ROYAL HIGHER
INSTITUTE
for DEFENCE

DEFENCE

Info Day

25 Jan 2024

DEFRA call 2024

Programme

08:30   Registration and coffee
09:00   General introduction
09:15   DEFRA: context and objectives
09:30   Two testimonies
10:10   Q&A
10:20   Coffee and network opportunities
10:50   Content of the 4th call: timeline and themes
11:15   Eligibility criteria for the consortia; criteria and attention points for experts
11:30   Q&A
11:45   Standing lunch and network opportunities
13:15   DEFRA Security aspects
14:00   Submission procedure and use of the platform
14:15   Evaluation procedure
14:30   Q&A
14:45   Closure and reception
16:30   End of info day

Agenda

1   General introduction

2   DEFRA: context and objectives

3   Two testimonies

4   Q&A

Housekeeping rules

1   Please mute your mobile devices

2   **You can use SLIDO to interact with panelists**

3   **Standing lunch will take place in the Mess ; closing reception will take place in the Bar**

4   **Outbreak sessions will take place in dedicated rooms**

Networking opportunities

1. Entrance/exit + guardroom (registration)
2. Conference room Frank De Winne
3. **Room E-10.11**: Cyber - Short-term Mitigation Techniques for Software Resilience (theme 1)
4. **Room K-00.28**: Securing critical Maritime Infrastructure (theme 2)

   Improved Underwater Communications between Sensors/Weapon Systems and Data systems to Render Data into Actionable Data (theme 3)

   Room K-00.29: Next-Generation Vision and Sensor Fusion (theme 4)

   Room K-00.33: Prolonged Forward Casualty Care (theme 5)
5. Mess 2 - Lunch
6. Bar (cafetaria) - Receptie

Meet the DEFRA team

RHID Royal Higher Institute for Defence - Scientific & Technological Research of Defence

&

BELSPO Belgian Science Policy

Maaike Vancauwenberghe
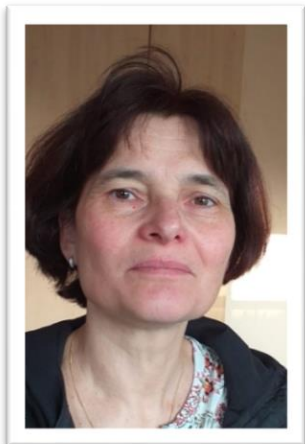Director Research Programs

Karen Pieters
Director a.i. STRD
Program Manager DEFRA

From 1st March on:
Silke Van Steelant
Program manager

Marleen Bosschaerts
Dep. Director Research Programs
Coordinator BCCM – FED-tWIN - SEPRO

Pascal Dermine
Administrative assistant

DEFRA Context

Strategic Vision for Defence (2016) STAR-plan (2022)

A gradual increase of the R&T contribution for security and defence to reach 2% of defence spending in 2030.

Strengthening the Scientific, Technological and Industrial Potential

Policy Declaration Minister of Defence 31 Oct 2022

"… knowledge centres in Belgium, companies in general and Belgian SME's, …."

"….will flow back to society in the form of knowledge, technology and employment…"

Belgian Defence 'Research, Technology & Innovation Vision 2030'

5 boosters for Defence Research, Technology and Innovation

Belgian Defence 'Research, Technology & Innovation Vision 2030'

From an internal scientific and technological research programme to a research, technology and innovation policy within a national and European context.

WORK IN PROGRESS

Structurally **reinforce the Belgian Defence R&T-capabilities**
(Royal Military Academy, Defence laboratories, Military Hospital Queen Astrid)

Develop a broader knowledge and technological base

DEFRA
DEFENCE-RELATED RESEARCH ACTION

Stimulate and support **collaborative research and development**
(EDA, EDF, ESA, NATO)

Facilitate short-cyclic **innovation projects for Defence**

Create **local ecosystems** for research, development and innovation

DEFRA
DEFENCE-RELATED RESEARCH ACTION

Belgian Science Policy Office
belspo

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;
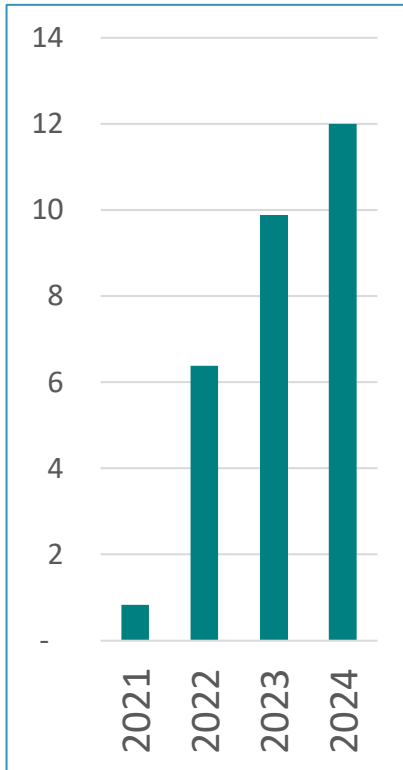
Culture of innovation within Belgian Defence;

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

Improve knowledge transfer between research institutes and industry

Introduce entrepreneurs' insight into research

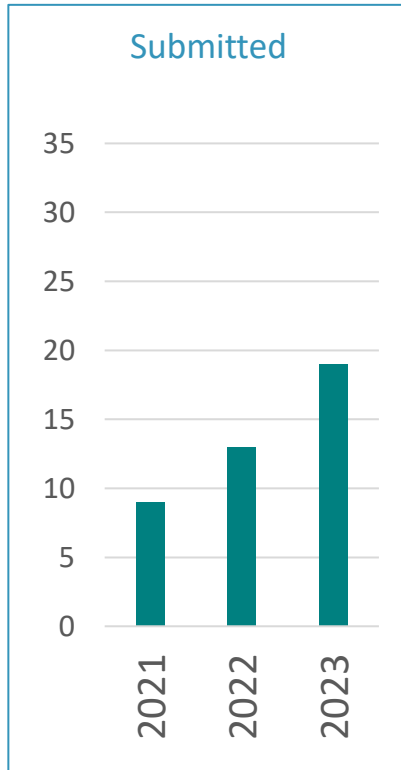Include potential end-users in research and innovation
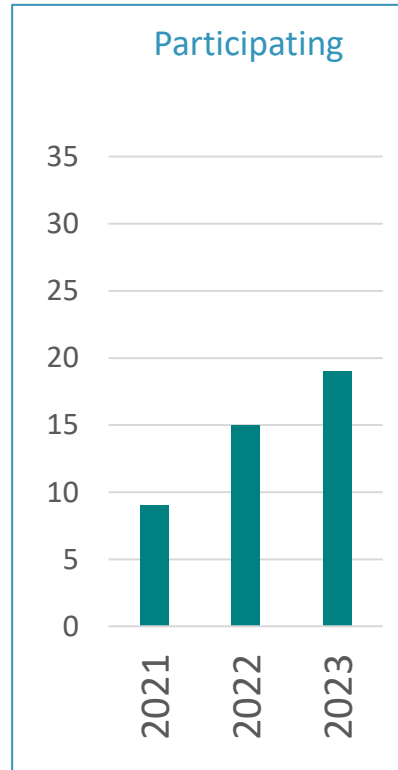
DEFRA Effort

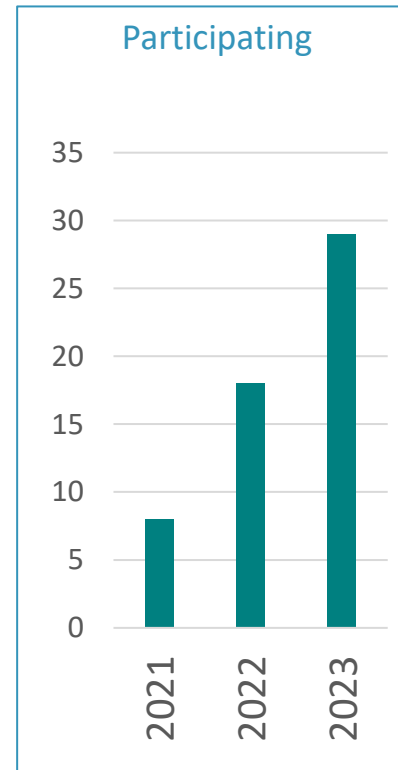| Budget 0,8-12 M€	Proposals 9→19	(Unique) RTO 9→19	(Unique) Industry 8→29

Budget (Awarded): bars for 2021, 2022 (~6.4), 2023 (~9.9), 2024 (12)

Proposals (Submitted): 2021 (9), 2022 (13), 2023 (19)

(Unique) RTO (Participating): 2021 (9), 2022 (15), 2023 (19)

(Unique) Industry (Participating): 2021 (8), 2022 (18), 2023 (29)

Awarded	3 → 8	4 → 12	2 → 11

2021-2023

	Projects	RTOs	Industry
Proposed	42	26	49
Selected	17	17	18
%	40%	65%	37%

Top selected RTOs	#
Royal Military Academy	8
KU Leuven	4
IMEC	3
U Gent	3
UC Louvain	2
U Antwerpen	2

TWO TESTIMONIES

Presentation Outline

1   Project Objectives

2   Partners

3   Project Description, Approach and Timeline

4   Experiences and Recommendations

5   Conclusions

Project Objectives

HYDE: **HY**drogen technology for energy supply in **DE**fence applications (funding €1.6M)

Objective: make **NATO Tier 2/3 class military camps** (as) independent (as possible) for their **basic energy and water needs**, using mainly **PV energy** and **water from the environment as primary sources**

Use of **hydrogen as chemical energy buffer**, combined with batteries, electrolyser and fuel cell systems and recover heat as much as possible for heating (water, dwelling)

Partners

KU Leuven (Coordinator):

- Prof. Frank BUYSSCHAERT | KU Leuven Bruges (MECH, TME, M-Group)
- Prof. Veerle VANDEGINSTE | KU Leuven Bruges (MTM, Siem)
- Prof. Michael KLEEMAN | KU Leuven Ghent (ESAT, Electa)

VIVES (Partner):

- Ing. Sam Schotte | VIVES Zuid, Kortrijk
- Ing. Hanne Van den Berghe | VIVES Noord, Ostend

Solenco Power (Partner):

- Ir. Sven Duchatelet
- Ir. Wim De Gang

Partners

Subcontractor 1: Elhove CommV (Support with NATO regulations and networking)

Subcontractor 2: Sirris OWI-lab (Climate testing)

Project Description: EWSS

Design of an Energy and Water Supply System (EWSS)

Key performance indicators of the EWSS:

❑ Autonomy for at least 7 days

❑ Reduced Host Nation Supply (HNS) during weeks of operation

❑ Reduced logistics

❑ Reduced CO_2 footprint (70% less than SOTA)

Project Description: EWSS

Electrical power:
- ❑ Source: PV-panels or HNS
- ❑ Buffer: Batteries or Supercapacitors, Hydrogen (via electrolyser and fuel cell)

Heat:
- ❑ Source: fuel cell
- ❑ Buffer: stratification tanks – hot sanitary water, camp heating
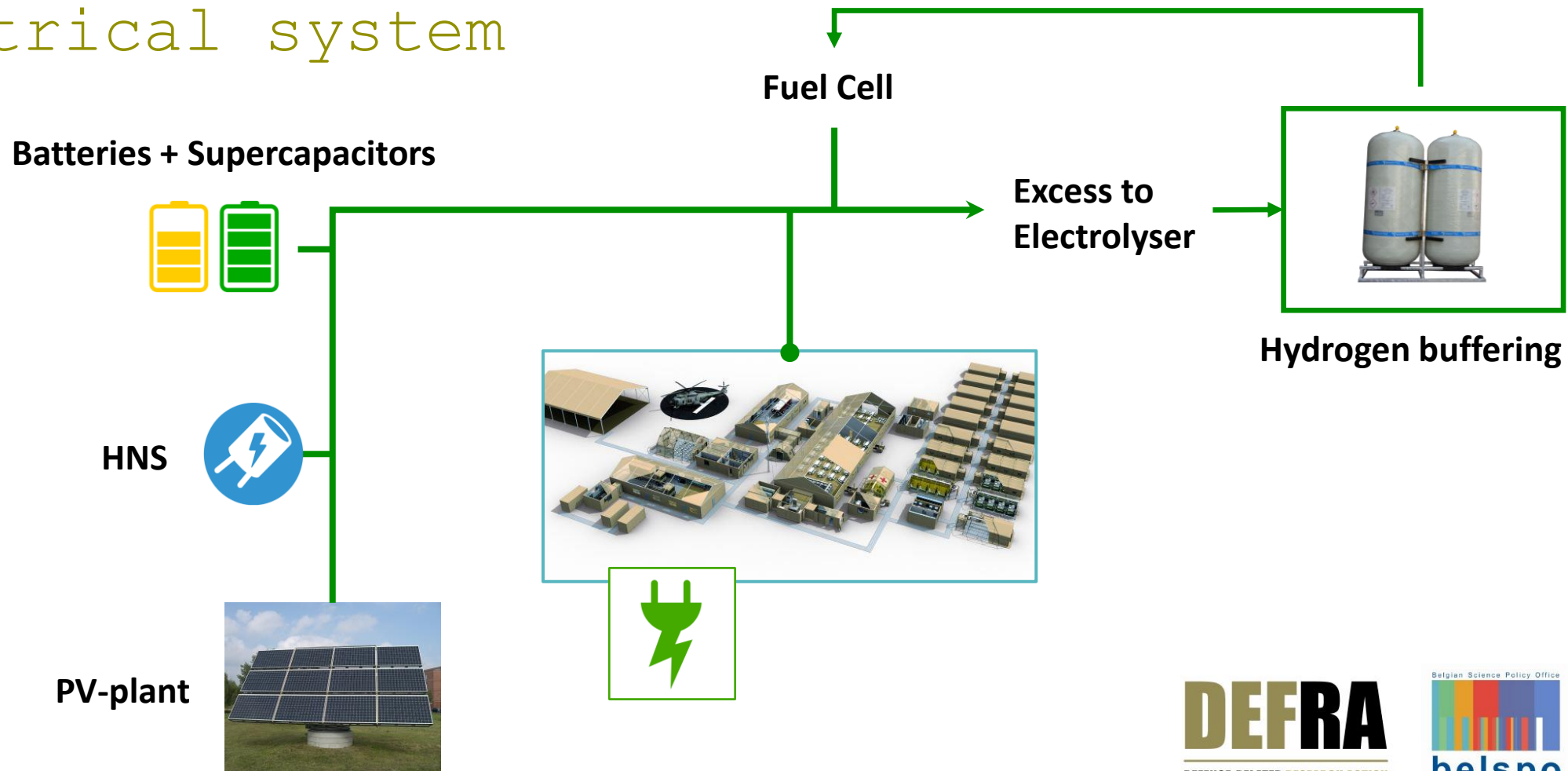
Water:
- ❑ Source: from the environment or delivered
- ❑ Needs the necessary filtration to obtain:
  - ❑ Potable water (drinking and sanitary water)
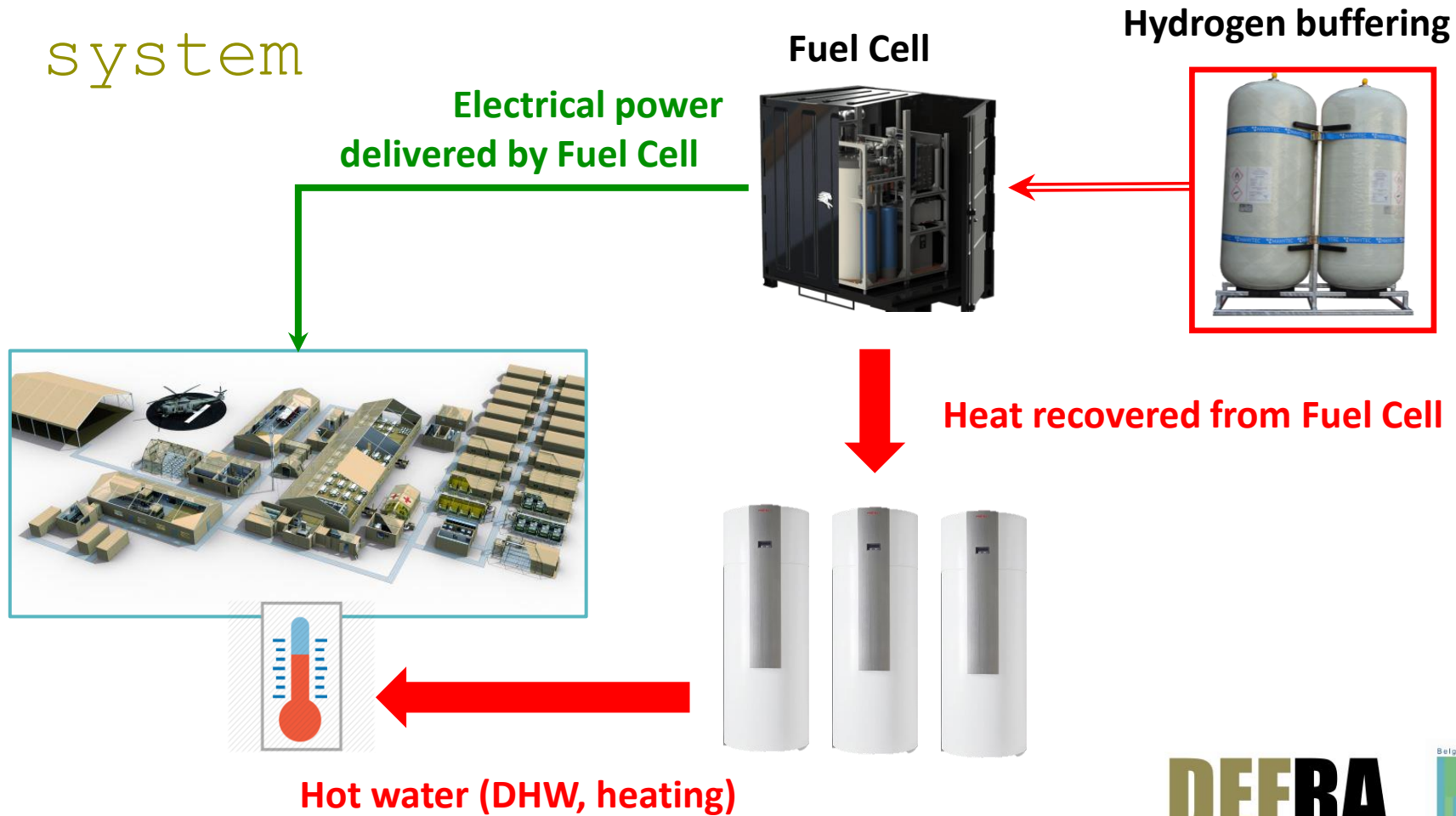 - ❑ HDPI water for feeding the electrolyser
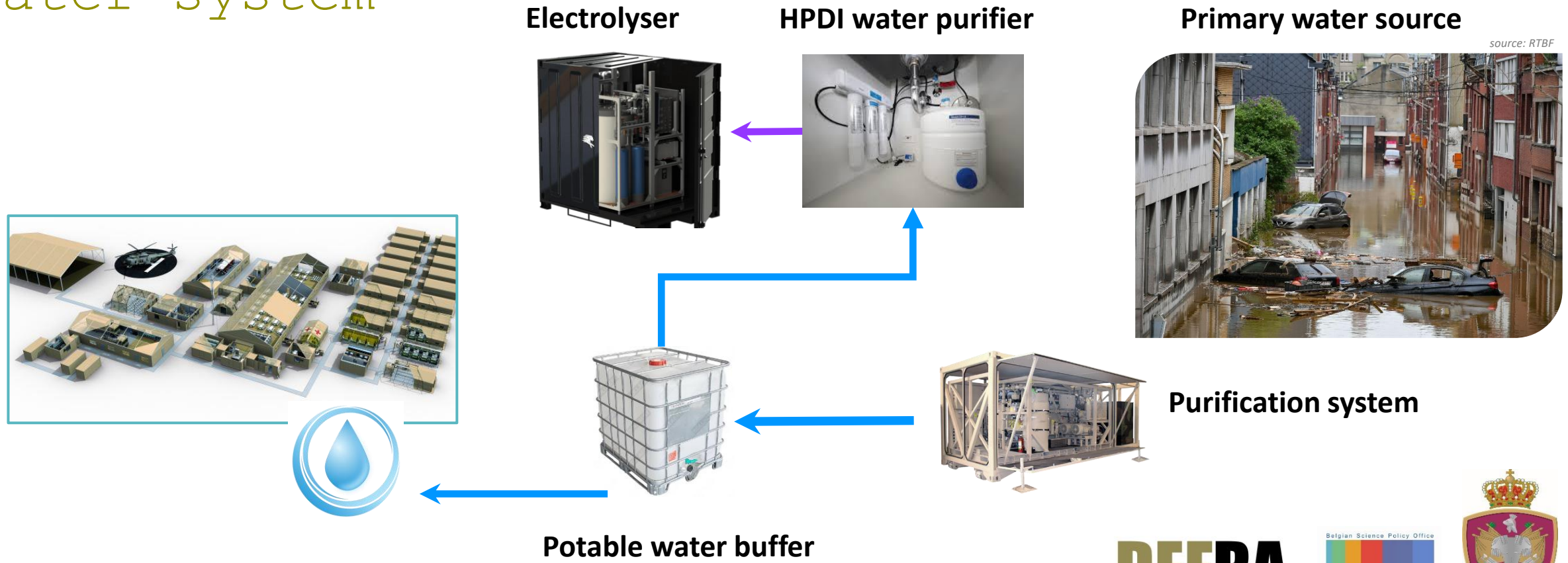
Project Description: EWSS layout

Electrical system

Fuel Cell

Batteries + Supercapacitors

Excess to Electrolyser

Hydrogen buffering

HNS

PV-plant

Project Description: EWSS layout

Thermal system

Fuel Cell

Hydrogen buffering

Electrical power delivered by Fuel Cell

Heat recovered from Fuel Cell

Hot water (DHW, heating)

Project Description: EWSS layout

Water system

Electrolyser

HPDI water purifier

Primary water source

source: RTBF

Purification system

Potable water buffer

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Project Approach

NVH (WP5)

MODELLING, INTEGRATION & OPTIMUM (WP2-WP6)

SPECS & LOADS (WP1)

DEMONSTRATOR (WP7)

PV

Power bus/control

PEM FC

PEM WE

BAT SC

H_2O pur.

HEAT

H_2

Electric load

Thermal loads (e.g. heating and sanitary hot water)

Potable water consumption

External applications
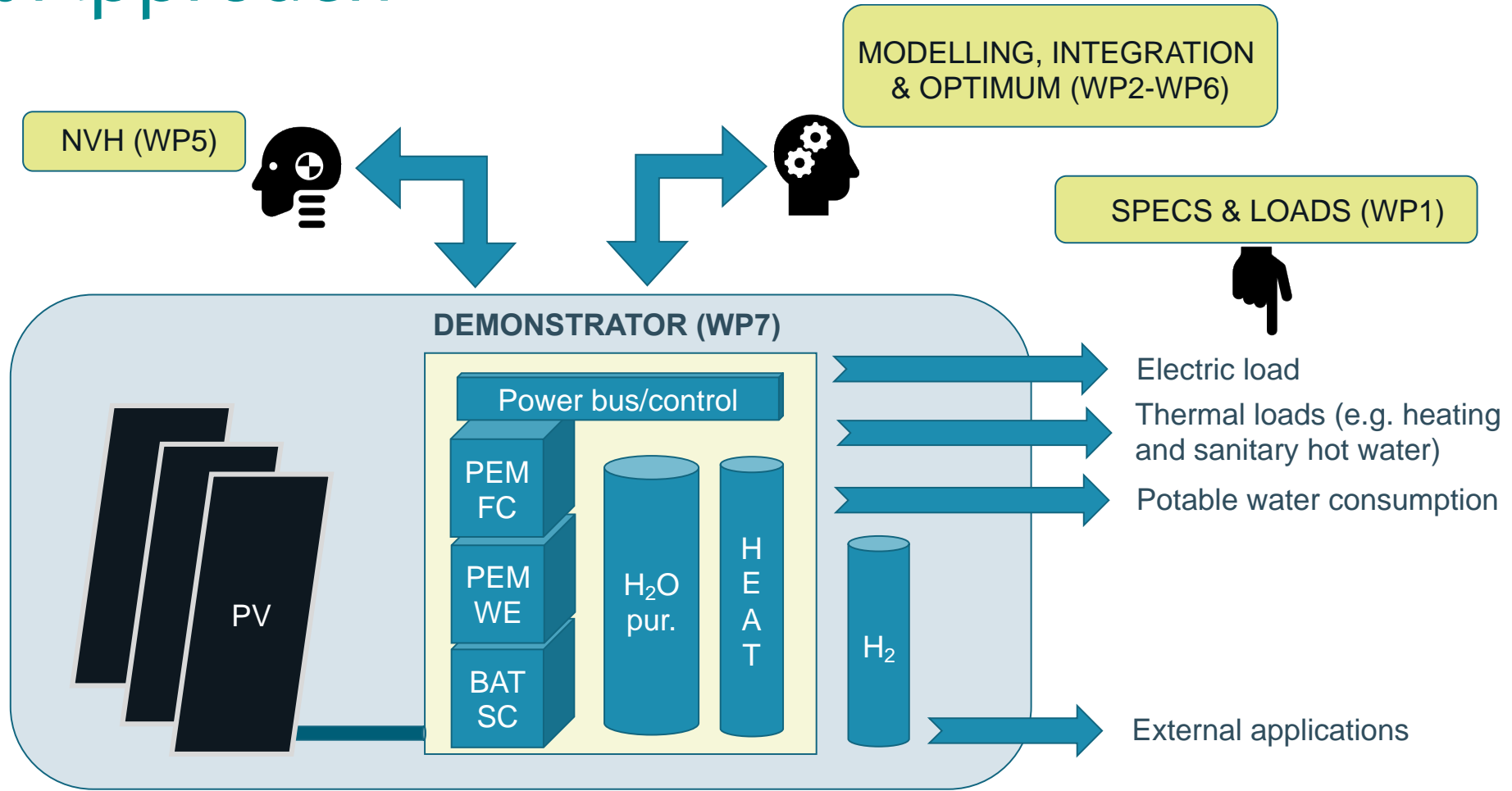
Timeline: from pre-proposal to kick-off
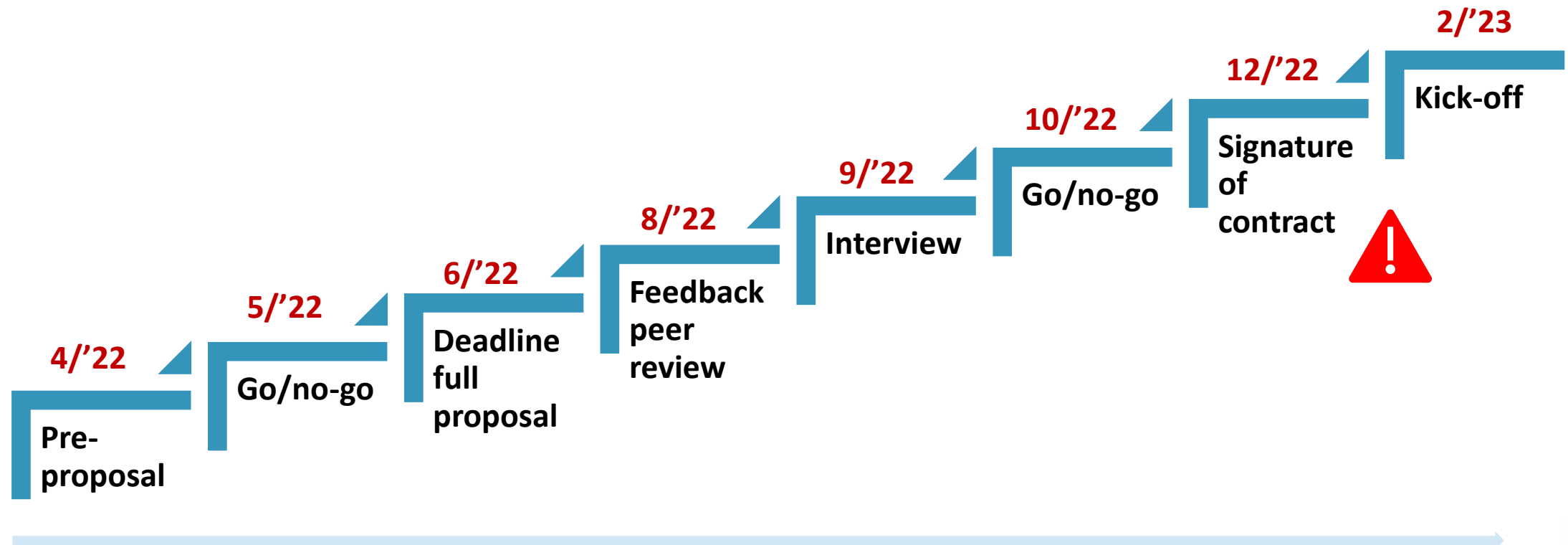
4/'22 — Pre-proposal

5/'22 — Go/no-go

6/'22 — Deadline full proposal

8/'22 — Feedback peer review

9/'22 — Interview

10/'22 — Go/no-go

12/'22 — Signature of contract

2/'23 — Kick-off

Experiences & Recommendations

Experiences

Recommendations

Experiences & Recommendations

EXPERIENCES

Working with Defence is:

- ❏ Not daunting!
- ❏ Enriching for researchers and industry – learn to know the MIL world
- ❏ Being offered many and other extra-ordinary opportunities
- ❏ Getting insights behind the scenes
- ❏ Using other standards
- ❏ Opening possibilities to interact with larger European defence programs and funding

Experiences & Recommendations

EXPERIENCES (CT'D)

2 **Steering Committee (SteerCo)**

- ❑ Coordinator + Partners + RHID + MIL End User
- ❑ Organised twice a year for HYDE
- ❑ Open, round-table communication culture
- ❑ Used to show progress of the project, forge and consolidate interactions with military units, tackle difficulties, …
- ❑ Addressable and solution oriented!

3 **Cooperation with Field Accommodation Unit (FAU) and field measurements**

Experiences & Recommendations

RECOMMENDATIONS

Ethical Commission Dual Use, Military Use & Misuse (EC DMM):
- ❑ **Do not forget** to timely inform **the Ethical Commission** about participating into a MIL-oriented project.
- ❑ Ideally during the pre-proposal phase.
- ❑ It takes time!

Hiring process:
- ❑ Open to all nationalities
- ❑ Limited time between signing and start of project (long and tedious hiring process for Int'ls!)
- ❑ Scarcity of talented profiles (engineering)
- ❑ Non-NATO members will possibly be screened by State Security
- ❑ *Include the necessary risk mitigation in the early phase of the project*

Experiences & Recommendations

RECOMMENDATIONS (CT'D)

3 **Subcontractors:**

❑ Prior to selecting a subcontractor, **check your institution's policy**: is a tendering process needed?

4 **Consortium agreement:**

❑ Most legal aspects are covered by the DEFRA contract and Annexes signed by all parties.

❑ Yet, it is recommended that the legal services of the network **verify whether all legal requirements are covered** (e.g. responsibilities, NDAs within the network, etc.)

Experiences & Recommendations

RECOMMENDATIONS (CT'D)

5 **Acquisition procedures for purchasing large equipment:**

❑Use of governmental funding is subjected to tendering

❑Tendering procedures are long and tedious

❑Think also about potentially important lead times

❑Check the legal aspects when more than one partner is involved

Conclusions

- DEFRA allows projects in an **extraordinary and solution-oriented environment**

- Mind the short period between acceptance and start of the project (**potential hiring issues!**)

- **Contact** your Dual Use, Military Use and Misuse **Ethical Commission** as soon as possible

- **Find good partners** that can strengthen the consortium!

- IMEC –IDLAB-UGENT
- DRIES NAUDTS

25 January 2024

BOLSTER

DEFENCE

BOLSTER – A TESTIMONY

BOLSTER project scope

- **Mission-critical communication** is most vital during any operational process or intervention with the involvement of Belgian Defence

- During crisis situations **fixed communication infrastructure failed or proved inadequate** for various reasons

- **Need for additional ad hoc deployable wireless capacity** in unexpected crises

BOLSTER objectives

- Perform **interdisciplinary research** to design, develop, validate and optimise **innovative beyond 5G solutions** for a private **mobile standalone tactical network**

- **Beyond 5G (B5G) architecture** that can offer ad hoc deployable and reliable wireless capacity **to support mission-critical defence** operational processes

- The **generic use case** will focus on providing **extended coverage** by employing a mobile base station **during a crisis** both in urban and rural environments

- **Strong interaction** with relevant **defence, related bodies and stakeholders** to define and fine-tune suitable use case
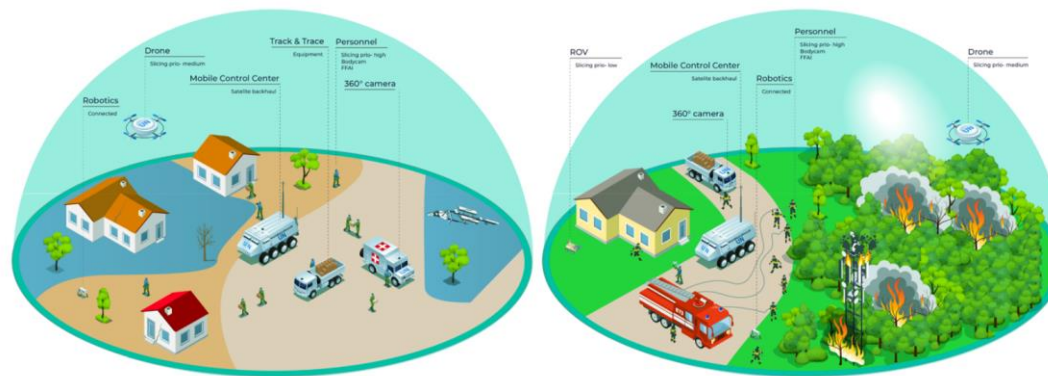
Partinership

IDLab INTERNET & DATA LAB — UNIVERSITEIT GENT — imec

CITYMESH

- IDLab is a **research group** with international recognition in **mobile and wireless communications**

- Research activities on **end-to-end wired/wireless networking solutions** driven by professional and mission-critical applications

- Proven knowledge gained in the **DARPA SC2 competition** validated in complex defence scenarios

- **Experimentally driven research** on top of open research infrastructures and platforms (SDR and commercial radio based)

- Research-oriented and dynamic **Mobile Network Operator (MNO)**
- National telecommunications operator **holding national licenses** for frequencies in the 2022 auction
- Integrator of **smart network infrastructures** and **drone solutions**
- **Innovations** of top of commercial infrastructures
- **Proven track record** on research project in collaboration with other partners.

DEFRA DEFENCE-RELATED RESEARCH ACTION — belspo (Belgian Science Policy Office)

How to score?

Involvement of **stakeholders** as soon as possible!

Have **a clear vision** on the scope and objectives!

Refine **use case** and **technology selection** together with stakeholders
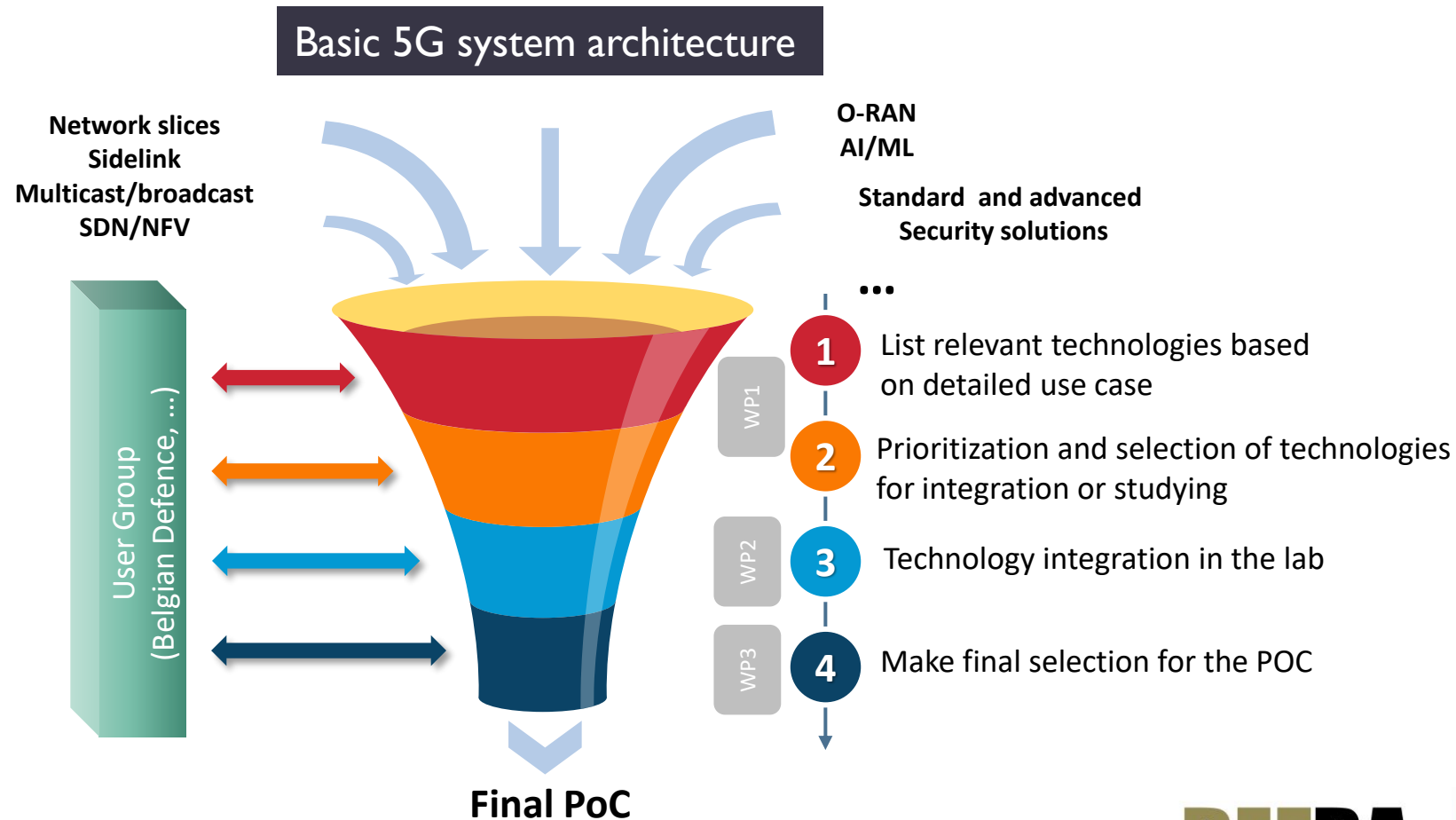
Show what the **value** is **for Belgian Defence**

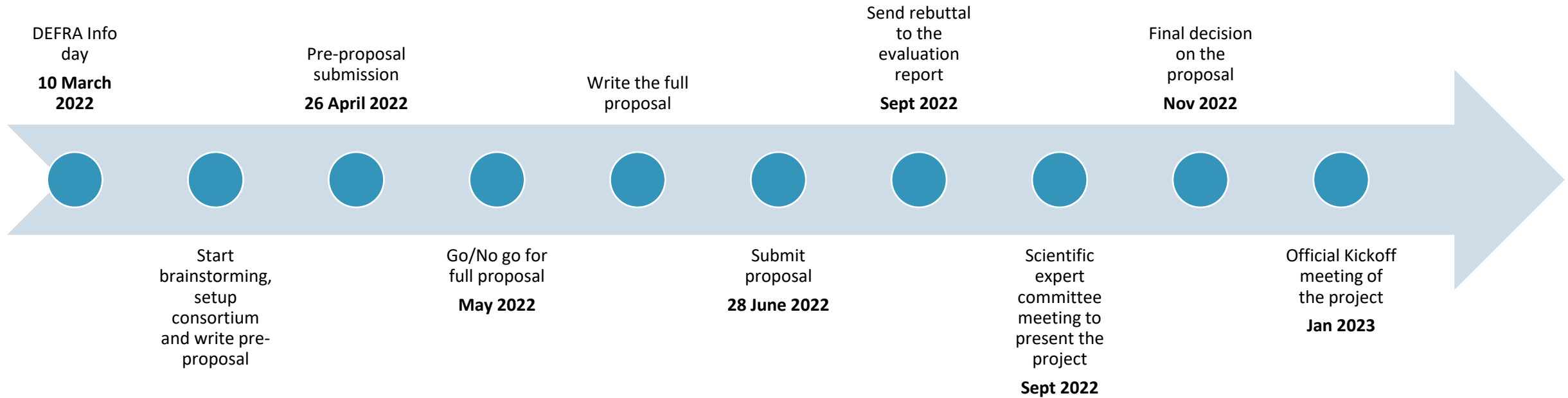Work towards a **PoC** to demonstrate results

BOLSTER approach

Basic 5G system architecture

Network slices
Sidelink
Multicast/broadcast
SDN/NFV

O-RAN
AI/ML

Standard and advanced
Security solutions

...

User Group
(Belgian Defence, ...)

1 List relevant technologies based on detailed use case

2 Prioritization and selection of technologies for integration or studying

3 Technology integration in the lab

4 Make final selection for the POC

WP1
WP2
WP3

Final PoC

Challenges

- IMEC cannot produce solutions for warfare situation
    - **Dual use** of the envisioned solutions
    - Accent on **homeland security** and **disaster management**

- Challenging to get in **contact with proper stakeholders** during proposal preparation time

- **Availability of technology features** in (commercial) solutions versus standardization and marketed promises

- **Proof of Concept**: demonstrate in a simplified real-life environment due to practical challenges

- **Lead times** of required equipment can be high, anticipate on this

Administration and finances

- Properly check the **eligibility criteria** for participating organizations
- Pay sufficient attention to **Data Management Plan (DMP)** and discuss with experts within your organization
- Properly check **IP regulations** between partners during proposal time (Part of DMP)
- Be careful with purchasing **equipment** and check if depreciation rules apply
- The **official starting date** is very soon after the acceptance of the proposal
  - the contract foresees some extra months to delay the actual kick-off of the project if needed
- Besides the base contract with KHID, a **consortium agreement** is also needed
- Communication of **requested documents** is comprehensible
  - **Ask questions** when unclear! Karen Pieters is very responsive and helpful!

Timing – BOLSTER proposal

DEFRA Info day
10 March 2022

Start brainstorming, setup consortium and write pre-proposal

Pre-proposal submission
26 April 2022

Go/No go for full proposal
May 2022

Write the full proposal

Submit proposal
28 June 2022

Send rebuttal to the evaluation report
Sept 2022

Scientific expert committee meeting to present the project
Sept 2022

Final decision on the proposal
Nov 2022

Official Kickoff meeting of the project
Jan 2023

Dos and don'ts

👍

Define a **detailed work plan**

Clear roles and contributions of the partners in the different WPs

Gantt chart

Include **novel research topics**

Cleary state **TRL levels** of the envisioned solutions

Ask questions to Belgian defence

Define **user groups** and involve **stakeholders** related to the topic and use cases

Provide correct **financial numbers**

Create a proficient **Data Management Plan**

Stick to the indicated **page limits**

Be strict with **timings** of submissions

👎
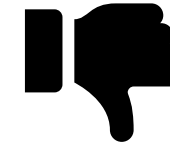
Be **vague** regarding the scope and objectives

Underestimate the work to produce a high-quality proposal

Only focus on existing commercial solutions Include research aspects!

DEFRA DEFENCE-RELATED RESEARCH ACTION

belspo Belgian Science Policy Office

Q&A

SCAN THE QR CODE TO JOIN AT

slido.com
Code: #2975327

Networking opportunities

1. Entrance/exit + guardroom (registration)
2. Conference room Frank De Winne
3. **Room E-10.11**: Cyber - Short-term Mitigation Techniques for Software Resilience (theme 1)
4. **Room K-00.28**: Securing critical Maritime Infrastructure (theme 2)

   Improved Underwater Communications between Sensors/Weapon Systems and Data systems to Render Data into Actionable Data (theme 3)

   Room K-00.29: Next-Generation Vision and Sensor Fusion (theme 4)

   Room K-00.33: Prolonged Forward Casualty Care (theme 5)
5. Mess 2 - Lunch
6. Bar (cafetaria) - Receptie

Agenda

1   Content of the 4th call: timeline and themes

2   Eligibility criteria for the consortia; criteria and attention points for experts

3   Q&A

CONTENT OF THE 4th CALL: timeline & themes

- TIMELINE

- THEMES & INDICATIVE BUDGET

- PROJECTS

- CONTRACTS

Timeline

Step	Date	At / via
Call launch	21 December 2023	Website & mailing
Information day	25 January 2024	RMA
Deadline pre-proposals	**22 February 2024 (14h00)**	**Online submission platform**
Communication of evaluation result pre-proposals	14 March 2024	Mail
Deadline Full proposals	**18 April 2024 (14h00)**	**Online submission platform**
Remote scientific peer review evaluation	22 April – 31 May 2024	Online evaluation platform
Feedback to applicants in preparation of panel meeting (consensus reports and questions to applicants)	21 June 2024	Mail

Timeline

Step	Date	At / via
Written feedback by applicants (answers)	**26 July 2024**	**Mail**
Panel evaluation, incl. interviews with the applicants	Between 22 August and 4 September 2024	RHID
Selection proposal formulated by the scientific committee of the RHID	12 September 2024	NA
Final selection of proposals by the board of directors of the RHID and allocation of projects	19 September 2024	NA
Communication of results to applicants	**24 September 2024**	**Mail**
Signature contracts	14 November 2024	Online E-sign platform

Themes & Indicative budget

| Theme	Indicative budget (M€)
Theme 1 – Cyber: Short-term Mitigation Techniques for Software Resilience	1,8
Theme 2 – Securing critical Maritime Infrastructure	1,8
Theme 3 - Improved Underwater Communications between Sensors/Weapon Systems and Data systems to Render Data into Actionable Data	1,8
Theme 4 – Next-Generation Vision and Sensor Fusion	1,8
Theme 5 – Prolonged Forward Casualty Care	1,8
Theme 6 – Open Call: Research on Innovative and Future-Oriented Defence Solutions	3,0
Total budget	12,0

Theme 1 : Cyber : Short-term Mitigation Techniques for Software Resilience

- Context:
  - Currently used systems : programming languages that lack memory safety → vulnerabilities.
  - Migrating these systems to safe languages :
    - long conversion time ;
    - abrupt change of the full code base
  - → short-term solutions needed but uptake is hampered : various shortcomings e.g. performance impact

- Scope: Focus on the following aspects :
  - Innovative solutions to harden legacy hardware written in C and/or C++
  - Performance, DoS resistance of these solutions
  - Compatibility and comparison with existing approaches

- Impact : To facilitate the development of more secure information systems and cyber-physical systems
  - → contribute to the force protection objective
  - → reduce the number of security incidents

! Collaboration with Royal Military Academy is required !

Theme 1 : Cyber : Short-term Mitigation Techniques for Software Resilience

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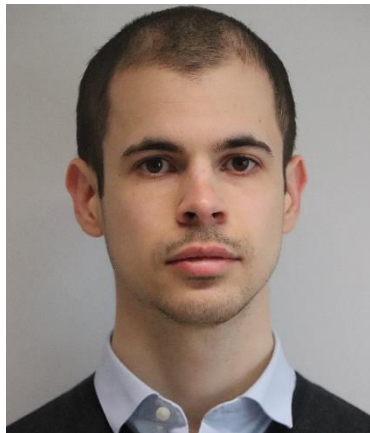
Data Acquisition and Processing
Mr Lieven Van de Vondel
Research Manager

Lieven.VandeVondel@mil.be

Theme 2 : Securing critical Maritime Infrastructure

- Context:
  - Presence of critical infrastructure requires robust measures to ensure their protection
  - Crucial for future projects : the energy island - Belgian North Sea

- Scope:
  - Physical security : vital role - helps deter unauthorized access – strenghtens overall security
  - To enhance these measures, perimeter monitoring systems/maritime unmanned systems can :
    - Provide real-time situation awareness to authorities - MIK or MOC
    - Conduct regular inspections
    - Identify potential threats
    - Provide non-lethal and lethal capabilities → to deter/neutralize threats
  - Attention on the following challenges :
    - Balance delayed vs real-time data dissemination
    - Max effectiveness with min collaterial damage
    - Trade-off ranging single use sensor/effector → permanent observation/neutralization
    - Max probability of detection with min probability of false alerts

- Impact : to facilitate the research – credible and realistic architecture – existing legal framework and all other competent parties involved – compatible with systems in MIK/MOC

Theme 2 : Securing critical Maritime Infrastructure

POC :

Mobility, Systems & Protection
Maj Benoit Dequick, PhD
Research Manager

Benoit.Dequick@mil.be

Theme 3 : Improved Underwater Communications between Sensors/Weapon Systems and Data systems to Render Data into Actionable Data

- Context:
    - Advancements in underwater communication technology, namely in wireless networks, robotics, localisation, ranging and tracking : obvious candidates to look into
    - Significant challenge in real-time : effectively managing and processing the anticipated abundance of information, particularly from unmanned systems
    - Complex underwater environment compounds the difficulties: limited visibility, changing salinity profiles, corrosive conditions,…

- Scope: Focus on the following aspects :
    - Improved data transmission on a qualitative/quantitative level
    - Enhanced decision-making processes : data fusion, data visualisation,…
    - Underwater automatic detection, classification and identification

- Impact :
    - to develop a demonstrator to overcome the challenges in either the data transmission domain, the data fusion domain or the challenge of localisation, tracking and ranging.
    - Research to be applied in the naval mine warfare – another relevant maritime domain

Theme 3 : Improved Underwater Communications between Sensors/Weapon Systems and Data systems to Render Data into Actionable Data

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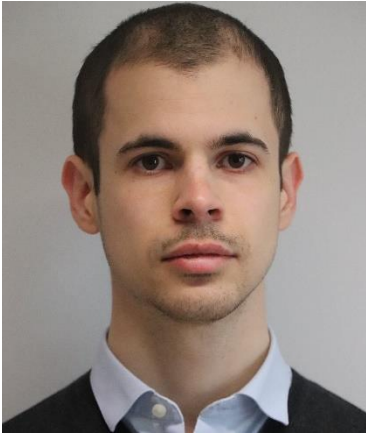
Data Acquisition and Processing
Mr Lieven Van de Vondel
Research Manager

Lieven.VandeVondel@mil.be

Theme 4 : Next-Generation Vision and Sensor Fusion

- Context:
  - Technological evolutions at sensor level open up many options, but also pose several challenges due to the increased bandwidth and increased amount of information
  - The level of multi-sensor integration when using different EO/IR systems together remains limited : state-of-the-art embedded hardware - advanced image processing techniques will be needed

- Scope: research efforts should have the goal to :
  - Extract actionable information from a combination of sensors : visible, SWIR,… but also multispectral/hyperspectral sensors
  - Create enhanced vision capabilities : intelligently combining of sensor data to simplify the load of data going to the user

- Impact :
  - Multi-and hyperspectral imaging : useful in military surveillance and reconnaissance
  - Other fields of interest :
    - Stand-off capability to detect IED, UXO, mine indicators
    - Stand-off capability to detect CBRN-agents
  → To seek a demonstrator for either lightweight electro-optical devices or for high-end platform mounted systemes

Theme 4 : Next-Generation Vision and Sensor Fusion

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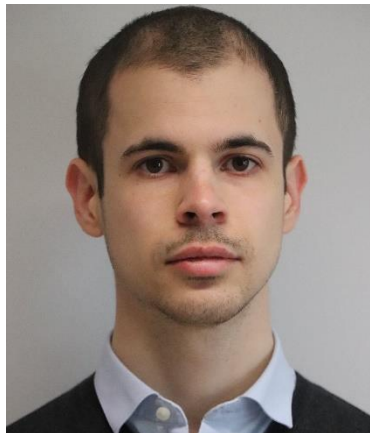
Data Acquisition and Processing
Mr Lieven Van de Vondel
Research Manager

Lieven.VandeVondel@mil.be

Theme 5 : Prolonged Forward Casualty Care

- Context:
    - to enhance the provision of care for wounded soldiers on the battlefield
    - Situations where immediate medical assistance is not readily available

- Scope: areas of particular interest :
    - Remote assistance : develop methods using AI for medical treatments protocol – may involve the integration of e.g. wearable sensors, telemedicine,…
    - Drones for extended care : to develop drones
        - for medical supply able to bring equipment to remote areas
        - to evacuate a patient ou of the hostile environment
    - Homemade instruments : explore 3D-printing using a list of medico-surgical consumables to enhance the capabilities of buddies in treating injuries
    - Multipower rewarming system : develop a rewarming system for e.g. tents that can use different kind of energy sources

- Impact:
    - Influence the way tactical combat casualty care could be provided by using technologies by improving care and evacuations
    - Impact on the workload and standards of care

Theme 5 : Prolonged Forward Casualty Care

POC :

Human Factors & Medicine
Mrs Lucie Geurts, PhD
Research Manager

Lucie.Geurts@mil.be

Theme 6 : Open Call: Research on Innovative and Future-Oriented Defence Solutions

- **Context**: to address new, upcoming or unforeseen challenges and/or creative or disruptive solutions

- **Scope**: open to <u>any research for defence</u> within the defence research areas

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

Proposals can only be introduced in the open call if the subject of the proposal does not correspond with one of the other 5 themes.

Theme 6 : Open Call: Research on Innovative and Future-Oriented Defence Solutions
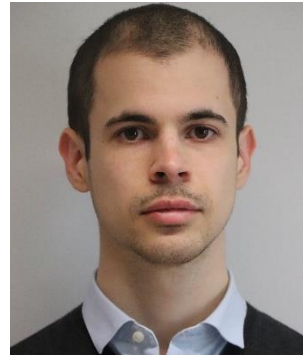
Human Factors & Medicine
Mrs Lucie Geurts, PhD
Research Manager

Lucie.Geurts@mil.be

Data Acquisition and Processing
Mr Lieven Van de Vondel
Research Manager

Lieven.VandeVondel@mil.be

Mobility, Systems & Protection
Maj Benoit Dequick, PhD
Research Manager

Benoit.Dequick@mil.be

Intelligent & Autonomous Systems & Platforms
Mrs Claudia Verheyen
Research Manager

Claudia.Verheyen@mil.be

Space
Mr Thomas Vangeebergen
Research Manager

Thomas.Vangeebergen@mil.be

Projects

- The projects will have a duration of **2 to maximum 4 years**.
- Selected projects will start in **December 2024**.

- **Funding rules**

	Public Research Institute and Private non-profit research centre	Private company
Partner budget FINANCED BY DEFENCE	- 100% eligible costs	- LargeCap enterprises: 65% eligible costs - MidCap enterprises: 75% eligible costs - SME: 80% eligible costs

To discriminate between SME, MidCap and LargeCap enterprises article 2 of Regulation (EU) 2021/697 of the European Parliament and of the Council of 29 April 2021 establishing the European Defence Fund and repealing Regulation (EU) 2018/1092 is applied, which refers to Article 2 of the Annex to Commission Recommendation 2003/361/EC.

Contracts

- Contract between Belgian Defence and funded partners.
- Three parts:
  - Basic contract
    - Designates the contracting parties
    - Contains the general obligations applicable to the project
    - Defines the contract duration and budget
    - Is signed by the 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
    - Is signed by the persons in charge of the realisation of the project (the promotor)
  - Annex II: General conditions applicable to the 2024 contracts.
    - General provisions applicable to all DEFRA contracts
    - Must not be signed

ELIGIBILITY CRITERIA FOR CONSORTIA – ATTENTION POINT FOR EXPERTS

- ELIGIBILITY CRITERIA FOR PARTNERS

- ELIGBILITY CRITERIA FOR THE PARTNERSHIP

- ATTENTION POINTS FOR EXPERTS

ELIGIBILITY CRITERIA FOR PARTNERS

Public research sector: all Belgian universities, colleges of higher education, federal scientific institutions, defence research institutes and other public research institutes

Private non-profit research centres must have operational and/or research activities in Belgium. They must have legal personality and their registered office in Belgium.

Private sector, companies (including SMEs) complying with the following criteria are eligible partners:

- The company must have operational and/or research activities on the Belgian territory.

- The company must have a legal personality and its registered office in Belgium. The legal personality is required at the latest when signing the research contract.

- At the moment of signing the contract, the company must have fulfilled its obligations to pay its taxes and social security contributions.

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

ELIGIBILITY CRITERIA FOR PARTNERS

You are a **company, a(i)sbl or a foundation**? Upload your **UBO register** in the online platform!

The delivery of an extract of the UBO register is a formal requirement for a valid application for the call.

The documents of the applicants are submitted to the General Intelligence and Security Service which will examine them in accordance with its missions and legal powers as defined in the law of November 30, 1998 governing intelligence and security services. The advice rendered by the security service may be based on a classified note.

ELIGIBILITY CRITERIA FOR THE PARTNERSHIP

TRIPLE HELIX

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

For **theme 1 – CYBER**, it is **MANDATORY** to have the Royal Military Academy (RMA)
as a partner in the network.

ATTENTION POINTS FOR EXPERTS

Eligibility criteria for potential remote evaluators

You need to provide information for minimum 4 proposed evaluators (min. 2 Belgian and 2 foreign experts.

Experts must meet following criteria:

- Be outstanding and (inter)nationally (well) recognised in their research field (min 5 peer-reviewed publications in the given research field)

- 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

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.

Q&A

SCAN THE QR CODE TO JOIN AT

slido.com
Code: # 2975327

Networking opportunities

1. Entrance/exit + guardroom (registration)
2. Conference room Frank De Winne
3. **Room E-10.11**: Cyber - Short-term Mitigation Techniques for Software Resilience (theme 1)
4. **Room K-00.28**: Securing critical Maritime Infrastructure (theme 2)

    Improved Underwater Communications between Sensors/Weapon Systems and Data systems to Render Data into Actionable Data (theme 3)

    Room K-00.29: Next-Generation Vision and Sensor Fusion (theme 4)

    Room K-00.33: Prolonged Forward Casualty Care (theme 5)
5. Mess 2 - Lunch
6. Bar (cafetaria) - Receptie

Agenda

1	DEFRA Security aspects
2	Submission procedure and use of the platform
3	Evaluation procedure
4	Q&A

DEFRA Security aspects

SUBMISSION PROCEDURE AND USE OF THE PLATFORM

- DEFRA WEBSITE

- DEFRA ON-LINE SUBMISSION PLATFORM

- SUBMISSION PROCEDURE

- COMMUNICATION

DEFRA WEBSITE

https://defra.belspo.be

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

DEFRA ON-LINE SUBMISSION PLATFORM

https://defra.belspo.be

Consult the Platform submission guidelines on the website

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)

DEFRA ON-LINE SUBMISSION PLATFORM

Platform homepage before log in

Online Platform for submitting and evaluating proposals in the context of the DEFRA-call 2024

PRE-PROPOSALS : Submission deadline is 22/2/2024 14:00

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 fourth call of the DEFRA program includes five specific research themes and one open theme:

Theme 1 - **CYBER**: Short-term Mitigation Techniques for Software Resilience

Theme 2 - Securing critical **Maritime Infrastructure**

Theme 3 - Improved **Underwater Communications** between Sensors/Weapon Systems and Data systems to Render Data into Actionable Data

Theme 4 - Next-Generation **Vision and Sensor Fusion**

Theme 5 - Prolonged Forward **Casualty Care**

Theme 6 - **Open Call**: Research on Innovative and Future-Oriented Defence Solutions

More information can be found in the Information file for applicants

Project coordinator creates personal account
One email address = one account

LOGIN if you want to have access to the online platform

Platform submission guidelines
© BELSPO - Federal Science Policy Office 2024 - Privacy policy - Cookie policy

Contact BELSPO

DEFRA ON-LINE SUBMISSION PLATFORM

Once logged-in: directed to your personal homepage

Click on "Add Pre-proposal" button to create Pre-proposal.

DEFRA ON-LINE SUBMISSION PLATFORM

Pre-proposal page (1/2)

DEFRA platform

Platform submission guidelines
Information file

New Pre-proposal – Information sheet

THEME

○ Theme 1 - CYBER: Short-term Mitigation Techniques for Software Resilience

○ Theme 2 - Securing critical Maritime Infrastructure

○ Theme 3 - Improved Underwater Communications between Sensors/Weapon Systems and Data systems to Render Data into Actionable Data

○ Theme 4 - Next-Generation Vision and Sensor Fusion

○ Theme 5 - Prolonged Forward Casualty Care

○ Theme 6 - Open Call: Research on Innovative and Future-Oriented Defence Solutions

PROPOSAL'S ACRONYM (maximum 15 characters)

PROPOSAL'S TITLE (maximum 255 characters)

COORDINATOR

Lastname	Firstname	Email
Defra	2023	testdefra@belspo.be

Type of organisation
Defence research institutes

Organisation
Laboratoires de la défense - Defensielaboratoria

Organisation's abbreviation
DLD

Department/Research unit/Division
Research unit

DEFRA ON-LINE SUBMISSION PLATFORM

Pre-proposal page (2/2)

PARTNERS

Complete all fields for the partner(s)

Lastname Firstname	Type of organisation	Organisation	
+1			Abbreviation:

SUMMARY (± 1/2 page) : The context and motivation of the project - Expected results and how these will impact Defence - Brief explanation of how the project will be carried out (± 1/2 page)

KEYWORDS minimum 2, maximum 6

☐ *As the coordinator, I confirm to have read and to have asked all the natural persons involved and mentioned in this Pre-proposal to read the* **privacy statement** *related to the DEFRA programme. Furthermore, I confirm to have obtained these persons' explicit consent to process their personal data in the context of this privacy statement.*

Click SAVE first and then BACK TO LIST in order to upload the CONTENT DOCUMENTS. Note that if you do not save the information will be lost.

Save   Back to list

DEFRA ON-LINE SUBMISSION PLATFORM

Pre-proposal page – mandatory fields:

- Themes of the Call
- Proposal's Acronym
- Proposal's Title

  Minimal required info to start

- Name, institution and contact details of the Coordinator
- Partners (institution coordinates)
- Summary
- Keywords (min 2)
- Approval statement for submission

DEFRA ON-LINE SUBMISSION PLATFORM

Personal homepage will change after saving Pre-proposal

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 <u>pre-proposals</u>

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 and a '✓' will appear on your Personal Homepage

Deadline for pre-proposals: 22/02 - 14h

DEFRA ON-LINE SUBMISSION PLATFORM

Personal homepage after submission

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:

	Themes 1, 2, 3, 4, 5	Theme 6*
Quality of the pre-proposal	40%	30%
Quality of the partners & adequacy of the partnership	30%	30%
Impact	30%	40%

* Possibly additional criteria based on strategic considerations and the diversity of topics of the pre-proposals.

- Theme 1 to 5: max. 5 pre-proposals invited to submit full proposal
- Theme 6: max. 10 pre-proposals invited to submit full proposal

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 2024

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 projects, the conclusion of the contract for selected proposals, and everything related to the project implementation:
defra@belspo.be	questions about reporting, invoicing, implementation, communication, follow-up and valorisation of the project **defra@mil.be**

Q&A

SCAN THE QR CODE TO JOIN AT

slido.com
Code: # 2975327

Further questions

FAQ on website
defra@belspo.be

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GOOD LUCK!

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