IN THE GERMAN MARKET

2700 – 3700 MACHINES PER YEAR

6 months

Years: 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018

TOMRA
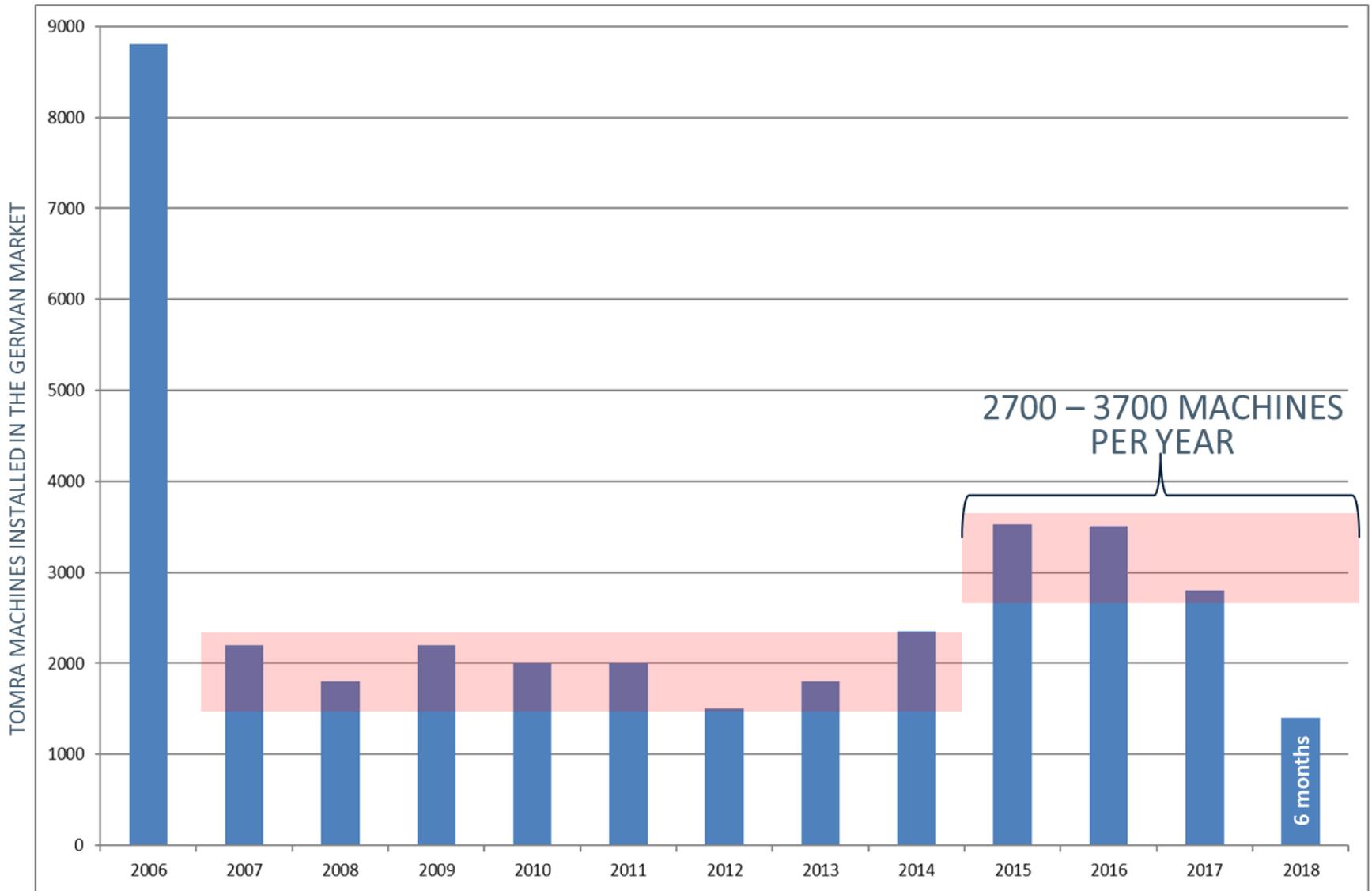
NEW SOUTH WALES
CONCEPT ILLUSTRATION: MATERIAL FLOW

The JV will operate the Collection & Counting Center as well as the Commodity Trading together
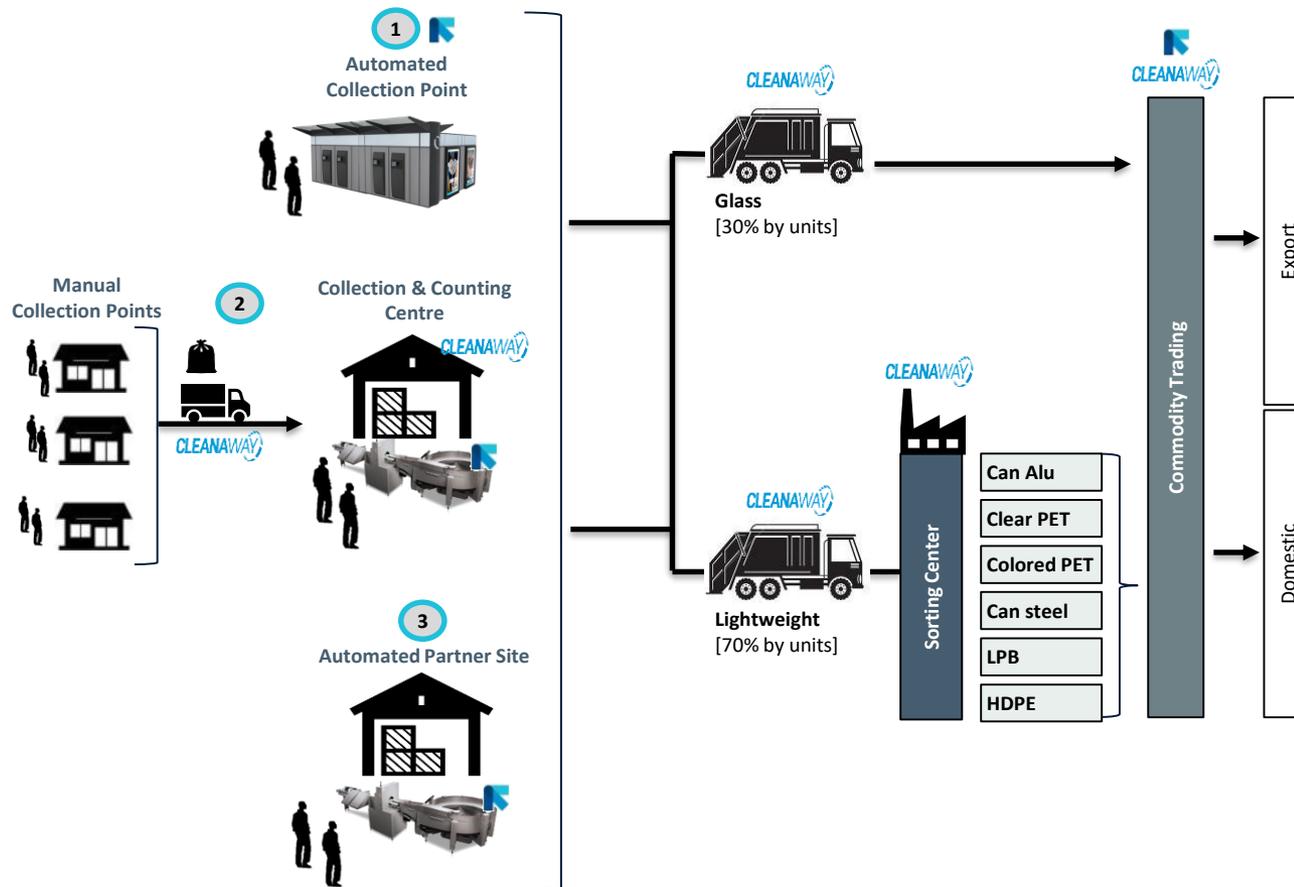
Cleanaway brings the experience in logistics, material handling, commodity exposure and trading

POTENTIAL NEW DEPOSIT MARKETS

Recently approved

In progress

Scotland:
Commitment to a Container Deposit Scheme announced in party program

North America:
Possible expansion of deposit system in Quebec

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

Australia:
NSW introduced deposit from December 2017

QLD announced that they introduce deposit in 2018 Western Australia might introduce in 2020

Spain:
Regional initiatives ongoing

TOMRA

COLLECTION SOLUTIONS – FINANCIAL DASHBOARD

	RVM	Material Recovery		RVM	Material Recovery
Industry growth	0-10%	0-3%	**Market share**	75%	60%
Recurring revenue	~75%	90-100%	**Geographical diversity**	20-30 markets	10 markets
Profitability (ROCE)*	30-40%	~15%	**Cyclicality**	Low	Low

TARGETS 2013 -2018

Yearly growth 4 – 8%

EBITA-margin 18% – 23%

TOMRA

TOMRA Sorting Solutions
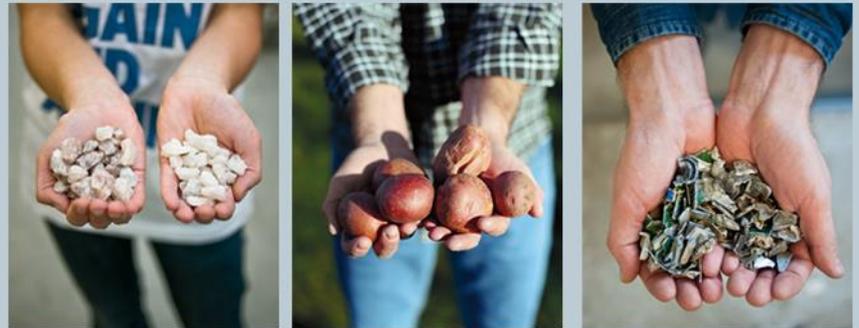
STRONG REVENUE GROWTH SINCE INCEPTION IN 1996

Revenue development and key milestones
MNOK

Compac acquired

3,561

Odenberg acquired

BEST acquired

Ultrasort acquired

CommoDas acquired

Real Vision Systems acquired

TITECH acquired by TOMRA

TITECH Visionsort AS established

114

4

1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017
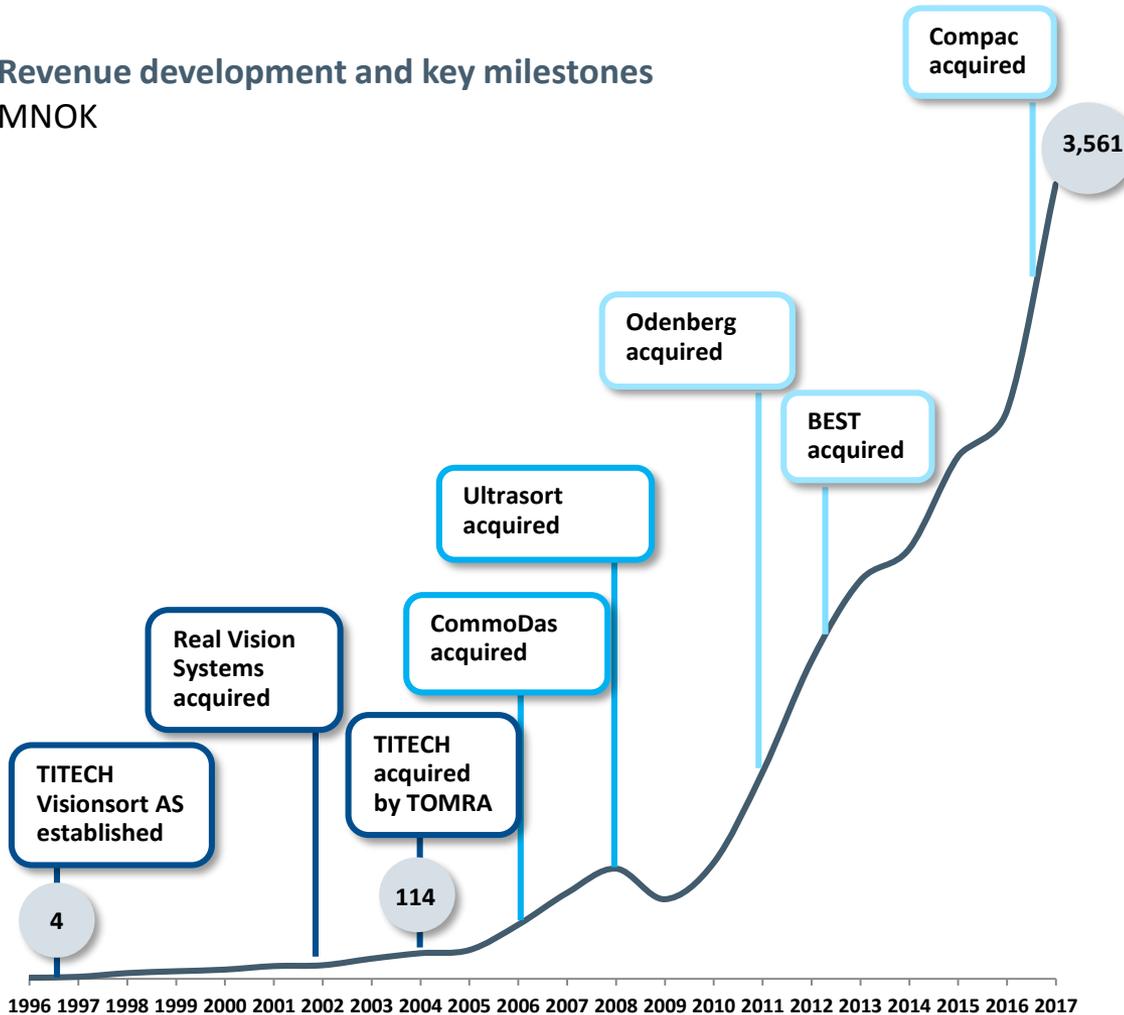
- Total revenue growth (organic plus inorganic) CAGR of ~30% per year from 2004-2017

  - Average annual organic growth for the same period was ~17%

- Technology base and segment/application knowledge expanded both through acquisitions and in-house ventures

TOMRA

SORTING VALUE PROPOSITION

OPERATIONAL EFFICIENCY REDUCES COSTS

SORTING VALUE PROPOSITION

There are three main components to our value proposition

INCREASED PURITY OF MATERIAL STREAM

INCREASES REVENUE
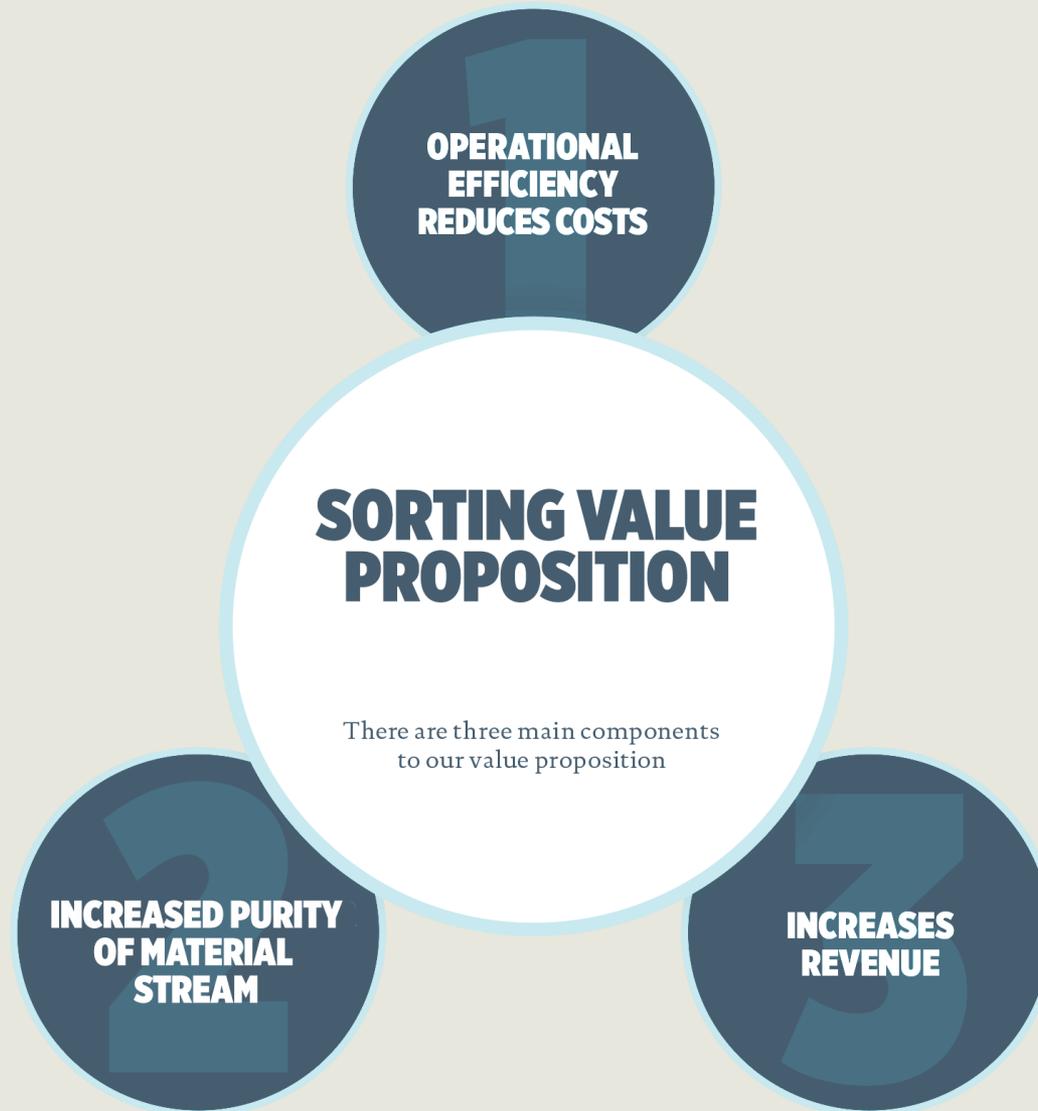
HOW DOES SENSOR BASED SEPARATION WORK?

- 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

High-tech sensors to identify objects

Feeding of unsorted material

High-speed processing of information (material, shape, size, color, defect, damage and location of objects)

TOMRA
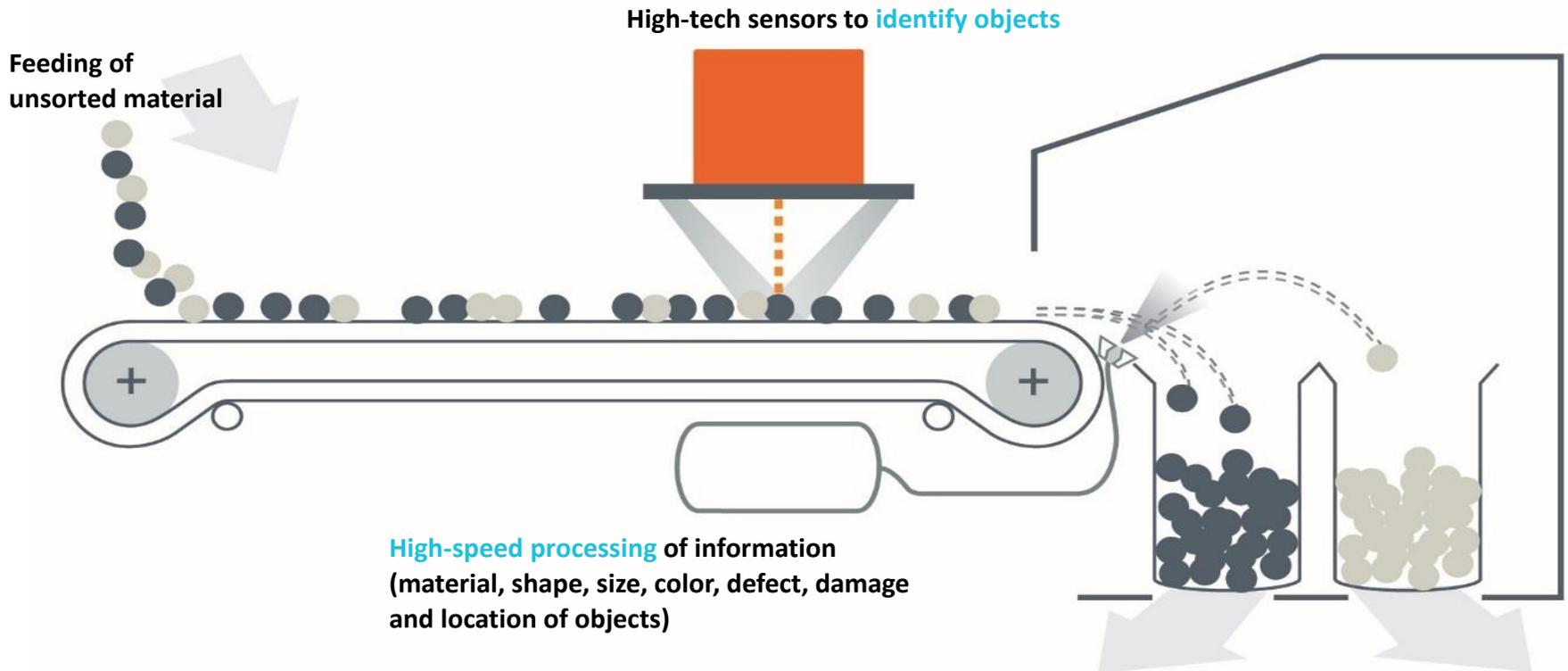
ADOPTION OF SENSOR-BASED SORTING AT DIFFERENT MATURITY LEVELS
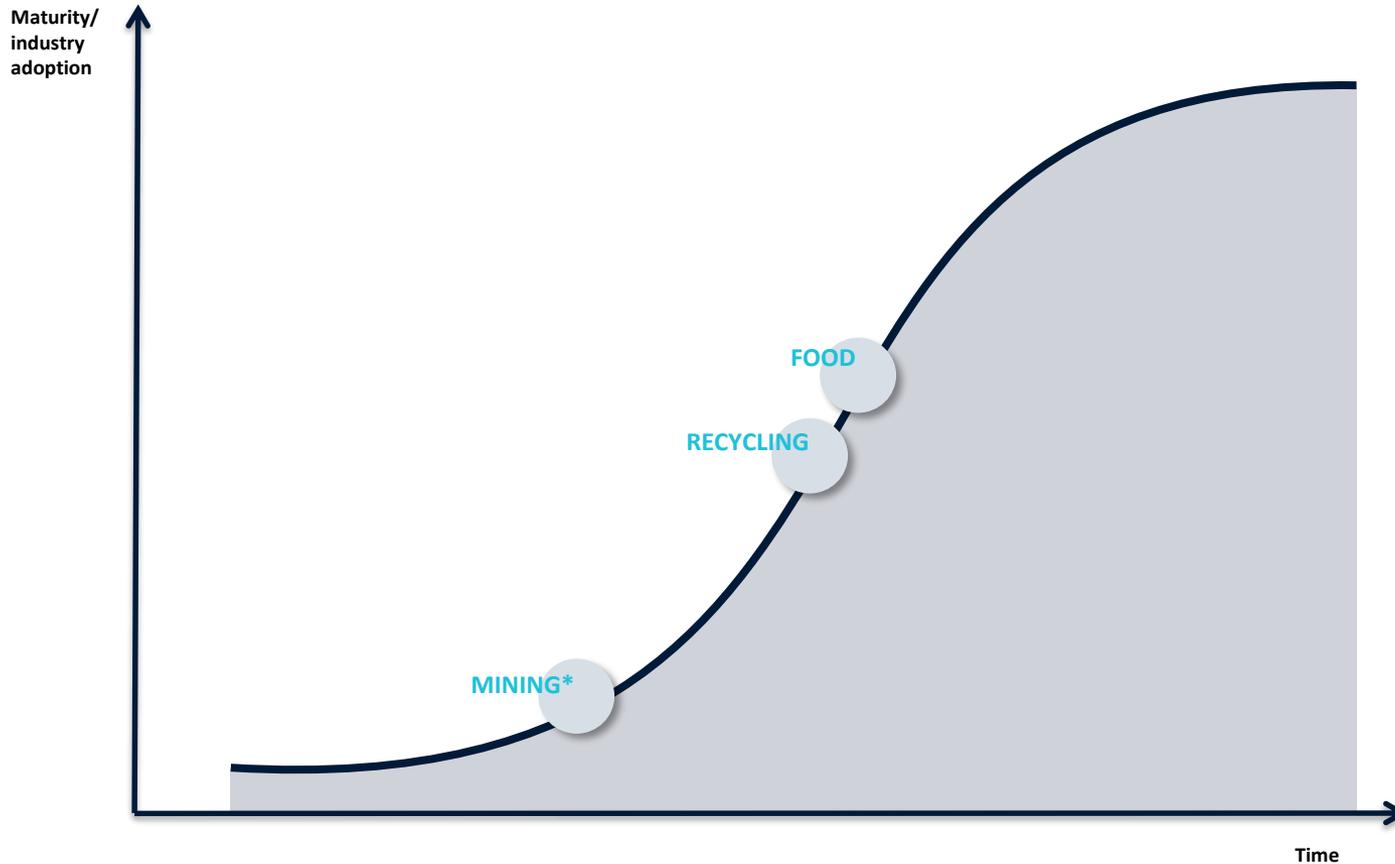
* In certain mining sub-segments, such as industrial minerals and diamonds, sensor-based sorting is a more mature technology

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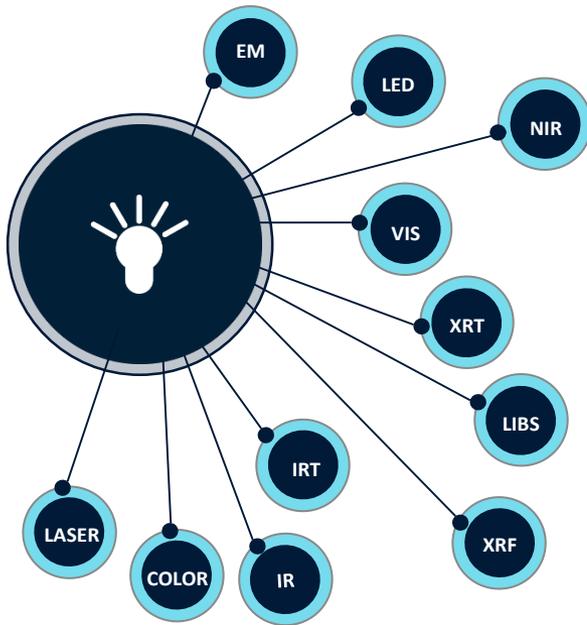
	RECYCLING	MINING	FOOD
ELECTROMAGNETIC SENSOR (EM) Electro-magnetic properties like conductivity and permeability	X	X	X
LED SPECTOMETRY (LED) Color and spectral properties based on multiple LED light sources in very high optical resolution	X	X	X
NEAR-INFRARED SPECTROSCOPY (NIR) Specific and unique spectral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

TOMRA

OUR PRODUCTS IS SERVING A WIDE RANGE OF DETECTION 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
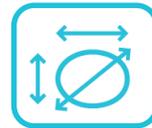
Shape & Size
Sort on length, width, diameter, area, broken-piece recognition, …

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**

TOMRA
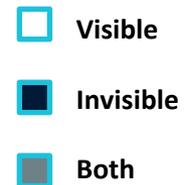
EXAMPLES OF CROSS UTILIZATION OF OUR PORTFOLIO TECHNOLOGIES

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.
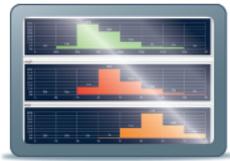
- A Infeed (unsorted)
- B Full width NIR and Color Vision sensors
- C Intelligent finger ejectors
- D Gentle handling convey chutes (optional)
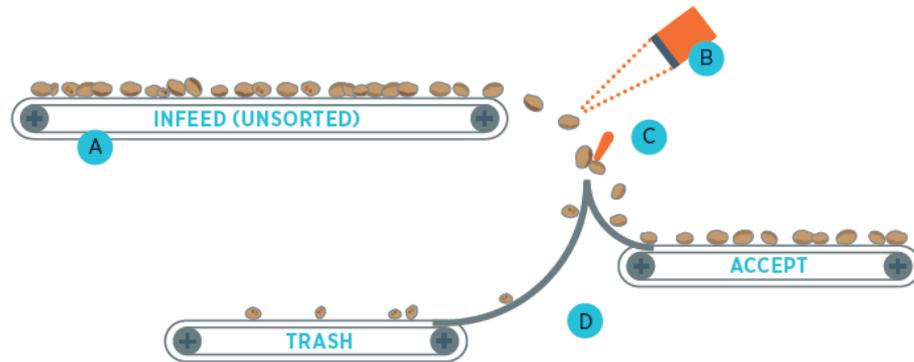
DEFECTS & BLEMISHES

- 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

~1 320

CAGR: 8%

~910

	2013	2018
Food	770	1 100
Mining	20	40
Recycling	120	180

■ Food

■ Mining

■ Recycling
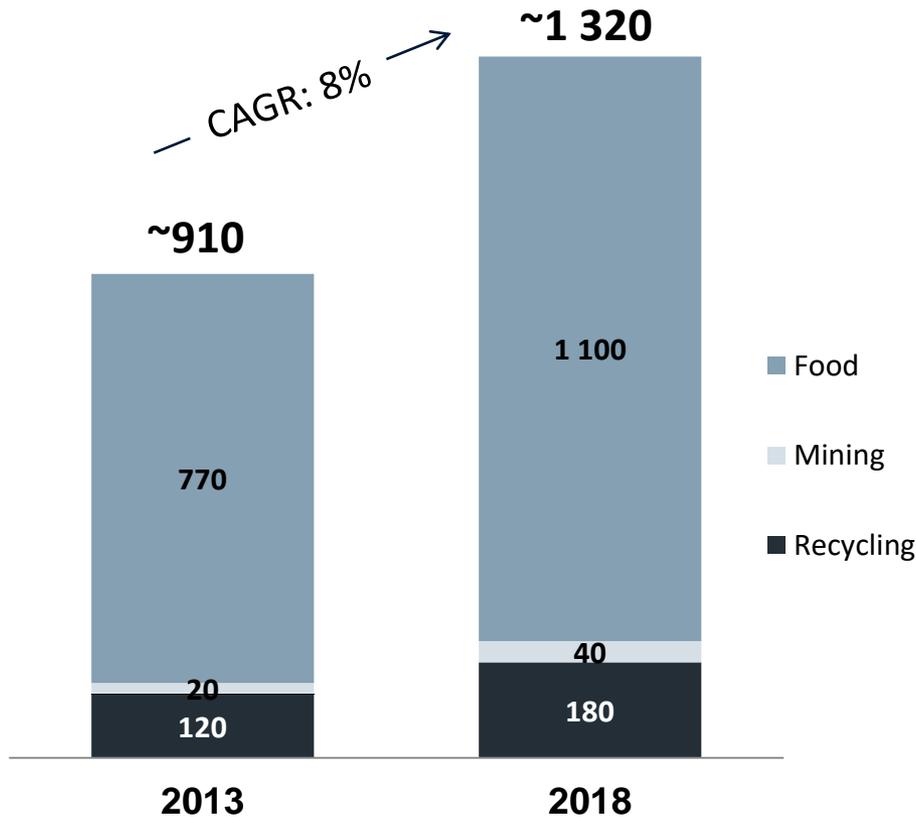
Market growth

- 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.

TOMRA

BACKLOG DEVELOPMENT AND MOMENTUM

ORDER INTAKE
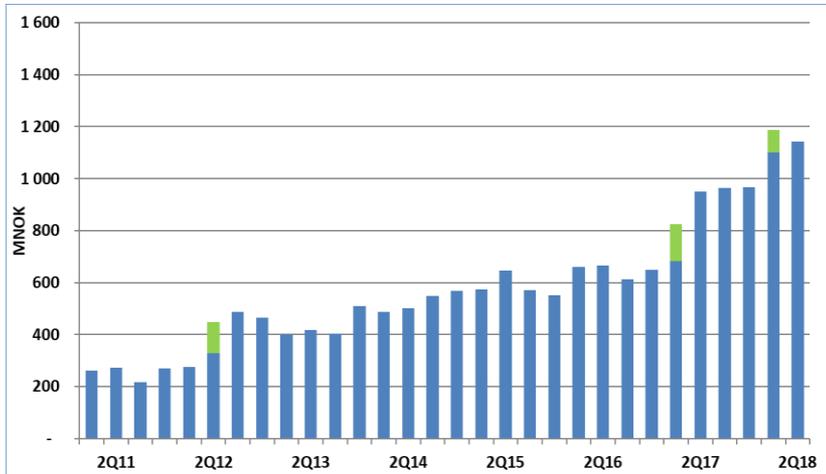
ORDER BACKLOG

REVENUES

■ Organic ■ Inorganic
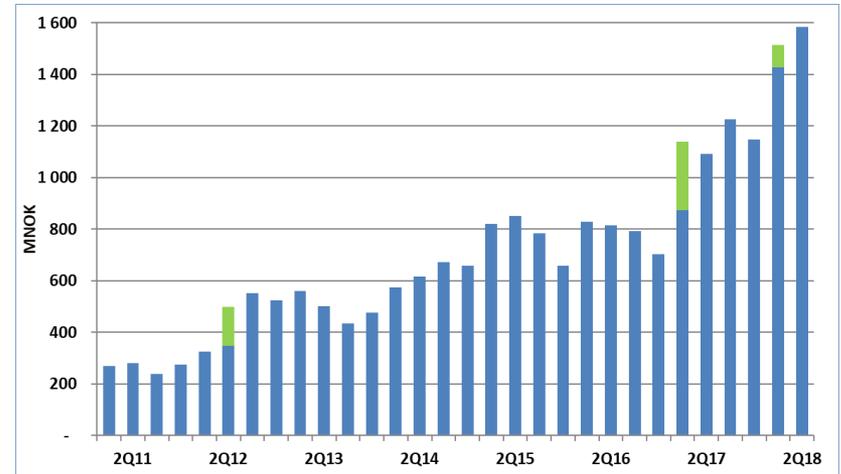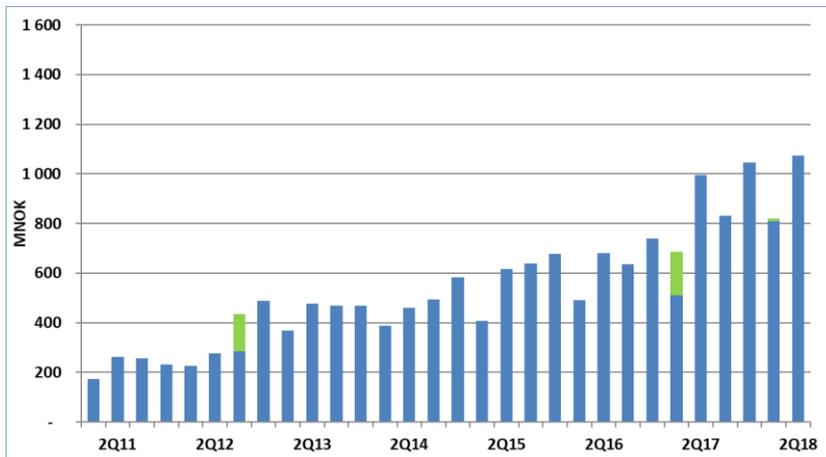
- TOMRA Sorting Solutions (TSS):
  - Revenues of 1,073 MNOK, up from 997 MNOK last year
  - Order intake of 1,144 MNOK in the quarter, compared to 951 MNOK last year
  - Despite all time high revenues in the quarter, a strong order intake led to an all time high order backlog of 1,585 MNOK by the end of second quarter

- Estimated backlog conversion ratio in 3Q18: 70%*

FINANCIAL DASHBOARD – SORTING SOLUTIONS

Industry Growth

5-15%

Recurring revenue

15-20%

Profitability (ROCE)*

45-55%

	Food	Recycling	Mining
Market share	40-50 %[(i)]	55-65 %	40-50 %
Geographical diversity	45-50 markets	40-50 markets	45-50 markets
Cyclicality	Medium	High	High

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%

* Ex goodwill

YIELD INTO USAGE

TOMRA
SORTING SOLUTIONS | FOOD

GROWTH IN GLOBAL FOOD DEMAND WILL SPUR INVESTMENTS IN AUTOMATION

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

TOMRA

MARKET SIZE FOOD SORTING*

Total annual market size

EUR million

CAGR: 7%

~1 100

~770

2013   2018

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

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

2018

31 %

26 %

35 %

43 % **2013**

31 %

34 %

■ ROW   ■ US   ■ EUR

TOMRA

WE ARE UNIQUELY POSITIONED TO SERVE THE ENTIRE VALUE CHAIN WITH OUR PRODUCT PLATFORM
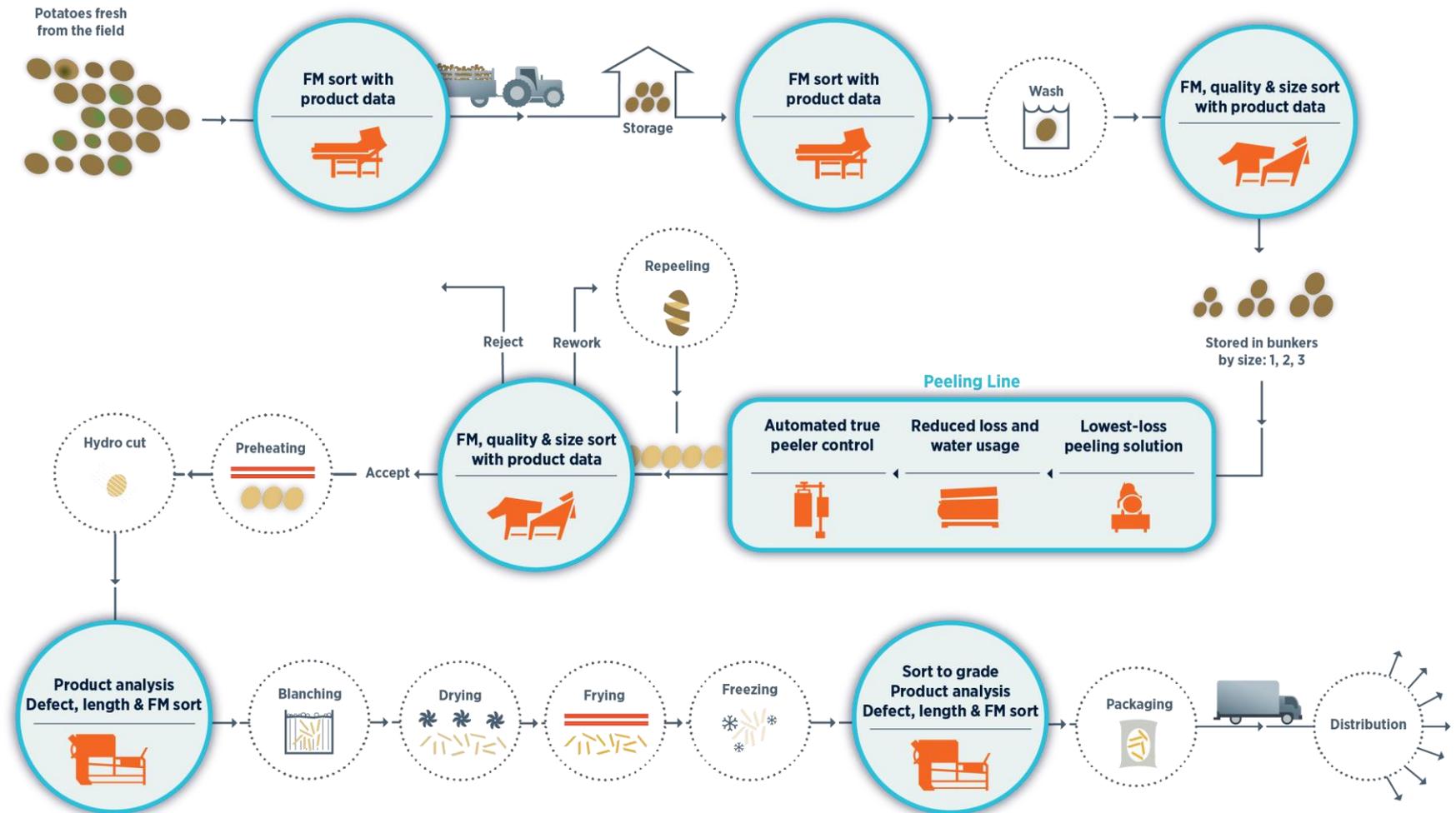
Sales of potato-related products account for about 25% of the sales in food bulk sorting

TOMRA HAS ESTABLISHED THE BROADEST FOOTPRINT WITHIN FOOD SORTING

A

B

C

TOMRA SORTING SOLUTIONS | **FOOD**

Free fall | **Belt** | **Lane**

SK

Rice, Seeds & Kernels

NDF

Nuts & Dried Fruit

PFV

Processed Fruits & Veg

Fresh

Fruit, Vegetables and Potatoes

Circa 40%* of annual global sorter sales revenue

Circa 30%* of annual global sorter sales revenue

Circa 25%* of annual global sorter sales revenue

IN HOUSE DEVELOPED

CHANNEL

CURRENT FOCUS

BELT | **CHUTE**

M&A

compac

LANE/MULTI-DROP

BULK SORTING

SINGULATED SORTING

THREE WAYS OF SORTING WITHIN THE FOOD SEGMENT

Free fall
60 %

A

B

Belt
20 %

C

Lane
20 %
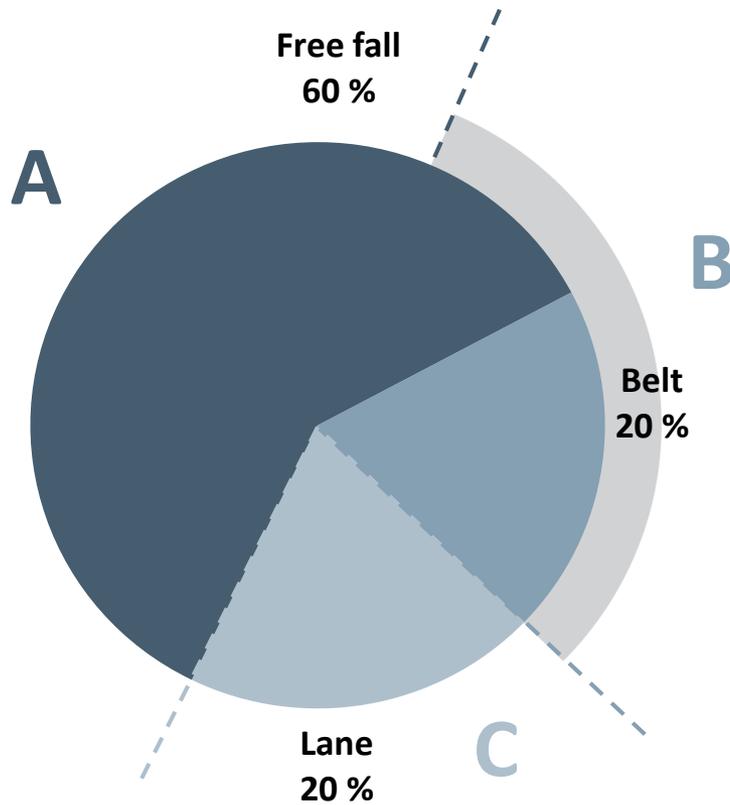
Free fall (Channel / Chute)	
Application	Seeds, rice, grains
Companies	Buhler, Key, **Best**, Satake, Daewon, Hefei, Orange
Sensor tech.	Camera (simple)

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

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 500 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

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)[1]

Bar chart — Revenues, EBITDA, EBITDA margin%

	FY13	FY14	FY15	FY16
Revenues	62	75	105	152
EBITDA	7	8	-1	3

35%

(1) Compac's fiscal year ends 30th of June. FY16 is equal to the period 1 July 15 to 30th of June 16 . FY13 and FY14 extracted from financial statements. FY15 and FY16 is management accounts, adjusted for one-off income and expenses. Not harmonised with TOMRA accounting principles

ACQUISITION OF BBC TECHNOLOGIES

The natural add-on to Compac

- TOMRA acquired BBC Technologies 26th February 2018

- BBC Technologies is headquartered in Hamilton, New Zealand and is a leading provider of precision grading systems for blueberries and other small fruits

- 145 employees across locations in New Zealand, Chile, Europe and USA

- The company complements TOMRA's own fruit inspection and grading technology portfolio. It also adds an innovative unique quality tracking system: www.freshtracker.com

- The majority of BBC Technologies sales have been in the blueberry segment, but the company also offers solutions for cherries, cherry tomatoes and other small soft fruits

- BBC is a market leader with the new platform (KATO)

- Berries are a very attractive segment, as they represent high value, but are very delicate to handle

Confirming our leading position in Food		
Attractive Market	Complimentary geographical footprint	Application fit expansion

Deal details:

- Purchase price of 363 MNOK / 64 MNZD, free of cash and interest-bearing debt.

- Closing 1 March 2018

- Acquisition settled in cash, financed through existing drawing rights

- FY17: 36 MNZD in revenues / 8 MNZD EBIT

The BBC Technology in Operation

FOOD COMPETITIVE LANDSCAPE

A

B

# of installed machines

>3,000

1,000-
3,000

0-1,000

MEYER

TAIHO 泰禾

SATAKE

DAEWON GSI

C(MBR)A

KEY Technology

BÜHLER SORTEX

MAF RODA

ray tec VISION

AWETA

CONCEPT ENGINEERS

GREEFA

UNITEC
We work for your results

REEMOON 绿萌

BBC TECHNOLOGIES

C

| 10-25 markets | 25-50 markets | >50 markets |

Geographic presence

Revenue from sensor-based sorting and related peripherals
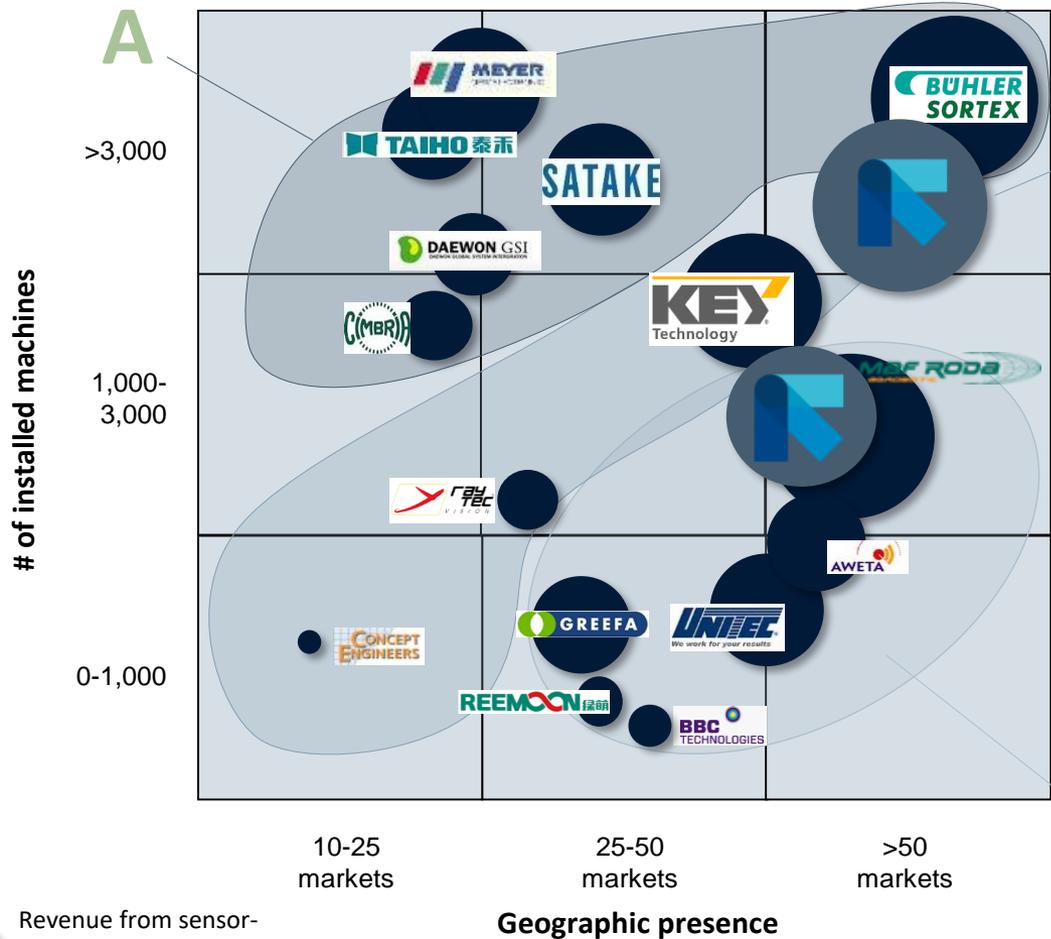
TOMRA competitive positioning

- Size (revenues)
- Widest range of applications (150+)
- Broadest technology base
- Geographic reach (~80 countries)
- Market share in targeted segments
- Bulk Sorting market share*: 25%
- Lane Sorting market share*: 25%

Source: TOMRA estimates and analysis   *Optical Sorting

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

POTATOES

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

LASER, CAMERA, BSI, PULSED LED

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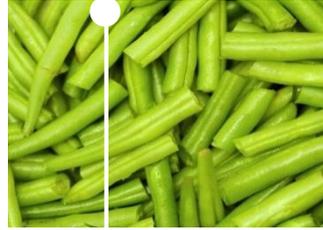
Beans, beets, broccoli, carrots, corn, cucumbers, industrial spinach, IQF vegetables, jalapenos/peppers, onions, peas, pickles

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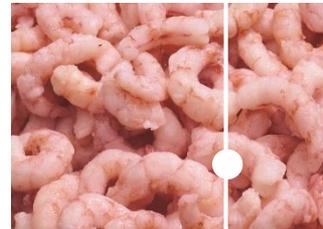
Mussels, scallops, seaweed, shrimps, tuna, pet food

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

TOMRA

OUR FOOD CUSTOMERS

High-Level Product Roadmap FOOD (Illustrative)

Simplification of Product Landscape

PRODUCT 1
PRODUCT 2
NEXT GENERATION
PRODUCT 3
PRODUCT 4
NEXT GENERATION
PRODUCT 5
NEXT GENERATION
PRODUCT 6
PRODUCT 7
PRODUCT 8 — PRODUCT 1
NEXT GENERATION
PRODUCT 9
PRODUCT 10
PRODUCT 11 — NEXT GENERATION
PRODUCT 12
PRODUCT 13 — NEXT GENERATION
PRODUCT 14

2015 | 2016 | 2017 | 2018 | 2019 | NEXT GENERATION
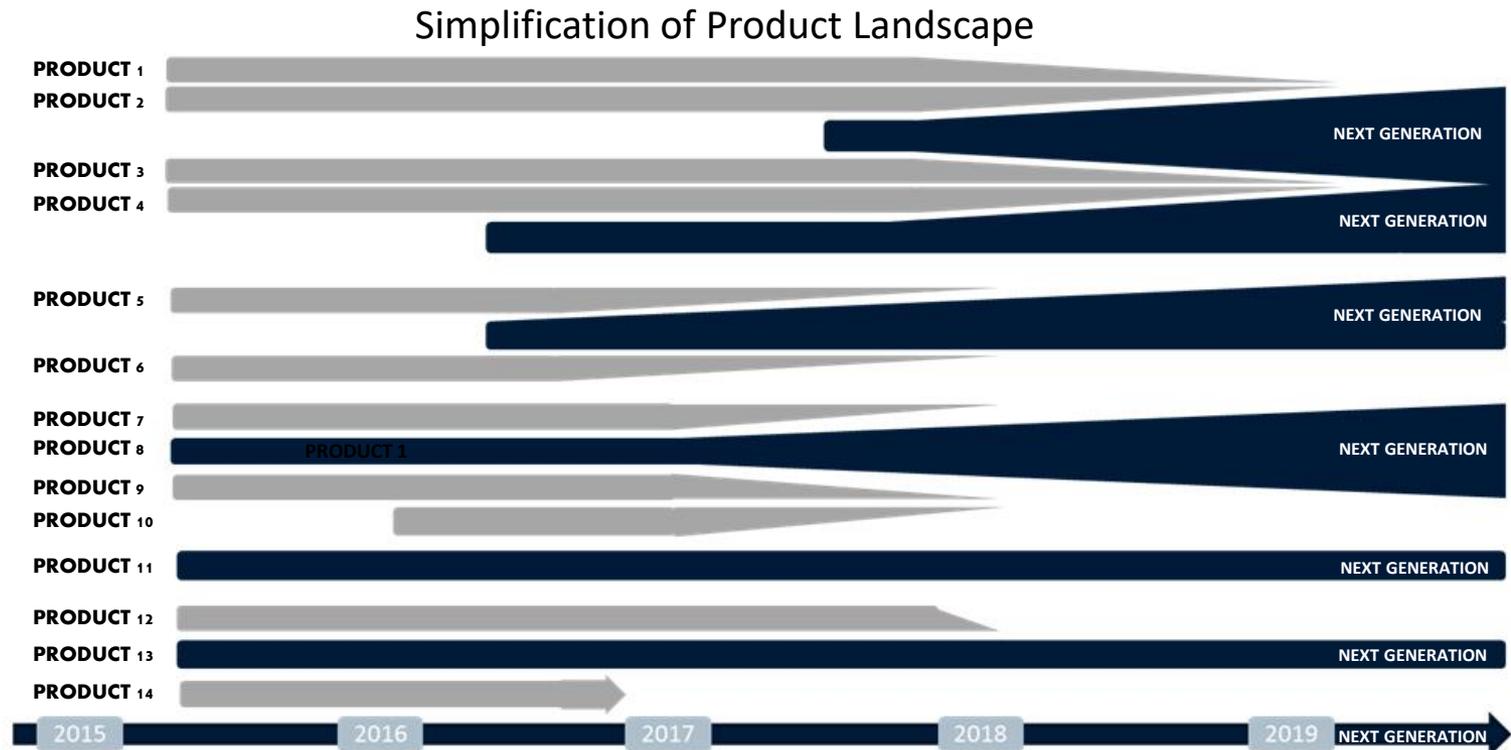
14 platforms today will be reduced to 6 platforms over the next five years

ONCE
INTO ⊏⅃
AGAIN
AND AGAIN

TOMRA
SORTING SOLUTIONS | RECYCLING

GLOBAL DRIVERS FOR THE RECYCLING SEGMENT

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

TOMRA

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

Sensor based sorting is competing with different technologies

Landfill

Incineration

Separate Collection

Scavengers

Hand Sorting

LEGISLATIVE FRAMEWORK - PROMOTING RECYCLING

	Description	Target	
Packaging Directive	• Rules on the production, marketing, use, recycling and refilling of containers of liquids for human consumption and on the disposal of used containers • 2014 review included new targets • 2015 revision includes lightweight plastic carrier bags	• Recycling and reuse of municipal waste: 70% by 2030 • Recycling and reuse of packaging waste: 80% by 2030 • Phasing out landfilling by 2025 of recyclable waste in non hazardous landfills	
Waste Electrical and Electronic Equipment (WEEE) Directive	• 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	• The overall aim is for the EU to recycle at least 85% of electrical and electronics waste equipment by 2016	
Landfill Directive	• The objective of the Directive is to prevent or reduce as far as possible negative effects on the environment • 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.	• Amount of biodegradable municipal waste reduced to 50% in 2009 and to 35% in 2016 (compared to 1995 levels)	
End of Life Vehicle (ELV) Directive	• 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	• Reuse and recycling: 85% • Reuse and recovery: 95%	

Source: www.ec.europa.eu, www.Eurometrec.org, wastemanagementworld.com,

TOMRA

MARKET SIZE RECYCLING

Total annual market size

EUR million

CAGR: 8%

180

120

2013   2018
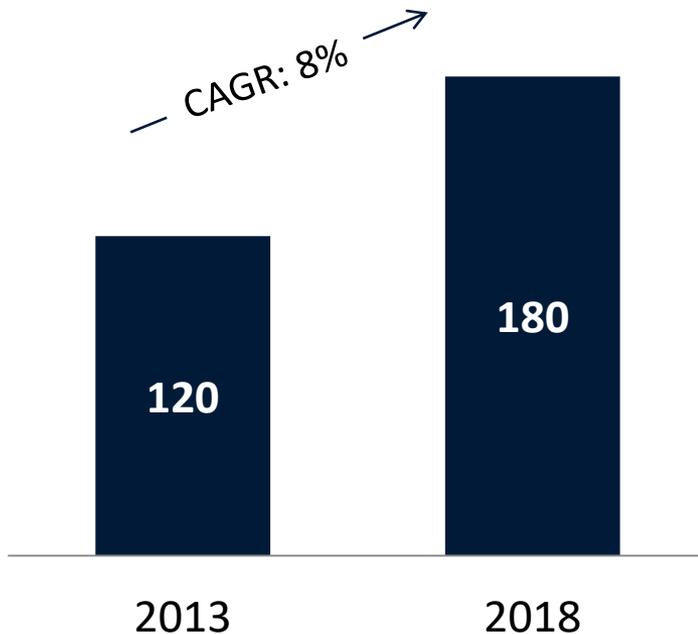
Market growth

- 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

TOMRA

RECYCLING: APPLICATIONS AND SENSOR TECHNOLOGY

MUNICIPAL SOLID WASTE **PACKAGING**   **UPGRADING PLASTICS**

Hard plastics, plastic film,   Plastics, plastic film,   PET, PE, PP, flakes
mixed paper, RDF, metals,   cardboard, mixed paper,
organics/biomass   deinking paper, metal   **NIR**, **VIS**, **EM**

NIR, VIS, XRT, LASER   **NIR**, **VIS, EM**

POST-SHREDDER   **ELECTRONIC SCRAP**   **PAPER**

NF metal, stainless steel,   Printed circuit boards,   Deinking, cardboard,
copper cables, copper,   non-ferrous metal   carton
brass,   concentrates,
aluminum   cables, copper, brass,   **NIR**, **VIS, EM**
                               stainless steel
NIR, **VIS, XRT, XRF, EM,**
COLOR   **XRT**, **XRF, EM, NIR,**
                               COLOR

AUTOMATED WITH TOMRA SORTING UNITS

NIR for packaging waste

Focus on the PET stream

PP

PE Colored

PE Natural

PET

Packaging

ONP Double Deck Screen

Ballistics (removing films)

Baler

Mixed Paper cleaning

ONP Cleaning

Manual sorting for oversize materials

Input
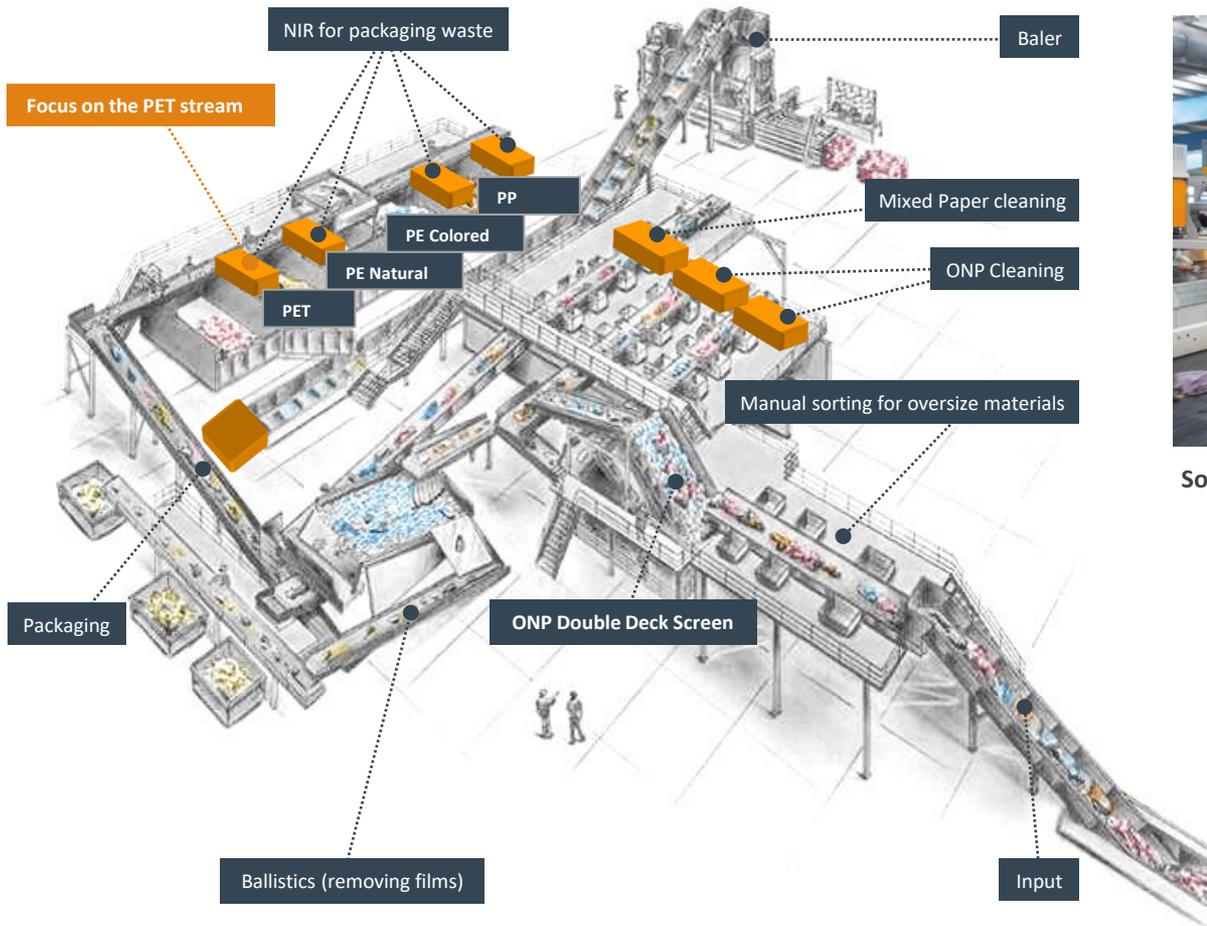
Sorting of Municipal Solid Waste, Cyprus

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

Life cycle of Steel from End-of-life vehicles

Cars in use

Export of second-hand cars

Collection of cars and various scrap

Shredded material will get recovered and upgraded by our sorters
(FINDER, COMBISENSE, X-TRACT)

Copper Producer

Aluminum Producer

Brass Producer

Stainless Steel Producer

New cars

Aluminum
X-TRACT

Copper
COMBISENSE

Wires
FINDER

Products from sorting process

Stainless steel
FINDER

Steel

Brass
COMBISENSE

Production facility cars

Steel mill

RECYCLING COMPETITIVE LANDSCAPE

# of installed machines

>3,000

1,000-
3,000

0-1,000

10-25
markets

25-50
markets

>50
markets

Geographic presence

● Revenue from sensor-
based sorting
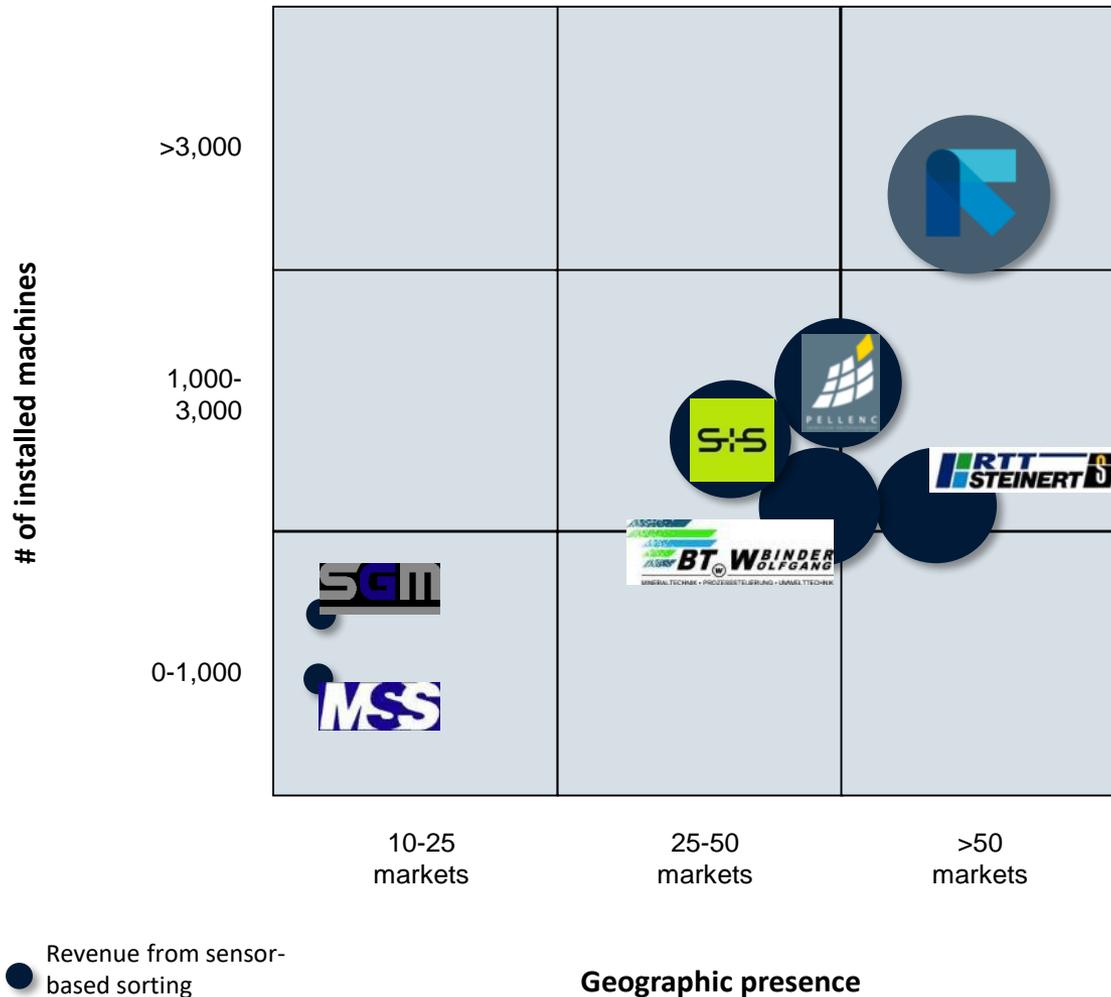
TOMRA competitive positioning

• 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

TOMRA
SORTING SOLUTIONS | MINING

GLOBAL DRIVERS FOR THE MINING SEGMENT

- **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

Total annual market size

EUR million
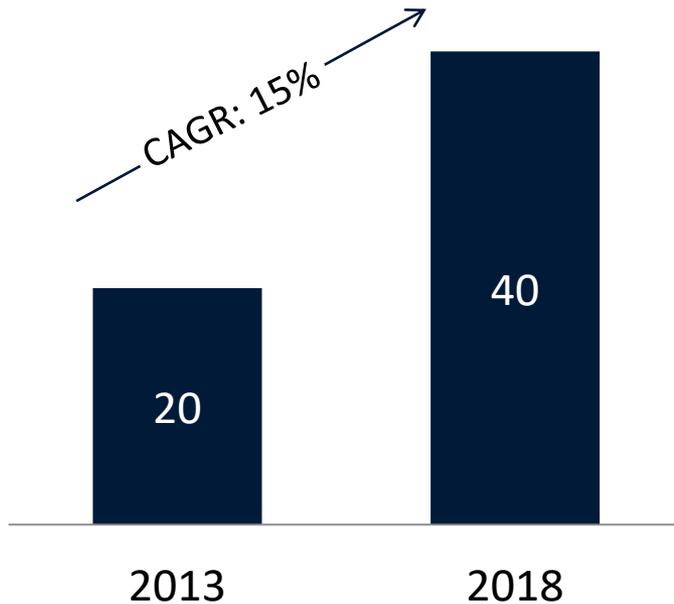
Market growth

- 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

CAGR: 15%

40

20

2013

2018

TOMRA

MINING: APPLICATIONS AND SENSOR TECHNOLOGY

INDUSTRIAL MINERALS
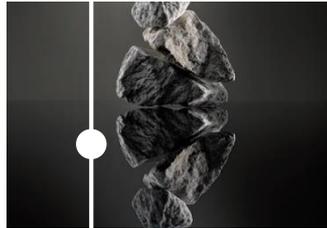
Calcite, quartz, feldspar,
magnesite, talc, dolomite,
limestone, rock salt,
phosphates, potash

COLOR, XRT, NIR

DIAMONDS

Diamonds, emeralds,
rubies,
sapphires, tanzanite

COLOR, XRT, NIR

FERROUS METALS

Iron, manganese,
chromite

XRT, EM, NIR

NON-FERROUS METALS
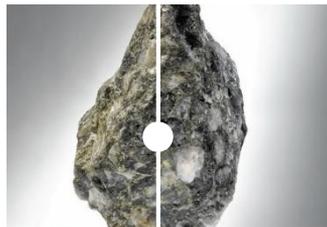
Copper, zinc, gold, nickel,
tungsten, silver, platinum
group metals

XRT, COLOR, EM, NIR

FUEL
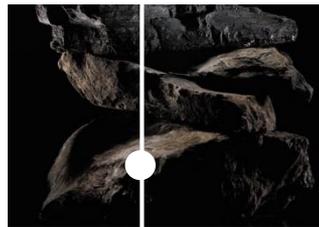
Coal, oil shale

XRT

SLAG
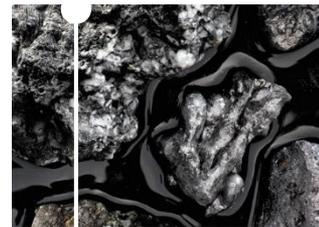
Stainless steel slag, carbon
steel slag, ferro silica slag,
ferro chrome slag,
non- ferrous slag

XRT, EM

TOMRA

THE CONCEPT OF SENSOR-BASED SORTING IN MINING

Mining process:
Industrial minerals

Run of Mine (ROM)

↓

Primary Crushing

↓

Secondary Crushing

↓

Sensor Based Sorting → ▲ **Waste**

↓

▲ **Product**
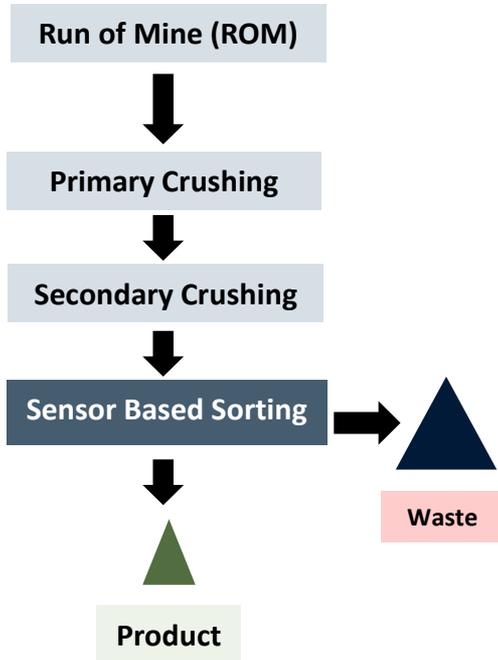
- 15% to 50% of the ROM can be rejected in an early stage of the process (application dependent)

- These low grade waste rocks don't need to be transported, crushed, grinded or further treated

Mining process:
Metal mining

Run of Mine (ROM)

↓

Primary Crushing

↓

Sensor Based Sorting → ▲ **Waste**

↓

Beneficiation Plant:
Milling
Screening
DMS
Flotation → ▲ **Tailings (fines)**

↓

▲ **Product**

Current segment
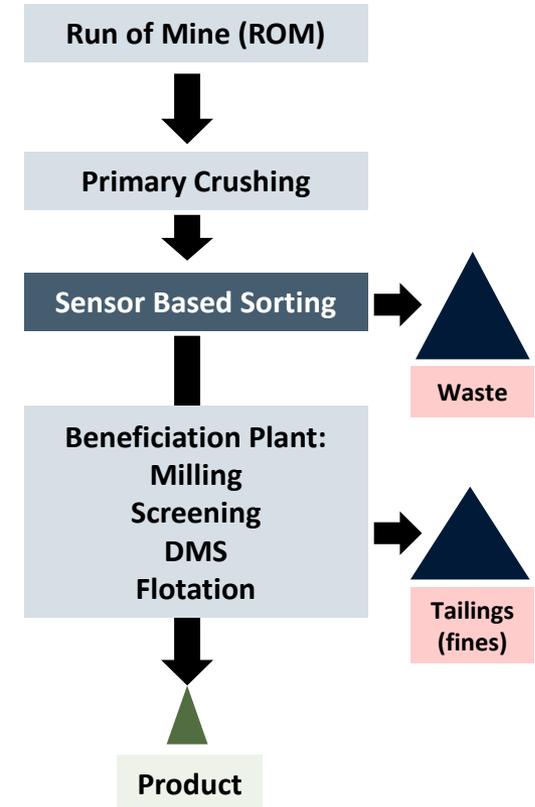
Potential new segment

TOMRA

MINING COMPETITIVE LANDSCAPE
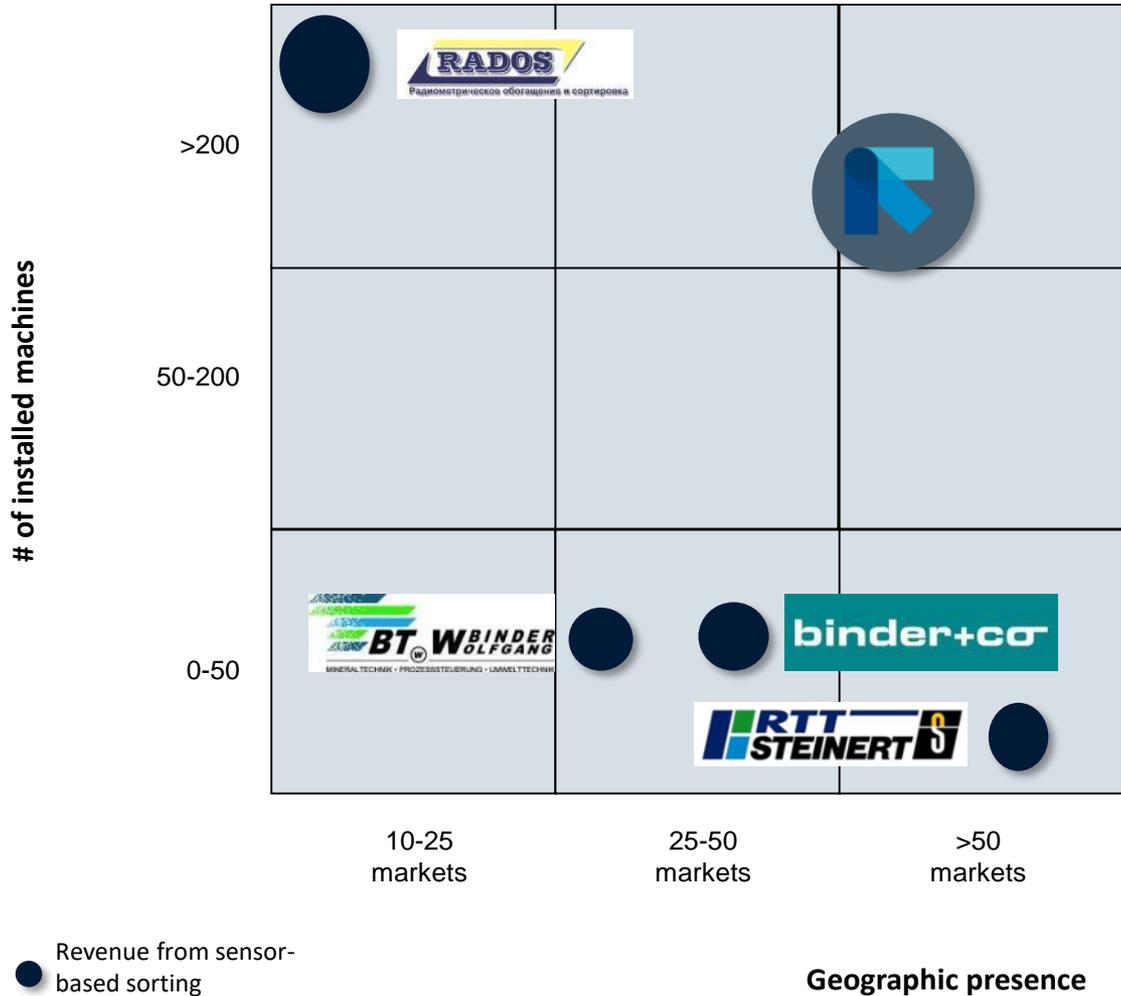
TOMRA competitive positioning
- Wide geographical coverage
- Broadest technology platform
- Leading brand
- **Market share: 40-50%**

Revenue from sensor-based sorting

Geographic presence

Source: TOMRA estimates and analysis

Historical financial performance

KEY FINANCIALS DEVELOPMENT

Revenues
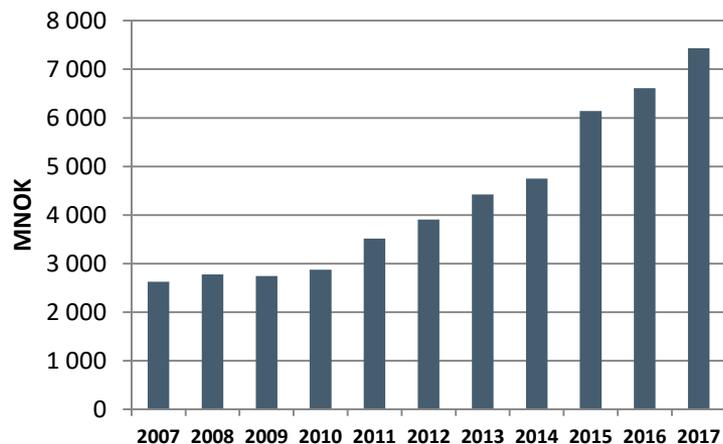
Gross Contribution and margin
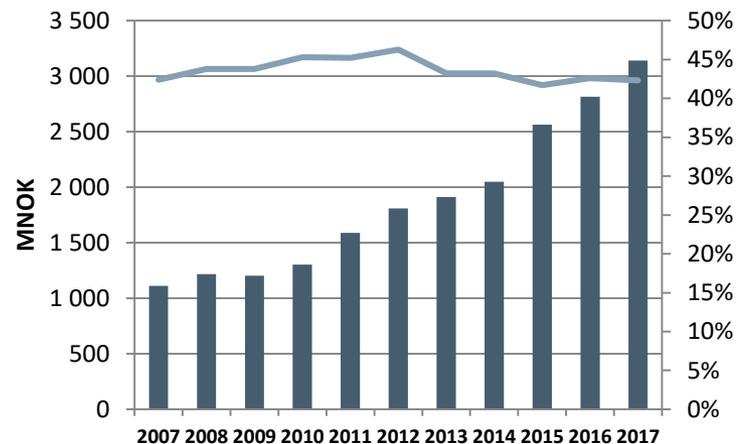
EBITA and margin

Earnings per share

EPS from continued operations, excluding other items
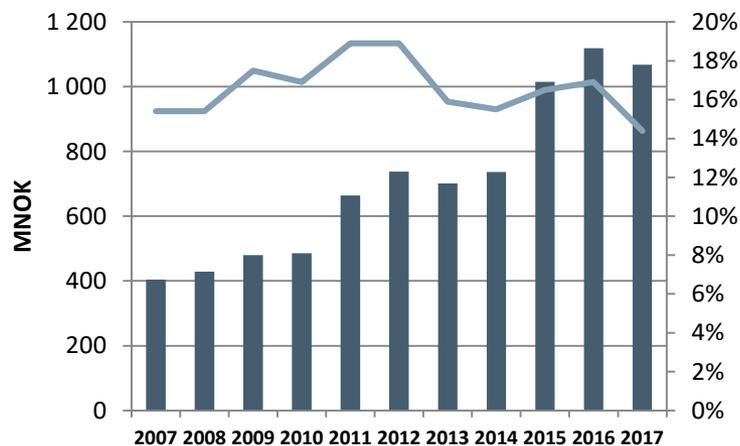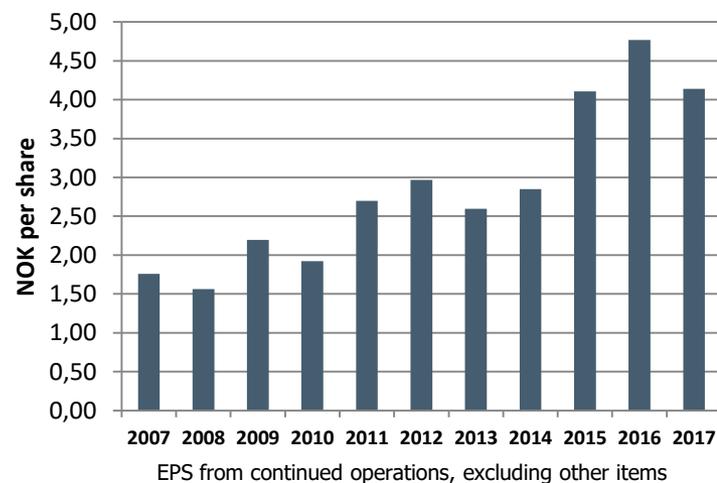
FINANCIAL HIGHLIGHTS
BALANCE SHEET, CASH FLOW AND CAPITAL STRUCTURE

Amounts in NOK million	30 June 2018	30 June 2017	31 Dec 2017
ASSETS	**8,849**	**8,260**	**8,437**
• Intangible non-current assets	3,662	3,364	3,412
• Tangible non-current assets	1,066	839	998
• Financial non-current assets	352	362	349
• Inventory	1,290	1,220	1,197
• Receivables	2,140	1,976	1,887
• Cash and cash equivalents	339	499	594
LIABILITIES AND EQUITY	**8,849**	**8,260**	**8,437**
• Equity	4,363	4,275	4,594
• Minority interest	162	197	143
• Interest bearing liabilities	1,845	1,480	1,280
• Non-interest bearing liabilities	2,479	2,308	2,420

Operating cash flow

Legend: Min (2008-2017), Max (2008-2017), 2018
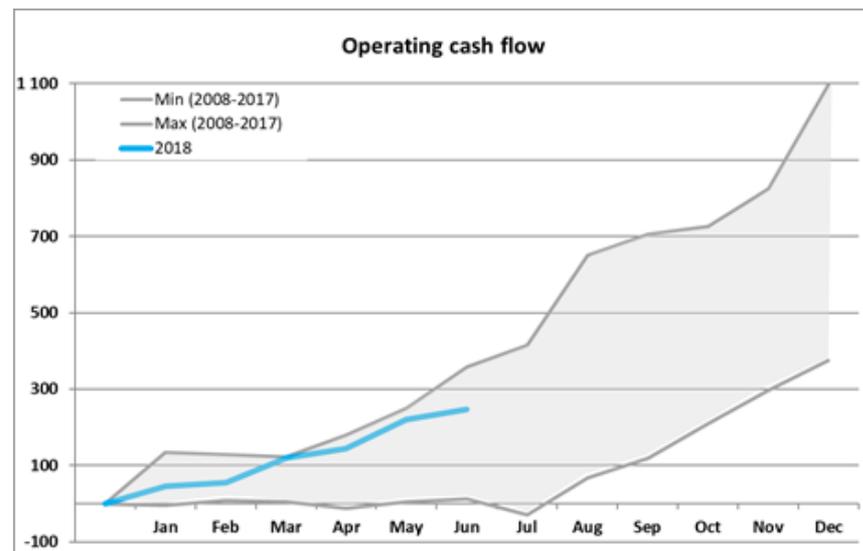
Ordinary cashflow from operations

• 127 MNOK (170 MNOK in 2Q 2017)

Solidity

• 49% equity

• NIBD/EBITDA = 1.2x (Rolling 12 months)

• Dividend of NOK 2.35 (NOK 2.10 last year) paid out 8 May 2018

CURRENCY
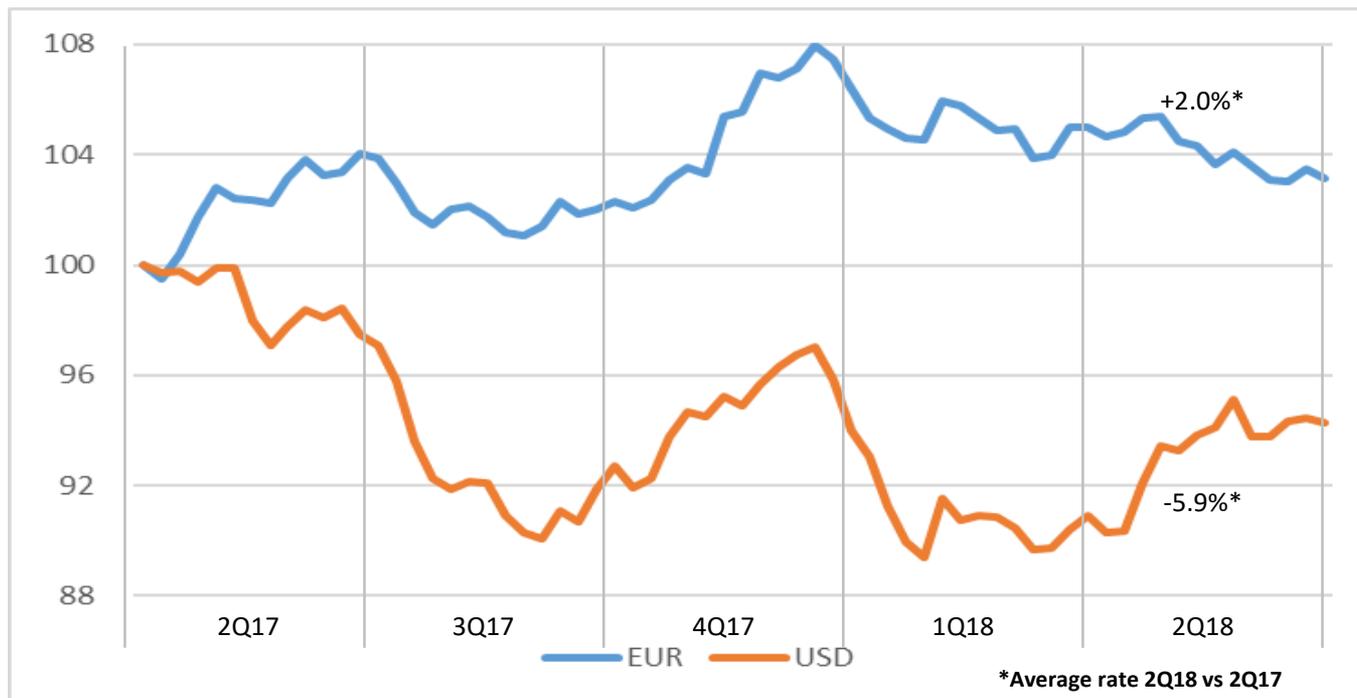
TCS:
Positive impact from stronger EUR, offset by a weaker USD.

TSS:
Negatively impacted by weak USD vs EUR.

+2.0%*

-5.9%*

*Average rate 2Q18 vs 2Q17

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

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CURRENCY EXPOSURE

Revenues and expenses per currency;

	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%
ALL	10.0%	9.5%	12.0%

* 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

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COLLECTION SOLUTIONS – SEGMENT FINANCIALS

Revenue development
NOK million
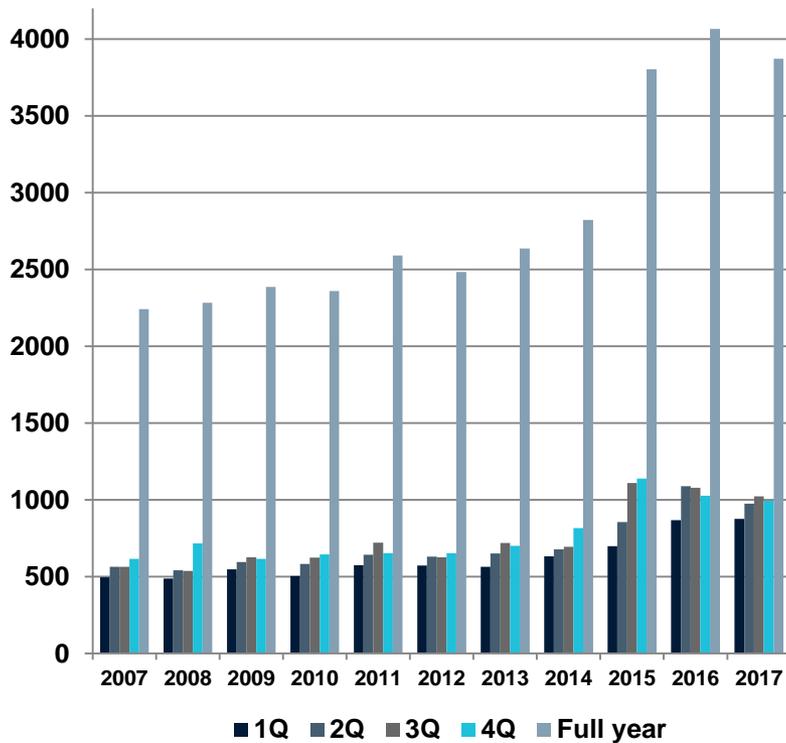
Gross and EBITA margin development
Percent
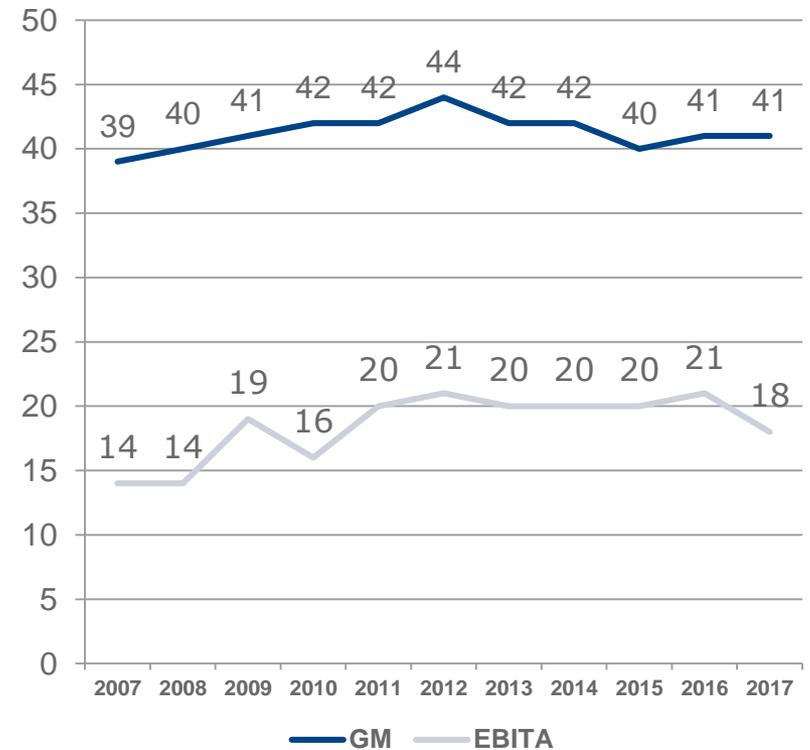
# SORTING SOLUTIONS – SEGMENT FINANCIALS

Revenue development
NOK million
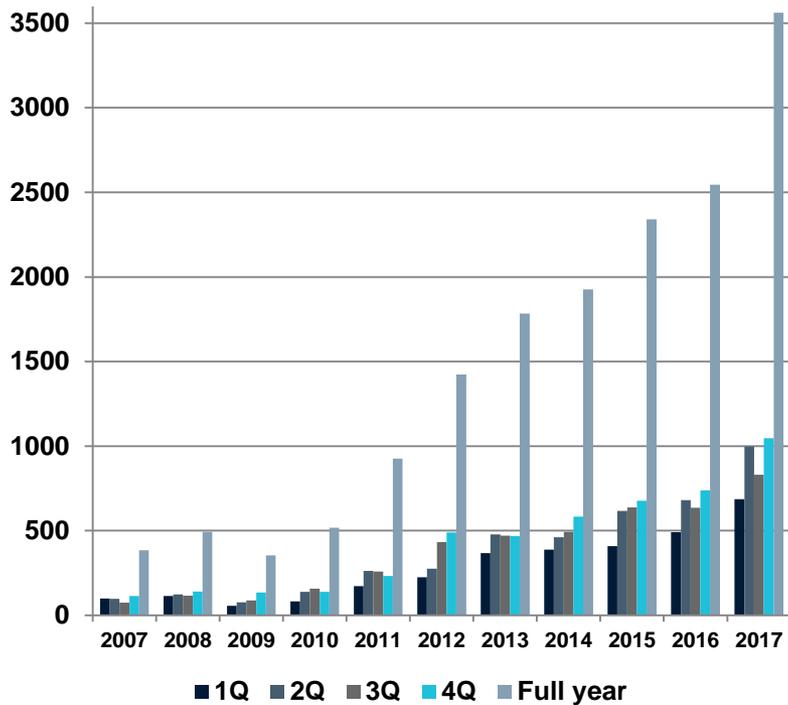
Gross and EBITA margin development
Percent
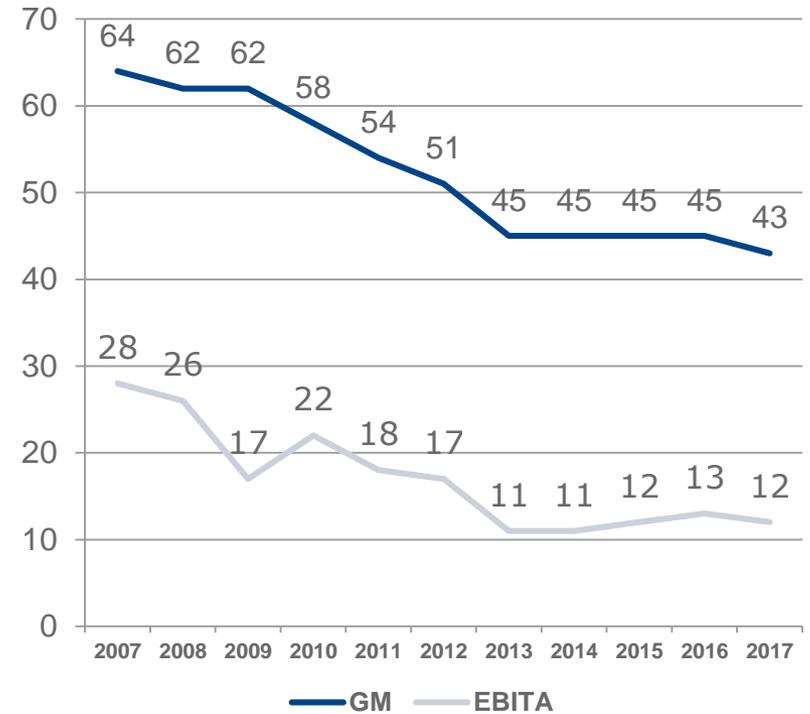
TOMRA SHAREHOLDER STRUCTURE

Top 10 shareholders as of 4th of July 2018

1	Investment AB Latour	39 000 000	26,3 %	
2	Folketrygdfondet	11 735 490	7,9 %	
3	The Bank of New York, Stichting Depositary	7 845 000	5,3 %	(NOM)
4	Goldman Sachs & Co	4 345 098	2,9 %	(NOM)
5	Clearstream Banking	3 426 217	2,3 %	(NOM)
6	Lannebo Småbolag Skandinaviska Enskil	3 000 000	2,0 %	
7	Nordea Nordic Small	2 349 276	1,6 %	
8	Danske Invest Norske C/O Danske Capital	2 052 942	1,4 %	
9	ODIN Norge	1 855 736	1,3 %	
10	SEB Nordenfond Skandinaviska Enskil	1 610 729	1,1 %	
	Sum Top 10	**77 220 488**	**52.2%**	
	Other shareholders	**70 799 590**	**47.8%**	
	TOTAL (6,467 shareholders)	**148 020 078**	**100.0%**	

Source: VPS

Shareholders by country

- Sweden 36%
- Norway 24%
- USA 10%
- Luxembourg 9%
- Great Britain 6%
- Netherlands 6%
- Others 10%
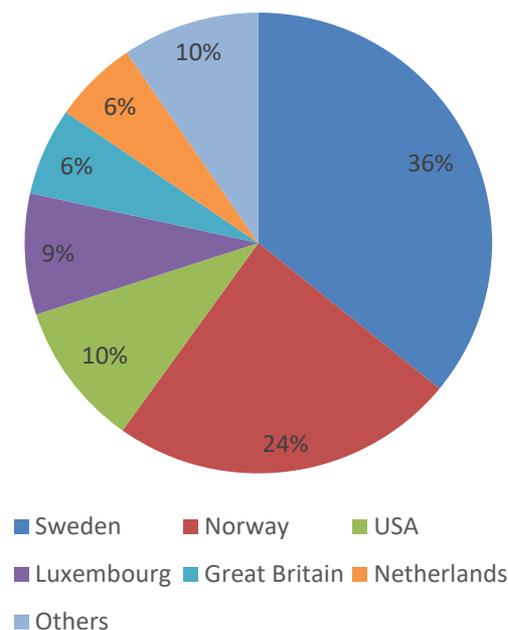
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