



# X-GEN HOMES LTD

**Commercial Division | Infrastructure & Framework Manufacturing**

*Defence Infrastructure & Tactical Volumetric Capacity Statement*

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**Classification:** Commercial-in-Confidence

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## 1. Corporate Profile & Core Mission

X-Gen Homes Ltd operates a high-capacity, off-site Category 1 Modern Methods of Construction (MMC) manufacturing facility located at **South Gyle Crescent, Edinburgh, EH12 9EB**.

We operate as a specialized white-label subcontractor and strategic joint-venture partner for Tier-1 principal contractors executing major UK public sector and defense infrastructure frameworks. Fully aligned with the UK Government's **Construction Playbook** and the Infrastructure Projects Authority (IPA) mandates, our processes are optimized to eliminate manufacturing bottlenecks, accelerate delivery timelines, and de-risk defense estate modernization programs.

We provide a secure, process-driven engineering ecosystem engineered to translate proprietary client blueprints and building information models (BIM) into precision-fabricated, structurally certified volumetric modular assets.

## 2. Accreditations, Compliance & Technical Standards

To guarantee seamless onboarding into Tier-1 vendor supply chains, our factory operations, engineering calculations, and quality management protocols are audited against rigorous UK public sector benchmarks:

**BOPAS Structural Accreditation:** Certified under the **Buildoffsite Property Assurance Scheme (BOPAS)**, guaranteeing a **60-year structural design life** for all manufactured steel frames, satisfying institutional fundability and long-term asset criteria.

**Structural Steelwork Execution:** Component profiling and structural welding are executed in strict accordance with **BS EN 1090 Execution Class 2 (EXC2)** for light gauge steel framing (LGSF) and hot-rolled structural chassis systems.

**Fire Safety Engineering (REI60 / REI120):** 100% compliant with **Euroclass A1 and A2-s1, d0 non-combustible material** thresholds for all external wall cavity components, structural linings, and insulation layers. Zero timber framing or combustible rigid foam PIR insulation boards are permitted on our commercial production lines.

**Quality & Operational Governance:** Production facilities operate under the framework control of **ISO 9001** (Quality Management), **ISO 14001** (Environmental Management), and **ISO 45001** (Occupational Health & Safety).

**Cyber & Data Security:** Ingestion, storage, and processing of sensitive client blueprints, base parameters, and BIM layers are managed in full alignment with **Cyber Essentials** guidelines.

### 3. Dual-Stream Structural Capabilities

Operating from our 5,000 m<sup>2</sup> climate-controlled facility, our production tracks are divided into two distinct technical streams to handle both garrison accommodation and hardened tactical infrastructure.

#### 3.1 Stream 1: High-Density Garrison Accommodation (SLA & SFA)

Optimized for the high-speed mass production of standardized, repeating Single Living Accommodation (SLA) room modules and Service Family Accommodation (SFA) housing components:

**Multi-Floor Volumetric Stacking:** Light gauge steel framing and hot-rolled chassis interlocks are structurally engineered to stack **up to 4 storeys high** without requiring secondary external load-bearing concrete or steel sub-frames.

**Turnkey Off-Site Completion:** Modules leave our Edinburgh plant up to 90% pre-finished, featuring factory-fitted integrated en-suite pods, pre-loomed **BS 7671 certified electrical wiring** routed through metal containment conduits, and internal walls featuring **12mm structural ply/OSB backing layers** for secure, heavy equipment mounting, topped with 12.5mm impact plasterboard.

**Traditional Cladding Integration:** Pre-configured for factory-applied, mechanically fixed real clay brick slip system tracking, fully certified to **BS 8414** for large-scale external fire spread testing.

## 3.2 Stream 2: Hardened, Tactical & Specialist Modular Units

Our engineering lines possess the structural tooling required to pivot into the fabrication of hardened, physical infrastructure—such as Command & Control (C2) nodes, secure communications shelters, forward operating units, and armories—built to withstand localized kinetic or explosive force:

**Blast & Kinetic Protection:** Structural framing allows the seamless integration of multi-layered high-tensile steel armor shielding plates and containment frameworks compliant with **NATO STANAG 2280 (Levels 1-3)** and **ISO 16933** blast-resistant parameters.

**Threat Profile Glazing:** Windows specified with certified ballistic glass composites wrapped inside structurally reinforced, anti-shatter PVB containment interlayers to guarantee zero glass fragmentation under threat profiles.

**Physical Forced Entry Barriers:** Internal partitions and perimeter access portals are built to satisfy **LPS 1175 SR3 / SR4** and **PAS 24** forced entry metrics, integrated with heavy-duty commercial smart-lock mechanisms mapped to central garrison databases.

**Signal & Information Security:** Volumetric chambers built with continuous electromagnetic (RF/EMI) shielding gaskets to protect data networks, paired with enhanced acoustic insulation yielding a **45dB to 55dB airborne drop** between room boundaries to protect operational confidentiality under **JSP 440** guidelines.

## 4. The Northern Hub Strategic Advantage

X-Gen Homes offers an exclusive **Logistical Arbitrage Partnership** for Southern-based Tier-1 primes bidding for infrastructure works located across Scotland and the North of England:

**Logistical Cost Arbitrage:** Traditional long-distance haulage of wide-load volumetric modules from Southern factories to Northern military assets (such as Kinloss, Faslane, Leuchars, or RM Condor) incurs severe transport overheads, police escorts, and ESDAL permitting friction. Manufacturing locally at our Edinburgh hub eliminates these transport penalties, directly protecting your framework delivery margins.

**Volumetric Shell + Core Delivery Model:** We specialize in the high-speed fabrication of the structural chassis, insulated external wall panels, floor cassettes, and integrated bathroom pods. We hand over a precision-engineered, watertight structural shell, allowing your team to complete the proprietary, high-security fit-outs or specialized finishes under your own brand identity.

**Buffer Staging Yards:** Our secure holding yard accommodates up to **50 fully completed volumetric modules simultaneously**, preventing site-level groundwork delays from disrupting continuous factory production lines.

## 5. Commercial Procurement Pathways

X-Gen Homes Ltd supports **Open-Book Commercial Costing Models** and is prepared to enter into **Gain-Share Agreements** where mid-framework manufacturing efficiencies directly enhance your bottom-line profitability. We enforce strict data segregation and legally binding IP isolation protocols to ensure your proprietary blueprints and structural assets remain completely secure.

We welcome formal technical, operational, and quality assurance audits from your procurement and engineering teams.

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