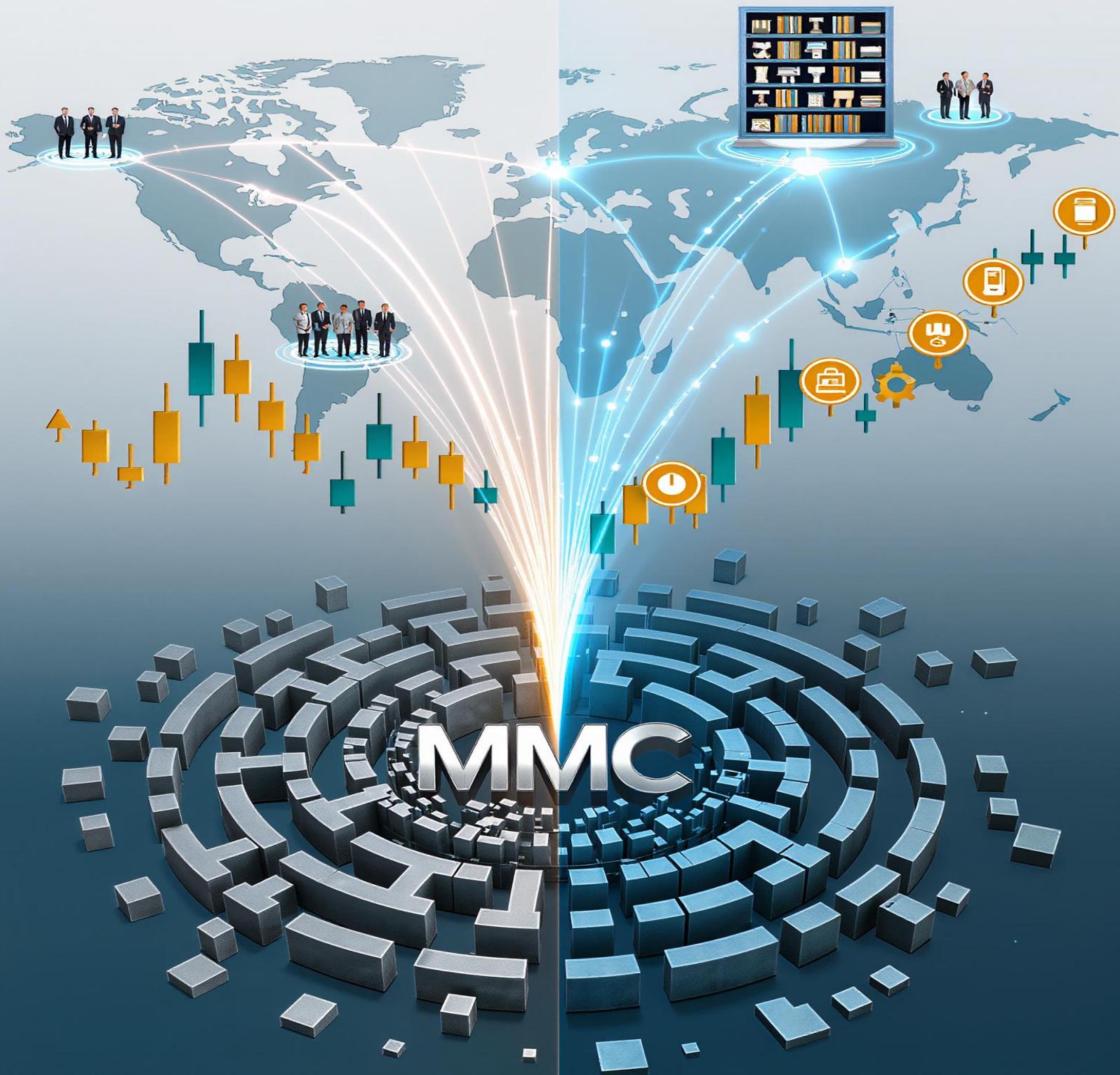




# QUAD



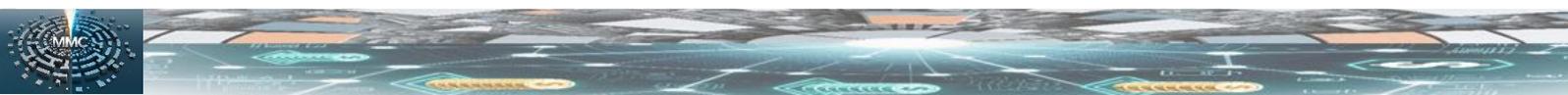
## VEMAS QUAD-RECONSTRUCTING CONSTRUCTION

A PROPOSAL FOR A SYNDICATED GLOBAL PLATFORM

AUTHOR: KARL DIXON 12/2025

## VEMAS QUAD MISSION STATEMENT

TO SYSTEMATICALLY REDUCE THE COST AND EXPAND THE ACCESSIBILITY OF OFFSITE CONSTRUCTION BY INTEGRATING STANDARDIZED PRODUCT TECHNOLOGY, SYNDICATED FINANCIAL MODELS, AND GLOBAL PARTNER NETWORKS INTO A SINGLE OPERATIONAL PLATFORM.



## CONTENT

INTRODUCTION 5

EXECUTIVE SUMMARY 6

OFFSITE CONSTRUCTION CHALLENGED 8

VEMAS GROUP 12

ROUTE TO MARKET 17

SPPS-MPPS-PPDSS 210

1. QUAD CORE TECHNOLOGIES 21
2. MPPS: THE MANUFACTURING NETWORK OPERATING SYSTEM 23
3. PPDSS: THE FINAL-MILE ASSURANCE SYSTEM 25

FUNCTIONAL AND OPERATIONAL ARCHITECTURE BRIEF TO SPPS, QUAD, QDP 29

1. PRODUCT TO PROJECT (SPPS TECHNOLOGY) 29
2. QUAD TECHNOLOGY 33
3. QUAD DIGITAL PLATFORM (QDP) 36

QUAD'S MARKET POSITION 42

ADAPTIVE TECHNOLOGIES 46

1. INTERNATIONAL CROSS-BORDER COLLABORATION: A CAPITAL-EFFICIENT, DE-RISKED MODEL 46
2. FORMATION OF INDUSTRIAL ZONES & TECHNICAL PARKS: THE OS- OPTIMA FACILITY AS AN ANCHOR 47

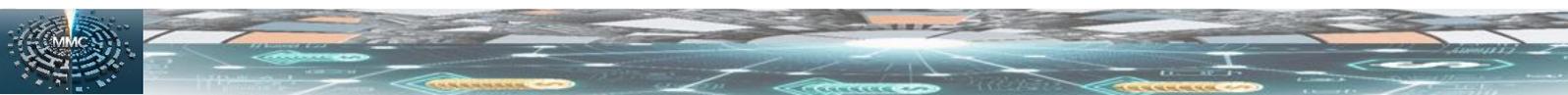
QUAD TALENT & SKILLS BLUEPRINT: THE ENABLEMENT PLATFORM 48

QUAD SUSTAINABLE CONSTRUCTION 53

COOPETITION & ECOSYSTEMS 58

BASE DATA & PERFORMANCE STATISTICS 61

1. BASE DATA 61
2. SPPS – SYNDICATED 62



INVESTMENT PROFILE 64

1. SWEAT EQUITY 64

2. THE INVESTMENT OPPORTUNITY: CAPITALIZING THE SCALING NERVE CENTER 66

QUAD IMPLEMENTATION PLAN: 69

PARALLEL EXECUTION TRACKS (Q1-Q2 2026) 70

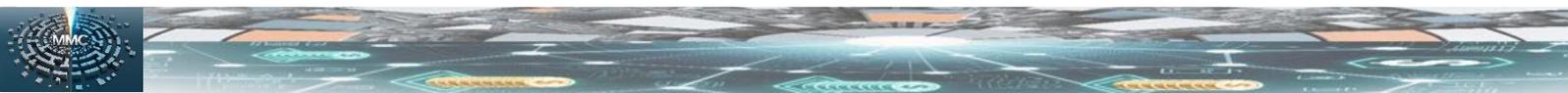
FINANCIAL DATA 76

THE FINANCIAL MODEL 77

INVESTED INTEREST SUMMARIZED 86

IMPORTANT DISCLAIMER & CONFIDENTIALITY NOTICE 89

ACKNOWLEDGMENTS & CONTACTS 90



## Introduction

The global construction industry, valued at over \$10 trillion, is at a standstill. For decades, it has been defined by fragmented processes, unpredictable costs, and limited access confining growth to local markets and traditional players. This stagnation represents the world's largest untapped commercial opportunity.

We introduce VEMAS QUAD, a commercial architecture designed not merely to participate in construction, but to reconstruct its very economics. QUAD systematically unlocks value by integrating measured efficiencies into scalable, franchised -driven platform . Our model delivers immediate financial benefits while creating a pathway for unprecedented sector growth.

### **The core Commercial Proposition : Quantifiable Efficiency & Redistributed Value**

QUAD's integrated system delivers a demonstratable 28% ( 24% net ) reduction in total project cost. This is not an aspirational target, but an engineered attainable outcome derived from standardized technology, syndicated financing, and aligned networks. We capture a portion of this saved value to fund our platform, returning the majority of the benefit to project developers and ecosystem partners. This creates a powerful, commercially aligned incentive for rapid adoption.

### **Pathway to Scale: From National Franchises to Global Integration**

Our growth engine is capital- efficient and replicable.

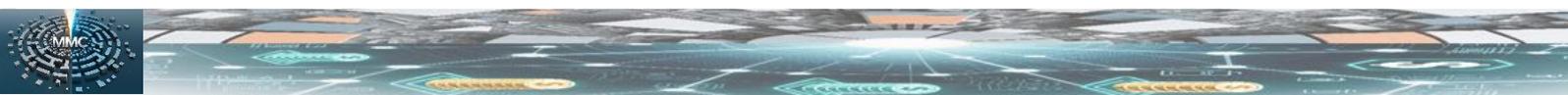
**National Expansion:** We deploy through national franchise partners ( "Spokes") who activate local markets, drive demand, and build regional ecosystems. This model ensures rapid market penetration and capital efficiency.

**Global Integration:** The digital platform seamlessly connects these networks, enabling cross-border collaboration and resource sharing. This transforms isolated operations into powerful, interdependent projects to local builders and manufacturers.

### **Unlocking Accessibility and Market Transformation**

QUAD democratizes access to advance construction. By decapitalizing risk through syndicated financial models and providing sophisticated tools via national franchises, we enable wider range of participants; from architects to small builders, to compete for and deliver higher-value projects. This expansion of the addressable market, coupled with radical efficiency gains, positions the entire sector for transformational growth.

QUAD is more than a technology platform; it is a new commercial infrastructure for building-stock globally. We invite you to invest in the framework that will define the next era of construction.



## Executive Summary

### A System Forged Over Two Decades of Development

The construction industry awaits a scalable solution to its entrenched inefficiencies. QUAD represents the cumulation of a unique 20-year journey, having developed each component of a transformative system. From operating manufacturing lines to refining on-site assembly, we de-risked the core technological and process challenges. What remains is the final, critical step: developing a digital layer that will integrate these components into a seamless global operating system.

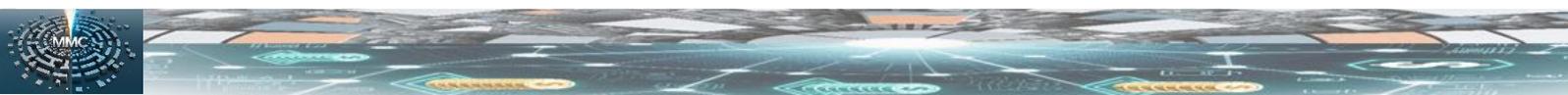
### An Integrated Architecture, Ready for Digital Orchestration

QUAD comprises four independent pillars.

- I. **Quantitative Technology:** A complete suite from **Syndicated Proactive Product Solution (SPPS)** for design, through **Modular Production & Process Systems (MPPS)**, to **the Product to Project Deliverable Site Service System (PPDSS)** mobile on-site facilities that enable any local builder to assemble component sourced from a global manufacturing network.
- II. **Financial Syndication Engine:** The model that securitizes building products into investable assets, funding the upfront development the delivers at the core up to (24% net) project cost reduction.
- III. **Coopetition Network:** The franchise (“Spoke”) framework that aligns local architects’ manufacturers, and builders into efficient, collaborative ecosystem.
- IV. **Digital Orchestration Platform (The Investment Focus) :** The essential software layer that will unite the three physical and financial pillars , enabling seamless integration, global scalability, and the verified capture of efficiency gains.

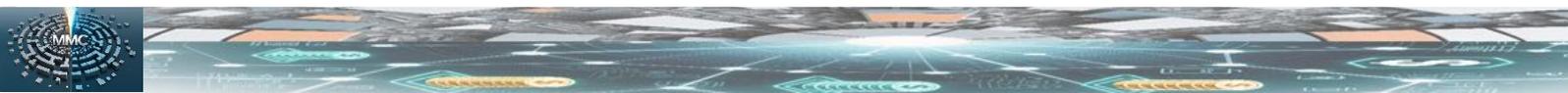
### The Investment : Building the Digital Nervous System to Scale

This proposal funds the defined build of the Digital Platform the “nervous system” that transforms our portfolio of quantified technologies into a scalable commercial engine. This capital is not for foundational R&D but for the critical software that connects design, syndication, manufacturing, logistics and final installation and assembly. It will activate our capital-light franchise model, turning 20 years of sweat equity into a high-margin platform with global reach and recurring revenue from licensing, syndication royalties and network fees.



## Unlocking Transformative Market Potential

Once digitally integrated, QUAD engineered efficiency and democratized access are designed to unlock transformative growth. By making cost effective, sophisticated construction viable for a vastly broader range of participants and projects, QUAD is positioned to catalyze a fundamental expansion of the market itself, moving beyond capturing existing share to activating new demand. This investment builds the critical link to finally deliver on the founding mission, making quality building stock accessible and affordable on a global scale.



# OFFSITE CONSTRUCTION CHALLENGED



The core failure of the current off-site construction market is that it tries to insert a modern, efficient factory process into an ancient, fragmented, and reactive project-based industry. This fundamental mismatch creates a "chicken and egg" stagnation, which QUAD's proactive model is designed to break!

## OFFSITE CONSTRUCTION CHALLENGED

### CHRONIC COMPLACENCY

The industry operates on a project-by-project, bid-by-bid basis. This means:

- Design is Custom & Slow: Every new project requires starting design from near scratch, responding (reacting) to a unique client brief and site.
- Factories are Order-Takers, Not Planners: Manufacturers cannot plan. They wait for a project to be designed, bid on it, and hope to win. This makes their business sporadic and unpredictable.
- No Standardization: Without a pipeline of repeating elements, factories cannot optimize production lines for volume efficiency. Each project requires retooling and re-engineering.

### The Sporadic Factory Capacity Problem

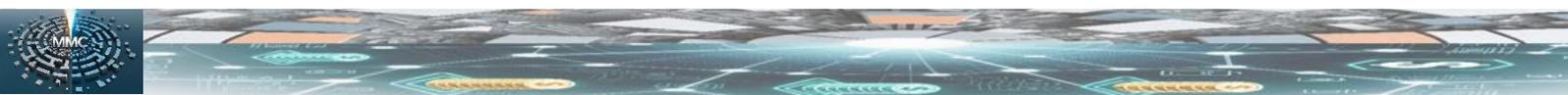
Because demand is reactive and unpredictable, factories suffer from chronic inefficiency:

- Low Utilization: Factories swing from being over-capacity (when they win a bid) to sitting idle (when they don't). This destroys economies of scale and makes capital investment in advanced automation too risky.
- Inability to Specialize: A factory must be a "jack of all trades" to chase different types of projects, preventing it from becoming a world-class master of one product.
- Misaligned Incentives: The factory's goal is to fill its own capacity. The project's goal is to get the lowest bid. This creates adversarial relationships, not collaborative partnerships.

### The Result: A Broken Promise

This reactive, sporadic model nullifies the core promises of off-site construction:

- Cost Savings (Failed): The promised efficiencies of manufacturing are erased by low utilization, constant retooling, and high bidding/design costs.
- Speed & Certainty (Failed): Projects aren't faster because the factory is still waiting in line behind other sporadic projects. Schedules are as uncertain as the bid process.
- Quality & Innovation (Stifled): Without repeat production, there's no capital or data to drive iterative product improvement.

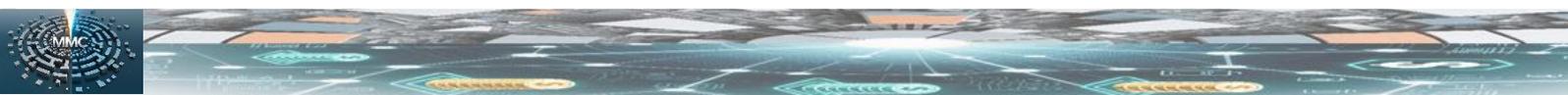


## QUAD's Foundational Flip: From Reactive to Proactive

QUAD solves this by rebuilding the market logic from the ground up:

- Proactive Product Library (SPPS): We create the standardized, certifiable building products first. The market then selects from this catalog, turning a reactive design scramble into a proactive configuration choice.
- Predictable Demand for Manufacturing: With a library of products, factories can specialize and plan. They become qualified producers of specific QUAD components, receiving predictable orders from a global network, not sporadic bids from a local market.
- Unlocks True Efficiency: Factories achieve high utilization and can invest in optimization. Significant cost reduction becomes achievable and consistent because the system is engineered for flow, not fragmentation.

In short, the current off-site market is not a manufacturing industry; it is a traditional construction industry that uses factories as intermittent workshops. QUAD transforms it into a true, demand-driven manufacturing sector by providing the proactive product foundation and collaborative network it desperately lacks.



# VEMAS GROUP



## VEMAS GROUP

### BACK CATALOGUE

The establishment of VEMAS with its origins in 2005 marked a significant milestone in China's pursuit of advancing Offsite manufacturing technologies. It began with an invite of the core founder to China, tasked with supporting the domestic market in embracing innovative construction methods. The unique cultural landscape and untapped market sector presented a compelling opportunity to rethink and reengineer the approach to Modern Methods of Construction, By starting from first principles, VEMAS was able to develop a more robust and sustainable route to market, one that would ultimately benefit the global construction industry.

The development of solutions for VEMAS technologies was a multifaceted challenge, requiring innovative approaches to address the disparities between developed and underdeveloped countries in adopting these technologies. This involved not only reengineering product and production technologies, but also onsite technologies to ensure their feasibility and effectiveness in diverse settings. By tackling these complexities, researchers and developers were able to create solutions that could be tailored to meet the unique needs of various regions, ultimately expanding the reach and impact of VEMAS – QUAD technologies.

At the helm of VEMAS are two visionary leaders with a collective wealth of experience in the dynamic Offsite construction market. These industry stalwarts have cultivated a unique understanding of the ever-evolving needs of the sector and have consistently driven VEMAS forward with innovative solutions, strategic vision, and a deep commitment to excellence.



**Name :** Karl Dixon

**D.O.B** 1962

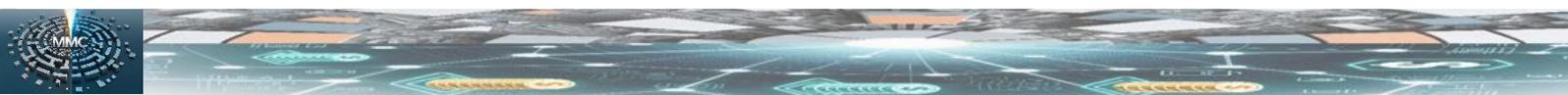
**Nationality:** British

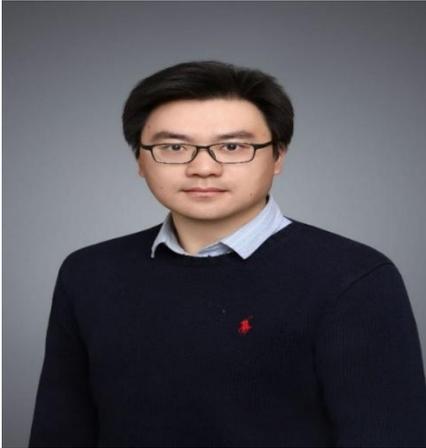
**Education :** Postgraduate TQM, Advance Management , Financial & Cost Accounting

**Market Sector Experience:** Advance Manufacture, Financial Sector, IT , Construction, Offsite Construction.

**Relative Market Experience** 24 –yrs (19Yrs) embedded China)

**Operating Role :** CEO- Chief Solutions Architect.





**Name :** Simon (Xiangke) Yu

**D.O.B** 1982

**Nationality:** China

**Education :** Master Degree of Management Science & Engineering, Bachelor Degree of Construction Management

**Market Sector Experience:** Offsite Construction Programming & Lean Construction, Modular Design & DfMA.

**Relative Market Experience** 20 –yrs in China of Domestic & Export Prefab Building Delivery

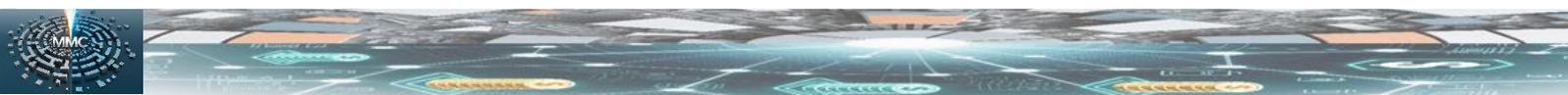
**Operating Role :** Executive Prefab Engineer / GM VEMAS CYBER

### **Evolving Structures**

Over the past two decades, VEMAS has undergone significant transformations, evolving from its humble beginnings as a British registered company, MML Modular Manufacturing Limited operating as a Wholly Own Foreign Enterprise (WOFE) eventually moving to a centric position in Hong Kong. As the company expanded its domestic reach, it centralized its operations in Shanghai, adapting a structure to promote technological advancements. This included the rental of factory space and the establishment of multiple offices throughout China.

As the company transitioned through a product producer in the form of “show & tell” focused on the domestic market China, eventually making the initial transition first in the form of consultancy service-based entity before finally designed as a solutions-focused deliverable platform.

The final transition into a solution-based approach to market. Circ 2015 represented a deliberate multi-faceted strategic shift into a servitization, solution-based business model in effect focused on asset-light globalization with a solution-centric route to market.

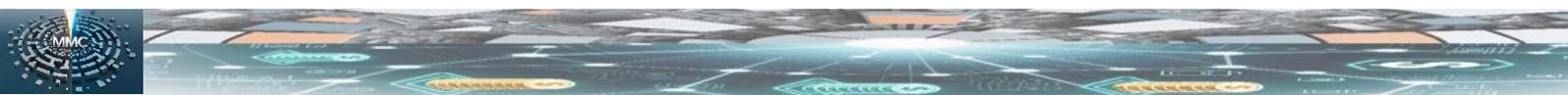


## **From Blank Sheet to Blueprint**

The founding of VEMAS was not born from theory, but from a unique, two-decade immersion. Invited to a market with a virtual "blank sheet" in modern methods of construction (MMC), we experienced firsthand the dual challenge: advanced economies had entrenched, often wrong, trajectories, while developing nations risked adopting obsolete models. Our evolution from hands-on implementation to consultancy revealed a critical pattern: the chronic failure was not a lack of technology, but a flawed delivery and governance system.

## **The Consultancy Limit: A Solution in Search of a Scale**

Our consultancy work proved we could design superior, proactive solutions (the genesis of SPPS). However, we hit a fundamental wall. Consulting scales linearly with expert hours; it solves one problem for one client at a time. We were creating transformative value but trapped in a service model. To truly change the industry's trajectory on a global scale, we needed to productize our expertise and systemize its delivery. This was the birth of the QUAD platform, not as software, but as replicable commercial and operational architecture.



# VEMAS QUAD

## SOLUTION DEVELOPMENT

### CLEAR OBJECTIVES

- (1) Reduce the cost and increase accessibility of E.M.B.S
- (2) Improve lifecycle performance through the adoption of E.M.B.S



2006

2010



2014

### VEMAS FORMATION

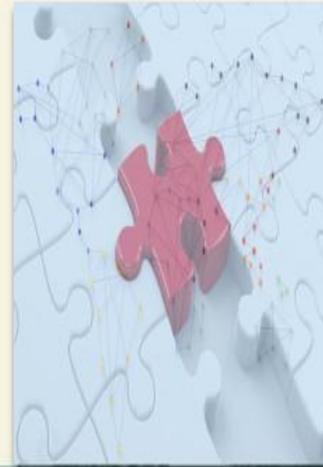
The formation of VEMAS was to reengineer the route to the OS market from experience gained introducing established technologies into an evolving market.



2017

### RESOURCES ALLIANCE

Disruptive innovation requires extensive resources to support and encourage implementation. Incorporating progressive technologies to stay ahead of the curve.



2022

2024

### ESTABLISHED IN CHONGQING

The first volumetric demonstration launch British Ambassador 2007. CQ

The first demonstration factory with CFS capability launched 2008 Launched Tina Readshaw British Embassy Beijing.



### KNOWLEDGE TRANSFER

Took many forms including product demonstrations, factory formations, lectures workshops etc..

This was phased out between 2014-2017 to focus on future innovation, across the market sector.



### TECHNOLOGY INTEGRATION

Innovation in technologies are worked back from globalized solutions to enterprise application on an accessible platform open to all, through selected integration in project delivery.



### MMC - E.M.B.S GLOBALIZED

2024 represents the amalgamation of over a decade of technical innovation and formation of resource in support of E.M.B.S, project delivery on a global platform of desired coalescing.

2026 ROUTE TO MARKET



THE INEVITABLE  
STRUCTURE

## ROUTE TO MARKET

### SOLVING THE INDUSTRY'S LIQUIDITY PROBLEM

Our two-decade journey revealed that the off-site construction industry suffers from a chronic lack of "liquidity" : not of capital, but of trust, standardized value, and transactional ease. This illiquidity manifests as the deadlock experienced: manufacturers need guaranteed projects to invest, while clients need proven capability to commit. This stasis makes any form of rapid, global scaling impossible through traditional means.

#### Why Traditional Scaling Models Fail Here:

- **Consultancy/Service Model:** Scales linearly with expert hours. It solves one problem at a time but cannot productize or create a self-sustaining market.
- **Pure Franchising: Requires a fully developed, turnkey system to franchise.** Without the central Hub's IP and governance, it devolves into inconsistent quality and brand fragmentation.
- **Vertical Integration:** Attempts to force liquidity by owning the entire chain, but it is capital-intensive, culturally rigid, and fails to activate external market forces (as proven by failures like Katerra).

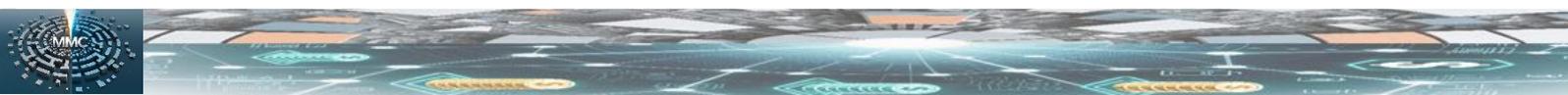
#### The Hub & Spoke as Market-Making Architecture:

The QUAD Hub & Spoke model is not chosen for mere organizational efficiency; it is architected to inject liquidity into this paralyzed market by performing three critical, separated functions that no single entity can do simultaneously at scale:

#### The Rationale of Necessity

Therefore, the "Hub & Spoke" is the fastest route to a global scale because it is the only structure that systemically breaks the industry's deadlock. It separates the creation of standardized value (Hub) from the hyper-local generation of demand (Spoke), connecting them through a digital transaction layer (QDP). This creates a liquid, efficient market for construction solutions for the first time.

- **Speed:** Multiple Spokes can activate in parallel across different nations, all drawing from the same, ever-growing Hub of solutions.
- **Scale:** It is infinitely more scalable than consultancy, more cohesive than pure franchising, and exponentially more capital-efficient than vertical integration.



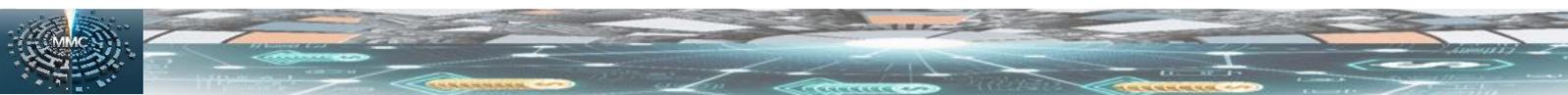
- **Accessibility:** It makes world-class capability locally accessible anywhere a Spoke exists, solving the very problem that defined your first decade in China.

### THE ASSET-LIGHT, INTEGRITY-PRESERVING ENGINE

Choosing the Hub & Spoke model was the direct, strategic answer to the limitations we lived through. It is the only structure that achieves our core objectives of global scalability, quality control, and ecosystem alignment without the capital burden that crushes vertical integration.

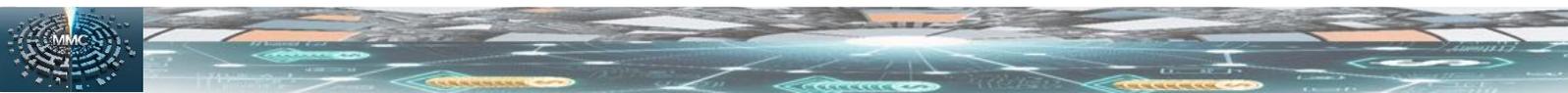
#### Strategic Imperative (Learned from History) How Hub & Spoke Addresses It.

- I. **Protect & Scale Core IP (The "Hub")** The Hub (VEMAS/QUAD) exclusively holds and develops the crown jewels: the SPPS product library, the digital platform, and the syndication financial model. This prevents fragmentation of our core solution and ensures all growth reinforces a single, advancing standard.
- II. **Enable Rapid, Localized Market Adoption (The "Spoke")** National/Regional Franchises (Spokes) are empowered to do what they do best: sell, manage client relationships, and oversee local projects. They translate the global system into local markets without VEMAS needing infinite capital and cultural knowledge to enter each one.
- III. **Remain Asset-Light & Capital Efficient** We avoid the fatal trap of owning factories (like failed vertical integrators). The Hub owns the IP; Spokes through independent manufacturers own or operate production (MPPS) and assembly (PPDSS) assets. Our capital is focused on high-return R&D and platform scaling.
- IV. **Govern System Integrity for "Coopetition"** The Hub sets the non-negotiable rules (SPPS governance, royalty streams) that make "coopetition" fair. Spokes compete healthily on service and execution within their territory, but collaborate globally because the Hub ensures a trusted, level playing field.
- V. **Create a Demand Pull, Not a Technology-Push-Market.** Our history taught us that pushing technology into resistant markets fails. The Spoke model creates a local commercial engine that generates demand and pulls solutions from the Hub. This aligns with our philosophy of accessible capability; the market seeks us out.



### **Conclusion: The Inevitable Structure**

Hub & Spoke is not a convenient choice; it is the operational manifestation of our two decades of learning. It allows us to be globally integrated yet locally adaptive, rigorously consistent yet entrepreneurially driven. It transforms VEMAS from a consultancy or a manufacturer into what the industry truly needs: the trusted central nervous system for a new, collaborative way to build. This model ensures that the hard-won insights from our "blank sheet" beginning become the default standard for the future.



SPPS – MPPS – PPDSS



COMMERCIAL IMPACT

# SPPS-MPPS-PPDSS

## 1. QUAD CORE TECHNOLOGIES

### 1.1 SPPS: THE FINANCIAL & STRATEGIC ENGINE OF QUAD

SPPS is not a design tool; it is a business model innovation that transforms construction from a project-based service into a product-driven, recurring revenue industry. It creates value on three definitive levels.

#### 1.1 The Financial Layer: Transforming Cost into Asset

SPPS fundamentally rewrites project economics through two powerful mechanisms:

- **From Sunk Cost to Revenue Stream:** It turns the largest, most variable line item in construction—bespoke design and engineering, from a recurring project expense into a securitized, income-generating asset. A syndicate funds the development once; the resulting product generates royalties from every global project that uses it. This creates a new, high-margin asset class for investors.
- **The Amortization Advantage:** The high upfront cost of perfecting a best-in-class building component is amortized over its entire lifecycle across potentially thousands of projects. This erases the "green premium" and makes superior, sustainable, and resilient building products cost-competitive with generic alternatives from day one.

#### I. The Strategic Layer: Governing Efficiency & Innovation

SPPS provides the proactive framework that makes predictable, high-quality outcomes possible:

- **Governed Standardization, Not Standard Designs:** SPPS sets the immutable performance and compatibility rules: the "constitution" for building components. This ensures global interoperability and quality while allowing for limitless configuration and aesthetic variation. It assures 28% (24%) efficiency is attainable at scale.
- **Optimized for the Entire Value Chain:** An SPPS product is engineered with the entire journey in mind: for efficient manufacturing, cost-effective global shipping, and rapid on-site assembly. This "Design for X" philosophy removes friction and waste at every stage, de-risking delivery.
- **Downstream Innovation Platform:** By providing a perfected, certified component, SPPS frees architects, manufacturers, and builders to focus their innovation on adding value through better project integration, smarter services, or enhanced finishes, rather than reinventing foundational engineering.



## II. The Market Layer: Creating a New Product Category

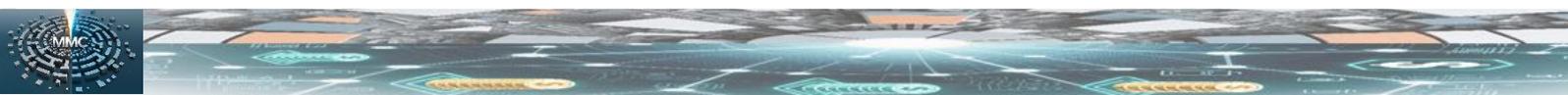
SPPS enables a fundamental shift in how the construction market operates:

- **Demand-Driven Development:** Products can be syndicated in response to clear market demand (e.g., net-zero student housing, pandemic-resilient clinics), ensuring they are commercial successes from conception.
- **Radical Reduction in Time-to-Market:** The pre-validation of systems and components slashes the year-long design, engineering, and approval process for new projects down to months, accelerating developer ROI.
- **Unlocks Powerful Marketing:** Digitally native SPPS products enable immersive pre-sales and stakeholder engagement through mixed reality, allowing clients to experience and configure solutions before physical implementation.

### SPPS Value Summary

Value Tier	What It Means	Outcome for QUAD & Investors
Financial Engine	Transforms R&D cost into a royalty-yielding asset.	Creates a high margin, recurring revenue stream and a new investable asset class.
Systemic Efficiency	Bakes optimization and governance into every product.	Solidifies the potential 28% (24%) cost advantage and enables scalable, quality-assured delivery.
Market Catalyst	Enables proactive, demand-driven product creation.	Accelerates adoption, expands addressable markets, and positions QUAD as the category leader.

In essence, SPPS is the mechanism that allows QUAD to "productize" construction. It is the core innovation that moves the industry from fragmented, reactive project management to a streamlined, proactive global marketplace for building solutions.



## 2. MPPS: THE MANUFACTURING NETWORK OPERATING SYSTEM

MPPS is not merely a production guideline; it is the operational protocol that transforms manufacturing from a fixed, capital-intensive bottleneck into a fluid, scalable, and intelligent service network. It enables the "OS-Optima" vision by governing how factories interact with the QUAD ecosystem and with each other.

### I. The Economic Layer: From Fixed Asset to Flexible Service

MPPS decouples manufacturing capability from single-factory ownership, creating a new economic model:

- **Unlocks Latent Global Capacity:** MPPS allows any qualified manufacturer—whether a sophisticated robotics-driven facility or a competent traditional workshop, to become a registered "OS-Optima" node. This turns sporadic, underutilized global factory capacity into a reliable, on-demand production network.

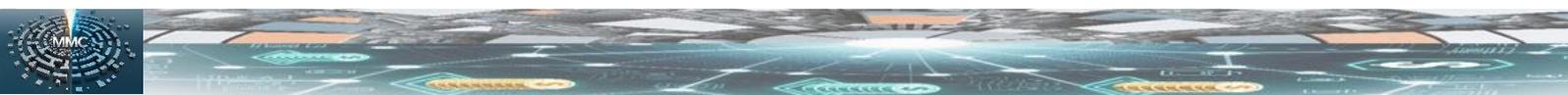
Creates Tiered Revenue Streams: The model generates value at multiple points:

- **Setup & Transition Services (Spoke Revenue):** Pre-MPPS consulting to optimize or transition factories creates immediate, project-based revenue for Spokes.
- **Platform Licensing & Support (Ongoing Fees):** Access to the MPPS protocol via the QDP, including technical support for project execution, provides recurring software-like revenue.
- **Coordination Value (Hub & Spoke Revenue):** Managing complex, multi-factory production runs, especially cross-border collaboration, commands premium coordination fees, shared between Hub and Spoke.

### II. The Operational Layer: Enabling "Coopetition" on the Factory Floor

MPPS provides the shared language and rules that enable secure and efficient collaboration:

- **Standards for Seamless Collaboration:** MPPS ensures that a KOP produced in Factory A in Poland will perfectly match components from Factory B in Vietnam, enabling true multi-sourcing and parallel production. This mitigates risk and optimizes cost and speed.
- **Dynamic Project Orchestration:** The system allows a single project to be executed across multiple specialized manufacturers. One factory might produce volumetric cores, another façade panels, and another interior pods, all coordinated through the MPPS protocol on the QDP.



- **Strategic Asset Partnerships:** VEMAS's 20-year network provides a curated channel for production assets (from simple mechanics to advanced robotics), but crucially, SPPS products are designed for "adequate manufacturers." This means the network prioritizes smart process over expensive hardware, lowering the barrier to entry and maximizing flexibility.

### III. The Strategic Layer: Building the "Utility" for Construction

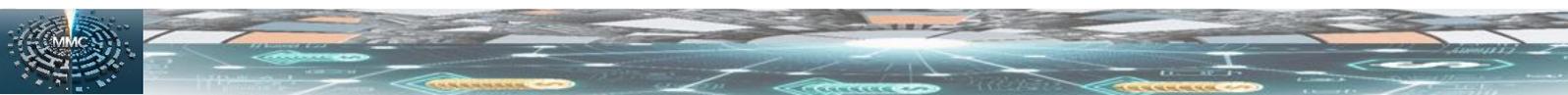
MPPS completes the promise of QUAD by industrializing the delivery of SPPS products:

- **Creates a Manufacturing Utility:** Just as you plug an appliance into a standard power socket, a project plugs into the MPPS network for manufacturing. This turns physical production into a predictable, bookable service.
- **Empowers Local & Global Simultaneously:** A national Spoke can coordinate domestic value chains for local projects via MPPS. When a project requires cross-border capacity, the Hub seamlessly adds a coordination layer, integrating international manufacturers without the Spoke needing to manage global logistics.
- **Future-Proofs the Ecosystem:** By licensing access to MPPS through the QDP, QUAD ensures continuous improvement and support, embedding itself as the essential operating system for modern construction manufacturing.

#### MPPS Value Summary

Value Tier	Functional Output	Strategic Outcome
Economic Transformer	Turns factory CAPEX into bookable service capacity; creates layered revenue.	Unlocks asset-light, high-margin scaling and de-risks manufacturing investment.
Collaboration Enabler	Provides standards for multi-factory, multi-source production orchestration.	Makes "coopetition" operational, creating resilient, efficient supply chains.
Systemic Utility	Functions as the bookable "manufacturing grid" for the QUAD ecosystem.	Completes the turnkey promise, making SPPS products readily deliverable anywhere.

In essence, MPPS is the logistical and operational masterpiece that makes the SPPS vision physically possible. It ensures that a brilliantly designed, syndicated product can be manufactured optimally, anywhere in the world, and assembled seamlessly into a final project. It is the backbone of global, scalable delivery.



### 3. PPDSS: THE FINAL-MILE ASSURANCE SYSTEM

PPDSS extends beyond mobile equipment; it is QUAD's operational commitment to its partners. It ensures that the value engineered into SPPS and unlocked by MPPS is not lost at the last, most critical mile: the construction site. It functions as both capability transfer through the supporting function of the Spokes with additional supporting layer from the Hub, in support of a project delivery team.

#### I. The Operational Bridge: From KOP to Completed Project

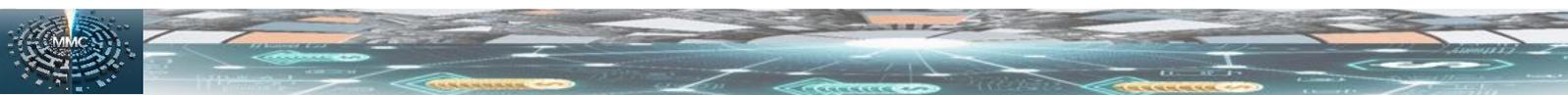
PPDSS solves the historic failure of off-site construction: the on-site assembly bottleneck.

- **Mobile Capability Transfer:** The QUAD-designed mobile facility is a "site micro-assembly facility" provided through Spokes. It transfers the capability for precise, rapid assembly directly into the hands of the local contractor, turning them from passive recipients into empowered executors.
- **Guaranteed Delivery Support:** Crucially, PPDSS support is included in the delivery of any SPPS product, regardless of whether the QUAD mobile facility is used. This means every Spoke and contractor receives expert protocols, digital assembly guides, and on-call technical oversight from the Hub to ensure correct implementation. This turns delivery into a guaranteed service, not a hopeful handoff.

#### II. The Economic Enabler: De-risking Site Execution

PPDSS protects the project's financial model by eliminating the most unpredictable cost center.

- **Eliminates On-Site Unknowns:** Traditional construction risk peaks on-site with weather, skilled labor shortages, and coordination failures. PPDSS's systemized assembly radically compresses timelines and reduces skilled labor dependencies, converting variable, high-risk site work into a predictable, managed process.
- **Empowers Local Spokes as Profit Centers:** By managing the high-margin PPDSS service, whether through coordinated lease of QUAD mobile assets or providing the nominated assembly oversight. Spokes capture value at the final, most critical stage of project delivery, deepening their investment in the ecosystem's success.



### III. Strategic Assurance: Protecting the QUAD Platform of Attainment

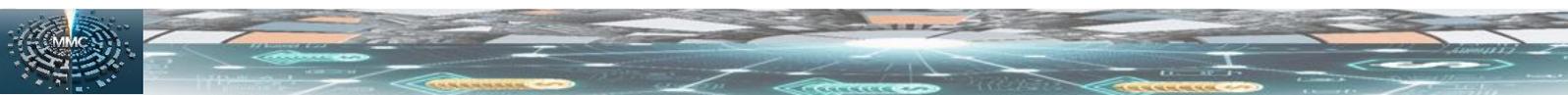
PPDSS is the essential link that validates the entire QUAD value proposition.

- **Assurance of the cost and compression Efficiency:** The 28% (24%) cost reduction is only achievable if factory efficiency is not eroded by on-site delays and waste. PPDSS is the controlled, measured method to preserve that efficiency all the way to project completion. It is the physical proof of QUAD's integrated commitment.
- **Hub, as Anchor Support:** Hub's direct involvement in PPDSS, through design, protocol, and support, quality and performance standards are maintained at the point of customer handover. This maintains brand integrity and system trust, preventing any single Spoke's operational failure from damaging the global QUAD standard.

#### PPDSS Value Proposition

Core Function	Value Created	Outcome for the Ecosystem
Capability Transfer	Puts control of final assembly in the hands of the local contractor.	Empowers local partners, breaks manufacturer dependency, accelerates timelines.
Delivery Assurance	Delivery Assurance in the form of supporting protocols for every SPPS project delivery.	De-risks the final mile, protects efficiencies ensuring customer satisfaction.
System Integrity Lock	The Hub-backed system through the Spokes supports on-site quality.	Maintains brand promise of end-to-end support, enables reliable scaling, and makes the entire SPPS/ MPPS system bankable.

In summary, PPDSS is the critical "last mile" warranty for the QUAD ecosystem. It ensures that the proactive design of SPPS and the optimized manufacturing of MPPS culminate in a predictable, high-quality built asset. It transforms the construction site from a zone of risk into a stage of assured value delivery, completing the turnkey promise that makes QUAD a singular, integrated solution.



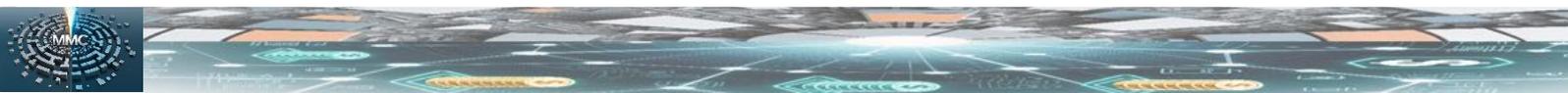
QUAD



FUNCTIONAL AND OPERATIONAL  
ARCHITECTURE BRIEF

SUB-CONTENT

- 1 PRODUCT TO PROJECT (SPPS Technology).....
  - 1.1 Engineering layer, the pre-developed but non-fixed results.....
  - 1.2 Products layer, ready for project application.....
  - 1.3 Design layer, reformed technical working mode.....
  - 1.4 Define the SPPS Product (PL).....
  - 1.5 Conclusion, the Integrated Practice and Function of SPPS Technology.....
- 2 QUAD TECHNOLOGY.....
  - 2.1 Matching: quantitative matching rather than qualitative planning in early stage.....
  - 2.2 Design and programming based on variation rather than blank.....
  - 2.3 Supervise, global oversight of the implementation process by connecting relevant factors together.....
  - 2.4 Iteration/Evolution: The solution system continuously evolves through multi-scenario information.....
- 3 QUAD DIGITAL PLATFORM (QDP).....
  - 3.1 Digital Functional Structure of QDP.....
  - 3.2 Collaborative Operational Structure of QDP.....



# Functional and Operational Architecture Brief to SPPS, QUAD, QDP

## *Overview*

### 1. PRODUCT TO PROJECT (SPPS Technology)

SPPS technology is a systematic methodology for transforming a building into an executable product-based project. It encompasses three interdependent layers:

- Engineering Layer (EL): technology self-consistency and performance analysis model for building design and prefab build programming
- Products Layer (PL): construction project applicable prefab components' library, standard technical details and configuration rules
- Design Layer (DL): workflow for project-based building design and prefab building programming

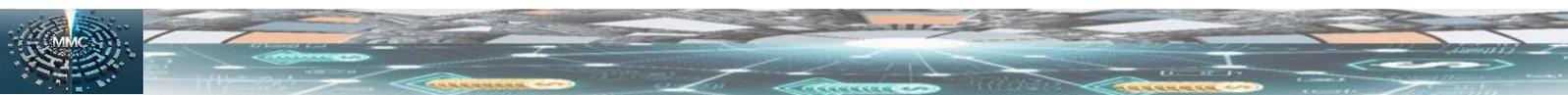
SPPS technology doesn't only cover the building design and technology but is also based on a specific build profile and manufacture and assembly approach.

#### 1.1 ENGINEERING LAYER, THE PRE-DEVELOPED BUT NON-FIXED RESULTS

Engineering layer of SPPS is a dynamic repository of pre-validated technical logic and analytical models. It provides baseline performance calculations (structural, energy, fire protection, etc., as well as buildability and efficiency) and compliance verification frameworks for specific projects, including:

- Rules & Constraint Library: Contains standardized parameters for structural integrity, energy efficiency, acoustics, fire safety, and crucially, manufacturability and assemble-ability.
- Performance Simulation Engines: Provides tools for immediate analysis of building physics and system behavior under various project-specific inputs.
- Compliance Framework: Embeds regulatory and code requirements, automating baseline compliance checks.
- Configurator Logic: Translates high-level project parameters (e.g., site conditions, client brief) into specific technical requirements that drive the selection and configuration of components in the Products Layer.

It ensures all designs based on this system are technically self-consistent and meet performance targets, providing immediate, quantified technical feasibility analysis for project decision-making. More importantly, incorporating settings based on specific project scenarios will generate outcomes in products layer.



## 1.2 PRODUCTS LAYER, READY FOR PROJECT APPLICATION

Product layer is a library of prefabricated building components covering the main structure, envelope systems, interior finishings, etc., complete with standard technical details and configuration rules.

The product layer provides the system for designers and engineers selecting and combining applicable standardized components from the library for building projects. It provides "configured" building components (KOPs), ensuring quality consistency and interface compatibility while significantly reducing repetitive design work. The component contains not only the engineering information, but also the results of quantity and specification.

The practice and function cover:

- **Standardized Component Library:** Includes fully detailed digital prototypes for structural elements, facade panels, interior modules, and MEP units.
- **Defined Technical Specifications:** Each component carries complete geometric, performance, and physical interface data.
- **Pre-defined Configuration Options:** Offers a finite set of validated variants (sizes, finishes, connections) to maintain standardization while allowing for design flexibility.
- **Integrated Quantity & Cost Data:** Each component is linked to its bill of materials, manufacturing resource requirements, and cost data, enabling automatic quantity take-offs and cost estimation upon selection.

## 1.3 DESIGN LAYER, REFORMED TECHNICAL WORKING MODE

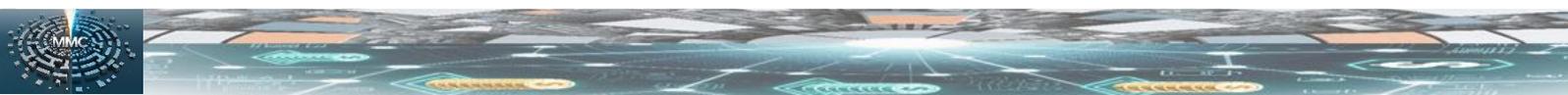
Design layer is a prescribed, phase-gated workflow and collaborative protocol for project design.

It guides project teams on how to complete the entire design process from concept to fabrication drawings of building projects step-by-step, based on the EL rules and PL "parts". It transforms the traditional sequential and error-prone design model into an efficient, parallel collaborative design process based on unified rules and standard products.

The practice and function include:

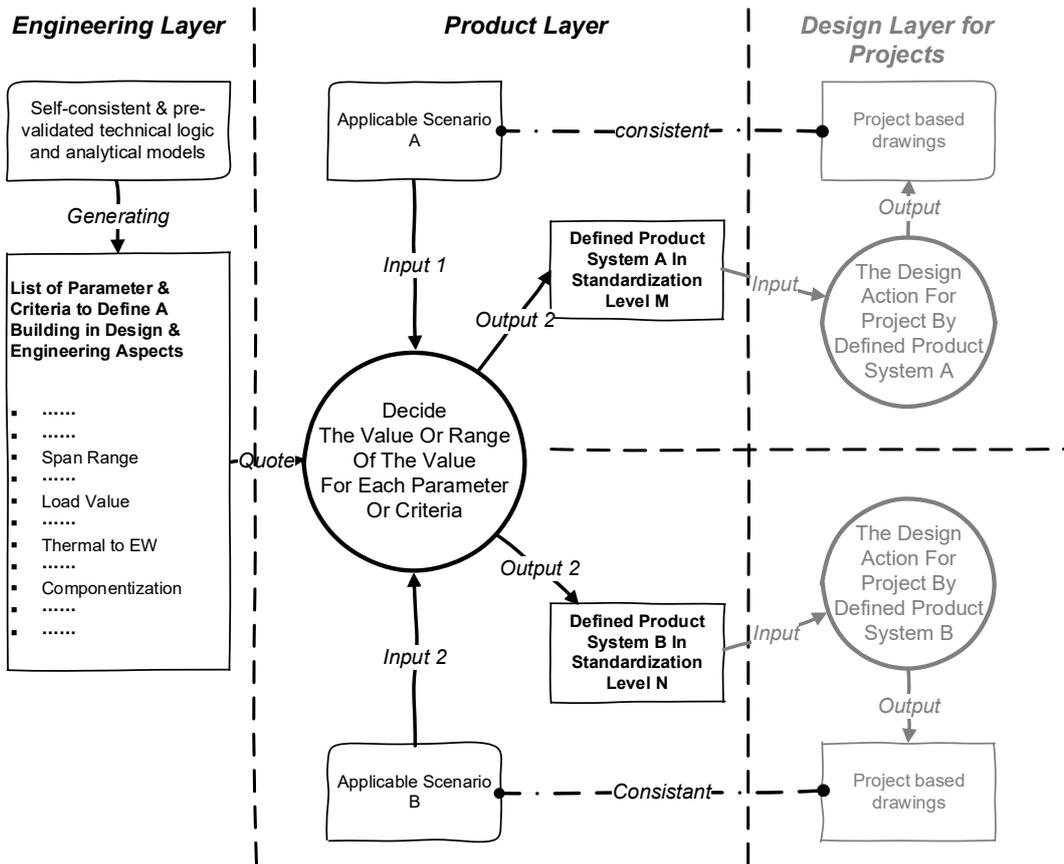
**Sequenced Work Stages:** Defines clear stages from schematic configuration to detailed fabrication design, with mandated deliverables for each.

- **Collaborative Protocol:** Establishes roles, responsibilities, and hand-off points between architects, engineers, and detailers working concurrently on the shared model.
- **Rule-Based Design Validation:** Integrates automatic checks against the Engineering Layer rules and Product Layer compatibility at every stage, flagging deviations.
- **Output Standardization:** Ensures all final design outputs (drawings, data files) are structured uniformly for direct use in manufacturing and site operations.



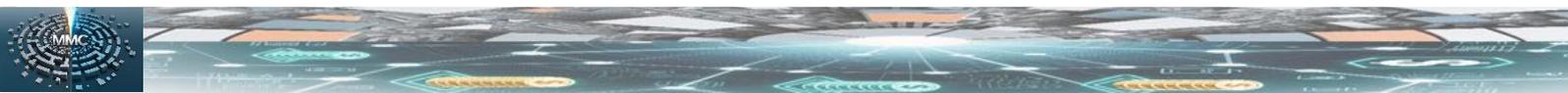
### 1.4 DEFINE THE SPSS PRODUCT (PL)

In the whole SPSS Technology System, SPSS Product is the outcome of pre-developed and directly adoptable for projects' design. While the "Engineering (EL)" is the only one self-consistent and analyzable model, the "Product (PL)" can be many types by the clear definition to its boundary and features, whose approach is illustrated as chart below:



The Approach of Define A SPSS Product (PL) (Syndicated Investment)

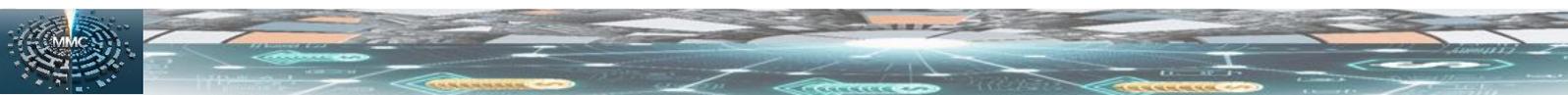
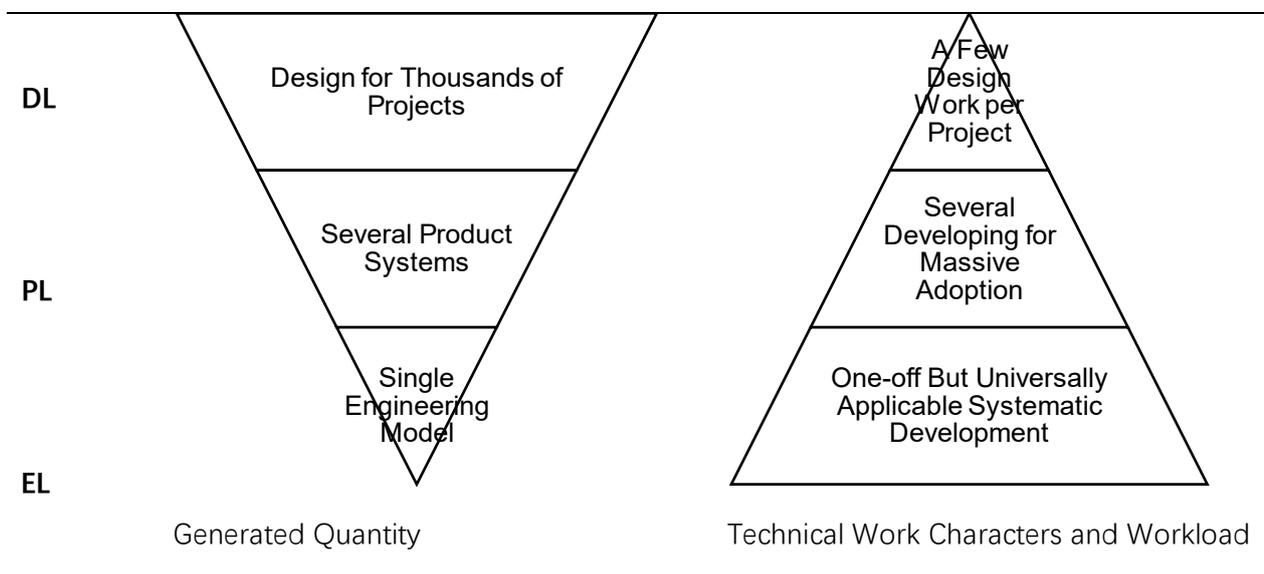
- The foundation of the entire definition is the "list of parameter & criteria", which are the aspects to define a building in technical disciplines and options.
- When the engineering level ensures the consistency between technical solutions and the connection between indicators, the specific values may not always be specified or determined.
- When specific application scenarios, including segmented markets, project types, regulatory requirements, etc., are set and incorporated into the entire technical model, each parameter will be further clarified.
- Those clarified value or range of the value as a group is the boundary or eigenvalue of this Product. The follow-up project-based design, manufacture and assembly program will be based on and subject to these important values. And the change of the value will lead to different set of Product.
- Whether it is a specific unique value or a range of values determines the level of standardization and the level of diversification of the project design.



### 1.5 CONCLUSION, THE INTEGRATED PRACTICE AND FUNCTION OF SPSS TECHNOLOGY.

Integrated Practice: The DL provides the process map; the PL provides the building blocks; the EL provides the rulebook. A project team navigates the DL workflow, assembling a design from the PL catalog, with the EL continuously verifying the technical soundness and performance of each decision.

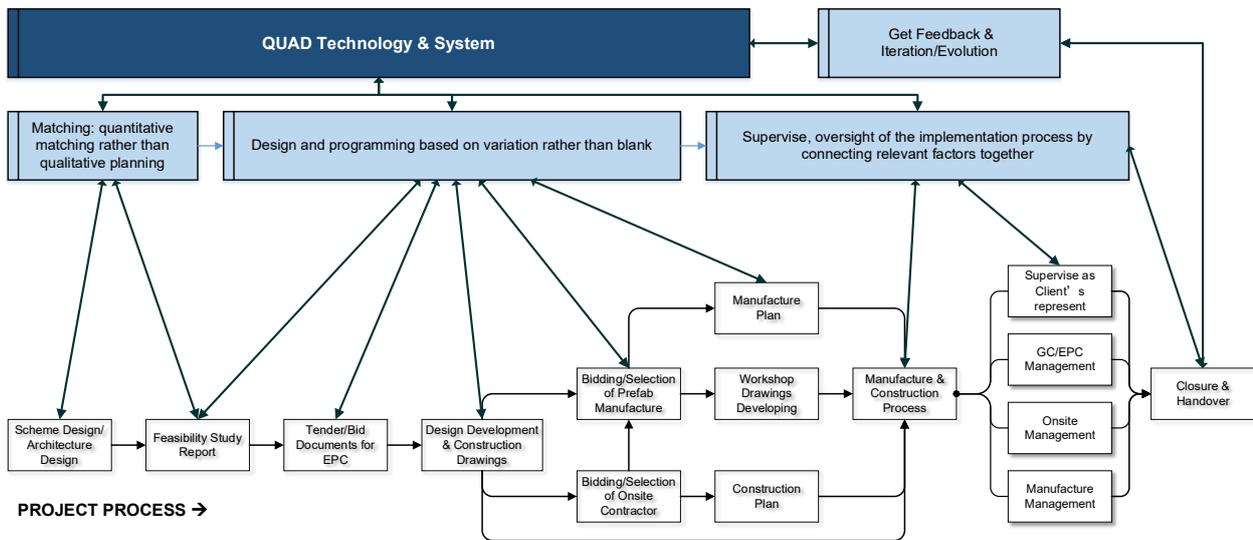
Overall Function: This integration transforms building design from a bespoke, linear, and drawing-centric endeavor into a configurative, parallel, and data-centric process. It guarantees that all feasible designs are inherently compliant, manufacturable, and predictable in their performance and cost.



## 2. QUAD TECHNOLOGY

While SPSS technology reforms the technical designs, QUAD technology reforms the whole project program and management process and develop delivery productivity. It aligns with the project decision-making chain to reform planning, execution, and control.

- Matching for project evaluation & initiation
- Comprehensive planning by complete simulation design & program in early stage
- Supervise based on overall connections among technical, organization & surroundings
- Iteration of systematic solutions for more prerequisite and accuracy



### 2.1 MATCHING: QUANTITATIVE MATCHING RATHER THAN QUALITATIVE PLANNING IN EARLY STAGE

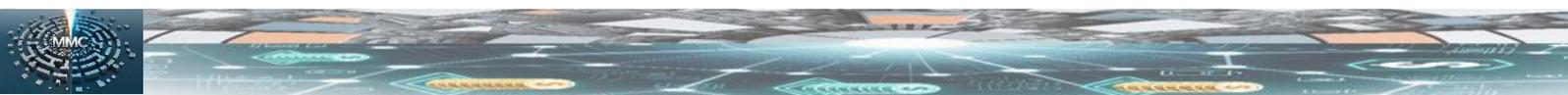
Matching technology is a quantitative analysis tool used during the project evaluation and initiation phase.

It inputs basic information such as site conditions and key indicators to quickly generate comparisons of multiple technical schemes based on the SPSS product library and simulated project data, providing corresponding quantified data on cost, schedule, and performance.

It provides investment decisions on precise data rather than vague experiential judgment, reducing upfront uncertainty.

Practice & Function:

- Scenario Generator: Takes inputs (site plot, program area, key performance indicators) and rapidly generates multiple high-level scheme options using the SPSS product library.
- Quantitative Comparator: Evaluates each option against a standardized set of metrics: estimated cost per square meter, potential construction timeline, carbon footprint, and spatial efficiency.



- Decision Support Dashboard: Presents comparable, data-driven insights to stakeholders, enabling objective go/no-go decisions and clear baseline establishment before major design investment.

## 2.2 DESIGN AND PROGRAMMING BASED ON VARIATION RATHER THAN BLANK

It is a method for comprehensive simulated design and planning in the early project stages.

It based on the QUAD "Matching" results, deepens a selected scheme through complete digital simulation (virtual construction), resolving coordination issues among technology, supply chain, and construction organization in one go.

It "Rehearses" the entire project in a virtual environment before physical work begins, locking in most downstream risks and generating an executable, precise master control plan.

Practice & Function:

- Deep Digital Prototyping: Takes the selected "matched" scheme and develops it into a fully constructible 4D/5D digital twin (3D model + time + cost).
- Conflict & Feasibility Resolution: Simulates the entire manufacturing, logistics, and assembly sequence to identify and resolve spatial, temporal, and resource conflicts virtually.
- Integrated Master Plan Generation: Produces a synchronized master program encompassing procurement schedules, production slots, logistics calendars, and on-site assembly sequences, all derived from the digital prototype.

## 2.3 SUPERVISE, GLOBAL OVERSIGHT OF THE IMPLEMENTATION PROCESS BY CONNECTING RELEVANT FACTORS TOGETHER

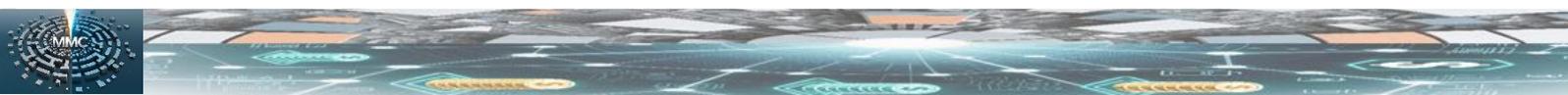
It is a dynamic monitoring and dispatch system for project execution.

It dynamically links factors such as technical status (e.g., drawings), organizational arrangements (e.g., manpower, machinery), and external conditions (e.g., material supply, weather) to monitor their interdependencies.

It upgrades management from "overseeing single tasks" to "monitoring the network of task relationships," enabling the warning of cascade risks caused by changes in related factors for proactive management.

Practice & Function:

- Status Aggregation Hub: Continuously ingests live data feeds from various sources: design revisions, factory production progress, tracked shipments, site installation reports, and weather updates.
- Dependency Network Monitor: Maps and monitors the critical links between tasks. Understands that a delay in a design approval impacts a factory order, which in turn delays a shipment and blocks a site crew.



- Proactive Alert & Analysis System: Identifies deviations from the master plan, analyzes their root cause and potential cascade effects, and alerts managers to required interventions before critical path impacts occur.

#### **2.4 ITERATION/EVOLUTION: THE SOLUTION SYSTEM CONTINUOUSLY EVOLVES THROUGH MULTI-SCENARIO INFORMATION.**

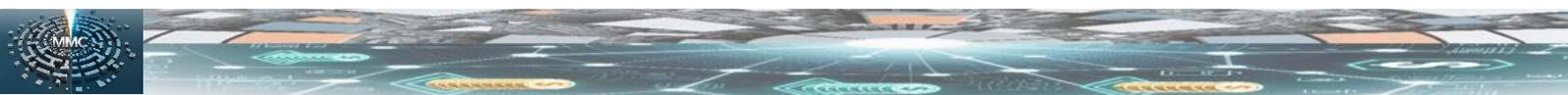
It is a mechanism for the continuous enhancement of SPPS and QUAD capabilities themselves.

It collects application data and feedback from different projects and scenarios to optimize the product library, design rules, and management processes.

It ensures the entire technical system has learning capabilities, becoming more mature, precise, and efficient with accumulated project practice, thereby forming a competitive barrier.

Practice & Function:

- Performance Data Repository: Systematically collects anonymized data on actual vs. planned performance for every component and process across all projects.
- Feedback Loop Analysis: Analyzes this data to identify patterns: which components install fastest, which details cause recurring issues, where estimation models diverge from reality.
- System-Wide Optimization: Uses these insights to trigger updates: refining product details, adjusting configuration rules, calibrating cost algorithms, and improving process templates, making the entire system smarter with each completed project.



### 3. QUAD DIGITAL PLATFORM (QDP)

The Digital platform would enhance the efficiency of operation and coordination in applying the SPPS and QUAD. And this QDP has two fundamental structures:

- The digital functional structure along with the project implementation: the functions and IPO along with project process
- Collaborative structure based on data flow structure: cloud-based Hub-Spoke Structure

#### 3.1 DIGITAL FUNCTIONAL STRUCTURE OF QDP

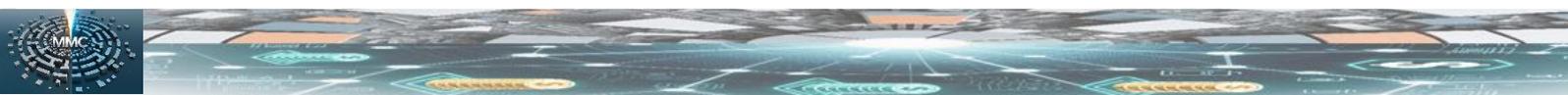
It is a series of functional modules within the platform corresponding to the full project lifecycle from evaluation, design, production, construction, to delivery.

Each phase (e.g., "Matching Phase," "Detailed Design Phase") has corresponding digital tools, with defined input information and expected output deliverables for that stage.

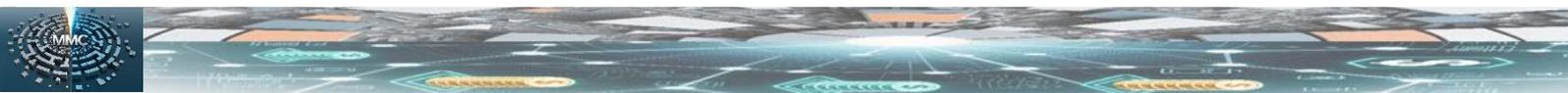
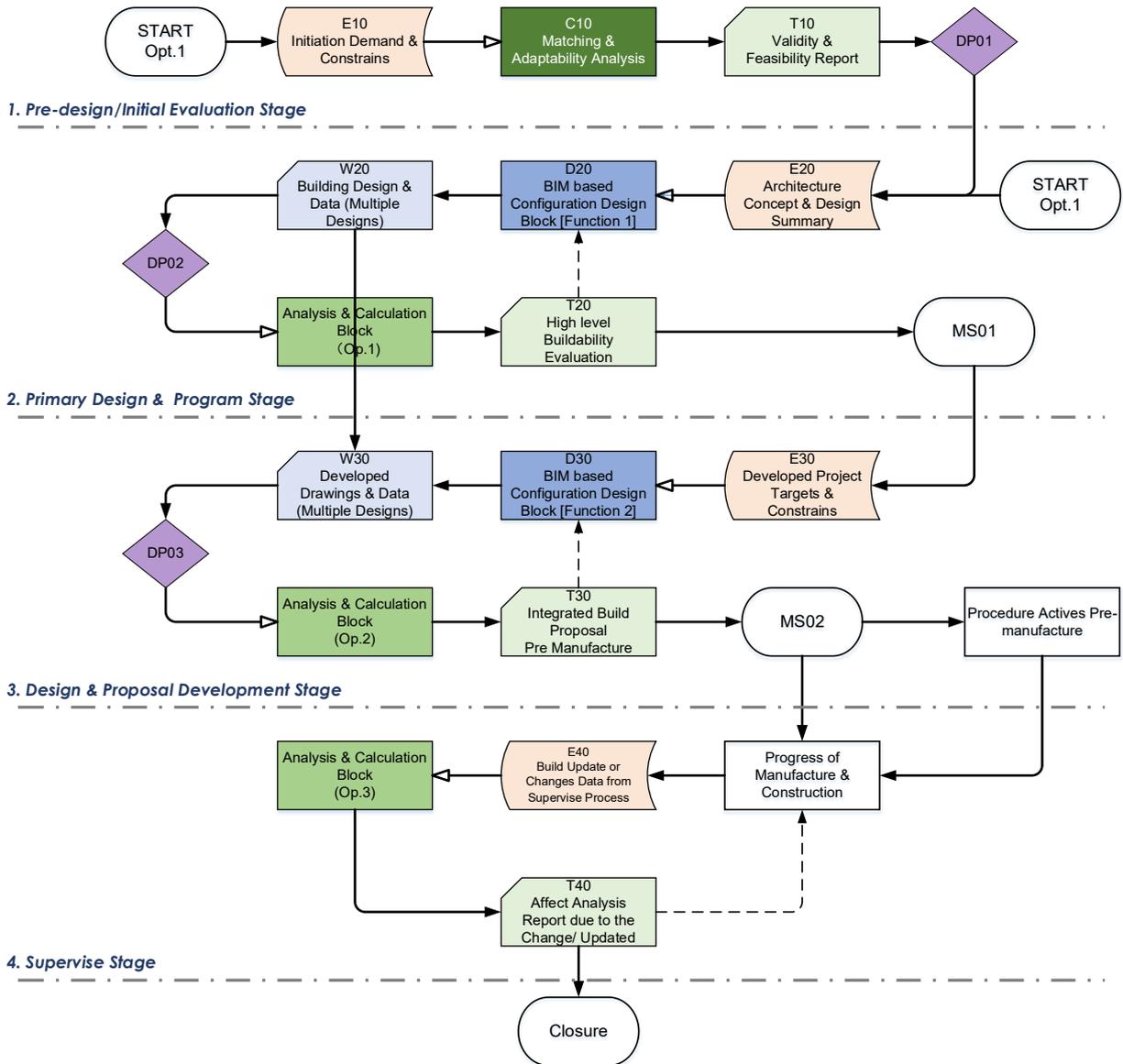
It ensures the project process is executed online in a standardized manner, with all actions logged and key deliverables transferred digitally, guaranteeing process traceability and quality.

Practice & Function:

- Phase-Specific Applications: Provides tailored tools for each QUAD phase: a Matching Tool for feasibility, a Virtual Build Simulator for planning, and a Control Room for supervision.
- Structured Data Pipeline: Defines the precise Input-Process-Output for each stage. For example, the Matching Phase inputs site data and outputs a selected scheme file which becomes the mandatory input for the next Design Phase.
- Unified Data Environment: Maintains a single, continuously updated digital project model that flows through all phases, ensuring consistency and eliminating data re-entry or translation errors.

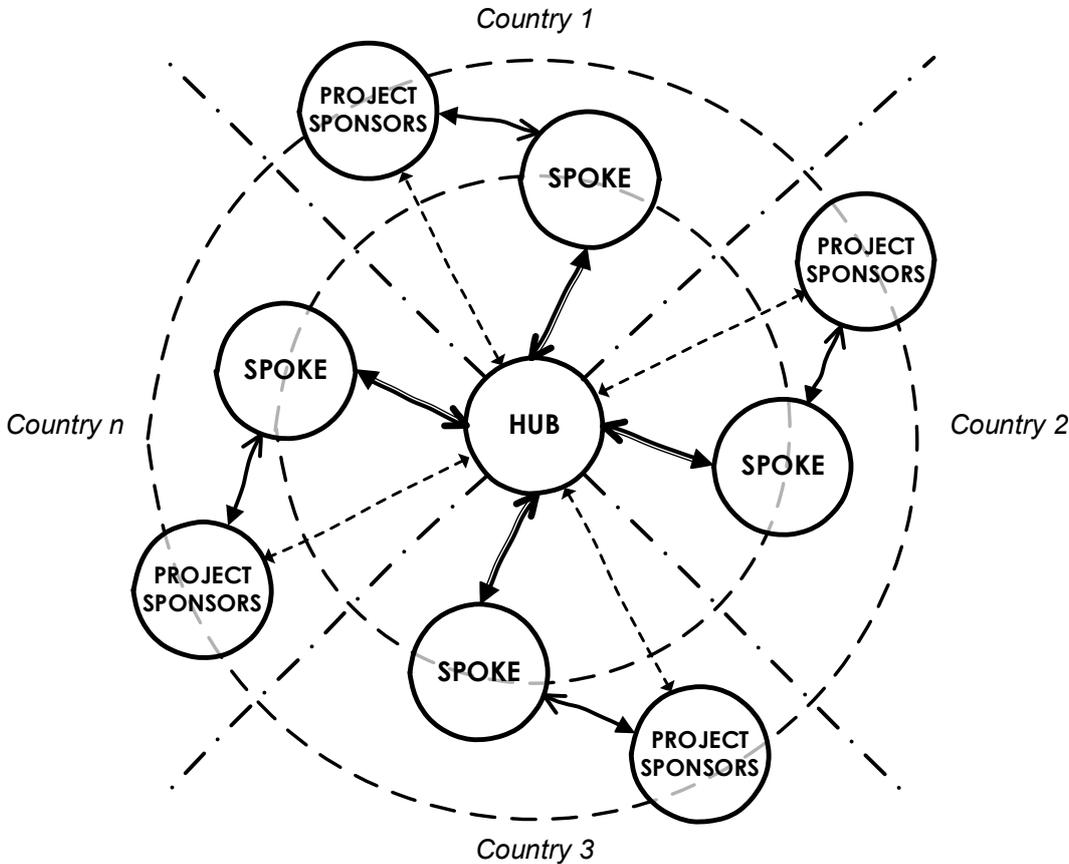


➔ TOP LEVEL INPUT-PROCESSING-OUTPUT FLOW



### 3.2 COLLABORATIVE OPERATIONAL STRUCTURE OF QDP

It is a three-tiered, cloud-based architecture (HUB - Regional SPOKE - Project) designed for global scalability, localized adaptation, and precise project execution.

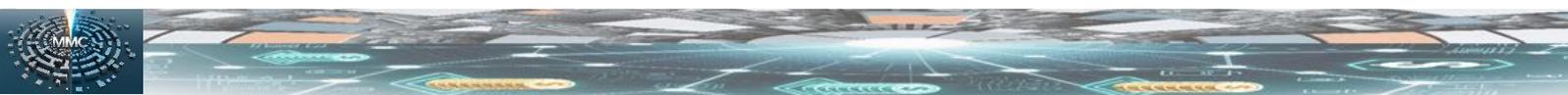


**Cloud-HUB (Central Analytical & Orchestration Core)** is the global intelligence and model management center of the platform.

- Central Repository & Rule Engine: Hosts and governs the master versions of the SPPS product library, engineering rules, and QUAD process algorithms.
- Macro-Analytics & System Evolution: Performs cross-project and cross-regional data aggregation and analysis to drive the continuous Iteration/Evolution of the entire technical system.
- Global Model Distribution: Issues standardized updates, optimized components, and refined delivery models to all Regional SPOKES.

**Regional SPOKE Layer (Localized Service & Resource Integration Node)**, is a localized service support center organized by country or major region, acting as the operational bridge between the global HUB and the local market/projects.

- Localization Adaptation & Resource Integration: Integrates local contractors, suppliers, and logistics partners into the platform ecosystem. Adapts global models to comply with regional regulations, standards, and market practices.

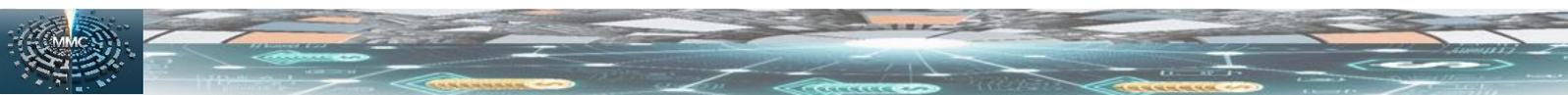


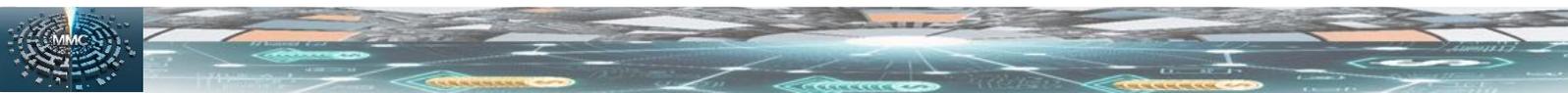
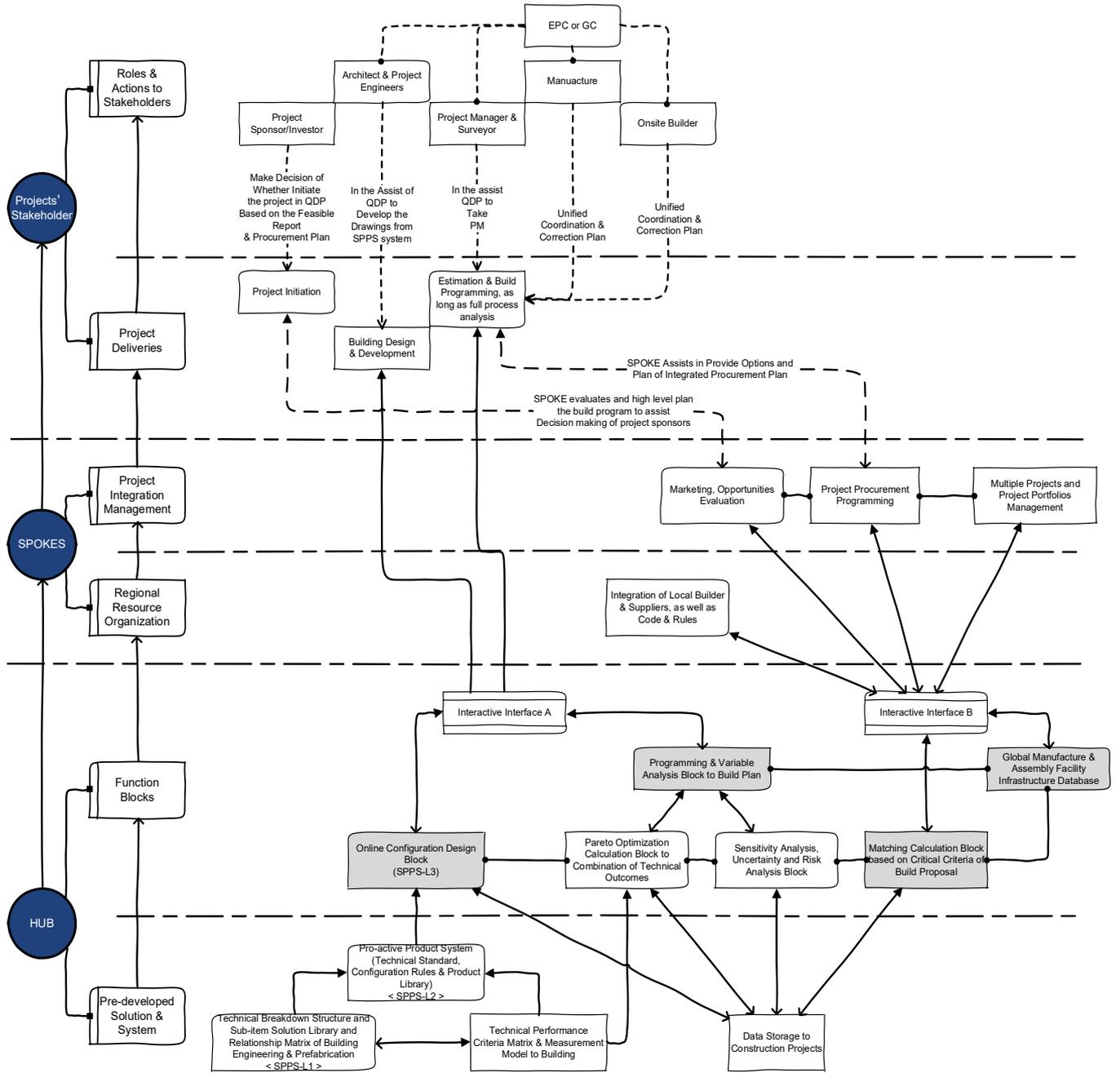
- **Market Expansion & Pre-Project Support:** Conducts local business development, performs initial project opportunity assessments, and provides Project Procurement Programming recommendations to potential investors/sponsors.
- **Regional Portfolio Coordination:** Manages resource allocation and provides oversight across multiple projects within its region, optimizing local supply chains and capacity.
- **Collaboration Model:** Connects to the HUB via secure interfaces for bidirectional data sync. It operates in a support and service capacity, providing localized resources and insights without direct involvement in individual project execution decisions.

**Project Layer (Stakeholder Access & Collaboration Platform)** is the direct application interface where all project stakeholders collaborate throughout a specific project's lifecycle.

- **Stakeholder-Specific Access:** Provides tailored interfaces for project sponsors, designers, engineers, contractors, and manufacturers to access the platform's tools (SPPS & QUAD functions) relevant to their roles.
- **Project-Centric Collaboration:** Serves as the unified digital workspace for a single project, enabling real-time design coordination, procurement tracking, construction monitoring, and document management.
- **Integrated Resource Utilization:** Allows project teams to leverage both the global, optimized solutions from the HUB and the localized resources and services curated by the Regional SPOKE.
- **Real-Time Decision Support:** Delivers project-specific data analytics, performance dashboards, and risk alerts, empowering informed decision-making to achieve project objectives.

The QDP enables a dynamic balance between localized project execution efficiency and global system intelligence. The structure ensures that regional projects (Spokes & Project Stakeholders) operate with autonomy and relevance to local conditions, while systematically contributing data to a central brain (HUB) that identifies patterns, optimizes core parameters, and disseminates enhanced models back to the spokes. This creates a self-improving ecosystem where practical project execution directly fuels the evolution and increased accuracy of the entire technical platform.

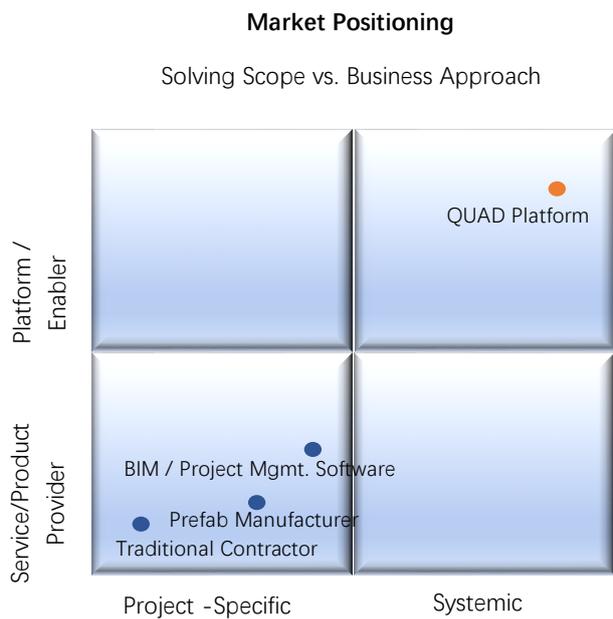




# QUAD MARKET POSITION



## QUAD'S MARKET POSITION



### Market Positioning Grid: QUAD as the Foundation Platform

This grid evaluates solutions based on their scope (solving for a single project vs. the entire system) and their Business Approach (providing a one-off service vs. building an enabling platform) Fig: GM1

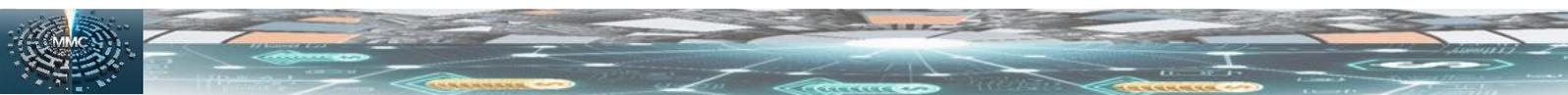
**Bottom-Left** (Project-Specific / Service Provider) Traditional Contractors & Consultants. They solve specific tasks for a single project. They reinforce the reactive, fragmented status quo. Their success is tied to the inefficiency of the current system.

**Bottom-Right** (Systemic / Service Provider) Vertical Integrators (e.g., failed prefab companies). They try to control the entire chain for systemic output. Capital-intensive and rigid. They collapse under their own operational weight and cannot create a collaborative market.

**Top-Left** (Project-Specific / Platform Enabler) Point Solution Software (e.g., Autodesk, Procore). They provide digital tools used across many projects. They are "vitamins, not cures." They optimize pieces (design, logistics) but leave the core financial and structural fragmentation intact.

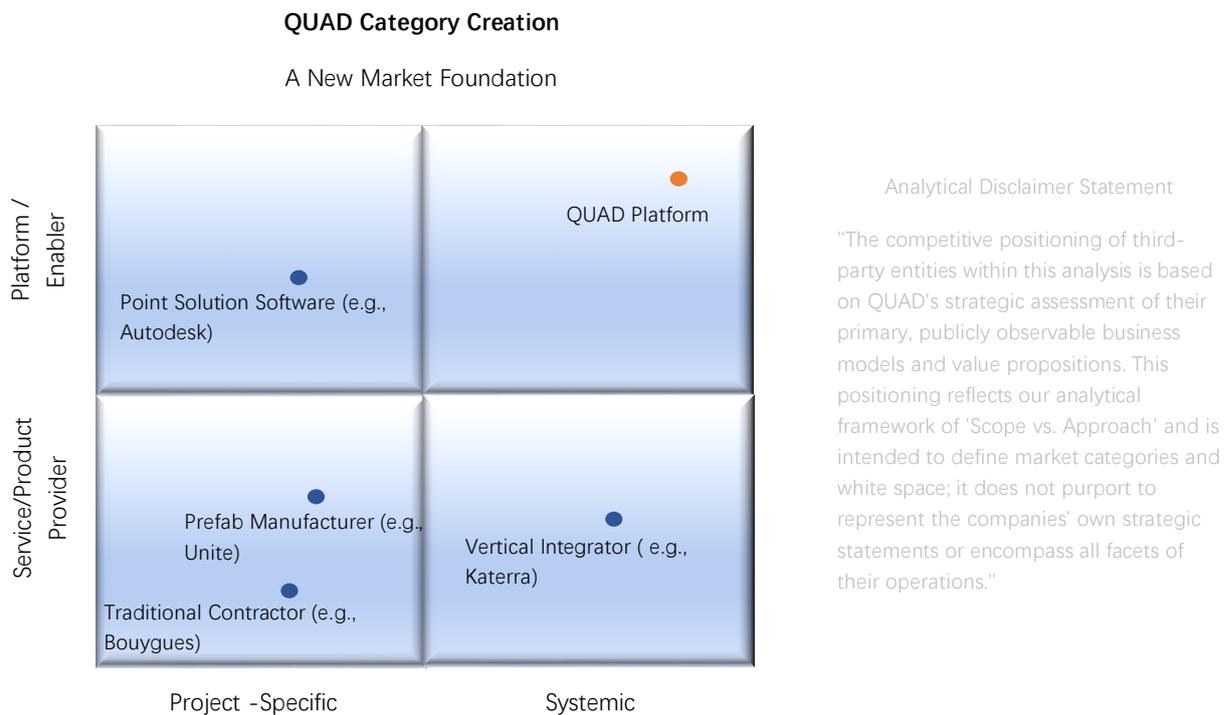
**Top-Right** (Systemic / Platform Enabler), QUAD The QUAD Platform. It provides the foundational rules, technology, and networks for the entire industry to transform. This space was vacant. QUAD defines it by being the non-extractive orchestrator that enables all other players to become more efficient and collaborative.

**QUAD is the "Operating System"**



The grid (Fig GM1) shows that all other players are trying to succeed within the constraints of the broken system. QUAD is the only one that provides a new foundation, the "operating system", upon which they can all build:

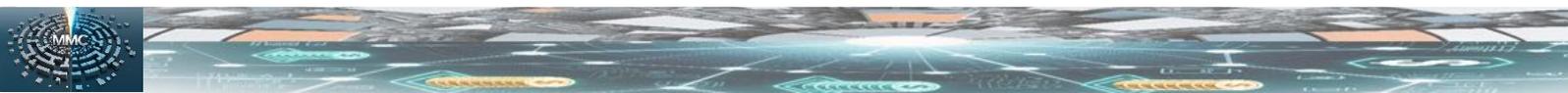
- It provides SPPS so architects and engineers can be proactive.
- It provides the OS-Optima network so manufacturers can collaborate globally.
- It provides KOPs and mobile assembly (PPDSS) so contractors and builders are empowered, not bottlenecked.



**Bottom-Left** (Project-Specific / Service Provider) Bouygues, Vinci, CSCEC (major traditional contractors). Their business is winning and delivering individual projects through bespoke services. They are masters of the old, fragmented system. Their model cannot generate systemic efficiency; it profits from managing complexity.

**Bottom-Right** (Systemic / Service Provider) Kattera (historical example). They attempted systemic change through vertical integration, owning design, factory, and delivery to control outcomes. Capital intensity and rigidity. Kattera's collapse shows that owning the entire chain is financially unsustainable and cannot scale fluidly across markets.

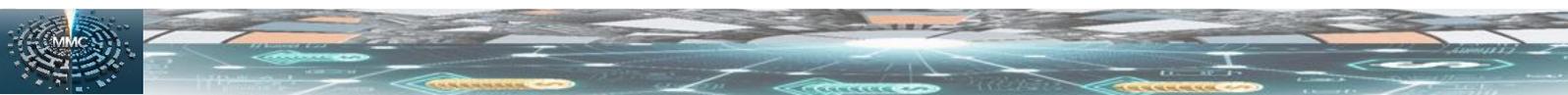
**Top-Left** (Project-Specific / Platform Enabler) Autodesk (BIM 360), Procore, Oracle Aconex. They provide digital tools (SaaS platforms) that improve specific functions (design, project management) across many projects. They are "vitamins" that improve parts of a broken process. They do not, and cannot, alter the underlying financial, manufacturing, or collaborative structure of the industry. They create data silos.



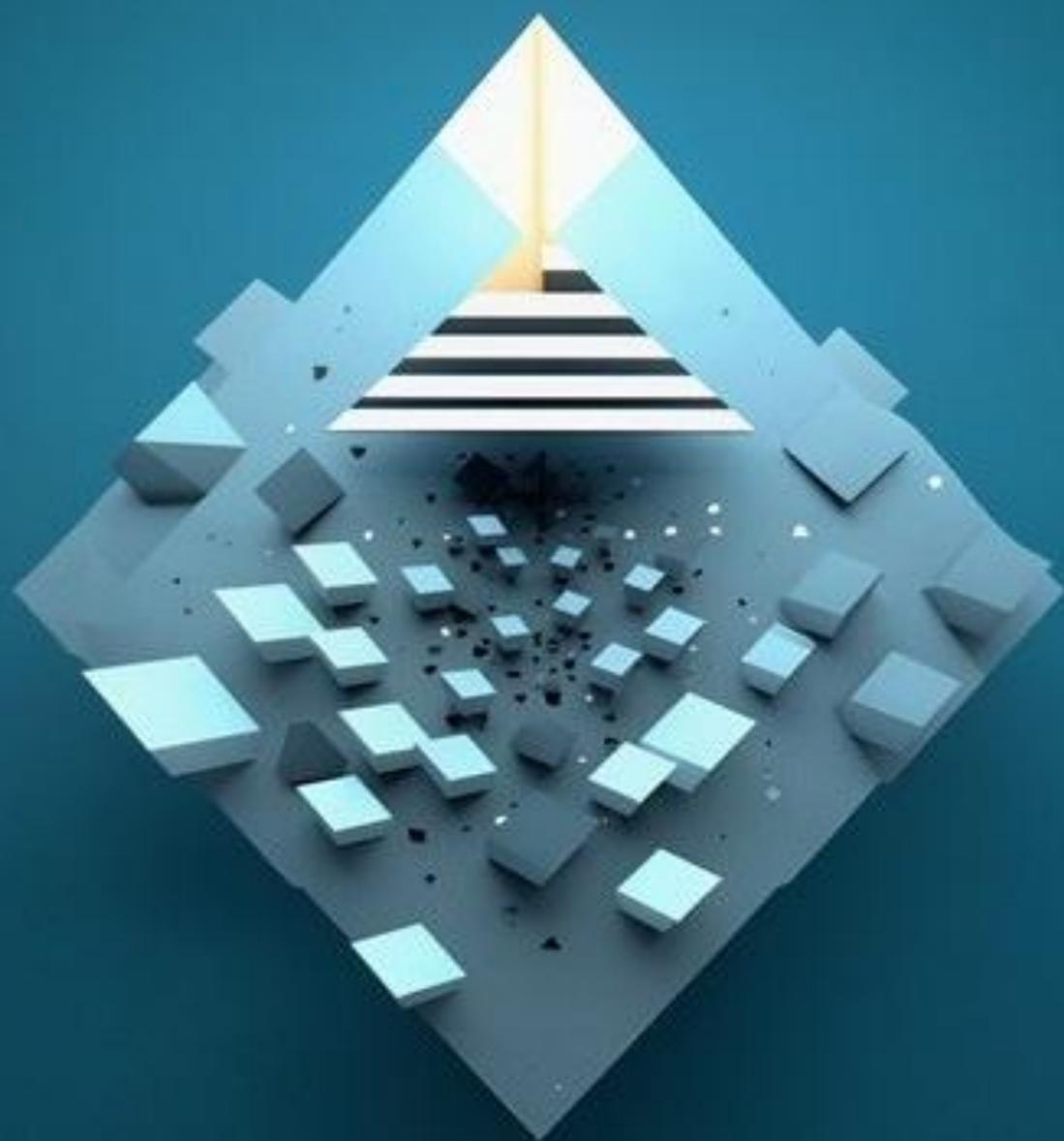
**Top-Right** (Systemic / Platform Enabler) The "White Space" QUAD Platform No established player operates here. This is the space for a non-owning, foundational orchestrator. This is QUAD's category. It is systemic by connecting all parts (design, finance, manufacture, assembly), and an enabler by empowering, not replacing, the companies in all other quadrants.

### **QUAD is the "Non-Extractive Orchestrator"**

The construction industry is not waiting for a better competitor in an existing category. It requires a new category entirely: a systemic platform that enables all current players to succeed. Previous attempts at systemic change (like Katterra) failed because they used an old, capital-heavy 'ownership' playbook. QUAD succeeds by writing a new 'orchestration' playbook, turning the chronic challenges of fragmentation into a collaborative network effect. We are not building a better mousetrap; we are building the ecosystem in which all mousetraps work better together.



# QUAD ADAPTIVE TECHNOLOGIES



## ADAPTIVE TECHNOLOGIES

QUAD operates as a strategic economic platform, moving beyond individual projects to structure entire market ecosystems. Its core architecture orchestrates manufacturing, capital, and talent into a coherent value chain, capable of revitalizing domestic industries and connecting them to global opportunities. This positions QUAD as a tool for national planning, able to blueprint specialized economic zones, secure international investments for developing regions, and directly align vocational training with the precise technological standards the market demands. The following sections detail how this integrated system builds not just infrastructure, but resilient skilled and interconnected economies.

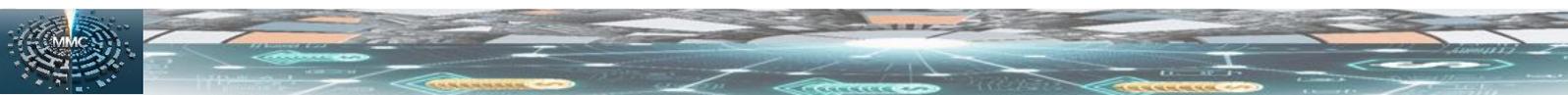
### 1. International Cross-Border Collaboration: A Capital-Efficient, De-risked Model

QUAD enables a seamless, low-risk international supply chain without requiring cross-border capital investment or complex joint ventures. The model, applicable between any two trading nations, works as follows:

- I. **Product Development & Specification:** A syndicate in the recipient country (e.g., the UK) uses VEMAS's proprietary SPPS solutions to co-develop and jointly own a specific building product, finalized to meet all local codes.
- II. **Global Manufacturing & Direct Shipping:** The approved digital design is sent to a pre-qualified manufacturer in a partner country (e.g., China) for production as a Kit of Parts (KOP), which is shipped directly to the recipient's construction site.
- III. **Local Execution & Platform Enablement:** The local contractor ("pull" party) takes delivery. With support from, but not management by, the national QUAD Hub, they use QUAD's mobile PPDSS and digital protocols to complete assembly. QUAD facilitates and enables the process; the chosen local delivery team manages the contract and execution.

#### This creates a transformative commercial and risk profile:

- **Universal & Flexible:** The model is not country specific. It creates a template for efficient trade in built assets between all nations.
- **Clear Roles & Reduced Risk:** QUAD is the enabling platform and standard setter, not the project manager. This separates system governance from project execution, limiting liability and aligning incentives purely on successful enablement.
- **Streamlined Logistics & Control:** Direct-to-site shipping managed by the local contractor eliminates intermediate handling, reduces cost, and keeps the "pull" party in control of the schedule.



- **Capital & Partnership Efficiency:** It removes the need for foreign direct investment or equity partnerships, allowing for pure, project-focused service contracts.

## 2. Formation of Industrial Zones & Technical Parks: The OS-Optima Facility as an Anchor

A cornerstone of QUAD's systemic impact is the transformation of manufacturing into a demand-driven, location-based utility. This is realized through the OS-Optima Facility—a manufacturing unit standardized and certified by VEMAS to operate within the QUAD global ecosystem. Unlike a traditional factory dependent on the owner's niche expertise and proprietary processes, an OS-Optima Facility is a plug-and-play production node.

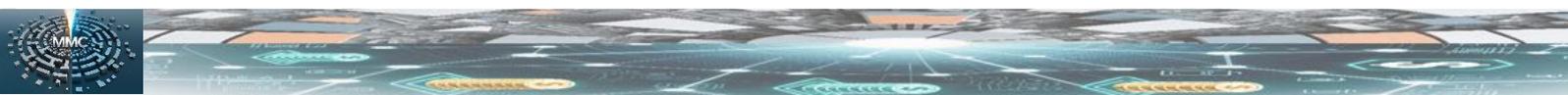
### Core Concept: Demand-Driven, Competence-Independent Manufacturing

The OS-Optima model fundamentally shifts business logic. Its success is not predicated on the operational competence of its owner but on its strategic location within a demand cluster. Whether owned privately, by a government, or a syndicate of developers, the facility is a versatile asset configured by QUAD's digital platform (SPPS) to produce a wide range of certified Kits of Parts (KOPs) or volumetric modules.

### The Industrial Zone as an Integrated Ecosystem

Structuring a technology park or industrial zone around one or more OS-Optima Facilities creates a powerful, self-reinforcing economic cluster:

- I. **Aggregated Demand & De-risked Investment:** The zone attracts project developers and builders who gain guaranteed access to QUAD-certified manufacturing capacity. This predictable, aggregated demand makes the facility and the zone a lower-risk, higher-value investment. Capital can flow into the asset and its location, independent of complex manufacturing operations.
- II. **Supply Chain Magnetism:** The guaranteed production volume draws in advanced material suppliers and logistics firms to establish local hubs within the zone, creating a dense, efficient supply chain that further reduces costs and lead times for all occupants.
- III. **Regional Economic Catalyst:** For governments or development agencies, an OS-Optima zone is a direct tool for industrial policy. It captures construction value-add within the region, creates skilled jobs, utilizes local materials, and positions the area as a modern export hub for constructed assets, attracting further domestic and international investment.



## QUAD Integration: From Zone to Global Network

Critically, an OS-Optima zone is not an isolated silo. Through the QUAD platform, it is intrinsically linked to a global network. It can:

- Receive digital product designs (SPPS) from syndicates anywhere in the world.
- Collaborate seamlessly with other OS-Optima facilities on different continents to fulfill large-scale or complex orders.
- Serve both booming local markets and export projects with equal efficiency.

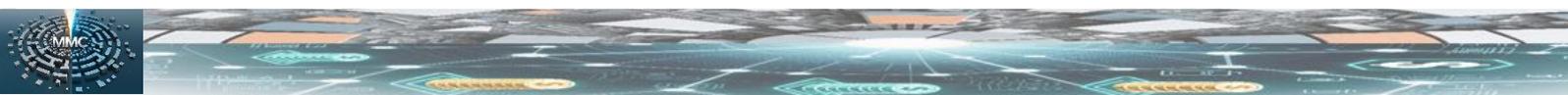
In essence, QUAD enables the creation of "Capital Parks" rather than just industrial parks. These zones are built around a democratized, platform-controlled manufacturing utility that converts regional demand and strategic location into tangible, investable infrastructure, driving integrated economic development.

## QUAD TALENT & SKILLS BLUEPRINT: THE ENABLEMENT PLATFORM

QUAD does not seek to certify or replace traditional construction skills. Instead, it provides platform, technology, and market connections that allow skilled professionals and established manufacturers to apply their expertise more effectively, profitably, and on a larger stage.

### Core Philosophy: Augmentation, Not Replacement

The value is in connecting existing talent to QUAD's system. A skilled welder, CNC operator, or project manager gains fluency in the QUAD digital workflow, allowing their core competency to interface seamlessly with syndicated products, global logistics, and assembly protocols. This makes them more valuable.



## The Enablement Model: How It Works

- I. **Skills Validation & Enhancement** Provides advanced simulation tools, BIM integration workshops, and DfMA optimization training. This augments existing trades with the digital fluency to work within high-efficiency QUAD projects. Professionals and firms can credibly bid on larger, more complex projects within the QUAD ecosystem, using their validated skills as a foundation.
- II. **Market Access & Connection** The platform acts as a talent and capability marketplace. A robotics-equipped manufacturer in an industrial zone can list its free capacity; a project in another country can discover and engage it directly through standardized QUAD protocols. Entities gain direct access to a global pipeline of QUAD-formatted projects, moving beyond local competitive bottlenecks.
- III. **Operational Support in Industrial Zones** Within a QUAD-linked industrial park, the Hub facilitates shared access to advanced assets (like large-scale 3D printers or robotic assembly lines) and just-in-time training on new SPPS product kits. Small and medium-sized manufacturers can punch above their weight, taking on specialized production work for global syndicates without bearing the full capital risk of the machinery.

## The Industrial Zone as a Demonstration Hub

This is where enablement becomes tangible. A QUAD-facilitated industrial zone is a living showcase:

- **For Workers:** It becomes a center for high-value, technology-augmented work. Tradespeople see a clear career path where their skills command a premium because they are integrated into a more efficient, global system.
- **For Manufacturers:** It transforms them from commodity suppliers into certified "Technology Integrators" for the QUAD network, attracting investment and premium contracts.
- **For Governments & Educators:** It provides a clear demand signal. Vocational schools can align curricula with the specific technical enhancements needed for QUAD projects, ensuring graduates are immediately employable in the zone and beyond.



▪ **SYNTHETIC CASE STUDY: ENABLING "PRECISION COMPONENTS LTD." – FROM LOCAL FABRICATOR TO GLOBAL TECHNOLOGY INTEGRATOR**

Pre-QUAD Situation:

- Company: Precision Components Ltd. (PCL), a reputable, mid-sized steel and modular fabricator in Manchester, UK.
- Strengths: Skilled workforce, quality craftsmanship, ISO-certified workshop with robotic welding cells.
- Limitations: Competed primarily on price in a saturated local market. Won sporadic contracts through tender processes with slim margins (~5-8%). Had no efficient way to bid on international projects or for innovative building products. Its advanced robotics were underutilized between conventional jobs.

**Integration with the QUAD Platform:**

PCL's director attended a demonstration by the UK QUAD Spoke. Intrigued by the promise of a pipeline of pre-defined work, they underwent a Capability Validation process. QUAD engineers audited PCL's shop floor, not to change it, but to digitally map its precise production capabilities (e.g., max component size, robot model specs, finishing standards) into the QUAD platform.

**The Transformation: Enabled, Not Replaced**

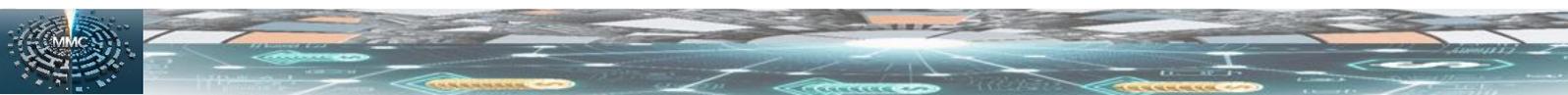
Within six months of joining the ecosystem, PCL's business model transformed through enablement:

Scenario Before QUAD (Local Competitor) With QUAD (Enabled Technology Integrator)

Winning Work Submitted blind bids to local general contractors. The QUAD platform automatically matched PCL's digital profile to relevant Syndicated Product orders. They received a direct request to produce 120 standardized balcony units for a residential syndicate in London.

Production Process Worked from 2D drawings, requiring time-consuming interpretation and setup. Received direct, machine-readable fabrication files (from SPPS) for the balcony units. Their robotic cells were programmed in hours, not days, slashing setup time by 70%.

Business Development Relied on regional reputation. No pathway to international work. Their validated profile was seen by a syndicate in Canada planning a similar project. Through the platform, PCL is now negotiating a KOP supply contract, facilitated by QUAD's cross-border protocols, without needing a



North American office.

Value Proposition "We fabricate to your drawings." "We are a QUAD-Validated Manufacturer for Structural Sub-Assemblies." This positions them as a specialist in a global network, not a commodity shop.

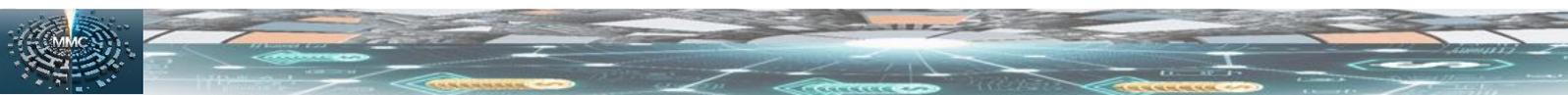
### **The Result: Flourishing Through Facilitation**

- For PCL: Margins improved to 15-20% on QUAD-formatted work due to reduced bidding costs and optimized production. They secured a 12-month forward order book for the first time, enabling strategic hiring. Their core expertise in precision steelwork was amplified, not replaced.
- For the QUAD Ecosystem: The London project sponsor received balcony units that were cost-competitive with local bids but with guaranteed dimensional accuracy for faster site assembly, protecting the project's 28% efficiency target. The network gained a reliable, high-quality production node in the UK.
- The Industrial Zone Attraction: PCL's success story is being used by a regional development agency to promote a new Advanced Manufacturing Zone. The pitch is that any manufacturer locating there can be "QUAD-Enabled," giving them instant global reach. PCL is considering opening a second, larger facility within this zone to specialize entirely on QUAD syndicated products.

Takeaway:

QUAD did not teach PCL how to weld; it connected their welding expertise to a global market that valued it efficiently. The platform provided the digital bridge, the contractual framework, and the demand pipeline. PCL flourished by doing what it did best, at a larger scale and higher margin, precisely because QUAD facilitated everything around its core skill.

This model can be replicated for architectural firms (enabling them to specify syndicated products), trade contractors (enabling them to master PPDSS assembly), and material suppliers (connecting them to QUAD-registered manufacturers). The platform's role is to orchestrate and elevate, not own and control.



# QUAD -ESG



## QUAD Sustainable Construction

### **BUILDING IN THE GREEN PREMIUM: HOW QUAD MAKES SUSTAINABLE CONSTRUCTION DEFAULT NOT THE EXCEPTION**

For decades, the construction industry has treated sustainability as a premium add on a well, intentioned but costly afterthought involving custom engineering, specialty materials, and fragmented expertise. This paradigm has kept genuinely green buildings in the realm of boutique projects and corporate showcase pieces, leaving the vast majority of global construction the homes, schools, and hospitals we need most, stuck in inefficient, carbon-intensive models.

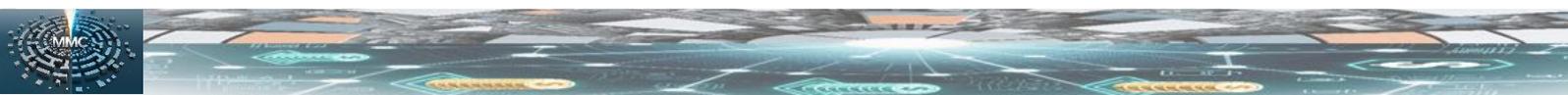
QUAD was founded on a radical inversion of this premise. We identified that the twin barriers of high cost and limited accessibility had to be dismantled first. Once those were solved by our core system of standardized product technology, syndicated finance, and global networks, a new opportunity emerged: to seamlessly bake superior sustainability into the very fabric of the system, making it scalable, affordable, and inherent. This is not an added feature; it is the logical evolution and a core driver of our platform.

#### **The Systemic Shift: From "Green Specification" to "Green Syndication"**

Traditional construction operates on a project-by-project basis. Achieving sustainability means assembling a unique team for each job to navigate a maze of custom solutions, leading to what we call the "Green Premium"; the extra cost in time, capital, and complexity that excludes most projects from high performance.

QUAD erases this premium through a systemic, replicable model. We shift the innovation upstream, from the construction site to the product design phase. Here's how it transforms the economics:

- I. **The Sustainable Product as a Syndicated Asset:** Under QUAD, a high-performance building element—like a net-zero-ready housing module with integrated solar, rainwater harvesting, and seismic resilience—is not engineered per project. It is developed once as a Syndicated Proactive Product Solution (SPPS). The R&D and certification costs are funded upfront by a dedicated consortium (an SPV) of impact investors, manufacturers, or NGOs. This turns sustainability from a recurring project cost into a one-time capital asset.
- II. **Amortization Over a Thousand Builds: The End of the Premium:** This is the core economic



breakthrough. That upfront investment is amortized over the entire lifecycle of the product, across potentially thousands of units. Imagine the £350,000 cost to perfect a climate-resilient home design. In a traditional custom project, that cost might add £35,000 to a single unit. In QUAD's system, if 1,000 units are built, the premium dissolves to just £350 per unit. The "Green Premium" effectively vanishes, making the sustainable option cost-neutral—or even cheaper—than a conventional alternative.

- III. **The Platform as the Enforcer of Standards:** QUAD's digital platform ensures that every copy of that syndicated product, whether manufactured in Frankfurt or Kuala Lumpur, adheres to its precise sustainable specifications. This guarantees performance, generates automated ESG reporting, and provides the audit trail required for green finance and carbon credits.

### **The Mechanisms: How QUAD Embeds Sustainability at Every Level**

This systemic approach manifests through concrete mechanisms:

- **At the Product Level (The "What"):** The SPPS library can prioritize products designed for circularity (easy disassembly, material reuse), superior energy and water efficiency, and climate-adaptive resilience. These attributes become standard options in a catalog, not custom requests.
- **At the Project Level (The "How"):** The platform enables the aggregation of demand for community-scale sustainable infrastructure. For instance, multiple QUAD-delivered housing clusters can be planned around a shared, syndicated "banked wastewater treatment" facility or a micro-grid, turning a capital burden into a shared, efficient utility.
- **At the Financial Level (The "Why"):** The SPV model creates a powerful alignment between impact and returns. Investors are not betting on a single project's success but on the widespread adoption of a superior, sustainable product. The royalty model (e.g., 3% of project value) provides a recurring return tied directly to the product's use, incentivizing the syndicate to promote the greenest solutions. This attracts dedicated green capital, lowering the cost of financing for sustainable innovation.

### **The Compounding Impact: Beyond the Single Building**

The true power of this model is its compound effect on the market:

- I. **It Democratizes Access:** Municipalities, affordable housing developers, and NGOs can now specify and afford proven, high-performance building systems, bypassing the prohibitive cost of custom green design.



- II. **It Creates a Virtuous Cycle:** Successfully syndicated sustainable products create market proof, encouraging more syndicates to form around even more ambitious sustainability goals (e.g., carbon-negative buildings, biodiversity-net-positive developments).
- III. **It Transforms Supply Chains:** Aggregated, predictable demand for green materials (like low-carbon steel or certified timber) through the QUAD network encourages suppliers to invest in cleaner production, driving down costs industry-wide.

### **Conclusion: Redefining the Foundation**

QUAD proves that the primary barrier to sustainable construction is not a lack of technology, but a flawed economic and organizational model. By solving for cost and accessibility first through system replication, we create the foundation upon which sustainability can be built as a default, scalable attribute.

We are moving industry from "sustainability as a cost-driven specification" to "sustainability as a value-driven selection." In the QUAD ecosystem, the most responsible choice becomes the most rational, affordable, and scalable one, not just for one flagship project, but for the entire built environment. This is how we build a greener future, at scale.

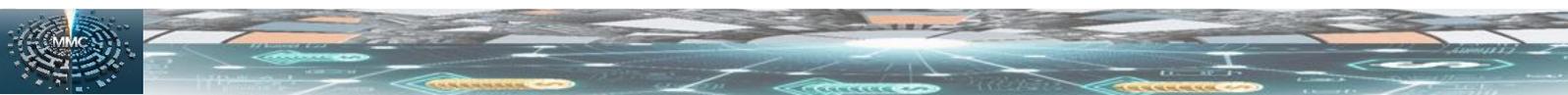
### **THE ESG ECONOMIC ENGINE: HOW QUAD'S ADVANCED BUILDING STOCK DRIVES TANGIBLE MACROECONOMIC VALUE**

Beyond the clear environmental imperative, the integration of Environmental, Social, and Governance (ESG) principles through QUAD's platform generates a powerful, measurable economic advantage. By systemizing the delivery of advanced, sustainable building stock, QUAD activates a virtuous cycle that boosts domestic economic resilience and captures global value, transforming ESG from a compliance cost into a core driver of Gross Domestic Product (GDP) and Gross National Income (GNI).

### **From Vocational Training to Enhanced Labor Productivity & GDP**

Traditional construction faces a stagnant labor pool with skills misaligned with modern methods. QUAD directly addresses this by creating a demand driven pipeline for high-value, technology, augmented skills.

- **Mechanism:** The platform's standardization allows for targeted vocational training in precise digital design (SPPS), advanced manufacturing (MPPS), and streamlined assembly (PPDSS). This isn't generic training; it's upskilling for higher-productivity roles within the QUAD ecosystem.
- **Economic Impact (GDP):** GDP grows through increased value-added per worker. A technician



operating QUAD's digital fabrication protocols or managing on-site assembly of pre-engineered modules generates more economic value per hour than one in traditional, labor-intensive construction. This rise in productivity directly contributes to national output. Furthermore, by creating a skilled workforce attractive to high-tech manufacturing and development, QUAD helps retain and attract talent, preventing "brain drain" and fostering a more competitive industrial base.

### **Domestic Application: Building Resilient, Value-Capturing Economies**

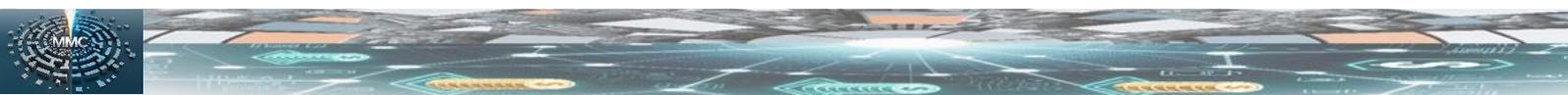
When applied domestically, QUAD transforms the construction sector from a low-margin, import-reliant industry into a strategic, high-value domestic engine.

- **Import Substitution & Supply Chain Development:** By establishing local OS-Optima manufacturing facilities and certifying domestic suppliers for syndicated products, countries can recapture a significant portion of construction spending that typically leaks abroad for materials, components, and engineering services. This keeps capital circulating within the national economy, bolstering domestic manufacturing and creating higher-wage jobs.
- **De-risking Infrastructure Investment:** Governments can leverage QUAD's proven, fixed-cost models to accelerate sustainable infrastructure (green schools, social housing, clinics) without the risk of budget overruns. Efficient, on-time project delivery means public capital generates public benefits faster, improving social outcomes and economic productivity simultaneously.

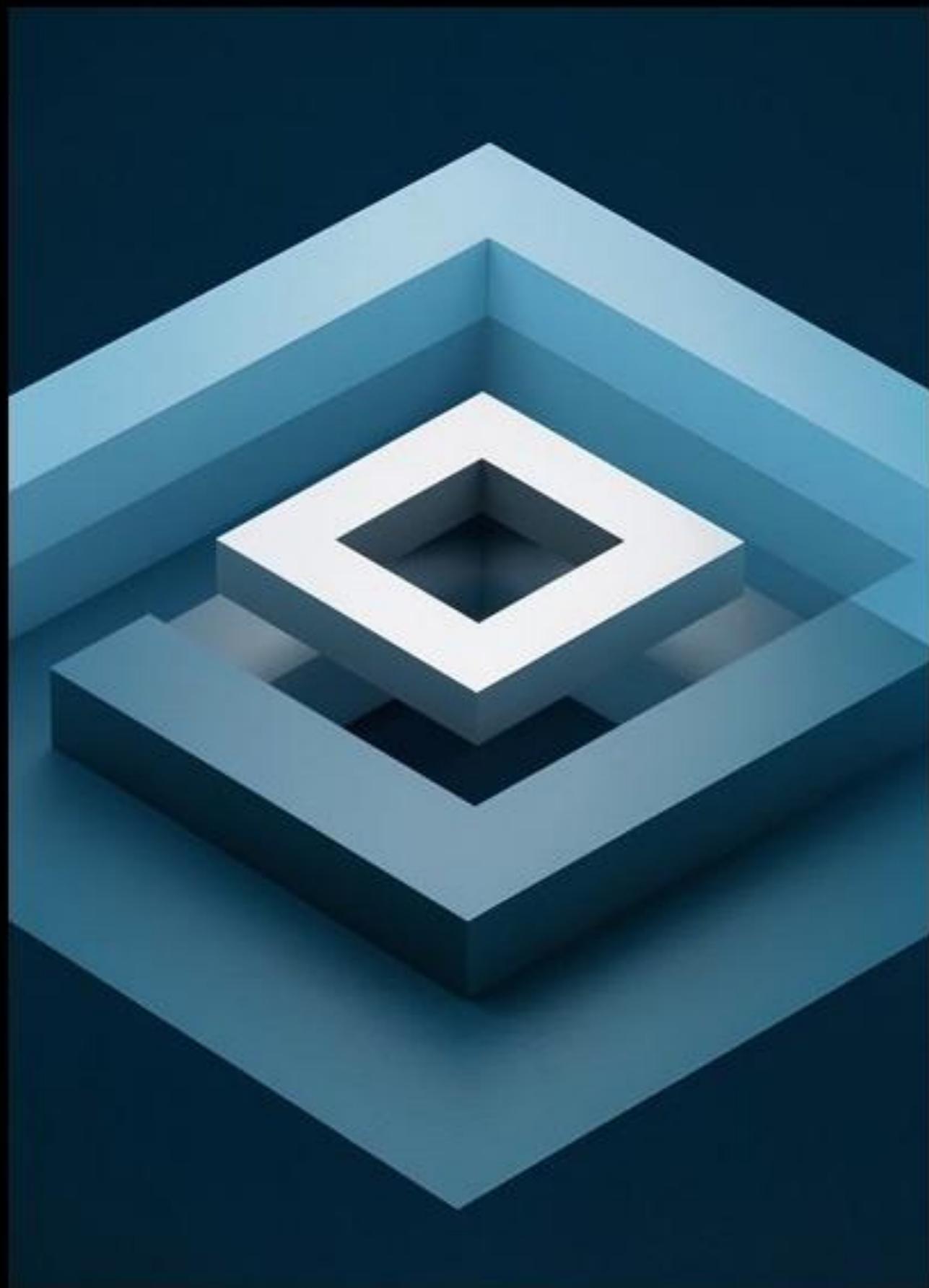
### **Cross-Border Syndication and GNI: Profiting from Global Demand**

The most distinctive economic impact of QUAD's ESG model is its structural enhancement of Gross National Income (GNI); the total income earned by a nation's residents and businesses, regardless of where it's generated.

- **The Intellectual Property & Royalty Engine:** Under QUAD, a sustainable building product (SPPS) is a securitized financial asset. When a syndicate (which includes domestic investors and VEMAS) licenses a product for use in a project overseas: For example, a resilience module built in Malaysia for a development in the Middle East, the royalty income (e.g., 35% of the 3% project fee) flows back to the home-country SPV investors.
- **Economic Impact:** This creates a continuous stream of exports, like earnings from intellectual property and financial services, not just physical goods. It allows a country to be a net exporter of sustainable construction technology and capital, earning returns on global decarbonization efforts. The domestic economy benefits from offshore project success without bearing the full execution risk or capital burden, elevating national income beyond what traditional GDP can measure.



QUAD



COOPETITION & ECOSYSTEMS

## COOPETITION & ECOSYSTEMS

### The Integrated Economic Outcome

QUAD's ESG-aligned model synthesizes these strands into a powerful economic proposition:

- I. It upgrades human capital (through targeted training), increasing productivity and wages.
- II. It strengthens domestic industrial capacity and supply chains, reducing import dependence.
- III. It creates a new export sector in sustainable construction IP and finance, generating durable royalty income streams from global markets.

In essence, QUAD provides a framework for nations to not just build greener; but to build wealthier and more resilient economies. It turns the global transition to sustainable construction into a direct opportunity for domestic job creation, industrial upgrading, and the accumulation of national wealth through intelligent, systemized participation in the global market. Advanced building stock is both the product and the physical manifestation of this more robust economic foundation.

### THE UNIFIED QUAD PROPOSITION: ACCESSIBILITY FUELS A NEW MARKET

QUAD's power comes from a single, transformative idea: it decouples world-class construction capability from capital ownership, making it a universally accessible resource. This breakthrough doesn't just lower costs; it creates an entirely new market structure, a "coopetition" ecosystem—where freedom and fairness generate more value for all participants than the old, fragmented model ever could.

#### Core Principle

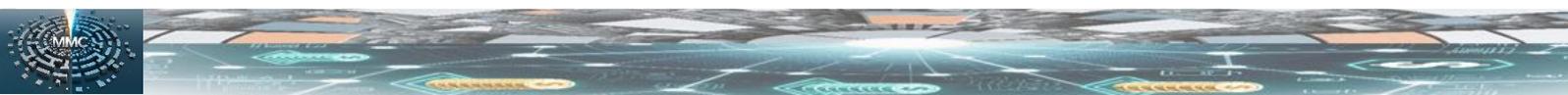
1. Centralized Accessibility

#### Mechanism: How QUAD Enables It

Provides the pre-developed, pre-expensed technology stack (SPPS) as a shared, licensed resource. This eliminates the massive R&D barrier for any single firm.

#### Outcome: The New Market Reality

**Democratizes Capability.** An architect in Nairobi and a builder in Manchester access the same sophisticated design and production systems as a multinational firm. Competition shifts from who owns the best tools to who applies them most creatively.



2. An Optimal, Non-Mandatory Path

Recommends the integrated MPPS ; KOP; PPDSS workflow as the proven route to extract maximum value (the full 28%+ efficiency). The platform's data transparently validates this superior performance.

**Guides Without Enforcing.** The market sees clear proof that following the recommended path yields higher margins and lower risk. Entities are free to choose other methods, but the performance data organically guides adoption, creating alignment without dependency.

3. Structured Cooperation

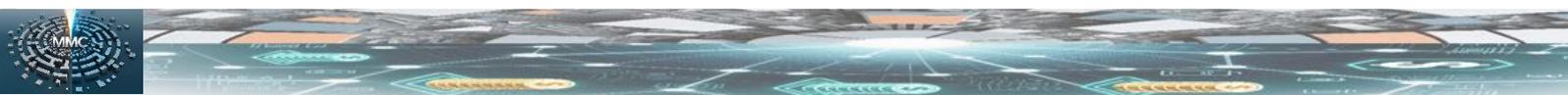
Establishes SPPS governance as the only non-negotiable rule, a "constitution" for fair play that manages IP and royalties. This protects integrity while granting total freedom to compete on specialization, service, and local execution.

**Creates a High-Trust, High-Reward Arena.** Participants collaborate on shared standards (the cooperation) and compete fiercely on application and innovation (the competition). The 28% (24%) efficiency is attainable through effective managed execution.

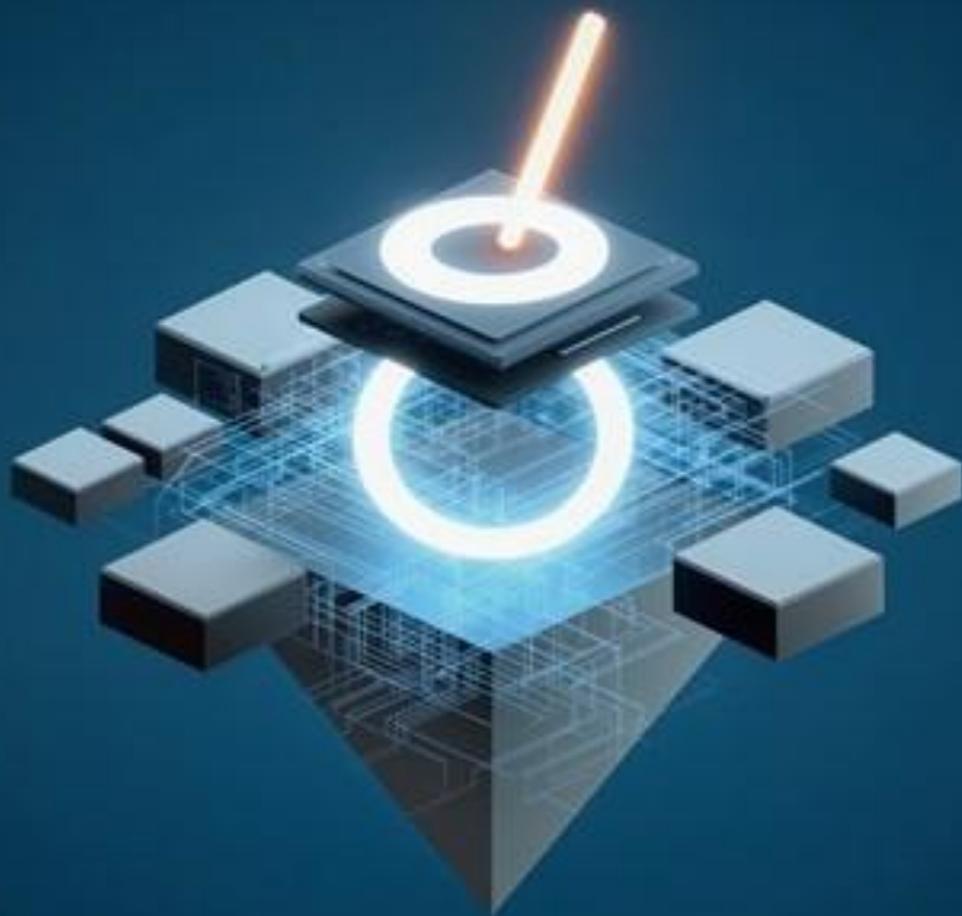
**This model sets off a self-reinforcing cycle:**

- I. Access attracts diverse players into the ecosystem.
- II. Clear rules and proven paths minimize risk and build trust among them.
- III. Trust enables collaboration on shared challenges and global supply chains.
- IV. Collaboration increases the total value in the system, making access to it even more desirable.
- V. This growth funds better technology and more proof, enhancing the platform's value, which attracts more players... and the cycle continues.

QUAD replaces a fragmented, capital-intensive industry with a centralized platform for accessible capability, enabling a dynamic global marketplace where entities are finally free to compete on creativity and execution, not on their ability to own expensive, proprietary tools.



BASE DATA



PERFORMANCE STATISTICS

## Base Data & Performance Statistics

### 1. Base Data

The financial projections presented in this proposal, including the financial summary, are based on an assumed average project size of 3728 square meters. The Sub-as-Super Structure cost is estimated at £870.25 per square meter, with a 65% markup applied to reflect the total project cost per square meter. This scenario considers KOP manufactured in China, shipped to the UK, and assembled on-site. Consequently, the calculation is  $(£870.25 * 65\% + £565.66 = £1435.91$  per square meter, compared to an exact like-for-like equivalent processed without QUAD at £1756.61 per square meter.

#### Sub-as- Super Superstructure

Grouping	Ex-Factory	Sub- Total	Sqm / GBP
KOP Ex-Factory	Wall Panels	CNY 3,414,084 - GBP 365,534	£98.05
	Floor & Ceiling Panels	CNY 1,999,934 – GBP 214,126	£57.44
	Pod Assembly	CNY 1,783,456 – GBP 190,948	£51.22
	Others	CNY 3,322,223 – GBP 355,698	£95.41
		GBP 1,126,306	<b>£302.12</b>
Shipping & Tariff	63 ISO Containers	GBP 373,037	<b>£100.06</b>
Module Assembly [VFA]	Mobile Facility	GBP 927,809	<b>£248.88</b>
Modules Installed &	Finished	GBP 817,144	<b>£219.19</b>
			<b>£870.25</b>

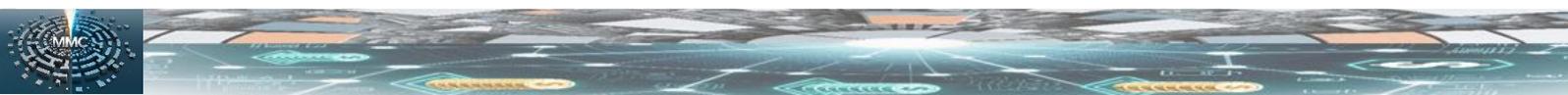
*DETAILED DATA ANALYSIS CAN BE PROVIDED TO REGISTERED INTERESTED PARTIES UNDER  
NDA*

#### Project Impact

Three Scenarios as to the Financial Impact of QUAD

Net Cost Reduction adopting QUAD: Based on 6,548,624

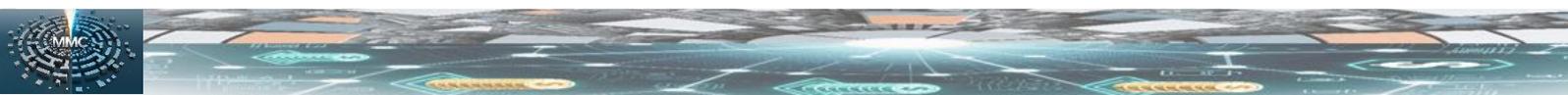
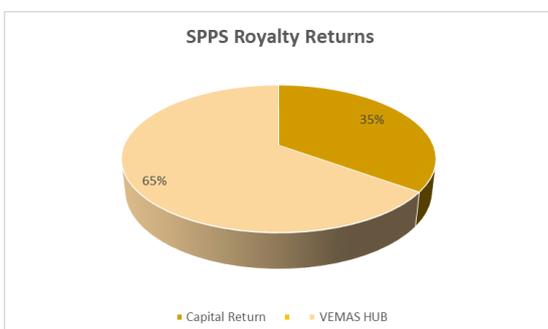
Scenario	Description	Total Project Cost	Net Cost Reduction
Full QUAD Adoption	All savings passed to developer; QUAD charges	£4,978,927	23.97%
Value Chain Incentive	Contributors keep their savings; QUAD charges QDP fee + small contributor fees.	£5,209,806	20.24%
Partial Adoption	Developer opts out of QUAD services; absorbs traditional service costs.	£5,843,503	10.77%



- I. **The Compelling "Minimum" Case (Scenario 1):** Even in the most conservative model where QUAD takes only its direct QDP fee, the developer gets a ~24% cost reduction.
- II. **The "Virtuous Cycle" Model (Scenario 2):** This is QUAD's target ecosystem. By allowing architects, builders, and manufacturers to keep a portion of the savings they generate, we financially incentivize them to join and stay in the network. QUAD's revenue nearly doubles, funding better platform support.
- III. **Proving Superior Structure (Scenario 3):** This scenario is crucial. It shows that even if a client tries to "cherry-pick" QUAD inefficiently, they still save over 10%, and QUAD still earns the same robust fee. This demonstrates that QUAD's value is systemic, not transactional.
- IV. **Transparency as a Competitive Moat:** Unlike platforms that hide margins in material supply, QUAD's fees are transparent and capped at the value created. The 3.96% total fee at project level is an "all-in" rate, this designed to create immense trust.

## 2. SPPS - Syndicated

The commercial structure of a Syndicated Proactive Product Solution (SPPS) presents a streamlined approach compared to the intricate technical hurdles encountered during the retention of a build system. This system, maintained in a "liquid" repository, is designed to facilitate the creation of a unique product served through a Special Purpose Vehicle (SPV). The core principle involves a syndicated investment model, where capital is pooled into a product and amortized across multiple projects. This strategy not only reduces individual project costs but also ensures a perpetual return on investment for syndicated members, contingent upon the product's continued manufacturing and market demand.



QUAD



INVESTMENT PROFILE

## Investment Profile

### 1. Sweat Equity

#### The Foundational R&D: A Decade in the Crucible (2005-2015)

Our journey began not with a business plan, but with a blank canvas and a fundamental invitation: to help a nation build its modern construction capability from the ground up. This first decade was defined by empirical discovery, not theoretical optimization.

##### Phase of Learning

Knowledge Transfer & First Builds (2005-2007)

##### The Challenge Encountered

Translating advanced MMC principles into practice with a team and market that had no point of reference. Success required immersive teaching and physical demonstration.

##### The Core Insight Gained

Technology alone is inert. Its value is only unlocked through complete cultural and procedural translation. This forged our commitment to integrated systems, not exported widgets.

Building Capacity & Facing Global Shocks (2007-2012)

Installing advanced machinery (cold rollers) and establishing factory operations, only to be halted by the 2008 financial crisis, a stark lesson in external vulnerability.

Heavy capital investment in fixed assets is fragile. Tying innovation to single factories creates existential risk from market volatility. This planted the seed for QUAD's asset-light, networked production model (MPPS).

The "Show & Tell" Trap (2008-2015)

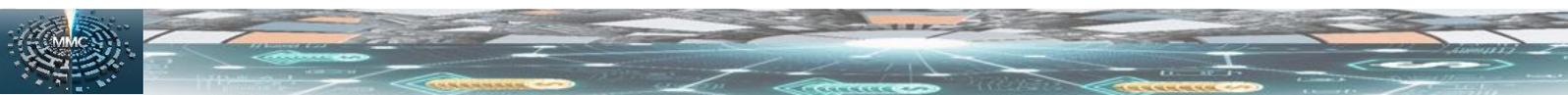
A cycle of lectures, university collaborations, and demonstration projects raised awareness but failed to create a sustainable market. Manufacturers demanded proven projects; clients demanded proven capability—a perfect deadlock.

The existing market is reactive and driven by proof. Pushing technology into a system that demands prior validation is a losing game. This revealed the critical need for a proactive, product-first approach that creates its own proof.

The Consulting & JV Limitation (2012-2015)

Consulting proved the value of our solutions but scaled poorly. Joint venture offers consistently required handing over core IP before any true collaboration,

The traditional partnership model is extractive and misaligned. To protect and scale deep IP, a new governance and commercial



highlighting a fundamental misalignment of trust and value. structure was needed, one that shared value without surrendering ownership.

## 1. THE PIVOT: FROM PUSHING TECHNOLOGY TO ARCHITECTING PULL (2015-PRESENT)

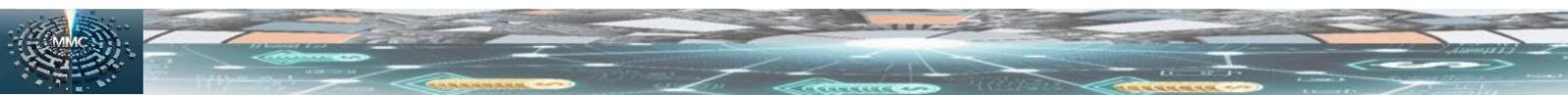
The pivotal insight came in 2015: the problem was not China, nor the technology. The problem was the route to market itself. We ceased pushing solutions uphill against the gravity of a reactive industry and began engineering a system that would create its own gravitational pull.

- The Birth of QUAD: We redirected our energy from external persuasion to internal creation. The mission shifted: build a complete, self-reinforcing platform that makes advanced construction the obvious, low-risk, and financially superior choice.
- Engineering the Solution Stack: Every component of QUAD was forged from the lessons of the first decade:
  - SPPS emerged as the answer to the "proof" problem, creating pre-validated, licensable products.
  - MPPS was designed to create resilient, networked manufacturing, avoiding the fragility of the single factory model.
  - PPDSS ensured that final delivery would not be the point of failure, as we had seen in complex project handoffs.
  - The Hub & Spoke model was architected to provide aligned governance and scale without the pitfalls of traditional JVs or consulting.

### The Unique Equity: Why This Cannot Be Replicated

This "sweat equity" translates into an unassailable strategic advantage:

- I. Cultural & Systemic Fluency: We don't just understand off-site construction; we understand the non-technical barriers to its adoption across vastly different economic and cultural contexts. QUAD is designed to navigate these barriers by default.



- II. De-risked by Experience: Every potential failure mode, from supply chain shock to partner misalignment was lived and learned from in real-time. QUAD's architecture is a map drawn from walking through every conceivable valley.
- III. The "Corrective Route" Validated: Our journey is the ultimate case study. We spent the "wrong" decade (2005-2015) trying to fix the old system, and the "right" decade designing its replacement. This gives us supreme conviction in the necessity and form of the QUAD solution.

In essence, our history is our most valuable non-technical IP. It is the reason QUAD does not resemble any other tech or construction startup. It is not a theory; it is a field-tested corrective blueprint, built from twenty years of translating hard lessons into elegant, systemic solutions for the global market.

## 2. The Investment Opportunity: Capitalizing the Scaling Nerve Center

We are seeking £8-11 million to complete the development and initial deployment of the QUAD Digital Platform (QDP). This capital represents the final, leveraged investment to activate a fully de-risked industrial system.

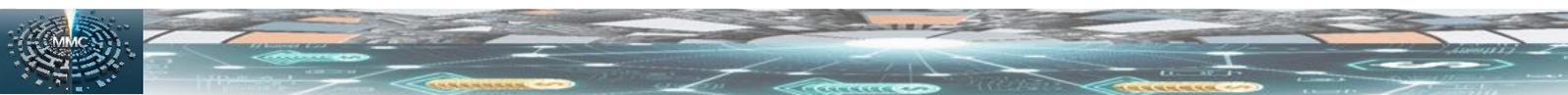
### **The Strategic Imperative: From Proven Systems to Global Network**

The QDP is not a speculative software venture. It is the essential orchestration layer that integrates our three battle-tested physical systems (SPPS, MPPS, PPDSS) and our financial syndication engine into a single, seamless operating system. Without it, we have a portfolio of superior technologies; with it, we have a globally scalable platform.

### **Why This Capital is Uniquely Efficient**

This investment is exceptionally efficient because it builds upon an unparalleled, pre-existing foundation:

- No R&D Risk on Core Technology: The £8-11 M does not fund the invention of SPPS, MPPS, or PPDSS. That R&D is complete, funded by 20 years of operational investment.
- Avoids Physical Capital Burden: The funds are not for factories, machinery, or real estate. QUAD's asset-light, franchise (Spoke) model ensures physical deployment capital comes from partners.



- **Pure Software Multiplier:** The capital is allocated entirely to building high-leverage software that multiplies the value of our existing IP, enabling network effects, global coordination, and data-driven optimization.

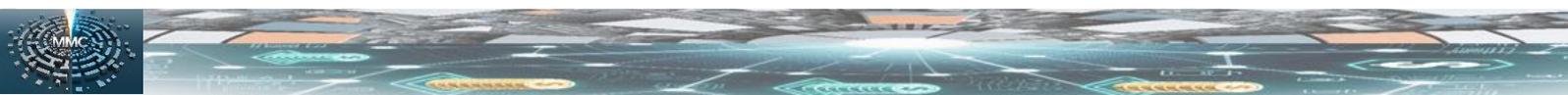
### Use of Funds: Building the Global Control Plane

Allocation Area	Percentage	Functional Outcome
Core Platform Development	65%	Builds the integrated digital environment connecting SPPS library, MPPS manufacturer network, PPDSS logistics, and syndication finance into one workflow.
Ecosystem Launch & Integration	25%	Funds the onboarding of initial Spoke franchises, manufacturer certification into the OS-Optima network, and integration with first syndication SPVs.
Operational Runway & Core Team	10%	Secures the core technical and strategic leadership for 8-18 months to launch the platform and achieve first revenue milestones.

### The Investor Proposition: High-Margin, Recurring Revenue from a New Market Layer

The QDP is the gateway to multiple, defensible, high-margin revenue streams:

- I. **Platform Access & Licensing Fees:** Recurring SaaS-like fees from Spokes and to the QDP, the SPPS library, and MPPS/PPDSS protocols.
- II. **Transaction & Royalty Management Fees:** A small percentage of the value flowing through the platform, including syndication royalties and cross-border project coordination fees.
- III. **Data & Analytics Services:** Premium insights derived from the platform's unique dataset on global construction efficiency, material flows, and product performance.



### **Risk Mitigation Through Global Architecture**

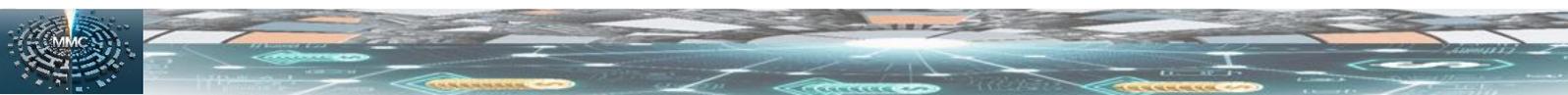
The QDP and the Hub& Spoke model are specifically designed to mitigate investment risk:

- **Market Diversification:** The platform is built for simultaneous, multi-national adoption. Revenue is not dependent on a single country's economic cycle. Growth in one region funds expansion in another.
- **De-risked Commercialization:** Spokes, as locally owned franchises, bear the operational cost and risk of market penetration. The Hub (QDP) captures value from their success with minimal incremental cost.
- **Proven Demand Pathway:** The platform does not create demand from scratch. It services and accelerates the market demand already proven by our physical systems and syndication model, ensuring rapid utility and adoption.

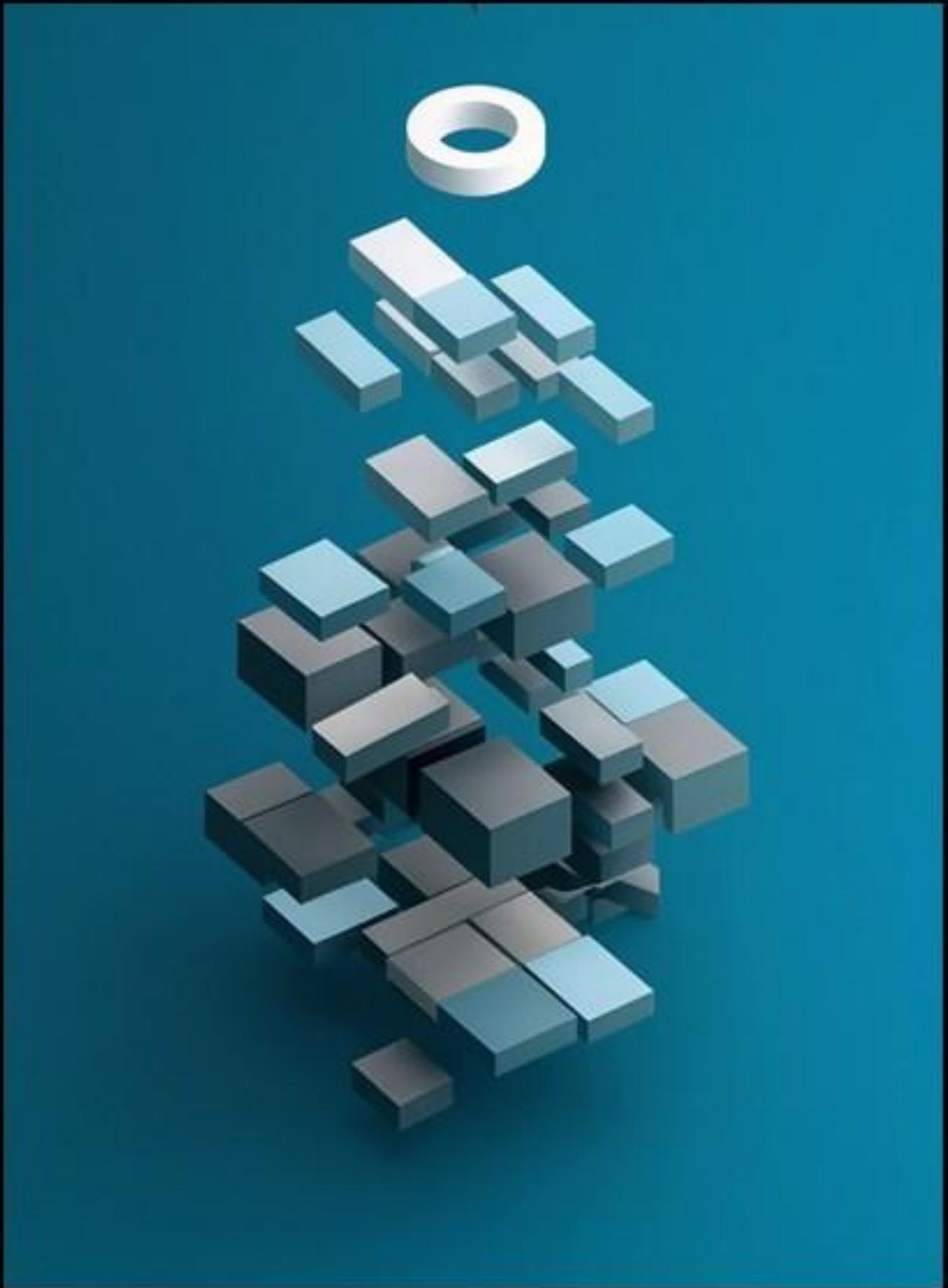
### **Conclusion: Funding the Inevitable Multiplier**

This investment is the catalyst to transition QUAD from a holder of profound industrial IP to the dominant operating platform for modern construction. You are investing in the high-margin software layer that will systemize, coordinate, and monetize the global transition to efficient, accessible building a transition QUAD is uniquely positioned to lead because its foundations are already poured, cured, and proven.

We are not asking you to bet on construction technology. We are offering you a stake in the scaling mechanism for the system that has already solved the industry's hardest problems.



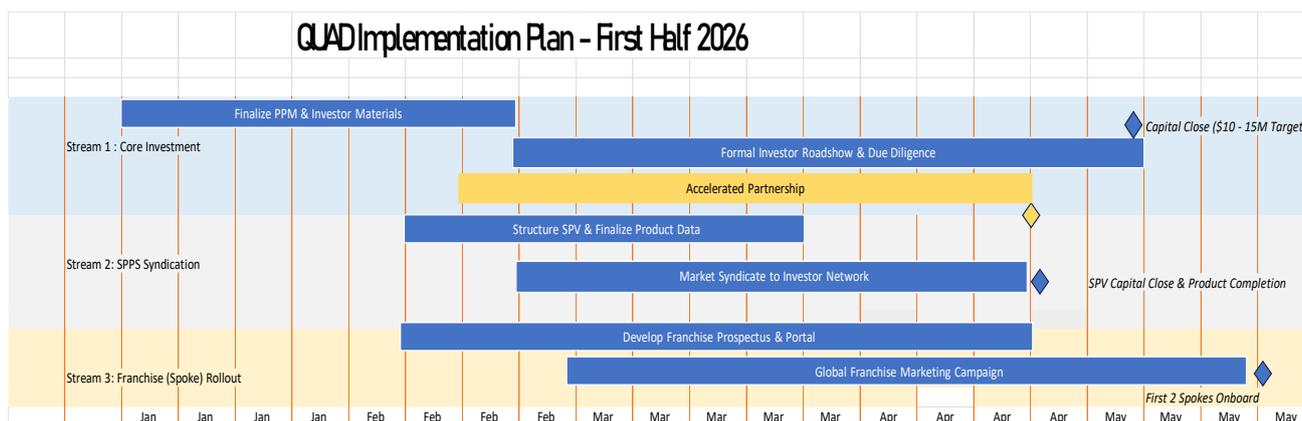
# VEMAS QUAD



IMPLEMENTATION PLAN

## QUAD Implementation Plan: Parallel Execution Tracks (Q1 -Q2 2026)

The diagram below illustrates how the three critical workstreams will run in parallel and intersect over the first six months of 2026



### Phase 1: Foundation & Preparation (January - February 2026)

#### Core Investment Track:

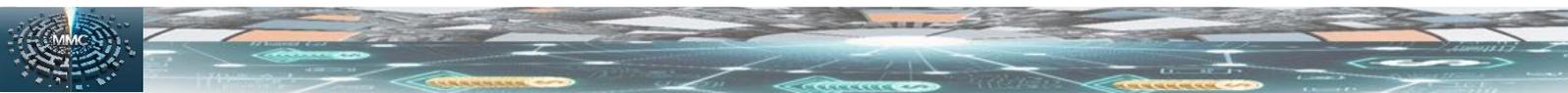
- Key Actions: Finalize the Private Placement Memorandum (PPM), financial model, and investor pitch deck. Pre-qualify and initiate soft outreach to target investor leads (VCs, impact funds, family offices).
- Success Metric: PPM signed off by legal; target list of 50+ qualified leads.

#### SPPS Syndication Track:

- Key Actions: Complete all technical documentation for the 80 sqm unit. Structure the legal Special Purpose Vehicle (SPV), defining the 60% discount for syndicate members and royalty waterfall.
- Success Metric: "Investment-ready" SPV structure and comprehensive product data room.

#### Franchise Rollout Track:

- Key Actions: Finalize the Franchise Prospectus (terms, fees, support). Develop the "Spoke Portal" module within the QDP for registration and onboarding.
- Success Metric: Completed franchise legal package and functional beta of registration portal.



## Phase 2: Intensive Execution & Deal Closure (February - March 2026)

### Core Investment Track:

- Key Actions: Formal investor roadshow (virtual/in-person). Conduct due diligence sessions. Negotiate and finalize terms for the platform investment round.

Success Metric: Secure signed commitments to meet the £8-11M target.

### SPPS Syndication Track:

- Key Actions: Market the SPV opportunity specifically to the network of real estate developers, architectural firms, and high-net-worth individuals. Highlight the discount and the completed product route to market.

Success Metric: Fully subscribe to the SPV to raise the capital required for final tooling and certification.

### Franchise Rollout Track:

- Key Actions: Launch global marketing campaign targeting construction professionals in key regions (e.g., UK, Middle East, Southeast Asia). Begin screening applications.

Success Metric: Generate 100+ serious franchise inquiries.

## Phase 3: Launch & Integration (April 2026 Onwards)

### Core Investment Track:

- Key Actions: Capital transfer. Formal kick-off of QDP development with the technical team, funded by the closed round.

Success Metric: Development sprints for QDP commence.

### SPPS Syndication Track:

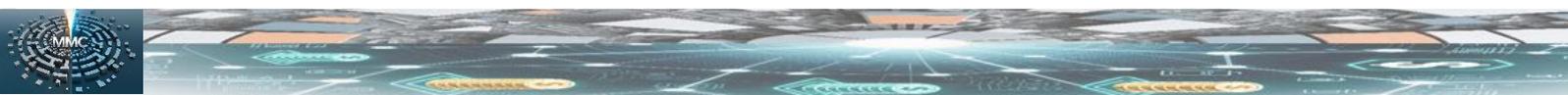
- Key Actions: Deploy SPV capital to complete manufacturing setup, final approvals, and produce first units. Initiate royalty tracking mechanism.

Success Metric: First batch of certified 80 sqm units ready for project deployment.

### Franchise Rollout Track:

- Key Actions: Execute agreements with the first 2 Spoke franchises. Begin their training program on QUAD systems, SPPS products, and the QDP portal.

Success Metric: Two Spokes contractually onboarded and in training.



## Key Risks & Mitigations

- **Risk:** Investment or SPV syndication timelines slip.

*Mitigation: Run both investor tracks concurrently but with a staggered narrative: platform investors fund the "gun" (QDP), SPV investors fund the "bullets" (SPPS). If one is delayed, focus on the other.*

- **Risk:** Franchise interest is high, but candidates lack capital.

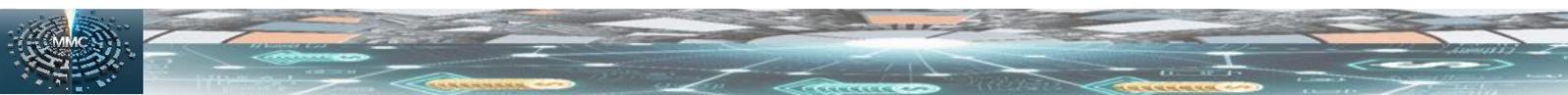
*Mitigation: Develop a tiered franchise model (e.g., "Associate Spoke" with lower fee/scope) and pre-negotiate partner introductions to lenders.*

- **Risk:** Manufacturing delays for the first SPPS unit.

*Mitigation: Use part of the core investment to fund a parallel, accelerated prototyping process to de-risk the critical path.*

## 10-YEAR STRATEGIC IMPLEMENTATION PLAN (2026-2035)

STRATEGIC PHASE	TIMELINE	KEY OBJECTIVES & IMPLEMENTATION FOCUS
Phase 1: Foundation & Proof	2026-2028	Prove the model. Successfully launch the QDP, syndicate the first 3 SPPS products, and onboard the first 7 Spokes. Focus on flawless execution of the first 31 projects to build case studies and refine the playbook.
Phase 2: Scaling & System Dominance	2029-2032	Achieve profitability and market leadership. Rapidly expand the SPPS library to 27 products and the Spoke network to 18 countries. Systematize all processes. The QDP evolves into a full collaboration hub for the ecosystem.
Phase 3: Global Replication & Market Leadership	2033-2035	Become the industry standard. The network effect takes over. Focus on "coopetition" – enabling Spokes to collaborate on massive, cross-border projects. The platform opens APIs for third-party innovation. QUAD transitions from a service to the indispensable infrastructure of global construction.



**Growth Targets & Revenue Driver Build-Up:**

Year	New Spokes	Total Spokes	New SPPS	Total SPPS	New Projects	Cum. Projects
1	2	2	3	3	1	1
2	2	4	2	5	8	9
3	3	7	3	8	22	31
4	3	10	5	13	55	86
5	5	15	4	17	99	185
6	2	17	4	21	198	383
7	1	18	6	27	396	779
8	1	19	5	32	713	1492
9	2	21	5	37	1140	2632
10	3	24	5	42	1825	4457

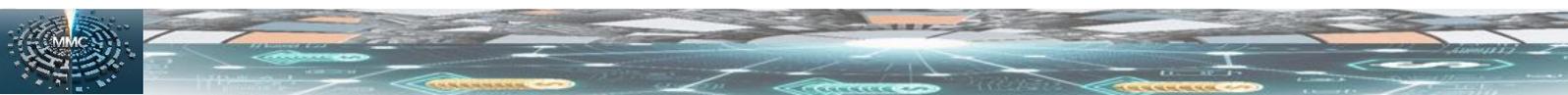
**QUAD GLOBAL ECOSYSTEM: 10-YEAR IMPLEMENTATION ROADMAP (2026-2035)**

*This roadmap integrates the strategic rollout of the Hub, Spoke network, SPPS library, and project delivery, aligned with the corrected financial projections.*

**Phase 1: Foundation & Proof (2026 - 2028)**

*Objective: Prove the integrated model in initial markets and achieve operational breakeven for the Hub.*

- 2026: Secure £8-11M investment. Launch QDP development (Phases 1-2). Syndicate and launch first 3 SPPS products. Onboard first 2 Spokes (pilot markets). Execute first 1-2 reference projects.
- 2027: Achieve QDP Private Beta with Spoke portals. Onboard Spokes 3 & 4. Launch SPPS products 4 & 5. Grow project pipeline to 8+ projects. Hub achieves operational cash flow positivity.
- 2028: Achieve QDP V1.0 Public Launch. Onboard Spokes 5-7. Launch SPPS products 6-8. Scale to 22+ projects annually. Hub reaches sustained profitability. Finalize franchise playbook.



## Phase 2: Scaling & System Dominance (2029 - 2032)

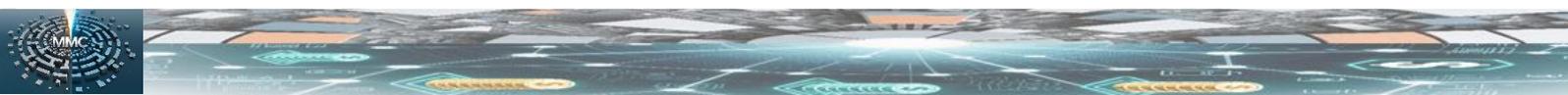
*Objective: Achieve market leadership in target verticals and systematize global replication.*

- 2029: Expand to 10 Spokes across 10 countries. Accelerate SPPS library to 13 products. Scale project delivery to 55+ annually. Launch first "coopetition" project between multiple Spokes/manufacturers.
- 2030: Grow network to 15 Spokes. Launch SPPS products 14-17. Project volume exceeds 99 annually. Hub's operating margin exceeds 70%. QDP evolves with advanced analytics and partner APIs.
- 2031-2032: Consolidate network to 17-18 high-performance Spokes. Expand SPPS library to 27 products. Project volume scales to nearly 400 annually. The network effect becomes a primary barrier to entry. Hub margin approaches 90%.

## Phase 3: Global Replication & Market Leadership (2033 - 2035)

*Objective: Transition QUAD into the global industry standard, enabling complex cross-border ecosystems.*

- 2033-2035: Stabilize network at 21-24 premier Spokes in key global markets. Mature SPPS library to 42 products, covering all major building typologies. Project volume scales exponentially to over 1,800 annually.
- Ecosystem Evolution: The QDP transitions from an operations platform to an open industry data and transaction hub. Revenue shifts overwhelmingly to high-margin, recurring royalties.
- Strategic Goal: QUAD becomes the indispensable, neutral operating system for global construction, facilitating a significant portion of off-site project delivery worldwide. Hub operating margin stabilizes at 95%+.



## Key Performance Indicators (KPIs) & Financial Corridor

*This implementation is directly linked to the financial model. The table below shows how operational targets drive the financial outcome.*

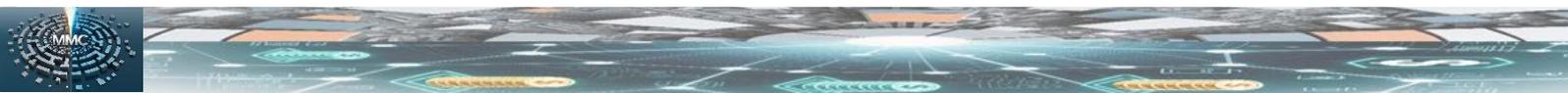
Year	Spokes Target	SPPS Library Target	Target Projects (Cumulative)	Result: Hub Op. Profit (GBP)	Milestone
1	2	3	1	£0.2m	Ecosystem Activated
2	4	5	9	£0.5m	Cash Flow Positive
3	7	8	31	£2.3m	Hub Profitability
4	10	13	86	£5.6m	System Dominance
5	15	17	185	£9.0m	Scale Achieved
7	18	27	779	£28.3m	Network Effect
10	24	42	4,457	£119.0m	Market Leadership

## Governance & Risk Mitigation

- **Spoke Performance:** The Hub manages a performance scorecard. Underperforming territories may see additional Spokes appointed to ensure market coverage and quality.
- **Capital Allocation:** Beyond the initial £8-11M, growth is funded by internal cash flow. Major strategic initiatives (e.g., new QDP modules) will be evaluated against ROI.
- **Strategic Optionality:** As noted, high-value consulting and venture activities led by VEMAS will run in parallel, providing non-dilutive revenue to fund R&D and de-risk the core platform's expansion.

VEMAS QUAD





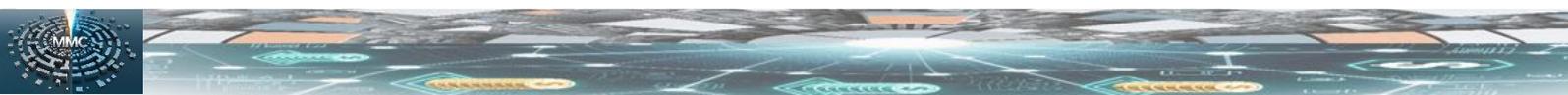
## The Financial Model

### Dual-Engine Capital Structure

Engine	Capital Source	Use of Funds	Investor Return
Platform Equity	£8-11M / \$10-14M from VCs/Institutions.	Funds QDP development, Hub operations, franchise launch.	Equity appreciation in the QUAD Hub.
Product Syndication (SPV)	£350k per SPPS from product investors.	Funds final engineering & tooling for one SPPS product	35% share of that product's project royalties.

### QUAD HUB 10 -Year P&L Projection (£'000s)

Line Item	Year 1	Year 1	Year 1	Year 1	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>REVENUE</b>										
SPPS Syndicated Development Funds	1,050	700	1,050	1,750	1,400	1,400	2,100	1,750	1,750	1,750
Franchise Fees (One-Off)	250	250	375	375	625	250	125	125	250	375
QDP Access Fees (Annual)	200	400	700	1,000	1,500	1,700	1,800	1,900	2,100	2,400
Project Royalties (Net 65%)	63	505	1,389	3,470	6,246	12,492	24,984	44,971	71,954	115,126
15% Spoke Gross	45	270	630	1,125	1,875	2,138	2,363	2,513	2,888	3,375
<b>Total Revenues</b>	<b>1,608</b>	<b>2,125</b>	<b>4,144</b>	<b>7,720</b>	<b>11,646</b>	<b>17,980</b>	<b>31,372</b>	<b>51,259</b>	<b>78,942</b>	<b>123,026</b>
<b>OPERATING COSTS</b>										
(Exec, Design, Eng, Software)	1,160	1,280	1,501	1,780	2,215	2,432	2,650	2,830	3,090	3,400
Office Space	150	158	165	174	182	191	201	211	222	233
Travel & Accommodation	50	53	55	58	61	64	67	71	74	78
Utilities	5	5	5	6	6	6	7	7	7	8
Other	80	84	89	107	126	156	170	186	227	261
Total Operating Cost	<b>1,445</b>	<b>1,580</b>	<b>1,815</b>	<b>2,125</b>	<b>2,590</b>	<b>2,849</b>	<b>3,095</b>	<b>3,305</b>	<b>3,620</b>	<b>3,980</b>
<b>OPERATING PROFIT/(LOSS)</b>	<b>163</b>	<b>545</b>	<b>2,329</b>	<b>5,595</b>	<b>9,056</b>	<b>15,131</b>	<b>28,277</b>	<b>47,954</b>	<b>75,322</b>	<b>119,046</b>
Operating Margin	10%	26%	56%	72%	78%	84%	90%	94%	95%	97%



### SINGLE SPOKE - Detailed Annual P&L (Mid-Growth Stage, GBP)

Assumes a mature Spoke handling 5 projects annually.

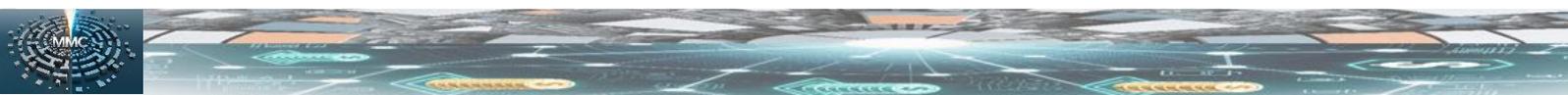
Line Item	Calculations / Assumptions	Annual Figure (GBP)
<b>REVENUE</b>		
Project Delivery (MPPS/PPDSS)	5 projects * £162,230	£811,150
Value Chain Registration Fees	200 contributors * £200	£40,000
Manufacturer Setup Fees	(10 setups / 3 yrs) * £125,000	£41,667
Marketing (Material Suppliers)	30 suppliers * £1,000	£30,000
Enterprise Consultancy	On Demand	£300,000
Training & Development	On Demand	£80,000
<b>Total Revenue</b>		<b>£1,302,817</b>
<b>OPERATING COSTS</b>		
Payments to Hub :		
Franchise Fee	(Amortized) £125,000 / 10 years	£12,500
QDP Annual License Fee	Annual	£100,000
15% of Gross Profit	15% * £712,217	£106,833
Local Operating Costs :	(4-5 core staff)	£440,000
Office Space	£150,000 + 5% inflation	£157,500
Travel & Accommodation	£100,000 + inflation	£105,000
Utilities, Assets, Other	£5,000 + £35,000/10 + £80,000	£88,500
<b>Total Operating Costs</b>		<b>£1,010,333</b>
<b>NET PROFIT (Before Tax)</b>	Total Revenue - Total Costs	<b>£292,484</b>

### Supporting Calculation: Spoke Network Contribution

Assumes each new Spoke ramps to maturity over 3 years (Year1: 25%, Year2: 65%, Year3: 100% of mature GP).

Year	# of New Spokes (from Franchise Fee)	Total Active Spokes (from QDP Fee)	Avg. 15% GP per Spoke (GBP '000s)	Total 15% GP to Hub (GBP '000s)
1	2	2	£28.1 (25% mature)	£45
2	2	4	£73.1 (65% mature)	£270
3	3	7	£90.0 (80% mature)	£630
4	3	10	£112.5 (100% mature)	£1,125
5	5	15	£125.0	£1,875
6	2	17	£125.8	£2,138
7	1	18	£131.3	£2,363
8	1	19	£132.3	£2,513
9	2	21	£137.5	£2,888
10	3	24	£140.6	£3,375

### Single Spoke Annual P&L Sensitivity (GBP)



Line Item	3 Projects/Year	4 Projects/Year	5 Projects/Year (Base)
Project Delivery Revenue	£486,690	£648,920	£811,150
Total Revenue	£978,357	£1,140,587	£1,302,817
Gross Profit (GP)	£425,867	£588,092	£750,317
15% GP to Hub	£63,880	£88,214	£112,548
Local Headcount Cost	(£392,000)	(£416,000)	(£440,000)
Net Profit (Before Tax)	£120,987	£206,713	£292,484
Net Profit Margin	12.4%	18.1%	22.5%

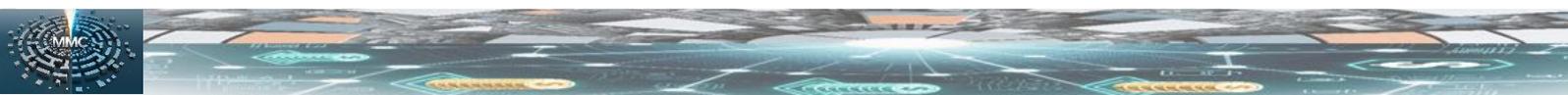
### Initial Investment & Annual Ramp-Up (GBP)

Phase	Line Item	Year 0 (Setup)	Year 1	Year 2	Year 3+ (Mature)
<b>Initial Investment</b>	Franchise Fee (One-Off)	(£125,000)	-		
	Setup Capital (Office, etc.)	(£50,000)	-		
<b>Annual P&amp;L</b>	Project Delivery Revenue	-	£324,460	£648,920	£811,150
	Other Revenue Streams	-	£300,000	£450,000	£491,667
	<b>Total Revenue</b>	-	£624,460	£1,098,920	£1,302,817
	Total Operating Costs <sup>(*)</sup>	-	(£735,000)	(£980,000)	(£1,010,333)
	<b>Net Profit / (Loss)</b>		(£110,540)	£118,920	£292,484

(\*) Includes all Hub fees , local headcount scaling,& operating cost

The-Hub's QDP (QUAD Digital Platform) provides comprehensive support to new franchisees, ensuring a smooth transition from initial setup to full operational maturity. This structured approach involves a controlled release of resources and expertise, allowing regional characteristics to be integrated into a global framework. This methodology ensures that individual franchise locations are well-supported in their value chain, benefiting contributors, developers, and project sponsors alike. The result is a high-quality handover process that combines localized project delivery with access to global resources.

### VALUATION



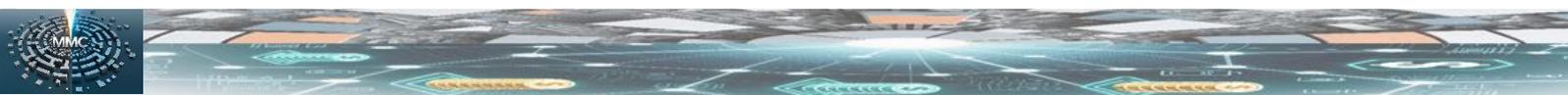
### QUAD HUB Key Valuation Drivers (GBP '000s)

Metric	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Operating Profit	163	545	2,329	5,595	9,056	15,131	28,277	47,954	75,332	119,046
Less: Taxes (20%)	(33)	(109)	(466)	(1,119)	(1,811)	(3,026)	(5,655)	(9,591)	(15,066)	(23,809)
NOPAT	130	436	1,863	4,476	7,245	12,105	22,622	38,363	60,266	95,237
Less: Reinvestment*	(118)	(275)	(1,204)	(1,790)	(2,204)	(2,790)	(4,088)	(5,652)	(7,627)	(10,062)
Free Cash Flow	12	161	659	2,686	5,041	9,315	18,534	32,711	52,639	85,175

The reinvestment\* is on the assumption that the successful implementation of QDP provides a platform for extend value drivers in the for of digital, marketing, hand held applications, virtual training modules, in addition to a provision for increased working capital.

### DCF Valuation Scenario Analysis (Pre-Money Valuation in £ Millions)

Scenario	Discount Rate (WACC)	Perpetual Growth	Key Assumptions	Valuation Range
Downside	15%	2.5%	Higher risk, slower long-term growth. Execution challenges.	£75M - £95M
<b>Base Case</b>	13%	3.0%	Successful execution per plan. Steady maturity.	<b>£100M - £135M</b>
Upside	11%	3.5%	Faster adoption, higher margin retention, premium exit	. £150M - £200M+



## Valuation Justification

"You are not investing in an idea. You are investing in the scaling mechanism for a system that has already been proven over two decades."

Our £100-135M pre-money valuation is not a projection of hope. It is a rational valuation of de-risked intellectual property, a functional commercial model, and a clear, executable scaling plan.

### 1. **The Foundation:** 20 Years of "Sweat Equity" as Your De-risking Asset

The single largest line item in any startup's projections is Research & Development risk. For QUAD, this line item is already paid for.

- **What, We Have Built:** Over 20 years in China's construction crucible, we have solved the industry's hardest problems. We didn't just consult; we operated factories, imported machinery, trained workforces, and delivered projects. From that, we engineered the three integrated systems: SPPS (product design), MPPS (manufacturing), and PPDSS (assembly).
- **What, This Means for You:** Your capital is not funding the invention of core technology. That R&D is well established. You are funding the digital and commercial scaling of a mature industrial operating system. This removes the primary risk of a deep-tech venture.

### 2. **The Engine:** A Capital-Efficient, Cash-Generative Model From Day One

Our financials show business engineered for capital efficiency and high margins.

- **Immediate Monetization:** Unlike software startups that burn cash for years to find product-market fit, QUAD has multiple validated revenue streams from launch. The SPPS syndication engine turns our IP into immediate licensing income (£350k per product), while project royalties provide perpetual, high-margin cash flow.
- **Hub Profitability:** The Hub model projects profitability from Year 1 (2026). This is not magic; it's the result of our SPV structure. The heavy cost of product development is borne by dedicated syndicates, while Hub captures a 65% royalty share. We built a model where the platform's income is asset-light and recurring.



- **Partner Viability:** The Spoke franchise model is not a theory. Our unit economics show a single Spoke can generate ~£300k in annual net profit. This makes the franchise highly attractive, ensuring we can recruit the partners needed for global scaling without subsidizing their operations.

### 3. **The Scaling Thesis:** Funding the "Nervous System," Not the "Body"

The £8-11 million investment has a precise, high-leverage purpose: to build the QDP "the digital orchestrator".

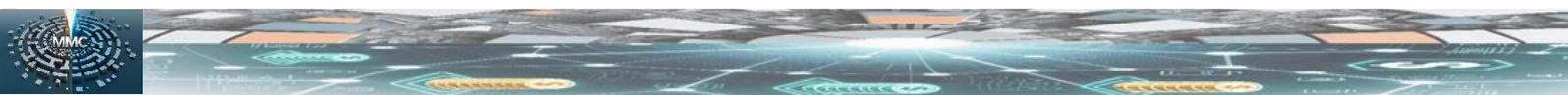
- **The Analogy:** We have already built the world's best "athletes" (SPPS products, manufacturing protocols). What we need now is the "central nervous system" to coordinate them globally. QDP is that nervous system. It is the force multiplier that allows our proven manual processes to scale from 10 projects to 4,457 projects over a decade.
- **Your Capital's Role:** This investment is not for gambling on unproven tech. It is for building the definitive control layer for a pre-existing, high-value ecosystem. It is the final, critical piece of infrastructure.

### 4. **The Valuation: Anchored in Defensible, High-Margin Cash Flows**

Our £100-135M valuation is derived from the Net Present Value of the Hub's future cash flows.

- **The Drivers:** This value is based on the 65% royalty share from projects using our SPPS library, plus platform fees. Our Base Case projects this to grow to over £ 119 million in annual Hub profit by 2035, with operating margins approaching 97%.
- **The "Sweat Equity" Multiple:** The valuation reflects the immense time, capital, and expertise already embedded in the QUAD system, the "sweat equity" that gives us a 10–15-year head start. You are acquiring a stake in that accumulated, de-risked value.
- **The Upside:** Our valuation is conservative, based on hitting our project targets. The Upside Case (valuation of £150M+) captures the potential for faster adoption or premium projects, offering a clear path to a 10x+ return.

In summary, this valuation reflects a unique opportunity: to provide growth capital to a company that is, in effect, post-technological risk. You are investing in the accelerator for a machine that is already built, tested, and ready to run. The hard work is done. With your partnership, we will now turn the key and scale it to define the future of a \$10 trillion industry.



## STRATEGIC OPTIONALITY & ECOSYSTEM DEVELOPMENT

The financial projections for the QUAD Hub are based on a pure, asset-light platform model: fees from Spokes and net royalties from syndicated products. This "Dual-Engine" model is the foundational, defensible, and scalable core of the business. However, the unique position of VEMAS as the system architect creates significant, uncaptured strategic optionality that provides substantial upside and risk mitigation.

### 1. Hub-Level Strategic Services (VEMAS)

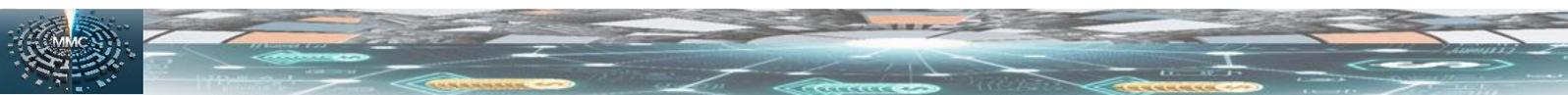
The Hub, operated by VEMAS, will engage in high-value, advisory services that leverage its 20 years of systemic insight without conflict of interest:

- National & Regional Consulting: Advising governments and development agencies on structuring industrial zones, vocational training frameworks, and policies to attract modern construction investment.
- Asset Provision & Joint Ventures: Through separate entities, VEMAS can participate in the manufacturing and provision of specialized production assets or form joint ventures in recruitment and training, creating aligned revenue streams.
- These services are intentionally excluded from the core valuation model. They represent high-margin, opportunistic income that will bolster the Hub's, financial resilience and fund R&D without diluting the clear platform economics presented to investors.

### 2. Spoke-Level Flexibility & Adoption Pathways

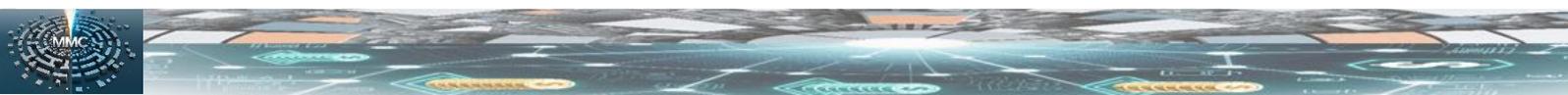
The Spoke network is designed for maximum market adoption through flexibility:

- "Bolt-On" for Existing Firms: A Spoke franchise can be integrated into an existing architectural practice, engineering firm, or contractor, providing them with a new, high-margin revenue line (MPPS/PPDSS project fees) and a competitive edge.
- "Incubated" New Ventures: The Hub can initially perform all Spoke functions in a new market. As demand is proven and local partners are trained, a dedicated Spoke is "spun out," ensuring controlled, de-risked market entry.
- Managed Competition: The Hub will grant exclusive territories initially, with the right to introduce additional Spokes based on transparent performance and capacity metrics. This ensures market coverage keeps pace with demand while maintaining ecosystem quality.

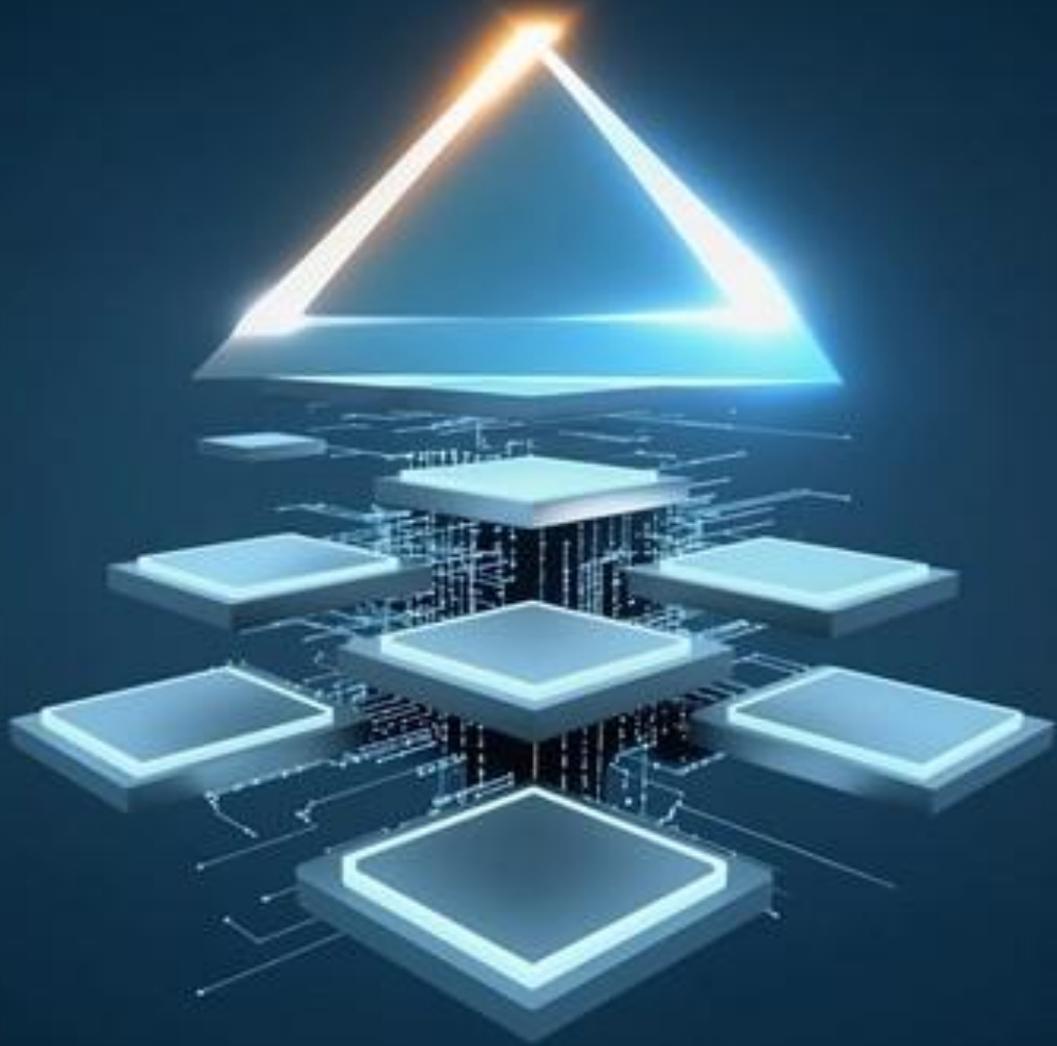


### **Conclusion on Optionality**

This layered approach, a core, quantifiable platform model surrounded by strategic, unquantified upside represents a sophisticated go-to-market strategy. It ensures the investment case remains clean and financeable while providing multiple pathways for value accretion and ecosystem growth that are unique to VEMAS's foundational role. The numbers we present are the floor; the strategic optionality is the ceiling.



SUMMARIZED



INVESTED INTEREST



### III. The VC-Friendly Model: Capital Efficiency & Multiple Revenue Streams

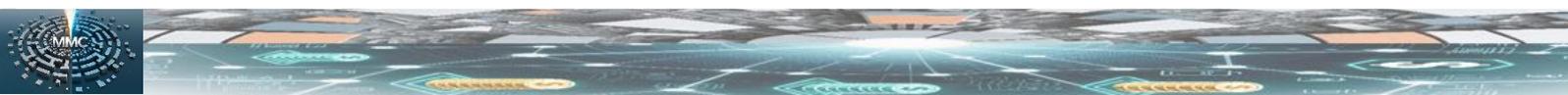
QUAD's structure is engineered to avoid the pitfalls that destroyed previous capital-intensive ventures in this space.

- Path to Scale: Our franchise (Spoke) model means market expansion is driven by partners' capital, not ours. We scale the high-value IP and platform, not the physical assets.
- Revenue Model: We generate high margin, recurring, and transactional revenue:
  1. Platform Access & Franchise Fees (Recurring SaaS-like revenue).
  2. Royalty Streams from SPV-syndicated products (High-margin, success-based income).
  3. Transaction Fees on cross-border ecosystem collaboration.
- Capital Deployment: The £8-£11M ask is not for physical R&D (done) or factories (partner-owned). It's purely to build the digital orchestration layer, the high-leverage software that multiplies the value of our existing IP and enables global network effects.

### IV. Why This is a Uniquely De-risked Opportunity

1. Proven, Not Speculative: The 20-year development in China de-risks the core technology. We are building a scaling platform for a measured system, not betting on unproven tech.
2. Avoids "Kattera's Trap": We are a platform, not a vertical integrator. We don't own the factories; we make them more valuable. This is capital-efficient and avoids crushing operational complexity.
3. Captures the "Coopetition" Dividend: By aligning incentives, we turn traditional competitors into network participants. Their growth becomes our growth, creating a defensible ecosystem with switching costs.

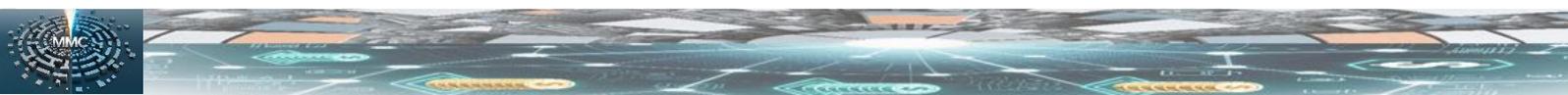
QUAD is a rare opportunity to back the foundational platform in the world's largest industry. We are applying the platform, "as a service", asset light, network effects playbook, proven in sectors from software to marketplaces, to a physical industry where it has never been executed.



You are investing in:

- The IP moat of a 20-year-developed industrial operating system.
- The scaling engine (digital platform) that will network the industry.
- A new economic model that extracts high-margin value from enabling efficiency, not from owning bricks and mortar.

We are not a construction company. We are the company that will power the construction companies of the future. The exit path is the indispensable, category-defining platform for a \$10 trillion sector, an acquisition target for any major industrial, tech, or private equity firm seeking to own the future of the built world.



## IMPORTANT DISCLAIMER & CONFIDENTIALITY NOTICE

This document (the "Proposal") is a confidential business plan prepared by <sup>(\*)</sup>VEMAS Group of Companies. (the "Company") for informational purposes only in connection with a proposed private offering of securities to a limited number of accredited or otherwise qualified investors.

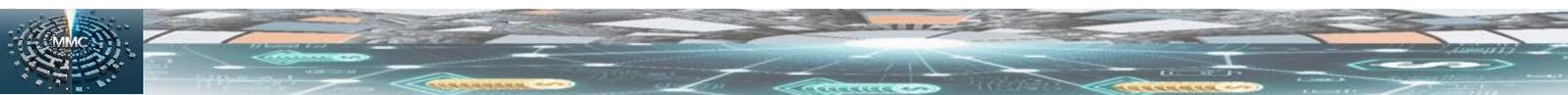
**No Registration or Broker-Dealer Status:** This Proposal does not constitute an offer to sell or SOLICITATION of an offer to buy any securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation. Any such offer will be made only pursuant to definitive subscription documents. The Company is not registered as a broker-dealer, investment adviser, or underwriter under the securities laws of any jurisdiction. Recipients of this Proposal are not to construe its contents as legal, tax, or investment advice.

**Forward-Looking Statements:** This Proposal contains forward-looking statements regarding the Company's business, financial condition, results of operations, and prospects. These statements are based on current expectations, estimates, and projections that involve risks and uncertainties. Actual results may differ materially from those expressed or implied. The Company undertakes no obligation to update any forward-looking statements.

**Confidentiality:** This Proposal is provided in strict confidence. By accepting this document, the recipient agrees not to copy, distribute, reproduce, or disclose its contents to any person without the prior written consent of the Company. This Proposal must be returned upon request.

**High-Risk Investment:** An investment in the securities described herein involves a high degree of risk and is suitable only for persons of adequate financial means who have no need for liquidity with respect to this investment. Prospective investors should carefully consider the risk factors to be outlined in the formal offering documents and are urged to consult with their own legal, tax, and financial advisors before making any investment decision.

**No Representation or Warranty:** While the information herein is believed to be reliable, the Company makes no representation or warranty, express or implied, as to the accuracy or completeness of the information contained in this Proposal. Nothing herein should be relied upon as a promise or representation as to the future.



## Acknowledgments-Supplements & Contacts

### ACKNOWLEDGMENTS

#### Acknowledgement 1

The offsite construction industry's evolution is a testament to the dedication of numerous individuals over the decades. Among these contributors, the personal partners of the principals deserve special recognition for their indirect financial support during QUAD's independent development. Acknowledgment is also due to Simon (Xiangke) Yu, the co-author of this proposal, for his two-decade-long commitment to technical solutions and his crucial role as an interface with domestic entities.

#### Acknowledgement 2

The development of this business proposition was supported by artificial intelligence tools. These tools assisted in the structuring of financial models, the verification of quantitative assumptions, and the creation of explanatory graphics and diagrams.

All strategic insights, proprietary data, commercial judgments, and the final synthesis remain the work of the author.

### SUPPLEMENTS

#### TECHNICAL DATA

This document provides a detailed overview of our technology while safeguarding core intellectual property and market strategies. Advanced technical information will be disclosed under a Non-Disclosure Agreement (NDA) to validated, potential investors, enabling architects, manufacturers, EPC providers, and other professionals to assess the technology's value. Comprehensive end-to-end solution data will be shared with strategic partners under formal contractual terms before finalizing stakeholder positions.

#### CONTRACTUAL RELATIONSHIP HUB & SPOKE

The Hub and Spoke franchise model mandates that prospective investors, upon validation and under the auspices of a Non-Disclosure Agreement (NDA), gain access to the standardized Terms and Conditions. While formal contracts will be meticulously constructed to adhere to the specific legal requirements of each jurisdiction, the foundational performance criteria will be universally applied across all locations. This ensures a consistent standard of operational excellence and brand integrity, irrespective of geographical location.

### CONTACT

KARL DIXON

E: [vemas1@outlook.com](mailto:vemas1@outlook.com)

T: +86 13472427371

