

On Blockchain's Importance for Housing



How Smart Contracts and Decentralization are Transforming the Industry

By Omri Gross, Sr. HUD Policy Advisor (outgoing)



The housing industry stands on the brink of a technological revolution, with blockchain solutions poised to play a transformative role in overcoming long-standing challenges and inefficiencies, unlocking new opportunities for transparency, security, and streamlined processes across the entire ecosystem. As an outgoing Senior Clearance and Policy Advisor for the Department of Housing and Urban Development (HUD) with over a decade of personal and professional expertise in blockchain, I've witnessed firsthand the potential for decentralization and smart contracts to improve core functions essential to housing in both public and private sectors. Blockchain solution providers and professional organizations like the Government Blockchain Association (GBA) are leading the charge to drive adoption by developing products, services, and comprehensive frameworks like the Blockchain Maturity Model (BMM) to guide the responsible implementation and assessment of blockchain solutions.

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Blockchain and Housing

Blockchain is a distributed ledger technology that records transactions and data across a decentralized network of computers ("nodes") in a secure, transparent, and verifiable manner. It allows data to be stored in a way that is tamper-proof and accessible, ensuring trust and integrity without the need for intermediaries. Blockchain's ability to create robust systems, where trust is a fundamental feature embedded in the technology itself, offers immense potential for improving core functions associated with housing, such as property management, payments, and eligibility verification. By eliminating inefficiencies, reducing fraud, and enhancing transparency across all facets of housing, blockchain is poised to become a cornerstone of the industry's future.



Core Functions, Challenges and Opportunities

With over 15 years in regulatory compliance across multiple disciplines at all levels of the federal funding ecosystem, I've gained deep insights into the numerous challenges plaguing essential housing operations. This exposure has revealed a landscape of core housing functions that are primed for innovative, decentralized solutions.

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These functions include:

- Application and eligibility verification
- Dispute management
- Lease and rental agreements
- Mortgage and home equity services
- Mortgage-backed securities
- Payments and financial transactions
- Property appraisal, titling and insurance
- Regulatory reporting and compliance

Use Cases and Solution Providers

Application and Eligibility

For use in both the private rental market and public housing programs, small businesses and startups like [kosigner](#) and [Meta Space Lab](#) are building innovative blockchain and AI solutions to streamline application and eligibility screening by facilitating the secure verification and sharing of encrypted KYC data (e.g., identity, income, background, credit, etc.) between tenants and landlords.

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Property Records

The City of Baltimore is partnering with Medici Land Governance to pioneer blockchain-based initiatives including an effort led by City Solicitor Ebony Thompson to digitize and manage the City's backlog of vacant housing records, aiming to streamline property transactions, reduce fraud, and revitalize neighborhoods.

Investment

Fintech companies like Republic are using smart contracts to enable fractional property ownership through tokenization, allowing a broader range of investors to participate in the market without large capital commitments.

Property Titling

Blockchain's distributed ledger technology is being utilized by platforms like Propy to prevent fraud in property title transfers, improve accuracy in property appraisals, and enable automated claims processing for property insurance.

Mortgage and Home Equity

Mortgage and home equity solutions offered by established lenders like Figure are leveraging blockchain to automate underwriting and streamline lending services, while government entities such as Ginnie Mae are piloting blockchain solutions to enhance the efficacy, liquidity, and transparency of the mortgage-backed securities market, ultimately creating a more efficient, accessible, and reliable home financing ecosystem.

Open Source Solutions

Alongside for-profit efforts, free open-source solutions are also emerging to address specific challenges in the housing sector, showcasing blockchain's potential for social good by leveraging smart contracts and decentralization to enhance transparency, financial inclusion, and reduce reliance on costly intermediaries.

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OpenEscrow: A Housing Blockchain Solution for Social Good

To demonstrate blockchain's potential for social good in housing, I am personally developing OpenEscrow — a free open-source smart contract standard aimed at addressing the long-standing issues of trust and transparency in the traditional rental security deposit process.

The security deposit is a major source of contention in rental housing, often leading to disputes, legal battles, and financial stress for both tenants and landlords due to lack of transparency, mismanagement of funds, and disagreements over deductions.

By leveraging blockchain, OpenEscrow utilizes smart contracts to replace the role of a neutral third-party escrow agent, providing landlords and tenants a trust-minimized system that benefits both parties.

Key features of OpenEscrow include:

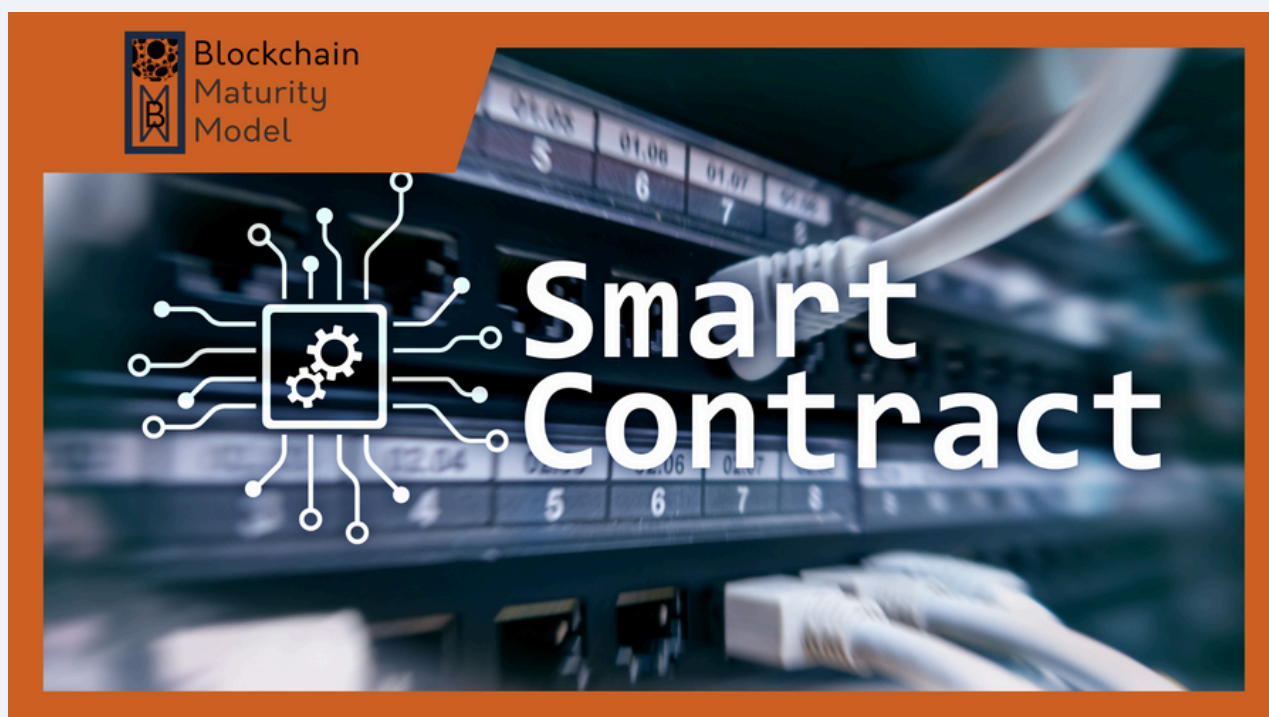
- Free app for transparent management of security deposits
- Smart contract acts as neutral third-party escrow agent
- Invoice requirement and tracking for expenditures
- Yield generation through tokenized U.S. treasuries
- Reduced costs from escrow agent fees and legal disputes
- Tenant approval/dispute system
- Automated tracking and notifications
- One-click report generation
- User-based access to funds and data
- Future-dated transactions and refunds
- Opt-in reputation system

OpenEscrow showcases how blockchain can be leveraged to create more equitable, trustworthy, and efficient housing solutions that promote financial inclusion without the need to trust or rely on costly third-party intermediaries.

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Government Blockchain Association (GBA) and the Blockchain Maturity Model (BMM)



The Government Blockchain Association (GBA) is a global, non-profit professional association dedicated to developing standards, promoting, and driving adoption of blockchain technology solutions to government and industry-specific challenges. As the GBA's Housing Work Group Lead, I lead a team of dedicated subject matter experts currently focused on developing a Housing Supplement to the Blockchain Maturity Model (BMM) and building out a directory of housing-related blockchain solutions.

Published by the GBA in 2021 and adopted by the United Nations Internet Governance Forum in 2022, the Blockchain Maturity Model (BMM) establishes a comprehensive framework for assessing and improving the maturity, trustworthiness, and operational readiness of blockchain solutions across various industries. The BMM includes industry-specific supplements, such as the Housing Supplement, which provide tailored guidance, standards and requirements, for assessing and improving domain-specific blockchain applications and implementations.

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A Blockchain Maturity Model (BMM) assessment, conducted by industry experts, offers organizations an comprehensive objective evaluation and certification of their blockchain solutions. This rigorous analysis not only gauges the maturity, reliability, and operational readiness of these systems but also identifies critical areas for enhancement. By demonstrating alignment with established industry standards, the BMM certification serves as a catalyst for elevating an organization's credibility, bolstering its long-term sustainability, and amplifying the overall efficacy of its blockchain solution.

How To Get Involved

With an emerging favorable regulatory environment and growing industry needs, we have a generational opportunity to collaborate on driving adoption and rebuilding a more transparent, efficient, and equitable housing ecosystem for all.

1. Connect with Omri Gross via [LinkedIn](#) or email omri@ogconsultingllc.com.
2. [Join the Government Blockchain Association \(GBA\)](#) for networking and insights.
3. Learn more about the benefits of a [BMM Assessment](#) for your blockchain solution.
4. Subscribe to the [GBA Newsletter](#) and [YouTube Channel](#) for the latest updates.
5. Attend a [GBA event](#) to learn from industry leaders.

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For More Information About:

- Government Blockchain Association – Visit <https://gbaglobal.org>
- Blockchain Maturity Model - <https://gbaglobal.org/blockchain-maturity-model>

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