Research & Innovation for food and nutrition security

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1. FNS - Framing problems & opportunities
2. FOOD 2030 – what is it?
3. Horizon Europe
A "Perfect Storm"

9 billion to feed by 2050

60% more food demand by 2050

Uses 70% H2O

PRODUCING FOOD

Uses 30% Energy

Delivers 25% GHG

2 billion Overweight & Obese

795 million under-weight

Yet 33% food wasted

Zero Hunger (SDG)

↓ Food waste by 50% (SDG)

↓ CO₂ by 1.5-2°C (COP21)

2030 GOALS

Research and Innovation
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Need for a systemic approach to future-proofing food systems by structuring, connecting and scaling-up R&I

To provide evidence for policies and solutions (knowledge, methods, technologies, services, business models, etc) addressing 4 priorities.
<table>
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<tr>
<th><strong>Nutrition</strong></th>
<th>** Circularity**</th>
<th><strong>Climate</strong></th>
<th><strong>Innovation</strong></th>
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<td>50% reduction of global hunger by 2050</td>
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- **Nutrition**
  - 50% reduction of global hunger by 2050
  - Alternatives Proteins
  - Personalised Nutrition
  - Fighting obesity with proper pre- and post-natal nutrition

- **Circularity**
  - 50% reduction of food waste by 2050
  - Fighting Food Waste
  - Sustainable Use of Land

- **Climate**
  - 50% reduction of GHG by 2050
  - Bio-fertilisers for Plants
  - Farmers as Natural Resource Managers
  - Microbiome for Climate Change Adaptation in Agriculture

- **Innovation**
  - Increase in jobs and growth
  - Printing healthy meals for elderly patients
  - Urban farming
FOOD SYSTEMS MICROBIOME
Exploiting its huge potential to benefit citizens

Microbiome - a community of microorganisms (eg bacteria, fungi, viruses) and their genomes that inhabit a particular environment (eg body, plant, soil, water).

Improving our knowledge of the microbiome to boost food and nutrition security.

There is a gap in our knowledge which needs to be addressed in order to achieve sustainable and resilient food systems.

To this end...

The EU is investing more than €100 million from Horizon 2020

TO ADDRESS MICROBIOME RESEARCH AND INNOVATION (R&I) AIMING AT:
- Safer, healthier & more nutritious food products
- Better human health
- Cleaner environment
- New opportunities for economic growth and job creation

This investment is in addition to EU countries' R&I efforts, and other EU initiatives.
IBF - International Bioeconomy Forum

officially launched on 30 November 2017 - Brussels

**Members:** Canada; USA; Argentina; South Africa; India; China; New Zealand

**Observers:** Australia; South Korea

**Working Groups:**
- Microbiome WG - Chaired by European Commission
- ICT in Food Systems WG - Chaired by New Zealand
- Plant Health WG - Chaired by Canada and the USA
- Forestry WG - Chaired by Canada and Argentina

**Events:**
- IBF WGs next meetings - Ottawa (Canada) - 27-30 November 2018
- IBF Plenary - Canada - May 2019
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Horizon Europe: evolution not revolution

Specific objectives of the Programme

- Support the creation and diffusion of high-quality knowledge
- Strengthen the impact of R&I in supporting EU policies
- Foster all forms of innovation and strengthen market deployment

Optimise the Programme’s delivery for impact in a strengthened ERA

**Pillar 1**
Open Science
- European Research Council
- Marie Skłodowska-Curie Actions
- Research Infrastructures

**Pillar 2**
Global Challenges and Industrial Competitiveness
- Clusters
  - Health
  - Inclusive and Secure Society
  - Digital and Industry
  - Climate, Energy and Mobility
  - Food and natural resources
- Joint Research Centre

**Pillar 3**
Open Innovation
- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

**Strengthening the European Research Area**
- Sharing excellence
- Reforming and Enhancing the European R&I system
### Global Challenges & Industrial Competitiveness:

boosting key technologies and solutions underpinning EU policies & Sustainable Development Goals

<table>
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<th>Clusters</th>
<th>Budget (€ billion)</th>
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<tr>
<td>Health implemented through usual calls, <strong>missions &amp; partnerships</strong></td>
<td>€ 7.7</td>
</tr>
<tr>
<td>Inclusive and Secure Societies</td>
<td>€ 2.8</td>
</tr>
<tr>
<td>Digital and Industry</td>
<td>€ 15</td>
</tr>
<tr>
<td>Climate, Energy and Mobility</td>
<td>€ 15</td>
</tr>
<tr>
<td>Food and Natural Resources</td>
<td>€ 10</td>
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<tr>
<td><strong>Joint Research Centre</strong></td>
<td><strong>€ 2.2</strong></td>
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**Joint Research Centre** supports European policies with independent scientific evidence & technical support throughout the policy cycle.
Thank you!

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Twitter: #FOOD2030EU