Partnership on techniques for fuzzing RF protocols

TECHNICAL AND FINANCIAL PROPOSAL

Writers: R.COLLADO, M. ANDRILLAT & N. FLEURY

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DATE: 25/08/2025 V1

CONTRACTING PARTY: AVANTIX SAS

COMMERCIAL MANAGER: MARION ANDRILLAT

TECHNICAL MANAGER: RAPHAEL COLLADO

CEA DPT/LAB: LETI/DSYS/SSSEC/LTSO

Signature of the contracting party's legally authorised representative:	**Signature of CEA's legally authorised representative:**
Date :	Date :
Name : PAYER	Name : CLERMIDY
Surname: BERNARD	Surname :FABIEN
Fonction : PRESIDENT OF AVANTIX SAS	Title : HEAD OF SYSTEMS DEPARTEMENT
Signature :	Signature: CLERMIDY, Fabien Signé numériquement Le 26/08/2025

1. OBJECT OF PROPOSAL

The SSSEC (CEA-Leti security service) hosts the LTSO (Laboratoire de Tests de Sécurité et Outils).

This laboratory runs a broad range of security characterization tests on electronic devices, hardware and embedded software. Composed of a multidisciplinary team, the missions of the laboratory encompass, evaluation of security functions providing basic to high security levels of assurance and security characterizations of components or systems.

The laboratory possesses an extensive array of tools designed to address various levels of security testing. When necessary, it creates its own tools and explores new methods for conducting security assessments. Notably, over the past several years, it has developed a security testing platform known as SCIBE (Secure Communication Interfaces Bench) and FUZZENGINE (fuzzing framework), which facilitate attack simulations on physical and RF interfaces. SCIBE is capable of performing advanced fuzzing tests on both types of interfaces. FUZZENGINE is a complete framework to perform testing campaigns based on fuzzing technics for various protocols.

The main objective of this proposal is to pave the way towards a collaboration between LTSO and teams of AVANTIX SAS on security testing tools.

2. DESCRIPTION

2.1 OBJECTIVES, TECHNIQUES, AND METHODS

This technical and financial proposal is the result of several discussions since 2023 September, mutual visits and a workshop hosted in Grenoble the 11Th of June 2025. AVANTIX SAS is willing to enhance its internal capabilities in cybersecurity penetration testing. In particular fuzzing techniques on RF protocols are identified as an area of interest.

Thus, the primary goal of this proposal is to establish a collaborative partnership between LTSO and AVANTIX SAS teams centered around specific technical tasks. This collaboration aims to lay the groundwork for developing a more ambitious program in future years.

Several areas of mutual interest have been identified. This initial year of collaboration will concentrate on three main technical tasks: developing a mid-term project plan, for AVANTIX SAS teams, gaining a deeper understanding of FUZZENGINE, and creating preliminary architecture designs to integrate FUZZENGINE with new components.

2.2 TASKS

2.2.1 DEFINITION OF A COMMON ROADMAP

Description :

The goal of this task is to collaboratively develop a plan aimed at establishing a joint laboratory between AVANTIX and LTSO, tailored to meet the requirements of a specific client from AVANTIX.

In a recursive and iterative approach LTSO will work with AVANTIX to:

- Build the plan of a project focusing on fuzzing techniques
- Build a longer-term plan for a close collaboration

It will consist in:

- Supporting to technical definitions of working packages and their cost evaluations
- Defining technical tasks split between LTSO and AVANTIX teams

Inputs expected from AVANTIX:

- Recursively to support the construction of the plan, the needs of final customer

Deliveries:

- D1: The minutes from joint workshop meetings serve as deliveries, with no later than T_0 + 6 months. (2 full days workshop)

2.2.2 FUZZENGINE EXPERIMENTS

Description :

This task aims to test the fuzzing engine using specific use cases. Various RF protocols have been considered for inclusion in Task 1.

As first choice, the Wi-Fi protocol will serve as the communication channel. The device under test (DUT) is a Wi-Fi client attempting to connect to an access point network.

Currently, FUZZENGINE is capable of fuzzing clients for certain handshaking association modes above the MAC layer, while simulating an access point. The fuzzing campaigns will concentrate on developing at least one new handshaking association mode (to assist in evaluating its cost) between the access point and the client.

Simultaneously, AVANTIX aims to gain a deeper understanding of the architecture of FUZZENGINE and explore ways to implement new scenarios. To facilitate this, LTSO will provide an evaluation version of FUZZENGINE along with guidelines for developing new use cases, conduct a three-day training session, and offer technical support.

Inputs expected from AVANTIX: priority list of WIFI handshaking association modes.

Deliveries:

- D2.1: FUZZENGINE evaluation version and 3 days training session at T_0 + 6 months. This evaluation version consists of:
    - A Raspberry Pi 4 configured as an access head, flashed with a Linux Buildroot image that includes the necessary drivers and libraries for use by the tester station.
    - Hardware dongles to plug on the rasperberry PI4 (or directly into the Tester station): Nordic NRF52840 (for BLE, Zigbee), and an alpha network dongle for wifi
    - The FUZZENGINE binary running on Linux OS
    - Scripts and binaries examples to launch fuzzing campaigns on WIFI, BLE, Zigbee protocol stacks, and the SSH application protocol (on top of WIFI or ethernet)
    - A User guide of FUZZENGINE binary.

The preparation of a PC with a recent version of Ubuntu is required to install all dependency packages for AVANTIX.

- D2.2: Report of fuzzing campaigns of an existing scenario and the new scenario developed. (T_0 + 12 months).

2.2.3 ARCHITECTURE DESIGNS

Description:

The Initial discussions between teams have highlighted several open questions that could shape future developments. The objective of this task is to collaboratively address these questions with the aim to:

- Develop various potential architectures for integrating protocol stacks with FUZZENGINE.
- Identify constraints imposed by real-time protocol requirements
- Interfaces between FUZZENGINE station and the different access heads

Inputs expected from AVANTIX: priority list of protocols and techniques feedbacks.

Deliveries:

- D3: Document of architecture considerations addressing the 3 questions listed above (T_0 + 12 months)

3. DELIVERIES

The list of deliveries is:

Task1:

- D1: Minutes of joint workshop (2 full days workshop): T_0 + 6 months

Task2:

- D2.1: FUZZENGINE evaluation version and 3 days training session: T_0 + 6 months. This evaluation version consists of:
    - A Raspberry Pi 4 configured as an access head, flashed with a Linux Buildroot image that includes the necessary drivers and libraries for use by the tester station.
    - Hardware dongles to plug on the rasperberry PI4 (or directly into the Tester station): Nordic NRF52840 (for BLE, Zigbee), and an alpha network dongle for wifi
    - The FUZZENGINE binary running on Linux OS
    - Scripts and binaries examples to launch fuzzing campaigns on WIFI, BLE, Zigbee protocol stacks, and the SSH application protocol (on top of WIFI or ethernet)
    - A User guide of FUZZENGINE binary

The preparation of a PC with a recent version of Ubuntu is required to install all dependency packages for AVANTIX.

- D2.2: Report of fuzzing campaigns: T_0 + 12 months

Task3:

- D3: Document of architecture T_0 + 12 months

4. QUALITY

CEA/LETI is ISO 9001 (2015 version) certified for creation, development and transfer of knowledge, technology, exploitation rights on patents and use of software, research and development, expertise and elaboration of items.

The study set out under this Agreement shall be performed in accordance with this standard.

5. PROVISIONNAL SCHEDULE FOR PERFORMANCE OF THE WORK

The work described above may be performed within 12 months according to the estimated schedule below:

Action	**Time period**
Task 1	T_0 + 6 months
Task 2	T_0 + 12 months
Task 3	T_0 + 12 months

T_0: the date set out in an order placed by the contracting party.

6. ESTIMATED COSTS

The work described above will be provided for the following fixed price:

125 000 € TAX FREE

(one hundred and twenty five thousand EUROS TAX FREE)

7. VALIDITY OF THE PROPOSAL

3 months as of the date of signature of the offer by CEA.

8. SCHEDULE OF PAYMENT

Invoicing key	Expected Date	Amount to be paid (€ VAT excluded)
D1 delivery	T_0 + 6 months	**25 000 €**
D2.1 delivery	T_0 + 6 months	**25 000 €**
D2.2 delivery	T_0 + 12 months	**50 000 €**
D3 delivery	T_0 + 12 months	**25 000 €**

9. PAYMENT TERMS

The invoices issued by CEA as per the instalment schedule set out in the Agreement shall be payable within thirty (30) days from the end of the month following the date of issuance of the invoice on the terms and conditions defined in article 4 of General Terms and Conditions for the Performance of a Study.

10. ORDER

If this proposal is acceptable to you, thank you for signing it or sending your order to the following address:

CEA GRENOBLE
LETI/*DSYS*
17 rue des Martyrs
38054 GRENOBLE CEDEX 09

11. CEA KNOWLEDGE USED FOR THE PERFORMANCE OF THIS STUDY (PATENTS, KNOW-HOW, SOFTWARE, ALGORITHMS,…)

SOFTWARE

An APP deposit is pending for immediate release upon the availability of FUZZENGINE V1.0. This version includes:

- A campaign scheduler
- Modules for:
  - Tracking execution history
  - Incorporating target feedback
  - Monitoring target states
  - Considering external environments states for feedbacks (e.g., companion applications)
- Various fuzzing strategies.

The release also provides examples using the framework, focusing on RF protocols such as:

- Bluetooth Low Energy (BLE)
- Zigbee Green Power Profile and Pro
- Wifi

12. TERMS AND CONDITIONS OF PERFORMANCE

Unless otherwise specifically set out under sections 13 and following, the General Terms and Conditions for the Performance of a Study shall apply to this proposal.

The application of any other contractual provision and notably the contracting party's general terms and conditions of purchase is excluded.

13. SPECIFIC TERMS AND CONDITIONS

The Parties agree on specific terms and conditions in addition to the GENERAL TERMS AND CONDITIONS FOR THE PERFORMANCE OF A STUDY attached in Appendix 2.

In addition to Article 10 of the GENERAL TERMS AND CONDITIONS FOR THE PERFORMANCE OF A STUDY, the Parties agree to apply the following provisions to this Agreement:

13.1 AVANTIX SAS aims to gain a deeper understanding of FUZZENGINE (as listed in CEA PRIOR KNOWLEDGE above and hereafter mentioned as “CEA SOFTWARE”) and explore ways to implement new scenarios.in collaboration with CEA.

13.2 CEA grants to AVANTIX SAS a personal, worldwide, non-exclusive, non- transferable license to use the CEA SOFTWARE (version V1.0) for the sole purpose of internal evaluation of the CEA SOFTWARE to be made by AVANTIX SAS (including free demonstrations to DGA). This license is granted on a free royalty basis.

13.3 This license does not entitle AVANTIX SAS to enhancements, modifications or updates of the CEA SOFTWARE. Any further uses of the CEA SOFTWARE are prohibited in this license including any distribution to third parties.

13.4 This license does not include any sub-licensing rights.

13.5 The CEA SOFTWARE is provided in binary form.

13.6 Provided AVANTIX SAS respects its financial obligation regarding the payments of the costs relating to Deliverable D2.1, this license is granted from the delivery of FUZZENGINE to AVANTIX SAS, for the duration of this Agreement.

APPENDIX 1. ADMINISTRATIVE TABLE

Corporate	**Commissariat à l'Energie Atomique et aux Energies Alternatives (CEA)**
Registered	Commissariat à l'Energie Atomique et aux Energies Alternatives Bâtiment Le Ponant D, 25, Rue Leblanc – 75015 PARIS FRANCE
Represented by	Mr. Sébastien DAUVE, Head of the CEA-Leti Institute
Address	CEA/GRENOBLE - Leti/Département Systèmes 17 Rue des Martyrs – 38054 GRENOBLE CEDEX 09 FRANCE
Head of Finance and Contract Group	Mr. Jean-Claude ROYER Tél : +33 (0)4 38 78 05 72 – Email : jean-claude.royer@cea.fr
R.C.S Number	PARIS B 775 685 019
SIRET Number	775 685 019 00 298 (n° URSSAF idem)
APE code	7219 Z - Recherche, développement en autres sciences physiques et naturelles
TVA Number	FR 43 775 685 019
System of TVA	Extra on debits.
Bank account	ACCOUNT OWNER CEA TRES CENTRAL CEA SACLAY DFP/SFT Point courrier 69 bât. 482 91191 GIF SUR YVETTE CEDEX FRANCE DOMICILIATION BNP – PARIBAS PARIS AG-CENTRALE ENTREPRISES 1 Boulevard Haussman – 75009 PARIS FRANCE SWIFT : BNPAFRPPXXX IBAN : FR76 3000 4008 1800 0212 1622 127
Legal statutP	EPIC : Etablissements Publics à caractère Industriel et Commercial.

APPENDIX 2 – General Terms and Conditions for the Performance of a Study

1. SCOPE

This document sets out the terms and conditions governing the performance of a study carried out by CEA on behalf of the contracting party (hereafter referred to as the party or parties); any industrialisation action being supported by the contracting party.

2. CONCLUSION OF THE AGREEMENT – AGREEMENT DOCUMENTS

2.1 The commercial proposal includes technical and financial elements and these General Terms and Conditions (hereafter together referred to as the “Agreement”).

2.2 The Agreement shall be concluded and take effect as of the first of the following dates:

- the date of receipt by CEA of the Agreement issued by CEA signed by the contracting party, or
- the date set out in an order placed by the contracting party.

Unless otherwise set out in the commercial proposal the performance of the study will start on the effective date.

2.3 Consequently, unless expressly accepted in writing by CEA, no conflicting terms and conditions desired by the contracting party shall be binding on CEA, regardless of when they may have been brought to its notice.

These General Terms and Conditions shall prevail over any other document. CEA’s general terms and conditions of sale and the contracting party’s general terms and conditions of purchase are expressly excluded from the Agreement. The contracting party covenants and warrants that it is not required to call for tender regarding the study to be carried out under the Agreement.

3. TERM – TIME FOR PERFORMANCE

3.1 The study shall be deemed completed on the date of last delivery as planned in the Agreement.

3.2 Unless terminated earlier under Clause 8 hereof, the Agreement shall terminate upon receipt of the payment due by the contracting party for the last delivery.

Clauses 5, 9, 10, 11, 12 and 13 hereof shall survive the termination or early expiration of the Agreement, howsoever arising, for the period specific to each of them; on the understanding that Clause 10 shall not survive termination of the Agreement following breach by the contracting party.

3.3 In any event, CEA’s time commitments shall be subject to compliance by the contracting party with its own obligations, especially with respect to (i) timely provision of the documents, information or products required for the performance of the study and (ii) payment of the invoices under the Agreement.

3.4 Furthermore, the parties expressly agree that the following legal provisions shall not apply:

- Article 1195 of the Civil Code (hardship), and
- Article 1222 of the Civil Code (forced execution), and
- Article 1217, paragraph 1, point 3 and Article 1223 of the Civil Code (price reduction).

4. PAYMENT TERMS

4.1 The invoices issued by CEA as per the instalment schedule set out in the Agreement shall be payable within thirty (30) days from the end of the month following the date of issuance of the invoice on the terms and conditions defined herein.

4.2 Payments will be made for the nominal amount for the work as set out in the Agreement and in accordance with the Agreement’s provisions, without any withholding whatsoever. Should a compulsory legal or regulatory provision require a withholding, on a tax or other basis, the contracting party warrants that CEA will be paid for the nominal amount set out in the Agreement net out of any withholding, so that this legal or regulatory provision has no effect upon CEA.

The contracting party shall pay the aforementioned amounts to the competent state authority on behalf of CEA and bear any fine, penalty, default interests and any amount whatsoever arising from a delay, a fault or a wrongful performance of his obligations. Should CEA have to pay all or part of such amount, the contracting party shall refund CEA without delay.

4.3 In the event of non-payment of an invoice within the applicable deadline, the CEA may suspend the performance of the Contract until full payment has been received. Such suspension shall become effective at the expiration of a period of ten (10) calendar days from the date of receipt by the contracting party of a registered letter with advice of receipt addressed to it by CEA, unless the contracting party fulfils its obligation during the said ten (10) calendar day period.

4.4 The following are payable automatically and without prior notice, from the day following the payment date shown on the invoice:

(i) late payment penalties calculated on the basis of the European Central Bank's refinancing rate plus four percent (4%) or, if this rate is less than three times the legal interest rate, three times the legal interest rate;

(ii) a flat-rate indemnity of forty euros (€40) for internal collection costs;

without prejudice to CEA's right to take legal action.

These penalties and compensation will be invoiced by the CEA.

No discount will be granted.

5. CONFIDENTIALITY

5.1 Each party shall consider confidential all financial, commercial, technical, legal or other information or data (“Confidential Information”) that is disclosed by the “Disclosing Party” to the “Receiving Party” hereunder in connection with the study, in writing, electronically, orally, visually through visits to premises, or in the form of samples, designs, models, software programmes or otherwise, and that has been expressly identified as confidential by the Disclosing Party at the time of disclosure by stamping the information’s material support “confidential” or, if disclosed orally or visually and identified at the time of initial disclosure as confidential, thereafter confirmed as such in writing by the Disclosing Party within thirty (30) days of initial disclosure; provided that the information shall be considered Confidential Information during such thirty-day period.

The contracting party acknowledges that CEA PRIOR KNOWLEDGE and CEA NEW KNOWLEDGE communicated or used to perform the study, including when embedded, accessible and/or implemented in a DELIVERABLE, is Confidential Information.

The Receiving Party shall take all necessary precautions to prevent Confidential Information from being disclosed to any third party and to disclose to its staff only the portion of Confidential Information that is strictly necessary to fulfil their mission.

5.2 The Receiving Party shall not disclose any Confidential Information to any third party without the prior written consent of the Disclosing Party and shall take all measures necessary to ensure that its staff and any authorised third parties uphold the confidentiality of such Information.

5.3 In any event, the Receiving Party undertakes not to use Confidential Information for any purpose whatsoever other than the purpose for which it was disclosed by the Disclosing Party.

5.4 This confidentiality obligation shall not apply to any Confidential Information or portion of Confidential Information that the Receiving Party can establish:

- it has entered the public domain or is publicly available without any breach of this clause being attributable to the Receiving party
- was lawfully received by the Receiving Party before disclosure by the Disclosing Party without any obligation of confidentiality from a third party ; or
- was obtained by the Receiving Party through independent development work undertaken in good faith by members of its staff who did not have access to this Confidential Information.

5.5 In any event, the Receiving Party shall not reverse-compile, reverse-assemble or reverse-engineer Confidential Information or any part thereof.

5.6 This confidentiality obligation shall survive the expiry or early termination of the Agreement for a period of five (5) years or ten (10) years regarding Confidential Information consisting of know-how.

6. DELIVERABLES

6.1 "DELIVERABLE": means all physical elements (notably, reports, demonstrators, models, etc.), to be made and provided by CEA to the contracting party in accordance with the commercial proposal.

6.2 DELIVERABLES shall be deemed fully and irrevocably accepted by the contracting party in the absence of any formal contrary notification by the contracting party within fifteen (15) calendar days starting from the date of delivery of each DELIVERABLE.

6.3 Subject to compliance with the payment terms set out in Clause 4 hereof, the DELIVERABLES, excluding any CEA KNOWLEDGE that may be embedded, accessible and / or used in the DELIVERABLES, shall be the property of the contracting party.

All use by the contracting party of a DELIVERABLE whose material ownership has been transferred to it under this Clause 6 is subject to:

i) In accordance with Clause 10 hereof, the conclusion of a licence for CEA's PRIOR and/or NEW KNOWLEDGE that may be embedded, available and / or used in the DELIVERABLES, and

ii) Compliance with the provisions of Article 5 hereof regarding the confidentiality of CEA's PRIOR and/or NEW KNOWLEDGE.

6.4 Unless otherwise agreed between the parties, CEA shall provide no maintenance service for the DELIVERABLES.

7. GOVERNING LAW – JURISDICTION

The Agreement shall be governed by and construed in accordance with French law, and any dispute arising therefrom or in connection therewith that the parties are unable to settle amicably within six (6) months from the date on which it is notified by one party to the other party by registered mail with acknowledgement of receipt shall be referred to the courts of competent jurisdiction in Paris.

8. TERMINATION

8.1 Serious breach:
Either party may terminate the Agreement as of right if the other seriously breaches its obligations.

Termination will be effective within thirty (30) days of the date of dispatch of a recorded delivery letter setting out its grounds unless within this period the breaching party has complied with its undertakings or proven its breach is due to force majeure.

8.2 Irremediable breach:
In the event the breach cannot be effectively remedied, termination will be effective immediately without any prior notice upon receipt of a recorded delivery termination letter.

8.3 Effect of termination:
The parties expressly agree that Article 1229 paragraph 3 and 4 of the Civil Code shall not apply.
In any case and given the usefulness of the work carried out by CEA, all payments made by the contracting party for such work, as at termination date, shall be retained by CEA and the costs incurred by CEA for the performance of the Agreement that have not already been paid upon the date of termination shall be paid by the contracting party and due on the date of termination on the terms set out in Clause 4 hereof.

9. OWNERSHIP OF KNOWLEDGE

9.1 DEFINITIONS

"KNOWLEDGE": means all knowledge whether patented or not or patentable or not, including software, know-how, trade secrets, and all intellectual property rights relating thereto.

"PRIOR KNOWLEDGE": means KNOWLEDGE owned by either of the parties before the date of commencement of the study which is necessary for carrying out the study. The PRIOR KNOWLEDGE of CEA's laboratory(ies) involved in carrying out the study and the PRIOR KNOWLEDGE of the contracting party are listed in the Agreement.

"NEW KNOWLEDGE": means any KNOWLEDGE resulting from the work carried out in performing the study.

9.2 Ownership of PRIOR KNOWLEDGE

Each party shall retain full and absolute ownership of its PRIOR KNOWLEDGE.

These General Terms and Conditions shall not operate to transfer any ownership or to license any rights in such PRIOR KNOWLEDGE to the other party

9.3 Ownership of NEW KNOWLEDGE

9.3.1 The NEW KNOWLEDGE shall be the property of the Party employing the personnel that alone generated it (hereinafter "INDIVIDUAL NEW KNOWLEDGE") and such Party shall alone decide on the advisability of protecting it by any intellectual property title. Any new patent arising therefrom shall be filed in the sole name and at the sole expenses of such Party.

9.3.2 In the event that NEW KNOWLEDGE is generated jointly by the personnel of both parties without it being possible to distinguish the inventive or intellectual contribution of each party, such NEW KNOWLEDGE (hereinafter "JOINT NEW KNOWLEDGE") shall be co-owned equally by the parties (hereinafter referred to as the "CO-OWNERS").
The parties however acknowledge that the mere provision by a party of product technical requirements (dimensions, specifications functionalities, software language, standards, etc.), without any creative/ inventive contribution from that party to the generation of NEW KNOWLEDGE, does not confer upon said party the status of CO-OWNER of said NEW KNOWLEDGE.

JOINT NEW KNOWLEDGE is subject to a co-ownership agreement to be signed before any industrial and/or commercial exploitation. Said agreement will determine the conditions of management and exploitation of the co-ownership, including financial compensation between CO-OWNERS.

If within the JOINT NEW KNOWLEDGE co-owned patents are generated, the parties expressly exclude application of article L 613-29 c) of the French Intellectual Property Code.

The parties would cooperate and share in equal part the cost with respect to the filing of patent applications relating to any JOINT NEW KNOWLEDGE, if any, and neither party would file a patent application on JOINT NEW KNOWLEDGE without consulting the other party in advance of such filing.

10. USE AND/OR EXPLOITATION OF CEA PRIOR KNOWLEDGE AND OF NEW KNOWLEDGE

10.1 Before the contracting party engages in any commercial and/or industrial use and/or exploitation of INDIVIDUAL NEW KNOWLEDGE, a licence agreement must be entered into between the parties.

10.2 At the contracting party's written request within three (3) months following the date of completion of the study as specified in Clause 3 hereof, a non-exclusive licence agreement on normal commercial terms shall be negotiated in good faith.

If necessary for the intended use and or/ exploitation of INDIVIDUAL NEW KNOWLEDGE, the licence agreement may include a non-exclusive exploitation right of CEA's PRIOR KNOWLEDGE, subject to any pre-existing third-party rights and/or pre-existing commitments by CEA.

This licence option is conditional on the contracting party's fulfilment of its payment obligations as set out in Clause 4 hereof.

The above-mentioned undertaking shall end upon the expiry of the above-mentioned three-month period.

11. LIABILITY

The study being carried out in a R&D context CEA's undertaking shall be limited to using its best endeavours to perform the study according to (i) commonly accepted practices in the trade, (ii) CEA's knowledge and experience at the time of performance of the study, and (iii) having regard to the specifications furnished by the contracting party ("*obligation de moyens*").

The contracting party expressly acknowledges that the quality and purpose of the DELIVERABLES and KNOWLEDGE are experimental in nature. Any use of a DELIVERABLE or KNOWLEDGE whose material ownership has been transferred to it under Clause 6 shall be at the contracting party's own risk and peril.

CEA notably does not provide any warranty as to the industrial feasibility of the operations arising out of the study nor the technical performance of the DELIVERABLES and the KNOWLEDGE nor the absence of any infringement of any proprietary rights of third parties.

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12 EXPORT RULES

12.1 Each party hereby acknowledges that the disclosure of any information (including Confidential Information), software and technologies (hereafter "Information Subject to Control"), pursuant to this Agreement, might be subject to applicable export control laws, restrictions and regulations, including the EU Regulation (EC) No. 2021/821, and will comply with them.

12.2 Each party undertakes to inform the other party in writing and without delay of any restriction related to the export control laws or regulations of which it is made aware and which could affect its performance of the Agreement

12.3 Each party may reserve the right to refuse performance of its obligations hereunder if such performance may result in a breach of any applicable export control law or regulations.

12.4 Each party agrees not to transfer, export or re-export the Information. Subject to Control, software and technologies to any country or entity subject to embargo under any applicable law, regulation or similar provision.

12.5 Each party will communicate to the other party any necessary information and/or document in order that the latter obtains a prior export license or other approval under applicable export control laws and regulations. Prior to the shipment of the Information Subject to Control, each Party will use its best efforts in order to inform specifically, by writing, the other party about the classification number in the applicable export control laws or regulation.

12.6 Each party acknowledges that Information Subject to Control, , pursuant to this Contract, must only be used for a civilian purpose;

12.7 Any violation of these export control rules hereunder in the performance of this Agreement, shall be regarded as a serious breach of the Agreement. The provisions of article 8 shall apply.

12.8 No party shall be considered to be in breach of this Agreement if it is prevented from fulfilling its obligations under it due to a restriction resulting from export laws and regulations, provided that the party has used its reasonable efforts to fulfil its obligations and to apply for any necessary license or authorization properly and in time. Therefore, neither party shall incur any liability and be obliged to perform deliveries and other obligations under the Contract if that performance is hindered by applicable export control laws and regulations.

13. NO TRANSMISSION TO RUSSIA

13.1 The contracting party shall not sell, export, re-export or communicate, directly or indirectly, to the Russian Federation or the Republic of Belarus for use in one of those countries any DELIVERABLE, KNOWLEDGE and/or information (including Confidential Information) supplied under or in connection with this Agreement that fall under the scope of Article 12g of Council Regulation (EU) No 833/2014 (sanctions against the Russian Federation) and Article 8g of Council Regulation (EU) No 765/2006 (sanctions against the Republic of Belarus)

13.2 The contracting party undertakes to use its best efforts to ensure that the purpose of clause 13.1 is not frustrated by any third parties including but not limited to any sub-contractors and sub-licensees.

13.3 The contracting party shall set up and maintain an adequate monitoring mechanism to detect conduct by any third parties including but not limited to any sub-contractors and sub-licensees that would frustrate the purpose of clause 13.1.

13.4 Any violation of clause 13.1, 13.2 or 13.3 shall constitute a breach of this Agreement and CEA shall be entitled to seek appropriate remedies, including, but not limited to, termination of this Agreement in accordance with the provisions of clause 8.

13.5 The contracting party shall immediately inform CEA about any problems in applying clause 13.1, 13.2 or 13.3, including any relevant activities by third parties that could frustrate the purpose of clause 13.1. The contracting party shall make available to CEA information concerning compliance with the obligations under clause 13.1, 13.2 and 13.3 within two weeks of the simple request of such information.