**Specification: The supply and installation of fixed-dome planetarium at North Wales Science (trading as Xplore! Science Discovery Centre)**

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# Introduction to the planetarium at Xplore! Science Discovery Centre

Xplore! has recently been awarded Shared Prosperity Fund (SPF)-Transition Fund capital and revenue awards. Xplore! is therefore now looking to create a fixed-dome planetarium with associated AV equipment and appropriate software licenses for high quality STEAM content delivery to a minimum capacity of 30 visitors in each viewing.

The planetarium will be the only fixed-dome planetarium in north-east Wales, providing a unique attraction for Wrexham. It aligns with the Wellbeing of Future Generations Act by ensuring future prosperity of Xplore!, its employees, and a cohesive community by contributing positively to STEAM capital for the people of Wrexham. In this way it will provide a platform for Xplore! to develop the personal interest of participants and connect them to the local space industries and potential careers. We have the full support of John Whalley CEO of Space Wales and Rachael Blackburn of Aerospace Wales, with our engagement activities aligning with the needs of the local space sector and associated supply-chain. Our activities will also complement the activities of Jeremy Howitt at Snowdonia Aerospace, providing a strong link between North-West Wales and North-East Wales schools, who in time will have access to space-related activities through both organisations.

The planetarium will be situated on the first floor of Xplore!’s city centre building, which is not currently accessible to all. The project will therefore also enable the installation of a platform lift, as well as refurbishing the stairwell, and re-locating the staff offices from the ground floor to the first-floor space.

The planetarium is expected to be fully operational by mid-March. It is expected that the planetarium supplier will work with the construction contractor through 2025 and early 2026 to ensure successful completion of the overall project.

# Outline for requirement

Xplore! 2.0 is the ambitious redevelopment of Wrexham’s Xplore! Science Discovery Centre, designed to transform it into a leading STEAM hub for North Wales. The project will launch with a 30-seat immersive planetarium, opening in early Spring 2026 with backing from the UK Shared Prosperity Transition Fund. Future phases will introduce a series of interactive zones—including LaunchPADLansio, Illusions, WaterPLAY, and Maker Spaces—alongside a dedicated events suite. Grounded in community demand and educational goals, Xplore! 2.0 aims to inspire curiosity, support learning, and boost Wrexham’s cultural and visitor offer.

The scope of services relating to a fixed dome planetarium supply and installation at Xplore! Science Discovery Centre contract is as follows but not limited to:

* Video playback
* Live, presenter-led real-time astronomy content
* ‘Canned’ pre-rendered full-dome planetarium films
* Live, presenter-led lectures
* Artworks/performances, pre-rendered and live

# Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **MANDATORY ELEMENTS** | | | |
| **Planetarium** | **AV Equipment** | **Software** | **Seating** |
| 1. Maximum sized negative pressure dome to fit the dimensions of the room (diameter of the room: 7.65m; ceiling height: 4.875m) | 7. 2D projection system | 14. 1-year minimum full catalogue access for high impact content |  |
| 1. On-site installation of full solution | 8. High contrast ratio (minimum 20,000:1) | 15. Lifetime planetarium access to live star-mapping software |  |
| 1. 30-person minimum capacity | 9. Installation of AV equipment |  |  |
| 1. Fire-retardant materials | 10. Sound system (minimum 5.1 surround sound) |  |  |
| 1. Overhead planetarium experience; curved ceiling | 11. Minimum 4K resolution |  |  |
| 1. Training in operation and maintenance of the solution of a minimum of 2 Xplore! personnel | 12. Must be compatible with centralised audio system in future  (Audio cut off if fire-alarm sounds) |  |  |
|  | 13. Minimum 3-year warranty (define inclusion/exclusion elements) |  |  |
| **OPTIONAL ELEMENTS** | | | |
|  | 16. 3D projection system | 18. Non-astronomy content provision | 21. Seating for up to 30 people |
|  | 17. 5-year warranty | 19. Option to create bespoke content |  |
|  |  | 20. Compatibility with existing portable planetaria |  |

# Lead time requirements

The equipment must be procured, installed, commissioned and invoiced ready for use by 13th March 2026.

The invoice TAX date must be prior to 13th March 2026.

Payment terms is within 30 days following delivery and installation of the equipment.

# Quality and performance standards

## Commissioned to stated specification

A commissioning period post installation will be required to qualify the equipment to the stated specification which needs to be completed by 13th March 2026.

# System Documentation

A complete set of documentation to be provided by the supplier including but not limited to:

A full Technical specification & Technical & User Handbook to be provided in the English Language as a Hard Copy Print version as well as an electronic version via a web-link such as Dropbox.

The document shall contain but not be limited to operating Instructions, health and safety, care and a troubleshooting manual.

# Training

A Training programme for at least 2 members of staff or as part of the delivery package to be provided. The programme should cover all normal operational tasks of the equipment and user trouble-shooting training where possible.

# Installation

The supplier shall provide details of any required connections which include but are not limited to electricity, water and compressed air and the full installation requirements and connection types. The data, information and drawings will be provided by the supplier prior to the contract completion.

The University/Xplore! will be responsible for ensuring that any Pre-Installation Building Works, Utilities and Auxiliary Services as specified by the supplier will be in place prior to the delivery and installation of the equipment.

# Delivery into the Building and into the Installation Site

The supplier shall be responsible for arranging the transport, delivery and installation to the Xplore!’s receiving area. At no point will Xplore! take responsibility for transportation to the installation area.

Delivery address: -

North Wales Science (trading as Xplore! Science Discovery Centre)

Xplore! | 17 Henblas Street | Wrexham | LL13 8AE, Wales, UK

If applicable, please ensure that the transport lorry has a tail gate facility in order to deliver equipment to ground floor level

# Warranty, Maintenance and Support Helpdesk

The supplier shall ensure that the equipment has at least 1-year Full Warranty from Completion Handover date which shall include onsite Parts and Labour, Maintenance & Technical Support provision.

The supplier will also provide a quotation as part of this tender response for additional / optional extended warranty, support and maintenance. This pricing to be included as part of the pricing schedule within this document. The quoted prices will remain fixed for a period of 12 months and will be subject to any prices adjustments based the consumer price index (CPI).

The manufacturer of the equipment must ensure that the full warranty, maintenance and support package is in place regardless if the actual equipment is being supplied through a third-party agent as nominated by the manufacturer.

# Payment

Payments terms shall be 100%, 30 days after commissioning and acceptance testing.

The invoice TAX date must be prior to 13th March 2026.

Payment terms is within 30 days following delivery and installation of the equipment.

# Insurance Cover Required

Employers Liability Insurance = £10 million

Public Liability Insurance = £10 million

Product Liability Insurance = £10 million

Professional Indemnity Insurance = £5 million

Goods in Transit Insurance = up to £222,000.00

The above insurance cover stipulated can only be amended with the University agreement.

# Terms and Conditions of Contract

The contract terms and conditions that will apply to this awarded contract will be based on the University’s contract terms and conditions as per Appendix 1d of this ITT.

# Inco Terms

The supply of goods needs to be Delivered Duty Paid (DDP) by the supplier to the University with all duties, taxes and tariffs included within Section 19.1 (pricing document), in the event that the final completed equipment has been manufactured outside the UK.

# Export Control

Due to export control considerations, suppliers must identify any components requiring export licences or subject to jurisdictional restrictions and obtain prior written approval from the University for their inclusion.

# Other Considerations

The Contract will be delivered in line with our commitment for carbon neutrality by 2030 and our commitment to minimising any adverse impacts that construction has on the environment, through the design process, materials selection, construction techniques, and operational methods. All organisations appointed to work on our behalf are required to work in accordance with the commitments set out in:

* The Wellbeing and Future Generations Act 2015
* Beyond Recycling strategy 2021
* Wales procurement policy statement
* North Wales Economic Ambition Board

In terms of delivery, the appointed contractor will be expected to:

* Support the transition towards a circular economy in Wales by employing circular economy principles.
* Promote and encourage ethical and responsible business behaviour helping to protect suppliers and employees, promoting Wales as a good place for doing business.
* To ensure, where possible, all procurement and supply chain activities are repeatable, aligned, and consistent across its process and application.
* Support and improve access to tender opportunities for SMEs, micro-SMEs and 3rd sector organisations, and support collaboration between SMEs within the region.

In general, our expectation is that the appointed contractor will provide ‘beyond compliance’ performance throughout the contract regarding environmental and sustainability management.

**Packaging & Plastics:**

The Contractor shall be required to support, and evidence, a reduction in packaging materials under this contract. This must not hinder the safe delivery of products. This reduction should be supported through:

* Where cardboard packaging is used, it must have a post-consumer recycled material content of at least 80%.
* Where plastic is used for the final packaging, it must have a reused and post-consumer recycled content of at least 75% with a preference for the maximum degree that is feasible.
* Sourcing of sustainable and fully recyclable packaging materials, for example where possible packaging made from a single fully recyclable material (monolayer) that is widely recyclable through the local collection and recycling infrastructure.
* Avoidance where possible of single-use packaging and materials e.g., plastics should be avoided where possible and only used where alternatives with lower environmental impacts are not available.
* Where possible, products must be offered primarily in bulk packaging.
* Where possible, packaging must not contain polyvinyl chloride (PVC).
* Where possible, return transit packaging should be used throughout the supply chain and preference given to suppliers and subcontractors that offer take back and collection services for their materials and associated packaging for subsequent reuse, recycling, or recovery.
* Creative packaging design and innovative materials.
* Compliance with all relevant packaging and waste regulations; and,
* Suppliers and subcontractors shall make available all pertinent information associated with primary, secondary, and tertiary packaging in accordance with the Packaging Waste Regulations. Suppliers and subcontractors will be required to take back any packaging deemed excess or non-compliant at their own expense.

**WELL-BEING OF FUTURE GENERATIONS (WALES) ACT 2015**

The contractor shall support the University in delivering against *The Well-being of Future Generations (Wales) Act 2015* which is about improving the social, economic, environmental, and cultural well-being of Wales, by embedding ‘The Future Generations Act’ lens into all procurement activity contributing where relevant to the 46 national wellbeing indicators for Wales.

**ETHICAL REQUIREMENTS**

The Contractor shall promote and encourage ethical and responsible business behaviour and shall thereby help to protect suppliers and employees and promote Wales as a good place for doing business.

**DATA SECURITY**

The Contractor shall also have regard to the United Kingdom General Data Protection

Regulations 2016 (UK GDPR) and the Data Protection Act 2018 (DPA).

The Contractor shall recognise that some data provided under project contract will be protectively marked and/or may contain potentially sensitive information. The Contractor shall protect such data, in accordance with the security classification, and shall also ensure that UK GDPR and DPA compliant data management systems are in place. Further information and/or requirements in respect of sensitive data will be provided in the project contract.

**HEALTH & SAFETY**

The Contractor shall fully understand their duties under Health & Safety Regulations and must discharge these duties accordingly.

The Contractor shall manage health and safety in line with the requirements for the contract which includes, but is not limited to:

* undertaking, managing, and monitoring risk assessments.
* the provision of safe systems of work, including method statements and permits to work.
* applying for permits to work.
* ensuring adequate resources are available to undertake works in compliance with all Law and the Client health and safety policies.
* ensuring that all relevant documentation is always available on site.
* conducting regular site inspections.
* reporting of hazards and risks.
* monitoring, following up and reporting on corrective actions and non-conformances as they are identified.
* monitoring and reviewing incident reports, third-party reports for example Health and Safety Executive (HSE) and complaints.
* holding regular health and safety meetings with all relevant stakeholders as required.
* ensuring that all their employees and supply chain have the correct training, knowledge, and equipment to carry out the works safely (including relevant induction).
* conducting and reporting on regular safety inspections as required.
* occupational health in line with OHSAS 18001 or 45001, Occupational Health and Safety Assessment Series.
* co-ordinating and co-operating with the Clients’ representatives, as required.
* establishing and maintaining effective housekeeping to support a safe environment.
* ensuring that its Supply Chain is competent (by undertaking a relevant health and safety assessment to establish this); and
* managing its Supply Chain engaged on the works and services.

**INNOVATION**

The Contractor shall work with supply chains early in the procurement process to identify opportunities for innovation identifying future roadmaps for products/services ensuring sustainability principles are embedded throughout and learning from experience where appropriate.

**QUALITY CONTROL**

The Contractor shall prepare and implement a quality plan for the contract. This plan must

cover, but is not limited to, the following areas:

* roles and responsibilities.
* communications and governance.
* quality, time, risk, and price monitoring, reporting and control.
* Supply chain management.
* project specification controls.
* inspections, witnessing and commissioning.
* detailed design, sign off and audit.

The Contractor shall test the goods against the specification and performance requirements

set out in the contract.

In addition to Contractor administered inspections the Employer may also require inspection of the goods to be undertaken by a third party. The Contractor may also be subject to regulatory and/or other inspections including, but not limited to, those undertaken by:

* Health and Safety Executive (HSE).
* insurance inspection
* funding bodies.

**RISK MANAGEMENT**

The Contractor shall work with its supply chain to proactively manage project risks, and undertake value engineering and value management, to deliver mutual benefits and the most successful outcome for the contract.

The Contractor shall work with its supply chain to identify and rank the risks identified, agree a risk management strategy, and prepare a risk register for the contract, which reflects the risk allocation to be utilised within the contract and the roles and responsibilities set out therein.

The Contractor shall review and update the risk register with its supply chain, not less frequently than a monthly basis, or as otherwise set out in the contract.

**COMMUNICATIONS AND CO-OPERATION**

The Contractor shall ensure that sufficient notice is provided to ensure that all necessary decisions may be made in accordance with the contract in a timely manner and does not adversely impact upon delivery of the works and services and/or contract.

The Contractor shall always cooperate with all appropriate parties in accordance with the spirit and terms of the contract.

The Contractor shall attend all meetings, to deal with all matters appertaining to the delivery of the project, in accordance with the contract.

**COMPLAINT’S PROCEDURE**

The Contractor shall have a robust and auditable complaints procedure for logging, investigating, managing, escalating, and resolving complaints initiated by the Employer.

The complaints procedure shall comply with the following:

* All complaints shall be logged and acknowledged within twenty-four (24) hours of receipt.
* All complaints shall be resolved within ten (10) working days of the original complaint being made, unless otherwise agreed with the Employer.
* All complaints shall be recorded, together with the actions and timescales taken to resolve the complaint; and the Contractor shall analyse and identify any pattern of complaints and bring these to the attention of the Employer during Contractor Review Meetings,
* The Contractor shall have in place an escalation route for any complaints that have not been resolved within the specified timescales
* The Contractor shall provide the Employer with one consolidated report per quarter that captures all complaints, and any additional complaints processes, including escalation and reporting requirements. These reports shall include:
  + the date the complaint was received.
  + complainants contact details.
  + the nature of the complaint and actions agreed and taken to resolve the complaint.
  + any changes to the programme and learning from experience.

**MODERN SLAVERY & ETHICAL EMPLOYMENT IN SUPPLY CHAINS**

The Contractor will be required to promote and encourage ethical and responsible business behaviour helping to protect suppliers and employees, promoting Wales as a good place for doing business. The Contractor will be required embed the contents of the Welsh Government’s Code of Practice for ethical employment in supply chains and ensure these are flowed through the supply chain.

The Contractor must address the risk of Modern Slavery and exploitation in construction supply chains, in line with the principles set out in the Chartered Institute of Building (CIOB) guidance: [Building a Fairer System: Tackling Modern Slavery in Construction Supply Chains](https://policy.ciob.org/wp-content/uploads/2016/07/CIOB_Modern_Day_Slavery_WEB.pdf): h[ttps://policy.ciob.org/research/building-fairer-system-tackling-modern-slavery-construction-supply-chains](https://www.google.com/url?q=https://policy.ciob.org/research/building-fairer-system-tackling-modern-slavery-construction-supply-chains&sa=D&source=hangouts&ust=1547556588863000&usg=AFQjCNG2IKOVyDSqpMVlAf1krvwxjfp8Pw)

All employers involved in the construction industry must make proper background checks on the agencies who supply them with labour, including where the agency is operating in a supervisory role.

The Client recognises the significant risk of modern slavery and labour standards abuses in the supply chains, and the Contractor shall recognise and actively manage the risk of modern slavery and exploitation in supply chains in the delivery of the Project Contract. The Contractor shall cooperate fully with Employer to help improve performance in the sector as a whole and as part of which the Contractor shall become a signatory to the [Gangmasters and Labour Abuse Authority (GLAA) Construction Protocol](http://www.gla.gov.uk/i-am-a/i-use-workers/construction-protocol/) &  Welsh Procurement Policy Note WPPN 11/21: Code of Practice - Ethical employment in supply chains for the Welsh public sector <https://www.gov.wales/wppn-11-21-ethical-employment-in-supply-chains-for-the-welsh-public-sector-html>

The Contractor’s Continuous Improvement Plan shall include the measures it is taking to

improve its management of these risks.

The Contractor shall make proper background checks on the agencies which supply it with labour, including where the agency is operating in a supervisory role.

The Contractor shall ensure that staff are trained to recognise the signs of trafficking or forced labour.

The Contractor shall have processes in place to check identity and confirm Right to Work checks both within its supply chain as part of its selection process, and on induction onto site. Worker paid recruitment fees are prohibited. All the Contractor’s labour force and that of its Supply Chain must have written terms and conditions of employment/ engagement before commencing any of the requirements of the Project Contract.

The Contractor must support worker access to remedy for breaches of labour standards, including modern slavery.

The Contractor is required to agree to the following universal principles:

* employment is chosen freely.
* freedom of association is respected.
* working conditions are safe and hygienic.
* child labour is not used.
* wages are not lower than minimum wage.
* working hours are not excessive.
* no discrimination is practised.
* regular employment is provided; and
* no harsh or inhumane treatment is allowed.

The Contractor shall ensure that the above conditions are met within its labour recruitment supply chain.

**EMPLOYMENT POLICIES AND PRACTICES**

The University is committed to the delivery of high-quality public services and recognises that this is critically dependent on a workforce that is diverse, well rewarded, well-motivated, well-led, has access to appropriate opportunities for training and skills development and is engaged in decision making. These factors are also important for workforce recruitment and retention, and thus continuity of service.

The Contractor shall take a similar approach through measures including, but not limited to:

* A fair and equal 'pay policy' that includes a commitment to supporting the Living Wage, including, for example, being a 'Living Wage Accredited Employer’.
* Clear managerial responsibility to nurture talent and help individuals fulfil their potential, including, for example, a strong commitment to 'Modern Apprenticeships' and the development of the UK’s young workforce.
* Promoting equality of opportunity and developing a workforce which reflects the population of the UK in terms of characteristics such as age, gender, religion or belief, race, sexual orientation, and disability.
* Support for learning and development; stability of employment and hours of work, and avoiding exploitative employment practices, including, for example, no inappropriate use of zero hours contracts.
* Flexible working (including, for example, practices such as flexitime and career breaks) and support for family friendly working conditions and wider work life balance; and
* Support for progressive workforce engagement, for example Trade Union recognition and representation or other alternative arrangements to give staff an effective voice.

The Client is committed to ensuring that fair and transparent employment practices are in place throughout the supply chain for this project. The client will work with the Contractor to monitor to ensure fair employment practices operate on this project. Whilst direct employment under Collective Agreements with Trade Unions, where these apply, is the preferred default position, alternative means of engaging workers may be used to accommodate flexible working, provided they do not unduly disadvantage workers in terms of pay and rights of employment.

**WHOLE-LIFE VALUE FOR MONEY**

The Client aspires to improve the way in which contracts are delivered, including achieving whole-life value for money.

In line with the National Audit Office and HM Treasury approach, value for money is the optimal use of resource to achieve the intended outcomes where ‘optimal’ means ‘the most desirable possible given expressed or implied restriction or constraints’ and is therefore not necessarily about achieving the lowest initial price.   For clarity achieving optimal whole-life value for money is the aim of this Contract.

To assist with the delivery of the foregoing the Contractor shall identify means to improve health and safety performance, accelerate the manufacture schedule, enhance efficiency and/or reduce the cost of manufacture, maintenance and operation and/or achieve alternative benefits to the extent required as set out in the Project Brief while ensuring that overarching project objectives and specifications are delivered and to effectively manage any risks.

The Contractor shall deliver the goods for the scope of the life cycle requirements set out in the Project Brief to achieve value for money.

**SUPPLY CHAIN**

The Contractor shall be required to support and improve access to tender opportunities for SMEs, micro-SMEs, and 3rd sector organisations. The Contractor shall support collaboration between SMEs and ensure supply chain opportunities are visible to Wales based suppliers to compete as well as support local supply chains to engage with the Contractor through “Meet the Buyer” events to maximise the local supply chain opportunities and through supply chain briefings order to promote joint bidding opportunities. If requested, the Contractor will be able and be supported to advertise sub-contracting works packages on the Sell2Wales tender advertisement portal.

The Contractor shall select its supply chain through fair, open, and transparent competition. The Contractor shall establish and develop relationships and contractual arrangements with its supply chain that are complementary to the relationships and contractual arrangements under the contract, in line with PPN 01/18 Supply Chain Visibility.

The Contractor shall manage its supply chain to ensure that the required standards for the delivery of the works and services are consistently achieved.

The Contractor shall ensure the co-ordination of all outputs provided by its supply chain in the delivery of the works and services and shall effectively manage all interface risks to provide a seamless service for the project contract.

The Contractor shall have robust performance management and benchmarking processes in place to ensure the objective measurement and assessment of the performance of its supply chain. Such processes shall include measurement of the supply chain’s performance in relation to cost, programme and quality of the works and services delivered.

The Contractor shall improve supply chain arrangements to achieve continuous improvement in the delivery of the services. The Contractor shall also measure any ‘added value’ provided by its supply chain in the delivery of the works and services, including but not limited to, research and development contributions, improved sustainability and improved employment and skills.

The Contractor shall ensure the co-ordination of all outputs provided by its supply chain in the delivery of the works and services and shall effectively manage all interface risks to provide a seamless service to the Employer.

The Contractor shall establish and develop relationships and contractual arrangements with its supply chain that are complementary to the relationships and contractual arrangements under the project contract.

The Contractor shall have robust processes in place to ensure that project contract success measures and targets capture the performance of its supply chain. The Contractor’s supply chain will be required to align to the objectives and measures included within the project contract.

Supply chain performance management shall include measurement of success measures and targets in relation to cost, programme and quality of the works and services delivered. The Contractor shall also measure rework i.e., defect rectification and any ‘added value’ provided by its supply chain in the delivery of the works and services, including but not limited to, research and development contributions, improved sustainability and improved employment and skills.

The Contractor shall manage its supply chain to ensure that the required standards for the delivery of the works and services are consistently achieved ‘first time’.

The Contractor shall appoint a responsible duty holder to be accountable for the performance of its supply chain and shall advise the Employer as to who this is.

The Contractor shall provide fair and prompt payment terms for its Supply Chain (i.e., 30 days maximum).

The Contractor shall ensure that length of contracts and notice period are agreed fairly with suppliers.