陽明交大雷射系統研究中心

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Introduction of Horizon Europe – Draft Work Programme 2023-2024

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The structure of Horizon Europe Framework 2021-2027

PILLAR 1 — Excellent Science

1
a) European Research Council
b) Marie Skłodowska-Curie Actions
c) Research Infrastructures

PILLAR 2 — Global Challenges and European Industrial Competitiveness

2
a) Clusters:
- Health
- Culture, Creativity & Inclusive Society
- Civil Security for Society
- Digital, Industry and Space
- Climate, Energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Environment

b) Joint Research Centre

PILLAR 3 — Innovative Europe

3
a) European Innovation Council
b) European Innovation Ecosystems
c) European Institute of Innovation and Technology

Widening Participation and Strengthening the European Research Area

a) Widening Participation and Spreading Excellence
b) Reforming and Enhancing the European R&I System

PILLAR II — Global challenges & European industrial competitiveness

Cluster 1: Health	Cluster 4: Digital, industry and space	Cluster 5: Climate, energy and mobility	Cluster 6: Food, bioeconomy, natural resources, agriculture and environment
Innovative Health Initiative	Key Digital Technologies	Clean Hydrogen	Circular Bio-based Europe
Global Health EDCTP3	Smart Networks and Services	Clean Aviation	Biodiversa+
Transformation of Health Care Systems	High Performance Computing	Single European Sky ATM Research 3	Blue Economy
Risk Assessment of Chemicals	European Metrology (Art. 185)	Europe's Rail	Water4All
ERA for Health	AI-Data-Robotics	Connected, Cooperative and Automated Mobility	Animal Health and Welfare
Rare Diseases	Photonics	Batteries	Accelerating Farming Systems Transitions
One-Health Antimicrobial Resistance	Made in Europe	Zero-emission Waterborne Transport	Agriculture of data
Personalised Medicine	Clean Steel – Low-Carbon Steelmaking	Zero-emission Road Transport	Safe and Sustainable Food Systems
Pandemic Preparedness	Processes4Planet	Built4People	
	Globally Competitive Space Systems	Clean Energy Transition	
		Driving Urban Transitions	

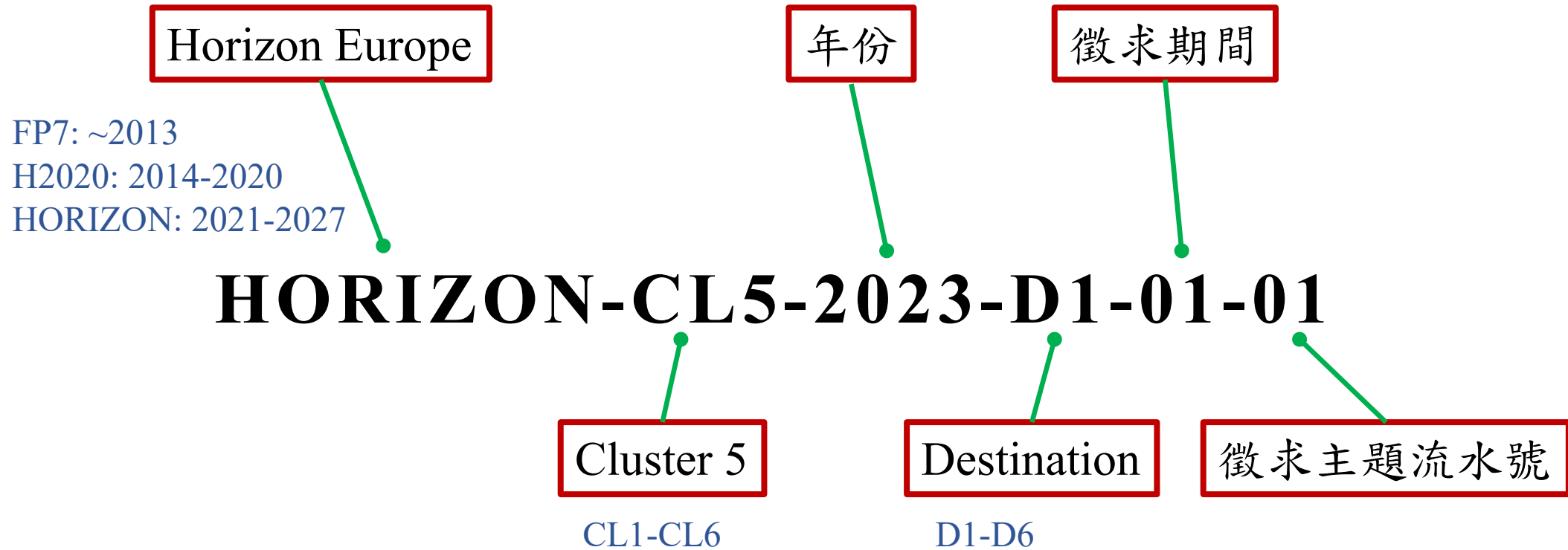- ■ Institutionalised partnerships (Art 185/7, EIT KICs)
- ■ Co-programmed
- ■ Co-funded
- ☐ Not covered in the BMR 2022 due to a later start date

資料來源: https://www.catalyze-group.com/fund/horizon-europe/

Horizon Europe Work Programme 2023-2024 drafting process

Stock taking of WP 2021-2022

Preparation of draft WP 2023-2024, including discussions with the Member States

EC internal adoption procedures and official adoption of the WP

Summer 2021 — Nov 2021 — Dec 2021 - June 2022 — Summer 2022 — Autumn-end 2022

'Draft orientations towards WP 2023-2024'

Finalisation of the draft WP 2023-2024

資料來源: https://www.etp-logistics.eu/wp-content/uploads/2021/09/Paola-Chiarini-.pdf

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How to Identify the "Call" ?

| Horizon Europe | | 年份 | | 徵求期間 |

FP7: ~2013
H2020: 2014-2020
HORIZON: 2021-2027

HORIZON-CL5-2023-D1-01-01

| Cluster 5 | | Destination | | 徵求主題流水號 |

CL1-CL6   D1-D6

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Cluster 1. Health 健康

Cluster 1 主要分為六個領域，並定義主要的預期效應

Destination 1. – Staying healthy in a rapidly changing society.

Destination 2. – Living and working in a health-promoting environment.

Destination 3. – Tackling diseases and reducing disease burden.

Destination 4. – Ensuring access to innovative, sustainable and high-quality healthcare.

Destination 5. – Unlocking the full potential of new tools, technologies and digital solutions for a healthy society.

Destination 6. – Maintaining an innovative, sustainable and globally competitive health.

Cluster 1 Health

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資料來源: https://perin.pt/financiamento/cluster-1-health/

Destination 3. Tackling diseases and reducing disease burden

應對疾病和減輕疾病負擔

Expected impact (strategic plan)

Health care providers are able to better tackle and manage diseases (infectious diseases, including poverty-related and neglected diseases, non-communicable and rare diseases) and reduce the disease burden on patients effectively.

Destination 3. Tackling diseases and reducing disease burden

Topics 2023

HORIZON-HLTH-2023-DISEASE- 3.01: Palliative and end-of-life care for non-cancer patients

Single-stage

Action type: RIA

Expected outcomes:

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 3 "*Tackling diseases and reducing disease burden*". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to all of the following expected outcomes:

HORIZON-HLTH-2023-DISEASE- 3.03: Interventions in urban environments to reduce NCD risk (GACD)

Single-stage

Action type: RIA

The final text of this topic will be produced based on the topic description provided the GACD Programme Subcommittee (i.e. developed jointly by all Associate Members, including the Commission). The stable vision of the GACD topic draft is expected in June-July 2022.

Expected Outcomes:

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 3 "Tackling diseases and reducing disease burden". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to some of the following expected outcomes:

Destination 5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society

為健康社會尋找新工具、技術和數位化解決方案

Expected impact (strategic plan)

Health technologies, new tools and digital solutions are applied effectively.

Destination 5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society

Topics 2023

HORIZON-HLTH-2023-TOOL- 5.01: Clinical trials of Combined ATMPs

Single-stage

Action type: RIA

Expected outcomes

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 5 "Unlocking the full potential of new tools, technologies and digital solutions for a healthy society". To that end, proposals under this topic should aim for delivering results that are directed towards and contributing to several of the following Expected Outcomes:

The topic invites proposals that include innovative treatments for any medical condition excluding rare diseases that are ready to be assessed for clinical efficacy (performance and clinical benefit) in a specific indication on a big number of patient cohorts; already existing market solutions are not in the scope of this topic.

資料來源: https://www.sciencedirect.com/science/article/pii/S2590332221003018

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Cluster 4. Digital, Industry and Space
數位, 工業與太空

Cluster 4 主要分為六個領域,並定義主要的預期效應

Destination 1. – Climate neutral, circular and digitized production.

Destination 2. – Increased autonomy in key strategic value chains for resilient industry.

Destination 3. – World leading data and computing technologies.

Destination 4. – Digital and emerging technologies for competitiveness and fit for the green deal.

Destination 5. – Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data.

Destination 6. – A human-centred and ethical development of digital and industrial technologies.

資料來源: https://ufukavrupa.org.tr/en/news/horizon-europe-cluster-4-digital-industry-and-space-work-programme-has-been-updated

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Destination 4. Digital and emerging technologies for competitiveness and fit for the green deal

數位化與新興技術提高競爭力與符合綠色協議

Expected impact (strategic plan)

Open strategic autonomy in digital technologies and in future emerging enabling technologies, by strengthening European capacities in key parts of digital and future supply chains, allowing agile responses to urgent needs, and by investing in early discovery and industrial uptake of new technologies.

Headings

- Open source for Cloud/Edge digital autonomy (雲端與邊緣運算的開放原始碼)

- European innovation leadership in Photonics (歐洲光子學創新領導地位)

- AI, Data and Robotics (人工智慧、數據資料庫與機器人)

- Graphene: Europe in the lead (石墨烯)

- Flagship on Quantum Technologies: a Paradigm Shift (量子技術)

- European leadership in emerging and enabling Tech (致能技術的歐洲領導地位)

資料來源: https://hoba.tech/digital-transformation-is-business-transformation/

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Destination 5. Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data

開發、部署和使用太空基礎設施、服務、應用程序和數據資料庫

Expected impact (strategic plan)

Open strategic autonomy in developing, deploying and using global space-based infrastructures, services applications and data, including by reinforcing the EU's independent capacity to access space, securing the autonomy of supply for critical technologies and equipment, and fostering the EU's space sector competitiveness.

Headings

- Competitiveness (競爭力)
- Access to Space (太空發展)
- EGNSS upstream (衛星導航定位系統的研究)
- Copernicus services evolution (全球環境與安全監測計劃的服務革新)
- EGNSS and Copernicus Downstream (衛星導航定位系統與全球環境與安全監測計劃的應用)
- SSA, GOVSATCOM, Quantum (太空狀態意識、太空衛星通訊與量子技術)

資料來源: https://blocksandfiles.com/2020/04/21/spacebelt-store-data-in-satellites-analysis/

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Cluster 5. Climate, Energy and Mobility
氣候，能源與交通運輸

Cluster 5 主要分為六個領域，並定義主要的預期效應

Destination 1. – Climate sciences and responses for the transformation towards climate neutrality.

Destination 2. – Cross-sectoral solutions for the climate transition.

Destination 3. – Sustainable, secure and competitive energy supply.

Destination 4. – Efficient, sustainable and inclusive energy use.

Destination 5. – Clean and competitive solutions for all transport modes.

Destination 6. – Safe Resilient Transport and Smart Mobility services for passengers and goods

資料來源: https://perin.pt/2022-european-opportunities-thematic-sessions-climate-energy-and-mobility/

Destination 3. Sustainable, secure and competitive energy supply

永續、安全與有競爭力的能源供應

Expected impact (strategic plan)

More efficient, clean, sustainable, secure and competitive energy supply through new solutions for smart grids and energy systems based on more performant renewable energy solutions.

Headings

- Renewable energy technologies (再生能源技術)
- Energy systems, grids and storage (能源系統、電網與儲存)
- Carbon Capture, Utilization and Storage (碳捕獲、利用和儲存)

資料來源: https://www.greenesa.com/article/renewable-energy-sources-types

Total Budget: EUR 956.6M

Call	Budgets (EUR million)		Deadline(s)
	2023	2024	
HORIZON-CL5-2023-D3-01	352.00		30 Mar 2023
HORIZON-CL5-2023-D3-02	161.00		05 Sep 2023
HORIZON-CL5-2023-D3-03	59.60		10 Oct 2023
HORIZON-CL5-2024-D3-01		246.00	30 Jan 2024
HORIZON-CL5-2024-D3-02		138.00	05 Sep 2024
Overall indicative budget	572.60	384.00	
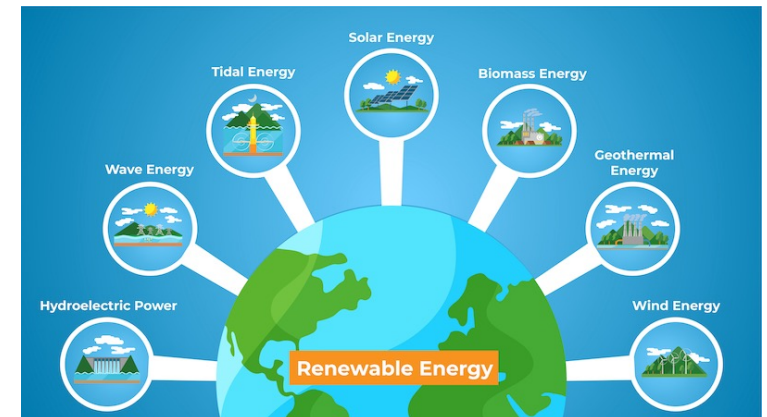
Destination 5. Clean and competitive solutions for all transport modes

潔淨且具有競爭力的交通運輸模式

**Expected impact (strategic plan)**

Towards climate-neutral and environmentally friendly mobility through clean solutions across all transport modes while increasing global competitiveness of the EU transport sector.

Headings

- Zero-emission road transport (零排放的公路運輸)
- Aviation (航空)
- Waterborne transport (水路交通)
- Impact of transport on environment and human health (交通對環境和人類健康的影響)

Total Budget: EUR 419.85M

Call	Budgets (EUR million)		Deadline(s)
	2023	2024	
HORIZON-CL5-2023-D5-01	219.30		20 Apr 2023
HORIZON-CL5-2024-D5-01		200.55	18 Apr 2024
Overall indicative budget	219.30	200.55	
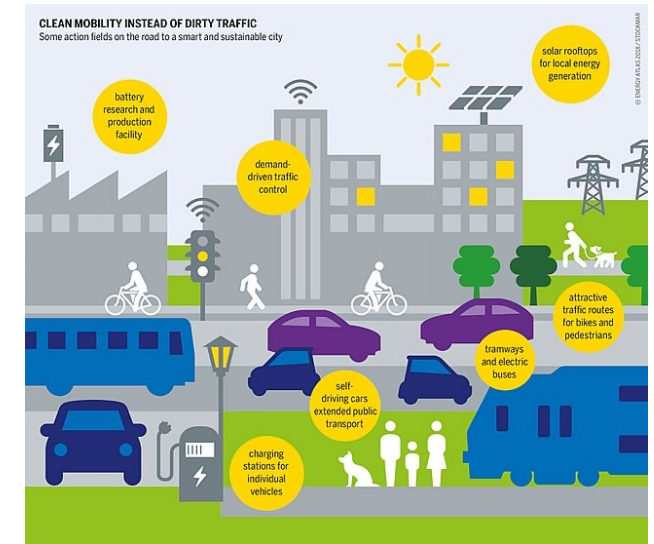
Cluster 6. Food, Bioeconomy, Natural Resources, Agriculture and Environment

食品、生物經濟、自然資源、農業和環境

Cluster 6 主要分為六個領域，並定義主要的預期效應

Destination – Biodiversity and ecosystem services.

Destination – Fair, healthy and environment-friendly food systems from primary production to consumption.

Destination – Circular economy and bioeconomy sectors.

– Clean environment and zero pollution.

Destination – Land, ocean and water for climate action.

Destination – Resilient, inclusive, healthy and green rural, coastal and urban communities.

Destination – Innovative governance, environmental observations and digital solutions in support of the Green Deal.

Cluster 6 – Food, Bioeconomy, Natural Resources, Agriculture & Environment

資料來源: https://scar-europe.org/index.php/home-scar/news-display/199-horizon-europe-calls-cluster-6-update

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## Destination 1. Biodiversity and ecosystem services

生物多樣性與生態系統服務

Expected impact (strategic plan)

Biodiversity is back on a path to recovery, and ecosystems and their services are preserved and sustainably restored on land, inland water and at sea through improved knowledge and innovation.

Headings

- Understanding and addressing the main drivers of biodiversity loss (了解並解決生物多樣性喪失的主要因素)
- Biodiversity protection and restoration (生物多樣性保護與恢復)
- Mainstreaming biodiversity in society and the economy (將生物多樣性納入社會和經濟主流)
- Biodiversity friendly practices in agriculture, forestry and aquaculture (農業、林業和水產養殖中的生物多樣性實踐)
- Interconnection of biodiversity research and policies (生物多樣性研究和政策的連結)
- Biodiversity and health (生物多樣性與健康)

資料來源: https://earth.org/data_visualization/how-could-the-loss-of-biodiversity-affect-humans/

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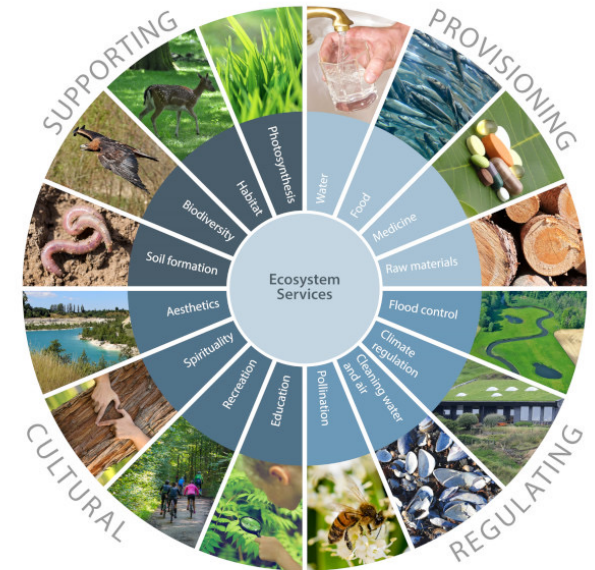
Destination 2. Fair, healthy and environment-friendly food systems from primary production to consumption
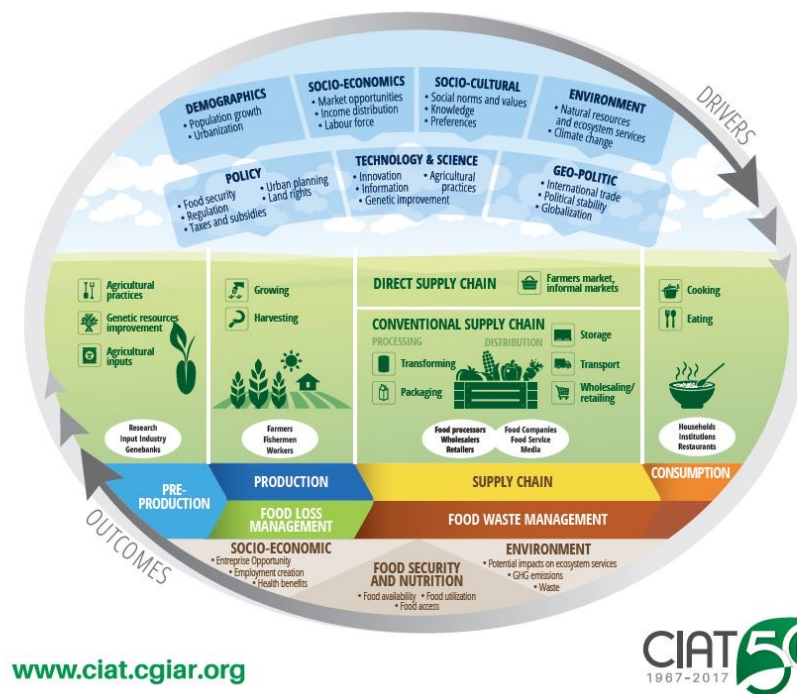
從生產到消費端，合理、健康與環保的食物系統

Expected impact (strategic plan)

Food and nutrition security for all within planetary boundaries is ensured through knowledge, innovation and digitalisation in agriculture, fisheries, aquaculture and food systems, which are sustainable, resilient, inclusive, safe and healthy from farm to fork.

Headings

- Enabling sustainable farming systems (永續農業)
- Enabling sustainable fisheries and aquaculture(永續漁業)
- Transforming food systems for health, sustainability and inclusion (將食物區鏈變成健康，永續經營及包容)

www.ciat.cgiar.org

資料來源: https://blog.ciat.cgiar.org/cooking-up-a-sustainable-diet-for-all/

Thanks for Listening