Request for Quotation: Electric Powertrain Software Development

Issued by: ABC Automotive GmbH

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# 1. Introduction

ABC Automotive GmbH (hereafter referred to as ABC) is a leading European manufacturer of electric vehicles. ABC is seeking to partner with a qualified engineering service provider (hereafter referred to as ESP) to develop the software of an electric powertrain for a new model of electric SUV. The software development project will involve the following main tasks:

* Designing and implementing the software architecture and modules for the electric powertrain, including the motor controller, battery management system, thermal management system, and vehicle interface.
* Integrating and testing the software with the hardware components and the vehicle platform.
* Ensuring the software compliance with the relevant standards and regulations, such as ISO 26262, IEC 61508, and UN ECE R100.
* Providing documentation, training, and support for the software throughout the project lifecycle.

The purpose of this document is to solicit quotations from potential ESPs who have the expertise, experience, and capacity to undertake the software development project. The document outlines the scope, requirements, deliverables, evaluation criteria, and terms and conditions of the project.

# 2. Scope

The scope of the software development project covers the following aspects:

* The software will be developed for an electric powertrain that consists of a permanent magnet synchronous motor (PMSM), a lithium-ion battery pack, a liquid cooling system, and a power electronics unit.
* The software will be based on a model-based design approach, using MATLAB/Simulink and AUTOSAR as the main tools and platforms.
* The software will be compatible with the ABC vehicle platform, which uses CAN as the main communication protocol and supports OTA (over-the-air) updates.
* The software will be optimized for performance, efficiency, reliability, safety, and security.
* The software will be delivered in the form of executable code, source code, and documentation.

# 3. Requirements

The ESP who will undertake the software development project must meet the following minimum requirements:

* Have at least five years of experience in developing software for electric powertrains or similar applications.
* Have a team of qualified software engineers, testers, and project managers, with relevant certifications and qualifications.
* Have access to the necessary hardware, software, and testing facilities and equipment.
* Have a proven track record of delivering high-quality software products on time and within budget.
* Have a quality management system and a software development process that conform to the best practices and standards in the industry.
* Have a strong understanding of the ABC vehicle platform and the electric powertrain specifications.
* Have a good reputation and references from previous clients in the automotive sector.

# 4. Deliverables

The ESP who will undertake the software development project must provide the following deliverables:

* A software development plan, including the project schedule, milestones, resources, risks, and contingencies.
* A software design document, including the software architecture, modules, interfaces, and specifications.
* A software verification and validation plan, including the testing methods, tools, and criteria.
* A software verification and validation report, including the test results, defects, and corrective actions.
* A software release package, including the executable code, source code, and documentation.
* A software training and support plan, including the training materials, manuals, and support channels.

# 5. Evaluation Criteria

The quotations submitted by the ESPs will be evaluated based on the following criteria:

* The technical quality and feasibility of the proposed software solution.
* The alignment of the proposed software solution with the ABC vehicle platform and the electric powertrain specifications.
* The compliance of the proposed software solution with the relevant standards and regulations.
* The experience and qualifications of the ESP and its team members.
* The availability and adequacy of the ESP's resources and facilities.
* The cost-effectiveness and competitiveness of the ESP's quotation.
* The ESP's past performance and references from previous clients.

# 6. Terms and Conditions

The following terms and conditions apply to the software development project:

* The ESP will enter into a contract with ABC, which will specify the roles, responsibilities, rights, and obligations of both parties.
* The ESP will adhere to the software development plan, the software design document, and the software verification and validation plan, and will report the project progress and status to ABC on a regular basis.
* The ESP will deliver the software deliverables according to the agreed schedule, quality, and scope, and will obtain ABC's approval and acceptance for each deliverable.
* The ESP will provide ABC with the necessary training and support for the software throughout the project lifecycle and beyond.
* The ESP will grant ABC the full ownership and intellectual property rights of the software and its components, and will not disclose or use the software or any related information for any other purpose without ABC's consent.
* The ESP will be liable for any damages or losses caused by the software or its components, and will indemnify ABC against any claims or lawsuits arising from the software or its components.
* The ESP will comply with all the applicable laws, regulations, and ethical standards in the conduct of the software development project.

# 7. Submission Instructions

The ESPs who are interested in participating in the software development project must submit their quotations by 08/15/2024, 17:00 UTC, to the following email address: rfq@abc-automotive.com.

The quotations must include the following information and documents:

* A cover letter, introducing the ESP and its team members, and summarizing the main features and benefits of the proposed software solution.
* A technical proposal, describing the proposed software solution in detail, including the software architecture, modules, interfaces, and specifications.
* A financial proposal, stating the total cost and the breakdown of the cost of the software development project, including the labor, material, and overhead costs.
* A project proposal, outlining the software development plan, the software verification and validation plan, and the software training and support plan.
* A portfolio, showcasing the ESP's previous software projects and products, especially those related to electric powertrains or similar applications.
* A list of references, providing the contact details and testimonials of the ESP's previous clients in the automotive sector.

The quotations must be submitted in PDF format, and must not exceed 50 pages in total. The quotations must be written in English, and must use the metric system for units and measurements.

The quotations will be evaluated by a committee of ABC representatives, who will select the most suitable ESP for the software development project. The ESPs will be notified of the evaluation results by 09/15/2024, and the contract negotiations will commence thereafter.

For any inquiries or clarifications regarding the RFQ, please contact the following person:

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