

Drive-by-Wire System for Autonomous Vehicle Research

Call For Tender

01/10/2026

Tender Responses to be prepared for:

Future Mobility Campus Ireland

To be submitted no later than 22/10/2026 at 23:30 (Irish Time)

Tender Information	Details
Tender Reference	FMCI-CfT-DBW-102026
Contracting Authority	Future Mobility Campus Ireland CLG, Bay 80, Shannon Free Zone Shannon, V14WV82 Co. Clare Ireland
Procedure	Open competitive procedure advertised on eTenders (below EU threshold; see Section 19)
Estimated Contract Value	Up to €120,000 excl. VAT, including maintenance and support for Years 1-3 and optional support.
Issue Date	01/10/2026
Clarification Deadline	12/10/2026 at 17:00 (Irish Time)
Submission Deadline	22/10/2026 at 23:30
Award Decision	30/10/2026
Tender Validity	90 days from the Submission Deadline
Document Status	Published

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1. Future Mobility Campus Ireland – Company Profile



Future Mobility Campus Ireland (FMCI) was founded with the purpose of creating and delivering future mobility testbed facilities for stimulating research, development and innovation in the area of Autonomous Connected Electric Shared Vehicles (ACES), including Connected and Autonomous Vehicles (CAV) and Advanced Aerial Mobility (AAM) in Ireland.

Partners of FMCI include Ireland's leading automotive and technology organizations across SMEs, MNCs, RPOs and IOTs with support from local authorities and state agencies.

FMCI operates CAV and AAM test facilities located in real-world settings, providing technology companies and researchers the ability to test and enhance their innovations. The FMCI test facilities consists of a road network that has been retrofitted with interconnected state of the art sensing and telecommunication technologies, that are fully accessible and controlled via a dedicated control centre.

Future Mobility Campus Ireland supports the emerging ecosystem of companies involved in the development, manufacturing and testing of products and services related to Connected and Autonomous Vehicles and Advanced Aerial Mobility. The system required under this tender will be used for enabling R&D activities of FMCI in the areas of Autonomous Driving and Advanced Driver-Assistance System.

2. Purpose and Scope

Future Mobility Campus Ireland (FMCI) invites tenderers for the supply, installation, integration, commissioning, acceptance testing, training and support of a complete Drive-by-Wire (DBW) system for an autonomous vehicle research platform.

FMCI has deliberately not pre-selected a specific vehicle make or model. Tenderers shall nominate a suitable right-hand-drive battery-electric vehicle platform that, in its standard production configuration, is road-legal and eligible for registration and normal public-road use in the Republic of Ireland, is compatible with their proposed DBW solution, and can reasonably be sourced through motor dealerships in the Republic of Ireland.

The objective is to select the most technically suitable and commercially viable overall platform, taking account of both the DBW solution and the cost, availability and integration risk of the compatible vehicle required to use it.

The DBW system is intended for research and development of autonomous-driving functionality using ROS 2 and Autoware on FMCI's NVIDIA DRIVE AGX Orin platform.

International suppliers are eligible to tender, subject to compliance with applicable Irish and EU import, tax, safety and procurement requirements.

The vehicle does not form part of the contract to be awarded under this RFT. Following contract award, FMCI will procure a vehicle of the nominated platform separately, in accordance with its procurement obligations (see Section 4.3).

3. Required Tender Outcome

The successful tenderer shall provide a complete solution that enables FMCI to:

- source a compatible right-hand-drive battery-electric passenger vehicle in the Republic of Ireland;
- electronically control steering, propulsion/accelerator, braking, gear selection and direction indicators using the vehicle's OEM actuation systems;
- retain safe and immediate manual-driver override;
- operate an emergency-stop and defined fail-safe architecture;
- perform controlled low-speed operation using a remote operator controller;
- communicate with the DBW system from FMCI's NVIDIA DRIVE AGX Orin using a documented ROS 2 interface;
- install or build, as applicable, deploy and maintain the supplier-provided ROS 2 interface on AArch64/ARM64;
- commission and accept the DBW installation using objective functional and software-interface tests; and
- operate and maintain the system without undisclosed mandatory subscriptions, software dependencies or unsupported proprietary interfaces.

FMCI intends to perform the final mapping between the supplier's ROS 2 DBW interface and the Autoware vehicle-control stack internally. A complete supplier-developed Autoware vehicle interface is therefore not a mandatory deliverable unless specifically proposed as an optional or value-added item.

4. Proposed Vehicle Platform

4.1. Mandatory Vehicle Requirements

Each tenderer shall nominate one Primary Vehicle Platform. The proposed vehicle shall:

- be a battery-electric vehicle (BEV);
- be right-hand drive;
- be a passenger vehicle suitable for autonomous-driving research;
- in its standard production configuration, be road-legal and eligible for registration and normal public-road use in the Republic of Ireland;
- be available for sourcing through an established motor dealership or authorised retail channel in the Republic of Ireland;
- be available either new or used;
- where used, be no more than five years old at the intended date of acquisition;
- support all mandatory DBW functions specified in this RFT; and
- provide the vehicle-network access and supplier-supported interfaces required for the complete proposed DBW solution.

4.2. Vehicle Platform Information

The tenderer shall identify:

- manufacturer, model, generation and supported model years;
- required trim, drivetrain, ECU, software or regional configuration;
- whether support applies to all vehicles in the stated range or only specific configurations;
- known vehicle-network or ECU limitations;
- any irreversible vehicle modification required;
- any known effect on the vehicle manufacturer's warranty or roadworthiness; and
- the process used to confirm final compatibility against an individual VIN.

4.3. Irish Vehicle Sourcing, Price and Availability

The vehicle is not supplied under this contract. FMCI will purchase the nominated vehicle separately from an Irish motor dealer or authorised retailer through a competitive process. However, the tenderer shall demonstrate that the nominated platform can reasonably be sourced in the Republic of Ireland.

The tender response shall include:

- an indicative vehicle price, inclusive of VAT and VRT, for the Primary Vehicle Platform, appropriate to the required model year, trim and configuration, supported by the pricing evidence specified below;
- current supporting evidence such as an Irish dealer quotation, published Irish new-vehicle pricing, or representative Irish dealer listings;
- whether the vehicle is available new, used or both;
- expected sourcing lead time;
- known supply constraints or scarcity risks;
- any configuration restriction that materially reduces the pool of compatible vehicles; and
- any vehicle-specific equipment or options required for DBW compatibility.

FMCI will verify vehicle pricing and availability during evaluation. The Evaluated Vehicle Price (V) used in the Evaluated Solution Cost shall be determined by FMCI using the method in Section 15.4, and shall be used for every tender, whether it is higher or lower than the tenderer's indicative price.

4.4. Used Vehicle Conditions

Where a used vehicle is proposed, the sourcing approach shall exclude:

- salvage vehicles;
- insurance write-offs;
- vehicles with significant accident damage;
- vehicles with unresolved safety recalls affecting the proposed DBW installation; and
- vehicles otherwise unsuitable for safe research use.

4.5. Final VIN Compatibility

Before FMCI commits to the selected individual vehicle, the successful tenderer shall provide a final compatibility assessment based on the vehicle VIN and, where necessary, model year, trim, ECU/software level or other relevant vehicle identifiers.

The VIN compatibility assessment shall confirm the suitability of at least:

- steering actuation;
- propulsion/accelerator actuation;
- braking actuation;
- gear selection;
- direction indicators;
- vehicle state feedback;
- vehicle-network access; and
- required DBW firmware/software configuration.

4.6. Alternative Vehicle Platform

Tenderers may provide one or more alternative vehicle platforms in addition to the Primary Vehicle Platform. Only the Primary Vehicle Platform will be evaluated and scored, and any contract will be awarded on the basis of the Primary Vehicle Platform. Alternative platforms are for information only. After award, FMCI may agree to adopt an alternative platform only where this does not increase the contract price and does not reduce compliance with any mandatory requirement. Each alternative shall separately identify the vehicle acquisition cost, availability, DBW price impact and any technical differences.

5. FMCI Compute and Software Baseline

The following is FMCI's current integration baseline. It is provided so that tenderers can identify incompatibilities before award and so that the DBW interface does not impose unnecessary changes to the existing compute platform.

Layer	FMCI Baseline	Tender Treatment
Compute	NVIDIA DRIVE AGX Orin	Mandatory target platform
Processor	AArch64 / ARM64	Mandatory build/runtime target
Host OS	DRIVE OS 6.0.10.0 (6.0.10.0-0009), Ubuntu 20.04.6 rootfs	Informational; supplier shall not assume host OS replacement
Kernel	5.15.122-rt-tegra; no Docker veth/bridge; no hardware RTC	Operational constraint
Container OS	Ubuntu 22.04	Mandatory target environment
ROS 2	Humble	Mandatory
Autoware	Universe 1.7.1	Integration target
ROS middleware	CycloneDDS (rmw_cyclonedds_cpp)	Interface shall be demonstrably compatible
Docker	24.0.5; host networking; default runtime runc	Operational constraint
NVIDIA runtime	Registered separately; CSV mode when explicitly used	Relevant only if supplier software needs GPU/NVIDIA runtime
CUDA	11.4	Relevant only if supplier software requires CUDA
GPU architecture	sm_87	Relevant only if supplier software requires GPU

TensorRT	8.6.13 arm64	Relevant only if supplier software requires TensorRT
CUDA host compiler	g++-10	Relevant if supplier code invokes CUDA 11.4 nvcc
Linker	ld.gold for in-container builds	Tenderer shall disclose incompatible toolchain assumptions

The supplier shall not require modification or replacement of the NVIDIA DRIVE OS host operating system, host kernel or NVIDIA platform libraries for normal DBW operation unless the requirement is explicitly identified as a deviation and accepted by FMCI. Any alternative compute solution may be proposed only as an additional alternative and shall not replace the requirement to submit a compliant NVIDIA DRIVE AGX Orin solution.

6. Mandatory DBW Technical requirements

6.1. OEM Vehicle Actuation

The DBW system shall electronically interface with and control the vehicle's existing OEM systems for:

- steering;
- propulsion / accelerator / traction torque;
- braking;
- gear selection; and
- direction indicators.

External or overlay mechanical actuators for steering, propulsion, braking, gear selection or indicators are not acceptable as the primary DBW solution. The tenderer shall identify the interface method used for each controlled function.

6.2. Vehicle and DBW Feedback

The DBW system shall provide sufficient feedback to determine vehicle and DBW state, including where applicable:

- commanded and actual steering state;
- commanded and actual propulsion/accelerator state;
- commanded and actual braking state;
- vehicle speed;
- selected gear;
- indicator state;
- DBW enabled/disabled state;
- manual-override state;
- E-stop state;
- system fault state;
- communication/watchdog state; and
- diagnostic information.

Tenderers shall state available command/feedback update rates and known latency characteristics.

6.3. Manual Driver Override

The safety driver shall be able to immediately regain manual control. Manual steering, braking, accelerator or other applicable driver inputs shall safely override autonomous commands in accordance with the supplier's documented safety architecture.

The tenderer shall document:

- conditions that trigger manual override;
- resulting DBW state;
- behaviour of each controlled actuator during override;
- procedure for returning to DBW operation; and
- any limitations affecting takeover.

6.4. Emergency Stop and Fail-Safe Behaviour

The solution shall include a documented E-stop and fail-safe architecture with defined behaviour for:

- E-stop activation;
- loss of communication with the autonomous-driving compute platform;
- loss of communication with the remote operator controller;
- loss of DBW electrical power;
- compute-platform failure;
- invalid or out-of-range commands;
- command/watchdog timeout;
- detected DBW system fault; and
- internal controller failure where detectable.

The tenderer shall document watchdogs, timeout values, fault states, safe states, transition behaviour, manual override, reset and recovery procedures.

Minimum safe-state requirements. Irrespective of the supplier's safety architecture, the solution shall meet the following minimum requirements:

- during remote operation without a driver in the driver's seat, activation of any E-stop, loss of the remote-controller link or expiry of a command watchdog shall bring the vehicle to a controlled stop and hold it stationary without driver intervention;
- during operation with a safety driver, activation of the E-stop shall immediately cease all DBW commands and return full manual control of steering, braking and propulsion to the driver. Where E-stop activation does not itself decelerate the vehicle, this shall be clearly stated;
- the command watchdog timeout for steering, braking and propulsion commands shall be stated and shall not exceed 100 ms;
- manual driver input on steering, brake or accelerator shall override DBW commands at all times; and
- the DBW system shall not re-engage after an E-stop, fault, timeout or manual override without a deliberate operator action.

The tenderer shall state the standards against which the E-stop and safety functions have been designed or assessed (for example ISO 13849, IEC 61508 or ISO 26262) and shall provide any available hazard analysis, FMEA or safety-concept documentation for the offered system.

6.5. Remote Operator Controller

The solution shall include a remote joystick or equivalent operator controller suitable for commissioning, workshop/test-area manoeuvring and controlled low-speed research operation.

The remote controller shall support at least:

- steering;
- propulsion;
- braking;
- required gear/drive selection;
- safe vehicle stop; and
- an integrated or directly accessible E-stop function.

The tenderer shall state communication technology, operating range, update rate, communication-loss timeout, fail-safe behaviour and any applicable radio/licensing constraints. FMCI shall be able to configure or apply an appropriate maximum speed for remote operation.

All radio equipment supplied shall comply with the Radio Equipment Directive 2014/53/EU, shall be CE marked, and shall operate only in frequency bands and at power levels permitted for licence-exempt use in Ireland. Equipment designed for the 902–928 MHz band is not acceptable. The EU Declaration of Conformity for each radio device shall be provided with the tender or before delivery.

The remote-control link shall use pairing or authentication that prevents the vehicle from accepting commands from any transmitter other than the paired controller.

Any firmware licence or activation required to enable remote operation shall be included in the mandatory tender price.

6.6. Conformity, Use Restrictions and Export Control

The tenderer shall state, for each supplied component:

- the applicable conformity markings and declarations (for example CE marking under the EMC Directive 2014/30/EU or the Radio Equipment Directive, or UN ECE Regulation No. 10 approval where applicable);
- any restriction in the supplier's terms, licence or documentation on the use of the DBW system, including any restriction to closed-course, test-track or off-road use, or on use on public roads with a trained safety driver;
- the export control classification (for example US ECCN or EAR99, and EU dual-use classification where relevant), and whether any export licence, end-use statement or end-user undertaking is required; and
- where the supplier is established outside the EU, the economic operator that will act as importer of the goods for the purposes of EU product legislation.

Obtaining any export licence or authorisation required for delivery shall be the supplier's responsibility and risk. Any restriction on use on public roads with a trained safety driver shall be disclosed and will be considered under criterion Q1C.

7. Software Interface and Orin Compatibility

7.1. Responsibility Boundary

The supplier is responsible for providing a functioning and documented interface between the DBW system and FMCI's ROS 2 compute environment. FMCI intends to develop or maintain the final Autoware vehicle-interface/adaptation layer internally.

A complete supplier-developed Autoware integration is therefore not mandatory. However, the supplier-provided ROS 2 interface shall be suitable for use as the lower-level DBW interface beneath an Autoware vehicle integration.

7.2. ROS 2 Interface

The supplier shall provide a ROS 2 Humble-compatible interface for:

- vehicle control commands;
- vehicle-state feedback;
- DBW state and enable/disable control;
- fault and diagnostic status; and
- manual override and E-stop status.

The interface shall be capable of being deployed and operated on AArch64/ARM64 using Ubuntu 22.04 user space and ROS 2 Humble within a containerised environment.

The tenderer shall provide either supplier-supported AArch64/ARM64 binaries compatible with the stated FMCI environment, or a supplier-supported source-buildable interface that FMCI can build and deploy on AArch64/ARM64. Providing both may be considered positively during technical evaluation but is not mandatory.

7.3. Software Availability, Deployment Rights and Source Options

The supplier shall provide all software required for normal operational interaction between FMCI's compute platform and the DBW system in at least one of the following forms: (a) supplier-supported AArch64/ARM64 binaries compatible with the stated FMCI environment; or (b) source code that FMCI is permitted to build and deploy on AArch64/ARM64. Source-code disclosure is therefore not mandatory where a compliant, supplier-supported binary interface is provided.

Regardless of whether the interface is supplied as binaries, source code, or both, the supplier shall provide:

- an identifiable software release/version and, where source is supplied, a source tag/commit or equivalent immutable version reference;
- installation instructions and, where source is supplied, reproducible build instructions;
- dependency information and version requirements;
- required compiler/toolchain constraints;
- configuration and launch files;
- required environment variables; and
- any vendor-specific patches, installation steps or build steps applicable to the supplied delivery method.

Where source code is supplied, the applicable licence shall permit FMCI to build, modify and deploy that source on FMCI-owned AArch64/ARM64 compute platforms associated with the purchased DBW system for its operational life.

Where binary-only software is supplied, the applicable licence (preferably perpetual) shall permit FMCI to install, reinstall and operate the supplied interface for the operational life of the purchased DBW system. Any node-locking, hardware-locking, VIN-locking, activation-server dependency or restriction on redeployment shall be clearly disclosed.

7.4. Binary-Only and Proprietary Components

Any binary-only component required for normal DBW operation shall be explicitly disclosed. For each such component, the tenderer shall state supported CPU architecture, operating system, glibc/libstdc++ requirements, kernel/runtime dependencies, licensing/activation requirements and whether an equivalent source-buildable component exists.

A mandatory binary-only runtime component that cannot operate in the FMCI AArch64/Ubuntu 22.04 environment shall be identified as a deviation. Configuration, calibration or licence-management tools may use another operating system or architecture if they are not required continuously for normal vehicle operation and this is clearly disclosed.

7.5. Container and Network Compatibility

The operational DBW interface shall:

- support containerised deployment;
- operate correctly using Docker host networking;
- not require Docker bridge networking or Linux veth interfaces for normal operation;
- not rely on a Docker-assigned container IP address; and
- document all required CAN, CAN FD, Ethernet, USB, TCP/UDP or other communication endpoints.

7.6. CycloneDDS / ROS Middleware

FMCI uses CycloneDDS through `rmw_cyclonedds_cpp`. Supplier ROS 2 packages shall use standard ROS 2 interfaces and shall be demonstrably operational with CycloneDDS during Software Interface Verification (SIV).

Any requirement for a specific alternative DDS/RMW implementation shall be clearly identified as a deviation together with the technical justification and proposed integration method.

7.7. GPU/NVIDIA Runtime Dependencies

The DBW control interface should not require GPU acceleration, CUDA, TensorRT or the NVIDIA container runtime for normal operation unless such dependency is inherent to the supplier's solution.

The tenderer shall explicitly state whether any required component depends on:

- CUDA;
- TensorRT;
- GPU access;
- NVIDIA container runtime;

- NVIDIA-specific userspace libraries; or
- a GPU architecture/version constraint.

Where such dependencies exist, compatibility with FMCI's stated baseline shall be demonstrated or the difference shall be clearly identified as a deviation.

7.8. Toolchain Compatibility

The tenderer shall identify mandatory compiler, linker and build-system constraints. Any dependency requiring a newer operating system, glibc, libstdc++, compiler or linker than available in the stated FMCI environment shall be disclosed.

7.9. Firmware / Software Interface Alignment

The supplier shall maintain and provide a compatibility matrix covering DBW controller/gateway firmware, vehicle-interface firmware, ROS 2 interface software, remote-control firmware/software where applicable, and diagnostic/configuration software.

For each firmware release supplied or subsequently issued, the supplier shall identify the corresponding compatible ROS 2 interface version and document any breaking interface changes.

Interface-change documentation shall include, where relevant:

- CAN/CAN FD identifiers;
- message payload lengths;
- signal definitions;
- scaling and offsets;
- byte order;
- update rates;
- checksums and counters;
- validity fields;
- command modes;
- fault/status definitions; and
- message timing.

7.10. Low-Level Interface Documentation

The supplier shall provide sufficient API/interface documentation for FMCI to install, configure, operate, diagnose and integrate the supplier-supported ROS 2 DBW interface with the autonomous-driving compute platform.

Where CAN or CAN FD is used, the tenderer shall state whether a DBC file or equivalent low-level message and signal specification is available and identify any disclosure or licence restrictions. Where another protocol is used, the equivalent API/interface documentation and any restrictions shall be identified.

Availability of a full DBC or equivalent low-level interface specification that would allow FMCI to independently develop or maintain its own ROS 2 interface is desirable and may be scored positively, but is not mandatory where a compliant supplier-supported ROS 2 interface is provided. Any low-level interface information that cannot be disclosed shall be explicitly identified in the tender response.

7.11. Licensing and Activation

The tenderer shall identify all licensing or activation requirements affecting:

- DBW control;
- vehicle-specific operation;
- remote operation;
- ROS 2 software;
- diagnostics;
- configuration tools; and
- software/firmware updates.

For each licence the tenderer shall state whether it is perpetual, subscription-based, VIN-locked, vehicle-locked, hardware/node-locked, feature-specific or transferable, and shall state the operational consequence if the licence expires or is unavailable.

All licences required to operate the functions in Sections 6.1 to 6.5 shall be included in the mandatory tender price. Where a licence is VIN-locked or vehicle-locked, it shall be activated at installation, and the tenderer shall state the process, timescale and cost of transferring it to a replacement vehicle of the same platform (for example following accident damage).

7.12. Time and Timestamp Behaviour

The supplier shall document the time source and timestamp behaviour used by the DBW controller and ROS 2 interface, including any dependency on system time, monotonic time, PTP/NTP, controller clocks or persistent real-time-clock state.

The solution shall not depend on a hardware RTC being present on the DRIVE AGX Orin unless that dependency is explicitly identified and an acceptable alternative is supplied.

7.13. Confidentiality, Publication and Supplier Agreements

FMCI plans to use the DBW system for conducting research and development activities and intends to publish research results, including results obtained using the DBW system. Any non-disclosure, licence, end-user or other agreement that the supplier requires FMCI to sign as a condition of supply, support or disclosure of interface information shall be submitted with the tender.

Such agreements shall not contain non-solicitation, non-compete or similar restrictive covenants; shall not restrict FMCI's publication of research results (other than the supplier's identified confidential interface specifications); shall be subject to the Freedom of Information Act 2014; and shall be governed by Irish law. An agreement that does not meet these conditions shall be identified as a deviation.

8. Compute, Communication, Power and Electrical Integration

8.1. Compute/Communication Interface

The supplier shall identify the physical and logical interface between NVIDIA DRIVE AGX Orin and the DBW controller. Required gateways, CAN/CAN FD interfaces, Ethernet interfaces, USB adapters,

cables, terminators and supplier-specific interface hardware shall be included in the mandatory tender price.

The supplier shall state command rate, feedback rate, expected latency, watchdog behaviour and network/interface configuration requirements.

8.2. Power and Electrical Supply

The tenderer shall state:

- operating voltage;
- normal current;
- peak current/power;
- startup/inrush requirements; and
- grounding requirements.

All required power harnesses, connectors, fuses, circuit protection, relays/contactors, isolation devices, E-stop circuitry and power-distribution components required to make the DBW system fully operational shall be included.

If no separate proprietary power-distribution equipment is required and the DBW kit operates directly from the vehicle electrical system, this shall be stated. If proprietary power-distribution equipment is mandatory, it shall be included in the mandatory tender price.

9. Mechanical and Electrical Installation

The tender shall include all mechanical and electrical integration required for a complete operational DBW system, including installation of controller modules, vehicle-interface connections, wiring harnesses, E-stop devices, operator controls, communication interfaces, electrical protection and required mounting hardware.

The tenderer shall identify any work that may:

- cut or modify OEM wiring;
- require ECU coding/flashing;
- alter vehicle safety systems;
- affect the vehicle manufacturer's warranty;
- create irreversible modifications; or
- affect vehicle roadworthiness.

10. Delivery and Implementation Schedule

All equipment required for the complete mandatory DBW system shall be delivered DDP (Incoterms 2020) to FMCI in Shannon, Ireland no later than the Delivery Date. The Delivery Date is 23 December 2026, provided the contract is signed on or before 13 November 2026. If the contract is signed after that date, the Delivery Date shall be extended by the number of days between 13 November 2026 and the date of contract signature.

On-site installation, commissioning, acceptance testing and training may be scheduled for Q1 2027.

Tenderers shall provide:

- manufacturing/configuration lead time;
- shipping lead time;
- expected delivery date;
- compatible-vehicle sourcing lead time;
- installation duration;
- commissioning duration;
- Software Interface Verification (SIV) duration; and
- training duration.

For this RFT, DBW delivery means that all mandatory DBW equipment required for installation has been physically received by FMCI and is available for installation.

Delivery shall not be conditional on FMCI having acquired the vehicle. Any VIN-specific licence, configuration or activation shall be completed at installation. Tenderers shall confirm in Annex A whether the Delivery Date can be met and shall provide a delivery programme showing order, manufacture, shipping and customs-clearance dates.

Remedies for late delivery are set out in Section 21.4.

11.Commissioning and Acceptance Testing

11.1. On-Site Commissioning

The tender shall include on-site installation and commissioning at Future Mobility Campus Ireland, Shannon, Co. Clare, Ireland.

Standard installation may be performed by appropriately qualified installation technicians. The Functional Site Acceptance Test in Section 11.2 forms part of the mandatory installation/commissioning scope. Software Interface Verification in Section 11.3 is also a mandatory deliverable, but may be separately priced from the supplier's standard DBW installation package.

Before any on-site work, the supplier shall provide a method statement, risk assessment and evidence of the insurances required under Section 20.4, and shall comply with FMCI site safety rules and the Safety, Health and Welfare at Work Act 2005. The supplier shall be responsible for any damage to the vehicle or FMCI property caused by its personnel or subcontractors.

11.2. Functional Site Acceptance Test

The Site Acceptance Test (SAT) shall demonstrate at minimum:

- SAT-01 DBW system power-up and initialisation;
- SAT-02 steering command and feedback;
- SAT-03 propulsion/accelerator command and feedback;
- SAT-04 braking command and feedback;
- SAT-05 gear selection;
- SAT-06 indicator control;

SAT-07 vehicle-speed and relevant state feedback;
 SAT-08 DBW enable/disable state;
 SAT-09 manual steering, brake and accelerator/propulsion override as applicable;
 SAT-10 E-stop operation;
 SAT-11 remote joystick steering, propulsion and braking;
 SAT-12 communication-loss and watchdog behaviour;
 SAT-13 remote-controller communication-loss behaviour;
 SAT-14 compute/interface communication loss;
 SAT-15 invalid-command rejection;
 SAT-16 fault-state reporting;
 SAT-17 defined safe-state behaviour; and
 SAT-18 documented recovery/re-enable procedures.

Pass criteria. Each SAT test shall be assessed against (a) the requirements of this RFT, including the minimum safe-state requirements in Section 6.4, and (b) the performance values, timeouts and behaviours stated in the tenderer's response, which shall form part of the contract and serve as acceptance criteria. The supplier shall submit a SAT procedure with measurable pass criteria for each test for FMCI approval.

11.3. Software Interface Verification (SIV)

Software Interface Verification verifies the supplier-provided DBW interface, not the complete FMCI Autoware stack. SIV is a mandatory deliverable but may be separately priced from standard DBW installation and commissioning.

The tenderer shall provide a fixed SIV price including up to 8 hours of remote support from personnel with appropriate knowledge of the supplier's ROS 2/API/vehicle interface. Where SIV is included within another tendered price, the tenderer shall identify the SIV price as €0 / Included. SIV may be completed during the on-site installation period or remotely within the agreed commissioning programme; an on-site software/autonomy engineer is not mandatory.

The supplier shall support FMCI in demonstrating that the supplied interface can:

SIV-01 be obtained from the agreed supplier distribution channel, such as a binary package/repository or supplied source repository/archive, as applicable;
 SIV-02 be built or installed in the FMCI Ubuntu 22.04 AArch64 environment;
 SIV-03 start successfully under ROS 2 Humble;
 SIV-04 operate using Docker host networking;
 SIV-05 operate with `rmw_cyclonedds_cpp`;
 SIV-06 establish communication with the installed DBW controller;
 SIV-07 issue valid steering, propulsion, braking, gear and indicator commands;
 SIV-08 receive corresponding vehicle-state feedback;
 SIV-09 receive DBW status, manual-override, E-stop and fault information; and
 SIV-10 recover following interface restart in accordance with supplier documentation.

Successful compilation alone shall not constitute SIV completion. Verification requires demonstrated command, feedback and diagnostic communication with the installed DBW system.

Development of FMCI's final Autoware vehicle-interface implementation is not part of the mandatory standard installation scope.

11.4. Acceptance Failure and Re-testing

Where a mandatory SAT or SIV test fails due to the supplied DBW hardware, firmware, supplier-provided software/interface, supplier documentation or supplier installation, the supplier shall investigate, rectify and repeat the affected test. Time required to investigate or rectify such supplier-attributable defects shall not consume the 8-hour SIV support allowance and shall not be treated as chargeable autonomy/integration consultancy.

Final acceptance shall occur only after successful completion of all mandatory acceptance tests.

Final acceptance shall be confirmed by FMCI in writing. Use of the system by FMCI for commissioning, testing or research before written final acceptance shall not constitute acceptance.

If any mandatory test has not been passed within 30 days of its first attempt, or fails at a third attempt, for reasons attributable to the supplier, FMCI may reject the affected equipment or the whole system. The supplier shall then refund all amounts paid for the rejected items within 30 days and remove them at its own cost.

12. Training and Documentation

12.1. Training

On-site technical training shall cover:

- DBW system architecture and normal operation;
- enable/disable procedures;
- manual override;
- remote operator controller;
- E-stop and safety procedures;
- steering, propulsion and braking controls;
- diagnostics and fault codes;
- routine maintenance;
- ROS 2 interface installation/use;
- firmware/software update process; and
- recovery from DBW faults.

Tenderers shall state proposed training duration, number of participants and supplied training materials.

12.2. Documentation

The successful tenderer shall provide electronically:

- installation and vehicle-interface documentation;
- vehicle wiring and DBW electrical schematics;
- E-stop and power/control architecture;
- communications architecture;
- ROS 2/API documentation;
- supplier API/interface documentation and, where available, DBC or equivalent low-level interface specification;

- software installation and deployment instructions and, where source is supplied, build instructions;
- firmware/software compatibility matrix;
- diagnostic and fault-code documentation;
- operating, commissioning, maintenance and troubleshooting procedures;
- manual-override and recovery procedures; and
- completed acceptance-test documentation reflecting the installed configuration.

13. Warranty, Product Support and Maintenance

13.1. Warranty

Tenderers shall state the standard warranty period, exclusions, extended-warranty options and the point at which warranty begins. The warranty shall cover all supplied hardware, firmware and supplier-provided software for a minimum of twelve (12) months from the date of written final test acceptance. Longer warranty periods may be scored positively under criterion Q5A.

13.2. Product Maintenance / Support

Tenderers shall separately describe and price any annual DBW product maintenance or support agreement.

The response shall state whether the maintenance agreement includes:

- DBW hardware repair or replacement;
- replacement parts;
- DBW product technical support;
- firmware updates;
- supplier-provided ROS 2 software/interface updates;
- diagnostic support; and
- firmware/software compatibility support.

Tenderers shall provide annual pricing for Years 1 through 5, identifying any included or discounted period separately.

For each maintenance/support package, the tenderer shall state whether it is:

- mandatory for continued DBW operation;
- mandatory to obtain software/firmware updates;
- mandatory to obtain hardware replacement or extended coverage;
- optional; or
- required only after standard warranty expiry.

Any function, update entitlement or support entitlement that ceases if maintenance is not renewed shall be clearly identified.

Maintenance prices for Years 2 to 5 shall be fixed, or subject only to a stated maximum annual increase. FMCI is not obliged to purchase maintenance in any year and may decline renewal without penalty.

14. Software Interface Verification and Additional Integration Support

DBW product support, mandatory Software Interface Verification (SIV), and optional autonomy/integration engineering services shall be distinguished and separately identifiable in the commercial response.

The tenderer shall provide a fixed price for mandatory SIV, including up to 8 hours of remote software-interface support from personnel with appropriate knowledge of the supplier's ROS 2/API/vehicle interface. Where this support is included within another tendered price, the SIV line item shall be shown as €0 / Included. These hours are intended for interface verification and supplier-specific technical questions, not for development of FMCI's complete Autoware integration.

The SIV support allowance may be used for:

- ROS 2 package build or installation issues;
- AArch64 compatibility questions;
- interpretation of supplier API/CAN behaviour;
- firmware/software compatibility questions;
- command and feedback validation;
- diagnostic/fault-interface questions; and
- supplier-specific configuration support.

Engineering time required to investigate or rectify a defect, incompatibility or documentation error in supplier-provided DBW hardware, firmware, ROS 2 interface, associated supplier software or supplier documentation shall not be deducted from the 8-hour SIV support allowance and shall not be treated as chargeable integration consultancy.

The tenderer shall separately state:

- hourly rate for additional remote software/autonomy integration support;
- minimum billing increment;
- availability of written/email support and virtual meetings;
- availability and cost of on-site software/autonomy engineering support;
- travel/subsistence basis for on-site software support; and
- period for which quoted support rates will remain valid.

For commercial evaluation only, FMCI may calculate a notional cost for 20 additional hours of remote software/autonomy integration support at the tenderer's quoted rate. This notional quantity does not constitute a commitment by FMCI to purchase those hours.

15. Commercial Response and Pricing

15.1. Mandatory Cost Breakdown

Tenderers shall separately price:

- DBW controller/hardware and associated components:
 - steering interface;

- propulsion/accelerator interface;
- braking interface;
- gear-selection interface;
- indicator interface;
- remote joystick/operator controller;
- E-stop equipment;
- wiring harnesses and electrical protection;
- power-distribution equipment, if required;
- mechanical integration hardware;
- communication interfaces/gateways/cables;
- mandatory software and licences;
- shipping to Ireland;
- installation;
- commissioning and Functional Site Acceptance Test (SAT);
- Software Interface Verification (SIV), including up to 8 hours qualified remote support;
- training;
- travel and accommodation;
- annual product maintenance/support Years 1-3 (cost of additional years can be added as optional), using the separate maintenance schedule in Annex D;
- additional remote software/autonomy integration-support hourly rate;
- optional on-site software/autonomy support; and
- optional equipment.

Each item shall be marked Mandatory, Recommended or Optional. The mandatory price shall include everything required to deliver the DBW system meeting this RFT. Mandatory components shall not be left unpriced.

Any item necessary to meet a mandatory requirement of this RFT shall be treated as Mandatory for evaluation, however the tenderer labels it. Where such an item is labelled Recommended or Optional, FMCI will include its price in the Evaluated Solution Cost. A tender that leaves such an item unpriced may be rejected.

15.2. Travel and Expenses

For mandatory installation, commissioning and training, tenderers shall provide either a fixed travel/accommodation price or a not-to-exceed cap. If expenses are invoiced at actual cost, any administrative or handling percentage shall be stated and the maximum payable amount shall be capped unless FMCI gives prior written approval.

15.3. Currency, Taxes and International Delivery

All prices should preferably be quoted in euro (EUR) to facilitate evaluation. Where prices are quoted in another currency, FMCI shall convert them to EUR for evaluation purposes using the exchange rate published by the Central Bank of Ireland on the first date of evaluation. All prices shall be quoted Delivered Duty Paid (DDP, Incoterms 2020) to Future Mobility Campus Ireland, Shannon, Co. Clare, inclusive of packing, transport, insurance, export and import clearance, customs duties and all other charges except VAT. The supplier, or its nominated customs agent, shall act as importer of record and shall state how import VAT will be accounted for. VAT shall be shown separately.

FMCI shall apply the same VAT/tax evaluation basis to all tenders. The Evaluated Solution Cost is assessed exclusive of VAT, except that the Evaluated Vehicle Price (V) is assessed inclusive of VAT and VRT, because VAT on passenger vehicles is not recoverable.

15.4. Evaluated Solution Cost

FMCI will evaluate the commercial impact of the complete proposed platform rather than the DBW kit price in isolation.

For evaluation purposes, the Evaluated Solution Cost (ESC) shall be calculated using the following formula:

$$\text{ESC} = \text{V} + \text{D} + \text{I} + \text{SIV} + \text{T} + \text{S} + \text{TR} + \text{L} + \text{R} + (20 \times \text{H})$$

- V = Evaluated Vehicle Price for the Primary Vehicle Platform, determined by FMCI as set out below;
- D = all mandatory DBW hardware, integration equipment and mandatory software;
- I = mandatory on-site installation, commissioning and Functional Site Acceptance Test;
- SIV = fixed Software Interface Verification price, including the 8-hour remote support allowance;
- T = mandatory training;
- S = DDP delivery, customs and import-related charges (excluding VAT), where not already included in D;
- TR = capped mandatory travel and accommodation;
- L = mandatory license, activation or subscription charges not already included above;
- R = product maintenance/support charges for Years 1 to 3 (excluding any period included in the purchase price) for the package that provides hardware support and firmware and supplier ROS 2 software updates, whether or not the tenderer classifies it as mandatory, excluding amounts already included elsewhere in ESC; and
- H = quoted hourly rate for additional remote software/autonomy integration support. Submission of this hourly rate is mandatory for tender evaluation, although purchase of the additional support hours is optional.

The $20 \times \text{H}$ term is a notional evaluation quantity only and does not commit FMCI to purchase 20 additional support hours. Other optional support services (for example extended on-site support) shall be shown separately and are not included in R.

Determination of V. FMCI will determine V for each tender as the median advertised price, inclusive of VAT and VRT, of the three lowest-priced vehicles that meet the tenderer's stated compatibility requirements (model, model years, trim, drivetrain and required options) and the requirements of Section 4, offered for sale by motor dealers or authorised retailers in the Republic of Ireland, as recorded by FMCI within five working days after the Submission Deadline. Where fewer than three such vehicles are available, FMCI will use the available listings, the tenderer's evidence and published Irish list prices. FMCI will keep a record of the listings used and make it available to the tenderer on request.

Lead time is not included in ESC. Vehicle and implementation lead times are evaluated under the relevant quality criteria and mandatory delivery requirements.

16. Tender Evaluation

16.1. Stage 1 – Mandatory Compliance

Only tenders that satisfy the exclusion and selection criteria in Section 20 will proceed to Stage 1.

Tenderers shall demonstrate compliance with all mandatory requirements. A tender that fails to meet a mandatory requirement shall be rejected as non-compliant. FMCI may seek clarification of any aspect of a tender, but clarification shall not be used to allow a tenderer to change or improve its tender.

Stage 2 quality scoring applies only to tenders that satisfy Stage 1 mandatory compliance. If information identified during Stage 2 evaluation indicates failure to satisfy a mandatory requirement, that matter shall be treated as a Stage 1 compliance issue and shall not merely be compensated by scoring under another criterion.

Key mandatory requirements include:

- RHD battery-electric vehicle platform that, in standard production configuration, is road-legal and eligible for registration and normal public-road use in the Republic of Ireland, and is reasonably sourceable through dealerships in the Republic of Ireland;
- OEM steering, propulsion/accelerator, braking, gear and indicator control;
- manual override, E-stop and documented fail-safe behaviour, including the minimum safe-state requirements in Section 6.4;
- remote operator control using CE/RED-compliant radio equipment;
- supplier-supported ROS 2 Humble interface for AArch64/Ubuntu 22.04, provided either as compatible AArch64/ARM64 binaries or as a source-buildable interface;
- disclosure of binary-only/runtime/licensing dependencies;
- CycloneDDS-compatible operation;
- firmware/software compatibility management;
- supplier API/interface documentation sufficient to install, operate, diagnose and integrate the supported ROS 2 interface;
- DBW delivery by the Delivery Date defined in Section 10; and
- on-site installation/commissioning capability.

16.2. Stage 2 – Award Criteria

Criterion ID	Award Criterion	Maximum Points (Weighting)
Q1	DBW technical solution, vehicle integration and safety architecture	25 (25%)
Q2	Software interface quality and FMCI Orin/AArch64 compatibility	20 (20%)
Q3	Proposed vehicle suitability, Irish-market availability and sourcing risk	15 (15%)
Q4	Installation, commissioning, acceptance testing and training	10 (10%)
Q5	Warranty, product support, documentation and lifecycle	10 (10%)

CS	Cost Score derived from Evaluated Solution Cost (ESC)	20 (20%)
TTS	Maximum Total Tender Score	100 (100%)

Award Subcriteria and Maximum Points

Ref.	Major Criterion	Subcriterion	Max Points
Q1A	DBW technical solution, vehicle integration and safety architecture	OEM actuation architecture and completeness	7
Q1B		Manual override, E-stop, watchdog/fail-safe architecture and evidence	8
Q1C		Vehicle integration maturity, reversibility and modification risk	5
Q1D		Remote operation, diagnostics, command/feedback performance	5
Q2A	Software interface quality and FMCI Orin/AArch64 compatibility	AArch64 / Ubuntu 22.04 / ROS 2 Humble deployment method	6
Q2B		Docker host-networking, CycloneDDS and dependency compatibility	4
Q2C		Firmware/software compatibility and release/version management	4
Q2D		API/interface documentation and diagnostic usability	4

Q2E		Portability: source/build rights and demonstrated compatibility of the offered interface	2
Q3A	Proposed vehicle suitability, Irish-market availability and sourcing risk	Evidence of Irish-market availability and sourcing channels	6
Q3B		Availability resilience, compatible vehicle pool and sourcing lead time	4
Q3C		Suitability for autonomous-vehicle research and integration constraints	3
Q3D		VIN compatibility verification process	2
Q4A	Installation, commissioning, acceptance testing and training	Installation and commissioning methodology	3
Q4B		SAT and SIV execution methodology and resourcing	4
Q4C		Training content and delivery	2
Q4D		Implementation schedule and resource plan	1
Q5A	Warranty, product support, documentation and lifecycle	Warranty, spares and hardware support	3
Q5B		Firmware/software support lifecycle and update policy	3
Q5C		Documentation quality and completeness	2
Q5D		Support channels, response arrangements and continuity	2

Quality Scoring Method and Minimum Thresholds

Each quality subcriterion shall be scored on a raw scale of 0 to 5 using the following descriptors:

Raw Score	Descriptor
0	No meaningful response or unsupported response for the scored criterion. Where the deficiency constitutes non-compliance with a mandatory requirement, it shall be addressed under Stage 1 rather than treated only as a zero quality score.
1	Major deficiencies and/or high delivery, technical or support risk; evidence is weak or materially incomplete.
2	Partially satisfactory response with significant weaknesses or reservations.
3	Satisfactory response that meets the requirement with acceptable evidence and manageable risk.
4	Good response with strong evidence, minor weaknesses only, and some relevant added value or risk reduction.
5	Excellent, comprehensive and well-evidenced response that materially reduces delivery or integration risk.

For each quality subcriterion: Weighted Subcriterion Score = (Raw Score ÷ 5) × Maximum Subcriterion Points.

The score for each major quality criterion is the sum of its weighted subcriterion scores. Maximum Quality Score (QS) is 80 points, based on formula:

$$QS = Q_1 + Q_2 + Q_3 + Q_4 + Q_5$$

Minimum quality thresholds apply before price scoring. A tender must achieve all of the following: Criterion Q1 at least 15/25 (60%); Criterion Q2 at least 12/20 (60%); Criterion Q3 at least 6/15 (40%); Criterion Q4 at least 4/10 (40%); Criterion Q5 at least 4/10 (40%); and an overall Quality Score of at least 48/80 (60%). A tender that fails any applicable threshold shall not proceed to final price scoring or award consideration.

For tenders that pass all applicable quality thresholds,

$$CS = 20 * \left(\frac{\text{Lowest ESC among qualifying tenders}}{\text{Tenderer's ESC}} \right)$$

The maximum Cost Score (CS) is 20 points.

Total	Tender	Score	(TTS)	formula:
		$TTS = QS + CS$		

The maximum TTS is 100 points.

Calculations shall use unrounded values. Scores recorded or published may be displayed to two decimal places.

If two or more tenders achieve the same TTS to two decimal places, the tender with the higher QS shall rank higher. If still tied, the tender with the lower ESC shall rank higher.

Vehicle acquisition price is assessed through Evaluated Solution Cost, while vehicle availability, sourcing resilience and lead time are assessed under the vehicle quality criterion. Evidence that the offered interface version has been built and operated on NVIDIA DRIVE AGX Orin, AArch64, ROS 2 or Autoware (for example build records, test logs or release notes), source-code availability, reproducible build rights and low-level interface openness may be scored positively within the software criterion; however, none of these is mandatory where the bidder provides a compliant supplier-supported AArch64/ARM64 interface. The tenderer's general experience and reference projects are assessed under the selection criteria in Section 20 and are not scored.

17. Tender Response Requirements

Tenderers shall structure their submission as follows:

1. Supplier Information;
2. Mandatory Compliance Schedule (Annex A);
3. Primary Vehicle Platform Schedule and supporting Irish-market evidence (Annex B);
4. Technical DBW Solution;
5. Software Interface / Compute Compatibility Schedule (Annex C);
6. Installation, Commissioning and SAT Methodology;
7. Warranty, Product Support and Maintenance Response;
8. Commercial/Pricing Schedule (Annex D);
9. Delivery and Implementation Plan;
10. Deviations and Assumptions;
11. Optional / Alternative Proposals; and
12. Selection Information and Tenderer Declarations (Annex F).

All Annexes are provided in ods and excel to be filled by the tendered for ease of evaluation. Please use one of these files and refer to any additional documents separately.

17.1. Supplier Information

Provide legal company name, registered address, country, company registration/tax details, primary tender contact, technical contact and proposed subcontractors. Reference projects required under Section 20.5 shall be provided in Annex F.

17.2. Deviations and Assumptions

Any deviation, dependency, exclusion or assumption affecting vehicle compatibility, software compatibility, cost, delivery, installation, warranty, licensing, support or acceptance shall be explicitly identified. Silence shall not be interpreted as an agreed deviation.

A deviation from a mandatory requirement will result in the tender being rejected under Stage 1. Other deviations and assumptions will be taken into account in scoring the relevant award criterion.

Tenderers shall not attach or refer to their own standard terms and conditions. Any such terms shall be disregarded and shall not form part of the contract. Proposed amendments to the contract terms in Section 21 shall be listed separately with reasons. FMCI is not obliged to accept any amendment, and a tender made conditional on acceptance of a material amendment may be rejected.

18. Tender Clarifications and Submission

Every effort has been made to ensure that this documentation contains all the necessary information for the completion of the submission. However, in the interest of equity, requests for additional information, for clarification of the contents of this document and all other queries of substance should be made via e-tenders website by the authorised representative of the tenderer.

Clarification requests shall be submitted in writing through the eTenders messaging facility no later than the Clarification Deadline. FMCI will circulate all questions and answers to all tenderers through eTenders without identifying the source. FMCI may issue addenda before the Submission Deadline; addenda form part of this RFT.

From the issue date until notification of the outcome, tenderers shall not contact FMCI staff, directors, or advisors about this competition other than through eTenders. Canvassing, or any attempt to obtain information outside this channel, may result in exclusion.

Tenders shall be submitted electronically through eTenders, in English, no later than the Submission Deadline. Late tenders will not be accepted.

19. Conditions of Tender

19.1. Procurement Framework and Budget

This is a competitive procurement for supplies and associated services with an estimated value below the EU threshold. It is advertised on eTenders and conducted in accordance with national procurement guidelines and the EU Treaty principles of transparency, equal treatment, non-discrimination and proportionality.

The estimated contract value, including all options and maintenance for Years 1 to 3, is up to €120,000 excluding VAT. FMCI may reject any tender whose contract price exceeds the budget available for this contract.

19.2. FMCI Rights

FMCI is not bound to accept the lowest or any tender. FMCI may cancel this competition, or decide not to award a contract, at any time before contract signature, including where tenders exceed the budget available, where budget is not approved or is withdrawn, or where no tender offers value for money. FMCI shall not be liable for any costs incurred by tenderers in preparing or submitting tenders.

No contract shall exist until a written contract has been signed by both parties. Notification of a preferred tenderer does not create a contract.

19.3. Freedom of Information and Audit

FMCI is subject to the Freedom of Information Act 2014. Tenderers should identify, with reasons, any information in their tender that they consider commercially sensitive. FMCI will consult the tenderer before releasing such information where practicable, but the final decision on disclosure rests with FMCI or the relevant authority. FMCI may publish the name of the successful tenderer and the contract value.

19.4. Data Protection

FMCI will process personal data contained in tenders in accordance with the GDPR and the Data Protection Act 2018, only for the purposes of this competition and the management of the resulting contract.

19.5. Notification of Outcome and Standstill

FMCI will notify all tenderers of the outcome of the procurement in writing. FMCI reserves the right to award and enter into the contract following notification of the outcome, subject to any applicable statutory or regulatory requirements.

20.Exclusion and Selection Criteria

20.1. Assessment

Tenderers shall complete the declarations in Annex F. Exclusion and selection criteria are assessed on a pass/fail basis. A tender that fails any exclusion or selection criterion will not be evaluated further.

20.2. Exclusion Grounds

A tenderer shall be excluded where it, or any person with powers of representation, decision or control in it, has been convicted of participation in a criminal organisation, corruption, fraud, terrorist offences, money laundering, terrorist financing, child labour or human trafficking.

A tenderer may be excluded where it: is bankrupt, insolvent, in liquidation or examinership, or in an equivalent situation; has failed to pay taxes or social security contributions; is guilty of grave professional misconduct; has a conflict of interest that cannot be remedied; has entered into agreements aimed at distorting competition; has shown significant deficiencies in performing a prior public contract that led to termination or damages; or is guilty of serious misrepresentation in supplying information for this competition.

20.3. Tax Clearance

Before contract award, the successful tenderer shall provide valid tax clearance issued by the Irish Revenue Commissioners. A tenderer that is not resident in Ireland shall obtain tax clearance in accordance with Revenue's procedures for non-resident applicants. FMCI will not make payments to a supplier that does not hold current tax clearance.

20.4. Economic and Financial Standing and Insurance

Tenderers shall state their annual turnover for each of the last two financial years. FMCI may request audited accounts or a bank reference.

The successful tenderer shall hold the following insurances with a reputable insurer from contract signature until the end of the warranty period, and shall provide with its tender evidence that it holds them or will obtain them before contract signature:

- public liability insurance of not less than €6.5 million for any one occurrence;
- product liability insurance of not less than €6.5 million for any one occurrence and in the aggregate, covering the supplied DBW system when installed in and used on a vehicle, with a territorial scope that includes products supplied to and used in Ireland;
- employer's liability insurance of not less than €13 million for any one occurrence, or equivalent statutory employer's liability or workers' compensation cover in the tenderer's home jurisdiction, where its employees work on FMCI premises; and
- professional indemnity insurance of not less than €1 million, where the supplier provides engineering or integration advice.

Policies may be denominated in another currency where the limit of indemnity is equivalent at the ECB euro reference rate on the Submission Deadline.

20.5. Technical and Professional Ability

Tenderers shall provide details of at least two installations of the offered DBW system, or a substantially similar system from the same supplier, completed in the last 3 years, including customer name, vehicle platform, date and a contact who can confirm performance. FMCI may contact the referees.

Tenderers shall identify any subcontractors, including any installation partner, and the work each will perform.

21.Key Contract Terms

21.1. Contract Documents

The contract will comprise, in order of precedence: FMCI's contract terms; this RFT and any addenda; clarifications issued during the competition; and the successful tender, to the extent consistent with the preceding documents. The supplier's standard terms and conditions, including terms referred to in quotations, order acknowledgements, invoices, delivery documents or software licences, shall not apply unless expressly accepted by FMCI in writing.

21.2. Payment

Payment terms will be agreed with the successful tenderer during contract finalisation, having regard to the agreed contract milestones, applicable budget requirements and FMCI's standard payment terms.

21.3. Title and Risk

Title to equipment shall pass to FMCI on payment of the delivery milestone. Risk in the equipment shall pass on delivery. The supplier shall be liable for loss of or damage to the vehicle and FMCI property caused by the supplier or its subcontractors during installation, commissioning, testing or support.

21.4. Warranty and Defects

The supplier shall remedy defects notified during the warranty period in Section 13.1 at no cost to FMCI, including parts, labour, shipping and travel, within the response times stated in its tender.

21.5. Liability and Indemnity

The supplier shall indemnify FMCI against third-party claims arising from defects in the supplied equipment, firmware or software, or from infringement of third-party intellectual property rights. FMCI shall not be required to indemnify the supplier. FMCI's total liability shall not exceed the contract price.

21.6. Intellectual Property

The supplier retains its intellectual property in the DBW system and grants FMCI the licences described in Section 7.3. All software, data, documentation, research results and interfaces developed by FMCI, including its Autoware vehicle interface, shall remain FMCI's property, and the supplier shall acquire no rights in them. Nothing in the contract shall restrict FMCI's rights under Directive 2009/24/EC to decompile or analyse software to the extent necessary to achieve interoperability.

21.7. Confidentiality and Records

Confidentiality obligations shall be mutual, limited to five years, and subject to the Freedom of Information Act 2014, FMCI's reporting obligations and the conditions in Section 7.13. The supplier shall keep records relating to the contract for six years and make them available for potential audit queries.

21.8. Termination

FMCI may terminate the contract for material breach not remedied within 30 days of notice, for the supplier's insolvency, or where it is found that the supplier should have been excluded under Section 20.2. FMCI may terminate for convenience before delivery on 30 days' notice, paying only reasonable costs committed and evidenced by the supplier up to the date of notice.

21.9. Governing Law

The contract shall be governed by the laws of Ireland, and the parties submit to the exclusive jurisdiction of the Irish courts. The contract language is English.

Annex A – Mandatory Compliance Schedule

Tenderers shall complete a requirement-by-requirement compliance schedule. A statement of 'Comply' without supporting evidence may be subject to rejection.

Ref.	Requirement	Comply / Partial / No	Evidence Document Ref.	Deviation Comment
4	Vehicle platform requirements, including road-legal/registration eligibility in standard production configuration			
6.1	OEM steering, propulsion, braking, gear and indicator actuation			
6.3	Manual driver override			
6.4	E-stop and fail-safe behaviour, including minimum safe-state requirements			
6.5	Remote operator controller (CE/RED-compliant radio; remote licence included)			
6.6	Conformity, use-restriction and export-control disclosure			
7.2	ROS 2 Humble on AArch64/Ubuntu 22.04			
7.3	Software availability and deployment rights (supported AArch64/ARM64 binary or source-buildable interface)			
7.4	Binary/proprietary dependency disclosure			
7.5	Container/host-network compatibility			
7.6	CycloneDDS compatibility			
7.9	Firmware/software compatibility matrix			
7.10	Supplier API/interface documentation sufficient for integration;			

	availability/restrictions of DBC or low-level interface disclosed			
7.11	Licensing and activation disclosure; all functional licences included in price			
7.13	Supplier agreements: no restrictive covenants or publication restrictions			
10	Delivery by the Delivery Date (Section 10), with delivery programme			
11	Commissioning and SAT, including SAT procedure with measurable pass criteria			
13	Warranty (minimum 12 months from final acceptance) and support disclosure			
14	Software Interface Verification including up to 8 hours qualified remote software-interface support, separately priced or €0/Included			
20	Exclusion and selection criteria; Annex F declarations signed			

Annex B – Primary Vehicle Platform Schedule

Item	Tenderer Response
Manufacturer	
Model / Generation	
Supported model years	
RHD supported	
Battery-electric	
Required trim/configuration	
New / Used / Both	
Indicative vehicle price (EUR, incl. VAT and VRT)	
Price evidence attached	
Current Irish-market availability	
Expected sourcing lead time	
Known supply constraints	
Vehicle-interface method	
VIN compatibility check process	
Known integration limitations	

Annex C – Software Interface Disclosure Schedule

Disclosure Item	Tenderer Response
Component name/version	
Purpose	
Supplier-supported / third-party / community	
Source supplied (Yes/No; not mandatory where compliant binary supplied)	
Licence / deployment / build rights	
Supported CPU architectures	
Pre-built AArch64 package available	
Operating-system requirements	
ROS 2 requirements	
glibc/libstdc++ requirements	
Compiler/linker constraints	
Binary-only dependencies	
Third-party runtime dependencies	
RMW/DDS restrictions	
Network requirements	
CUDA/GPU/NVIDIA-runtime dependency	
Licensing/activation/VIN locking	
Firmware/software compatibility mechanism	
Update/release mechanism	
Expected support lifetime	
Low-level interface / DBC availability and restrictions	

Annex D – Commercial Pricing Schedule

All prices shall be in EUR, DDP Shannon and exclusive of VAT, with the applicable VAT rate stated. FMCI will issue this schedule as an Excel workbook, which shall be used for the tender submission.

Item	Status	Qty	Unit Rate	Amount
Indicative Primary Vehicle price (EUR, incl. VAT and VRT); V is determined by FMCI (Section 15.4)	Evaluation input - mandatory response	1		
DBW controller / core kit and mandatory actuation interfaces	Mandatory	1		
Software / licences / activations	Mandatory	1		
Remote operator controller, remote-operation licence and E-stop equipment	Mandatory	1		
DDP delivery, customs and import charges (excl. VAT)	Mandatory where applicable	1		
On-site installation, commissioning and Functional SAT	Mandatory	1		
Software Interface Verification incl. up to 8h qualified remote support	Mandatory; enter €0 if Included	1		
Travel / accommodation cap	Mandatory	1		
Training	Mandatory	1		
Product maintenance/support Years 1–5 (total from Maintenance Schedule)	Mandatory for evaluation (R)	1		
Additional software/autonomy support remote integration	Mandatory rate response / evaluation quantity only	20 h		
Optional software/autonomy support on-site	Optional			
Optional equipment / enhancements	Optional			

Product Support / Maintenance Schedule

Year	Required for continued operation?	Required SW/FW updates or supported operation?	for Included purchase price?	in Annual Price	Coverage / Notes
Year 1					
Year 2					
Year 3					
Year 4					
Year 5					

Annex E – Acceptance Test Schedule

Part A – Functional Site Acceptance Test (SAT)

Ref.	Acceptance Test	Result	Evidence / Notes
SAT-01	DBW system power-up and initialisation	Pass / Fail	
SAT-02	steering command and feedback	Pass / Fail	
SAT-03	propulsion/accelerator command and feedback	Pass / Fail	
SAT-04	braking command and feedback	Pass / Fail	
SAT-05	gear selection	Pass / Fail	
SAT-06	indicator control	Pass / Fail	
SAT-07	vehicle-speed and relevant state feedback	Pass / Fail	
SAT-08	DBW enable/disable state	Pass / Fail	
SAT-09	manual steering, brake and accelerator/propulsion override as applicable	Pass / Fail	
SAT-10	E-stop operation	Pass / Fail	
SAT-11	remote joystick steering, propulsion and braking	Pass / Fail	
SAT-12	communication-loss and watchdog behaviour	Pass / Fail	
SAT-13	remote-controller communication-loss behaviour	Pass / Fail	
SAT-14	compute/interface communication loss	Pass / Fail	
SAT-15	invalid-command rejection	Pass / Fail	
SAT-16	fault-state reporting	Pass / Fail	
SAT-17	defined safe-state behaviour; and	Pass / Fail	
SAT-18	documented recovery/re-enable procedures	Pass / Fail	

Part B – Software Interface Verification (SIV)

SIV is a mandatory, separately identifiable deliverable and may be separately priced from standard installation/commissioning. The SIV price shall include up to 8 hours qualified remote software-interface support. Where included elsewhere, the tenderer shall state €0 / Included.

Ref.	Verification Test	Result	Evidence / Notes
SIV-01	Software to be obtained from the agreed supplier distribution channel, such as a binary package/repository or supplied source repository/archive, as applicable	Pass / Fail	
SIV-02	be built or installed in the FMCI Ubuntu 22.04 AArch64 environment	Pass / Fail	
SIV-03	start successfully under ROS 2 Humble	Pass / Fail	
SIV-04	operate using Docker host networking	Pass / Fail	
SIV-05	operate with rmw_cyclonedds_cpp	Pass / Fail	
SIV-06	establish communication with the installed DBW controller	Pass / Fail	
SIV-07	issue valid steering, propulsion, braking, gear and indicator commands	Pass / Fail	
SIV-08	receive corresponding vehicle-state feedback	Pass / Fail	
SIV-09	receive DBW status, manual-override, E-stop and fault information; and	Pass / Fail	
SIV-10	recover following interface restart in accordance with supplier documentation	Pass / Fail	

Annex F – Tenderer Declarations

The tenderer shall complete and sign this declaration and submit it with the tender.

1. None of the mandatory exclusion grounds in Section 20.2 applies to the tenderer or to any person with powers of representation, decision or control in it.
2. None of the discretionary exclusion grounds in Section 20.2 applies, or details are attached together with the measures taken to demonstrate reliability.
3. The tenderer holds, or will provide before contract award, valid Irish tax clearance in accordance with Section 20.3.
4. The tenderer holds, or will obtain before contract signature, the insurances in Section 20.4. Evidence is attached.
5. The tenderer has no conflict of interest in relation to this competition, or details are attached.
6. The tender has been prepared independently, without collusion with any other tenderer or potential tenderer.
7. The tenderer has / has not (delete as appropriate) been involved in the preparation of this RFT. Details of any involvement, including any preliminary market consultation with FMCI, are attached.
8. The tenderer accepts the contract terms in Section 21, subject only to any amendments listed in its Deviations and Assumptions response.
9. Annual turnover for the last two financial years: Year _____ € _____; Year _____ € _____.
10. Reference installations (Section 20.5): customer, vehicle platform, date and contact details are attached.

Signed: _____

Name: _____ Position: _____

Date: _____

For and on behalf of: _____