



DEFRA

Defence-related Research Action

Information Session

Call for proposals 2023



13 February 2023





Welcome and introduction



LA DÉFENSE



13 February 2023





Agenda

- 14:00 : Welcome and introduction
- 14:10 : Meet the DEFRA team
- 14:20 : DEFRA program: context and objectives
- 14:30 : Content of the call
- 15:00 : Submission procedure/use of the platform
- 15:20 : Evaluation procedure
- 15:30 : Q&A



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Meet the DEFRA team

RHID Royal Higher Institute for Defence - Scientific & Technological Research@Defence **STRD**

&

BELSPO Belgian Science Policy



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RHID

Colonel Geert Degraen, Ir
Director Scientific & Technological
Research for Defence (STRD)

Geert.Degraen@mil.be



Mrs Karen Pieters, MsC
Program Manager DEFRA

Karen.Pieters@mil.be



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RHID

Data Acquisition and Processing

Major Erik Van de Schoor, ir
Domain Manager Data Acquisition & Processing
erik.vandeschoor@mil.be



Point of contact for

theme 1: Cyber : Automated certification of software

theme 3: Open Call SMEs

theme 4 : Advanced Sensor Systems : radar and (multi)-sensor system



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RHID

Human Factors & Medicine

Mrs Lucie Geurts, PhD

Domain Manager Human Factors & Medicine

Lucie.geurts@mil.be



Point of contact for

theme 2 : Autonomous Systems : Human-Machine Teaming

theme 3: Open Call SMEs



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RHID

Mobility, Systems & Protection

Maj Benoit Dequick, PhD

Domain Manager Mobility, Systems & Protection

Benoit.Dequick@mil.be



Point of contact for

theme 3: Open Call SMEs

theme 5: Materials – Protective Characteristics



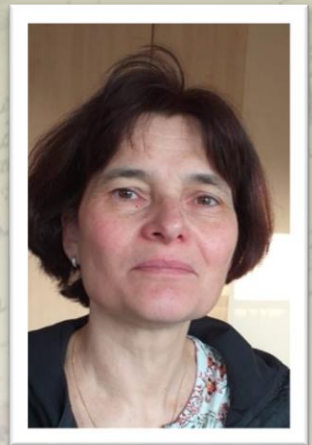
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BELSPPO



Maaïke Vancauwenberghe
Director Research Programs
Coordinator BRAIN-be 2.0



Marleen Bosschaerts
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BELSPo



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DEFRA program: context and objectives



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DEFRA program

STAR Plan

“a gradual increase of the R&T contribution for security and defence until 2 % of the defence effort in 2030”

Policy Note MoD 31 Oct 2022

“In this framework, the RHID will elaborate a suitable R&T-policy”, “... knowledge centres in Belgium, companies in general and Belgian SME’s, ...” “will flow back to society in the form of knowledge, technology and employment”

RHID: R&T vision 2030

Five boosters for Defence related R&T, one of them is DEFRA

- Long term collaboration with BELSPO
- Information on research policy, strategic objectives & focus areas (website: <https://www.defence-institute.be/>)



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Objectives DEFRA program

- **Research** to contribute to :
 - **Belgian Defence capability development;**
 - **Culture of innovation** within Belgian Defence;
 - More & new ways of **employment** for Defence;
 - **Belgian industrial & technological base** (security & defence);
- **Encourage participation** of research institutes & industry in Defence & security related research activities;
- **Scientific excellence;**
- Promote **systemic, multidisciplinary/interdisciplinary and integrative approaches;**
- Strengthen research which **benefits potential users.**





Content of the third DEFRA call

- Themes and Indicative budget
- Eligibility criteria
- Funding rules



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Themes & Indicative budget



Project duration of 2 to maximum 4 years	Indicative budget (M€)
Theme 1 – CYBER: Automated certification of software	1,6
Theme 2 - Autonomous systems: Human-machine Teaming	1,6
Theme 3 - Open theme SMEs: Research on innovative and future-oriented defence solutions with specific interest for CBRN-Medical Response, Decontamination and Protection and Weapon Systems - Improved ammunition systems	2,4
Theme 4 - Advanced sensor technologies: Radar and (multi)-sensor systems	1,6
Theme 5 – Materials: Protective characteristics	1,6



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Theme CYBER



- **Context:**

- Certification :

- Determination : is the cybersecurity risk acceptable ?
 - Important workload : slow, complex
 - Amount of assurance evidence → incomplete, superficial processes - no reproducible results

- Solution : to produce software design models that facilitate the automatic evaluation ; trustworthy manner to independently evaluate the components

- Goal : to automate the generation and evaluation of software assurance evidence

- **Scope:** Particular attention for solutions for :

- automating the generation of assurance evidence & curating the produced evidence
 - automatically building assurance cases from the assurance evidence & assessing the confidence of these cases

- **Impact:**

- Technology demonstrator : How can the automated certification of software be applied to simple software applications ?

! Collaboration with Royal Military Academy is required !




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Theme AUTONOMOUS SYSTEMS

- **Context:**

- Autonomous systems : quickly and effectively - reducing risks to human operators and costs - many fields of human activities.
- **!** challenges “trust in these systems” : mistrust – complacency  concerns about endangering human lives - damaging equipment - incurring costs
- Moral questions

- **Scope:**

- Human to Machine trust : **P**erformance, **P**rocess, **P**urpose
- Technological solutions that foster a well-balanced trust in the machine by improving the human’s perception of **PPP**
- Multidisciplinary approach : all fields of human factors and ergonomics ; explicitly focus on human-centred design.

- **Impact:**

- solutions offer a way to build up trust in automation
- from the commission of the technology, through training and to its use in operations
- solutions allow a swift introduction within a military context



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OPEN CALL SMEs

- **Context:** to address new, upcoming or unforeseen challenges and/or creative or disruptive solutions.
- **Scope:** open to any subject of interest for defence within the Defence focus areas but with a specific interest for
 - CBRN – Medical Response, Decontamination and Protection
 - Weapon Systems – Improved Ammunition Systems
- **Impact:**
 - to achieve innovative and cost-effective solutions for defence applications, ground-breaking or novel concepts, new promising future technological improvements
 - To improve readiness, deployability and sustainability in all spectrum of tasks and missions

! Collaboration with at least one SME is required !



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Theme ADVANCED SENSOR SYSTEMS

- **Context:** Emerging technologies → increased appearance of threats → difficult to detect and track → existing surveillance systems reach their limits

A progress beyond the state of the art by

- optimally combining different sensor systems and implementing different levels of integration and fusion
- searching for maximum performance in an environment where space and spectral bands must be shared
- increasing the level of automation
- **Scope:**
 - Focus : creation of flexible and adaptive systems in terms of modes of operation and different environments
 - Goal : enhancing detection performance of sensor systems to detect low signature and/or low contrast targets, while maintaining covert operation, without exposing presence, identity and location
- **Impact:**
 - contribute to an enhanced surveillance capability
 - an optimal preparation of the battlefield
 - flexible enough to cope with a dynamic battlespace



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Theme MATERIALS



- **Context:**
 - all the technologies related to innovative materials and their protective characteristics,
 - optimising the protection of weapon systems & other platforms, personnel and infra
 - against existing and future man-made or natural threats
- **Scope:**
 - protective characteristics against :
 - Projectile impact - Improvised Explosive Devices
 - Other threats with shock, blast or ballistic effect
 - Harsh environmental conditions and their impact
 - Innovative materials :
 - Chemical and/or mechanical composition and/or properties
 - Production techniques
 - Structural or material based aspects
 - Novel testing methods
 - Impact of the Artificial Intelligence on any of the above mentioned points
- **Impact:**
 - potential increase of the strategical, operational or tactical efficiency and/or effectiveness.



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Eligibility criteria

ALL THEMES

COORDINATOR

- ✓ Public Research Institute
OR
- ✓ Private company

REQUIRED

PARTNER

- ✓ Public Research Institute
OR
- ✓ Private company

PARTNER(S)

- ✓ Public Research Institute
- ✓ Private company
- ✓ Private non-profit research centres

OPTIONAL



THEME 1 – CYBER: Royal Military Academy must be part of the network

THEME 3 - Open theme SMEs: at least one SME must be part of the network

Companies, a(i)sbl and foundations: extract from UBO register is required in pre-proposal phase



Funding rules

	REQUIRED PARTNERS	OPTIONAL PARTNERS
ALL THEMES	Coordinator: Public Research Institute OR Private Company	Partner: Public Research Institute OR Private Company
TOTAL PARTNER BUDGET financed by Defence	Public Research Institute: 100% eligible costs Private Company: <ul style="list-style-type: none"> • LargeCap enterprises: 65% eligible costs • MidCap enterprises: 75% eligible costs • SME: 80% eligible costs 	Public Research Institute OR Private non-profit research centre: 100% eligible costs. Private Company: <ul style="list-style-type: none"> • LargeCap enterprises: 65% eligible costs • MidCap enterprises: 75% eligible costs • SME: 80% eligible costs



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Submission procedure & Use of the platform



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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
- Platform submission guidelines
- FAQ
- Structure pre & full proposals
- General conditions contract



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Online submission platform

<https://defra.belspo.be>

PHASE 1 - submission of pre-proposals:

- Pre-proposal template (Word file)

PHASE 2 – submission full proposals:

- Full Proposal template (Word file)
- Gantt chart (Excel file)
- Cash or in-kind commitment letter – non mandatory (Word file)



Online submission platform

Platform Homepage before Log In

DEFRA 2023

DEFRA platform

Platform submission guidelines

PRE-PROPOSALS : Submission deadline is 16/3/2023 14:00

Online Platform for submitting and evaluating proposals in the context of the DEFRA-call 2023

In order to maintain the Belgian Defence military and technological edge to face current and future security challenges, scientific and technological research in the domain of security and defence is key.

The Royal Higher Institute for Defence (RHID) aims to promote the growth of Belgian scientific and technological research in the field of defence and security, as well as to restore and strengthen the links between administrations, universities and companies at this prospect.

To further develop its capabilities through collaborative research with external partners, the RHID, in collaboration with BELSPO, will launch open calls for proposals within the frame of the Defence-related Research Action (DEFRA). The third call of the DEFRA program is launched on 7 February 2023, based on five selected research themes.

The third call of the DEFRA program covers the following research themes :

- Theme 1 - CYBER: Automated certification of software
- Theme 2 - Autonomous systems: Human-machine Teaming
- Theme 3 - Open theme SMEs: Research on innovative and future-oriented defence solutions including CBRN and improved ammunition systems
- Theme 4 - Advanced sensor technologies: Radar and (multi)-sensor systems
- Theme 5 - Materials: Protective characteristics

More information can be found in the [Information file](#) for applicants

[LOGIN if you want to have access to the online platform](#)

Project coordinator creates personal account
One email address = one account

Platform submission guidelines
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Online submission platform

Once logged-in: directed to your personal Homepage



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You are logged as: testdefra@belspo.be [Logout](#)

[Platform submission guidelines](#)
[Information file](#)

DEFRA platform

[Add Pre-proposal](#)

PRE-PROPOSALS : Submission deadline is 16/3/2023 14:00

Reference	Acronym	General information	Submitted
Back to Homepage			

[Platform submission guidelines](#)

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Click on “Add Pre-proposal” button to create Pre-proposal.



Online submission platform

Pre-proposal page

DEFRA 2023  **belspo** 

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[Information file](#)

DEFRA platform

New Pre-proposal - Information sheet

THEME

- Theme 1 - CYBER: Automated certification of software
- Theme 2 - Autonomous systems: Human-machine Teaming
- Theme 3 - Open theme SMEs: Research on innovative and future-oriented defence solutions including CBRN and improved ammunition systems
- Theme 4 - Advanced sensor technologies: Radar and (multi)-sensor systems
- Theme 5 - Materials: Protective characteristics

PROPOSAL'S ACRONYM (maximum 15 characters)

PROPOSAL'S TITLE (maximum 255 characters)

COORDINATOR

Lastname: Firstname: Email:

Type of organisation

Organisation

Organisation's abbreviation

Department/Research unit/Division



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Online submission platform

Pre-proposal page – mandatory fields:

- Themes of the Call
- **Proposal's Acronym**
- **Proposal's Title**
- Name, institution and contact details of the Coordinator
- Partners (institution coordinates)
- Summary
- Keywords (min 2)
- Approval statement for submission


Minimal required
info to start



Online submission platform

Personal Homepage will change after saving Pre-proposal

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DEFRA platform

You are logged as: testdefra@belspo.be [Logout](#)

[Add Pre-proposal](#)

PRE-PROPOSALS : Submission deadline is 16/3/2023 14:00			
Reference	Acronym	General information	Submitted
▶ Pre-proposal Pre-001	CYBER1	Title: Cyber - automated certification of software Coordinator: Defra 2023, Laboratoires de la défense - Defensielaboratoria	<div style="border: 1px solid #4b3621; padding: 2px;"> Information sheet </div> <div style="border: 1px solid #4b3621; padding: 2px; margin-bottom: 2px;"> Content </div> <div style="border: 1px solid #4b3621; padding: 2px; margin-bottom: 2px;"> Experts </div> <div style="border: 1px solid #4b3621; padding: 2px; margin-bottom: 2px;"> Print Pre-proposal </div> <div style="border: 1px solid #4b3621; padding: 2px;"> Submit </div>

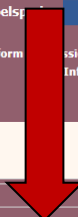
1 pre

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[Platform submission guidelines](#)

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Submission procedure

- **Information sheet:** displays Pre-proposal page for further editing
- **Content:** contains downloadable template to be filled in off-line and subsequently uploaded to platform + button to upload extract(s) of the UBO register
- **Experts:** allows introducing 6 evaluation experts
- **Print Pre-proposal:** preview Pre-proposal PDF-file
- **Submit:** for submitting the Pre-proposal



Submission procedure

- Download word template for pre-proposals
- Complete all fields, take into account evaluation criteria for pre-proposals (cfr evaluation matrix)
- Upload completed pre-proposal (PDF-file)
- Upload extract(s) of the UBO register
- Propose experts for evaluation of full proposals (min 2 Belgian and 2 foreign experts; 2 *non-grata*)



Submission procedure

- Click on **‘Submit’**. You will be directed to the Pre-proposal page
- At bottom of page, click on **‘Check’**.
 - ⚠ This "function" ONLY checks if all necessary fields are completed. The content of the Pre-proposal and the fulfilment of the eligibility conditions are your responsibility.
- At bottom of page, click on **‘Submit’**. The Pre-proposal will be submitted to BELSPO
- Confirmation by e-mail to coordinator
- **Deadline for pre-proposals: 16/03 - 14h**





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:

Weight of the different criteria	All themes
Quality of the pre-proposal	40%
Quality of the partners & adequacy of the partnership	30%
Impact	30%

- Per theme: max. 5 pre-proposals invited to submit full proposal



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Phase 2: Full proposal

- Step 1 - Remote scientific peer review evaluation
3 independent experts (min 1 Belgian, 1 foreign)
- Step 2 – Scientific Experts Committee (SEC) evaluation, incl. interviews with the applicants
- Step 3 - Selection proposal formulated by Scientific Committee RHID
- Step 4 - Final selection proposals by Board of Directors RHID
- Selected projects start December 2023



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Key dates

	Date	At / via
Information session	13 February 2023	RMA, building I, meeting room Frank De Winne
Deadline Pre-proposals	16 March 2023 - 14h00	Online submission platform
Communication of evaluation result pre-proposals	30 March 2023	Mail
Deadline Full proposals	27 April 2023 - 14h00	Online submission platform
Remote scientific peer review evaluation	1 May – 25 May 2023	Online evaluation platform
Feedback to applicants in preparation of panel meeting (consensus reports and questions to applicants)	9 June 2023	Mail
Written feedback by applicants (answers)	30 June 2023	Mail
Panel evaluation, incl. interviews with the applicants	Between 28 August and 6 September 23	RHID



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Key dates

	Date	At / via
Selection proposal formulated by the scientific committee of the RHID	15 September 2023	NA
Final selection of proposals by the board of directors of the RHID and allocation of projects	28 September 2023	NA
Communication of results to applicants	3 October 2023	Mail
Signature contracts	14 November 2023	Online E-sign platform
Start of the projects	December 2023	



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Communication

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

defra@belspo.be

**Once the contract is concluded,
everything related to the project
implementation:
questions about reporting, invoicing,
implementation, communication,
follow-up and valorisation of the
project**

defra@mil.be



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GOOD LUCK !

Further questions:
FAQ on website
defra@belspo.be



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