

Thematic call Pulsed Directed Energy Effectors



AGENDA

1

Welcome

2

Context and objectives

3

The Pulsed Directed Energy Effectors call

4

Q&A

MEET THE DEFRA TEAM

RHID Royal Higher Institute for Defence – Research, Development, Innovation & Industrialisation (RDII)
&
BELSPO Belgian Science Policy



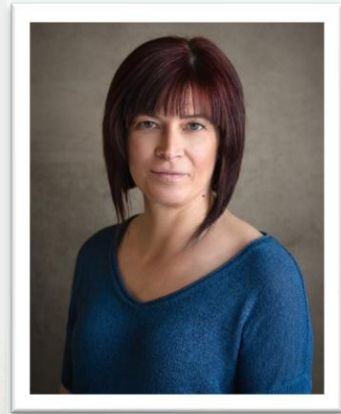
Marleen Bosschaerts
Dep. Director Research Programs



Silke Van Steelant
Program manager



Fabian Van Haelst
Administrative support



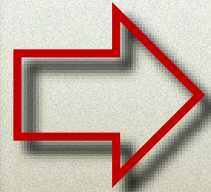
Karen Pieters
Director RDII
Program Manager DEFRA



Research, Development, Innovation and Industrialization

The Federal and MOD strategic vision on research, technology, and innovation

3% of BE Defence funds for RDII



The RHID wishes to be one of the driving forces for *the development and the strengthening of the Belgian defence technological and industrial base (DTIB), in a European and NATO-framework*, in order to *develop a larger and better knowledge base, more effective military and industrial capabilities and a larger strategic autonomy in the security and defence domain*.

To achieve this, the RHID will contribute to the elaboration and implementation of the *Belgian defence, industry and research strategy* (DIRS).



Research, Development, Innovation and Industrialization

from an internal scientific and technological program to a research, development, innovation and industrialisation policy in a national and European context



**Defence
R&T capabilities**



Royal Military
Academy



Military
Hospital



Defence
laboratories



**National knowledge
and technical base**



National Calls



von KARMAN INSTITUTE
FOR FLUID DYNAMICS



Structural
partnerships



**International research
and development**



Innovation



Inno4Def.be



Hackathons



Start2Def



Ecosystems



Cooperation agreements

DEFRA OBJECTIVES



Reinforce Belgian security and defence policy

Strengthening the Belgian defence-related industrial & technological base



Disclose and develop knowledge and technology for defence applications

Belgian Defence capability development;
Culture of innovation within Belgian Defence;



Triple Helix approach : promote systemic, multi/interdisciplinary and integrative approaches

Improve knowledge transfer between research institutes and industry
Introduce entrepreneurs' insight into research
Include potential end-users in research and innovation

Thematic call Pulsed Directed Energy Effectors



AGENDA

- 1 Timeline and Rules of the call
- 2 Themes
- 3 Submission procedure and use of the SharePoint site
- 4 Evaluation procedure
- 5 Safety and ethical aspects

TIMELINE AND RULES OF THE CALL

TIMELINE – extremely short

	DATE	AT / VIA
Launch of the call	21 August 2026	Mailing, website
Information session	31 August 2026	Online session
Deadline Pre-proposals	11 September 2026 (14h00)	SharePoint site
Communication of evaluation result pre-proposals	25 September 2026	Mail
Deadline Full proposals	16 October 2026 (14h00)	SharePoint site
Ethical evaluation	16 – 20 October 2026	NA
Panel evaluation	26 & 27 October 2026	
Communication of results to applicants	3 November 2026	Mail
Signature of contracts	November – December 2026	eSign platform

ELIGIBILITY CRITERIA

The call is open to **Belgian** public and or private non-profit research institutes and private companies

Single organisation or Partnership

No triple helix requirement

All types of organizations can act as **project coordinator**

! Foreign partners: only as **non-funded** partners. They must be registered in a country of the EU or of the EFTA or in a NATO member country

ELIGIBILITY CRITERIA

Public research institutes	Private non-profit research centres	Private companies
• universities • colleges of higher education • federal scientific institutions • defence research institutes • other public research institutes	• operational and/or research activities in Belgium • legal personality and their registered office in Belgium. The legal personality is required at the latest when signing the research contract • must have fulfilled their obligations to pay taxes and social security contributions	

PROJECTS

- **Duration: 12 to 18 months**
- Start of selected projects: December 2026
- Budget rules:

	Public Research Institute and Private non-profit research centre	Private company
Partner budget FINANCED BY DEFENCE	100% eligible costs	Maximum of 65% of the eligible costs, with a potential maximum of 80%, according to the size of the company

BUDGET RULES

Category of expenditure	Rules
STAFF	• Preferably under labour contract • Non-employee staff costs (management company, free-lance, interim staff) • Maximum amounts for persons to be hired for the project • NO tax-free scholarships!
GENERAL OPERATING COSTS	• For the coordinator: max 15% of staff costs • For other partners: max 10% of staff costs
SPECIFIC OPERATING COSTS	• Described in the proposal • Justified by invoices during project
OVERHEAD	• 10% of total staff and operating costs

BUDGET RULES

Category of expenditure	Rules
EQUIPMENT	• Described in the proposal • Justified by invoices during project • If no follow-up study or project is undertaken, the equipment purchased will be handed over to the Ministry of Defence
SUBCONTRACTING	• Max 25% of partner's budget • ! Subcontractors must be registered in Belgium • ! If applicable submit UBO register to DEFRA secretariat • ! If applicable, obtain security clearance

THEMES

THEMES

THEME	INDICATIVE BUDGET (5M€)
Theme 1: Pulsed Microwave Technology Bricks	2.0
Theme 2: Pulsed Laser Technology Bricks	3.0
Total	5.0

THEME 1 – Pulsed Microwave Technology Bricks

Context

- Growing NATO Class I UAS and swarm threats require effective and scalable Counter-UAS solutions.
- Pulsed microwave technologies offer promising directed-energy effects against drone electronics.

Research Scope

- Pulsed microwave sources and pulse-forming subsystems.
- Waveform control, antennas and beamforming.
- Target interaction studies and laboratory validation.
- Modelling of performance and scalability

Impact for Defence

- Validated pulsed microwave technology bricks (TRL 3-4).
- Quantified performance data and understanding of effect mechanisms.
- Reduced risk towards future Proof-of-Concept and Technology Demonstrator programmes.

THEME 2 – Pulsed Laser Technology Bricks

Context

- The growing use of NATO Class I UAS, including swarm threats, creates a need for effective and scalable Counter-UAS solutions. Pulsed and waveform-controlled laser technologies offer promising directed-energy effects through precise energy delivery and rapid target engagement.

Research Scope

- Development of pulsed laser sources and waveform-shaping architectures.
- Control of pulse characteristics, timing, peak power, duty cycle and stability.
- Energy-delivery efficiency and thermal management. Investigation of laser interaction with representative drone materials and subsystems, supported by laboratory validation and modelling.

Defence Impact

- Validated pulsed laser technology bricks at TRL 3-4. Improved understanding of laser-target interaction, performance and operational limitations
- Reduced technological risk towards future Proof-of-Concept and Technology Demonstrator programmes for Counter-UAS applications.

POC :



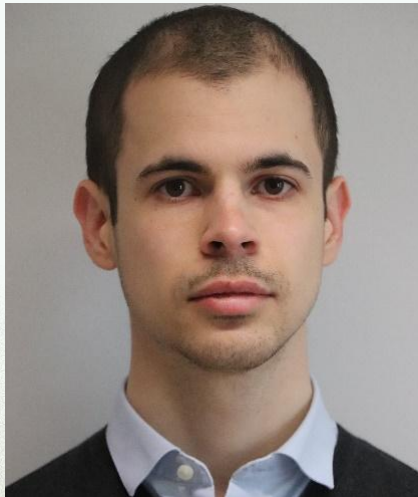
Advanced Weapon Systems & Platforms

Mr Lowie Vueghs

Research Manager

Lowie.Vueghs@mil.be

POC :



Sensor Technologies

Mr Lieven Van de Vondel, PhD
Research Manager

Lieven.VandeVondel@mil.be

SUBMISSION PROCEDURE & USE OF THE SHAREPOINT SITE

DEFRA WEBSITE

<https://www.belspo.be/defra>

Available documents:

- Information document, incl. submission & evaluation guidelines and budget rules
- Evaluation matrices (pre & full proposals)
- Evaluators eligibility criteria
- Submission guidelines
- Pre-proposal templates
- General conditions of the contract

SHAREPOINT SITE

https://belspobelgium.sharepoint.com/sites/R-I_DEFRA_ENERGY_EFFECTORS

To get access:

Send e-mail to defra@belspo.be, with name and e-mail address of the coordinators, and theme
1 person per pre-proposal !

**Consult the submission
guidelines on the DEFRA
website**

SHAREPOINT SITE

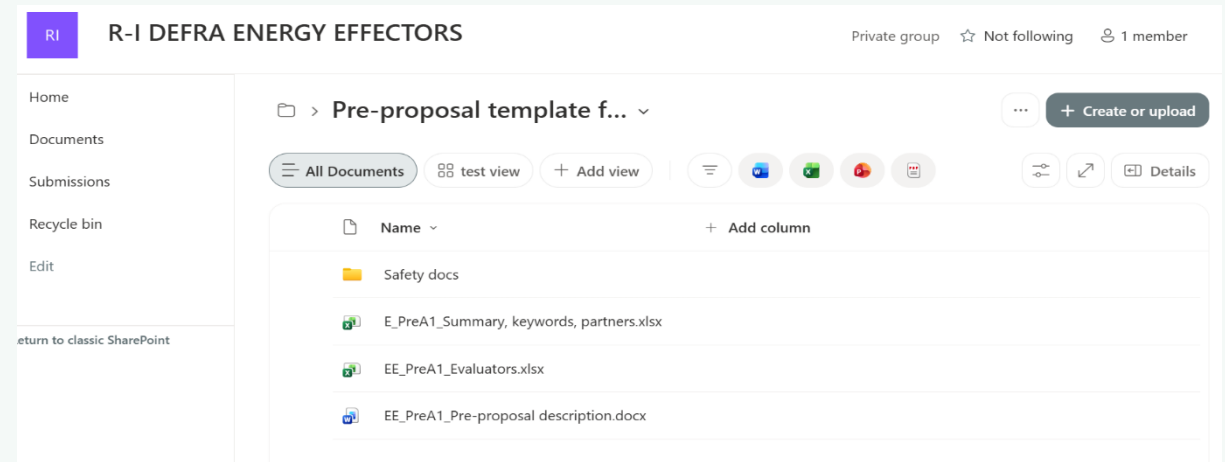
PHASE 1 - submission of pre-proposals:
Templates to be filled in directly on SP

- Summary, keywords, partners
- Proposed (and non-grata) evaluators
- Pre-proposal description

→ Submission = pdf version of pre-proposal description
uploaded in SP folder

Documents to be uploaded (in the “Safety docs” folder)

- Additional documents for companies, a(i)sbl, foundations (see Safety aspects)



ELIGIBILITY CRITERIA FOR POTENTIAL EVALUATORS

In Pre-proposal phase: propose minimum 4 evaluators

Experts must meet following criteria:

- Be outstanding and (inter)nationally (well) recognised in their research field (e.g. peer-reviewed publications in the given research field for academic researchers)
- Be able to evaluate all the aspects covered by the proposal
- Be external experts (not belonging to Belgian Defence)
- Be **free of conflict of interest**
- **Work in Belgium or one of our neighbouring countries**

Experts are considered to have a conflict of interest if they stand to **profit professionally, financially or personally** from approval or rejection of an application.

Eligible experts must:

- have no direct link with the project;
- not be involved in the preparation of the pre-proposal and/or the full proposal;
- not directly benefit from the acceptance of the proposal;
- not be a family member or partner relative to the first degree of any of the applicants;
- not belong to applicants' institutions/companies;
- not be a director, a trustee or a partner of the applicants' institutions/companies;
- not have been employed within the applicants' institutions/companies in the past 5 years;
- not have held a contract or collaborated in any way with any of the applicants or their research groups in the past 5 years;
- not be a(n) (ex) PhD-promotor (one of the) of (the) applicants;
- have no common projects or co-publications with any of the applicants or their research groups within the last 5 years;
- not be in any other situation which compromises or casts a doubt on his or her ability to evaluate the proposal impartially, or that could reasonably appear to do so in the eyes of an external third party.

See eligibility criteria for potential evaluators on DEFRA website

SHAREPOINT SITE

PHASE 2 – submission of full proposals

Templates to be filled in directly on SP

- Full Proposal template
- Gantt chart
- Budget file
- Data Management Plan
- Research ethics self-assessment
- Cash or in-kind commitment letter – non mandatory
- Visual or graphical abstract – non mandatory

→ Submission = pdf version of Full proposal description uploaded in SP folder

EVALUATION PROCEDURE

Two-step procedure

- PHASE 1 – pre-proposals
- PHASE 2 – full proposals

PHASE 1: PRE-PROPOSAL

- General eligibility check
- Evaluation by internal evaluation committee Defence
- Criteria:

CRITERIA	
Quality of the pre-proposal	40%
Quality of the partner(s & adequacy of the partnership)	30%
Impact	30%

More details on evaluation criteria: evaluation matrix pre-proposals

↓
Per theme 3 pre-proposals will be invited to submit a full proposal

PHASE 2: FULL PROPOSAL

- Evaluation by Scientific Evaluation Committees (1 per theme)
 - 1 member performs extensive written evaluation
- Interview with applicants (26-27/10/2026)

More details on evaluation
criteria: evaluation matrix
full proposals

Agenda topic	Timing	Participants
Presentation of the evaluation report by the expert concerned	15 min	SEC only
Introduction	5 min	SEC & applicants
Presentation by the applicants, introducing the proposal	15 min	SEC & applicants
Questions and answers (Q&A)	25 min	SEC & applicants
Deliberation and finalisation of evaluation report	30 min	SEC only

PHASE 2: FULL PROPOSAL

- SEC Funding scenario

CRITERIA	ALL THEMES
Scientific quality	35%
Quality and efficiency of the implementation	40%
Impact	25%

More details on evaluation
criteria: evaluation matrix
full proposals

Best ranked proposal per theme: funded

Other proposals: common ranking list based of final evaluation result

AFTER SELECTION

- Signature of contract (November - December 2026)
- First advance payment → follow invoicing instructions of the RHID
- Selected projects start in December 2026
- Provide technical sheets with project description (for website)
- Kick-off meetings (after signature of the contract) in the beginning of 2027

CONTRACTS

3 parts	Content	Who signs?
Basic contract	• Designates the contracting parties • Contains the general obligations applicable to the project • Defines the contract duration and budget	Heads of the partners: directors, rectors, CEOs
Annex I: technical specifications	• Operational implementation of the project • Work description and planning • Details on funding by expenditure category	Persons in charge of the realization of the project (principal investigators, “promotor”)
Annex II: General conditions applicable to the DEFRA contract	• General provisions applicable to all DEFRA contracts (incl. IPR rules)	Must not be signed – and is already available on the DEFRA website

SAFETY AND ETHICAL ASPECTS

SAFETY ASPECTS

Special requirements for **companies, a(i)sbl and foundations (as partner or as subcontractor)**

Document	Name and format of the file	How to deliver?
Extract from the UBO register	ACRONYM_UBO_COMPANY.pdf	Upload in folder on SharePoint site
Consent form(s) for security verification	ACRONYM_CONSENT_COMPANY_PERSON.pdf	E-mail to bureau.industrie@mil.be
Proof of dispatch of the consent form for security verification	ACRONYM_PROOF_COMPANY_PERSON.pdf	E-mail to defra@mil.be (grouped per pre-proposal)
Company Honourability & Vulnerability self-assessment declaration	ACRONYM_DECLARATION_COMPANY.pdf	Upload in folder on SharePoint site



SAFETY ASPECTS

Special requirements for **companies, a(i)sbl and foundations (as partner or as subcontractor)**

All documents must be submitted before 11 September 2026, 14h

The documents that must be sent by e-mail, must be grouped per pre-proposal

These documents must be delivered for this call and for each pre-proposal

**Documents previously submitted for others call or other proposals
will not be considered**

!! Failing to deliver these documents before the deadline will result in exclusion of the pre-proposal !!

RESEARCH ETHICS

It is the responsibility of the applicants to consult the relevant Ethical Board of their organisation before submitting a proposal.

- Full proposal contains an **ethics self-assessment**
- The Ethical Advisory Board of the RHID will assess this information and can advise the partnership how to deal with ethical aspects of the proposal
- This is an important aspect in the evaluation procedure !

Q&A

COMMUNICATION

**For questions about
the call for proposals,
the call procedure and documents,
the submission and evaluation of
proposals**

defra@belspo.be

**For questions about the content of
the call and themes,
the conclusion of the contract for
selected proposals,
and everything related to the
implementation (reporting, invoicing,
communication, follow-up) and
valorisation of the projects**

defra@mil.be

FURTHER QUESTIONS

defra@belspo.be

GOOD LUCK!