



# The Age of Proteins & Functional Foods

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19/11/2019



Growing the success of Irish food & horticulture

*Bord Bia*  
Irish Food Board

# THE BORD BIA PROTEIN INNOVATION PLAYBOOK - 2018



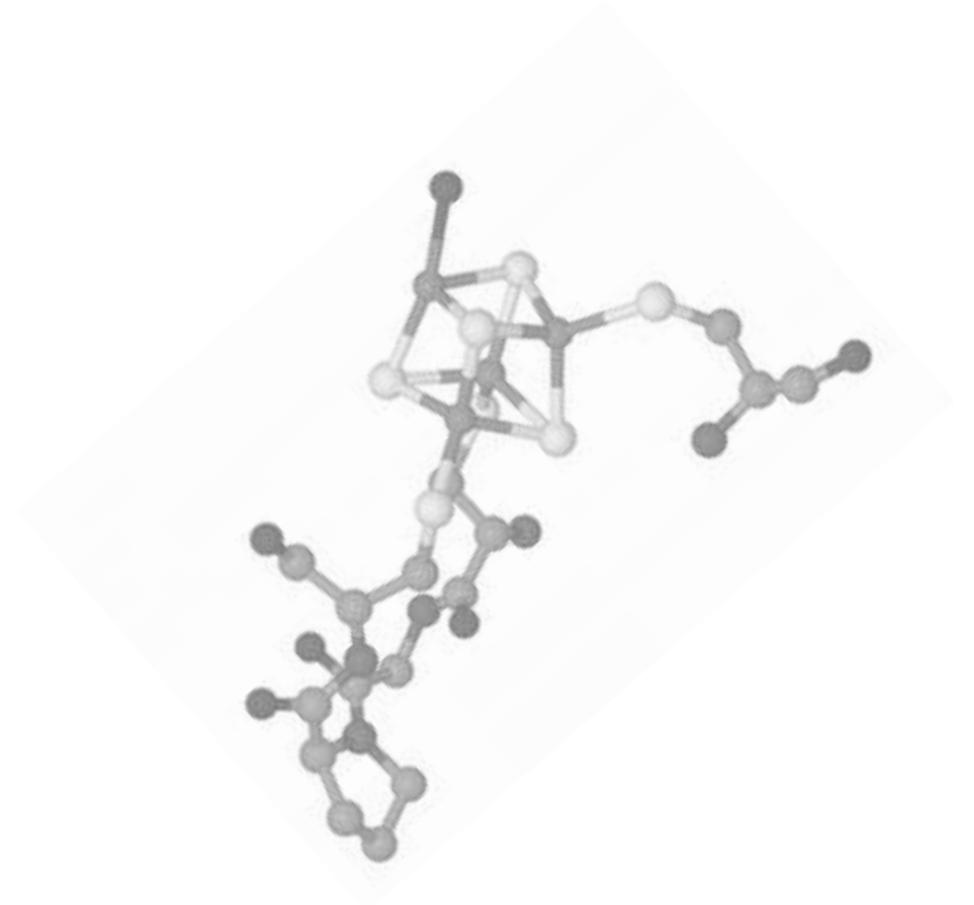
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# Why Protein?



# 498%

Increase in products launched with  
High Protein Claims between 2010  
and 2016 (*Mintel, GNPD, 2017*)



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**47%** of users consider Performance Nutrition products to be part of their “everyday” diet. (Mintel, 2017)

*“Now sports nutrition is muscling its way out of the weights room and into mass market retail”. (PwC, 2017)*



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# 30%

of consumers globally who  
use sports nutrition\*  
do not regularly exercise



*Source: Global Data, 50,000 interviews in 51 countries*



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**Are we reaching  
'peak protein'?**

## Superfood 2.0

We live in the age of miracle powders constantly searching for the most nutrient-dense on the planet, freeze dried and fine milled - marketed to us as magic bullets, full of enzymes, antioxidants, vitamins and minerals.

We want our food to provide tangible benefits, from balancing hormone and blood sugar levels to aiding and preventing chronic conditions such as diabetes, cancer, and dementia. Generic labels won't help anyone.

The Daily Telegraph <sup>1</sup>



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# INNOVATION IN PROTEIN

AS SIMPLE AS....

...AS STRETCHY AS



Fresh Fitness Food offer meticulous personal plans composed by nutritionists, cooked by highly acclaimed chefs and delivered to office.



Create your Own Powder by The Protein Works allows consumers to curate their own blend of protein powder



Arla Hydrolysed Whey Protein produces smaller peptides which are more easily absorbed during digestion.

# INNOVATION IN PROTEIN

***“Protein contains the amino acid tryptophan which is the building block for serotonin production, a brain chemical that promote a feeling of well-being. If you have low levels of serotonin, it can lead to low mood, anxiety and poor sleep”***  
*(Elisa Jones Nutrition)*



## TRYPTOPHAN



- ✓ Increases Serotonin levels
- ✓ Elevates mood
- ✓ Improves quality of sleep



Certificate of Analysis

CUSTOMER RATING



[Add Your Own Review](#)

TASTE



MIXABILITY



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# THE BORD BIA FUNCTIONAL FOOD & BEVERAGE INNOVATION PLAYBOOK - 2019



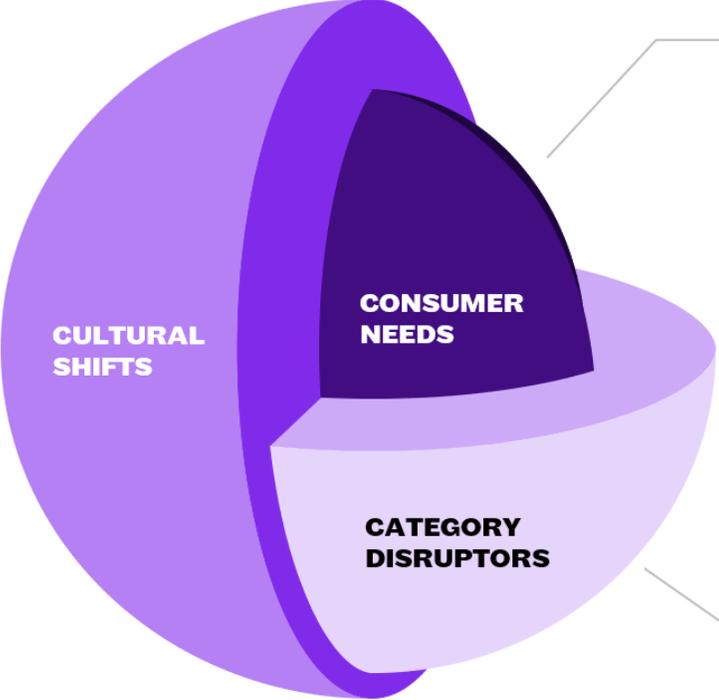
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**SIGNALS** investigates the interplay between culture, brands and consumers to identify early signals of change. It is our approach to understanding evolving consumer needs and identifying future innovation opportunities.

**CULTURAL SHIFTS**

**Significant shifts in culture**

We identify new habits and behaviours emerging among people and culture.



**CONSUMER NEEDS**

**Big human goals & motivations**

Human goals and motivations are the heart of Signals.

**CATEGORY DISRUPTORS**

**Emerging signals: of change**

Emerging innovations, innovators & brands across categories that are helping people to achieve their goals in new and groundbreaking ways:

## Three-phase qual & quant approach.

### 1. Understand

Investigate and understand the evolution of functional food & beverages through secondary research and global expert interviews.

- A. Secondary research
- B. Interviews with global health, wellness and functional food & drink experts

### 2. Define

Interact with global consumers through qualitative & quantitative research to explore innovation platforms.

- A. Consumer hot-house sessions x 6
- B. Innovation Platform testing using predictive market approach with Consensus Point (a prediction market research agency)

### 3. Invent

Deliver high potential functional food & beverage innovation platforms that are rooted in consumer needs and cultural shifts

- A. Bord Bia Functional Food & Beverage Innovation Playbook

**A robust qual and quant approach to explore consumer needs and identify innovation opportunities.**

## Expert interviews

We conducted six interviews with global health, wellness and functional food & drink experts.



**Dr Lina Begdache**  
US

Research focuses on the link between diet and brain function across age brackets and gender. Believes diet could be a first line defence against mental health and cognitive decline



**Dr John Cryan**  
Ireland

Professor & Chair of Anatomy & Neuroscience at UCC. He co-authored the bestselling book “The Psychobiotic Revolution: Mood, Food, and the New Science of the Gut-Brain Connection”.



**Dr Simone Frey**  
UK

Founder of Future Nutrition and Nutrition Hub, a community of 5,000 nutrition experts providing trends on jobs, start-ups and latest food science.



**Dr Simone Peters**  
Australia

Director of the Mind Gut Clinic in Australia. Uses psychotherapy to improve gastroenterital symptoms. Her research supported the inception of the FODMAP diet.



**Dr Drew Ramsey**  
US

Founder of the Brain Food Clinic. He’s a psychiatrist, author, and farmer. He is one of psychiatry’s leading proponents of using nutritional interventions.



**Dr Makoto Shimizu**  
Japan

He has published 208 research works on functional food science and factors – and is on several FoSHU committees.



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Secondary research sources.





HEALTH IS EVOLVING.



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# In the world of health, there are three big movements happening.

From  
**Reactive health**  
to  
**Preventive health**

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People moving from reactively dealing with health issues to a more proactive approach.

Preventing illness rather than responding to it.

From  
**Physical health**  
to  
**Holistic health**

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While physical health has dominated in the past, there is now much greater focus on holistic health.

This involves considering and nourishing all human elements – mind, body and spirit.

From  
**Artificial Health**  
to  
**Natural Health**

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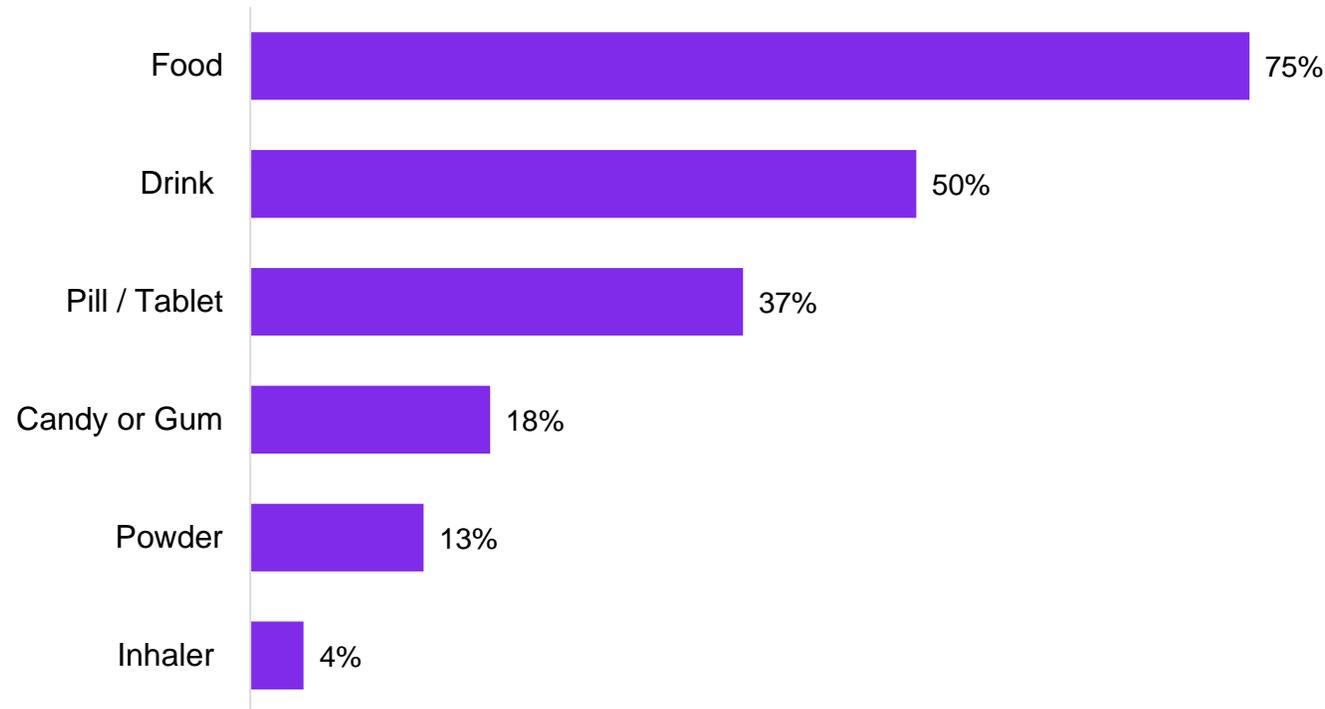
There is a growing desire for more natural forms of health and wellness; away from synthetic, fake, artificial.

Greater understanding that this is accessed through diet, exercise and general lifestyle.



**As a result, consumers increasingly prefer foods or drinks as delivery systems over pills or tablets. This presents an opportunity for the functional market.**

**US: Thinking about health-enhancing ingredients, what would be your preferred consumption format?**



# Functional food & beverage blends science and nature.

Research - clinical trials.  
Effective - proven health benefits.  
Trust - recommended by professional



Familiar – know it  
Pleasure – enjoy it  
Accessible – readily available  
Convenient – existing behaviours.  
Feel good – not taking a pill.

## Functional food & beverage definition.



**Any food or drink with an additional benefit – typically *health promoting, disease preventing or illness managing* – by adding new ingredients and nutrients or more of an existing ingredient and nutrient**



**Health promoting, disease preventing** and **illness managing** are the core benefits of functional food and drink.

With a growing number of health and wellness issues facing modern society, this is an important area moving into the future.



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# FUNCTIONAL FOOD & BEVERAGE INNOVATION PLATFORMS



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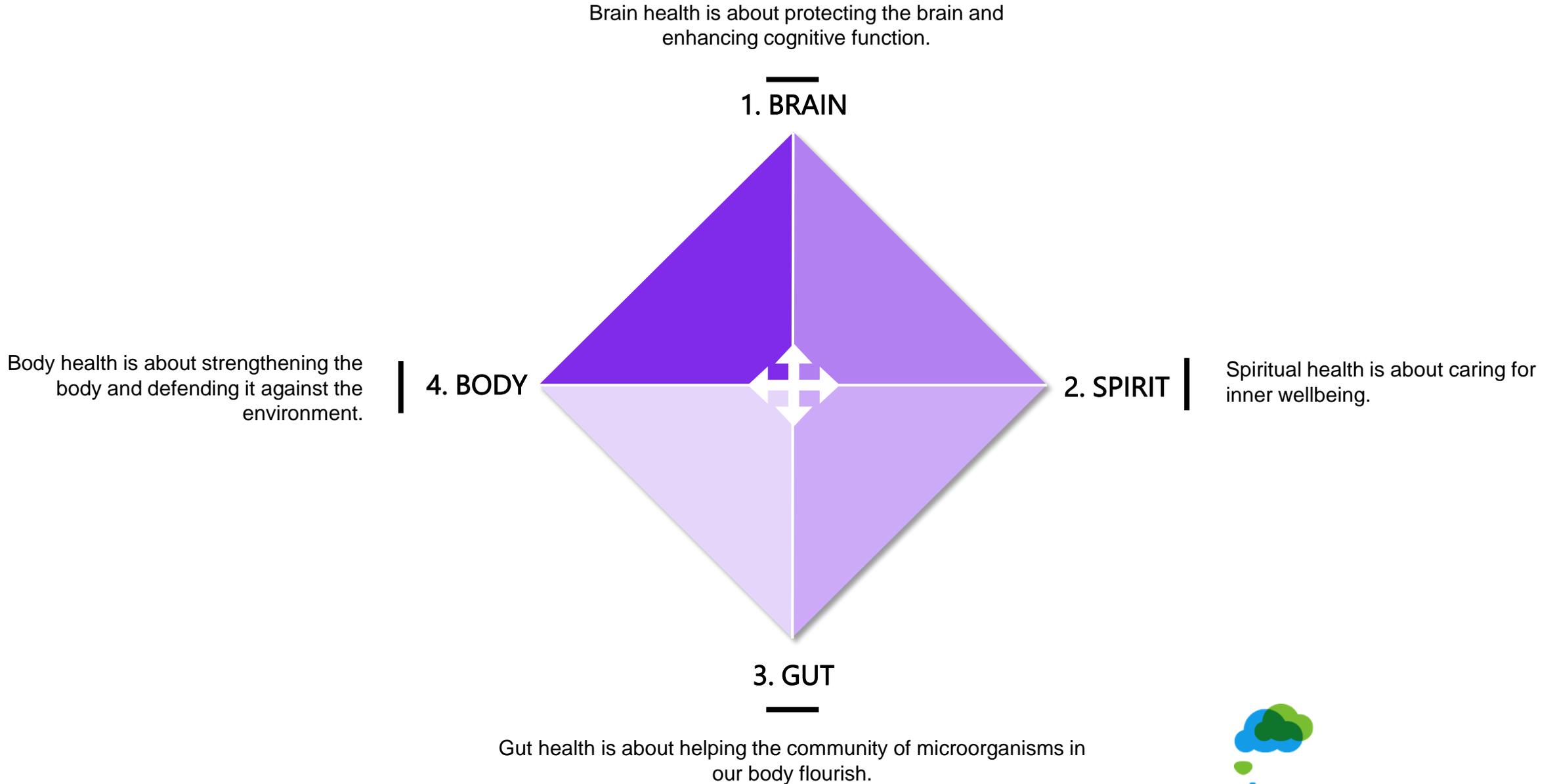
What is an innovation platform?

**An inspiring start-point for purposeful innovation, rooted in rising consumer needs and cultural shifts.**

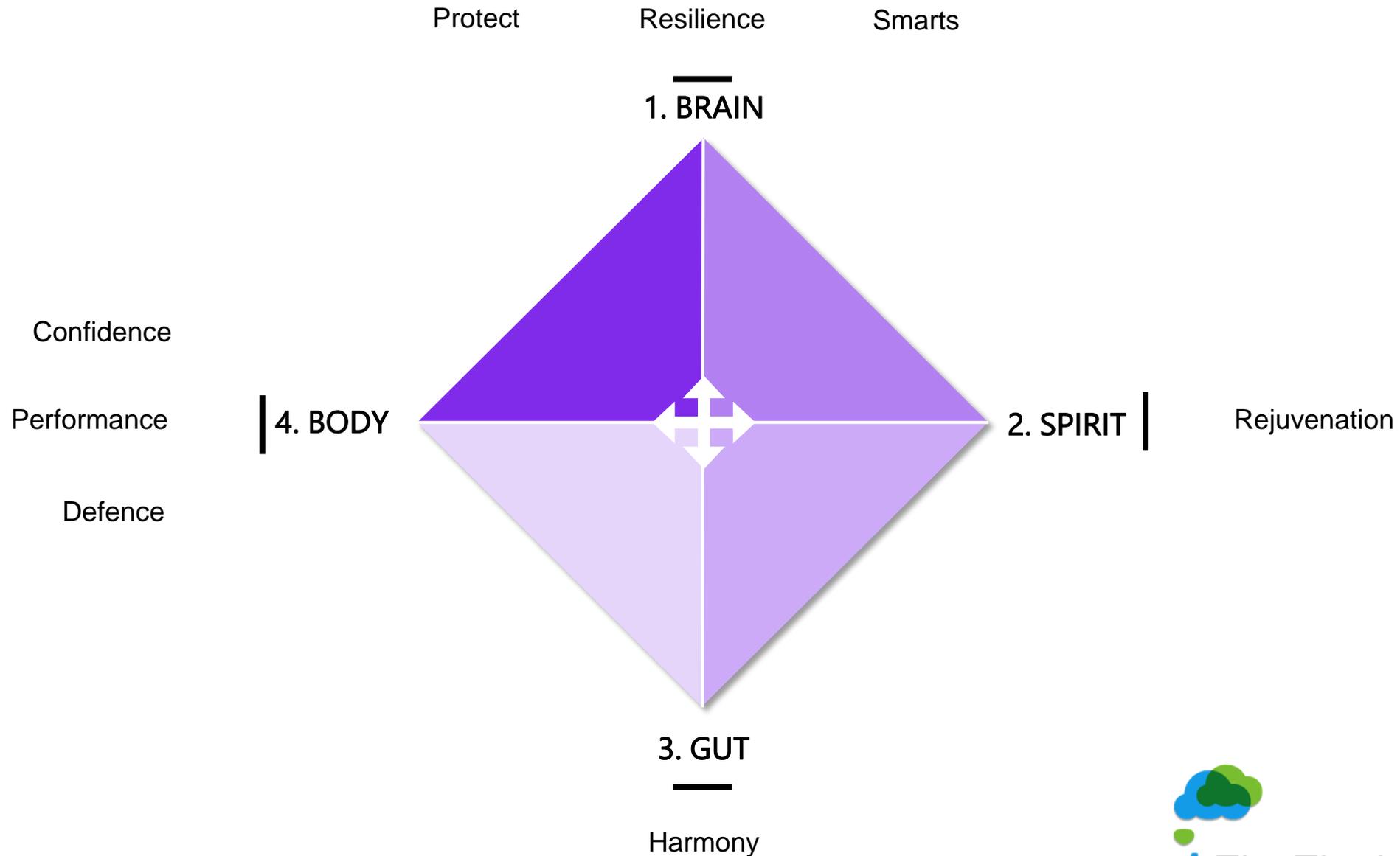


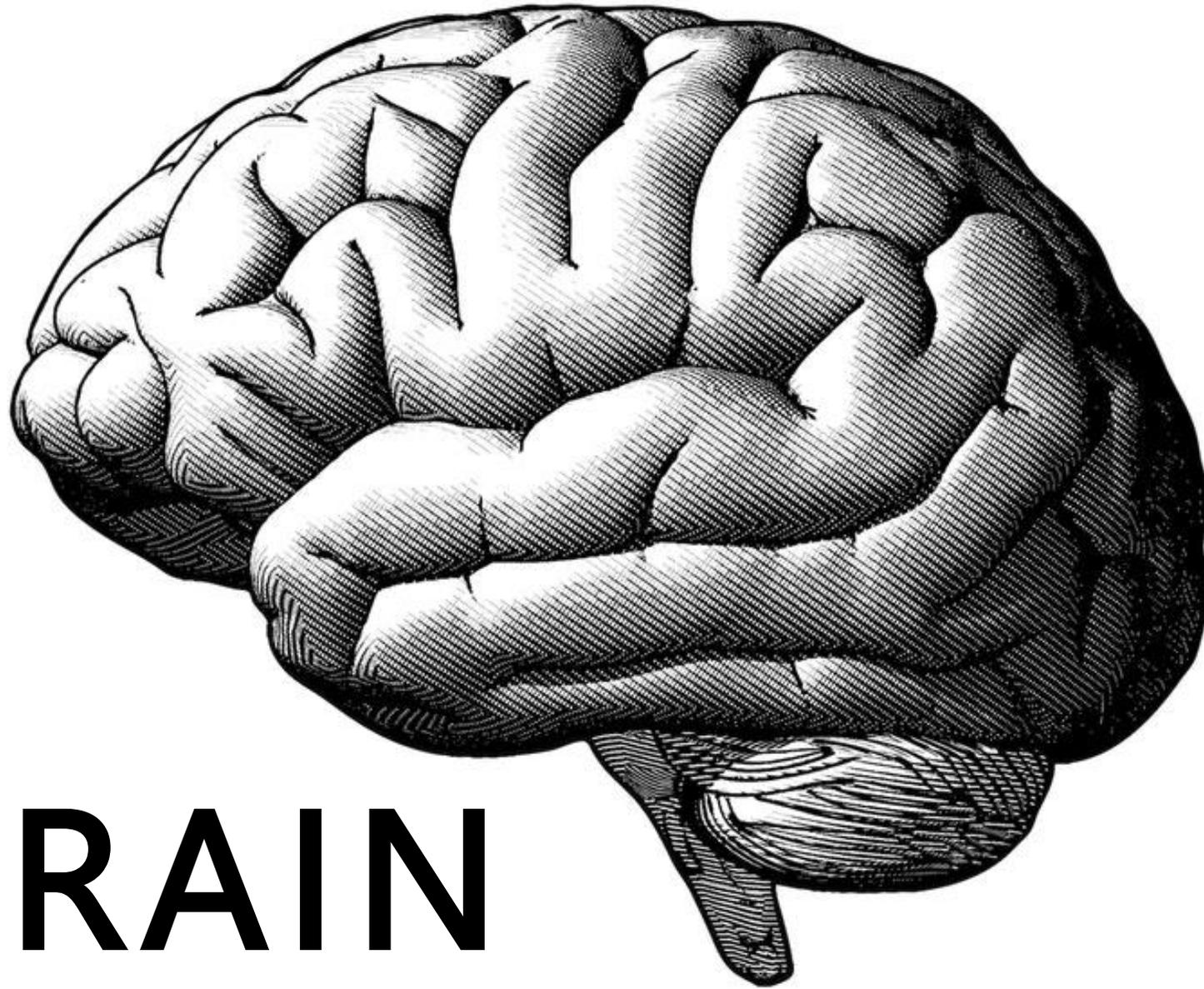
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# We identified four key areas of focus for functional food and beverage innovation.



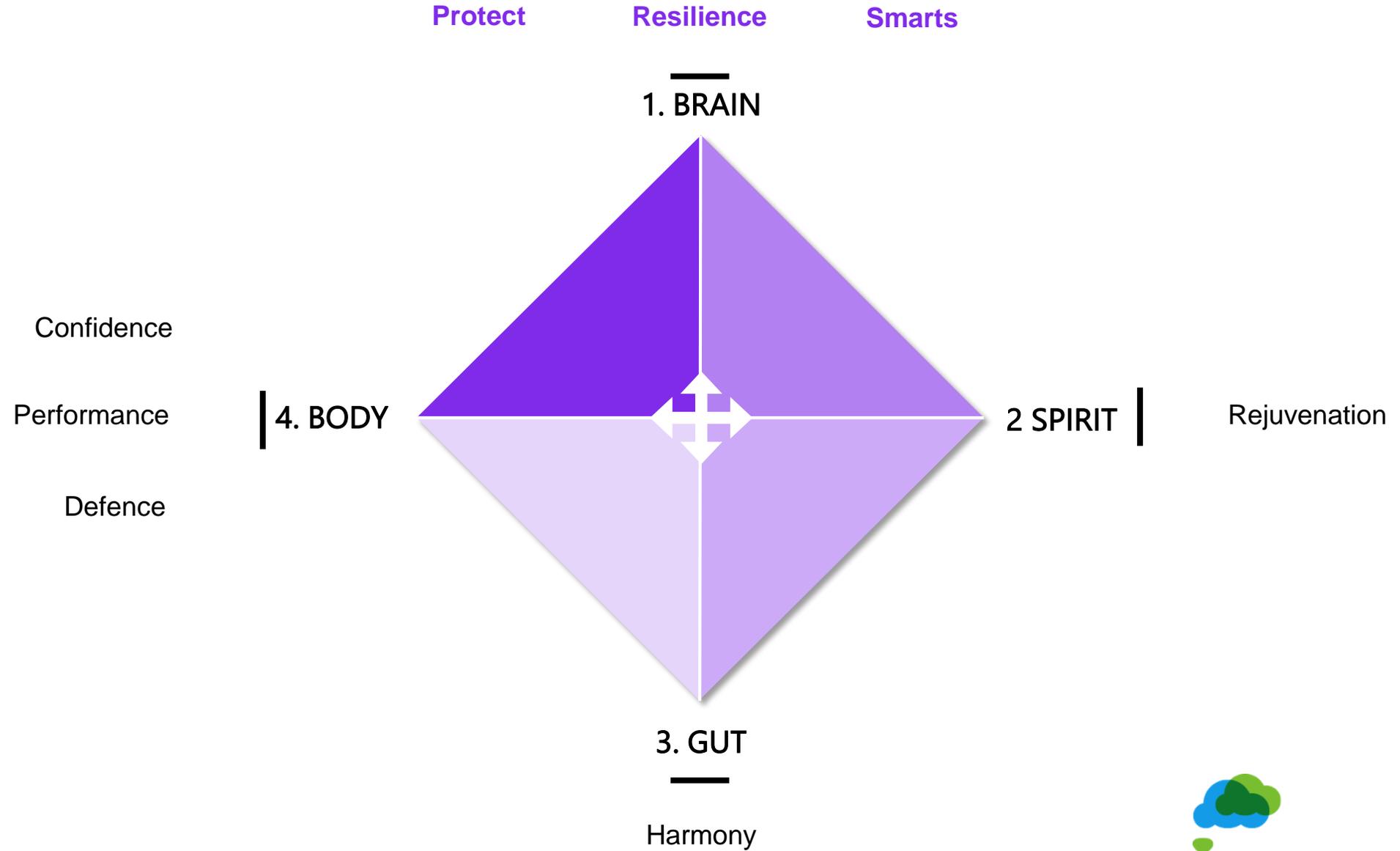
# Eight high potential innovation platforms we can tap into, each rooted in an emerging consumer need.





# 1. BRAIN

# Three innovation platforms in Brain Health.



## Three innovation platforms in Brain Health.

**Brain health  
is about  
protecting the  
brain and  
enhancing  
cognitive  
function.**

1.

### **Protect**

This is about helping protect against cognitive decline.

2.

### **Resilience**

This is about balancing and rebuilding mental health.

3.

### **Smarts**

This is about enhancing cognitive performance.



A large, multi-colored umbrella is the central focus, set against a backdrop of rolling green hills and a field of tall grass. The umbrella's segments are in shades of blue, green, yellow, orange, and red. The word "PROTECT" is written in large, white, sans-serif capital letters across the middle of the umbrella.

PROTECT



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Degenerative  
brain diseases  
are increasing  
globally.

50m

estimated number of  
people affected by  
Alzheimer's or a related  
dementia, which is  
expected to roughly triple  
by 2050 (Alzheimer's  
Society GB)



Degenerative  
brain diseases  
are increasing  
globally.

32

Australians diagnosed  
with Parkinson's  
everyday (Deloitte, 2015)



Signals.

People are actively trying to protect their brain.

**\$5.6bn**

global value of the Alzheimer's Drugs Market by 2024 – an estimated CAGR growth of 8% between 2018-2024 (Zion Market Research, 2018)



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Signals.

People are actively trying to protect their brain.

# Hello Brain App

delivers scientifically designed exercises to 'keep your brain fit and healthy', particularly as you get older.



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## Protect – what's happening?

### Cultural Context

As average life expectancy increases, degenerative brain diseases such as Alzheimer's and Parkinson's are a rising concern.

### Consumer Insight

Protection: people want to safeguard their future.

### Age focus

45+



Alzheimer's is knocking on the door for our age group...My mum is in her early 70's and she has recently taken up bridge because she wanted her brain to be sharp and focused.



**45-50 year old Dublin**



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## Protect – emerging interest areas.



### Cognitive Anti-inflammatory

Plant antioxidants have anti-inflammatory properties which boost blood circulation to improve memory and prevent cognitive decline, with particular interest in

**Cucumin**

**Pycnogenol extract** and

**Grape skin or extract**

**Rutaceae**



### Brain Development

**Folic acid** is vital for brain development and function. Deficiency causes memory loss and nerve damage, such as spina bifida in foetuses or long-term damage to your central nervous system.

**Niacin** is a vitamin B3 which boosts folic acid production to help prevent Alzheimer's.



### Enhance Everyday Cognitive Functions

**DHA Omega-3** prevents memory decline by boosting neural blood flow to improve our 'executive functions' – how we plan, organise and complete tasks.

Several herbs boost chemicals in the brain which help prevent memory loss, particularly **Ginseng** and **Galantamine**.





radicle  
SNACKS™

EAT ME. BE SMART.™

- Gingko Biloba**  
Improved blood flow to the brain
- Lion's Mane**  
Supports cognitive function
- Zinc Picolinate**  
Essential for brain health

# radicle Memory™

nootropic BAR

**60 BLUEBERRIES  
+ MEMORY BLEND**

12 - 1.06 OZ (30G) BARS  
NET WT 12.7 OZ (360G)



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# RESILIENCE



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Modern stress is  
eroding mental  
wellness

Up to 80%  
of all doctor visits are for stress-  
related issues according to the  
Journal of the American Medical  
Association (JAMA Internal  
Medicine, 2013)



# Modern stress is eroding mental wellness

284m

Number of people suffering with anxiety disorder globally, with more women affected than men (Our World In Data, 2017)



People want to  
strengthen  
mental resilience

# Wellness Tourism

travel for the purpose of promoting health & wellbeing through physical, psychological or spiritual activities is worth \$639bn and growing twice as fast as general tourism. China and India are top destinations (Global Wellness Institute, 2018)



People want to  
strengthen  
mental resilience

\$156bn

projected value of the global  
behavioural and mental health  
market by 2028.

Projected to expand by 3.4%  
CAGR over 2018-2028  
(Future Market Insights, 2018)



## Resilience – what’s happening?

### Cultural Context

The pace and pressure of modern lifestyles have increased stress levels and deteriorated people’s mental health. Social media has broadened people’s awareness and conversation around mental health.

As a result, people want things which relieve their stress and improve mental wellbeing.

### Consumer Insight

Resilience: people want to thrive despite the pressures of modern life.

### Age focus

16-45

**jump!**



I want to experience less stress as I’ll feel like I could be a better person emotionally and more productive in life in general.



**25-35 year old USA**



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### Calming CBD

**Cannabidiol (CBD)** is a naturally occurring compound from the cannabis plant – it is non-psychoactive – which is trending across many categories.

It is being used for therapeutic benefits to help with stress levels and general pain-relief.



### Ancient Adaptogens

These are natural herbs that help the body to adapt to stress.

Many have been used in traditional ancient medicinal for centuries.

Particularly interest around **Aryurvedic** (ancient Indian healing) herbs such as **Ashwagandha** and **Holy Basil** as effective stress relievers.



### Serotonin Boost

Modern research has identified several key proteins which help the brain produce serotonin.

Patients with anxiety, bipolar disorder, and depression are encouraged to increase their intake of **SAME**, **5-HTP**, **DHA Omega 3** and **EPA Omega 3**.



pomegranata hibiscus

*Recess*

sparkling water infused with  
hemp extract and adaptogens

calm cool collected

12 FL OZ (355 ML)

peach ginger

*Recess*

sparkling water infused with  
hemp extract and adaptogens

calm cool collected

12 FL OZ (355 ML)

blackberry chai

*Recess*

sparkling water infused with  
hemp extract and adaptogens

calm cool collected

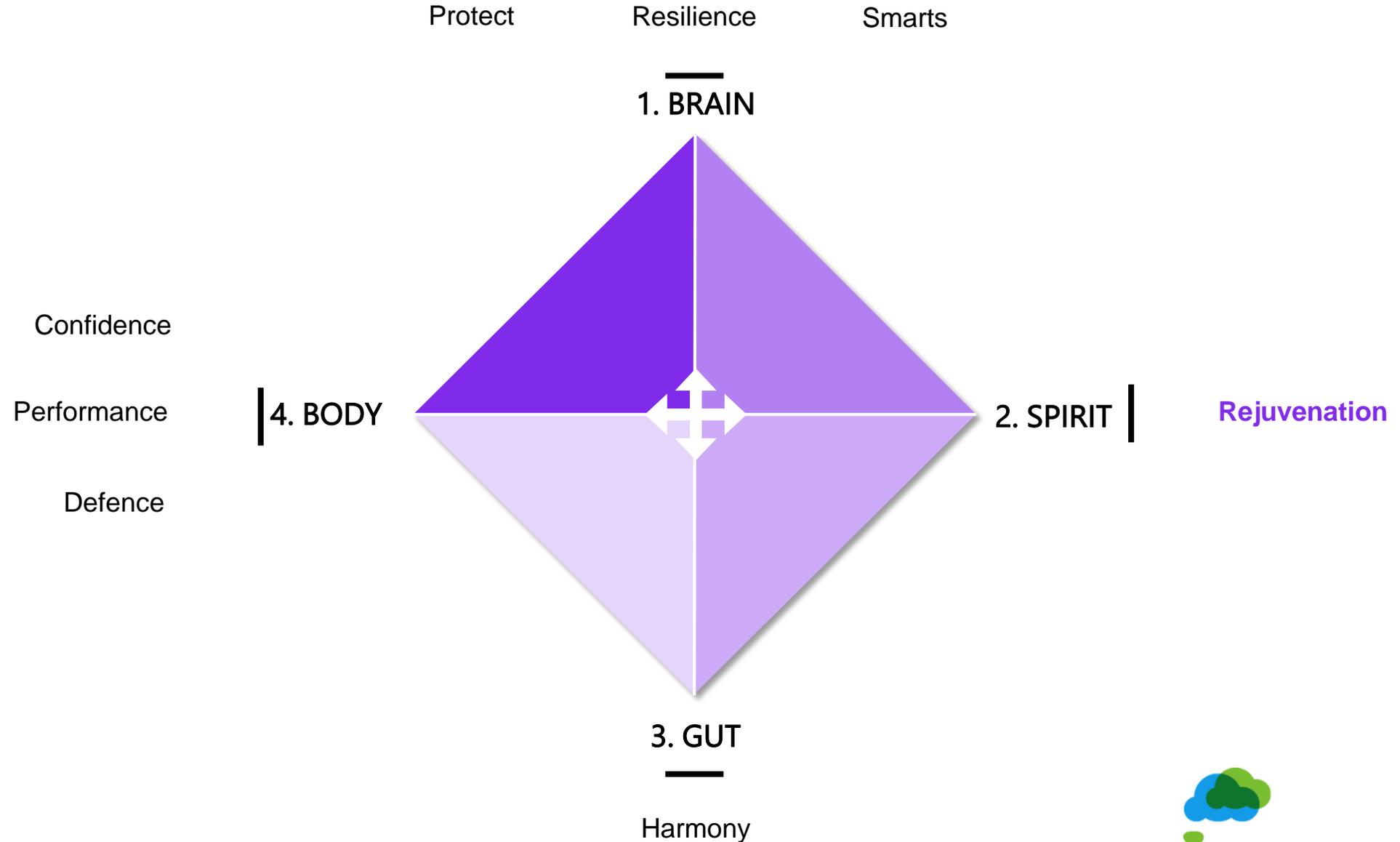
12 FL OZ (355 ML)

# 2.SPIRIT



# One innovation platform in Spirit Health.

**jump!**



**Spirit health  
is about  
caring for  
inner  
wellbeing.**

1.

## **Rejuvenation**

This is about  
helping people  
get better sleep.



jump!

# REJUVENATION



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Lack of sleep is a rising global epidemic.



77%

people in the UK wake up not feeling refreshed (Sealy Sleep Census, 2016)



Lack of sleep is a rising global epidemic.



20%

of adults in China take sleeping tablets (Sealy Sleep Census, 2016)



People are  
seeking  
rejuvenation.

\$30-40bn

the estimated value of the  
'sleep-health' industry -bedding,  
sound, light, temperature, sleeping  
aids. (McKinsey, 2017)



People are  
seeking  
rejuvenation.

50+ million

downloads worldwide of relax app  
Calm with over 100 million listens  
of 'sleep stories' – essentially adult  
bedtime stories  
(Calm, 2019)



## Rejuvenation – what’s happening?

### Cultural Context

Growing ‘always-on’ lifestyle and the infiltration of tech in the bedroom, particularly device ‘blue-light’, is resulting in less hours and poorer quality sleep.

### Consumer Insight

Rejuvenation: people want to feel like new; time and time again

### Age Focus

16+

**jump!**



I am usually just wide awake at night and I feel I don’t get enough sleep. I might get like 4 or 5 hours of decent sleep and then I’d be wide awake at 6 AM again. It can be a struggle.



**20-35 year old Dublin**



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## Bedtime Indulgence

A lot of traditional ‘late-night treats’ (chocolate, ice-cream, cookies) infused with ingredients that promote sleepiness.

Many products being infused with **melatonin**, **CBD**, **magnesium** and **L-theanine** and **glycine**.

## Nature’s Sedatives

Using classic, natural forms of sedation to evoke a deeper sleep state.

**Honey**, **valerian**, **lavender** and **magnolia bark** are well known and being used as part of many sleep-aid products.

## CBN Slumber

**CBN** is the lesser known cannabinoid, but evidence suggests it is a powerful sleeping aid which can help to prolong sleep.

CBN products are still at the oil and supplements stage with research ongoing.

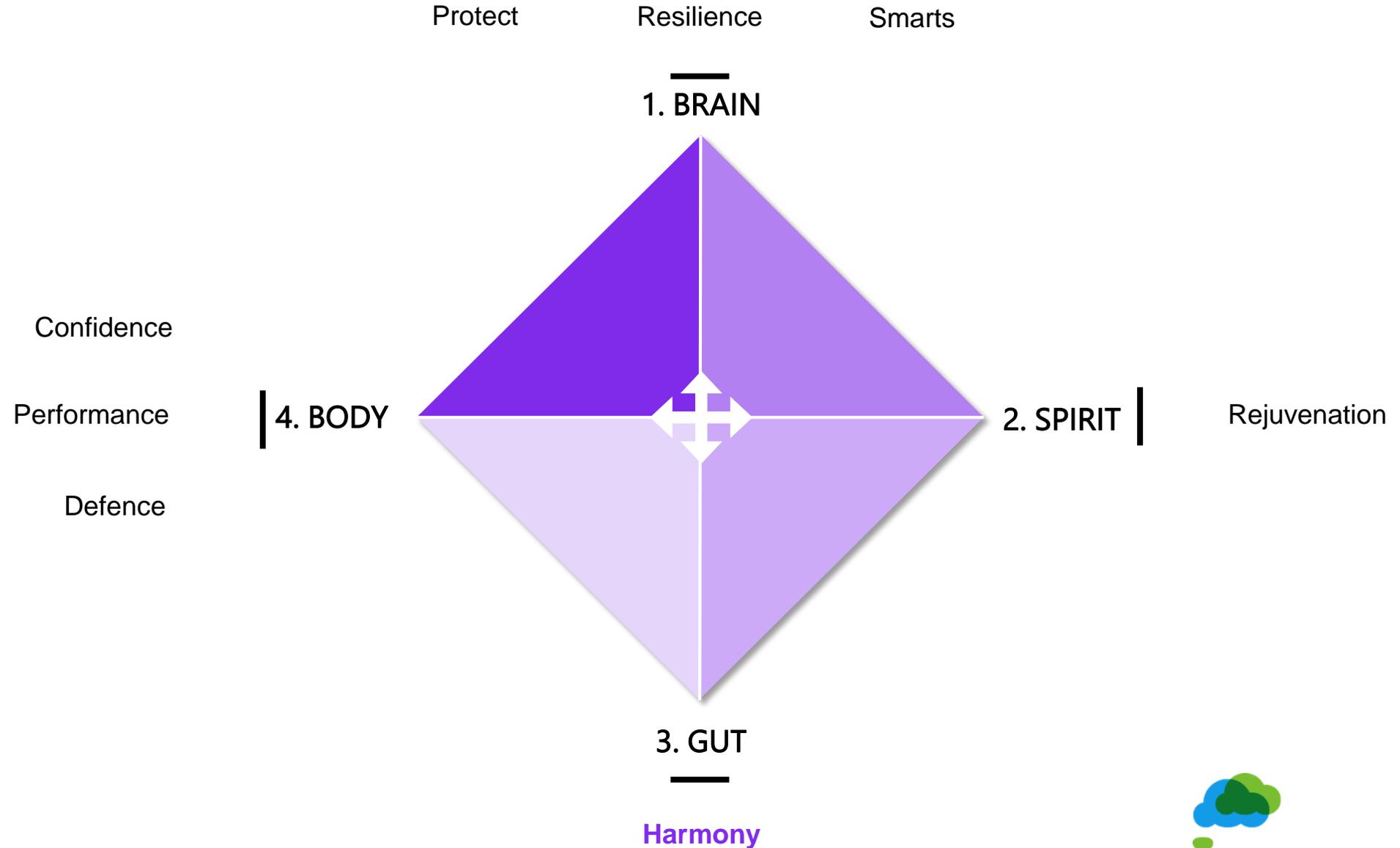




# 3. GUT

# One innovation platform in Gut Health.

**jump!**



**Gut health is  
about helping the  
community of  
microorganisms  
in our body  
flourish.**

1.

## **Harmony**

This is about  
enhancing the  
connection  
between gut and  
brain.



jump!

# HARMONY



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Emerging research suggests a strong connection between the gut and the brain.

90%

of the body's serotonin is estimated to be produced in the digestive tract (HHS, 2015)



Emerging research suggests a strong connection between the gut and the brain.

40%

A Truncal Vagotomy (procedure which removes part of the Vagus nerve, which connects the brain and gut) lowers the risk of Parkinson's by 40% (American Journal of Neurology, 2017)



People are looking for ways to nourish their gut and brain.

## The Second Brain

is becoming a more prominent term in the gut health conversation to describe the way the gut and the brain 'talk to' each other (Scientific America, 2015)



People are looking for ways to nourish their gut and brain.

24%

of British people prefer to manage their mental health with holistic remedies and 35% of those aged 18-34 (Eos Scientific, 2019)



## Harmony– what’s happening?

### Cultural Context

There continues to be a lot of momentum behind ‘Gut health’ generally within wellness culture.

People now understand that physical health and mental health are intrinsically linked.

More scientific research is focussing on the connection between gut and brain health.

### Consumer Insight

Harmony: people want to feel perfectly in sync.

### Age focus

25+

**jump!**



The whole second brain thing is very yogic as well. There is a real yoga connection there and the idea of your energies and everything linked.

**35-50 year old Dublin**



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## Psychobiotics

Term used to refer to live bacteria that have a mental health benefit.

**Butyrate** encourages cellular repair in the brain, potentially leading to better mental health.

**Natural Yogurt, Kumis, Kefir** are thought to be established Psychobiotics due to their bacterial strains.

## Ancient Remedies

**Fermented foods** help kill pathogens linked to gut disease, nourish microbiota which support cell production in the brain.

**Quinine, vinegar, kombucha, fu-tsai, tempeh** and **miso** all traditional fermented foods which strengthen the gut.

## Prebiotics

**Galactooligosaccharide (GOS)** is a prebiotic which supports gut bacteria associated with serotonin. There is evidence that GOS reduces anxiety in a similar way to medication.

Prebiotics generally support our stress related responses to life with **garlic, black peppercorns** and **Jerusalem artichokes** natural sources.





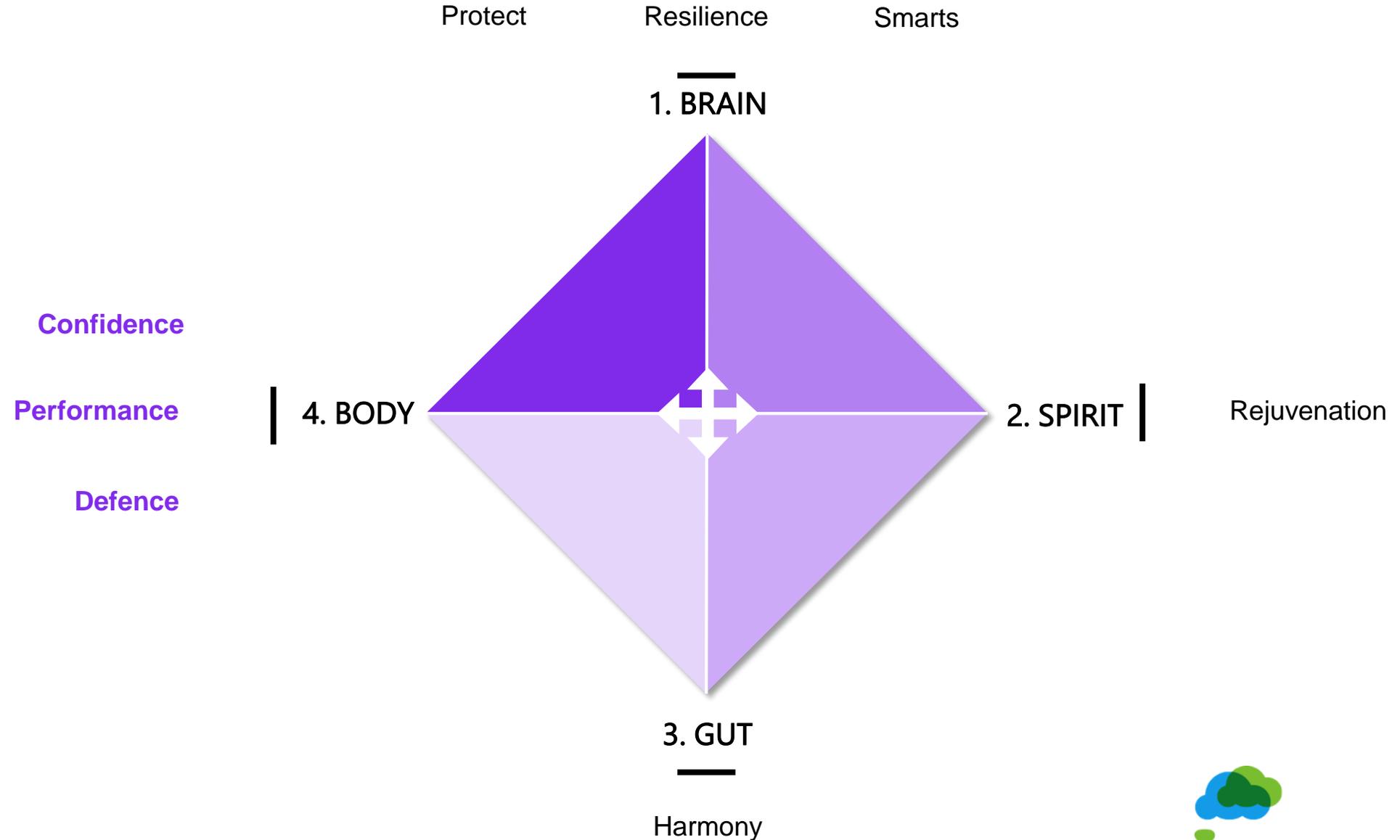


# 4. BODY



# Three innovation platforms in Body Health.

**jump!**



**Body health is about strengthening the body and defending it against the environment.**

1.  
**Confidence**

This is about enhancing beauty.

2.  
**Performance**

This is about bone and joint maintenance.

3.  
**Detoxify**

This is about defending against the negative effects of urbanisation.



jump!

# CONFIDENCE



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In an increasingly comparative culture, beauty is highly prized.

62%

Of UK consumers feel inadequate when they compare themselves to others online  
(Globaldata, 2017)



In an increasingly comparative culture, beauty is highly prized.

33%

of global consumers say that social media has made them more self-conscious about their appearance (Globaldata, 2017)



People want  
to radiate  
confidence.

\$460bn

of global sales in beauty and  
personal care in 2017  
(Euromonitor, 2017)



People want  
to radiate  
confidence.

57%

of Irish people say they would consider having 'enhancement' (botox, fillers, plastic surgery etc.) treatment in the future (Thérapie Clinic Survey, 2018)



## Confidence – what's happening?

### Cultural Context

As social media has exploded, so too has comparative culture.

Faced with unattainable beauty standards, people are left feeling inadequate and so, are constantly searching for ways to enhance their appearance.

### Consumer Insight

Confidence: people want to always present the best version of themselves

### Age focus

18-45

**jump!**

“

It is there already, there are filters on everything. It has been there since the beginning of time it will always be there, it is just more prevalent now with the social media stuff.

”

**35-50 year old, Dublin**



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### Revitalise Collagen

One of the critical building blocks of the tone and production of skin in the body, **collagen** starts naturally declining in women's mid 20s - giving products which restore this huge potential.



### Age-old Secrets

Ancient ingredients from Chinese and Indian medicine are experiencing refreshed popularity for their anti-bacterial, anti-hypersensitive, anti-inflammatory properties.

New evidence is emerging about the use of **Centella Asiatica** as a treatment for stretch marks, while **Schisandra** herbs have been used for the treatment of crows feet.



### Light & Bright

Growing trend towards lighter skin, particularly in some parts of Asia. Mintel reported a 100% increase in the number of products containing the ingredient **glutathione**, a skin lightening ingredient, between 2017-2018.

**Vitamin B12** is also emerging as a hot ingredient for its ability to deliver 'rosy skin'.





BEAUTY CHOCOLATES  
DAILY COLLAGEN BOOST  
FOR GLOWING SKIN IN 2 WEEKS\*

100% PLANT-BASED, NO GLUTEN, MADE WITH LOVE  
NET WT. 2 OZ (56 G) CONTAINS 30 CHOCOLATES

SAKARA  
*Eat Clean Eat White*

BEAUTYFOOD  
BEAUTY CHOCOLATES  
DAILY COLLAGEN BOOST  
FOR GLOWING SKIN IN 2 WEEKS\*

100% PLANT-BASED, NO GLUTEN, MADE WITH LOVE  
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SAKARA  
*Eat Clean Eat White*

BEAUTYFOOD  
BEAUTY CHOC

SAKARA  
*Eat Clean Eat White*

BEAUTYFOOD  
BEAUTY CHOC

SAKARA  
*Eat Clean Eat White*

BEAUTYFOOD  
BEAUTY CHOC  
DAILY COLLAGEN BOOST  
FOR GLOWING SKIN



jump!

# DETOXIFY



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As more people live in cities, we suffer from the negative impacts of urbanisation

91%

of the world population in 2016 lived in areas where the WHO air quality guideline levels were not met (WHO, 2018)



As more people live in cities, we suffer from the negative impacts of urbanisation

1 in 5

In the UK are deficient in Vitamin D and at risk of illness associated with bones, muscles and cardiovascular problems (British Nutrition Foundation)



People are looking  
to defend against  
these rising issues.

\$15bn

estimated worth of the  
global air purifier market  
by 2023 as a result of  
depleting air quality  
(Techsci Research, 2018)



People are looking  
to defend against  
these rising issues.

## Nature

As of 2018, doctors in Scotland have been authorized to prescribe nature to their patients as a treatment to reduce blood pressure, anxiety, and increase happiness (NHS Shetland)



## Detoxify – what's happening?

### Cultural Context

As the number of people living in urban areas continues to rise rapidly, there is an increased awareness of the negative impacts of city living.

People are making a conscious effort to ensure that their body; from their skin to their lungs are protected - looking to skincare, air purifiers and blue-light glasses to defend against these negative effects.

### Consumer Insight

Detoxify: People want to maintain their health, without compromising on their lifestyle.

### Age focus

18-55

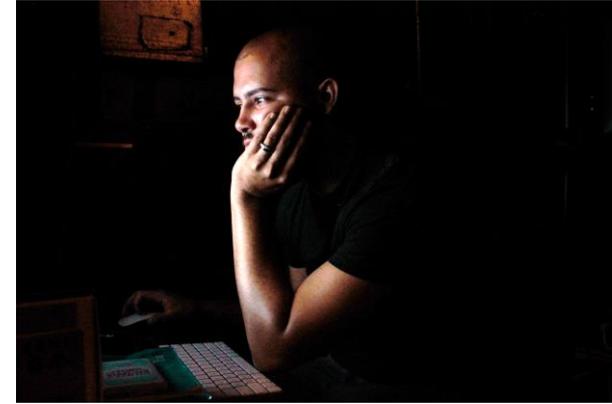
**jump!**

“

Well, people are investing in air purifiers, people have allergies and like asthma and stuff, people have now got monitors in their houses and they can tell you when there's certain levels that are high in your local environment, so that definitely already is a thing.

”

**20-35 year old, Dublin**



## Spotlight on Eye Health

The digital era has put eye-health in the spotlight as people are spending an increasing amount of time per day on screens.

Functional beverages enriched with **lutein** and **zeaxanthin** and targeted at eye health have begun to gain traction in Asia.

## Proving Anti-Pollution Claims

As concerns around pollution grow people will become increasingly concerned with identifying and evidencing claims for anti pollution ingredients.

Early research has suggested that **boysenberries** and **broccoli sprouts** will become two such ingredients.

## Let the Light In

Increasingly high-pressured demanding office-based jobs means people today are spending less time outdoors. The effect of this is a deficiency in **vitamin D**.

Products which can restore this Vitamin D, in a convenient way for the time pressed worker present huge



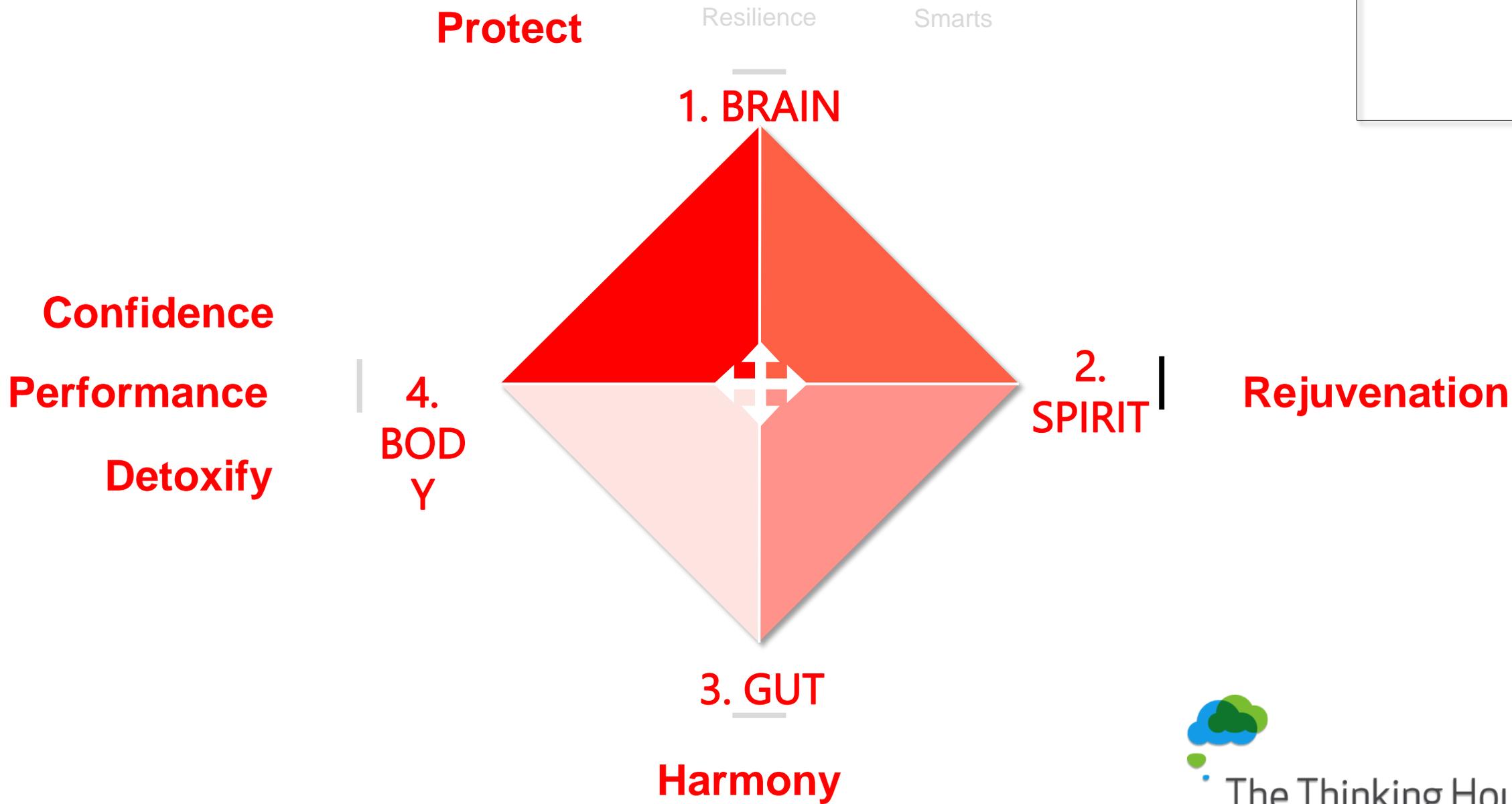


**Also Available:**

**The Bord Bia Adult Nutrition Playbook**



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Thank You.



Growing the success of Irish food & horticulture

