

GREEN DEAL – AREA 5: SUSTAINABLE AND SMART MOBILITY

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Agenda

- > ISERD and Horizon2020
- > The European Green Deal
- Green Airports and Ports
- > Call Draft Review
- > Funded Projects Examples
- >How to Find Partners and ISERD Services
- **>** Q&A











ISERD – Israel Europe R&I Directorate



- An interface between the Israeli government and the EU
- Encouraging Israeli entities to participate
- Representing Israel in the programme committees of the EC
- National Contact Point (NCP) for the different themes
- Information dissemination
- Assistance throughout projects' submission and management
 - ISERD aims at maximizing the benefits of Israel's participation in the Framework
 - Programmes (FP)









HORIZON 2020

L European Framework Programme

- EU's main funding instrument for R&D (since 1984)
- Goals:
 - Strengthen the scientific & technological base of European Industry
 - Support EU policies and address major Societal Challenge
 - Create a "European Research Area" (ERA)
- Covering all major scientific and technological disciplines
- > Targeting the major European industrial sectors











Funding Members of H2020













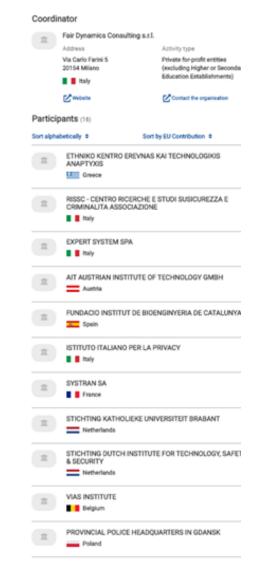


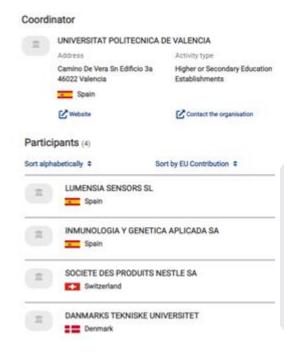


Meeting the Minimum Requirement

















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Types of Action

Action	Funding*	Technology Readiness Level (TRL)	Main Characteristics	
RIA – Research & Innovation Action	100% + 25%	Low TRL (4-6)	Basic and applied research, technology development and integration, testing and validation on small-scale prototype in laboratory or simulated environment	
IA – Innovation Action	70% + 25%	High TRL (6-8)	Prototyping, testing, demonstrating, piloting, large- scale product validation and market replication	
CSA - Coordination & Support Action	100% + 25%	-	Networking, coordination or support services, policy dialogues and mutual learning exercises and studies	

^{*} Non profit – always 100%









Technology Readiness Levels

- TRL 1 basic principles observed
- TRL 2 technology concept formulated
- > TRL 3 experimental proof of concept
- > TRL 4 technology validated in lab
- TRL 5 technology validated in relevant environment*
- > TRL 6 technology demonstrated in relevant environment*
- > TRL 7 system prototype demonstration in operational environment
- TRL 8 system complete and qualified
- > TRL 9 actual system proven in operational environment**
- * Industrially relevant environment in the case of key enabling technologies
- ** Competitive manufacturing in the case of key enabling technologies, or in space









Submission Timeline



Proposal Preparation - Now Proposals Evaluation – by 06.2021 Grant
Agreement
Preparation
(GAP)
phase (~3
months)













Deadline – Proposal Submission – 01.2021 ESRs sent and winners announced GA signed –
projects start and
become public
knowledge– by
09.2021

~ 8 months











Israeli Results in H2020*



Submitted Pa	12,773	
Successful Pa	1,761	
	Industry	762
Success by sector:	Universities	864
	Others	135
Submitted F	11,051	
Successful I	1,446	
Success	13%	
Value of Town oli aventer	Industry	363.2 M€
Value of Israeli grants: 1.08 B€	Universities	697.2 M€
1.00 De	Others	22.4 M€











Green Deal Mission



"The recovery plan turns the immense challenge we face into an opportunity, not only by supporting the recovery but also by investing in our future: the European Green Deal and digitalization will boost jobs and growth, the resilience of our societies and the health of our environment."

- European Commission President Ursula von der Leyen

1 Billion Euro is pledged to ensuring this











Green Deal Goals



- Make the EU climate neutral by 2050
- Restore biodiversity and cut pollution
- Invest in environmentally-friendly technologies
- Support the industry in innovating
- Boost the efficient use of resources
- Move to a clean, circular economy
- Roll out cleaner, cheaper and healthier forms of transport
- Decarbonise the energy sector
- Ensure buildings are more energy efficient
- Work with international partners to improve global environmental standards









Green Deal Structure





Area 8:
 Zero pollution,
 toxic free
environment

Area 1:
Increasing
Climate
Ambition:
Cross sectoral
challenges

Area 2: Clean, affordable and secure energy





Area 7: Ecosystems and Biodiversity

European Green Deal Area 3: Industry for a clean and circular economy





Area 6: Farm to Fork

Area 5: Sustainable and smart mobility Area 4: Energy and resource efficient buildings



Area 9: Strengthening our knowledge in support of the European Green Deal

Area 10: Empowering citizens for the transition towards a climate neutral, sustainable Europe

Area 11: International cooperation (focus on cooperation with Africa and the Mediterranean)









Disclaimer

The presentation of draft topics and the feedback provided shall in under no circumstances bind the European Commission in the final formulation of topics for the call.

The binding call text will be published following the formal decision by the European Commission on the Funding and tender opportunities portal













TOPIC: Green Airports and Ports as Hubs for Sustainable and Smart Mobility



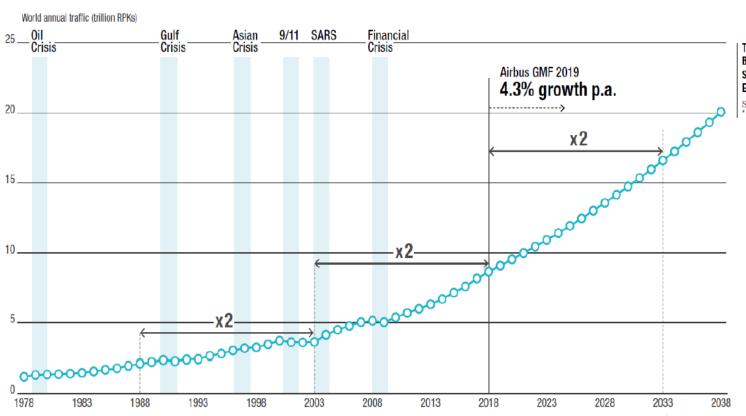




World Annual Traffic Forecast



L 2019-2038



TRAFFIC HAS PROVEN TO BE RESILIENT TO EXTERNAL SHOCKS AND DOUBLES EVERY 15 YEARS

Source: ICAO, Airbus GMF 2019
* RPK: Revenue Passenger Kilometer



A clear commitment of the European Green Deal is that "transport should become drastically less polluting"



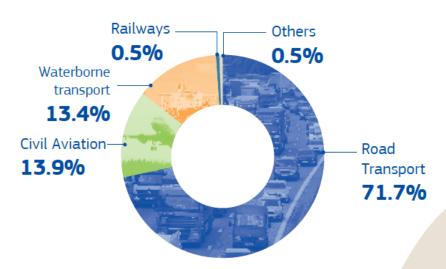




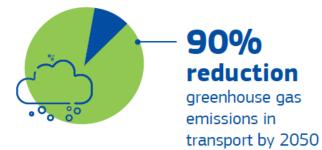
SPECIFIC CHALLENGE **∢ ┛ ■** Authority

Europe must reduce emissions from transport further and faster

Share of Greenhouse Gas Emissions by Mode of Transport (2017)



Source: Statistical pocketbook 2019







- Automated mobility and smart traffic management systems will make transport more efficient and cleaner.
- Smart applications and 'Mobility as a Service' solutions will be developed.









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Green Airports and Ports as Hubs for Sustainable and Smart Mobility

Use different modes of transport

More freight should be transported by rail or water. And the **Single European Sky** should significantly reduce aviation emissions at zero cost to consumers and companies.



Single European Sky reform will help to cut up to

10% of air transport emissions.

Prices that reflect impact on environment



Ending subsidies for fossil-fuel



Extending emissions trading to the maritime sector



Effective road pricing in the EU



Reducing free allowances to airlines under emissions trading







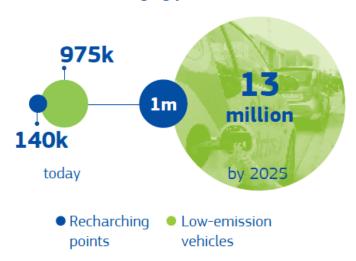


Green Airports and Ports as Hubs for Sustainable and Smart Mobility

Boost supply of sustainable alternative transport fuels

By 2025, about 1 million public recharging and refuelling stations will be needed for the 13 million zero- and low-emission vehicles expected on European roads.

Alternatively fuelled cars and public recharging points in the EU



Source: European Alternative Fuels





The Green Deal will address emissions, urban congestion, and improve public transport.

We need:

- stricter standards on pollution by cars
- to reduce pollution in EU ports
- to improve air quality near airports









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Green Airports and Ports as Hubs for Sustainable and Smart Mobility





The European Green Deal Communication (Dec-2019)

- "Transport should become drastically less polluting"
- "Accelerating the shift to sustainable and smart mobility"
- "Ramp-up the production and deployment of sustainable alternative transport fuels"
- Aviation: "air quality should be improved near airports by tackling the emissions of pollutants by aeroplanes and airport operations"
- Shipping: "[the Commission] will take action in relation to maritime transport, including to regulate access of the most polluting ships to EU ports and to oblige docked ships to use shore-side electricity."



Sectoral and policy analysis

- Decarbonisation progress in Road / Rail (e.g. electrification)
- > Aviation: 14% of EU transport GHG emissions (rising): x2 traffic by 2050
- Shipping: 13% of EU transport GHG emissions (rising), 90% of global trade
- Significant and immediate impact required by 2025-2030
- Further policy action foreseen in aviation and waterborne transport



Green Deal Call (2020)

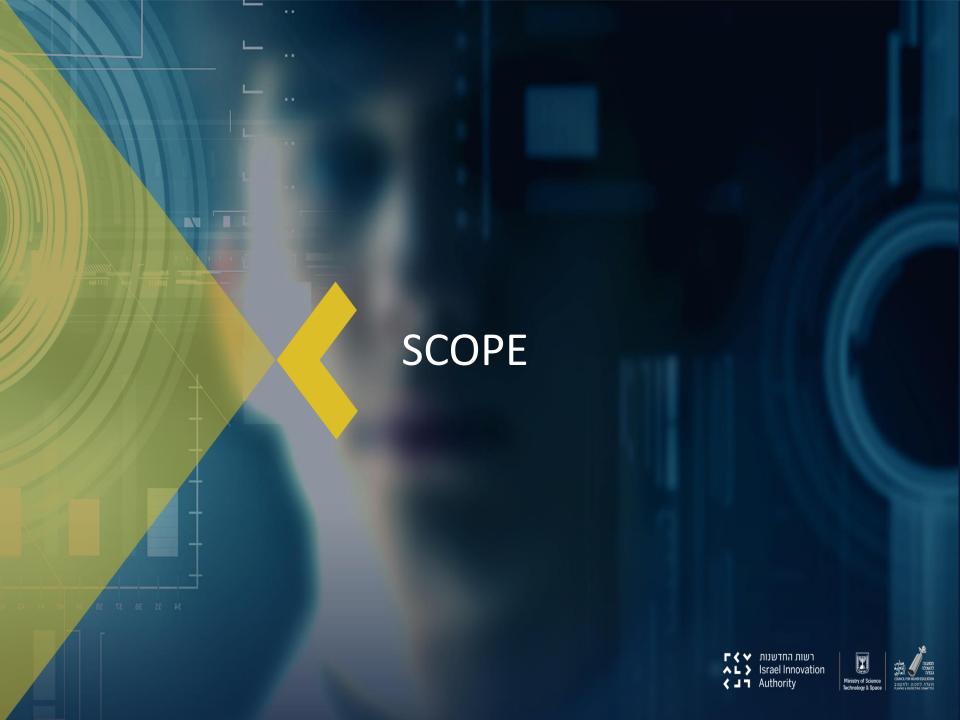
Green airports and ports as hubs for sustainable and smart mobility











Building on **best practices**, **ongoing projects**, **planned initiatives** in European airports and ports; actions should address the activities EITHER under

area A) Green Airports
-OR- under
area B) Green Ports



Proposals should clearly indicate which area they are covering













Area A: Green Airports

- 1) Transport
- 2) Terminal
- 3) Energy
- 4) Cross-cutting aspects









1. Transport



Actions should cover all of the following aspects:

- a. access and multimodal connections to the airport
- b. from the airport terminal to the aircraft
- c. at the airport landside











1. Transport



Actions should also cover at least three of the following:

- low-emission energy use for aircraft / airports / other
 - road vehicles
 - rolling stock
 - Drones
 - public transport and carpooling
- de-icing and anti-icing
- applying innovative digital and EU satellite-based solutions









1. Transport



- > production facilities for sustainable alternative fuels
- and underlying infrastructure
 - distribution, fuel handling logistics and blending operations
- conversion of airport waste to sustainable alternative fuels
 - and the delivery
- intermodal mobility
 - mobility/logistics as a service
 - transport-on-demand
 - rail interconnection and train-airport station concepts
- EU Clearing House for Sustainable Kerosene (EU-CHSK)











2. Terminal



Actions should cover at least two of the following:

- operations, logistics and infrastructures
- > the **built environment**, including **procurement** processes
- improving the energy efficiency of buildings; lighting, HVAC
- biodiversity, green land planning and use
- circular economy buildings and waste
 - zero-waste concepts











3. Energy



Actions should cover at least two of the following:

- > energy value chain from supply to use
- industrial scale pilot
 - advanced biofuels refineries
 - > retooling of existing fuel refineries
- incentives to address challenges in the alternative fuels system
- > promoting the penetration of sustainable alternative fuels
- > scalability of solutions











4. Cross-cutting aspects



Actions should cover at least three of the following:

- air quality and noise trade-off
- eco-labelling, certifications, measurement, reporting and verification
- use of ICT (EU satellite-based solutions, among others)
- circular economy at airports
- Food Loss and Waste (FLW)
- non-technological framework conditions
 - market mechanisms
 - potential regulatory
- multi-actor governance arrangements













Area B: Green Ports









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Actions should cover at least six of the following aspects:

- integrated low-emission energy supply and production at port
- demonstrating sustainability and innovation beyond energy supply and demand at ports
- demonstrating seamless and highly efficient logistics operations, for integrated sea/river- port-hinterland connections
- pilot activities digitalisation (including EU satellite-based solutions) enabling efficient and automated logistics chains and multimodal inter-connections
- delivering new tools and optimisation mechanisms for multimodal access, passenger and freight flows into and out of the port













- non-technological framework conditions, and potential regulatory actions which can provide financial/operational incentives for implementing low-emission solutions
- developing and promoting new multi-actor governance arrangements that address the interactions between all portrelated stakeholders in order to accelerate the production and **use** of sustainable energy











- delivering a Master Plan for the future Green Port, to achieve minimal pollution by 2030, 2040 and 2050
 - > a wider socio-economic perspective (sustainable and smart mobility, technical, operational, economic, environmental and social aspects)
 - emission reduction at ports (CO2 and noxious pollutant, water pollution and noise)
 - various alternatives for the provision of power supply at the port
 - sustainable port design concept, leveraging green construction, demolition and dredging activities











- > scalable solutions that can be replicated/scaled-up or scaled- down to smaller ports
- deployment models and plans, including internal/external costs
- collaboration models across multiple stakeholders
- comprehensive report of all project findings in detail
- a handbook on how to move from planning, to implementation, replication and scaling-up the deployment













Applicable to both

Area A: Green Airports

Area B: Green Ports









Consortia structure and budget



- Led by One "Lighthouse" airport/port
- Include Three "Fellow" airports/ports
- Include academic and other partners (e.g. rail, road)
- For Green Ports include at least one inland port
- A maximum of 20% of grant to fellow airports or ports









Terms and Conditions

- > IA Innovation Action (70% funding +25%)
- > 100-million-euro total budget
- > 15-25 million euro expected per project
- > Project duration: 4-5 years
- Ranking Lists: separate for Green Airports and Green Ports











Expected Impact





- Accelerated <u>deployment</u> of sustainable alternative fuels (e.g. biofuels, hydrogen, ammonia) and electromobility for aviation, shipping and other transport modes
- ➤ Green energy / fuel <u>production</u>, distribution and supply (e.g. hydrogen, electricity, biofuels), with re-fuelling and re-charging capabilities for multiple vehicles/purposes
- Zero-emission ports and airport operations and improved air quality by 2030
- Reduced emissions in aviation, shipping, multimodal mobility for passengers/freight
- Energy-efficient and smart operations and buildings, logistics, inter-modal connections and modal shifts
- Reduced emissions for cities, urban mobility, better city integration for ports/airports









Expected Impact





Main features:



- Green energy production, distribution, supply
- Use of clean energy for transport and other purposes
- > Green hydrogen, electricity, biofuels, ammonia, sustainable alt. fuels

Smart

- Connected and automated vehicles, cranes, etc.
- Dynamic traffic optimisation into/out of airport/port, from/to city
- Smart operations, logistics, inter-modal connections/modal shifts

Multimodal

- Aviation, Maritime, Inland Waterway Transport
- > Road, Rail, multimodal connections/modal shifts
- System-wide door-to-door multimodal mobility for passengers/freight

Other

- Green logistics, infrastructures, energy-efficient buildings
- Links with cities, urban environment, urban mobility
- Biodiversity, circular economy, effective land/sea/river use









Read and reference each word in the call text















Funded Projects Examples





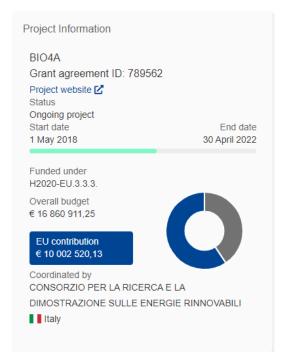


Advanced sustainable BIOfuels for Aviation

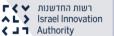
Objective

Decarbonising & reducing aviation dependence on fossil fuel requires biofuels. BIO4A will produce at least kt of sustainable biojet for its use in aviation at commercial scale for accelerating its deployment within the aviation sector, increasing their attractiveness and contributing to the achievement of the EU targets, BIO4A targets HEFA pathway from wastes, aiming to move the full value chain from TLR 6 to 7. BIO4A will demonstrate the full value chain, enabling a production capacity of 2-300 kt/y of biojet in a First Of A Kind new biorefinery in France. The fuel will be distributed using the existing infrastructures and conventional aircraft fuelling systems for commercial flights. Special attention will be directed to the supply of sustainable feedstock, focusing on waste streams (UCO). In parallel, long-term R&D work will address marginal land in EU MED (low ILUC biofuels). Relevant environmental (inc. GHG and energy balance), economic and social data (inc. health and safety issues, impacts and benefits) will be assessed against targets. Since the current main barrier to the commercial production of biojet is the price gap, BIO4A will explicitly address performance and cost targets vs. relevant key performance indicators. The final goal is to prove the business case, identifying potential issues of public acceptance, market or regulatory risks and barriers (feedstock, technological, business, process) along the entire value chain, taking advantage of previous projects and proposing potential mitigation solutions. Offtake agreements have been signed with KLM and Airfrance. Additional off-take agreements could also be signed to open the participation to more airlines. Regulatory framework is also limiting today the development of the sector and an additional goal is recommendations to policies makers. The proposal will be defined at EU/National level, involving the major sector stakeholders and opening with a profitable dialogue with Member States and the EC.

Sort al	phabetically Sort by EU Contribution	Sort by EU Contribution ¢	
th	TOTAL RAFFINAGE CHIMIE	EU contribution	
***	France	€ 455 548,02	
血	SKYNRG BV	EU contribution	
	Netherlands	€ 1 093 955,63	
m	FUNDACION CENER	EU contribution	
	Spain Spain	€ 375 975	
ı	ETA - ENERGIA, TRASPORTI, AGRICOLTURA SRL	EU contribution	
	■ naty	€ 286 562,50	
血	CAMELINA COMPANY ESPANA S.L.	EU contribution	
	Spain Spain	€ 360 543,75	
ı	JRC -JOINT RESEARCH CENTRE- EUROPEAN	EU contribution	
	COMMISSION Belgium	€ 388 000	
n	TOTAL RAFFINAGE FRANCE	EU contribution	-
	II France	€ 5 552 185.23	













Assessment on Alternative Aviation Fuels Development

Project description











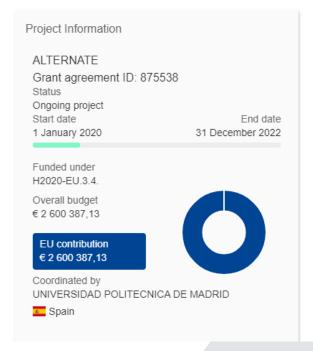


Alternative aviation fuel research

To fulfil the 2015 Paris Agreement goals, the aviation industry should adopt solutions to reduce emissions. Sustainable organic-origin fuels whose life cycle carbon footprint is smaller than the fossil-origin kerosene are widely envisaged as the only short-medium term solution for the aviation industry. The past decade has seen a lot of research and experiments on organic products, with excellent results. However, the new products are submitted to strict certification procedures while their production is costly, with results that cannot compete economically with fossil kerosene at the present oil prices. The EU-funded ALTERNATE project is a Chinese-EU proposal that aims to identify the possibilities for extensive sustainable fuel use in aviation considering new technical areas and production procedures. Deutlelmente (0)

Show the project objective

Sort al	phabetically Sort by EU Contribution	Sort by EU Contribution	
血	CENTRE INTERNACIONAL DE METODES NUMERICS EN ENGINYERIA	EU contribution € 160 280	
	- Spen		
血	AIRBUS OPERATIONS LIMITED	EU contribution	
	₩ United Kingdom	€ 232 347,13	
ı	SAFRAN SA	EU contribution	
	France	€ 301 372,50	
Î	SAFRAN AEROTECHNICS	EU contribution	
	France	€ 150 158,75	
m	OFFICE NATIONAL D'ETUDES ET DE RECHERCHES	EU contribution	
ML.	AEROSPATIALES	€ 600 268,75	
	France		
m	IATA ESPANA SL SOCIEDAD UNIPERSONAL	EU contribution	
	■ Spain	€ 117 825	
血	UNIVERSITEIT HASSELT	EU contribution	
	■ Selgium	€ 295 227,50	
m	INTERNATIONALES INSTITUT FUER ANGEWANDTE	EU contribution	
-	SYSTEMANALYSE	€ 324 687,50	
	Austria		













Green and Effective Operations at Terminals and in Ports

Objective

Existing and upcoming stricter air quality standards and regulations together with the need to reduce energy consumption raise the awareness of ports and terminals to focus on the carbon footprint which is dependent not only on equipment and operations, but also the energy mix and the management of energy consumption. There is also an increasing need to provide carbon footprint calculations to transport service clients, requiring these to calculate and expose their product-related carbon footprint in order to improve their competitive advantage for the company's sustainability reports or because their clients ask for it.

Sea and inland navigation terminals are crucial nodal points within intermodal transport chains. Sustainable freight transport requires integrating the energy consumption and the emissions caused by the terminal operations into overall chain. While some terminals, mainly the bigger ones, have already started to invest into eco-efficient technologies and handling equipment, this is still an outstanding issue for others.

The reduction of the CO2 footprint in ports and terminals will only be possible through a cleaner energy mix and through reduced energy consumption. To achieve this goal, it is necessary to develop understandable, practicable and transparent methods and standards. Such standardization should also provide the basis for policy-making aiming at the reduction of port and terminal carbon footprint and strengthened competitiveness of this industrial sector. The Green EFFORTS project primarily aims at the reduction of energy consumption and a cleaner energy mix at terminals (container, RoRo and inland waterway) to be controlled in a standardized transparent and easy-to-follow way, but will also consider the role of a port authority may play to achieve these goals.













Finding Partners

- 1. Use your network
- 2. Use the National Contact Point
- 3. Register for our <u>Partner Search online form</u>
- 4. Take part in brokerage events
- 5. R&I online <u>event</u> stay tuned
- 6. Identify the European leading groups in the field: Search <u>previously funded projects</u> (CORDIS)
- 7. Funding and Tenders portal <u>Partner Search</u> page (only after publication)











ISERD Aid Fund



Route 37a – Provides support to entities from the industry to participate in H2020 topics.

Eligible reimbursements of 75% of up to 40,000 NIS for — Travel to a PS event, hosting potential partners in Israel, and the cost of a consultant to help write the proposal.



הודעה חשובה

שימו לב!

(1) יהיו שני מועדי הגשה בלבד במחצית השנייה של 2020 -31 באוגוסט, 2020 30 באוקטובר, 2020

(2) לאור מגבלות תקציב וכמות הבקשות הגבוהה למסלול זה, דיון בבקשות יתקיים במידה ויאושר תקציב נוסף.









Red Team



"A red team is an independent group that challenges an organization to improve its effectiveness by assuming an adversarial role or point of view."

- Wikipedia

The Red Team service is a national full proposal check -

- It is free of charge
- It uses expert reviewers of the Innovation Authority (some are also H2020 reviewers)
- All reviewers have signed NDA with the Innovation Authority
- The identity of the reviewer is classified
- The full proposal must be submitted at least a month in advance of the topic deadline by 10:00









Our Team

>

- Area 1: Increasing Climate Ambition: Talia Passiar talia@iserd.org.il
- > Area 2: Clean, affordable and secure energy; Area 3: Industry for a clean and circular economy (topic 2); Area 7: Ecosystems and Biodiversity: Sarit Kimchi Sarit.Kimchi@iserd.org.il
- Area 6: Farm to Fork; Area 8: Zero-pollution, toxic free environment: Nir Shaked Nir.s@iserd.org.il
- Area 3: Industry for a clean and circular economy (topic 1); Area 4: Energy and resource efficient buildings; Area 5: Sustainable and smart mobility; Area 11: International cooperation: Rachel Loutaty rachel.l@iserd.org.il
- Area 9: Strengthening our knowledge in support of the EGD (topics 2 & 3): Tzlil Ribak <u>Tzlil.ribak@iserd.org.il</u>
- Area 9: Strengthening our knowledge in support of the EGD (topic 1): Hagit Schwimmer <u>Hagit.Schwimmer@iserd.org.il</u>
- Area 10: Empowering citizens for the transition towards a climate neutral, sustainable Europe: Smadar Hirsh - smadar@iserd.org.il

Green Deal general contact persons -

Hagit Schwimmer Hagit.Schwimmer@iserd.org.il & Nir Shaked Nir.s@iserd.org.il











Additional Green Deal Material



- > ISERD Leaflet discover the different topics and find the contact point for each
- Green Deal website
- > Green Deal Work Programme









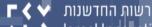




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Authority



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| PLANNO & BUDGETHO COMMITTE