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MSC PROPERTY AND FACILITIES MANAGEMENT - MANAGEMENT OF THE INTEGRATED WORK ENVIRONMENT

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1.0 Introduction

In my role as Property Manager for the University of Wales Trinity Saint David (UWTSD), I have undertaken a risk assessment of the Innovation Matrix building. The facility supports digital innovation, enterprise, and academic industry collaboration, creating a complex operational environment (University of Wales Trinity Saint David, 2024a).

My responsibilities extend beyond maintenance and compliance, requiring a strategic approach to managing technical, operational, and commercial risks. Within such a facility, operational continuity, user safety, and financial performance are closely linked, necessitating a holistic risk management perspective.

This assessment reflects wider post Covid-19, post Brexit, and geopolitical pressures. Changes in building use have increased the importance of flexibility and ventilation, while supply chain disruption, labour shortages, and rising energy costs, linked to the Ukraine conflict and more recent the conflict in the Middle East, have heightened financial and operational risks (Office for National Statistics, 2025).

A structured framework has been applied, drawing on the Health and Safety Executive's HSG65 model to support systematic risk identification and control (Health and Safety Executive, 2013). Key areas include fire safety, building services, occupational health, and statutory compliance, including the Regulatory Reform (Fire Safety) Order 2005.

Commercial considerations are also critical, with cost volatility affecting maintenance, procurement, and lifecycle planning (Office for National Statistics, 2025). Sustainability and decarbonisation initiatives introduce additional risks relating to finance, contracts, and delivery (JCT, n.d.; RICS, 2026).

Environmental performance expectations further influence risk exposure, as failure to meet energy and sustainability standards can result in regulatory, financial, and reputational consequences (MDPI, 2022).

This report aims to identify and evaluate key risks affecting the Innovation Matrix, applying a structured framework to support informed decision making and effective property management within a complex environment.

2.0 Risk Management Framework

In managing a complex facility such as the Innovation Matrix, I apply a structured risk management framework that integrates governance, regulatory compliance, and strategic decision making. Within my role at the University of Wales Trinity Saint David (UWTSD), this framework must address both the technical performance of the building and the commercial viability of its operations, ensuring that risks are identified, assessed, and controlled proactively.

My approach is informed by the Health and Safety Executive's HSG65 model, which promotes a process of planning, implementation, monitoring, and continuous improvement (Health and Safety Executive, 2013). This is particularly relevant to the Innovation Matrix, where diverse users and activities require coordinated and transparent risk control. However, the effectiveness of any framework depends on its integration into everyday practice, without this, risk management becomes reactive, increasing the likelihood of disruption or compliance failures.

Crucially, the framework recognises the interdependencies between technical, operational, financial, and commercial risks. For example, a failure in building services may directly affect commercial performance, while financial constraints may limit essential maintenance. This interconnected nature of risk highlights the importance of aligning governance structures, policies, and organisational objectives within its management plan.

2.1 Governance Structure

Effective governance is essential when managing risk in a complex building like the Innovation Matrix. At UWTSD, responsibility is shared across several groups, including senior leadership, estates and facilities teams, health and safety officers, and external contractors. In my role as Property Manager, I act as the main link between these stakeholders, making sure responsibilities are clear and that important risk information is shared consistently.

The HSG65 framework highlights the importance of leadership, accountability, and a positive safety culture (Health and Safety Executive, 2013). For the Innovation Matrix, this means senior management must set clear policies, provide the right resources, and show visible commitment to safety and compliance. A key part of this is meeting legal duties such as those under the Regulatory Reform (Fire Safety) Order 2005, which requires a designated “responsible person” to oversee fire safety (UK Government, 2005). Making sure these duty holders are identified and supported is essential for staying compliant and managing risk effectively.

However, governance in a multi stakeholder environment is not without challenges. The involvement of external contractors, commercial tenants, and academic users can lead to unclear responsibilities or inconsistent practices. This can create communication gaps, duplicated work, or differences in how risk controls are applied. Importantly, having formal governance structures does not guarantee they will work in practice. The real challenge is making sure that policies are actually followed day to day and that everyone understands their role.

For the Innovation Matrix, strong governance depends on regular engagement, clear communication channels, and ongoing reinforcement of expectations. This helps ensure that risk management remains part of everyday operations rather than something that is only considered when problems arise.

2.2 Standards, Policies and Procedures

Standards, policies, and procedures form the operational foundation of the risk management framework I apply within the Innovation Matrix. They provide the mechanisms through which risks are controlled, compliance is maintained, and UWTSD expectations are translated into day to day practice. In this context, I work with a combination of statutory requirements, industry guidance, and internal UWTSD policies relating to health and safety, maintenance, and operational management.

A critical aspect of my role is ensuring that policies and procedures are not only documented but are actively implemented. In many organisations, there is a noticeable gap between policy and operational reality. Maintenance regimes may be clearly defined yet inconsistently delivered due to budget pressures or limited resources. Similarly, risk assessments may exist but may not be reviewed regularly or updated to reflect changes in building use, occupancy patterns, or external conditions. This reinforces the need for active monitoring, regular review cycles, and clear accountability to ensure that procedures remain relevant and effective.

The growing emphasis on sustainability and retrofit further increases the complexity of policy and procedural frameworks. Guidance on retrofit procurement and delivery highlights the need for careful planning, risk assessment, and quality assurance to ensure that interventions are both technically sound

and commercially viable (RICS, 2026). Within the Innovation Matrix, this means that policies must evolve to incorporate considerations such as energy performance, carbon reduction, and lifecycle costing, aligning operational practices with the wider strategic objectives of UWTSD.

Overall, the effectiveness of the risk management framework depends not only on the existence of robust standards and procedures but also on my ability to ensure that they are embedded, enforced, and continuously improved in response to emerging risks and organisational priorities.

2.3 Risk Appetite

Risk appetite describes the level of risk an organisation is willing to accept in order to achieve its goals, and it forms an important part of how I manage the Innovation Matrix. At UWTSD, risk appetite is not the same across all areas of operation. The university must support innovation and commercial activity, but it also has to maintain safety, compliance, and financial stability.

For technical risks, especially those linked to life safety and legal compliance, the university has a very low risk appetite. This includes fire safety, structural issues, and health and safety duties, where any failure could cause serious harm and lead to major legal consequences (UK Government, 2005). In these areas, I take a cautious approach, making sure strong controls, monitoring systems, and compliance checks are in place.

In contrast, areas involving innovation, research, and commercial partnerships naturally require a higher risk appetite. The Innovation Matrix is designed to support new ideas, collaboration, and emerging technologies, all of which involve uncertainty. This creates a balance I must manage, enabling innovation while still keeping operational, financial, and reputational risks under control.

For risk appetite to be useful, it must be clear and applied consistently across the organisation. If it is not well communicated, different stakeholders may make decisions based on their own assumptions. This can lead to overly cautious behaviour that limits innovation, or excessive risk taking that increases the chance of failure. For the Innovation Matrix, it is therefore essential that risk appetite is clearly defined, aligned with UWTSD's wider strategy, and embedded into governance and day to day operations.

3.0 Risk Category's

To assess risk effectively within the Innovation Matrix, I classify risks into distinct yet interconnected categories. This structured approach allows me to evaluate their potential impact on both the technical performance of the building and the commercial viability of its operations. While traditional risk classifications often originate from financial or corporate risk frameworks, applying them within a property management context requires adaptation to reflect the operational realities of a complex, multi-use facility.

Within the Innovation Matrix at the University of Wales Trinity Saint David (UWTSD), risks rarely exist in isolation. Technical failures, economic pressures, and organisational factors frequently interact, meaning that a single issue can have cascading effects across multiple areas of operation. For example, a technical failure may trigger operational downtime, which in turn may create commercial or reputational consequences.

In this context, I examine several key risk categories, credit, country, market, operational, business, and reputational risk.

Each category will consider how they influence the risk profile of the Innovation Matrix and how they inform my overall approach to risk management.

3.1 Credit Risk

In a property management setting, I view credit risk as more than just financial lending. It also includes the possibility that tenants, partners, or contractors connected to the building may face financial difficulties. For the Innovation Matrix, where academic, commercial, and industry users work together, this means there is a risk of partner insolvency, reduced funding, or non-payment for services.

The current economic climate increases these risks. Ongoing uncertainty in the UK business and construction sectors, along with rising operating costs, has put pressure on many organisations (Office for National Statistics, 2025). This is especially relevant for startups and innovation focused companies, which often depend on external investment and may be more vulnerable to financial instability. Contractors involved in maintenance or specialist technical work may also face financial strain, which can lead to delays, reduced quality, or incomplete projects, directly affecting the building's performance.

Although credit risk may seem separate from day to day building operations, its impact can be significant. If a contractor becomes insolvent, essential maintenance may be disrupted, increasing operational and compliance risks. Likewise, losing commercial tenants or partners can reduce income and affect the financial sustainability of the Innovation Matrix. Because of this, managing credit risk requires thorough checks when selecting contractors and partners, strong contractual protections, and ongoing monitoring of financial stability throughout any engagement.

3.2 Country Risk

Country risk reflects how wider economic and geopolitical conditions affect the operation and management of the Innovation Matrix. In my role as Property Manager, this type of risk has become increasingly important due to the combined effects of Brexit, the Ukraine conflict, and ongoing instability in the Middle East. These events have disrupted supply chains, affected labour availability, and contributed to rising and unpredictable energy costs.

Brexit has brought new challenges around sourcing materials and specialist labour, including higher costs, longer lead times, and changes in regulations. These issues have been made worse by global instability, particularly the Ukraine conflict and tensions in the Middle East, which have driven up energy prices and affected the availability of key construction materials (Office for National Statistics, 2025). As a result, the operational resilience of the Innovation Matrix is influenced by external factors that are outside my direct control.

Country risk highlights how vulnerable local building operations can be to global events. While strong internal processes are essential, they cannot fully protect the building from international disruptions. This makes it important to adopt flexible and adaptive strategies, such as diversifying suppliers, building contingency into maintenance planning, and investing in energy efficient systems to reduce reliance on volatile markets.

Research also stresses the need for resilience in building management, especially in response to global crises like pandemics and geopolitical conflict (MDPI, 2022). For the Innovation Matrix, this means viewing the building not just as a physical asset but as part of a wider system where external risks can quickly translate into operational and financial challenges.

3.3 Market Risk

Market risk in the property and construction sectors relates to changes in costs, demand, and wider economic conditions that affect the financial and operational stability of the building. For the Innovation

Matrix, this includes risks linked to construction inflation, rising maintenance costs, fluctuating energy prices, and the availability of skilled labour.

Recent data from the Office for National Statistics shows continued increases in construction costs and variability in sector output, reflecting ongoing economic uncertainty (Office for National Statistics, 2025). These trends directly affect how I plan and budget for maintenance, refurbishment, and day to day operations. When costs rise, there is a greater risk that essential works may be delayed or scaled back, which can create longer term operational and compliance issues.

Energy pricing is a particularly important part of market risk. The Ukraine conflict has already shown us the impact in global energy markets, and instability in the Middle East has added further uncertainty around fuel supply and pricing. For a technologically advanced building like the Innovation Matrix, which has high energy demands, these fluctuations create both financial pressure and operational challenges. Managing these risks requires careful cost control and ongoing investment in efficient, resilient systems to reduce exposure to unpredictable energy markets.

3.4 Operational Risk

Operational risk represents one of the most significant categories I manage within the Innovation Matrix, as it encompasses the risks associated with the everyday functioning of the building. This includes risks linked to health and safety, fire safety, building services, security, operational performance.

Key operational risks include failures in building services systems such as heating, ventilation, electrical infrastructure, and water systems. Any disruption to these services can compromise user safety, interrupt teaching and research activities, and affect the building's commercial operations. In a digitally focused environment, the reliability of IT and network infrastructure is equally critical, system failures can have immediate consequences for academic delivery, research continuity, and industry collaboration.

From a critical perspective, operational risks are often underestimated despite their potential for immediate and severe impact. While strategic or financial risks may develop gradually, operational failures can cause instant disruption, reputational damage, and safety incidents. This reinforces the need for robust maintenance regimes, regular inspections, and effective contingency planning. Ensuring that systems are proactively managed rather than reactively repaired is essential to maintaining the resilience and performance of the Innovation Matrix.

3.5 Business Risk

Business risk relates to the ability of the Innovation Matrix to achieve its intended purpose and deliver value to UWTSD. As a facility designed to support innovation, collaboration, and enterprise development, its success depends on effective utilisation, strong engagement with industry partners, and alignment with wider organisational objectives. In my role as Property Manager, I must ensure that the building continues to meet these expectations in a rapidly changing environment.

University of Wales Trinity Saint David highlights the strategic importance of the Innovation Matrix in driving digital innovation and fostering business collaboration (University of Wales Trinity Saint David, 2024a). However, this strategic positioning introduces risks associated with underutilisation, fluctuating demand, and potential misalignment between the building's capabilities and the evolving needs of its users.

In the post Covid-19 landscape, patterns of building use have shifted significantly. The increased adoption of remote and hybrid working models may reduce demand for physical workspace, affecting occupancy levels and the financial performance of the building. Additionally, rapid technological change

presents a further challenge, facilities and systems that are cutting edge today may become obsolete within a short period, requiring ongoing investment to maintain relevance and competitiveness.

From a critical perspective, business risk reflects the broader challenge of ensuring that the Innovation Matrix remains adaptable and responsive to changing conditions. Failure to anticipate or respond to shifts in user expectations, industry trends, or technological developments may result in reduced utilisation, weakened partnerships, and diminished return on investment. For this reason, flexibility, continuous review, and forward planning are essential components of my approach to managing business risk within the Innovation Matrix.

3.6 Reputational Risk

Reputational risk relates to the potential damage to UWTSD's image and credibility if something goes wrong within the Innovation Matrix. This type of risk can arise from safety incidents, poor building performance, regulatory failures, or not meeting sustainability expectations.

As a high profile innovation facility, the Innovation Matrix reflects the university's commitment to quality, technology, and environmental responsibility. Research shows that sustainability and environmental performance increasingly shape how stakeholders judge organisations (MDPI, 2022). If the building fails to meet these expectations, it may attract criticism from students, partners, regulators, and the wider community.

Operational issues, such as fire safety breaches, long system outages, or poor indoor conditions, can quickly damage confidence in the university's ability to manage its facilities. Likewise, slow progress on sustainability or energy performance may appear inconsistent with UWTSD's strategic goals, especially at a time when environmental responsibility is under close scrutiny.

Reputational risk is often the result of failures in other areas. Operational problems can lead to safety incidents, financial pressures can reduce service quality, and strategic misalignment can weaken stakeholder trust. This interconnected nature of risk highlights the need for a proactive, joined-up approach to managing the Innovation Matrix, ensuring reputational impacts are considered alongside technical, operational, and commercial factors.

4.0 Risk Matrix and Evaluation

Having identified and analysed the key risk categories affecting the Innovation Matrix, I now apply a structured evaluation process to determine the relative significance of each risk and to prioritise appropriate management actions. Within property and facilities management, a risk matrix is a widely used tool for assessing risks based on their likelihood of occurrence and potential impact. This approach enables me, in my role as Property Manager at the University of Wales Trinity Saint David (UWTSD), to allocate resources effectively and implement proportionate and targeted control measures.

The use of a risk matrix aligns with the principles of the Health and Safety Executive's HSG65 framework, which emphasises the importance of risk profiling, prioritisation, and continuous improvement within a systematic risk management process (Health and Safety Executive, 2013). By categorising risks according to their severity and probability, I am able to distinguish between those requiring immediate intervention and those that can be managed through routine monitoring or longer-term planning.

However, it is important to acknowledge that risk scoring is inherently subjective. While the matrix provides a structured method for comparison, the evaluation process must be supported by professional judgement, contextual understanding, and ongoing review. External conditions—such as economic volatility, geopolitical instability, or changes in building use—may alter the likelihood or impact of certain

risks over time. For this reason, the risk matrix should be treated as a dynamic tool rather than a static assessment.

The recommendations arising from this evaluation focus on strengthening governance, enhancing operational resilience, improving financial planning, and ensuring that the Innovation Matrix remains adaptable to emerging risks. These recommendations aim to support UWTSD in maintaining a safe, efficient, and commercially viable facility that continues to meet the needs of its users and stakeholders.

4.1 Risk Matrix

The following matrix evaluates the key risks identified in Section 3.0 using a standard 5x5 scoring system:

Table 1: Risk Criteria

Risk Assessment – Review Frequency		
Risk Score	Action Required	Review Frequency
15-25 Extreme	Unacceptable. Immediate action must be taken to manage the risk. Control measures should be put into place which will have an effect of reducing the impact of an event or the likelihood of an event occurring. A number of control measures may be required.	This type of risk is considered extreme and should be reviewed and progress on actions updated, at least monthly.
8-12 High	Very unlikely to be acceptable. Significant resources may have to be allocated to reduce the risk. Urgent action should be taken. A number of control measures may be required.	This type of risk is considered high and should be reviewed and progress on actions updated at least bi-monthly.
4-6 Moderate	Not normally acceptable. Efforts should be made to reduce risk, providing this is not disproportionate. Establish more precisely the likelihood & harm as a basis for determining the need for improved measures.	This type of risk is considered moderate and should be reviewed and progress on actions updated at least every six months.
1-3 Low	Risks at this level may be acceptable. If not acceptable, existing controls should be monitored & reviewed. No further action or additional controls are required.	This type of risk is considered low risk and should be reviewed and progress on actions updated at least annually.

Table 2: Risk Matrix 5x5

Risk Category	Risk	Likelihood (1-5)	Impact (1-5)	Risk Score	Risk Level
Credit Risk	Contractor insolvency delaying maintenance	1	3	3	Low
Country Risk	Supply chain disruption (Brexit/Ukraine/Middle East)	2	3	6	Moderate
Market Risk	Rising energy and construction cost	4	3	12	High
Operational Risk	Building Service Failure (HVCA/Electrical)	1	5	5	Moderate
Business Risk	Under utilisation of Innovation Matrix	1	4	4	Moderate
Reputational Risk	Safety Incident or Compliance Failure	1	5	5	Moderate

4.2 Risk Evaluation

The updated risk matrix shows that market risk now represents the highest priority threat to the effective management of the Innovation Matrix.

Operational risk has been reassessed as low likelihood because the building is relatively new, has modern systems, and benefits from a strong planned maintenance programme. This reduces the chance of failures in key systems such as heating, ventilation, electrical infrastructure, or fire safety equipment. However, the impact of any failure remains high due to the potential consequences for safety and

business continuity. This aligns with the Regulatory Reform (Fire Safety) Order 2005, which places legal duties on the organisation to ensure safe occupancy (UK Government, 2005). As a result, operational risk is rated low likelihood but high impact, meaning it still requires close monitoring.

In contrast, market risk has become a major concern due to rising energy costs, construction inflation, and uncertainty around labour availability. Data from the Office for National Statistics shows ongoing instability in the construction sector, with cost increases affecting both day to day operations and long-term investment decisions (Office for National Statistics, 2025). These pressures make it harder to plan maintenance and upgrade works without risking long-term asset deterioration.

Country risk now scores as moderate, having previously been high. It remains influenced by Brexit, the Ukraine conflict, and may need to be reviewed again due to instability in the Middle East. Because these risks originate outside the organisation, they are difficult to control at building level, reinforcing the need for flexible planning and resilient procurement strategies.

Credit, business, and reputational risks remain at low to moderate levels, but their potential impact should not be overlooked. These risks often arise as knock-on effects from higher scoring categories. For example, market pressures may reduce available budgets, affecting business performance, while operational disruptions, although unlikely, could still damage the university's reputation. This demonstrates how interconnected risks are within the Innovation Matrix and why an integrated management approach is essential.

Overall, the updated evaluation shows that the risk profile of the Innovation Matrix is shaped by external economic and geopolitical conditions. The risk matrix must therefore be treated as a living tool, reviewed regularly to ensure assessments remain accurate and management strategies remain effective.

5.0 Procurement Route and Contract Strategy for Energy-Efficiency Adaptation Works

Following the risk evaluation, it is clear that the Innovation Matrix is becoming exposed to market and country risks, particularly rising energy costs and ongoing supply chain uncertainty. In response to these findings, I have proposed a programme of energy efficiency adaptation works aimed at improving the building's thermal performance, reducing operational energy demand, and strengthening long term resilience.

The Innovation Matrix is a relatively new, high specification facility, but there are still opportunities to improve its energy performance through a fabric-first approach. The measures I have proposed include improving insulation to reduce heat loss, upgrading glazing from double to triple glazing, and expanding the rooftop solar PV array. These interventions follow recognised best practice in retrofit and energy-efficiency improvement, including PAS 2038 and RICS retrofit guidance, and they directly support UWTSD's sustainability goals. To deliver these works effectively, the chosen procurement route and contract strategy must ensure strong design quality, cost control, and minimal disruption to building operations.

6.0 Procurement Route Options

The selection of an appropriate procurement route is critical to ensuring that the proposed energy-efficiency improvements to the Innovation Matrix are delivered effectively, safely, and to the required performance standards. The nature of the works I have suggested, enhanced insulation,

upgrading glazing to triple glazing, and expansion of rooftop solar PV, requires a procurement approach that balances design control, specialist expertise, cost certainty, and minimal disruption to building operations.

Energy efficiency retrofits, demand careful coordination between designers, contractors, and specialist installers. As such, the procurement route must ensure that both design integrity and buildability considerations are fully integrated.

The main procurement routes considered for this project are:

- Traditional Procurement
- Design and Build (D&B)
- Management Contracting / Construction Management
- Framework Procurement

Each route offers distinct advantages and limitations in relation to design responsibility, cost control, programme certainty, and risk allocation.

6.1 Procurement Route Evaluation

Having identified the main procurement routes available for delivering the proposed improvements to the Innovation Matrix, it is necessary to evaluate these options in relation to the specific requirements of the project. The works I have suggested require a procurement approach that ensures design accuracy, specialist contractor involvement, and strong quality assurance.

Each procurement route offers different levels of design control, cost certainty, flexibility, and risk allocation. These factors are particularly important for a retrofit project, where the performance of the building envelope depends on precise detailing and high quality workmanship. Any shortcomings in design coordination or installation quality can lead to thermal bridging, moisture issues, or underperformance, undermining the intended energy savings.

The evaluation considers how effectively each procurement route supports -

- **Design quality and technical performance**
- **Integration of specialist expertise**
- **Cost and programme certainty**
- **Risk allocation and management**
- **Compatibility with an occupied university building**

7.0 Procurement Route Comparison and Preferred Option

To determine the most appropriate procurement route for delivering the proposed improvements to the Innovation Matrix, I have evaluated the four main procurement options against key criteria relevant to a fabric-first retrofit.

The table below summarises the relative strengths and limitations of each procurement route.

Table 3: Comparison of Procurement Routes

Procurement Route	Design Control	Cost Certainty	Flexibility	Specialist Input	Retrofit Suitability	Overall Fit
Traditional	High	High (post-design)	Moderate	Moderate	High	Strong
Design & Build	Medium	Medium-High	Moderate	High	Medium	Moderate
Management Contracting	High	Low	High	High	High	Moderate
Framework Procurement	Medium	Medium	Medium	Variable	Medium	Moderate

7.1 Rationale for Recommending Traditional Procurement

Based on the evaluation above, I have recommended the Traditional Procurement route, supported by Early Contractor Involvement (ECI), as the most appropriate approach for the Innovation Matrix. This recommendation is grounded in the specific technical and operational requirements of the measures I have proposed.

7.1.1 High Level of Design Control

A fabric-first retrofit demands a high level of design accuracy, especially when dealing with insulation continuity and the installation of high-performance triple glazing. These elements must be carefully coordinated so the building envelope performs as intended and the expected energy savings are actually achieved. Traditional procurement offers the strongest control over this process because the client's design team develops a fully detailed specification before the work goes out to tender. This reduces the risk of design changes or compromises during construction. By comparison, procurement routes such as Design and Build can introduce value engineering decisions that may reduce material quality or weaken thermal performance. For this reason, Traditional Procurement is the most suitable option for protecting design quality and ensuring the retrofit delivers the intended outcomes.

7.1.2 Strong Cost Certainty After Design Completion

Cost certainty is a key factor given the market risks identified, including construction inflation, fluctuating material prices, and ongoing supply chain instability. Traditional procurement provides strong cost predictability once the design is fully developed, as contractors price the work based on a complete set of drawings and specifications. This gives the university a clear understanding of financial commitments before work begins and reduces the risk of unexpected cost increases during construction. By contrast, procurement routes such as Management Contracting offer less certainty because they rely on procuring work in separate packages, leaving the client more exposed to changing market conditions. For a publicly funded organisation like UWTSD, the financial stability and predictability offered by Traditional Procurement is a significant advantage.

7.1.3 Integration of Specialist Expertise Through Early Contractor Involvement

Although Traditional Procurement does not automatically include contractor input during the design phase, this can be achieved through Early Contractor Involvement (ECI). ECI allows specialist contractors such as glazing installers or solar PV experts, to provide advice and technical insight before the design is finalised. This approach combines the design control of Traditional Procurement with the practical expertise more commonly associated with Design and Build or Management Contracting. For the Innovation Matrix, where the proposed works involve specialist materials and installation methods, ECI helps ensure the design is technically sound, practical to deliver, and capable of achieving the required performance standards.

7.1.4 Reduced Risk of Performance Gaps

Energy efficiency retrofits rely heavily on high quality workmanship, and even small installation errors can significantly reduce performance. Traditional procurement helps minimise this risk by providing detailed

specifications and clearly defined responsibilities. Contractors must deliver exactly what has been designed, and any deviations are easier to identify and address, where poor installation can lead to heat loss, condensation issues, or reduced thermal comfort. By maintaining strong design control and clear accountability, Traditional Procurement supports the delivery of reliable, high quality outcomes that align with the university's sustainability goals.

7.1.5 Suitability for an Occupied University Building

The Innovation Matrix is a live, fully occupied facility that supports teaching, research, and commercial activity, so any retrofit work must be planned carefully to avoid unnecessary disruption. Traditional procurement supports this by allowing detailed phasing, access planning, and risk assessment to be built into the design stage. This makes it easier to manage noise, dust, temporary closures, and other operational impacts, and to communicate these clearly to building users. While Management Contracting can offer flexibility, it places more coordination responsibility on the client, which is not ideal in a busy academic environment. Traditional Procurement provides a structured and predictable process that aligns well with the operational needs of the Innovation Matrix.

8.0 Contract Recommendation

Selecting an appropriate contract is essential to ensuring that the proposed improvements to the Innovation Matrix are delivered to the required standard, within budget, and with clear allocation of responsibilities. The contract must support the procurement route recommended, Traditional Procurement with Early Contractor Involvement (ECI), and must be capable of accommodating both detailed design requirements and specialist contractor input.

Based on the nature of the works I have suggested, the operational context of the Innovation Matrix, and the need for strong quality assurance, I recommend the JCT Intermediate Building Contract with Contractor's Design (ICD) as the most suitable form of contract.

In summary, the JCT Intermediate Building Contract with Contractor's Design (ICD) is the most suitable contractual framework for delivering the proposed upgrades to the Innovation Matrix. It aligns well with the recommended Traditional Procurement route, offering strong design control while still allowing specialist contractors to contribute to technically complex elements such as the solar PV installation. The ICD provides clear allocation of responsibilities, ensuring that both client designed and contractor designed components are properly coordinated. Its structured approach to quality assurance is particularly valuable for this project, where installation quality directly affects thermal performance and long term energy savings. In addition, the widespread use of JCT contracts across the UK construction sector supports efficient administration and reduces the likelihood of disputes. JCT ICD offers the best balance of design control, cost certainty, and technical assurance for this project. For these reasons, it is the preferred contract for delivering the proposed adaptation works to the Innovation Matrix.

9.0 Conclusion

The findings of this Risk assessment highlight the growing importance of retrofit within the built environment. The Innovation Matrix is exposed to significant market and country risks, including rising energy costs, construction inflation, and geopolitical uncertainty. These external pressures reinforce the need for strategic investment in energy efficiency measures that reduce operational costs and improve long term resilience. The proposed fabric first improvements directly address these risks by lowering energy demand, improving thermal performance, and reducing reliance on volatile energy markets.

The project also reflects a wider shift in construction and facilities management toward procurement strategies that prioritise long term performance rather than short term cost savings. By adopting a structured and informed approach, grounded in risk evaluation, technical understanding, and appropriate contract selection, UWTSD can ensure that the Innovation Matrix continues to operate as a high performing, sustainable, and future ready facility.

The recommended procurement and contractual strategy not only supports the immediate delivery of energy efficiency improvements but also establishes a strong foundation for ongoing asset resilience and responsible estate management.

The integration of risk analysis, fabric-first design principles, and a carefully selected procurement strategy provides a coherent and effective pathway for enhancing the Innovation Matrix. Implementing these recommendations will help UWTSD minimise risk, achieve value for money, and make meaningful progress toward its wider sustainability and carbon-reduction objectives.

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11.0 Appendices

Appendix A – Risk Assessments

Reputational Risk Assessment – Innovation Matrix, UWTSD

Hazard Description	Persons Affected and Potential harm	Existing Controls	L	S	RS	Additional Control Measures	Residual Risk Score	Review Frequency
Electrical faults from IT equipment, servers, and teaching technology	Fire outbreak, injury, business interruption, asset loss	PAT testing, fixed electrical inspections, fire alarms, emergency lighting	3	5	15	Increase thermal imaging inspections and introduce enhanced monitoring of high-load equipment	8	Bi-Monthly
Inadequate compartmentation or fire stopping	Rapid fire and smoke spread	Fire doors, protected escape routes, passive fire protection measures	1	5	5	Undertake intrusive fire stopping survey and update fire strategy drawings	3	Annually
Human behaviour and poor housekeeping	Increased ignition risk and obstructed escape routes	Fire awareness training, waste management procedures	1	3	3	Increase staff fire drills and introduce weekly housekeeping inspections	2	Annually
Failure of fire alarm or detection systems	Delayed evacuation and increased life safety risk	life safety risk Servicing contracts and routine testing	2	5	10	Introduce remote monitoring and system redundancy	4	Every 6 Months
Lithium-ion battery charging (laptops/e-bikes)	Fast developing fires and toxic smoke	Designated charging areas	3	4	12	Install dedicated battery charging/fire-resistant storage facility	6	Every 6 Months

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Reputational Risk Assessment – Innovation Matrix, UWTSD

Hazard Description	Persons Affected and Potential harm	Existing Controls	L	S	RS	Additional Control Measures	Residual Risk Score	Review Frequency
Serious health and safety incident	Reputational damage, loss of stakeholder confidence, legal consequences	Health and safety policies, staff training, risk assessments	2	4	8	Increase auditing procedures and implement proactive reporting culture	4	Every 6 Months
Failure to meet sustainability expectations	Negative public perception and reduced funding opportunities	Sustainability strategy and energy monitoring systems	1	5	5	Develop measurable net-zero and carbon reduction implementation plan	3	Annually
Poor building maintenance standards	Reduced confidence from students, staff, and commercial partners	Fire awareness training, waste management procedures	1	3	3	Increase maintenance investment and condition monitoring inspections	2	Annually
Cybersecurity breach affecting smart systems	Data loss, operational disruption, reputational harm	IT security protocols and restricted access systems	3	5	15	Strengthen cybersecurity resilience and staff awareness training	8	Bi-Monthly
Project delays or procurement failures	Commercial dissatisfaction and reputational criticism	Procurement governance and contractor management procedures	2	4	8	Improve contractor performance reviews and supply chain resilience	4	Every 6 Months

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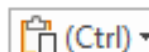
Operational Risk Assessment – Innovation Matrix, UWTSD

Hazard Description	Persons Affected and Potential harm	Existing Controls	L	S	RS	Additional Control Measures	Residual Risk Score	Review Frequency
Mechanical and electrical services failure	Building downtime, disruption to teaching and research activities	Planned preventative maintenance programme	4	5	20	Introduce predictive maintenance and enhanced asset monitoring	10	Bi-Monthly
HVAC and ventilation system failure	Poor indoor air quality and occupant discomfort	Building management system monitoring	3	4	12	Increase air quality monitoring and establish contingency procedures	6	Every 6 Months
IT and network outage	Loss of digital functionality and operational disruption	Backup systems and IT support arrangements	2	4	8	Improve redundancy systems and disaster recovery planning	4	Every 6 Months
Supply chain disruption affecting maintenance	Delays to repairs and operational instability	Approved contractor framework	3	3	9	Diversify suppliers and improve stock resilience	6	Every 6 Months
Failure to maintain statutory compliance	Enforcement action and operational restrictions	Compliance audits and inspections	2	5	10	Implement integrated compliance management software	5	Every 6 Months

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Business Risk Assessment – Innovation Matrix, UWTSD

Hazard Description	Persons Affected and Potential harm	Existing Controls	L	S	RS	Additional Control Measures	Residual Risk Score	Review Frequency
Rising energy and utility costs	Increased operational expenditure and budget pressures	Energy management systems and monitoring	5	4	20	Invest in low-carbon technologies and fabric-first improvements	10	Bi-Monthly
Inflation and construction cost volatility	Reduced maintenance and capital investment capability	Budget forecasting and procurement controls	4	4	16	Introduce long-term lifecycle cost planning and framework agreements	8	Bi-Monthly
Reduced occupancy or commercial demand	Loss of revenue and underutilisation of facilities	Flexible tenancy and collaborative use strategies	2	4	8	Expand commercial partnerships and hybrid-use opportunities	4	Every 6 Months
Supply chain instability post-Brexit	Delays and increased procurement costs	Approved supplier framework	3	3	9	Develop local procurement strategies and alternative supplier	6	Every 6 Months
Failure of sustainability retrofit projects	Financial loss and inability to meet sustainability objectives	Project governance and approval procedures	2	4	8	Strengthen feasibility studies and project risk appraisals	4	Every 6 Months



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