

Free radicals
Oxidative stress
Antioxidants
Supplementation



Some **external** factors can negatively impact our health ...

and we cannot always control them.

Like **pollution** in the water and air, smoke,...

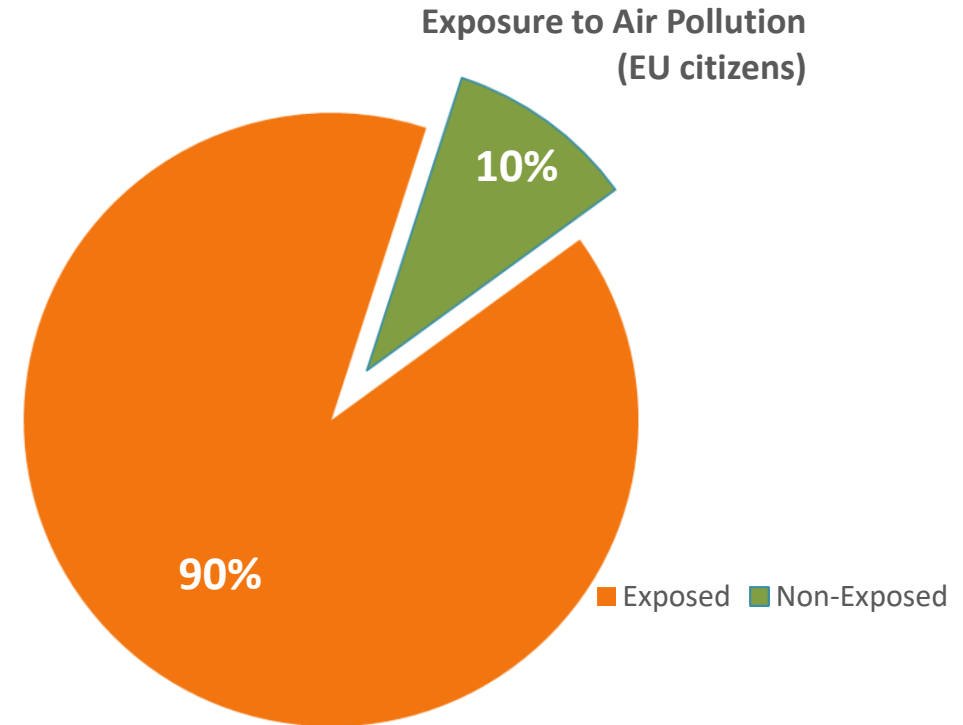


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EXAMPLE 1

Around **90%*** of European Union (EU) citizens are **exposed to air pollutants** from industry, vehicles ... at levels considered harmful to health by the World Health Organisation (WHO).



*<http://www.eea.europa.eu/media/newsreleases/air-pollution-still-causing-harm>



Correlation between exposure to
free radicals
and **oxidative stress**

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Oxidative Stress

HOW DOES IT OCCUR?



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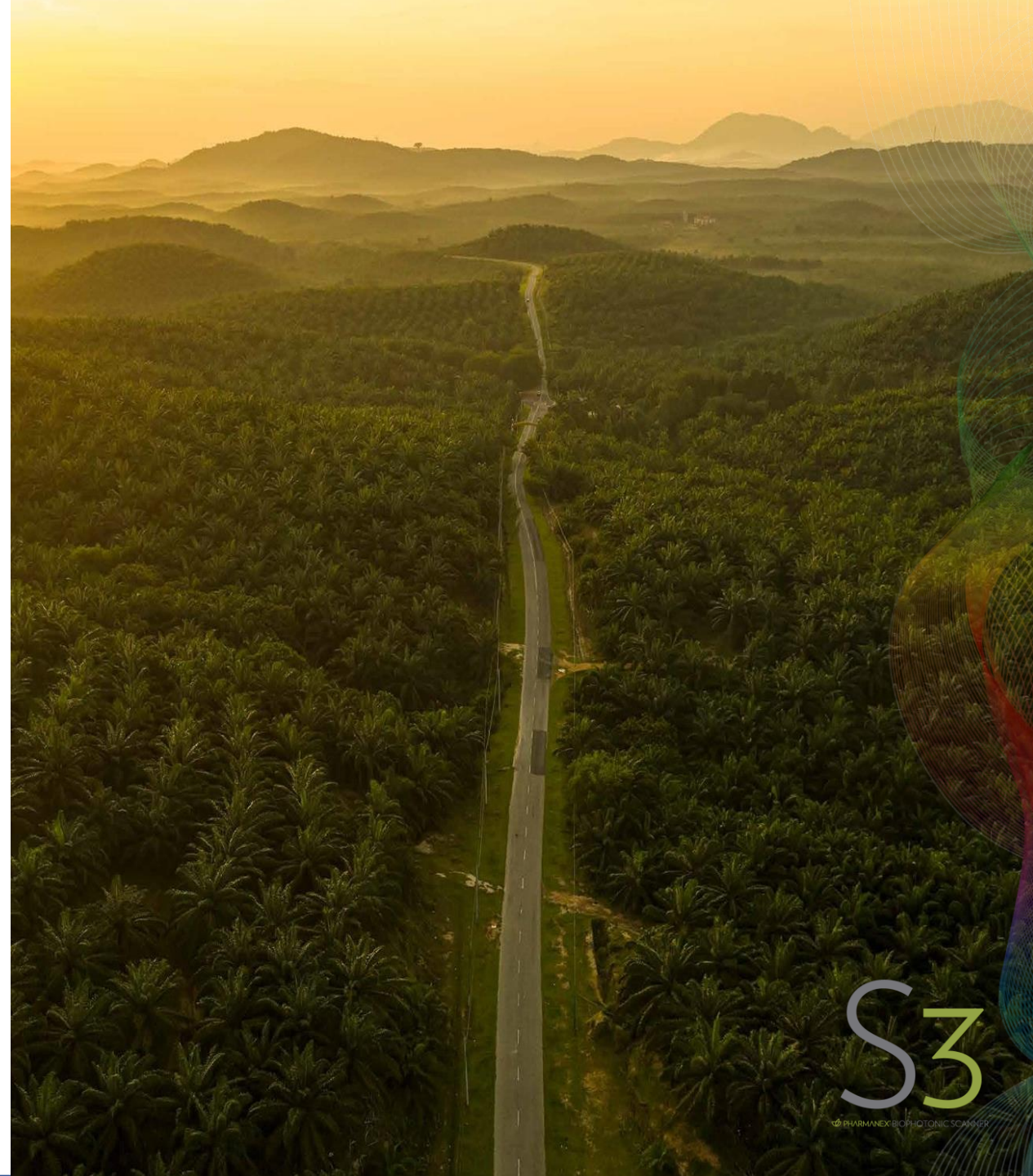
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In our body we can find free radicals

- Generated by our body during specific metabolic reactions
- Generated by environmental factors:

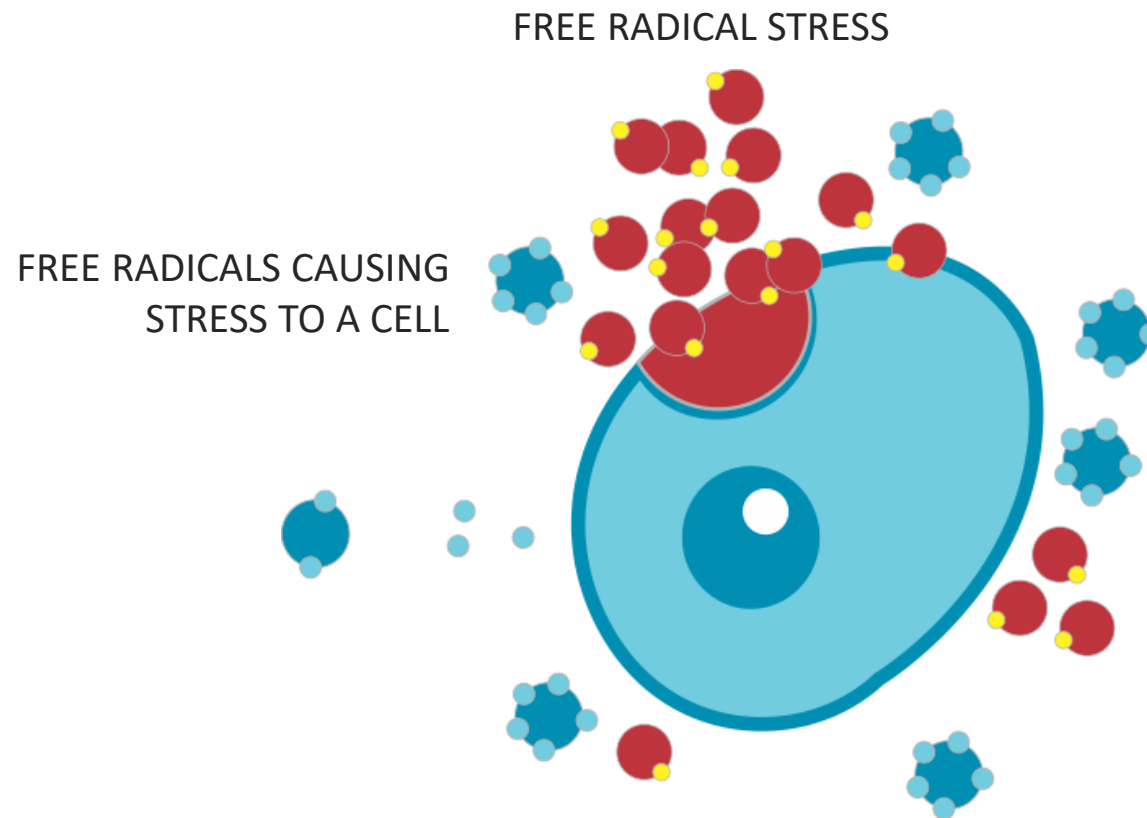


Free radicals are molecules that **become unstable** after losing an electron. To re-gain stability, the molecule react quickly with other compounds and try to capture the needed electron. The attacked molecule loses its electron becoming a free radical itself and will pull an electron off of a neighboring molecule starting a **chain reaction**.



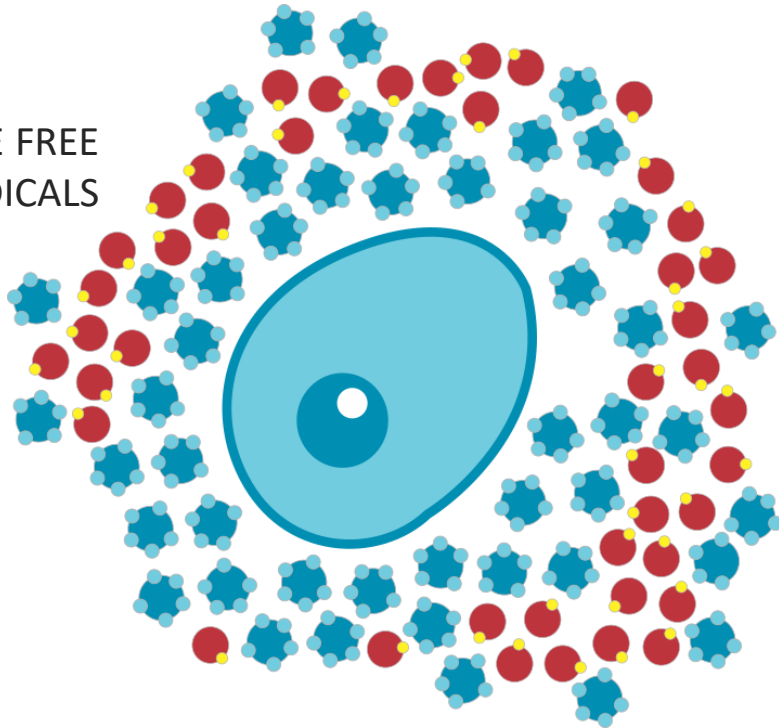
This **chain reaction** is also known as *oxidative stress*

- oxidation of tissue - causing stress to relevant molecules such as DNA, proteins and lipids.



ANTIOXIDANT PROTECTION

ANTIOXIDANT SCAVENGE FREE
RADICALS




There are substances called

antioxidants,

which our body can use to neutralise free radicals and thus terminate the chain reaction.

Antioxidants, such as vitamin C and E, interact with the oxidation cascade and **contribute to the protection of cells from oxidative stress.**



The importance of having a nutritional basis containing antioxidants

Antioxidant market

Globally it is expected to increase at a fast pace in the years to come

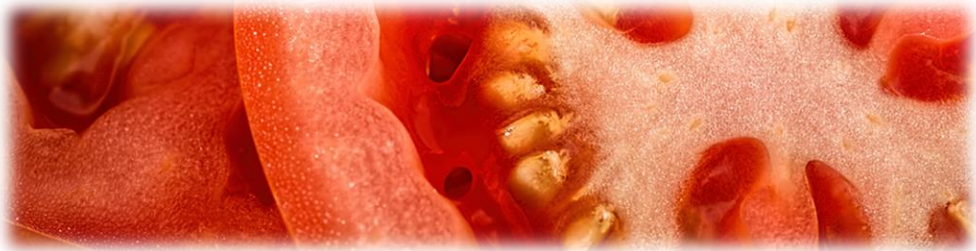
Growing consumer consciousness of the antioxidants benefits

Demand for antioxidants remained strong during economic crisis



Antioxidants

can be found in
fruits and vegetables



Fruits and vegetables...

- ✓ Vitamins, minerals, phytonutrients, carotenoids, fibres,...
- ✓ They are low in calories
- ✓ A convenient healthy snack



It all starts with a balanced diet:

A HEALTHY DIET HELPS ENSURE THAT ALL **NUTRIENT RECOMMENDATIONS** ARE MET.

Did you know?

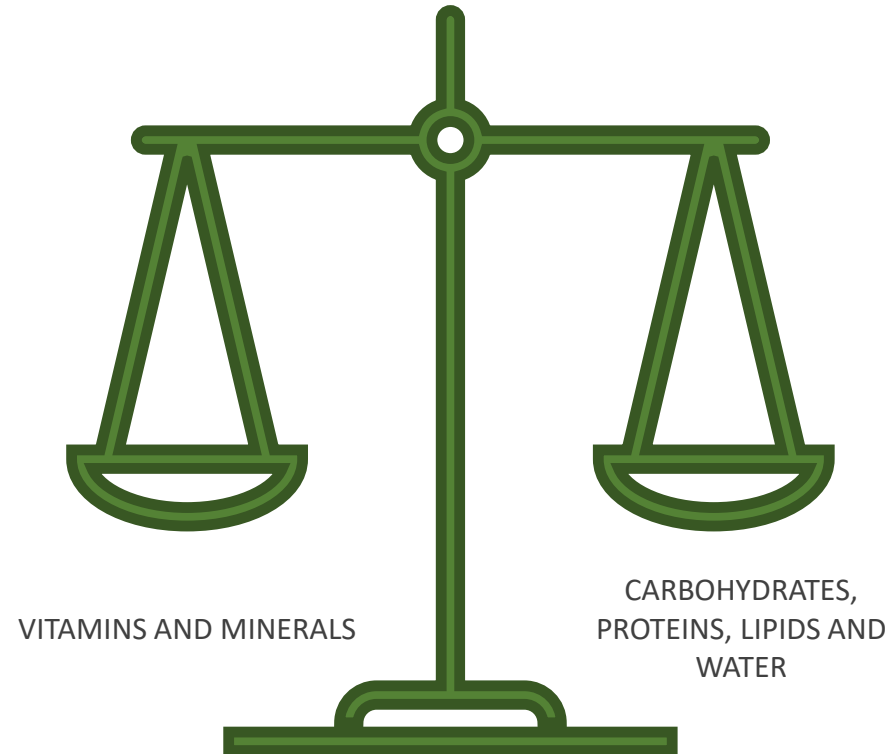
*The **Reference Intake (RI)*** is the daily dietary intake level of a nutrient considered sufficient to meet the requirements of 97.5% of healthy individuals in each life-stage and sex group.*

* European Commission – Health and Consumer Protection

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A **healthy diet** consists of a good balance between **macronutrients** and **micronutrients**



Why are micronutrients so important?

- ✓ 'Micro' or small, meaning nutrients we need in small amounts.
- ✓ Vitamins such as vitamin B1, B2, B3, B5, B6, B8 and B12 contribute to normal energy-yielding metabolism.
- ✓ Minerals such as zinc, magnesium and calcium contribute to the maintenance of normal bones.
- ✓ 'Macro' or large, meaning nutrients we need in large amounts.
- ✓ Fat, carbohydrates, proteins
- ✓ -> Provide us with energy or calories.



Theory vs reality



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A report requested by the World Health Organisation (WHO) links adequate *intake of fruits and vegetables* to *health**.

THEORY

VS

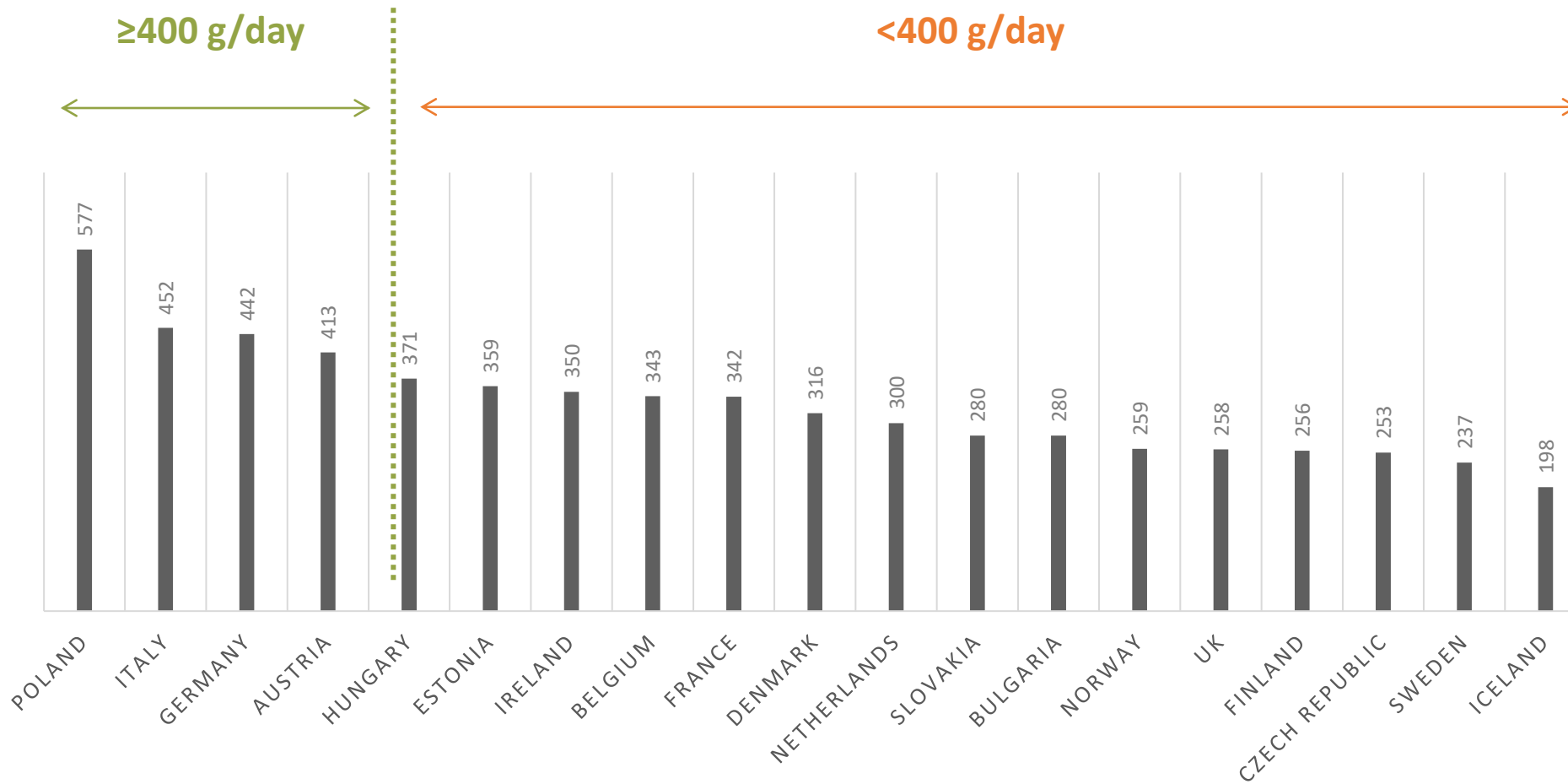
REALITY

WHO recommends we consume **≥400 grams of fruits or vegetables per day**.
This equals 4 to 5 pieces of fruits or vegetables per day.

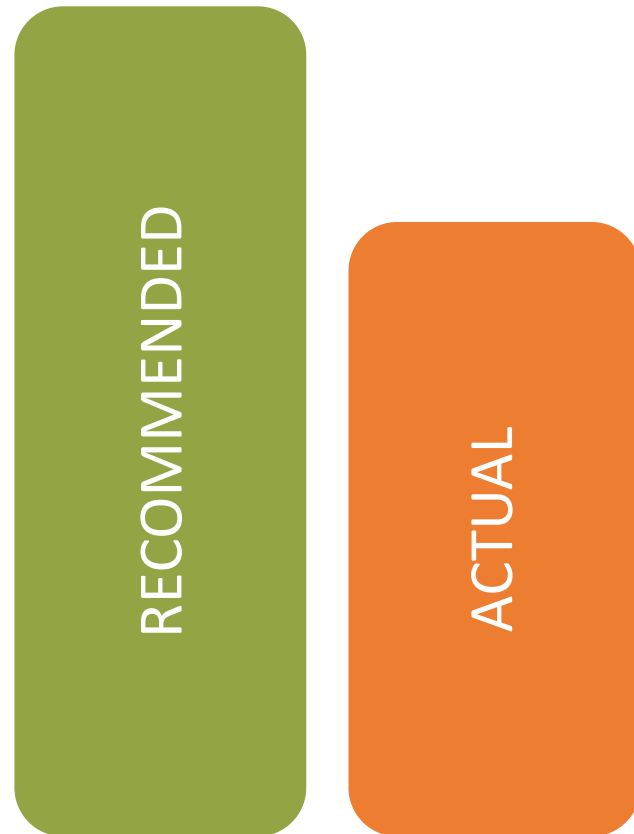
With our busy lifestyles, the consumption is lower.

*<http://www.who.int/dietphysicalactivity/fruit/en/index2.html>

Mean fruit & vegetable intake in European countries (grams/day)



4 to 5 pieces fruits or vegetables per day –
or **400 grams of fruits or vegetables** per day



In more than ½ of
the EU countries, consumption
is
< 400 grams

In 1/3 of the countries,
the consumption is
< 300 grams/day



Why?

LACK OF TIME AND CONTROL

- ✓ Irregular working hours
- ✓ Busy lifestyle
- ✓ Convenience factors:
Availability of shops and simplicity
of preparation and cooking

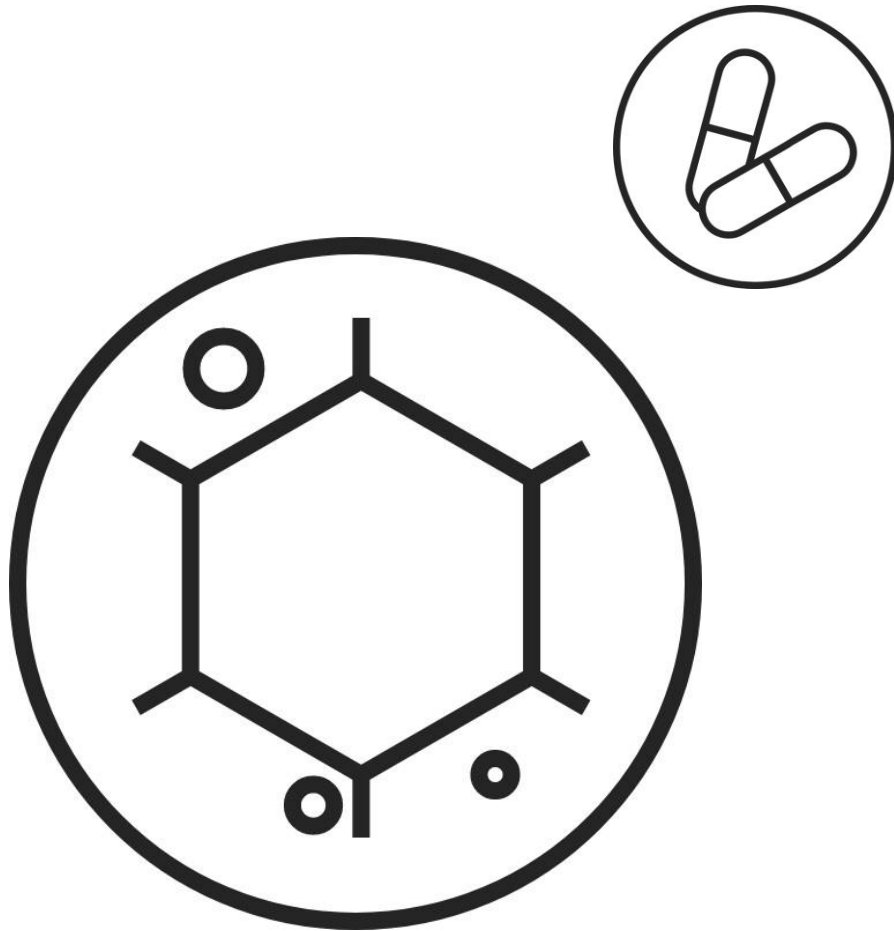


Why?

BELIEF

- ✓ The vast majority of EU citizens **consider what they eat is good for their health**
- ✓ The **majority of them does not meet the WHO recommendations**

<http://www.eufic.org/article/en/expid/Fruit-vegetable-consumption-Europe>



Why?

OTHER REASONS

Bioavailability of Nutrients

Some human body conditions can inhibit absorption of some nutrients

Food Storage and Preparation Methods

Some cooking methods cause vitamin loss

Changing Nutritional Requirements

Due to stress, fatigue,...

Intensive Farming Practices

Can lower nutritional value



SUPPLEMENTATION

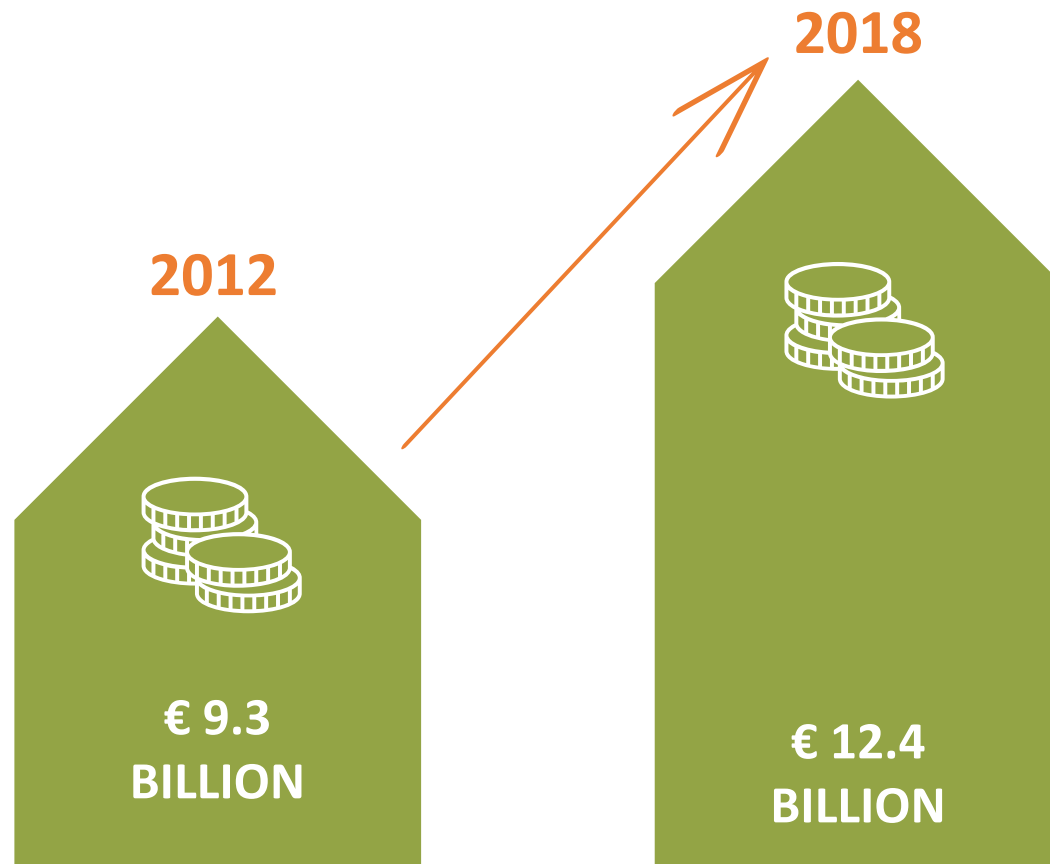
a help to have a healthy nutritional basis



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The vitamin and dietary supplement market





TARGET AUDIENCE WOMEN

- ✓ Consume larger amounts of fruits and vegetables than men
- ✓ Handle health-related issues
- ✓ Are more likely to shop and prepare food
- ✓ Positive influence on their partner's intake frequency, amounts and variety of the fruit and vegetables eaten



The positive influence of direct interaction

- ✓ In **fruit and vegetable interventions** for adults, the strategies with the greatest impact on intake have included some kind of **face-to-face counselling**
- ✓ Establish **supportive structures** will sustain efforts in the long run



THE PHARMANEX SOLUTION



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LifePak+

- ✓ A blend of well known phytonutrients, vitamins and minerals
- ✓ Rich in vitamin C
- ✓ Contains biotin, copper and calcium
- ✓ Targets 9 key physiological functions of your body



Jvi[®] – Joie de Vivre

- ✓ A **beverage** made of:
 - nine commonly consumed European fruits & vegetables
 - three unique imperial fruits
- ✓ Rich in **vitamin C** which contributes to the protection of cells from oxidative stress

