



Leading to Better

## Nutritional Improvement in Fine Bakery Driven by Consumer's Demand

Maria Padurean, Kerry Taste & Nutrition



# Introducing Kerry



130  
Manufacturing  
locations



27  
Operations in  
27 countries



140  
Sales in over  
140 countries



900  
Scientists

88

24,000  
Employees

- Kerry is a global leader in taste and nutrition
- UK/ROI leader in branded and customer branded chilled foods
- Revenue €6.4bn
- Enterprise value €17bn\*
- Market capitalisation €15bn\*

# Kerry Taste & Nutrition – Our Unparalleled Go-To-Market Footprint



2

Global Technology & Innovation Centres



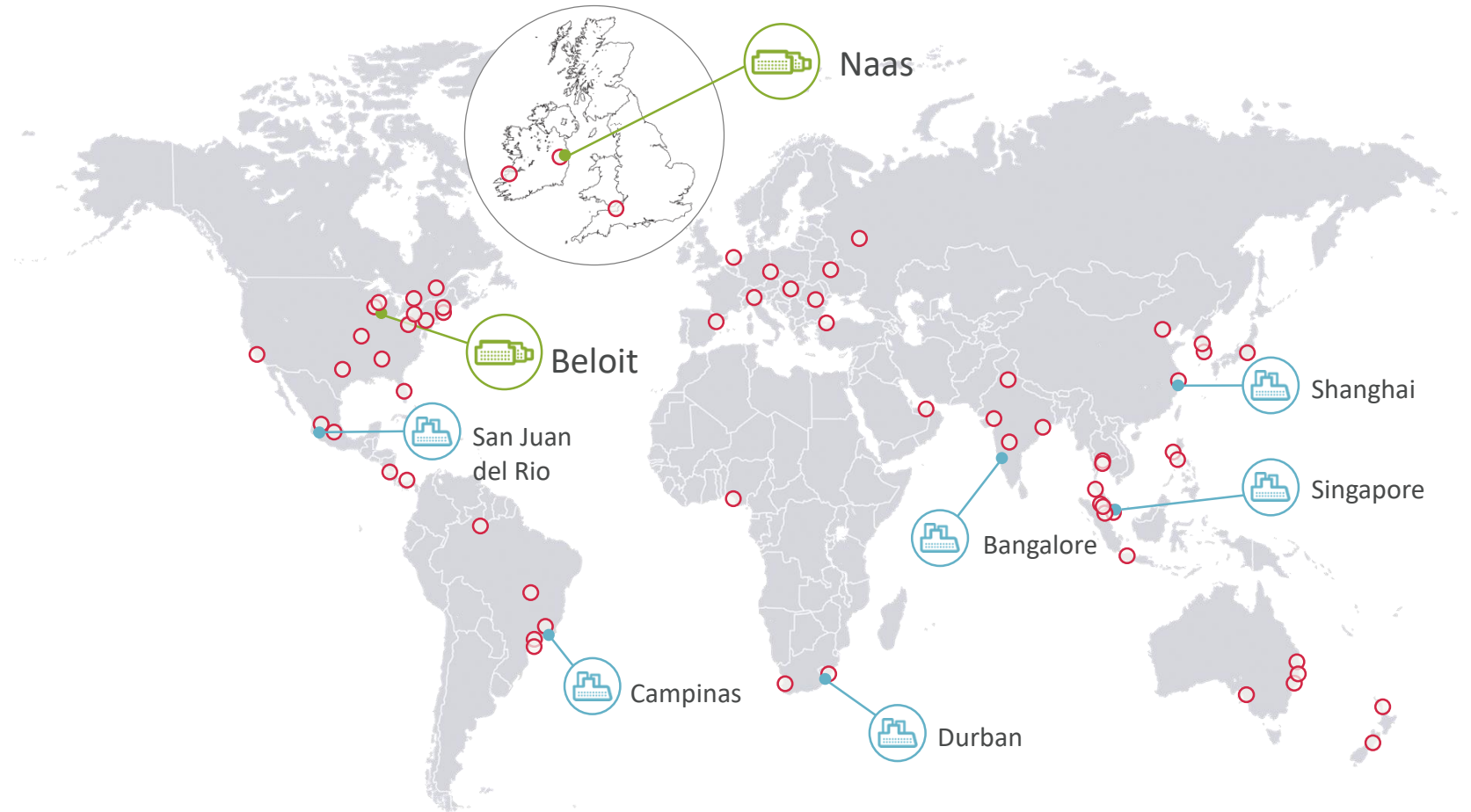
6

Regional Technology & Application Centres



64

RD&A Locations & Commercial Hubs



# Kerry Bakery

At Kerry we have a dedicated bakery team with application expertise. We can provide bespoke and innovative solutions in line with market trends.



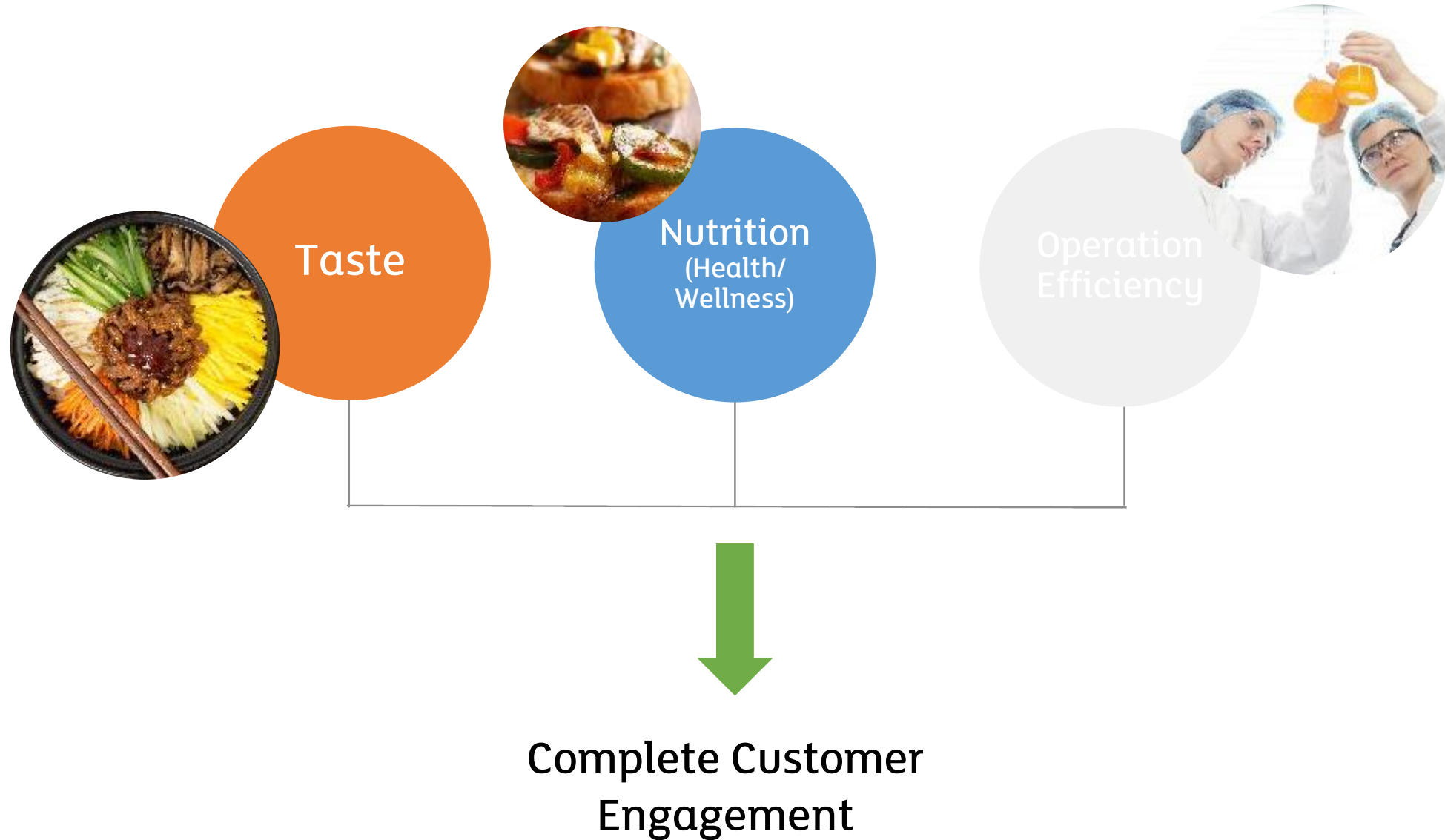
Unrivalled  
range of  
technologies  
across the  
food industry

Globally  
integrated  
team

Sensory  
testing

Consumer  
and market  
insight

# How We Achieve Complete Customer Engagement



# Kerry Bakery Technologies

Food Protection  
& Fermentation

Enzymes

Emulsifier &  
Lipids

Dairy  
Taste

Sweet and  
Savoury  
Taste

Pre and Post  
Bake Fillings

Texture  
Systems

Glazes &  
Coatings

Pre and Post  
Bake  
Inclusions

Functional  
Nutrition  
(Protein/Fibre)

Protein  
Technology

'We lead our  
customers  
to a better  
understanding  
of taste &  
nutrition.'



# Agenda

01

What is Influencing?

NUTRITIONAL DEMAND



02

Public Health

STATUS



03

Delivering Nutrients

HOLISTIC APPROACH for SUCCESS



Nutrition

# 01 Demands



Leading to Better

What are the drivers?



What's driving the

# Nutrition demands



# Health Org, NGO's & Governments

## SUGAR TAX

## LABEL WARNINGS

## FOOD SAFETY

**Sugar Taxes in Place**



**Traffic Light**

Each 1/2 pack/serving contains


<b>MED</b> Calories 358 18%	<b>LOW</b> Sugar 0.9g 1%	<b>MED</b> Fat 20.3g 29%	<b>HIGH</b> Sat Fat 10.8g 54%	<b>MED</b> Salt 1.1g 18%
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of your guideline daily amount

**NUTRI-SCORE**

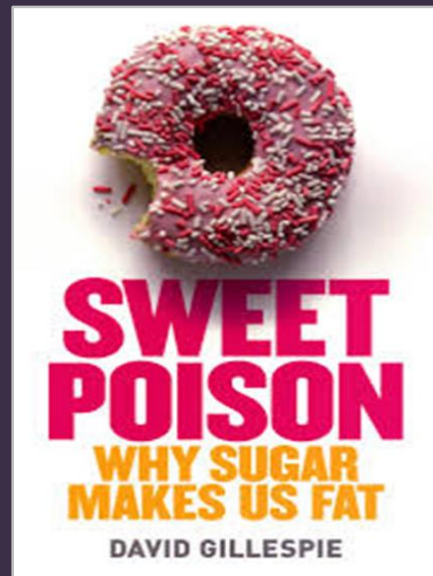
**A B C D E**

**Acrylamide**



Drivers

# Media & Influencers



Acrylamide in food is a  
**PUBLIC HEALTH CONCERN**

By SEAN POULTER, The Independent (June 2018) Following coverage



MailOnline

Cancer warning on breakfast cereals, crisps and baby food which contain raised levels of tumour causing chemical

- Fifteen samples of high street products had raised levels of acrylamide
- It is formed in the baking, roasting, frying and toasting of starchy foods
- Crisps have a particular problem with cancer causing chemical acrylamide

By SEAN POULTER, CONSUMER AFFAIRS EDITOR  
PUBLISHED: 01:44, 30 June 2018 | UPDATED: 11:10, 30 June 2018

Drivers

# Lifestyle

Healthier Lifestyle

Consumer Awareness

Mindful Choices


**1 in 2** people  
are trying to  
optimise their  
health through  
diet

**54%** of  
consumers are  
trying to reduce  
the amount of  
fat they  
consume

**1 in 3**  
people are  
willing to pay  
for clean label

**6 out of 10**  
consumers say  
they always  
read the  
ingredients on  
food and drink  
packaging

Regarding BAKERY, consumers are looking for balanced choices made with ingredients they know and trust



Reduced  
Sugar



Reduced  
Calories



Natural  
ingredients  
and cleaner  
labels



Functional  
products

Public Health  
*02* Status




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What's the context?

# Health issues

Public Health  
**02 Status**



**Increased  
Fat & Energy  
Consumption**



**Overweight  
&  
Obesity**



**CVD  
&  
DIABETIS**

New ways of  
**03 Delivery**



Leading to Better

Holistic Approach to Success



# Delivering nutrients

CATEGORY



FREE FROM



BETTER FOR YOU



GOOD FOR YOU

DESCRIPTION

## AVOIDANCE

*“Free-from” or “zero” variants*

## BALANCE & MODERATION

Products with *“diet”, “low”, or “less”* tags

## POSITIVE NUTRITION

Functional products and *“natural foods”*

EXAMPLES

Low/No/Reduced Lactose

Gluten Free

Clean/Cleaner Label

Cleaner footprint/Sustainability

Decreased content of process contaminants

Reduced Sugar

Reduced Salt

Reduced Fat

Balanced Choice  
(e.g. Flexitarians, Veganuary)

PROTEIN Fortification

DIGESTIVE Health

• Fibre, Prebiotics, Probiotics, Wholegrains

Healthy LIPIDS

• Trans & PHO Replacement  
• Healthy Oils

IMMUNE Health

• Minerals, Vitamins, Wellmune

# Delivering nutrients

CATEGORY



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Cleaner footprint/Sustainability

Decreased content of process  
contaminants

#1 Free from Trend

# Avoidance

New ways of  
**03 Delivery**



Free from

What is the science behind  
gluten-free? A handy FAQ



Gluten-Free is Not the Answer  
for Heart Health for Those  
Without Coeliac Disease



Highest trend in Bakery

# Avoidance



E471  
E475  
E481



E471\*

Reduced number of emulsifiers in cakes/muffins

E471  
E475  
E472e



E471\*

Reduced number of emulsifiers in cookies; biscuits

E223



Enzymes\*\*  
Yeast extracts

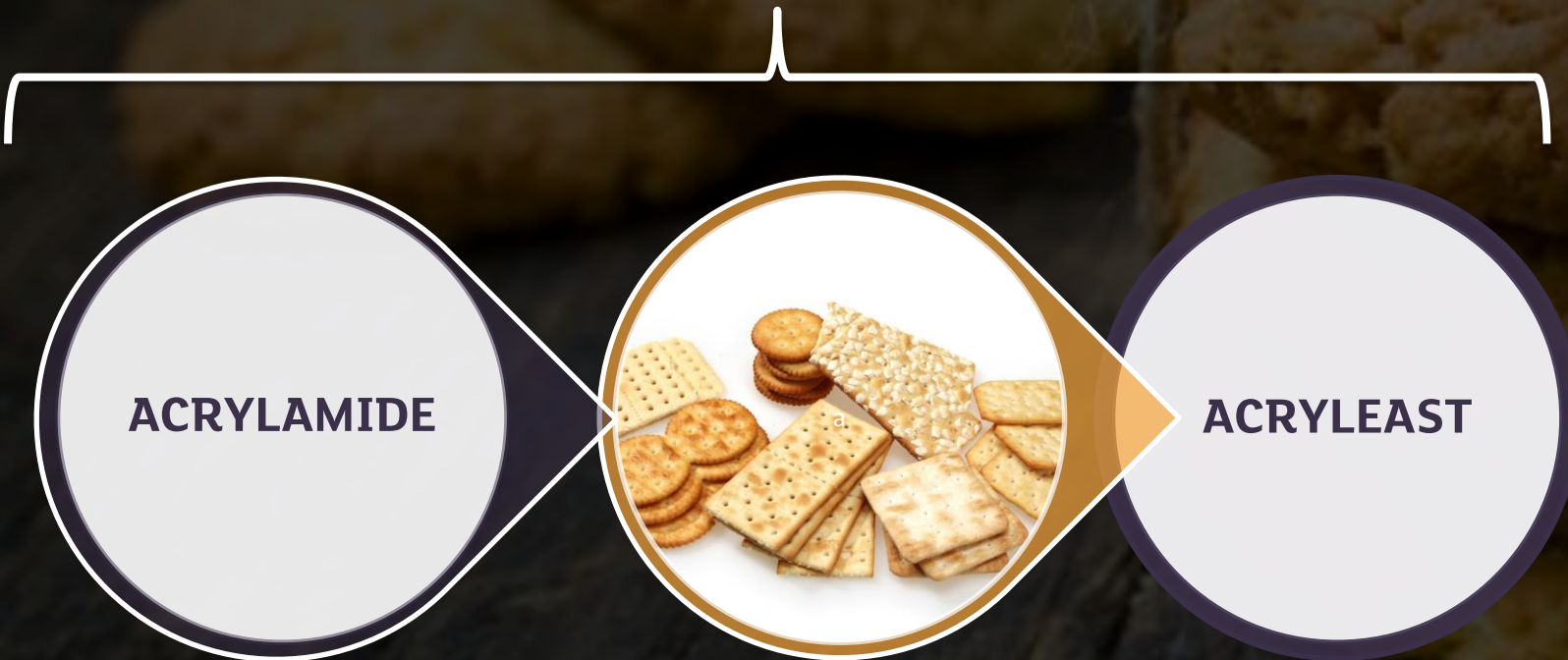
SMS replacement in Crackers and Petite Beurre type biscuits

\* Myvatex Mighty Soft range of emulsifiers  
\*\*Non declarable ingredients on the final bake product ingredient list declaration

#3 Removal of undesired chemicals; decreasing Acrylamide content

# Avoidance

Reduction of acrylamide formation  
during process



- Fully non-GMO
- Reduces acrylamide by up to 90%
- No impact on taste or texture
- Versatile with no or minimal changes to manufacturing process
- Effective at low doses
- Clean label

#4 Sustainability through decreased Energy Consumption

New ways of  
03 Delivery

# Environmentally friendly



Reduced **viscosity** of the dough (*batter*)

Reduced **energy** consumption / baking time

Improved biscuit (*wafer*) **quality**

\* Non declarable ingredients on the final bake product ingredient list declaration

# Delivering nutrients



BETTER  
FOR YOU

## BALANCE & MODERATION

Products with “*diet*”, “*low*”,  
or “*less*” tags

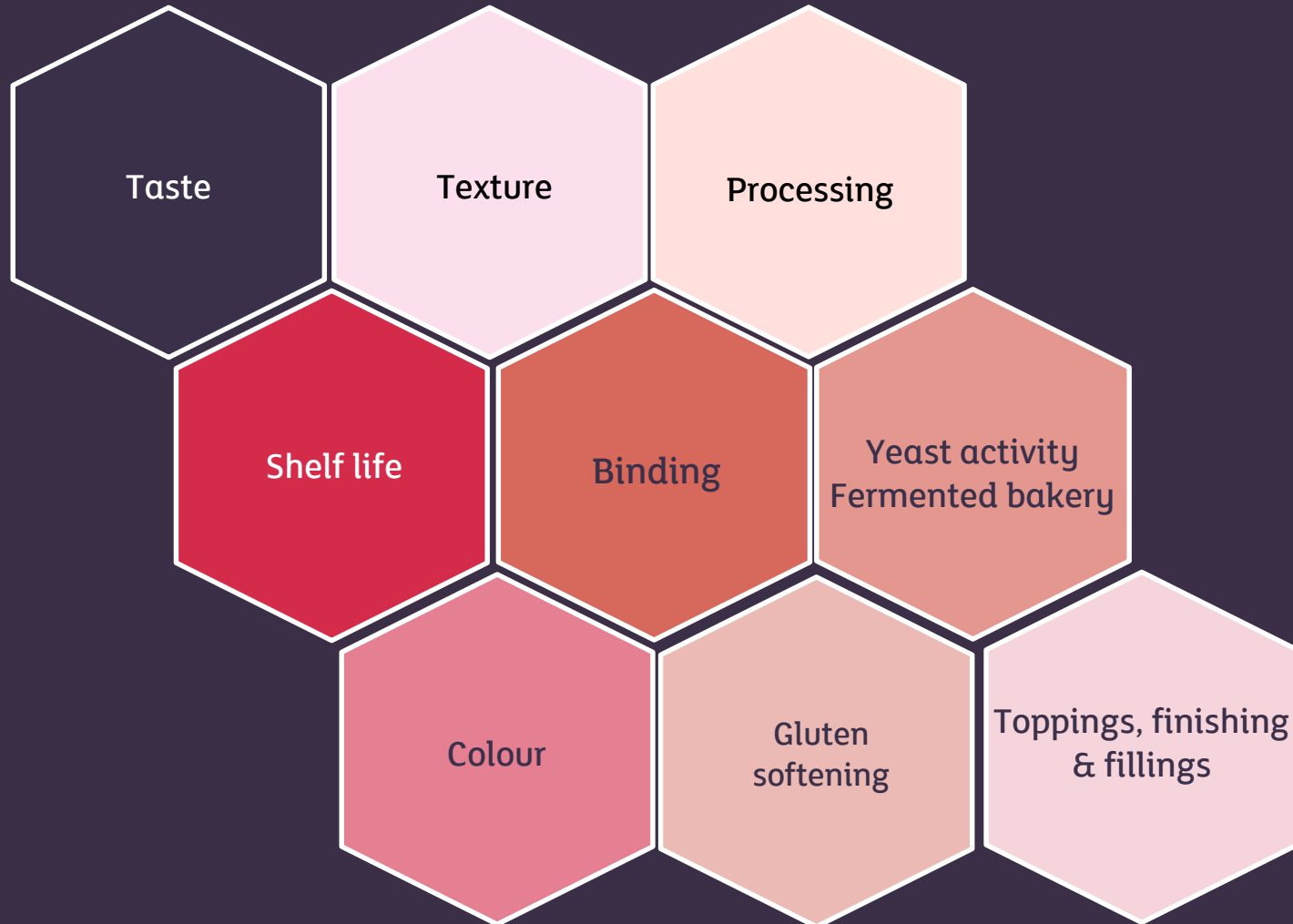
Reduced Sugar .....

Reduced Salt .....

.....  
Reduced Fat

**Balanced Choice**  
(e.g. Flexitarians,  
Veganuary)

# Balance & Moderation




Better for you





# Challenges

## Process challenges

- 
- Dough rheology
  - Manufacturing process

## Product challenges

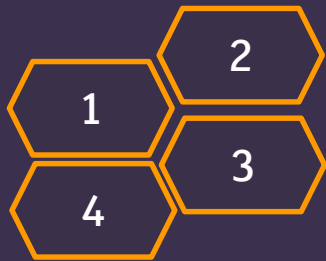
- 
- Aw
  - Shelf life
  - Colour/Cracks/Appearance
  - Sweetness/Flavour
  - Texture (chewy / crunchy)
  - Flow



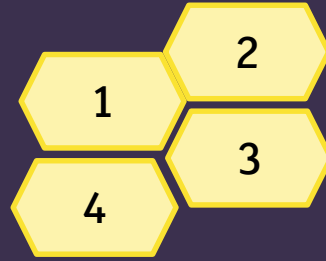
# Sugar $\neq$ Calorie Reduction

New ways of  
**03 Delivery**

Energy (kcal) scale for food



**Carbohydrates:**  
4 Calories/g



**Proteins:**  
4 Calories/g



**Fats:**  
9 Calories/g



**Better for you**

# Challenges



Better for you

## Process challenges

- 
- A circular graphic with a dashed white border, containing a faded image of a muffin. The text is overlaid on this image.
- Dough structure
  - Manufacturing process

## Product challenges

- 
- A circular graphic with a dashed white border, containing a faded image of a cookie. The text is overlaid on this image.
- Flavour/taste
    - Mouthfeel
    - Texture
  - Flow/spread
    - Aw
  - Appearance

# Delivering Solutions

## Premise



- To reduce the calories in a product it is necessary to reduce the fat content
- Reducing the sugar level does not affect significantly the energy (kcal) in the final product



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## Challenges



- Dough rheology
- Texture (softness, flakiness)
- Volume
- Taste/Flavour
- Appearance
- Mouthfeel
- aw
- Manufacturing process

## Concerns



- Energy reduction target
- Energy reduction considering inclusions/fillings
- Combination of sugar and fat reduction = energy reduction
- Restrictions (NO-GM derived, palm-free, lactose/dairy free, gluten free)
- Manufacturing process (if possible)

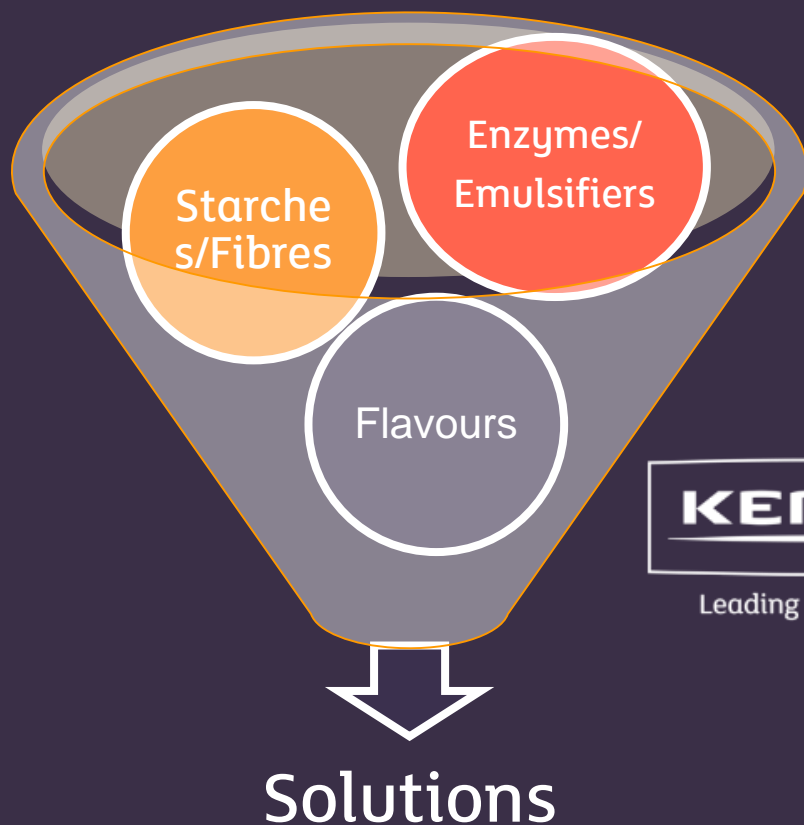
How to approach and deliver solutions






# Calorie reduction

New ways of  
**03 Delivery**



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-  50% Fat Reduced → **16%** Energy reduction
-  30% Fat Reduced → **9.6%** Energy Reduction
-  30% Sugar & 30% Fat Reduced → **14.25%** Energy Reduction
-  20% Sugar & 50% Fat Reduced → **20%** Energy Reduction
-  20% Fat Reduced Shortbreads → **3.5%** Energy Reduction

New ways of

# Delivering nutrients

New ways of  
**03 Delivery**



GOOD  
FOR YOU

## POSITIVE NUTRITION

Functional products and  
*“natural foods”*

### PROTEIN Fortification

#### DIGESTIVE Health

- Fibre, Prebiotics, Probiotics, Wholegrains

#### Healthy LIPIDS

- Trans & PHO Replacement
- Healthy Oils

#### IMMUNE Health

- Minerals, Vitamins, Wellmune

Food with Added Benefits

# Positive Nutrition

New ways of  
**03 Delivery**

## Challenges

PROTEINS



Off taste  
Processability

FIBERS



Water Uptake  
Sandiness  
Process challenges

Clean label masking solutions  
Optimized taste & DDIAS score proteins \*

**ProDiem™ Ultronor™**

Low viscosity & high soluble fibre with double benefit :  
functionality & labelling \*\*

**EmulGold™**

# Positive Nutrition

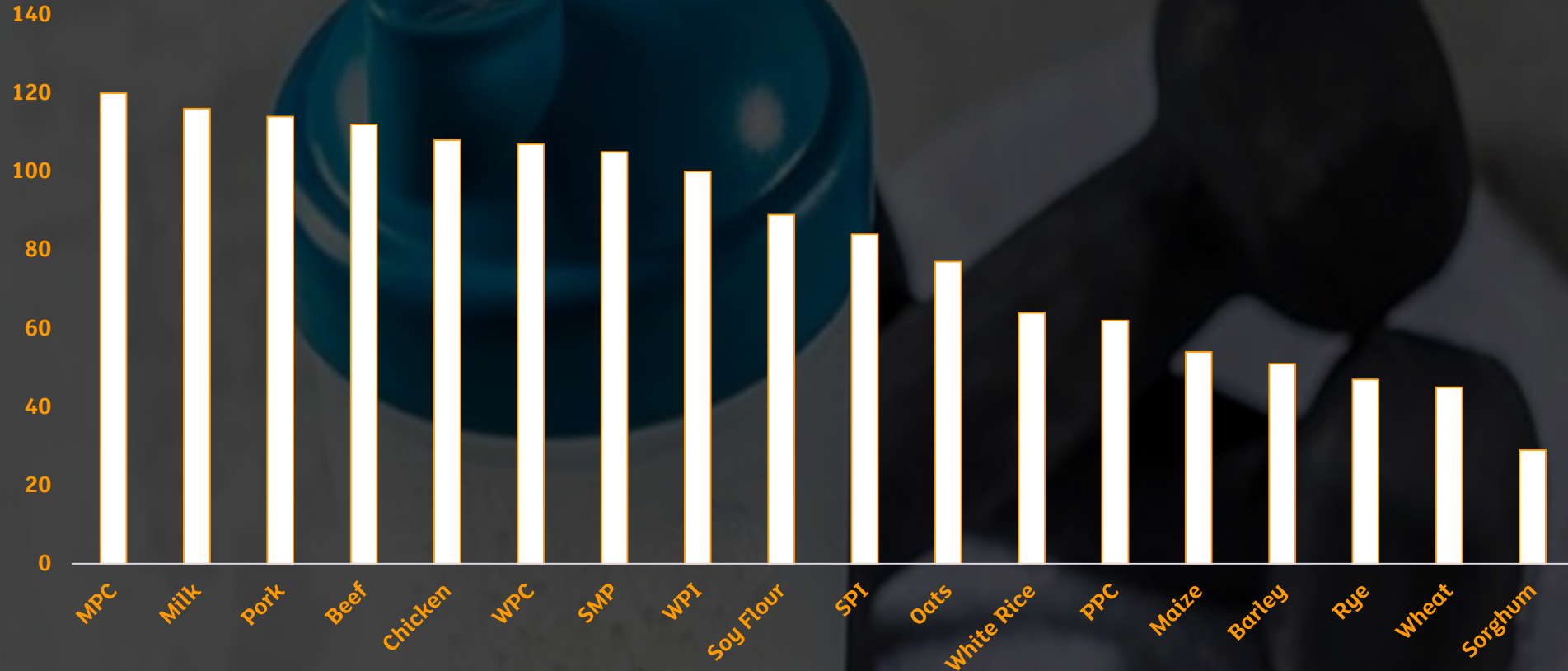
DIAAS Score	Claim
$\geq 100$	Excellent/High Quality
$\geq 75 - < 100$	Good Source of Protein Quality
$< 75$	None

*DIAAS  $\geq 100$ : protein source supplies more than the required amount of the most limiting AA*

*DIAAS  $< 100$ : protein source supplies less than the required amount of the most limiting AA*



# Protein Quality



WPI, whey protein isolate; AAA, aromatic amino acids (phenylalanine+tyrosine); WPC, whey protein concentrate; MPC, milk protein concentrate; SAA, sulfur amino acids (methionine+cysteine); SMP, skimmed milk powder; PPC, pea protein concentrate; SPI, soya protein isolate.

Food with Added Benefits

# Positive Nutrition

New ways of  
**03 Delivery**

## Challenges

Immune  
benefits



Taste

Daily  
Cultures  
Digestive  
health



Baking  
stability  
Shelf  
Stability

Solutions with friendly declaration and clean taste,  
possibility of cobranding for better awareness\*



wellmune

Beneficial cultures, bake & shelf stable, possibility of  
cobranding for better awareness \*\*



# Bakery Made Better

## Trends in Fine Bakery

1 in 2 people say they are trying to optimise their health through diet



**Taste** is the No. 1 driver of choice in the baked goods category



70% of consumers say they are trying to eat fresher, more natural, less processed foods



60% of consumers believe there is too much sugar in baked goods



1 in 3 people are willing to pay more for clean label



6 out of 10 consumers say they *always* read the ingredients on food and drink packaging

80% of consumers say they would consume more baked goods if they were better for them



More than half of consumers would like to see **fewer artificial ingredients** in their baked goods



44% consider nutritional information "very important" when purchasing baked goods

58% of consumers say they are trying to reduce the amount of sugar they consume

The top three concerns of baked goods consumers are:

- 1 Sugar Content (60%)
- 2 Fat Content (47%)
- 3 Overly processed products (43%)



40% of consumers say they are willing to pay for baked goods with **better nutrition profiles**

54% of consumers say they are trying to reduce the amount of fat they consume



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Source: Kerry Internal Research 2017 (n = 1198): Ireland, UK, France, Italy, Germany, Netherlands and Russia. Kerry Consumer First@ 2017 (n = 8,500) Poland, Germany, France, Italy and Spain.

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Want to speak to Kerry's team of experts about supporting your next reformulation in bakery?

[Maria.Padurean@kerry.com](mailto:Maria.Padurean@kerry.com)



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# Questions

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