IMPORTANT CLARIFICATIONS

Matchmaking:
Submit a proposal for the part you would like to develop or have to offer. In case of software submit your expertise, WPs and price per component.

International parties:
It is possible for non-Dutch companies to submit a proposal. It is important though that testing will take place in The Netherlands. Also, devices that are part of the proposal need to be available for the Dutch market.

Open-source HEMS / Home Assistant:
Using an open-source HEMS is allowed, provided your product integrates the project's open-source connectors and is offered as an off-the-shelf consumer solution, meeting all RFP requirements (Apache-2.0, IP to ElaadNL, security/quality gates).

DISCLAIMER Q&A PUBLICATION
The Q&A is provided for information only and does not amend the RFP. In case of any discrepancy, the RFP (and any addenda issued by ElaadNL) prevails. Only written addenda modify requirements or deadlines. Proposers remain responsible for verifying scope, assumptions, and compliance. ElaadNL may update or replace this Q&A; please ensure you consult the latest version. No rights can be derived from these answers, and ElaadNL accepts no liability for reliance on them.

SUBMITTED QUESTIONS	ANSWERS
Base conditions I would like to know what role we are ultimately expected to take. This is because we are currently a consumer-focused company that develops products consumers can use to control smart devices in any possible way. I'm keeping the question deliberately open, as I'm very interested in your vision on this.	Our view is that developing open-source software will make it easier to control more devices in the future. We do not have a specific role in mind for HEMS parties. We believe that greater interoperability will naturally help reduce congestion on the electricity grid. For example, because more consumers will store self-generated power in a battery or EV. With this initiative, we are helping the market advance faster on interoperability.
Base conditions We are mostly interested in Open ADR stack development, is this possible within the RfP? How do you connect a house that used to do inhome load management only to grid restraints?	Not possible within this RfP. We focus on the in-home protocols S2, EEBUS and Matter with a possibility to support Modbus via translation
Base conditions The RFP states that the supplier of the HEMS solution must be in "Compliance with relevant standards (e.g. OpenADR, S2, Matter, EEBUS, or equivalent)". Does this apply to the WP that we build within the scope of this project or does it apply to (H)EMS solutions already present? Please note that when a HEMS supplier is already (e.g. S2) compliant there would be no need to participate in this project and redevelop what is already in place.	It's an eligibility/track-record requirement, not a demand to pre-implement the WP. Existing compliance (e.g., S2) shows capability; the project deliverable is still the WP scope as open-source (Apache 2.0) with docs/tests and plug-fest acceptance. If you already have a compliant implementation, you can reuse/adapt it as long as you (a) publish the relevant components under Apache 2.0 (with IP to ElaadNL per RFP), (b) integrate with our repo/quality gates, and (c) pass interoperability testing. This can avoid rework while letting you connect more devices and obtain funding.
Base condtions The RFP explicitly states that CPO limits must be adhered to. However, the same is not mentioned for HEMS limits in relation to CPO profiles. If the HEMS requests a lower limit than the CPO, should the system always enforce the lowest of the two?	Yes
Base condtions In case of software development; will there be a Service Level Agreement (SLA) in which important service and maintenance agreements will be made?	It is acknowledged that service and maintenance of the delivered open-source products are important. The setup of this will be decided at a later stage. See also the request under 5.4: Parties are encouraged to indicate their willingness to remain involved after the project ends, e.g. by
Base conditions Are the responsibilties as described in 6.2 within the scope as formulated in chapter 1 (more specific: this RFP focuses on the initial development of open-source software)? In others words the project as describes ends when Elaad accept the	Yes, the RFP focuses on the initial development of open-source software. Also, see Section 2.3: The goal of this project is to stimulate market adoption of interoperable, plug-and-play solutions. Participating parties commit to participate in the Interoperability Test Phase where they will test and demonstrate their
Base conditions What criteria are applicable to define standardization of workflows for versioning, testing and releasing?	You may propose your own workflows. We expect to align on common practices for versioning, testing, and releasing during project startup in coordination with all selected partners.
Microcontroller Architecture vs. Embedded Linux Several work packages (e.g. WP1B, WP2B) refer to embedded Linux as the target environment. However, many dedicated HEMS devices do not use Linux, as it can be over-dimensioned for their purpose and introduces additional update and	Yes, a microcontroller-based architecture could be acceptable, provided all functional and security requirements are met. The implementation must be modular and reusable, with clear interfaces to support integration on other platforms.
Code deliverable Is the final code usage requirement to be an SDK, or a service that can run on specific hardware?	The deliverable is expected to be an SDK-style open-source software module, not a standalone service. It should be easy to integrate into existing HEMS or device software stacks.
Code deliverable Following the above: If it's an SDK, do all the listed languages need to be implemented, or can we just choose one? If different laguage are used in the sdk, how should we coordinate the adaptation between different language components?	One language per component is sufficient. For device-side components, only C/C++ or Rust are allowed. Other listed languages apply to HEMS-side only.
Code deliverable Again following the above: If the service is ultimately required to run in a hardware environment, are there any specific chip or compiler version required? Or can it be run on the hardware environment we provide?	There are no specific chip or compiler requirements. The code should target a generic embedded environment and be portable. You may use the hardware environment you provide, as long as it supports the required functionality and testing. We expect a modern embedded device capable of running a Linux kernel.
Eligibility Across Multiple Work Packages Can a single proposer or consortium be awarded multiple work packages if proposals are strong, or will selection be limited to spread participation across several parties?	Yes a single proposer can be awarded multiple work packages.
Consortia and Matchmaking As we are a software development company, I understand we are not eligible to apply independently and must be part of a consortium with a qualifying HEMS and/or device proposer. Could you please clarify: Does this mean we should not reply alone to this RFP?	Yes, that's correct. Stand-alone software companies cannot submit on their own and must be part of a consortium. We do offer best-effort matchmaking: there's no public list yet, but if HEMS/FEID parties seek a software partner, we can introduce you.
Consortia and Matchmaking Section 6.1 says ElaadNL is offering matchmaking for software companies in case they don't have a HEMS / HW partner. Does this mean we should submit SW part of the offering, and then you will connect us with a suitable HEMS/device partner? Or should we indicate our interest in such matchmaking and you will advise suitable partner?	For Matchmaking we ask you to submit a proposal for the part you would like to develop or have to offer. In case of software, submit your expertise, WPs and price offer per component.
Consortia and Matchmaking Qualification and consortium: We are interested to bid for WP 1, 2 and/or 3. The RFP states "For WP 1–3, proposals must cover the full chain: HEMS, device, and software". The current consortium consists of a home battery producer and a software company. Here the battery producer covers the device part. The software company has developed and is owner of a cloud based EMS solution that is currently used by customers in the horticultural market. Does our current consortium qualify to the above mentioned work packages?	Yes
Consortia and Matchmaking A potential partner for the consortium develops resource management systems for flex devices. For instance, a battery management system. It then sells batteries of selected producers along with the resource management system. Is this party regarded as a device supplier?	If an importer sells the products with additional software to consumers, than that qualifies as a supplier.
Consortia and Matchmaking We are planning to submit the proposal as a consortium. Could you please clarify: * Whether one party must act as the formal lead (i.e. contractual counterpart to ElaadNL), or if shared responsibility is acceptable? * Are there any minimum requirements for the consortium agreement?	One party must indeed act as the formal lead. Proposals for adjustments to the general terms and conditions of delivery can be discussed during the final award process.
Consortia and Matchmaking The RFP states that consortia should consist of at least one device supplier. When adding more device suppliers both the costs and the impact of the project/work package will increase. However, looking at the evaluation criteria the impact is not part of the evaluation. Do you want us to include more than one device supplier, and if so, how is this taken into account in the evaluation?	Adding an extra supplier will definitely increase the quality of your offer. You can specify the added value of the extra partner(s) to explain the extra costs if you feel that you need to justify the price at which you make us an offer. You can also consider to offer a version with less suppliers if you think that's possible, in a "light" version of your offer.
Consortia and Matchmaking Could you clarify why it is necessary to apply as a consortium for WP5, given that ElaadNL will already provide the charging station for testing purposes?	The goal is to implement the software in the charging station by the supplier so the consumer is able to buy a ready-to-serve product. For convenience we offer the available charging stations that already in our lab for demonstrating purposes.
Consortia and Matchmaking If a HEMS vendor partners with different device suppliers for different work packages, is it permitted for the same HEMS vendor to appear in multiple consortia?	Yes
Recognition of In-Kind Contributions How will in-kind contributions (e.g. provision of test devices, hosting environments, integration efforts) be valued in the evaluation alongside financial pricing?	We assume that in-kind contribution help lower the total offered price. But we understand that fitting existing code to this project may come with some additional work. Cost breakdown is therefore helpful. Also a reminder: If you already have an existing implementation, you can reuse/adapt it as long as you (a) publish the relevant components under Apache 2.0 (with IP to ElaadNL per RFP), (b) integrate with our repo/quality gates, and (c) pass interoperability testing. This can avoid rework while letting you connect more devices and obtain funding.
Home Assistant On page 24, it is stated that for Work Packages 1, 2, and 3, proposers must apply for the entire work package, covering the full chain: HEMS supplier, flexible energy-intensive device (FEID) supplier, and a party responsible for end-to-end software development. Would it be acceptable to use a market-available open-source HEMS solution, such as Home Assistant?	Using an open-source HEMS (e.g. Home Assistant) is allowed, provided your product integrates the project's open-source connectors and is offered as an off-the-shelf consumer solution, meeting all RFP requirements (Apache-2.0, IP to ElaadNL, security/quality gates).
Timeline and Budget Flexibility If, during development, it becomes clear that more sprints are required than initially estimated, this would also increase the associated costs. How should such situations be handled? Is there a defined process or flexibility in the project approach to agree on adjusted timelines and budgets, or are both considered fixed once the proposal is submitted?	The project is focussed on meeting the set timelines and the offered price remains fixed.
Delivery of information a) To participate in this project we need to provide various types of information; is there a template available for this, and on what basis will submissions be evaluated? b) Could you outline the main evaluation criteria and how we should submit the information?	The evaluation criteria are outlined in Section 9 of the RFP. We assess proposals based on the answers to the questions in Section 8. There is no mandatory template, you may submit your answers in a free format. This is intended to keep the process as accessible as possible.

Matter Beyond the commands listed in the RFQ and the mandatory EVSE device type cluster, are there any additional Matter clusters, attributes, or commands that're in consideration?	Beyond the EVSE cluster (0x0099), the following Matter clusters are in scope: ▪Electrical Power Measurement (0x0090) ▪Electrical Energy Measurement (0x0091) ▪Device Energy Management Mode (0x0098) Additional clusters may be proposed if they support the three target use cases.
Matter Are there any multi-admin requirements for the Matter controller in consideration?	Multi-admin support was not initially required but is encouraged. Proposals that include multi-admin commissioning and interaction will be viewed favorably, especially for real-world interoperability.
Matter The RFP references Matter version 1.4.1, while the most recent available release is version 1.4.2. To ensure alignment with your expectations and to benefit from the latest protocol enhancements, could you kindly confirm whether implementation should adhere strictly to version 1.4.1, or if adoption of version 1.4.2 is acceptable?	At the time of writing version 1.4.1 was the latest publicly available version. Using a newer version of Matter (1.4.2 in this case) is acceptable.
Matter The implementation is required to conform to the Matter 1.4.1 specification and prepare for future support of heat pumps, home batteries, and solar panels. Are proposers expected to demonstrate or simulate integration with these FEIDs during the proposal phase, or is it sufficient to provide an open API to support future expansion?	The proposal phase refers to the period before 19 September 2025. No development or simulation is required, only a clear description of the planned approach.
Matter Can we assume that CSA certification is not a requirement for this RFQ?	CSA certification is not required. However, implementations must conform to the Matter 1.4.1 specification and support secure commissioning, encryption, and fabric-bound control. Solutions should be certifiable in principle.
OCPP What security profile(s) of OCPP must the EVSE support? Should this be defined by the proposer based on industry best practices, or are there specific requirements outlined by ElaadNL?	The minimum required is OCPP Security Profile 1 (server-side TLS). Support for Security Profile 2 or higher—with mutual TLS and certificate-based authentication—is encouraged and may strengthen the proposal.
OCPP Regarding the OCPP "Light" connector: - Is it expected that the OCPP Light connection can directly interface both with the OCPP controller and the OCPP backend, or must there be an explicit choice between one of the two connections? - Is support for OCPP Light expected for multiple charge points simultaneously, or only for a single EVSE? - In the diagram on page 9, there is an additional connection drawn between 5A/HEMS OCPP Light and the c hargepoint. While the chargepoint also connects to 5B/OCPP controller. We've interpreted this as the chargepoint supporting a connection to 2 backoffices, however most chargepoints we know of don't support this feature. What is the idea or intention for this additional direct connection between HEMS and chargepoint?	OCPP Light connector is just the software component that allows the HEMS to talk OCPP. We called it light because it only needs to support a subset of the OCPP spec since we only want to do energy management and no billing for example. We envision the OCPP Light connector to only talk to 1 charging station since this project focusses on residential. We do however value having support for multiple charging stations. The lines in diagram 9 show all the possible routes. No charging stations are connected to 2 backoffices. This is purely due to lack of support as you mention, it could otherwise could out the need for the proxy component entirely.
OCPP How should security be handled, considering the connection to the charging station must always be possible? - Would it be preferable from a security perspective to always route the OCPP Light connection through an OCPP Controller, rather than allowing direct connections from the HEMS to the charge point? E.g. if you have a direct connection you can send ChangeConfiguration requests.	Keep the possibility to directly connect to a charging station. Handle security as stated in the OCPP spec. Only introduce the proxy component if a CPO or EMSP is part of the game.
Modbus What are the expectations regarding the structure and format of Modbus-to-standard protocol mappings (e.g. S2, EEBUS)? Is there a preferred or required configuration format (such as JSON, YAML, etc.)? Will ElaadNL provide a reference schema, or is the mapping structure left to the implementer's discretion? We aim to implement a fully configurable mapping engine where profiles for different devices can be added or adjusted without recompiling code. Clarity on mapping expectations supports interoperability across implementations.	Proposers may define their own approach
Modbus Are there specific types of Modbus-enabled assets (e.g. heat pumps) for which mapping profiles are expected or preferred?	No specific asset types are required, but mappings for commonly used devices such as heat pumps, batteries, or inverters are preferred.
Modbus Can ElaadNL clarify what qualifies as "secure" Modbus integration in WP4?	We expect, at a minimum, the use of TLS 1.2/1.3. We're open to proposer suggestions on how to implement this robustly. Proposals with a well-justified security approach will score higher.
Modbus Beyond protocol-native security, are specific minimum measures (e.g. authentication, encrypted tunneling) mandatory for Modbus integration, or can proposers define their own approach?	Proposers may define their own approach. There are no fixed security measures beyond the requirement that Modbus integration must be secure, well-documented, and appropriate for the intended use.
EEBUS The SHIP pairing procedure was developed in collaboration with the BSI and enables secure and automated pairing of EEBUS devices. It is also a prerequisite for EEBUS certification. In this context, we would like to kindly ask for a clarification regarding a technical detail: Section 3.3.3 of the tender document refers to a PIN-based certificate pairing process. Would it also be possible to use the more recent SHIP Pairing procedure in this context?	Yes, using the more recent SHIP pairing procedure is acceptable, as long as it meets the required security and interoperability criteria.
OpenADR Why was openADR and communication between HEMS and aggregator or HEMS and DSO not included. This was not concluded in the results of the RfI (the summary you shared). We think it is the most critical part to stimulate broad pick up by the market of HEMS. There are several HEMS developers who already integrate multiple protocols and/or brands but the method to receive signals from the higher level is lacking any standard at this moment. Therefore we suggest to add back openADR again.	We have chosen to exclude OpenADR from the current RFP. In our view, OpenADR is relevant for communication between external systems, e.g. DSO systems and the HEMS, not for communication between devices and the HEMS itself. Furthermore, since OpenADR 3 can be implemented in a polling configuration - as is currently done in the Netherlands for grid aware charging for public charging stations - we see no added value in adopting a dedicated client/VEN library. Including such a library in client code would require as much effort as directly implementing the necessary API calls.
S2 The PEBC control type within the S2 standard is chosen. In ourview, FRBC (and to a lesser extent DDBC) is much more interesting. Why was only PEBC selected?	PEBC is the minimum required to support the defined use cases. Other control types like FRBC or DDBC may be proposed as additions but are not required.
S2 and Matter "For components that include cloud communication, security measures such as authentication, encryption, and access control must be included in the proposal. ElaadNL will assess their adequacy during evaluation." Does the local coverter need to connect to the cloud?	For Matter/S2 you need to be able to communicate through the cloud.
Testing Is it possible to have the list of equipments and "real devices" currently available in the ElaadNL test lab?	A full list of available test devices is not published. Proposers should indicate which devices they plan to use; ElaadNL will confirm compatibility or suggest available alternatives during preparation.
Testing Will ElaadNL provide reference list of FEIDs for testing purposes, or are proposers expected to utilize their own sourced FEID?	Proposers are expected to utilize their own sourced FEID as we request to have a FEID supplier involved.
Scope of open-source modules vs. vendor business logic How do you define the boundary between the open-source modules (e.g., OpenADR, S2, and other connectors) and the internal business logic of a HEMS or asset?	The open-source modules should have the required data models and procedures required to send, receive, create and parse messages on top of the specific protocol transport layer. One clear example would be that the open-source module offers a callback function for when a message is received. The callback has an argument that is passed to it with the received and parsed information in it.
Scope of open-source modules vs. vendor business logic By nature, protocol libraries are not end-to-end functional without integration into a HEMS or asset's control logic. It is unlikely vendors will open-source their internal business logic. Where is the line drawn between supplier-internal code and the modules to be open-sourced under this project? Are there specific functional, architectural, or interface requirements a module must meet to be accepted?	Only the protocol connectors must be open-sourced. These modules must handle message parsing, validation, and protocol-specific logic, and expose a clean interface for integration (e.g. via API, callback, or event model). Internal business logic (such as device control policies or UI) can remain proprietary. Connectors must be modular, independently testable, and decoupled from application-specific logic to ensure portability across HEMS platforms.
Eligibility of effort on internal control logic The specifics of each protocol will likely require adjustments to suppliers' internal control logic. In some cases, building the open-source connector layer may be less effort than adapting the internal logic to process messages and adjust control strategies. Can time spent on this internal work be included in the quoted price, even if the underlying business logic is not open-sourced?	No, work on the functionality of the own device is specifically out-of-scope
Consideration of extended EMS functionality Would you consider EMS solutions that meet the RfP use-cases (OpenADR from the DSO, S2/Matter/EEBus behind the HEMS) and also provide cross-HEMS coordination to enable: Increased self-consumption of locally produced renewable energy across home connections on the same low-voltage grid	Yes
Consideration of extended EMS functionality Would you consider EMS solutions that meet the RfP use-cases (OpenADR from the DSO, S2/Matter/EEBus behind the HEMS) and also provide cross-HEMS coordination to enable: Coordination with local public EV charging infrastructure and orchestrated use of home batteries and other flexible assets to further reduce grid load beyond DSO-driven demand response	In a later stage.
Consideration of extended EMS functionality Would you consider EMS solutions that meet the RfP use-cases (OpenADR from the DSO, S2/Matter/EEBus behind the HEMS) and also provide cross-HEMS coordination to enable: The ability to stack additional or future value streams for consumers, such as energy sharing or capacity-limited group contracts	Yes
Coordination with other Work Packages Work Package 4 requires implementing one of the protocol stacks developed in WP1–3 (e.g. S2, EEBUS, Matter). Could you clarify: * Is implementation of multiple protocol stacks preferred? * Is one of the protocols preferred and why?	There is indeed a dependency for WP4 on WP1-3. We have no preference over one or multiple protocols. You can apply for what you would like to offer.

Units, scaling, steps, procedures, etc. Please specific in detail what is meant by: units, scaling, steps, procedures, etc.?	This means that the converter must be configurable to communicate a device's measurements and controls in standard terms. In practice: - map raw Modbus registers to engineering values with units (W, A, °C, %, etc.) using the right scaling/offset/endianness - expose writable setpoints with defined min/max/step (and optional ramp/hysteresis) - represent states/modes/alarms from integers/bitfields as clear enums - and support multi-step procedures (ordered reads/writes with checks and retries) Polling/write behavior, read-back verification, timeouts, and safe defaults must be settable. All of this should be data-driven (JSON/YAML profiles) so new devices can be supported without code changes, and then presented to S2/EEBUS/Matter as a clean "virtual device."
Page 19: 4C variants What is meant by 4C variants?	Thanks for flagging this. The parenthetical "(e.g., 4C variants)" is a legacy reference and no longer applicable. The requirement stands without it: "For components that include cloud communication, security measures such as authentication, encryption, and access control must be included in the proposal. ElaadNL will assess their adequacy during evaluation."
Work Packages 1–3 a HEMS solution supplier must participate. How does this apply in the following case: we work extensively with open-source HEMS(-like) systems, develop extensions, and do integrations, but we are not the direct supplier of those systems. Do we meet this criterion?	Using an open-source HEMS (e.g. Home Assistant) is allowed, provided your product integrates the project's open-source connectors and is offered as an off-the-shelf consumer solution, meeting all RFP requirements (Apache-2.0, IP to ElaadNL, security/quality gates).
Work Packages 1-3 Section 6.1 indicates that WP1–3 require the full chain: HEMS, device, and software. If a HEMS vendor has its own in-house software team, can the HEMS supplier also act as the software development party, or must a separate software partner always be included?	Yes
Work Packages 1-3 "One protocol must be implemented using one of WP1 – 3 deliverables." What is meant by this statement? Should the integration work with one of the deliverables of WP1-3 or should one of the delivered software libaries based on (Python, Java, Go, C/C++, Rust) run on the local converter? If the later is the case, what languages are expected to be used, all, or some?	The delivered software libraries should be used. The language choice will heavily depending on the proposals we receive.
Hardware What is the exact scope of hardware as deliverable? Is the hardware needed to demonstrate the local converter, or are the designs of the hardware part of the deliverables and are they considered to be open source? If the latter is the case, what guidelines are there for the development of hardware?	Deliverable: a working local converter (HW + SW) that we can test in the lab. Hardware type: COTS gateway/embedded-Linux device is fine; custom hardware is not required. Open source: Only the software (converter, mappings, docs) is open source (Apache-2.0). Hardware designs are not required to be delivered or open-sourced. If you do design hardware: keep it minimal and standards-compliant; deliver integration docs only (interfaces, install/update, wiring). If you would make the guidelines for hardware publicly available that would be great but is not required. Security: meet the Security Addendum (access control, secure pairing, encrypted comms/TLS, replay protection, logging).
Work Package 4 Regarding WP4, is it acceptable to use a device based on Raspberry Pi as part of the hardware platform to develop the converter (HW+SW bridge)?	It is possible to use the Raspberry Pi.
Work Package 4 We need to support translation between multiple protocols (SP2, EEbus, Matter). For the underlying TCP communication, do we need to support only one transport (wired / Wi-Fi / GSM), or should we handle multiple options?	One transport is sufficient.
Work Package 4 Can we have a proposal with and a proposal without hardware development for WP4 or a single proposal with prices depending on using 3rd party or in-house hardware?	You can submit either, depending on your preference.
Work Package 4 Given that WP4 requires one of the WP1–3 stacks to be implemented, we propose to integrate the WP1A deliverable (S2 PEBC control client) into WP4 as a combined scope. This ensures: * Seamless testability and integration of S2 → Modbus behavior * Reduced coordination complexity between WPs * A complete reference implementation for S2 bridging use cases We would welcome confirmation whether such bundling is acceptable within a single proposal.	Proposers are welcome to develop WP1, WP2, or WP3. If a proposer wants to combine WP1 (in full) with WP4, that is also possible to put in one proposal. Otherwise there will be indeed a dependency on other developments of WP1-3 in the project.
Work Package 4 Page 1: For WP 4, proposers may focus on converter development (hardware + software) Page 24: 6.1 Eligible Parties and Roles Are companies active in the field of device development eligible to participate in WP4?	Yes, they are. For WP4 there is not a requirement of a device development company but they are absolutely welcome to participate.
Work Package 4 We understand the choice of Modbus within WP4, given its prevalence in existing heat pumps. However, an increasing number of modern (particularly Dutch) heat pumps and hybrid systems use OpenTherm as the interface to thermostats or HEMS. OpenTherm is a well-specified, secure, and widely supported protocol, making it (ike Modbus) highly suitable as a backend to standard interfaces such as S2 or OpenADR. We propose including OpenTherm as an secondary interface on the gateway. This would: • Expand support to heating and cooling appliances not using Modbus • Increase the gateway's value for real-world residential deployment • Align with the project's goal of enhancing backward compatibility (see Appendix D.1) Could you advise whether such an extension fits within WP4's scope?	We are not including this in the scope of the this RFP.
Work Package 4 Can WP4 be implemented by several tailor-made gateways each supporting a specific (combination of) protocols as long as all protocol-combinations are supported?	Possibly. However, to not overcomplicate things we would like 1 hardware design or COTS hardware platform that can support all combinations (by having multiple different firmwares for example).
Work Package 4 Given that WP4 requires one of the WP1–3 stacks to be implemented, we propose to integrate the WP1A deliverable (S2 PEBC control client) into WP4 as a combined scope. This ensures: * Seamless testability and integration of S2 → Modbus behavior * Reduced coordination complexity between WPs * A complete reference implementation for S2 bridging use cases We would welcome confirmation whether such bundling is acceptable within a single proposal.	Proposers are welcome to develop WP1, WP2, or WP3. If a proposer wants to combine WP1 (in full) with WP4, that is also possible to put in one proposal. Otherwise there will be indeed a dependency on other developments of WP1-3 in the project.
Work Package 4 For WP4, is the expectation that only a Modbus converter is delivered, or could a local HEMS (with integrated security, mapping, and management functions) be positioned as the full converter solution?	WP4 focuses on delivering a Modbus converter
Work Package 4 The technical requirement states: "suitable for embedded Linux or gateway-class devices." Why was this chosen? In our view, this can also be achieved with a microcontroller running FreeRTOS (e.g., ESP32), which could even provide better real-time security. Or does that fall under "gateway-class device"?	The requirement aims to ensure broad applicability and integration options. A FreeRTOS-based microcontroller may be acceptable if it meets all functional requirements. We look forward to your proposal.
Work Package 5 Acceptance criterion 6 of WP5B refers to ensuring site consumption remains within the CPO-imposed envelope. As this is not part of the OCPP specification itself, should this be interpreted as the DSO-imposed envelope, or can you clarify the intent?	In case the HEMS wants to send a limit to the charger that leaves more headroom to the charger than the CPO wants, the lowest limit should be picked.
Work Package 5 In the OCPP specifications (1.6 Security Whitepaper, 2.0.1, 2.1 Security Part), certificate management is described in detail — including certificate installation, update, and revocation flows. In the WP5 RFP we noted the requirement that the proxy "must operate securely, using TLS … with custom certificates". Could you please clarify: A. Is the expectation for WP5 limited to static TLS configuration with custom certificates (manually provisioned keystores/truststores), or B.Do you also expect us to implement OCPP certificate management features (e.g. InstallCertificate, DeleteCertificate, GetInstalledCertificateIds, CertificateSigned)?	We are open to suggestions to improve non-functional requirements and encourage proposers to make this part of their proposal.
Work Package 5 In reviewing the WP5 specifications, we noted the requirement that the OCPP 2.1 proxy must operate securely with TLS in server mode toward the charger and client mode toward the CSMS, using custom certificates. Our understanding is that this corresponds to Security Profiles 1 and 2 (TLS server authentication and mutual TLS with client certificates). We also note that Security Profile 3 (message-level signing) is not explicitly listed as part of the WP5 acceptance criteria. Could you please confirm that for this work package, compliance with Profiles 1 and 2 will be sufficient to meet the security requirements?	We are open to suggestions to improve non-functional requirements and encourage proposers to make this part of their proposal.

Work Package 5 Our current assumption is that the OCPP 2.1 proxy is intended for local deployment alongside the HEMS, acting as middleware between the charger(s) and the CSMS. Could you please confirm if this is correct, and whether cloud-based proxying is also in scope? Additionally, for planning and sizing purposes: A. Should we assume a residential focus (typically 1 charger per site), or B.Should the proxy be designed to handle small multi-EVSE sites (e.g. 2–4 chargers) as a baseline?	Cloud-based proxying is not an option. The OCPP Local Controller must be deployed locally, in line with the residential context and cybersecurity considerations. You can assume 1 charger per site.
Work Package 5 We noted the requirement to maintain logs of control decisions and command origins. Could you please clarify whether these logs are expected to be: A. Stored locally within the proxy/controller (and made available during testing), or B. Pushed to a central system (e.g. HEMS or external repository) as part of the deliverable?	Logs should be stored locally within the proxy/controller and made available during testing. The design should allow easy integration with external systems, but pushing logs to a central repository is not part of the deliverable. Logging must follow the specified structure and be decoupled from transport.
Work Package 5 Do the audit logging requirements for WP5 extend to immutability/centralized storage, or is the expectation limited to structured local logs that clearly show control origins, decisions, and status changes?	The expectation is limited to structured local logs that clearly capture control origins, decisions, and status changes. There is no requirement for immutable or centralized storage as part of WP5. However, the logging format should support traceability and be easy to export or integrate into external systems if needed.
Work Package 5 In WP5B, one of the acceptance criteria is “Performs local power allocation based on available headroom.” Our current interpretation of the minimum viable implementation is as follows: + Treat the available headroom as a single scalar value (in W). + Divide this equally across all active charging sessions at the site. + Apply the resulting per-EVSE limits via SetChargingProfile + Recalculate on session start/stop or when the headroom changes. No priorities, SoC-based logic, phase balancing, or advanced fairness algorithms — just a simple equal-share scheme that ensures the sum never exceeds the available headroom. Could you please confirm if this “equal-share based on scalar headroom” approach would meet the WP5 acceptance criteria, or if additional logic (e.g. priority handling or more advanced algos) is expected ?	Yes, the proposed approach meets the WP5B requirement. With only one charger per site initially, the logic could be even simpler. Equal-share logic is only needed when multiple sessions are active. Advanced scheduling or prioritization is not required.
Work Package 5 We noted that the WP5B acceptance criteria include both: “Ensures total site consumption remains within CPO-imposed envelope”, and “Supports seamless fallback to CPO-only control if local control fails.” Our interpretation is that these criteria are related: + It is not very clear how The CPO will impose the envelope but we can assume via station-wide caps (e.g. ChargingStationMaxProfile) +When the CPO provides a complete envelope (via station-wide caps), the proxy ensures HEMS profiles never exceed them. +When no envelope is provided, or only partial caps are received, the proxy cannot guarantee enforcement. In such cases, the proxy should log the condition and seamlessly fall back to CPO-only control to ensure safety and compliance. Could you confirm if this interpretation matches your expectation for WP5B acceptance?	Your interpretation is correct
Work Package 5 Regarding WP5A -> the API interface with the HEMS system. We like to check if A. a PUSH model towards the HEMS for meterValues data and Device ID would comply with the RFP requirements or B. a PULL model from HEMS is required	Both scenario's qualify.
Work Package 5 Regarding WP5A -> what is the use case of BootNotiifaction message beyond device identification ? Does the OCPP connector need to enforce a response to this message?	Yes
Work Package 5 According to addendum D.2, WP5 should be capable of communicating with the CPO backend and/or HEMS using mTLS, but the chargepoint to the WP5B OCPP controller will be at most server side (5B) TLS, but not client side TLS. Is that a correct understanding of the system design? Does this also mean that a SignCertificate flow inherently ends at the OCPP controller and does not reach the chargepoint? To ensure the private key ends up at the right place, the OCPP controller. If this interpretation is incorrect and mTLS/security profile 3 is intended to be possible for the chargepoint, how are the necessary flows envisioned to set up and sign the certificates for the chargepoint and the OCPP controller?	We see the proxy currently as a man in the middle. This also means having two connections to secure: charging station <> proxy and proxy <> CPO. No keys are flowing all the way from CPO to chargestation.
Work Package 5 Acceptance criterion 8 (conflicting limits example): - If the CPO sets a charging limit of 8A and the HEMS sets a limit of 5A, the controller applies 5A (lowest). - If the HEMS connection then drops, should the charging limit automatically be raised back to the CPO’s 8A?	There is no need to consume up to the max, only a need to not consume over the max set by the CPO. If the connection from the HEMS would be interrupted just finish the schedules you received and then continue based on what you have, either CPO schedule or fallback/default schedule.
Is there a plan to require OEMs to allow modification of backend URLs? Currently, this is not possible with all manufacturers or CPOs.	Not at the moment
Failsafe/fallback Are there any functional or non-functional requirements related to the failsafe or fallback behaviour of the converter in case of temporary loss of communication with the HEMS or cloud? For example, is the converter allowed to apply a last-known or autonomous profile, or is it expected to revert to a passive/idle state? This is particularly relevant when the converter controls critical devices like heat pumps or batteries. The behaviour during network interruptions directly impacts reliability and system safety under real-world conditions.	Proposers may define their own approach
Non Functional Requirements: There are several mentions of subjective terms such as "Common practices" and "Industry standard". What controls will be used to decide what is considered good enough?	At the kick-off meeting when the real work starts we will reserve some time to discuss this between parties that are present to decide on this. For the time being this is open to interpretation and we trust the proposer to use the practices already in place at that company.
Non Functional Requierements - Maintainability: Will these requirements be tested in any way? And if so, what standards are used and what scores must be achieved?	We verify maintainability via repository hygiene and automated checks: SonarQube for code quality, adherence to the repo template (README, CONTRIBUTING, SECURITY, CHANGELOG), and license compliance of dependencies. We don’t run a separate format “maintainability test” with fixed scores, these checks guide acceptance.
Non Funcitonal Requierements - Maintainability: Even though CI piplines are mentioned, there are no functional requirements that indicate that a certain level of testing must be present. We propose to include several requirements that specify the quality of tests using code coverage and/or the presence of mutation tests.	We have intentionally not specified fixed test coverage metrics. Test quality and scope will be discussed collaboratively at project start, and ongoing quality will be monitored via CI pipelines and shared reviews (e.g. SonarQube). Proposals may include test coverage goals, but these are not mandatory.
Non Funcitonal Requierements - Security: Even though the extensive use of external libraries is discouraged in 4.1.6, there are no security requirements that exclude certain packages containing vulnerabilities. Nor is there any requirement that specifies that a (automated) process is in place to report and/or adress vulnerabilities when they are found. We propose to add vulnerability scanning and/or SBOM reporting to the requirements.	We are open to suggestions to improve non-functional requirements and encourage proposers to make this part of their proposal.
Non Funcitonal Requierements - Maintainability: The wording "Use third-party libraries sparingly" may discourage any supplier to make use of external libraries, while battle-tested libraries may increase maintainability and stability of the solution. We propose to remove the first scentence of 4.1.6 point 3 as the rest of the scentence is clear on itself and has a more neutral view on (open source) external libraries.	We are not against the use of external libraries and hope proposers minimize the use if possible for understandable reasons.
Acceptance Criteria How are the devices configured? Is there any format or standard that must be used? There is a requirement for data-driven mapping but the configuration procedure and data structure itself is not specified.	There is no fixed format. You may define your own configuration structure, as long as it supports data-driven mapping and is clearly documented.
Pricing and Funding The RFP states “For Pricing & Funding, prices will be benchmarked against the lowest offer submitted within the same work package”. How is this done precisely? Please explain by using an example.	We have a tool in which we rank the quality of the described work and product as well as the price at which it is offered.
Pricing and Funding The project operates on a fixed-price model for each project phase, with deliverables and milestones defined in Section 5.3. If a Milestone is delayed by >10 calendar days, the parties meet within five (5) working days to agree a recovery plan. Failing agreement, ElaadNL may terminate the WP allocated to the Proposer for the remaining scope without liability beyond Section 10.4. Proposer can accept this term provided that delay is caused by partner. Would you add this to this term?	Proposals for adjustments to the general terms and conditions of delivery can be discussed during the final award process.
Pricing and Funding 30% of the total amount will be retained until final acceptance of all deliverables following successful demonstration and documentation (see Section 5.4). Proposer can accept this term assuming that payment will not be withheld on unreasonable grounds. Would you add this to this term?	We believe that Section 5.4 covers our acceptance criteria and are reasonable.
Pricing and Funding Clarification on indicative budgets per Work Package: While proposals are evaluated on a fixed-price basis and benchmarked against the lowest offer, can ElaadNL provide an indicative or maximum target budget range per Work Package (e.g. WP4), to help align proposals and avoid over- or under-scoping?	We cannot indicate a budget.

Pricing and Funding The RFP states that the project operates on a fixed-price model per phase (Section 10.2), but the proposal questionnaire (Section 8.9) asks for a cost breakdown. Should pricing be submitted as one fixed all-in price per phase, or as a detailed breakdown (e.g. per role, sprint, or hourly rate)?	Per phase
Evaluation & selection The RFP indicates that Pricing & Funding accounts for 50% of the evaluation score, with proposals being benchmarked against the lowest offer submitted within each Work Package. We would appreciate clarification on the following: 1. Will only one proposal be selected per Work Package, or is it possible that multiple proposals (e.g. with different scopes or approaches) may be awarded under the same WP? 2. Is the cost score determined solely by the total proposed amount per WP, or are other factors also taken into account — such as: * cost breakdown transparency, * resource allocation and planning, * value-for-money, * synergies with other submitted proposals? 3. Can in-kind contributions, or optional commitments to long-term support or code maintenance, positively influence the Pricing & Funding score?	1. It is indeed possible that multiple proposals are selected per Work Package depending on the scope: protocol, devices, manufacturers, etc. Matchmaking is also used to complete Work Packages. 2. Planning is part of "Technical Approach & Planning". Resource allocation is part of the evaluation "Team & Expertise". Cost breakdown transparancy helps us determine the approach and planning of the overall project. Scoring is done on the total offered price. See Section 9. 3. Yes, we assume that in-kind contribution help lower the total offered price. But we understand that fitting existing code to this project may come with some additional work. Cost breakdown is therefore helpful. Also a reminder: If you already have an existing implementation, you can reuse/adapt it as long as you (a) publish the relevant components under Apache 2.0 (with IP to ElaadNL per RFP), (b) integrate with our repo/quality gates, and (c) pass interoperability testing. This can avoid rework while letting you connect more devices and obtain funding.
Evaluation and selection How do you judge the best proposal per WP? How do you judge WPs if submissions cover multiple WPs versus only one WP?	Based on the criteria in Section 9. We evaluate offers per Work package.
Evaluation and selection Can you elaborate on the formula used for the score for price?	No
Evaluation and selection Will you select one party/consortium per work package, or can you also select multiple?	It is indeed possible that multiple proposals are selected per Work Package depending on the scope: protocol, devices, manufacturers, etc. Matchmaking is also used to complete Work Packages.
Evaluation and selection Some components (e.g. WP1C cloud, WP2C gateway) are marked as optional. If these optional elements are not included in a proposal, will this reduce evaluation scoring, or are they considered additional contributions only?	Optional components add to the value of the proposal and are therefore considered in the evaluation.
Bidding approach for overlapping funded work Together with a consortium, we are executing an already funded project with significant scope overlap with the current RfP. Would it be acceptable for this consortium to bid specifically on the scope delta and potential additional use-cases, while still meeting all use-cases of the current RfP, to make the most effective use of public funding?	Yes, but solid administration of hours will be expected.
Limitation of Liability – Bulletpoint 2 Could you confirm whether liability is limited to 125% of the actual amount paid by ElaadNL?	Yes
Limitation of Liability Can ElaadNL clarify whether the liability limitation (125% of received fees) also applies to open-source contributions "as-is," or only to accepted deliverables under contract?	Proposals for adjustments to the general terms and conditions of delivery can be discussed during the final award process.
Limitation of Liability You claim that IP is transferred to ELaadNL but that proposer is liable for direct loss? First of all we assume you mean copyright? If you claim the copyright can you refine the liability as, in our view, if you own copyright and maintain the repo, you should also organise liability as part of the distribution licenses yourself.	Proposals for adjustments to the general terms and conditions of delivery can be discussed during the final award process.
Intellectual Property Scope Section 10.3 states that all software deliverables must be Apache 2.0 licensed and IP transferred to ElaadNL. Can you confirm this applies only to newly developed connectors, converters, or proxy code, and not to existing proprietary HEMS or device software?	Yes, existing proprietary software remains property of the HEMS/device supplier. However, be aware that if you already have an existing implementation that we are requesting in this RFP, you can reuse/adapt it as long as you (a) publish the relevant components under Apache 2.0 (with IP to ElaadNL per RFP), (b) integrate with our repo/quality gates, and (c) pass interoperability testing. This can avoid rework while letting you connect more devices and obtain funding.
Use of existing embedded HEMS/gateways as converter platform Is it allowed within WP4 to use an existing, commercially available embedded HEMS or gateway as the base platform for the converter, provided that the developed software components and configuration logic are published as open-source under the Apache 2.0 license? This would allow us to use existing hardware (e.g. our own gateway) as the host for the converter, without duplicating hardware efforts. It aligns with the goal of maximizing reusability of software components without mandating that the hardware itself be open-source.	Yes, COTS proprietary hardware is allowed as long as you comply with the non-functional requirements. Only the converter software/mappings/docs must be open-source (Apache-2.0).
Using existing HEMS We already develop and maintain a fully open source IoT platform including the software on an edge gateway (in this case called the HEMS). Moreover, we deploy our software in the energy management domain through customers (including 2 Dutch and 1 German DSO's) including a physical or cloud based HEMS deployment. Therefore we foresee to functionally integrate the developed integration solution. We are considering to participate with one FEID company, a Smart meter integration company and develop HEMS integrations for […], Home Assistant, and/or openHAB. Do you still consider us a 'Standalone software development company' and therefore not eligible to apply independently or do you recognise that we only need to include device companies?	Using an open-source HEMS (e.g. Home Assistant) is allowed, provided your product integrates the project's open-source connectors and is offered as an off-the-shelf consumer solution, meeting all RFP requirements (Apache-2.0, IP to ElaadNL, security/quality gates).
Planning According to the current schedule, applicants will receive answers to their questions on September 1, leaving only a short period until September 19 to finalize the full proposal. We anticipate that a first draft will almost always raise further questions from the committee. Would it therefore be possible, in addition to the current planning, to create room for a second, optional revision round after the first feedback? This would improve clarity, feasibility, and quality of the proposals, and support the shared objective of broadly applicable interoperable solutions. Alternatively, could the timeline be extended to allow more time between the first feedback and the final submission?	No
Contribution and governance guidelines Since the code will be open-source, the repository must explain how others can contribute, raise issues, request features, or propose changes. The review and approval process must be transparent. Is this expected to be setup by the Proposer, or is this set-up by Elaad? If this is expected of Proposer please specify your expectations in detail.	ElaadNL will provide a template repository with default workflows based on best practices. These workflows will also be discussed and refined during the project kickoff to ensure alignment across all partners.