ROYAL MILITARY ACADEMY
BRUSSELS

27-28 JANUARY 2026

DEFRA

DEFENCE-RELATED RESEARCH ACTION

- DEFRA Calls -

- INFO DAY-

DEFENCE

ROYAL HIGHER INSTITUTE for DEFENCE

belspo

DEFRA Calls 2026

- DEFRA Call 2026
- Open Call Human factors
- Space Call

!! Subject to approval of Council of Ministers!!

PROGRAMME

08:30 Registration and coffee
09:00 General introduction
09:15 DEFRA: context and objectives
09:30 Two testimonies: GUIDED and BREATHFIT
10:10 Q&A

10:20 Coffee & networking

10:50 Content of the 6th DEFRA call: timeline and themes
11:20 The rules of the DEFRA programme
11:35 Q&A

11:55 Standing lunch & networking

13:15 Submission procedure and use of the platform
13:25 Evaluation procedure
13:35 Q&A

14:00 Breakout sessions themes 1-9

15:10 Reception
16:30 End of information day

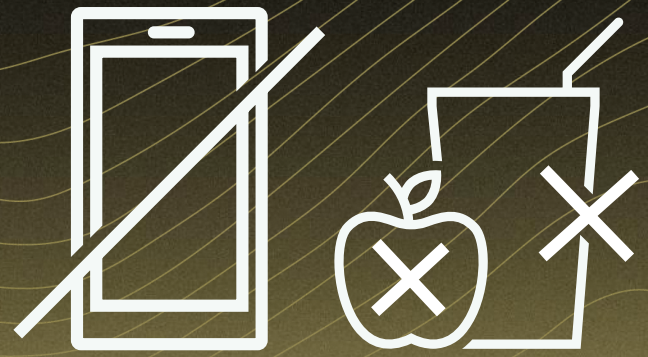
AGENDA

1. General introduction
2. DEFRA context and objectives
3. Two testimonies: GUIDED & BREATHFIT
4. Q&A

Housekeeping rules

DEFRA
DEFENCE-RELATED RESEARCH ACTION

- Please put your **phone on silent mode**.
- For the smooth running of this conference and to respect the rights of the speakers, we kindly ask you to **refrain from using your phones to record the conference, either in audio or video format**.
  We also request that you **do not use AI tools to transcribe or distribute the content** of the conference.
- Do **not drink & eat in the meeting rooms**.
- Please **give back your neck lanyard** when leaving the event.



DEFENCE

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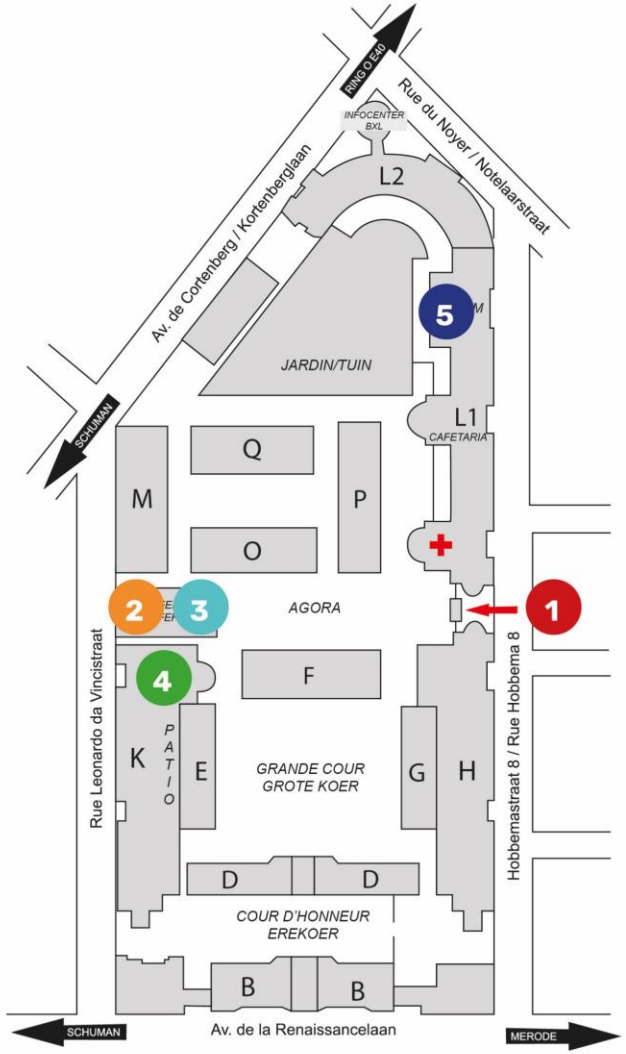


1. Entrance/exit + guardroom (registration)

2. Conference room Frank De Winne
   27-28 Jan: Registration & Coffee break
   27 Jan: Reception

3. *Breakout sessions*

   Symposium:
   - Innovative Solutions for Military Medical Logistics (theme 3)
   - Biomanufacturing (theme 4)
   - Conflict Dynamics & Warning Intelligence (theme 8)

   Studio 1:
   - Resilient Propulsion Tech for Strategic Autonomy (theme 1)
   - Next Generation Sensing (theme 6)

   Studio 2:
   - Cyber (theme 2)

4. *Breakout sessions*

   K.0019:
   Smart Energy Management & Energy Optimisation (theme 5)
   K.0020:
   Exploring & Integrating Unmanned Systems (theme 7)
   K.0029:
   Communications Technology (theme 9)

5. Restaurant 2: Lunch
   27-28 Jan: Standing lunch

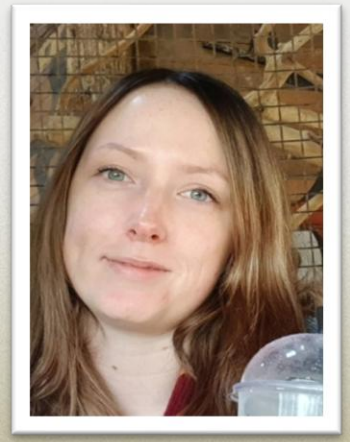
MEET THE DEFRA TEAM

RHID Royal Higher Institute for Defence – Research, Development, Innovation and Industrialization

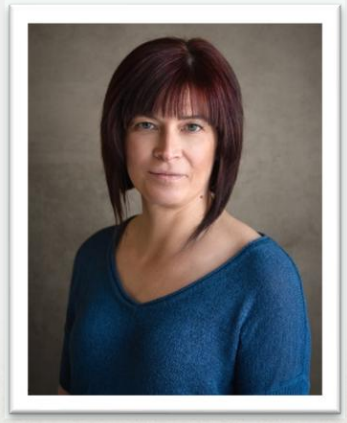
&

BELSPO Belgian Science Policy

Marleen Bosschaerts
Depuyt Director Research Programs



Silke Van Steelant
Program manager



Karen Pieters
Deputy Director RDII
Program Manager DEFRA

Fabian Van Haelst
Administrative support

CONTEXT AND OBJECTIVES

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
- 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

TWO TESTIMONIES

DEFRA Infodays 26

GUIDED

Goggles-based User Interface for Detection of Explosive Devices

Overview by:
PROESMANS Marc (Trace vzw)

1 Project Scope

2 Partners

3 Approach and Timeline

4 Experiences and recommendations

5 Conclusion

Project Scope

GUIDED

Goggles-based **U**ser **I**nterface for **D**etection of **E**xplosive **D**evices

Project Motivation

Context

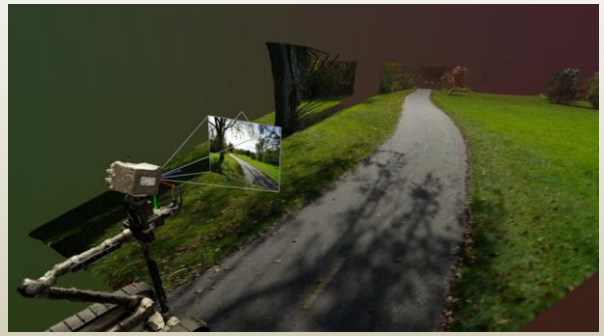
Demining “EOD” robots:

- Dated user interfaces
- Flat screen camera feedback
- Unintuitive
- Costly trainings

Proposal

Modernize EOD operations:

- Multi-spectral sensor technologies
- AI / Deep learning models
- XR



Impact

Intuitive user interface:

- Less training
- Less cognitive load
- Improved safety
- Possible threat detection

Partners

trace KU LEUVEN

Non-profit research institute affiliated to and embedded in KU Leuven; strong focus on **mobility applications, 2D/3D vision, deep learning** also in multi-spectral imaging context.

intermodalics

Industrial partner with expertise in **autonomous mobility, intelligent systems, robotics** and 3D positioning & reconstruction software.

RMA Royal Military Academy

Military research institute which has experience with **SLAM and multi-spectral imaging** in a military context and has close connections with DOVO for user feedback, testing and validation.

End-user

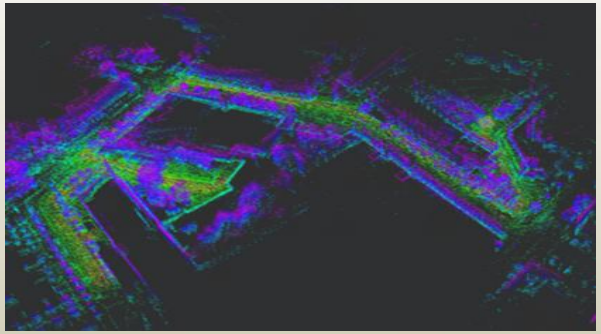
DOVO

Explosive Ordnance Disposal and Destruction Service responsible for the disposal, neutralisation, and dismantling of remaining ammunition and unexploded ordnance.

Project Scope

Sensor Rig

- On top of existing robot
- Multi-spectral
- Surround view
- 3D / stereo



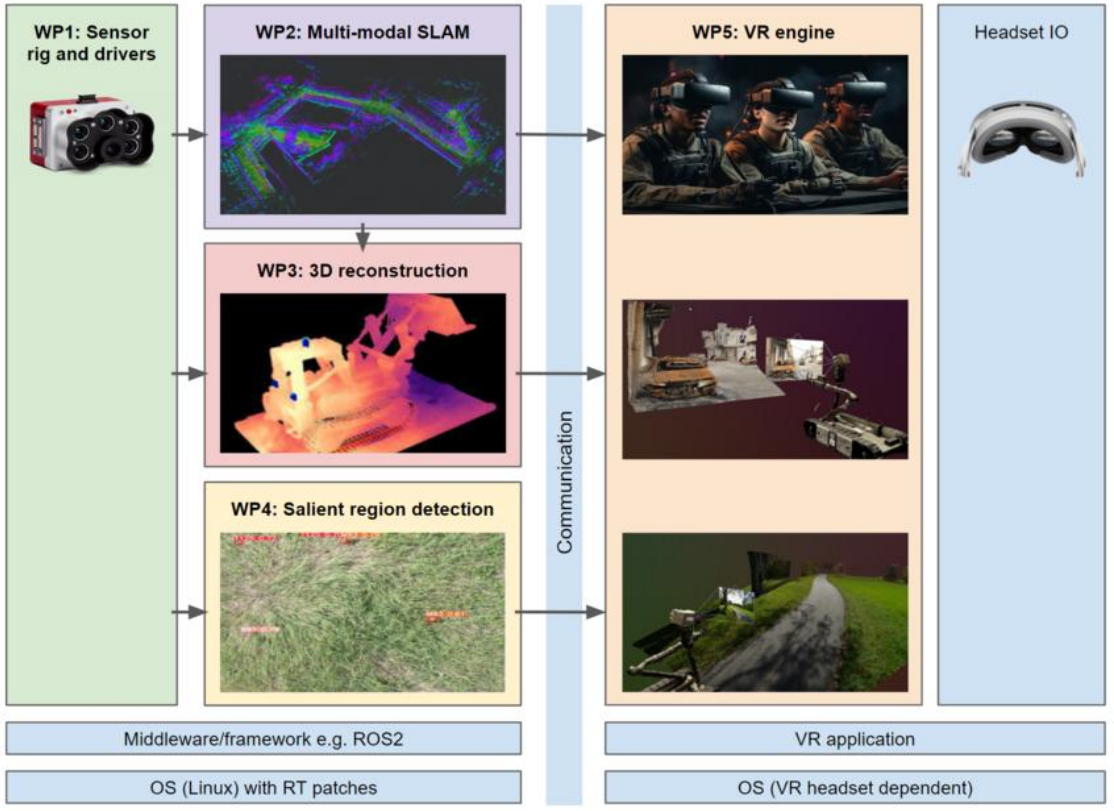
Algorithms

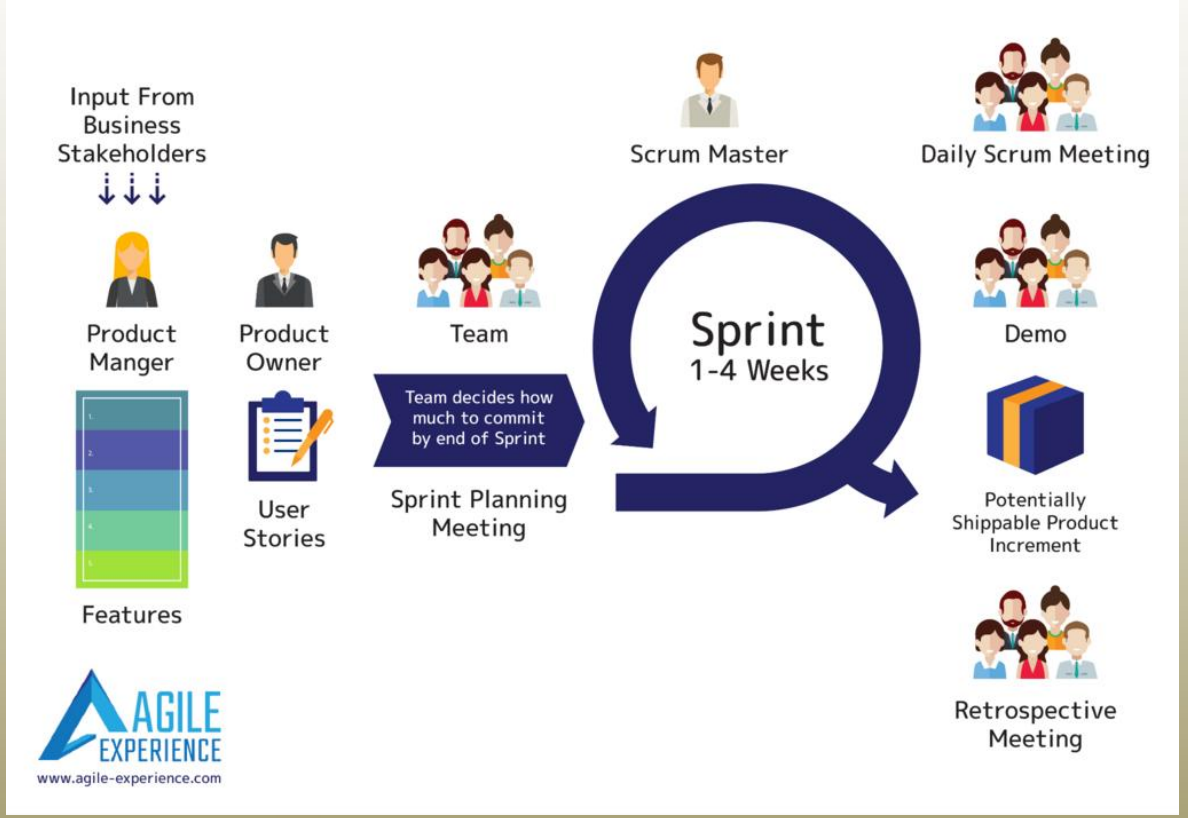
- Localisation
  - Multi-modal SLAM
- Dense 3D reconstruction
  - NeRFs/Splats
- Salient region detection
  - Self-supervised NN

User interface

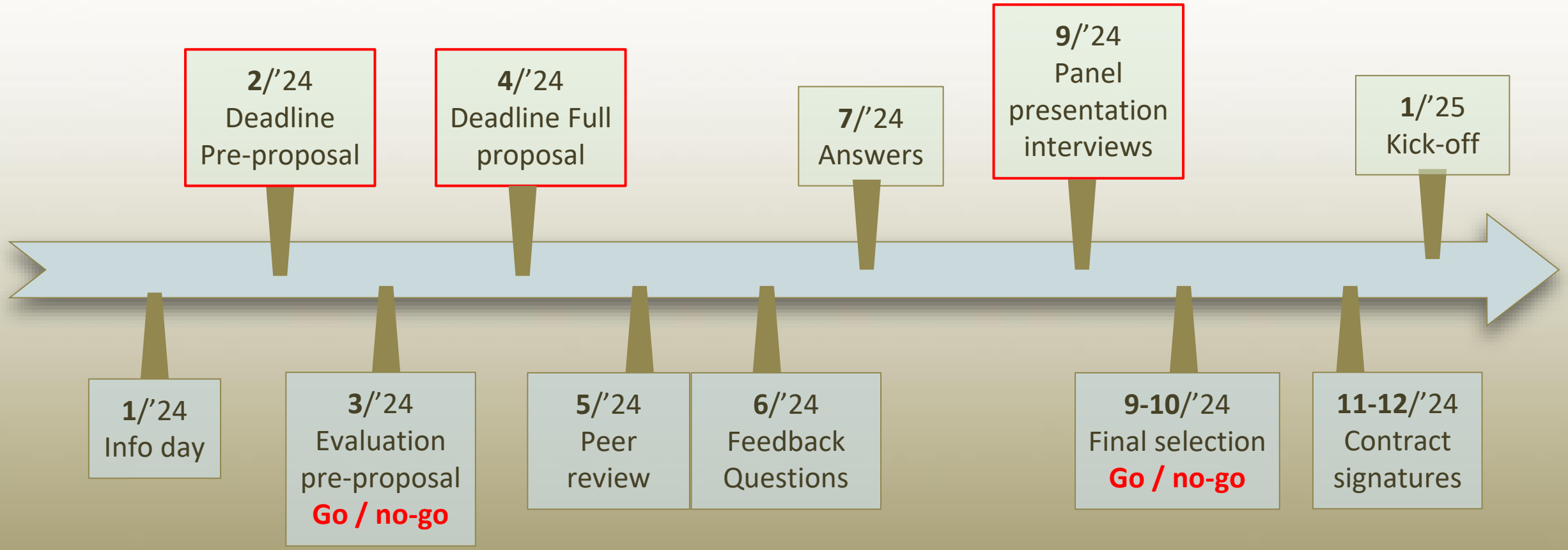
- Virtually next to robot
- Intuitive overview
- Spectral threat indicators

Approach


WP1: Sensor rig and drivers
WP2: Multi-modal SLAM
WP3: 3D reconstruction
WP4: Salient region detection
Communication
WP5: VR engine
Headset IO
Middleware/framework e.g. ROS2
OS (Linux) with RT patches
VR application
OS (VR headset dependent)


Input From Business Stakeholders
Product Manger
Product Owner
Features
User Stories
Team
Team decides how much to commit by end of Sprint
Sprint Planning Meeting
Sprint
1-4 Weeks
Scrum Master
Daily Scrum Meeting
Demo
Potentially Shippable Product Increment
Retrospective Meeting
AGILE EXPERIENCE
www.agile-experience.com

Timeline


1/'24
Info day
2/'24
Deadline
Pre-proposal
3/'24
Evaluation
pre-proposal
Go / no-go
4/'24
Deadline Full
proposal
5/'24
Peer
review
6/'24
Feedback
Questions
7/'24
Answers
9/'24
Panel
presentation
interviews
9-10/'24
Final selection
Go / no-go
11-12/'24
Contract
signatures
1/'25
Kick-off

Experiences & recommendations

Setting up a consortium:

- ❑ Use the **info day** to get to know the MIL world
- ❑ **Valuable** Insights / relevant problem statements / opportunities
  - Make contacts to discuss possible applications
- ❑ Balance scientific, academic, applied, industrial goals
  - Include **research** questions !
- ❑ Reach out for **partners** to find best match and strengthen the consortium
- ❑ Define **end-user** in advance

Experiences & recommendations

Ethical Commission Dual Use, Military Use:

- ❑ Trace/KUL can **not** be involved in *offensive* military applications
- ❑ Timely contact (local) **Ethical Commission** to get feedback
- ❑ Ideally during the pre-proposal phase.
  - E.g. use pre-proposal abstract / description
- ❑ Anticipate time to response !

Experiences & recommendations

Pre-proposal:

- ❑ **Follow** all guidelines and **formal requirements** as requested in the templates
- ❑ Complete the list of experts !
- ❑ Provide UBO (ultimate beneficial owner register) !

→ Any of these items **missing or incomplete** -> you will be **rejected !**

Experiences & recommendations

Full Proposal:

- ❑ **Follow** all guidelines and **formal requirements** as requested in the templates
- ❑ Clear **vision** with benefits for the **Defence**
- ❑ Properly divide the tasks amogng the partners **: Work packages / Gantt chart**
- ❑ pay attention to **Data Management Plan** → separate WP
- ❑ Define **IPR agreements** between partners in advance
  - There is a default arrangement in the consortium agreement, but it's advised to consider these items in advance.
  - Market investigation / views on commercialization → separate WP

Experiences & recommendations

Personel:

❑ Limited time between go/no-go / signing / kick-off if you need to hire
- Note: ontract foresees possible delay on kick-off/start date.
- Align with your DEFRA liaisons!

❑ Project open to all nationalities

❑ Non-NATO members may need to be screened by State Security

→ include risk assessment in the early phase of the project !!

Experiences & recommendations

Coordinator / coordination:

- ❑ **Communication** between partners
- ❑ Organize **kick-off** (Jan - Feb)
  - Contract foresees some delay if necessary to
  - Contact your DEFRA liaisons for practical arrangements
- ❑ Take initiative for the **steering committee**s
  - Contact stakeholders timely !
  - ~ twice a year
  - Open discussion on progress, end-user/stakeholder needs, suggestions.

Conclusions

Involve **stakeholders / end-user(s) asap**

clear vision on the objectives and all tasks

Indicate **value** is for **Belgian Defence**

Work towards **PoC demonstrator**

Involve **Ethical commission**

Follow **all guidelines**

Consider **Timing**

Questions / issues?
Ask DEFRA !!
Karen, Lieven,...

DEFRA Infodays 26

BREATHFIT

Exhaled breath analysis to determine physical readiness of soldiers

Overview by:
SLINGERS Gitte (VITO)

BREATHFIT – a testimony

1. Proposal
2. Project
3. Challenges
4. Coordination
5. Our experience

We turn scientific insights into ground-breaking technological innovations, AI solutions and policy advice

Regenerative economy

Circular & bioeconomy
Energy & water
Closed loops

3
IMPACT
DOMAINS

Healthy environment

Environment – health impact
Space for all
Human comfort

Resilient ecosystems

Climate mitigation
Climate adaptation
Security

Security & Defence Team

Proposal

Idea: Exhaled breath-based monitoring of soldier fitness

Theme Health: Preventive Medicine for improved soldier fitness

Build on existing activities & collaboration Voxdale

Pre-announcement 2nd DEFRA call

DEFRA info session & documents

Ask DEFRA extra info

Contact MHQA

Proposal draft & submission

How to contact MHQA about our project idea & proposal?

Very responsive & great help!

Our project idea & proposal -> Can MHQA join as partner?

Very responsive & great help!

Proposal

Pre-announcement
2nd DEFRA call

4 Feb 2022

DEFRA Info day

10 March 2022

Pre-proposal
submission

26 April 2022

Go/No go for full
proposal

May 2022

Submit proposal

28 June 2022

Written rebuttal to
evaluation report

Sept 2022

Panel evaluation incl.
interview

Sept 2022

Final decision

Nov 2022

Official Kickoff meeting of
the project

Dec 2023

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PROJECT

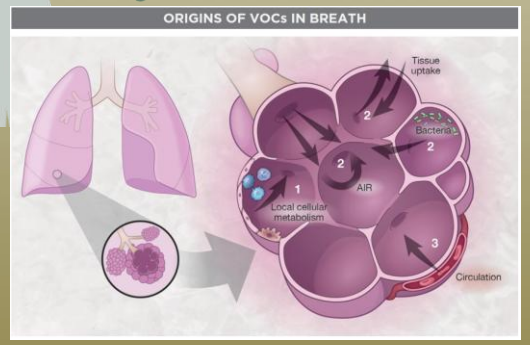
vito
voxdale

Health & performance monitoring

➔ Current methods impractical in real-time & require highly trained staff

Minimally or non-invasive methods

➔ Exhaled breath

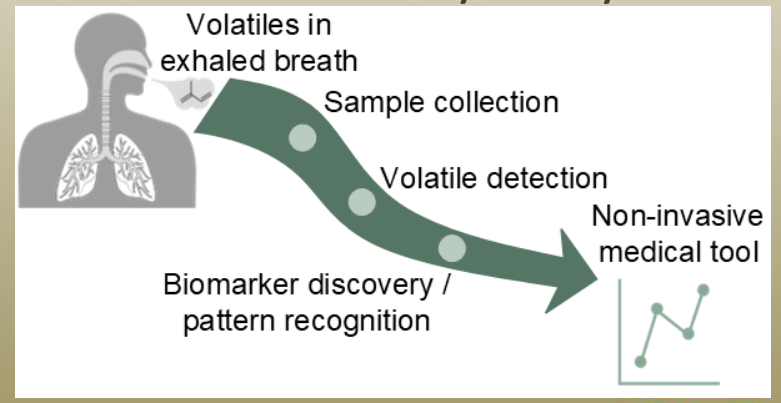


PROBLEM	NEED
SOLUTION	AIM

More convenient methods for frequent screening

- More targeted & efficient monitoring of individual's health
- Prevention of overtraining/overreaching & subsequent performance decrease

1) Develop breath sampler
2) Biomarker discovery study



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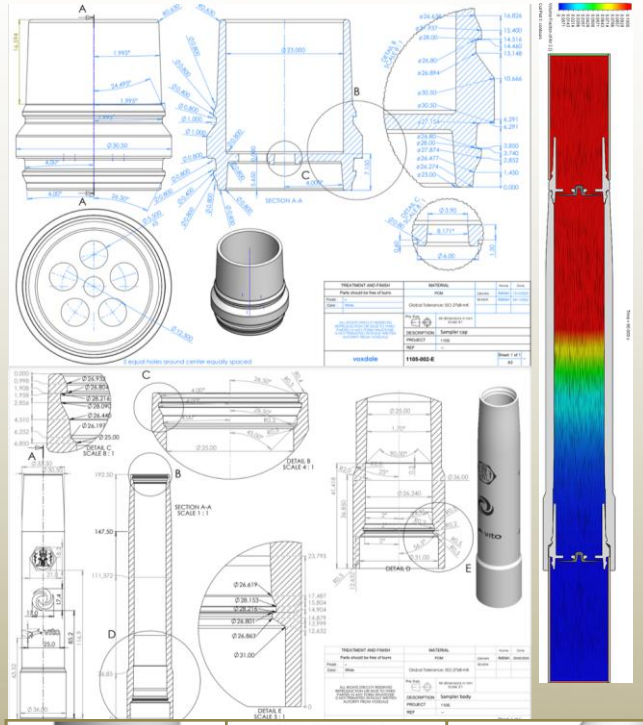
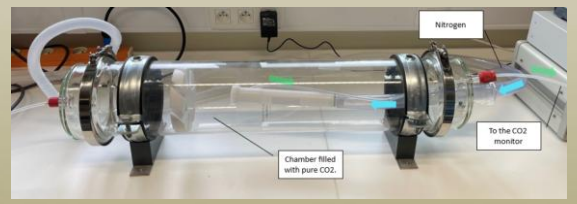
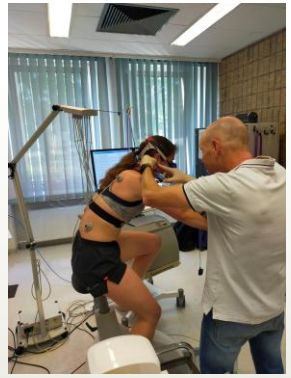
PROJECT

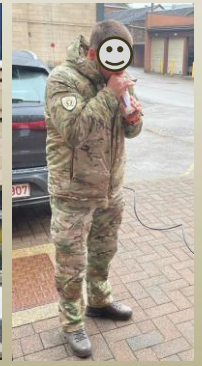


Design & testing





Field study



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CHALLENGES

Design & testing

- Unexpected results ➔ additional prototype iterations
  ➔ delay field study & plan B
- Availability testing infrastructure ➔ requires good communication with partners

Field study

- Multiple study locations ➔ Coordinating with multiple partners & institutes
  ➔ plan according to their program/availability
- Participant recruitment ➔ reluctancy to blood sampling ➔ change to saliva

COORDINATION

- Dissemination requires approval
  ➔ fast response from DEFRA!

- Regular team meetings
- Steering committee meetings 2/year
- Admin:
  - Meeting reports
  - Steering committee meeting reports
  - Annual report + financial report

OUR EXPERIENCE

- In general:
  - At first daunting to learn how the world of Defence works
    ➔ Made easier by very cooperative Defence
  - Enriching for researchers & industry
  - Communication with DEFRA very good!
    Karen Pieters & Lucie Geurts are very responsive & helpful!

OUR EXPERIENCE

- Proposal:
  - Very clear what is required
  - Timing written rebuttal (summer) & panel evaluation (September) can be challenging due to holidays of consortium partners

- Project execution:
  - Communication is key!
  - Set-backs & changes are part of research ➔ Focus on finding solutions ➔ Defence is very willing to help
  - Changes to budget (between categories) can be requested

Thank you!
Questions?

Closing event in October!

BREATHFIT

Exhaled breath analysis to determine physical & mental readiness of soldiers

VITO – Voxdale – MHQA
Gitte Slingers

Housekeeping rules

DEFRA
DEFENCE-RELATED RESEARCH ACTION

For your questions, please use **Slido** (slido.com):

Password: #**1722785**

Coffee break
& networking

PROGRAMME

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DEFRA
DEFENCE-RELATED RESEARCH ACTION

27-28 JANUARY 2026

DEFRA Call 2026

!! Subject to approval of Council of Ministers!!

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AGENDA

1. Content of the 6th DEFRA call: timeline and themes
2. The rules of the DEFRA programme
3. Q&A

CONTENT OF THE 6TH CALL: TIMELINE & THEMES

TIMELINE

	DATE	AT / VIA
Information session	27-28 January 2026	RMA, building I, meeting room Frank De Winne
Deadline Pre-proposals	**19 February 2026 (14h00)**	**Online submission platform**
Communication of evaluation result pre-proposals	23 March 2026	Mail
Deadline Full proposals	**4 May 2026 (14h00)**	**Online submission platform**
Remote scientific peer review evaluation	5 May – 1 June 2026	Online evaluation platform
Ethical evaluation	5 May – 5 June 2026	NA
Feedback to applicants in preparation of panel meeting (remote scientific peer evaluation, ethical evaluation & questions to applicants)	10 June 2026	Mail

TIMELINE

	DATE	AT / VIA
Written feedback by applicants (answers)	**19 July 2026**	**Mail**
Panel evaluation, incl. interviews with the applicants	Between 22 June and 15 July 2026	RHID
Selection proposal formulated by the scientific committee of the RHID	4 September 2026	NA
Final selection of proposals by the board of directors of the RHID and allocation of projects	10 September 2026	NA
Communication of results to applicants	**14 September 2026**	**Mail**

THEMES & INDICATIVE BUDGET

THEME	INDICATIVE BUDGET (M€)
Theme 1 – Resilient Propulsion Technologies for Strategic Autonomy	2.0
Theme 2 – Cyber: Advanced Data Management and Intelligence Concepts	3.0
Theme 3 – Innovative Solutions for Military Medical Logistics in Challenging Environments	2.0
Theme 4 – Biomanufacturing	2.0
Theme 5 – Smart energy management, energy optimisation (including optimised storage technologies)	3.0
Theme 6 – Next generation sensing	2.0
Theme 7 – Exploring and Integrating Unmanned Systems	2.0
Theme 8 – Conflict Dynamics & Warning Intelligence	2.0
Theme 9 – Communications Technology	2.0
Theme 10 - Open call: Defence relevant research	6.0
TOTAL	26.0

Theme 1: Resilient Propulsion Technologies for Strategic Autonomy

Context

Europe faces a critical dependency on non-EU rare earth supply chains for BLDC motors. This dependency undermines security, strategic autonomy and industrial resilience. To mitigate this dependency, alternative solutions must be developed

Research Scope

Proposals are expected to deliver one or more of the following topics, not necessarily all

- Development of novel materials or composites for magnet-free or low-dependency motor systems.
- Redesign of motor architectures to eliminate or drastically reduce the need for rare earth elements.
- Investigation into new production methods that support scalable, cost-effective manufacturing of next generation electromotors
- System-level analysis of performance, efficiency, manufacturability, and lifecycle impacts of proposed solutions

Expected impact for Defence

- Proof-of-concept prototypes demonstrating comparable or improved performance to existing BLDC motors.
- Feasibility studies or production process innovations that enable industrial adoption within a realistic timeframe.
- Contributions to strategic independence in critical technologies by reducing material dependencies.

Theme 1: Resilient Propulsion Technologies for Strategic Autonomy

POC :

Smart and Advanced Materials
Cdt Laurens Rottiers
Research Manager

Laurens.Rottiers@mil.be

Theme 2: Cyber: Advanced Data Management and Intelligence Concepts

Context

Coalition operations require joint analytics while respecting data sovereignty, operational security, and privacy regulations

Privacy-Preserving Federated Learning (PPFL) enables collaborative AI without sharing raw data, combining Federated Learning with cryptographic and statistical privacy mechanisms

Research Scope

- a modular PPFL toolbox, including client SDKs, with source-code access to enable verification and sustainability, while intellectual property remains with the consortium;
- a validated TRL 5 PPFL prototype, including at least one trained AI model demonstrably usable across
- distributed partners;
- a privacy accounting plan and artefacts defining epsilon (ε) privacy budgets, their composition over training rounds and enforced stop conditions.

! Collaboration with Royal Military Academy is preferred, not mandatory !

Impact for Defence

- Enables collaborative deployment of AI models without exposing sensitive data
- Supports coalition situational awareness, predictive analytics, and decision support
- Preserves control over data exposure and privacy loss
- Provides a concrete decision framework to balance intelligence value against privacy and security risks

Theme 2: Cyber: Advanced Data Management and Intelligence Concepts

POC :

Cyber
Mrs Paola Travella, PhD
Research Manager

Paola.Travella@mil.be

Theme 3: Innovative Solutions for Military Medical Logistics in Challenging Environments

Context

Critical enabler of operational readiness in expeditionary and large-scale operations
Timely and resilient medical supply directly affects casualty survival and mission effectiveness
High operational challenges in contested and resource-constrained environments
Need for agile and adaptive logistics across austere regions and extended frontlines
Growing logistical complexity due to advanced medical equipment, pharmaceuticals, and blood products

Research Scope

Proposals must target one or more of the following thematic areas:

- Quality assurance and control of medical materials and medications
- Augmentation of shelf-life for consumables, and innovative strategies for managing stockpiling and endof-life stock;
- Ensuring an unbroken logistic continuum for all classes of medical supplies (e.g. blood)
- Deployment of autonomous vehicles (ground or aerial) for supply delivery and evacuation
- Personalisation and adaptation of medical kits for frontline medics and nurses, leveraging modular design and advanced diagnostics.

Impact for Defence

- Strengthens Defence medical logistics by improving planning, coordination, agility, and resilience through evidence-based, field-deployable solutions for future complex operational environments.
- Enhances operational effectiveness by enabling interoperable, data-driven medical support, contributing to improved force health protection and overall operational readiness.

Theme 3: Innovative Solutions for Military Medical Logistics in Challenging Environments

POC :

Human Factors & Medicine
Mrs Lucie Geurts, PhD
Research Manager

Lucie.Geurts@mil.be

Theme 4: Biomanufacturing

Context

- Biomanufacturing and smart materials are NATO-recognized strategic emerging and disruptive technologies with transformative potential across defence capabilities.
- On-demand production and adaptive materials enable field-deployable medical, energy, protection, and soldier-support systems, even in austere operational environments.
- Convergence with AI and digital twins allows real-time optimization of material performance, enhancing Defence autonomy, survivability, and operational readiness.

Research Scope

Research should focus on one of the two following topics:

1. Biomanufacturing

- Synthetic biology and metabolic engineering for on-demand production of critical supplies
- Biofabrication of tissues, sensors, and structural components for medical, diagnostic and repair applications;
- Bioremediation systems to detoxify hazardous environments or recycle waste into usable materials;
- Sustainable bioprocessing and integration with AI and digital twins will be considered as an added value for any development within the scope of the above-mentioned research areas.

Theme 4: Biomanufacturing

2. Smart Materials Science

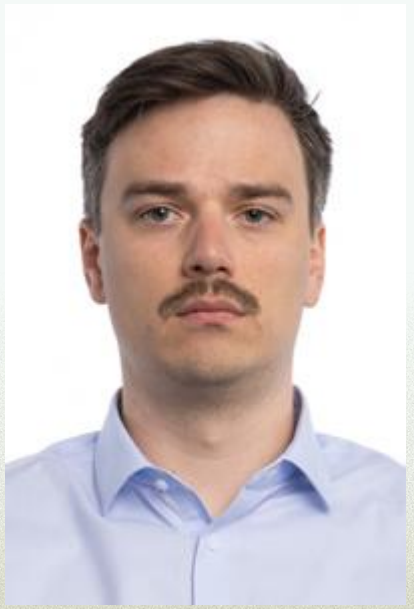
- Personal protective materials, e.g. self-healing materials for body armour
- Stimuli-responsive camouflage that adapts to environmental conditions for stealth operations;
- Bioinspired and multifunctional materials with integrated sensing, camouflage, or energy-harvesting capabilities;
- Nanostructured and programmable materials for enhanced performance and protection in extreme conditions;
- Integration with AI and digital twins for predictive material behaviour and lifecycle optimization logistics will be considered as an added value.

Impact for Defence

- Advance biomanufacturing and smart materials technologies to support personnel protection, military readiness, and operational effectiveness of Belgian Defence.
- Develop field-deployable, interoperable biomanufacturing solutions for rapid, secure, and responsible production of medical countermeasures, sensors, and mission-relevant biomaterials, with integrated biosafety, biosecurity, and supply-chain resilience.
- Strengthen resilience and sustainability of defence systems by reducing supply-chain dependencies and enhancing protection against chemical and biological threats through smart materials.
- Target TRL 4–6 with a strong focus on proof-of-concept and operational relevance.

Theme 4: Biomanufacturing

POC :



Protection of Personnel, Systems & Infrastructure
Mr Ruben Maes, PhD
Research Manager

Ruben.Maes@mil.be

Theme 5: Smart energy management, energy optimisation (including optimised storage technologies)

Context

- Modular, scalable energy storage is essential for modern defence platforms.
- Lithium-ion and solid-state batteries enable high power and fast recharging while nuclear-based batteries provide ultra-long endurance where resupply is limited.
- Modular integration of these technologies reduces energy burden and improves mission resilience.

Research Scope

Proposals may include research on:

- design and modelling of modular micro-energy units with reusable components
- development of plug-and-play interfaces enabling rapid integration across defence
- optimisation of reliability, maintainability, operational continuity, and system robustness under military conditions; strategies for scaling and adapting architectures to evolving mission requirements.

Impact for Defence

Outcomes are expected to:

- reduce reliance on vulnerable supply chains for energy and batteries; extend mission endurance for unmanned and remote systems
- enhance resilience of critical defence infrastructure; enable persistent, low-maintenance Intelligence, Surveillance and Reconnaissance (ISR), security, CBRN monitoring capabilities, …;

Theme 5: Smart energy management, energy optimisation (including optimised storage technologies)

POC :

Sustainable Energy & Environment
Mr Lowie Vueghs, PhD
Research Manager

Lowie.Vueghs@mil.be

Theme 6: Next generation sensing

Context

- Next-generation military sensing requires high agility, resilience, and advanced data analysis in contested environments.
- Focus on innovative sensing technologies that enhance situational awareness and enable rapid decision-making.
- Multidisciplinary research is encouraged to address complex operational scenarios.

Research Scope

- Focus on advanced defence sensing technologies with high sensitivity and high resolution.
- Covers state-of-the-art and emerging approaches (e.g. hyperspectral, event-based, magnetic and quantum sensing).
- Applications include challenging target detection, GNSS-denied navigation, and platform health monitoring.
- Aim to design passive, compact, robust, field-deployable sensors up to TRL 6.

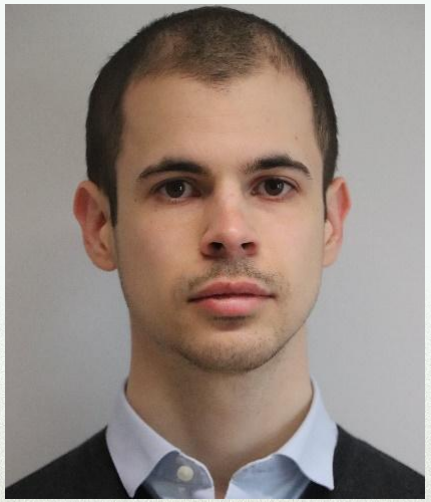
Impact for Defence

A non-exhaustive list of potential use-cases which can benefit from (disruptive) advances in sensor technology includes:

- Maritime security (above and/or under the surface) and safety
- Mine detection (both on land and at sea), especially:
  - o Buried mine detection (on land or at sea)
  - o Mines drifting just below the surface (at sea)
- Drone detection
- Detection of camouflage targets
- Target detection in degraded visual environments
- Positioning and navigation in GNSS-denied environments

Theme 6: Next generation sensing

POC :



Sensor Technologies
Mr Lieven Van de Vondel, PhD
Research Manager

Lieven.VandeVondel@mil.be

Theme 7: Exploring and Integrating Unmanned Systems

Context

Unmanned systems are becoming the backbone of the new era of armed conflict. While the use of drones is very known to the public, in reality, the threat when it comes to unmanned systems can come from not only the air, but as well from the land and sea domain.

Research Scope

Key elements include one or more of the following elements:

- Command & Control (C^2) Platforms
- Multi-Domain Coordination
- Cybersecurity & Resilience/Interoperability & Scalability/AI and automatization

Impact for Defence

The desired outcome is to provide Belgian Defence with:

- Technology Readiness Level (TRL) 5–6
- A C^2 solution that integrates unmanned systems into existing Belgian Defence platforms, ensuring compliance with current standards and enabling joint operations
- Enhanced situational awareness and mission effectiveness through improved coordination between manned and unmanned assets
- A secure and resilient architecture capable of withstanding cyber threats and electronic warfare attempts
- A foundation for future capability development, enabling Belgian Defence to expand and integrate unmanned systems into its operational doctrine

Theme 7: Exploring and Integrating Unmanned Systems

POC :

Intelligent & Autonomous Systems & Platforms
Mrs Claudia Verheyen
Research Manager

Claudia.Verheyen@mil.be

Theme 8: Conflict Dynamics & Warning Intelligence

Context

In the context of a (hybrid) conflict, the ability to effectively process vast amounts of information and data, is critical for correct decision-making. It is also essential to facilitate timely, preventive, defensive, and offensive actions. Therefore, the availability of accurate, integrated, and standardised tools to support this process is of vital importance,

Research Scope

Research into an integrated software tool that should take into account:

- A framework for conflict escalation and de-escalation
- A taxonomy based on any of the following domains such as politics, military, economy, social, information, infrastructure…
- The dynamic and complex interaction between variables
- Methods & techniques to exploit, analyse and assess retrieved information
- One or more ways to assess risks and their probability (ranges)/to deal with uncertainty
- A visually relevant and attractive early warning system

Impact for Defence

- Provide a coherently structured approach for event detection
- Provide a standardised overview of relevant elements supporting situational awareness and comprehensive preparation of the operational environment dealing with the full conflict spectrum
- Provide a scientifically sound approach for conflict escalation & de-escalation
- Support scenario design and effects-based operations
- Provide a scientifically sound approach to deal with uncertainty in decision-making;
-

Theme 8: Conflict Dynamics & Warning Intelligence

POC :

Human Factors & Medicine
Mrs Lucie Geurts, PhD
Research Manager

Lucie.Geurts@mil.be

Theme 9: Communications Technology

Context

- Secure, classified communications are critical for national defence and coalition operations.
- Mobile and digital networks introduce vulnerabilities to cyber, electronic, and hybrid threats.
- NATO SECRET–level data requires guaranteed confidentiality, integrity, authenticity, and availability.
- Belgian Defence needs a robust, mobile, future-proof communication architecture, resilient to quantum and contested-environment threats.

Research Scope

The research aims to develop a NATO SECRET mobile communication system that meets stringent security and interoperability requirements. Core elements include:

- Strong Cryptography and Key Management
- Zero-Trust Architecture/Multi-Bearer Resilience/Hardware Security

Impact for Defence

- Domestic development ensures full sovereign control over classified communications and accreditation.
- Enables tailored security architectures, including key management, lifecycle control, and EMSEC/TEMPEST compliance.
- Supports multi-bearer interoperability while remaining aligned with NATO standards.
- Delivers a robust, future-proof secure communication architecture for national and multinational operations.
- Strengthens Belgium’s defence posture against current and emerging threats through integrated physical, digital, and procedural security measures.

Theme 9: Communications Technology

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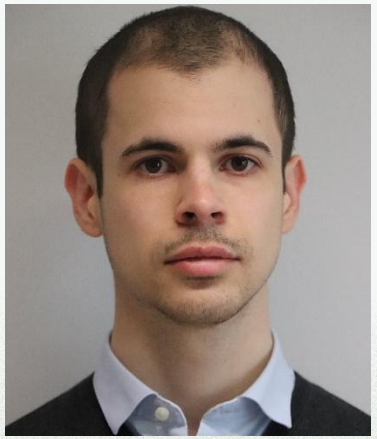


Communication Technologies
Mr Lieven Van de Vondel
Research Manager

Lieven.VandeVondel@mil.be

Theme 10: Open call Defence relevant research

This call is “open” to any research relevant for defence across a broad spectrum in the following research domains :

- Space technologies
- Communication Technologies
- Sensor Technologies
- Autonomous Systems and Artificial Intelligence
- Cybersecurity
- Smart and Advanced Materials
- Advanced Weapon Systems and Platforms
- Protection of Personnel, Systems, and Infrastructure
- Sustainable Energy and Environment
- Advanced Military Health
- Human Systems and Behaviour
- Security and Defence Policy

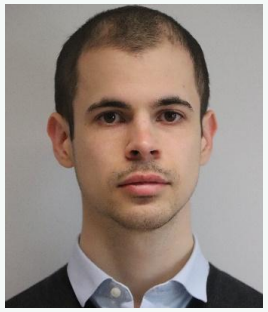
- To realize innovative and cost-effective solutions for defence applications, ground-breaking or novel concepts, new promising future technological improvements
- To improve readiness, deployability and sustainability across all spectrums of tasks and missions e.g. operations, equipment, infrastructure,…

Proposals can only to be introduced in the open call if the subject of the proposal does not correspond with one of the other nine themes.

Theme 10: Open call Defence relevant research

Human Factors & Medicine
Mrs Lucie Geurts, PhD
Research Manager

Lucie.Geurts@mil.be



Sensor Technologies Communication Technologies
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Intelligent & Autonomous Systems & Platforms
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Sustainable Energy & Environment
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Research Manager

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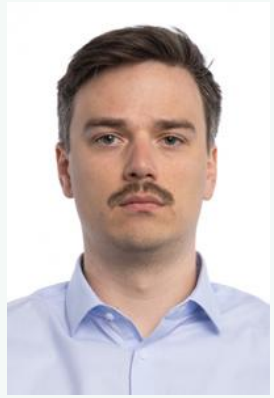
Cyber
Mrs Paola Travella, PhD
Research Manager

Paola.Travella@mil.be



Protection of Personnel, Systems & Infrastructure
Mr Ruben Maes, PhD
Research Manager

Ruben.Maes@mil.be

Smart and Advanced Materials
Cdt Laurens Rottiers
Research Manager

Laurens.Rottiers@mil.be

Space
Mr Thomas Vangeebergen
Research Manager

Thomas.Vangeebergen@mil.be

DEFENCE

ROYAL HIGHER INSTITUTE for DEFENCE

belspo

THE RULES OF THE DEFRA PROGRAMME

ELIGIBILITY CRITERIA

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

Partnership

- at least one (public or private non-profit) research institute
- at least one company

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	

ELIGIBILITY CRITERIA

For **theme 2 – CYBER**, it is **PREFERRED** to have the Royal Military Academy (RMA) as a partner in the network.

In case proposals obtain an equal score, proposals including RMA will be favored.

ELIGIBILITY CRITERIA

Special requirements for **companies, a(i)sbl and foundations**

Document	Name and format of the file	How to deliver?
Extract from the UBO register	ACRONYM_UBO_COMPANY.pdf	Upload in online submission platform
Proof of dispatch of the consent form for security verification	ACRONYM_PROOF_COMPANY.pdf	E-mail to defra@mil.be (grouped per pre-proposal)
Company Honourability & Vulnerability self-assessment declaration	ACRONYM_DECLARATION.pdf	E-mail to defra@mil.be (grouped per pre-proposal)

!! Failing to deliver these documents 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

PROJECTS

- Duration: minimum 2 years – maximum 4 years
- 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
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

ATTENTION POINTS FOR EXPERTS

Eligibility criteria for potential remote evaluators

In Pre-proposal phase: propose minimum 4 evaluators (min. 2 Belgian and 2 foreign experts)

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**

ATTENTION POINTS FOR EXPERTS

Regarding nationality:

Experts must be nationals of a country of the European Union or nationals of a country of the European Free Trade Association or nationals of a country that is a member of NATO

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 remote evaluators on DEFRA website

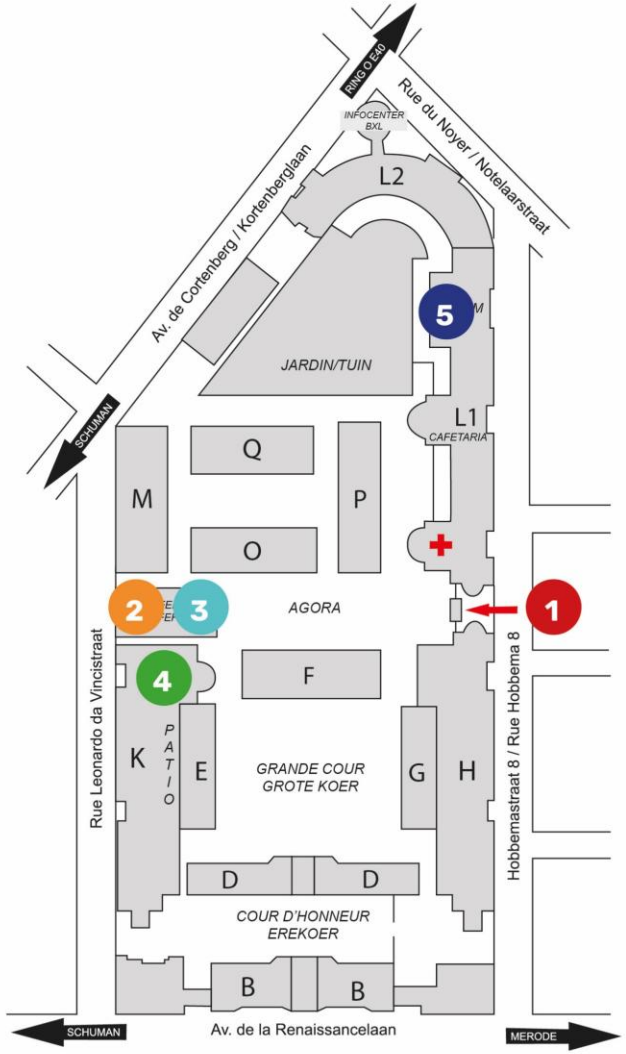
Housekeeping rules

DEFRA
DEFENCE-RELATED RESEARCH ACTION

For your questions, please use **Slido** (slido.com):

Password: #**1722785**

Lunch break
& networking



1. Entrance/exit + guardroom (registration)

2. Conference room Frank De Winne
   27-28 Jan: Registration & Coffee break
   27 Jan: Reception

3. *Breakout sessions*

   Symposium:
   - Innovative Solutions for Military Medical Logistics (theme 3)
   - Biomanufacturing (theme 4)
   - Conflict Dynamics & Warning Intelligence (theme 8)

   Studio 1:
   - Resilient Propulsion Tech for Strategic Autonomy (theme 1)
   - Next Generation Sensing (theme 6)

   Studio 2:
   - Cyber (theme 2)

4. *Breakout sessions*

   K.0019:
   Smart Energy Management & Energy Optimisation (theme 5)
   K.0020:
   Exploring & Integrating Unmanned Systems (theme 7)
   K.0029:
   Communications Technology (theme 9)

5. Restaurant 2: Lunch
   27-28 Jan: Standing lunch

AGENDA

1. Submission procedure and use of the platform
2. Evaluation procedure
3. Q&A
4. Breakout sessions themes 1-9

SUBMISSION PROCEDURE & USE OF THE PLATFORM

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
- Platform submission guidelines
- FAQ
- Templates pre & full proposals & annexes
- General conditions of the contract

DEFRA ON-LINE SUBMISSION PLATFORM

PHASE 1 - submission of pre-proposals:

- Pre-proposal template
- Extracts UBO register (if applicable)

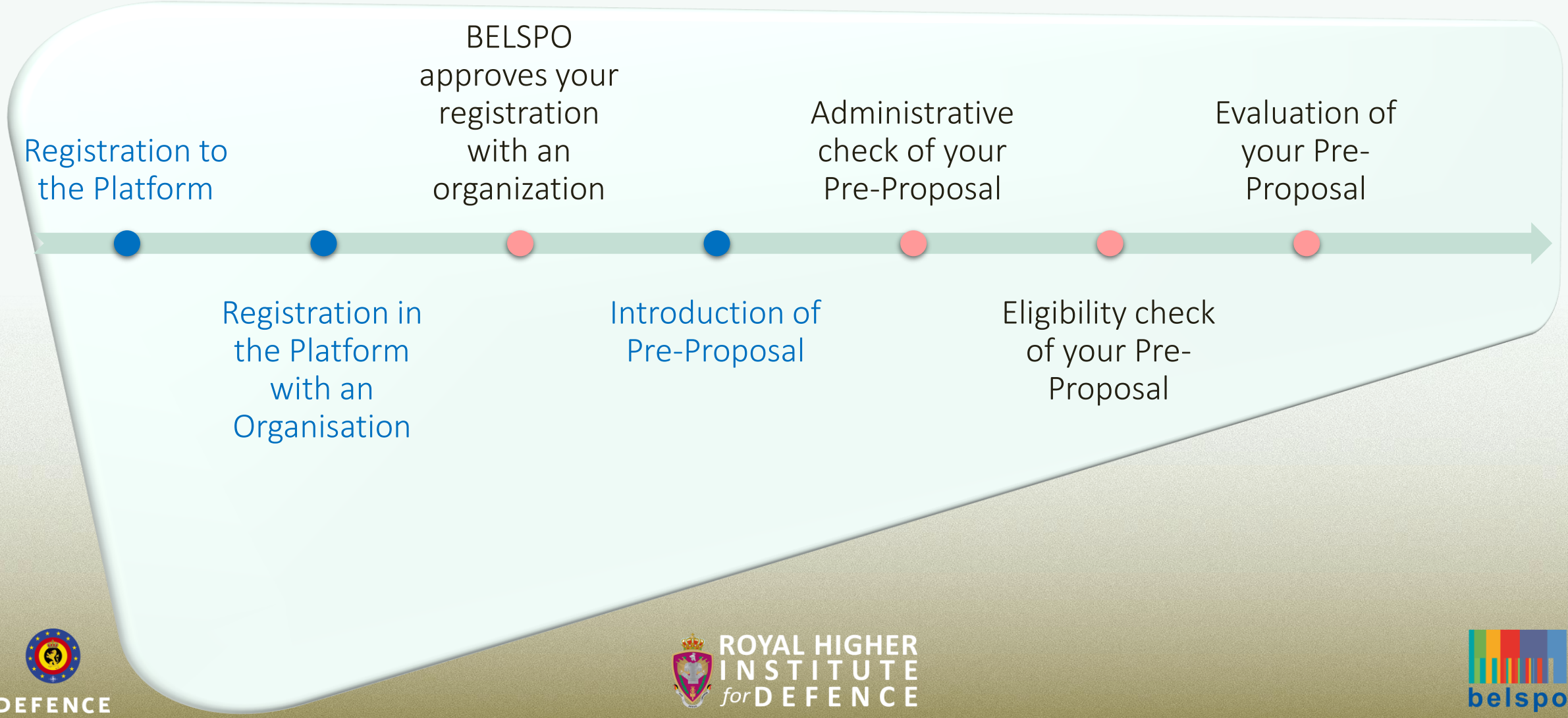
PHASE 2 – submission full proposals:

- 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

https://belspo.aimsgrants.com

Consult the platform submission guidelines on the DEFRA website

SUBMISSION PROCEDURE PRE-PROPOSAL & USE OF THE PLATFORM



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:

More details on evaluation criteria: evaluation matrix pre-proposals

CRITERIA	THEMES 1 - 9	THEME 10
Quality of the pre-proposal	40%	30%
Quality of the partners & adequacy of the partnership	30%	30%
Impact	30%	40%
Maximum number to submit Full Proposal	5 per theme	10

PHASE 2: FULL PROPOSAL

More details on evaluation criteria: evaluation matrix full proposals

- Step 1 - Remote scientific peer review evaluation by independent experts

→ peer evaluation, ethical evaluation & questions to applicants

← Written answers to the questions

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

PHASE 2: FULL PROPOSAL

- Step 2 – Scientific Experts Committee (SEC) evaluation, incl. interviews with the applicants (45 minutes per proposal)

  → Funding scenario per theme

- Step 3 - Selection proposal formulated by Scientific Committee RHID

  → Proposed funding scenario

- Step 4 - Final decision by Board of Directors RHID

AFTER SELECTION

- Selection decided by Royal Decree
- Royal Decree and Signature of contract (at least basic contract)
- 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 Annex I to the contract) in the beginning of 2027

CONTRACTS

3 parts	Content	Who signs?
Basic contract	• Designates the contracting parties • Contains the implementation modalities applicable to the project • Includes the contract and project 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

COMMUNICATION

For questions about the call for proposals, the call procedure and documents, the submission and evaluation of proposals	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@belspo.be	defra@mil.be

Housekeeping rules

DEFRA
DEFENCE-RELATED RESEARCH ACTION

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Password: #**1722785**

PROGRAMME

08:30 Registration and coffee
09:00 General introduction
09:15 DEFRA: context and objectives
09:30 Two testimonies: GUIDED and BREATHFIT
10:10 Q&A

10:20 Coffee & networking

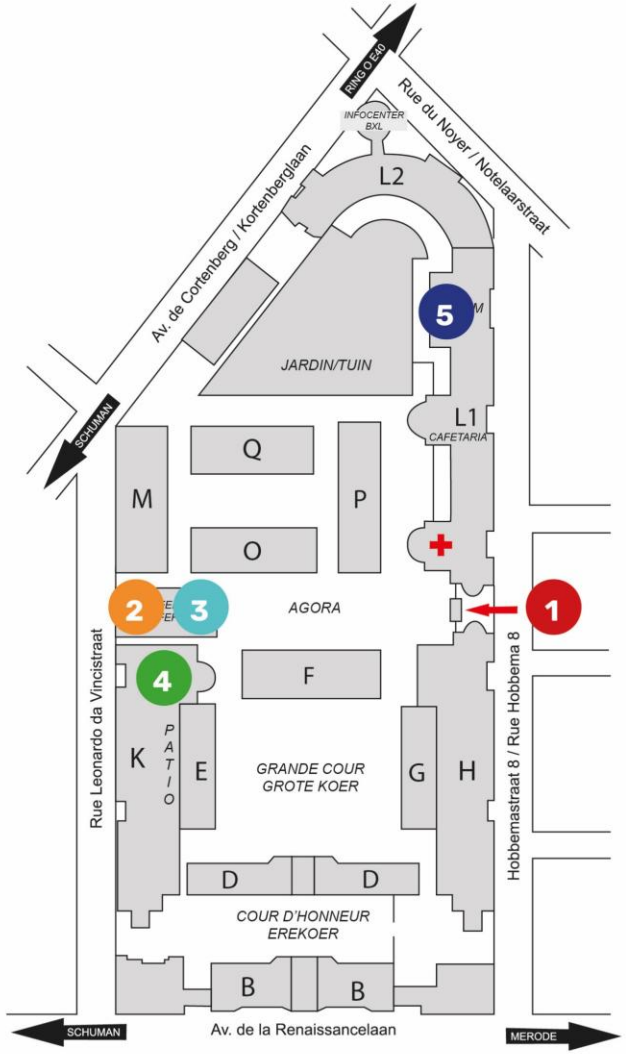
10:50 Content of the 6th DEFRA call: timeline and themes
11:20 The rules of the DEFRA programme
11:35 Q&A

11:55 Standing lunch & networking

13:15 Submission procedure and use of the platform
13:25 Evaluation procedure
13:35 Q&A

14:00 Breakout sessions themes 1-9

15:10 Reception
16:30 End of information day



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FURTHER QUESTIONS

FAQ on website

defra@belspo.be

GOOD LUCK!