Innovating Business Models in Tokenized Assets: A Strategic Analysis

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Abstract

Real-world asset (RWA) tokenization is a relatively new approach which is gaining great traction in many industries, including the art market, where it is being used to improve authenticity, trace provenance, and enable shared ownership through blockchain technology. This thesis examines the tokenization of physical assets through the comparative analysis of industry case studies aimed at supporting and guiding the business model and growth of SmartStamp AG: a Swiss startup offering digital biometric passports for physical artworks. This thesis draws on a combination of academic literature, market research, industry case studies, and personal insights to explore how blockchain can help bridge the gap between physical objects and digital tokens and therefore address historical inefficiencies in the art market. It shows that tokenization can enhance trust by providing immutable, digital, and transparent provenance records and can potentially lower barriers to art investment not only by enabling fractional participation, but also enhancing trust in digital purchases, thus engaging new, digitally native collectors. The experience of SmartStampStamp is analyzed in depth, and future growth is theorized through three strategic growth scenarios: (A) deepening its focus in the fine art market, (B) expanding into collectibles and luxury assets, and (C) evolving into an infrastructure provider via integrations. Based on the feasibility and implications evaluation of each scenario, a strategy that combines an initial industry hyperfocus and gradual strategic lateral moves can maximize long-term impact. Then, growth is estimated using the three-horizon framework of Coley (2009). The findings of this work are not limited only to the specific SmartStamp case but contribute to a better understanding of how business models can evolve in the context of asset tokenization and offer practical guidance for startups and investors operating in this space.

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Contents

List of Figures

List of Tables

1 Introduction

Interest in tokenizing RWAs has recently grown rapidly in various sectors. In the market, many proofs of concepts (POCs) and practical applications can be found touching many domains from real estate and finance to collectibles; it also seems particularly promising for the art market, where tokenization offers a way to address long-lasting market inefficiencies, such as the difficulty of verifying provenance, confirming authenticity, and ensuring liquidity. The global art market today still suffers from a high degree of fraud and opacity: an estimated 40% of all artworks currently in the market could be not authentic, as reported by ArtClear (2022), with art crime potentially generating billions of dollars in illicit annual revenue. These deficits not only affect collectors' trust and confidence, but also limit and slow down digital transformation, partly because buyers have justifiable concerns when purchasing online without a reliable proof of authentication.

Within this context, tokenization is not only an extremely innovative technological concept, but a truly useful tool for the art industry. Unlike the early market hype around nonfungible tokens (NFTs), which often tied loosely to digital art and were mostly viewed and traded by investors as speculative financial goods rather than real art pieces, the tokenization of RWA in art focuses on a deeper and more meaningful 'phygital' integration: linking tangible physical artworks to digital tokens in a secure, verifiable, and transparent manner. Creating tamper-proof digital records, blockchain-based systems can provide immutable provenance trails and instant verification of authenticity; this helps to prevent forgery and title disputes and potentially enables in the long term new healthier financial models such as fractional ownership and improved liquidity. In fact, industry reports, which will be explored throughout this thesis, suggest that tokenizing illiquid assets like art could unlock significant value and expand the addressable market significantly. This innovation potentially introduces a new market infrastructure for art where collectors, artists, and institutions can transact with greater transparency and trust.

SmartStamp is the company around which this research will develop a business model in the domain of RWA tokenization. The author is currently the Head of Product at SmartStamp. The company aims to bring together the worlds of art and digital technology through its authentication platform. Founded in 2019 in Switzerland, SmartStamp offers a platform to authenticate and manage artworks through a digital biometric passport system. Their offering is based on three main pillars: asset owner authentication, art piece authentication, and digitization and storage of legacy documents, all immutably linked together. In practice, SmartStamp uses Computer Vision (CV) and Machine Learning (ML) to scan the surface of an artwork and capture unique fingerprints, allowing users to issue a digital certificate of the physical piece that is recorded on the blockchain. This approach, together with the certification of the asset owner and the physical documents of the artwork already existing, creates a direct physical-to-digital link that allows any future buyer or stakeholder to securely verify the identity and provenance of an artwork instantly.

However, this thesis does not only deal with the commercial objectives of SmartStamp. It targets a deeper economy-wide need for secure digital proof of ownership in markets where the asset itself cannot easily travel or be inspected in person. Art, like other types of assets which will be explored in next chapters, suffers from three structural failures: information asymmetry, illiquidity, and fragmented title registries. Tokenization has the potential to tackle all three. In that sense, the art market is a perfect ground to test the potential of this technological shift, since if tokenization can bring trust and liquidity to such an opaque, relationship-driven industry, the same approach can later be utilized for wider classes of RWAs.

To assess how tokenization can be applied to the art world and what business models might support it, this thesis follows a structured research approach with four key steps.

1. A review of the literature surveys the current state of tokenization research and practice, with an emphasis on how the blockchain is used to establish digital provenance and new ownership structures. This part of the thesis also examines business model frameworks that identify gaps to be filled.

2. The research methodology is then analyzed in detail, focusing on a cross-industry comparative case study approach. To gain a broader perspective, case studies of real companies employing RWA tokenization in various sectors were conducted. Through desk research and interviews, each case was analyzed to understand how tokenization is implemented, how value is created for users, and how these ventures monetize their offerings.

3. The findings and analysis of the insights from case studies and market data are presented. This analysis focuses on key success factors and common challenges in tokenizing RWAs. Drawing on these insights, the discussion turns to the implications for SmartStamp, translating the cross-industry lessons into strategic recommendations.

4. A discussion of the potential outcomes of this strategic analysis.

This study follows a mixed methods approach, with a combination of quantitative desk research and qualitative resources: five recent peer-reviewed articles, 22 articles ranging from industry reports to market news, and the full Art Basel & UBS Art-Market survey from 2025 establish theoretical and market baselines. Two semi-structured interviews of 60 minutes captured direct views from Splint Invest and Magma's founders and CEOs. The audio was transcribed and rephrased for coherence purposes. Personal experience and discussions held internally and externally in dedicated events such as Asset Rush 2025 also built a strong foundation for this thesis. Comparative cases are also used between companies from multiple industries such as: RealT, Magma, Splint Invest, Arcual, Artory, VeChain, Trace, etc. which were purposefully selected because they (a) tokenize tangible assets at production scale, (b) publish enough data for business-model reconstruction, and (c) together span the full spectrum of revenue logics (SaaS, marketplace, data-licensing, etc.). A cross-sector analysis improves the transferability of the insights of this thesis to other experiments and ventures in the tokenized RWA field also for adjacent markets.

This research is guided by the following key questions, which the subsequent chapters will address:

- What are the main inefficiencies and trust issues in the art market today, and how could the tokenization of RWAs help to solve them?
- How are organizations in different sectors implementing blockchain-based tokenization, and what business models and success factors have emerged from these early initiatives?
- In light of cross-industry insights, how can SmartStamp innovate its business model to maximize value for stakeholders, and what strategic growth options can be identified?
- Which strategic scenario offers the greatest promise for SmartStamp's future development, and what are the broader implications of this choice for entrepreneurs and investors in the same space?

1.1 Introduction to Asset Tokenization

Tokenization refers to the process of converting the rights to a physical asset into a digital token. In practical terms, this means creating a unique digital representation of a tangible asset that can be bought, stored, sold, or traded. The journey towards RWA tokenization began with the evolution of blockchain technology and the rise of cryptocurrencies and has evolved from early POCs on Bitcoin and Ethereum to a growing pillar of Web3 and digital finance.

Tran et al. (2022) gives some useful background on blockchain technology. Although the underlying technology lies beyond the scope of this thesis, it is useful to know that a blockchain can be understood as a distributed digital ledge that records transactions on a network of computers composed of the five core elements illustrated in Figure 1. Instead of having a single central database, a blockchain network has many nodes, each holding a copy of the ledger and updating it via a consensus mechanism. This design makes blockchains decentralized and its records immutable, which means that once a transaction is recorded in a 'block' and added to the chain, it cannot be altered retroactively.

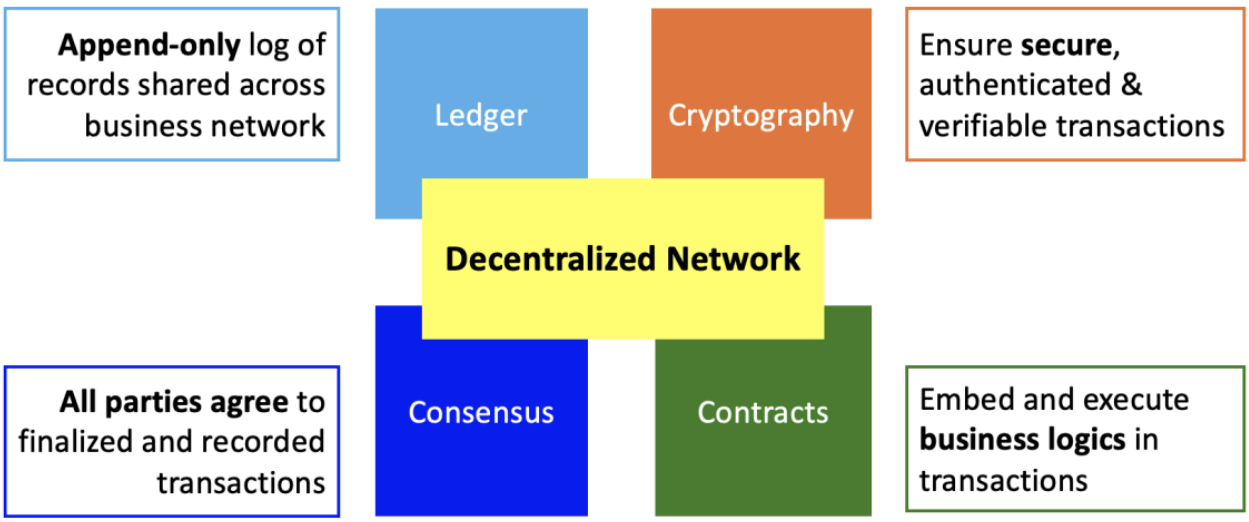

Figure 1: Components of blockchain, from Tran et al. (2022)

Over time, the concept and application of tokenization has expanded to include RWAs such as real estate properties, art and collectible pieces, physical commercial products, and other infrastructures and goods. The tokenization of RWAs process typically involves 3 key steps:

1. Select the asset to tokenize.
2. Create digital tokens on a blockchain that represents ownership.
3. Developing smart contracts or other technical solutions to manage ownership transfer.

Once the tokens are created and distributed, investors can trade these tokens on secondary markets or token exchanges, unlocking liquidity in assets that could not be easily traded previously. A wide range of industries can benefit from this, making the introduction of RWA

tokenization not only a technological advancement, but also an economical one. Technology innovation is the digitalization and automation of asset management, while economic innovation enables more efficient, liquid, and inclusive markets.

Following on from this concept of technological and economical discovery, Maere (2023) explains how tokenization of RWAs includes two major trends:

1. Digitization: the transformation of physical assets into digital entities.
2. Financialization: the process of turning real world assets into financial instruments.

And, still following the analysis of Maere (2023) and as illustrated in Figure 2, this unlocks three major benefits:

1. Efficiency: improving asset performance.
2. Liquidity: ease of ownership change.
3. Decentralization of ownership: leveraging a secure and cost-effective infrastructure for fractional ownership.

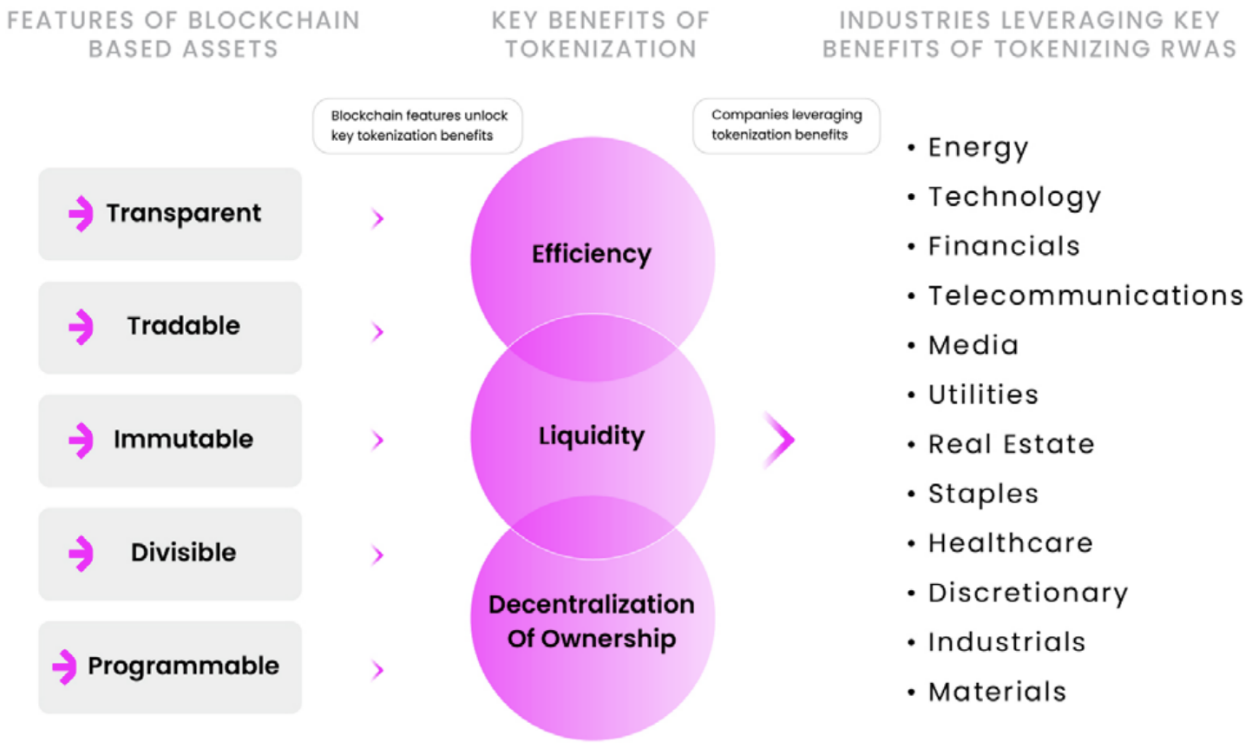

Figure 2: Key benefits of RWA Tokenization. Source: Maere (2023)

In summary, turning a real-world object into a token makes it efficiently tradable like any other traditional financial asset.

2 Market opportunity

In this chapter, the market opportunity of art tokenization will be estimated to have a clearer idea of the total addressable market (TAM), the market volume, and the main stakeholders involved. This is not a simple exercise, since the concept is relatively young, but it surely involves at least two dimensions:

1. The size of the existing art market that could realistically migrate to tokenized formats.
2. The growth of new market segments that tokenization could enable.

Although precise forecasts are difficult to make, it is possible to draw analogies to broader RWA tokenization projections to outline a potential estimated market trajectory.

2.1 Art market sizing

The global art market, valued at 57.5 billion USD in annual sales for 2024 by McAndrew et al. (2025), provides a substantial opportunity for digital transformation. Figure 3 shows how in 2024 there was a 12% decline in sales value from the previous year largely caused by the cooling of ultra-high-end auctions. However, the art market saw a robust transaction volume of art deals in 2024, up 3% year-on-year. This divergence suggests an expanding collector base and increased activity mainly in lower price segments, which can potentially set the stage for new technological solutions that can support new market players.

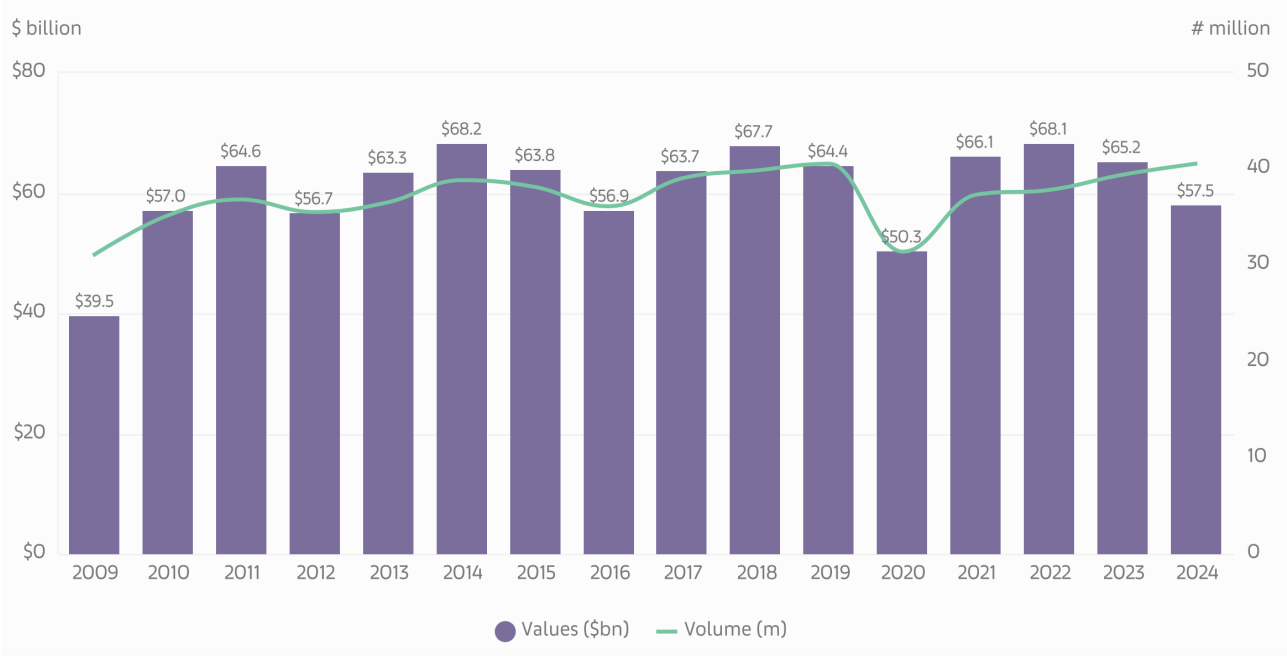

Figure 3: Annual sales in the art market from 2009 to 2024. Source: McAndrew et al. (2025)

In Figure 4, it can be seen that the geographical market leader is the United States with a strong market share 43%, followed by the UK and China, and each region faces unique socioeconomic pressures. In this evolving landscape, stakeholders are increasingly exploring ways to make art investment more transparent and accessible.

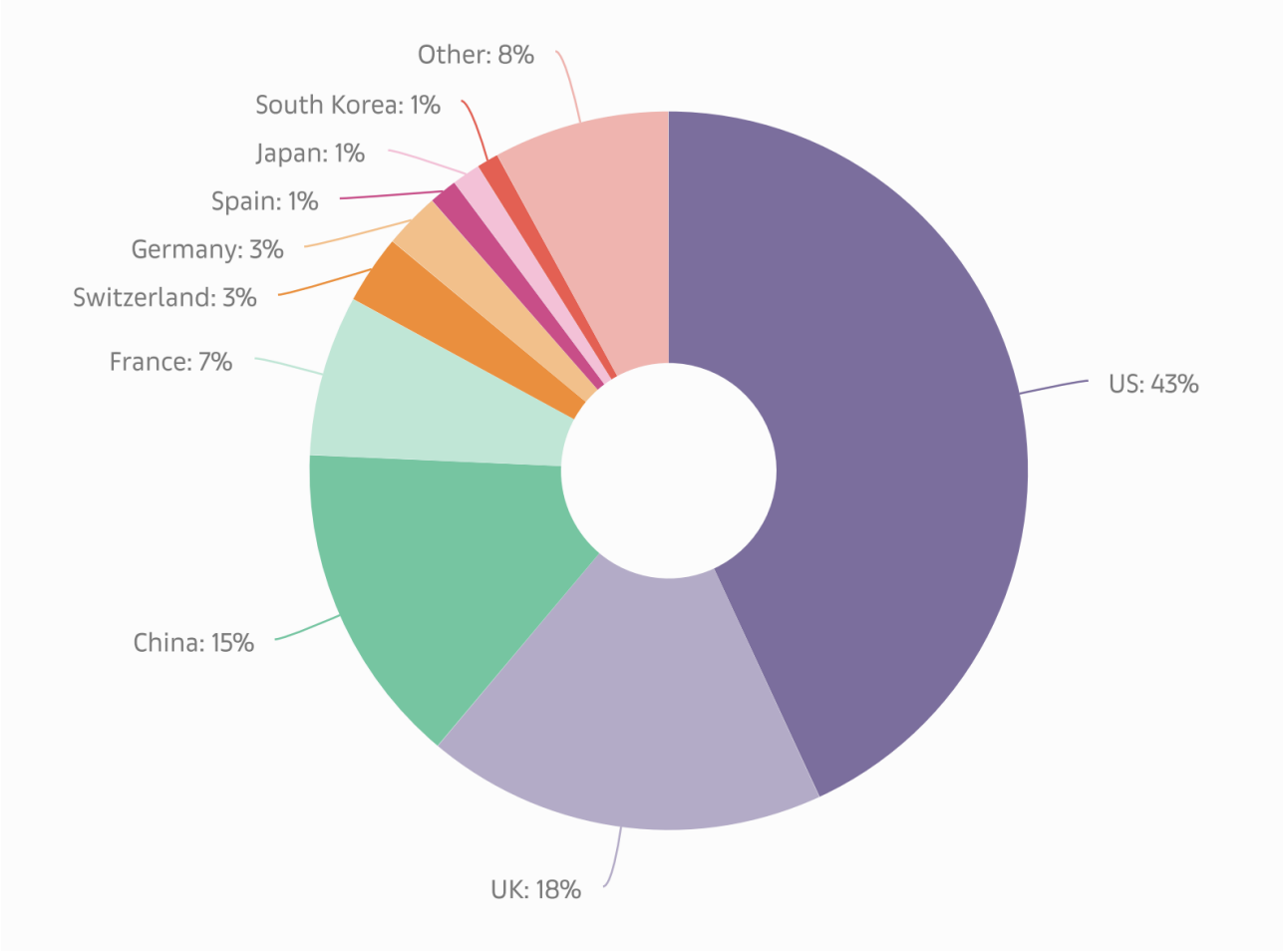

Figure 4: Art market geographical distribution in 2024. Source: McAndrew et al. (2025)

From McAndrew et al. (2025) four trends in particular suggest that the art market is ready for innovative solutions like RWA tokenization:

1. The growth of online art sales: online sales are becoming a key and stable channel for transactions in art. As shown in Figure 5, in absolute terms, online art sales were about 10.5 billion dollars in 2024. Despite a decline from 2023 to 2024 which reflects the one observed in the total volume of Figure 3, online art sales still accounted for 18% of total sales by value, showing a rise of more than 5% from before 2020. This is a noticeable increase, but still far from the dominating role that online sales play in the majority of other industries. However, it is very interesting to notice that digital platforms have become an entry point for new buyers: McAndrew et al. (2025) reports that almost 46% of dealers' online sales in 2024 were to new clients, which is an increase of 35% from 2023. The same trend is shared by auction houses. The embrace of e-commerce and tech solutions in the art market sets a potential foundation for RWA tokens as a natural next step in the evolution of art trading.

2. The rise in lower-priced segments and new collectors: McAndrew et al. (2025) shows how lower-priced artworks saw continued growth in transactions, despite the decrease in the total sales volume of Figure 3. Dealer surveys revealed that works priced less than 50K

USD constituted 85% of all dealer sales in 2024 and the sub-5K USD segment grew 13% in volume. Intuitively, new and younger collectors are driving much of the growth in these segments. This suggests a cultural shift which sees the art market gradually moving from an exclusive club of elite buyers toward a more inclusive one, possibly more receptive to digital innovation.

3. The demand for reliable digital provenance: the digital age has increased the demand for secure, immutable provenance records. High-profile forgery scandals, such as the one highlighted in Holland (2023), and the opacity of private sales reported in ArtClear (2022) have shown the actual need of the customer for better authenticity tracking. In response to this need, a wave of ArtTech startups and platforms started focusing on digital certificates of authenticity (COA) and blockchain-based registries for art.

4. The problems in cross-border deals: cross-border art transactions face numerous issues, including currency conversions, legal and tax complexities, shipping logistics, and most of all regulatory compliance. Such complexities can deter participation and limit the liquidity of the art market. However, tokenization can mitigate several of these issues by digitizing the transaction layer of art deals and increasing transparency for regulatory purposes. Facilitating and ensuring cross-border investment before the physical movement of the artwork would directly address the trust deficit.

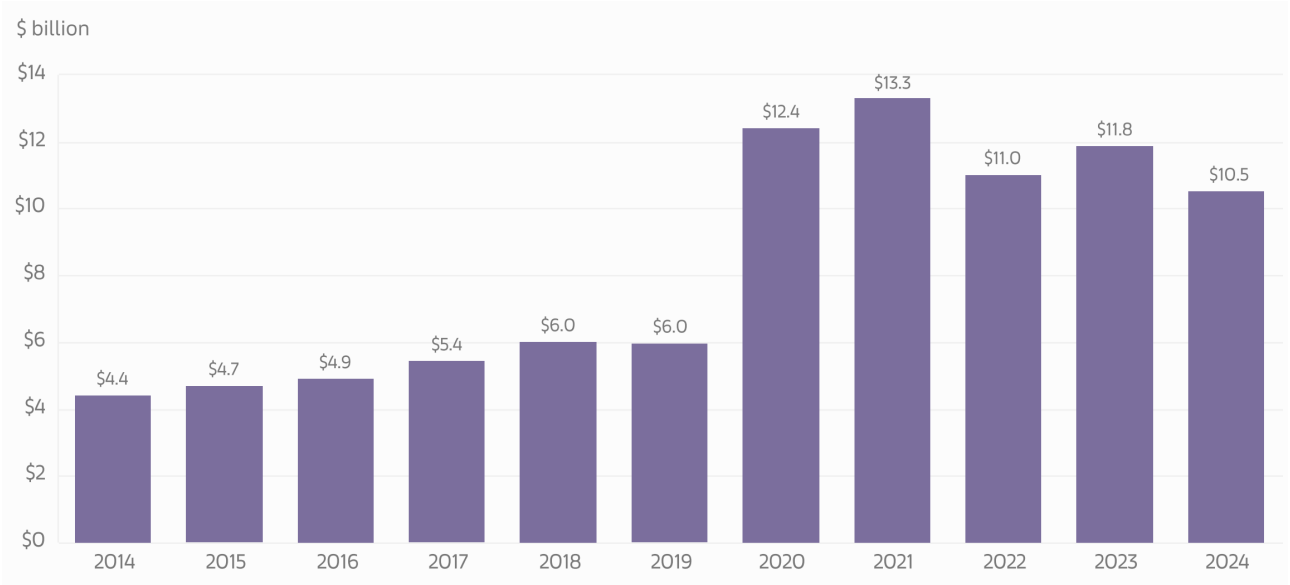

Figure 5: Online sales trend in the art market from 2014 to 2024. Source: McAndrew et al. (2025)

2.2 RWA tokenization market sizing

In recent years, the RWA tokenization sector has gained steady and significant traction and interest from the general public and professionals, as shown in Figures 6 and 7.

Many analysts agree that the tokenization of assets is expected to grow exponentially in the future. Gal et al. (2025) projects that by 2027, investors will allocate 7–9% of their portfolios

Figure 6: Trend of Google searches for Asset Tokenization from 2004 to 2025.

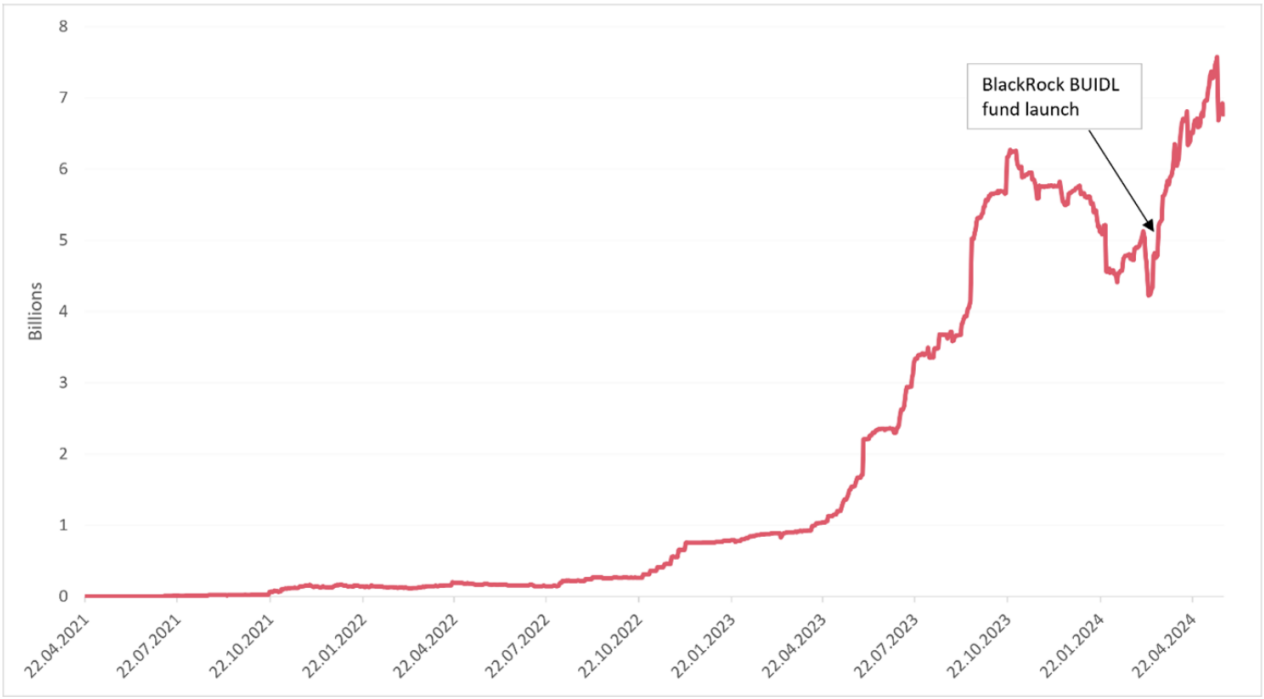

Figure 7: Price performance of RWA tokens vs. Bitcoin and Ethereum (%). Source: Sygnum (2024)

to tokenized RWAs. The art industry, as part of this wave, could see a transformation in which a considerable share of the total value of the art market is traded in tokens, as shown by McAndrew et al. (2025). Even capturing a single-digit percentage of the 57 billion USD annual art market from McAndrew et al. (2025) translates into a multi-billion dollar tokenized art market.

However, the TAM for art tokenization is not just limited to the reallocation of existing sales, but can also unlock latent supply and demand. On the supply side, many art owners hold valuable art in an unorganized and old-fashioned manner that they are averse to or struggle to sell, but they might be willing to monetize a fraction of it via tokens or be able to sell the entire piece if digital solutions were to be exploited. Regarding demand, Brickken (2024) estimates, possibly generously, that tokenized RWAs cross-industry could reach about 16.1 trillion USD by 2030, approximately 10% of global GDP. If we apply a similar ratio to the art market, one could speculate that on the order of 5–10% of the art market value could be tokenized by 2030, assuming the trend continues. That would equate to 3–6 billion USD worth of art trading via tokens annually out of the market size of 57 billion USD. This is confirmed by Samaties et al.

(2023), which conservatively estimates a market value growth for tokenized assets of at least 10 trillion USD by 2030 across industries and predicts that art and collectibles will represent 17. 43% of the total market size of tokenized assets.

However, as discussed in Banerjee et al. (2023), to date, despite its potential advantages, tokenization has seen only limited real-world implementation through early experiments and POCs, which tend to not completely capture the economic potential of this approach, focusing mostly on technical showcases. The optimistic projections of Brickken (2024) and Samaties et al. (2023) implicitly assume certain conditions: regulatory acceptance, investor education, and successful early use cases that build trust. Despite the challenges and relatively scarce presence of advanced solutions, in recent years, the concept has received renewed attention, driven by more robust market drivers. Emerging trends indicate that adoption could accelerate as the ecosystem continues to develop. Although tokenization is not yet widespread, the field is advancing, its challenges are clearer, and the case for broader adoption is strengthening. In particular, tokenized digital twins, which enable the 'phygital' link between the asset and its digital counterpart, represent a promising perspective that prioritizes the authenticity, traceability, and ownership of the underlying physical asset, using blockchain as a enabling technology.

The tokenization in art should then not be seen as a mere speculation but as a concrete solution to real market problems. The market opportunity for RWA tokenization in art is quantitatively large, qualitatively transformative, and aligned with the evolving demands of a new generation of collectors. That said, realizing this opportunity will require stakeholder collaboration: regulators must adapt securities laws to accommodate art tokens, industry players must adopt standards for how art is tokenized and insured, and investors must be educated on the risks and rewards of this new format.

3 SmartStamp: product, business model, and strategic value in art tokenization

In previous sections, it has been mentioned that despite a high value of the global art market of McAndrew et al. (2025), online sales still account only for about 18% of the total transactions. Possibly, this happens due to buyers' concerns about authenticity and transparency. In the art market, there is a clear need for robust solutions that can increase trust in the management of the authenticity, provenance, and documentation of artwork in both the physical and digital domains.

SmartStamp positions itself at the intersection of art and technology, offering a native mobile platform to authenticate and manage artwork. The company aims to authenticate the three pillars of art assets: the artwork itself, the artwork owner, and the digitized physical documentation. Leveraging technologies like ML, CV and blockchain, SmartStamp aims to future-proof art collections against fraud and inefficiency by establishing an immutable link between the physical and digital world in art ownership. The goal is to create a common language between artists, collectors, and institutions through a new digital standard for the authenticity of art. According to Wolfgang Beltracchi, known for his previous activity as a global art forger, as reported in Holland (2023), *SmartStamp ensures that there will be no more counterfeits in the future of art – there will be no second Beltracchi.* This statement was recorded directly from Wolfgang Beltracchi as a completely voluntary endorsement of SmartStamp.

In this chapter, an overview of SmartStamp's product offering, business model, and strategic value in the emerging landscape of art tokenization and authentication is provided.

3.1 Product description and key features

SmartStamp is a software as a service (SaaS) that provides digital passports for artworks and collectibles. Each artwork, together with the digitized version of its documentation and verified information about the owner captured through a Know-Your-Customer (KYC) solution, is registered on the platform and is assigned a unique identifier (UID) that is secured on the public blockchain. Since the moment an asset is registered on the platform, each transaction that involves it is hashed on the blockchain and recorded. SmartStamp is part of a wide Swiss business ecosystem shown in Figure 8. It uses patented CV technology to perform a non-invasive biometric scan of the surface of the artwork, capturing its microscopic texture as a fingerprint simply by scanning it with a smartphone camera, without any physical alteration or marker on the piece. The artwork fingerprint is then hashed and anchored to a public blockchain ledger, creating an immutable record for future verification and tracking and zero-knowledge authentication. Anyone with the right access key can confirm the identity of the artwork by scanning it and matching with the hashed record, obtaining cryptographic proof that the piece is genuine and unaltered.

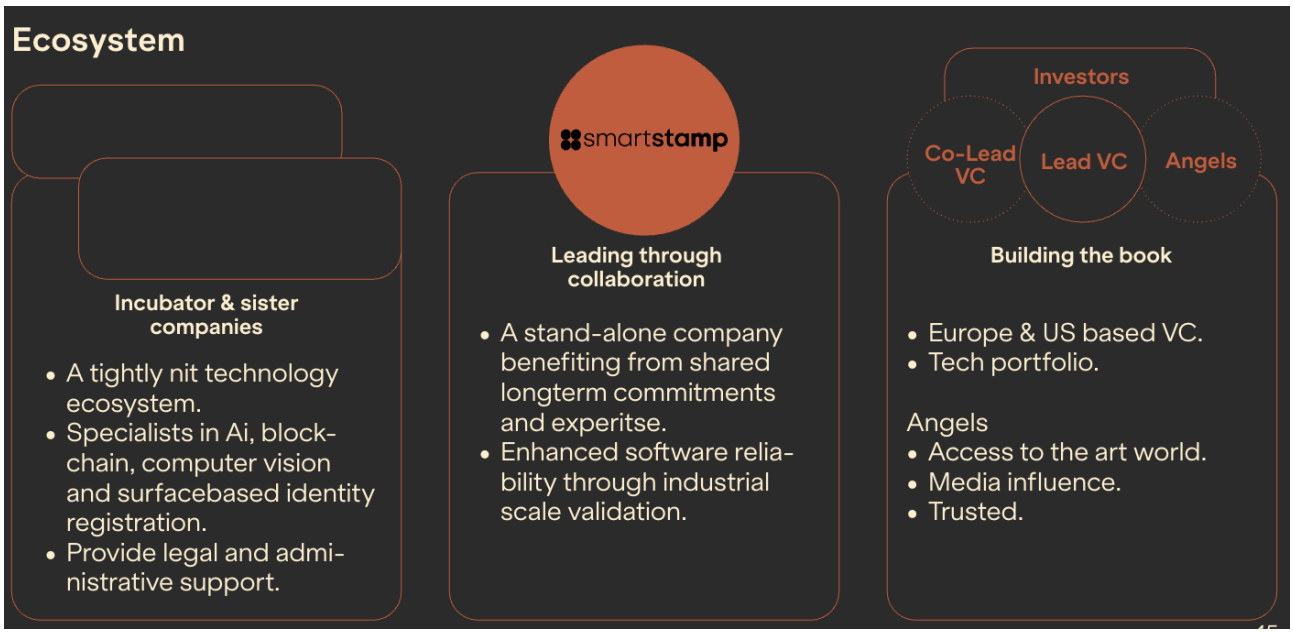

Figure 8: SmartStamp's ecosystem.

The SmartStamp technology stack gives it several competitive advantages in the state-of-the-art authentication space. Its patented technology for surface analysis achieves industrial-level identification accuracy without the need for any invasive tagging or chemical analysis, which is a step beyond other methods, mostly older, which relied on serialized tags or proprietary scanners. This approach is also powered by ML algorithms, allowing the system to fine-tune its recognition of an artwork even as it ages or undergoes minor changes.

The use of blockchain by SmartStamp is also strategically implemented and advanced compared to many competitors. It relies on established and solid industry solutions and uses blockchain as a secure time-stamping and hashing service through an experienced partner instead of developing less efficient solutions in-house. Documents, UIDs, and images are hashed and those hashes are recorded at each step so that any attempt to alter a record or certificate would be evident by a hash mismatch. Using hashed records allows confidential information to be kept off-chain and private.

SmartStamp's attention to regulatory compliance and standards also differentiates it from competitors. The platform integrates advanced KYC protocols through a partner provider to verify the identity of users, especially for high-value transactions, aligning with increasingly strict international anti-money laundering (AML) regulations.

Concerning interoperability and scalability, SmartStamp's technology has the potential to be accessed directly or as a white-label service. The integration-friendly approach allows SmartStamp to act as a foundational digital trust layer across various art market platforms, rather than a closed ecosystem. This is not a new approach, since it has been explored already by other competitors, but SmartStamp is trying to do that without sacrificing their branding and core values to become just a back-end tool.

SmartStamp offers its authenticated users the possibility of generating digital labels

and COAs for each registered artwork, drawn in Figure 9 and Figure 10. Those consolidate all key information about the art piece, including but not limited to its metadata, images, provenance records, and ownership history. SmartStamp's digital certificates are not only technically robust but also meet legal standards for due diligence and provenance documentation in the art industry.

Figure 9: Sample label from one of Smartstamp's customers.

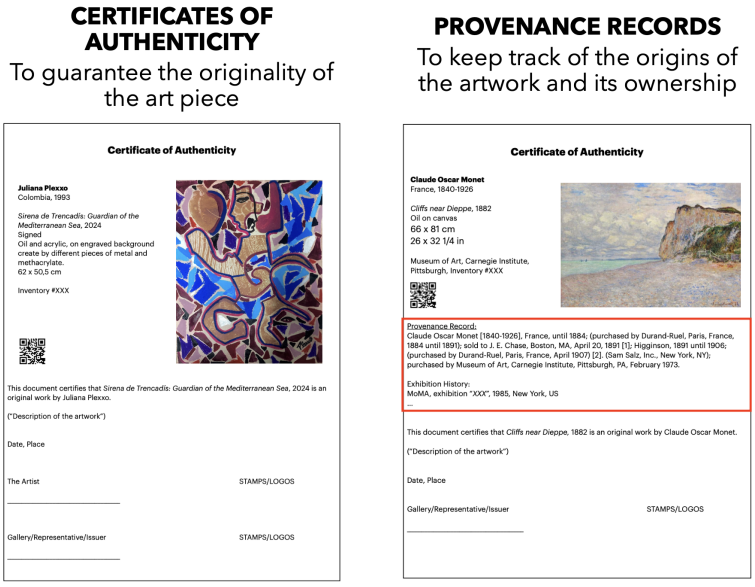

Figure 10: Smartstamp's sample COA and Provenance Record.

Beyond authentication, the SmartStamp platform serves as a full art collection management tool that brings order and digitalization to the most often scattered collections of art owners, as shown in Figure 11. It allows users to organize their work into digital collections, with custom folders for different categories. SmartStamp offers the possibility to digitize all the artwork's physical documents in batch for institutions needing professional archival services thanks to its partnership with other companies in the Swiss ecosystem. Collectors can view high-resolution images and details of each piece on a personalized dashboard and share selected artwork records or entire collection views with others. Crucially, SmartStamp also streamlines the transfer of ownership of artworks. If an artwork is sold, donated, or inherited, the platform provides a mechanism to digitally transfer the associated certificate and provenance to the new owner, ensuring that all documentation and history follow the asset at all times. This opens the possibility of reshaping insurance coverage which can be linked directly to the digital asset profile, ensuring policy details travel with the artwork seamlessly over time.

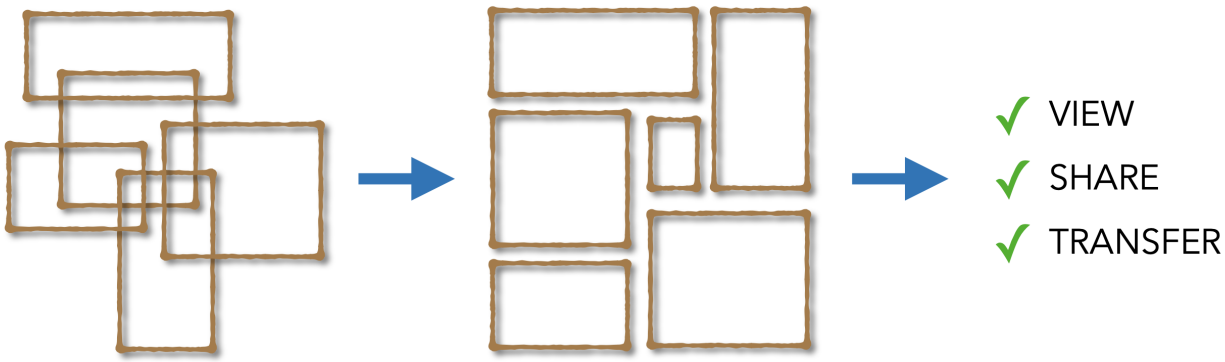

Figure 11: SmartStamp's main value proposition for collection management.

3.2 Business model and value creation

SmartStamp operates under a B2B2C model, targeting both professional art market actors and individual collectors. The platform is designed with multiple types of user in mind, mainly segmented into individual collectors, artists, and professional institutions. Its revenue model is a mix of recurring SaaS revenue, licensing fees, and transactional revenue. The primary revenue stream is subscription fees from users as illustrated in Figure 12. For its B2C customer segments, SmartStamp provides a freemium subscription-based service to catalog their personal collections with robust authentication to document and value their art with enterprise-level security at a price point accessible to hobbyists and independent artists. On the other hand, for professional users and its B2B segment, SmartStamp offers institutional plans that can accommodate professional scanning and storage of legacy documents, multiple team members, large inventories, and advanced features like permissioned sub-accounts and analytics about the collection. SmartStamp aims to scale its user base and establish its platform as a standard adopted at all levels of the art ecosystem.

SmartStamp's unique selling points (USPs) are tailored per each customer segment:

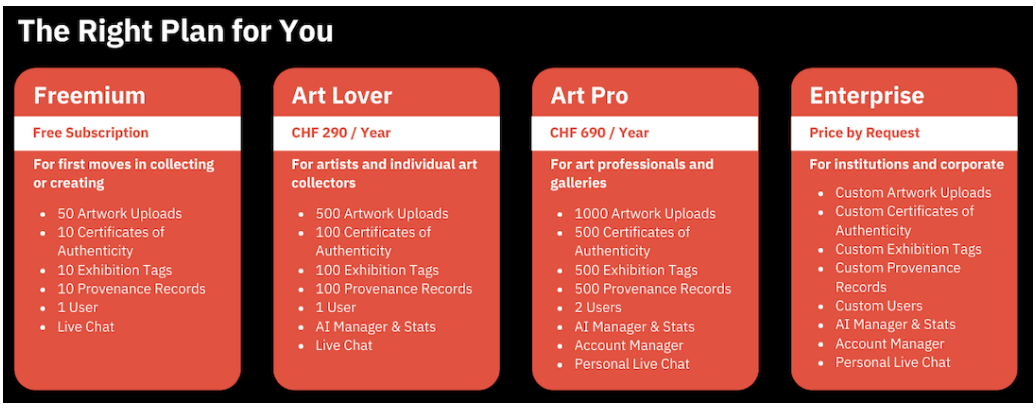

Figure 12: SmartStamp's tiered premium plans overview.

- For art sellers and galleries, it enhances buyer confidence, as each sale comes with a trusted immutable digital provenance trail that the buyer can independently verify. This can be a differentiator that can accelerate sales and justify potentially higher prices. It also streamlines operations, since instead of maintaining proprietary software, relying on an expensive customer relationship management (CRM) software, or using paper and manually updating provenance, a dealer can manage everything in one digital interface and transfer records with a couple of clicks upon sale.

- For collectors and art owners, it provides peace of mind and convenience. They can easily prove ownership and authenticity when reselling or loaning a piece without the need to track down old letters or paperwork, as the blockchain-anchored certificate is immediately available and universally verifiable.

- For insurers, the platform data can help validate the condition and history of an item, lowering premiums, and simplifying claims.

- For professional artists, the platform can support with contractual clauses or tracking of artist droit de suite, making subsequent sales more fair and transparent.

In summary, SmartStamp USPs and services focus on digitalizing collections, reducing transaction friction, increasing trust and asset value, reshaping asset insurance in the art world, and providing long-term portfolio support.

3.3 Competitive landscape

To understand SmartStamp's positioning, it is essential to analyze its competitive landscape. In Table 1, a summarized comparative analysis is provided to evaluate how SmartStamp differentiates its offer from that of the main competitors. In Figure 13, an overview of the company's competitive advantage in the current market is also presented. In this section, it will be explored the market positioning of some of SmartStamp's competitors and other players in the art market whose technology could be enhanced by a partnership. The goal is to spot potential overlaps or shortcomings of SmartStamp's solution and identify opportunities and the right angle for partnerships and collaborations with existing companies within the industry.

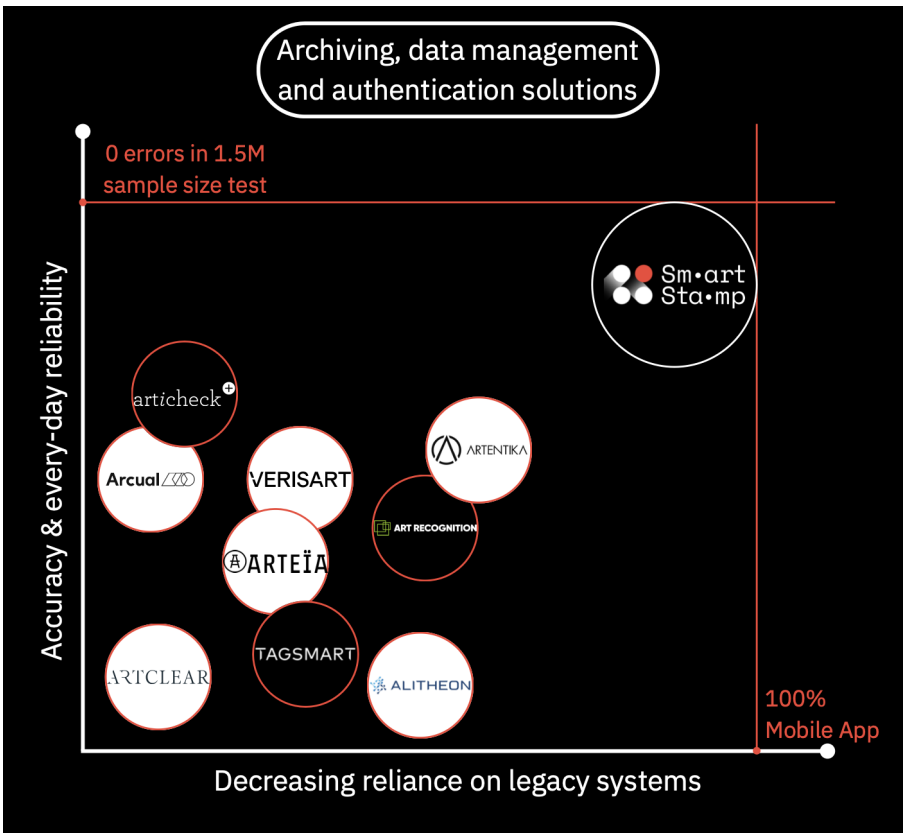

Figure 13: SmartStamp competitive landscape.

- Unlike Tagsmart, which uses an external tag, SmartStamp's method is non-invasive: using a mobile app, the user scans the surface of the artwork and its patented AI algorithm analyzes microlevel surface details to create a biometric signature that is unique to that artwork. Tagsmart provides physical and printed materials that appeal to traditional collectors who want something tangible, while SmartStamp is entirely digital and mobile-first, offering flexibility and scalability. Also, in terms of business model, there are profound differences with Tagsmart following a more transactional approach (pay-per-COA) while SmartStamp adopting a more SaaS oriented approach.

- Artory and Verisart are built to protect user anonymity and do not store personal information by design. In particular, Verisart allows any user to generate a COA and optionally link it with a QR code or NFC chip, relying on user-provided information. SmartStamp requires a biometric scan and KYC verification to create a verifiable identity of the physical artwork and the user, making its records more accountable and useful for formal compliance. This marks an intrinsic product difference: SmartStamp leans toward transparency and accountability, aligning with a trend of formalizing the art market, whereas many competitors prioritize anonymity and decentralization instead.

- Art Recognition uses ML and CV to provide AI-generated authorship reports as a forensic service. SmartStamp does not judge the authorship. The business model of the two platforms is also very different; Art Recognition offers a fee-for-service model in the thousands of USD, being less accessible for small collectors, SmartStamp offers a scalable tiered

freemium structure. However, the tools can be used complementarily with SmartStamp, adding long-term utility to the forensic verdict Art Recognition provides.

- Arternal, similarly, manages art collections and associated documentation, targeting galleries and dealers to improve operations and transparency. However, Arternal is primarily a gallery-focused customer relationship management (CRM) and sales tool, not an authentication platform. It organizes inventory, client relationships, and billing, but does not provide a means to verify authenticity. In principle, a gallery might use both, with SmartStamp filling the authenticity and traceability gap.

Table 1: Comparative Analysis

Competitor	**Focus Area**	**Key Differentiators**	**Complementarity**
Tagsmart	COAs	Non-invasiveness	No
Artory	Art Registry	Anonymity	Partially
Verisart	COAs	Non-invasiveness and Anonymity	No
Art Recognition	Authorship Reports	Forensic autorship analysis and pricing	Yes
Arternal	CRM	Authentication	Yes

3.4 Strategic outlook

Looking ahead, SmartStamp's vision and go-to-market (GTM) strategy, drafted in Figure 16, aims to establish its platform as a standard infrastructure in the art industry. The GTM plan begins in early 2025 with fundraising and early partner onboarding, followed by a public launch in Q3 with targeted marketing and user testing. The company will host key events during Art Basel Paris to drive visibility, and by 2026 it plans to introduce transactions, integrate additional third-party services, and expand vertically into insurance and logistics. The final goal is to create the new standard for archiving, viewing, sharing, and transferring artworks in the art market. This implies a focus on partnerships and ecosystem building, whose current structure is shown in Figure 8, but will expand further in the near future. Its current achievements, listed in Figure 15, have already proven a good fit and traction in the market. The company is still working on developing a sense of community around their offering within the art world, exemplified in Figure 14, however, the road ahead is surely still long and challenging.

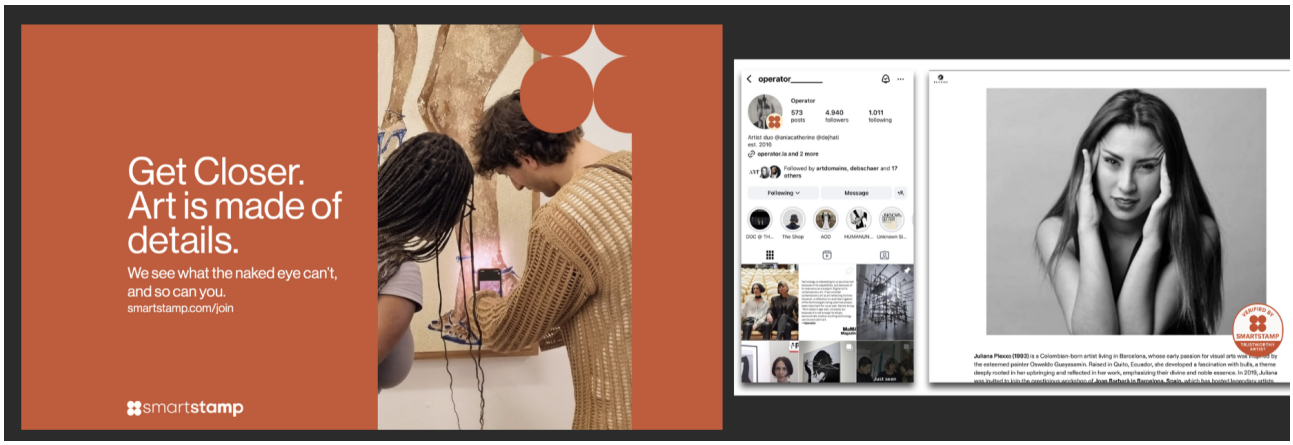

Figure 14: Example of SmartStamp's licensing and community building efforts.

SmartStamp has currently active collaborations with key art market players such as professional artists, galleries, auction houses, museums, and foundations, as well as in the field of art insurance. The company will maintain a Swiss quality and trustworthiness branding strategy that enables transparency and due diligence. This is strategically valuable not only commercially but also in terms of shaping industry norms towards greater transparency. If widely adopted, the platform could make it standard practice that every significant artwork has a digital passport, which represents a profound shift from the status quo.

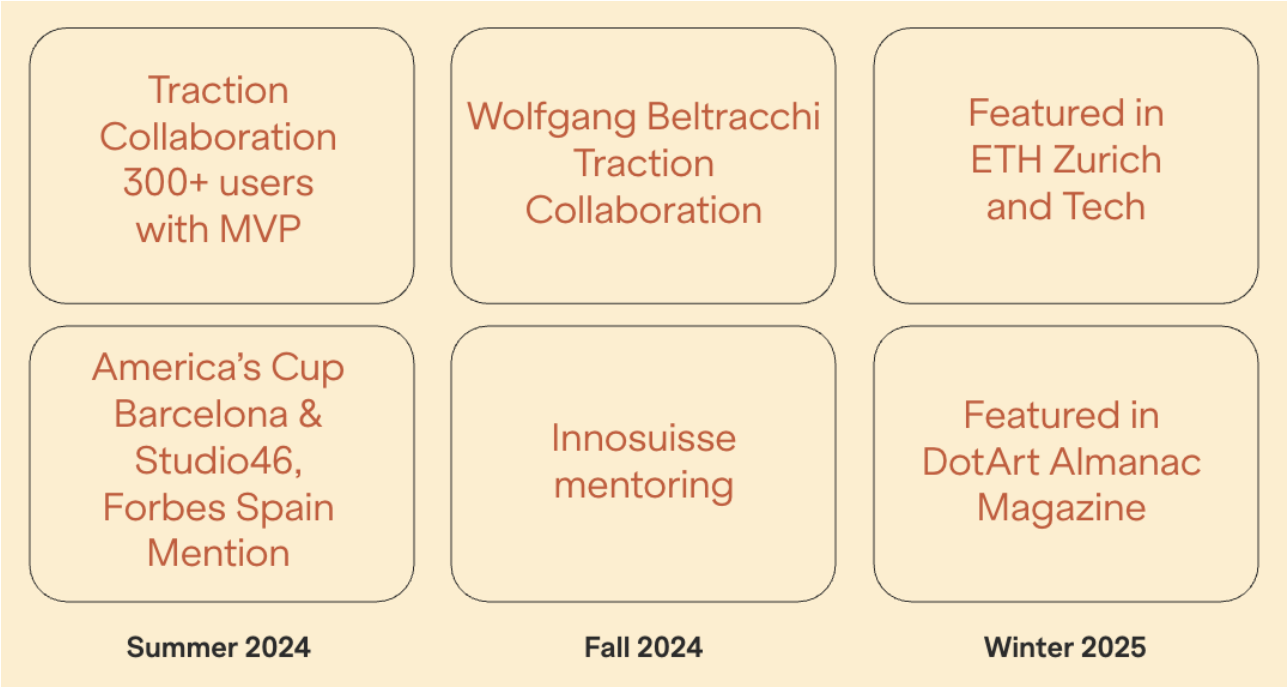

Figure 15: Smartstamp's early achievements.

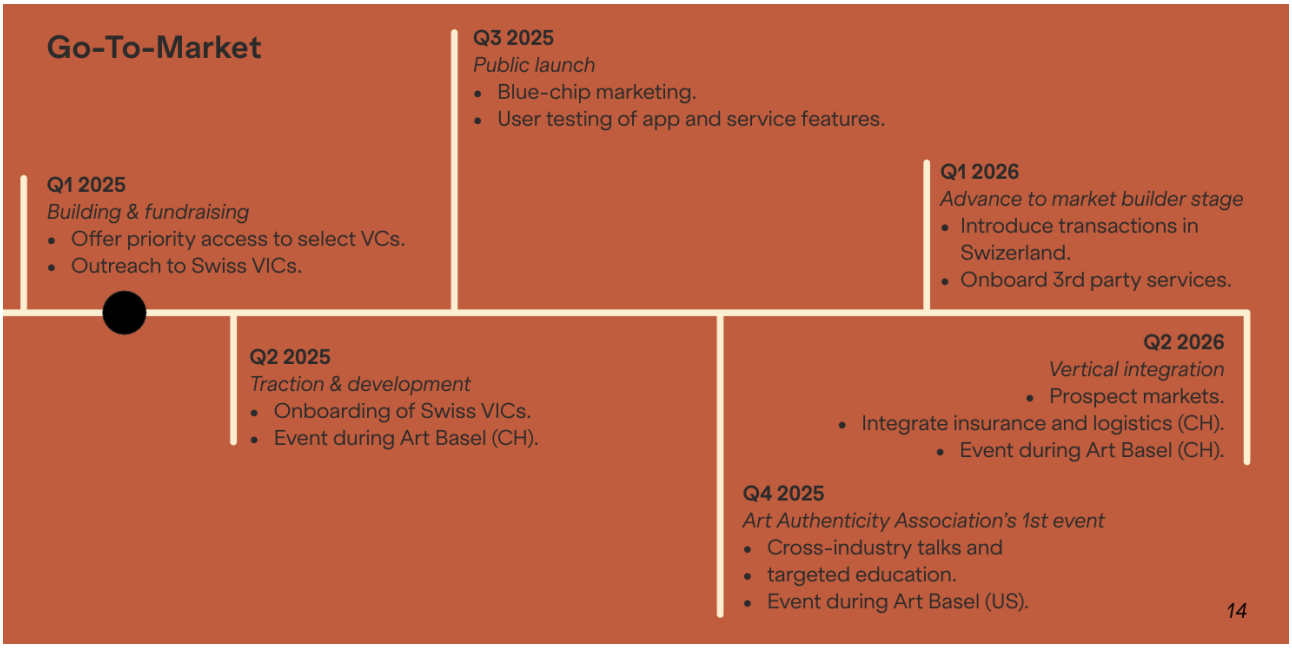

Figure 16: SmartStamp's GTM strategy draft.

4 Industry Study

During this thesis, it has been mentioned and explored how RWA tokenization is being experimented across a wide range of industries. This chapter surveys how different sectors are applying asset tokenization and highlights the representative players in each. Despite a fast-growing interest on governance of blockchain based platforms and plenty of studies about strategy in cultural markets, there is remarkably little integration between the two streams. Prior studies either treat tokenization with a purely technical perspective or analyze digitalization without considering distributed-ledger architectures. What is missing in the current literature and this work is trying to fill is a managerial perspective that links the tech stack benefits and potential to concrete value-creation logics. Highlighting and predicting SmartStamp's strategic choices alongside cross-industry cases, this thesis addresses this gap and offers a transferable framework for founders and investors to evaluate ventures based on RWA tokenization. For this goal, case studies in real estate, supply chain, luxury goods, and art will be studied, focusing on how companies are creating and monetizing physical and digital connection. The insights gathered from this study and comparison will be used to guide SmartStamp's strategic planning in the following chapters.

The industry case profiles that follow were analyzed with a standard template covering the founding year, asset class, funding history, and publicly reported Key Performance Indicators (KPIs). Each dossier draws on at least two independent sources, and for Magma and Splint Invest also interview material. The interviews were conducted willingly and without obligation using a standard template of questions reported in Appendix A.2. Where quantitative figures conflicted, the one communicated directly by the interviewed person or alternatively the lower value was considered true.

4.1 Real Estate: tokenized properties and digital twins

As Joshi et al. (2022) and Rubia et al. (2021) describe, Real Estate is on a global scale one of the most important market segments. However, it is intrinsically characterized by extremely high investment barriers. Blockchain technology, in its RWA tokenization application, can increase the efficiency of the real estate market by increasing liquidity, enabling fractional ownership, improving transaction efficiency, and ensuring a higher degree of automation. In addition, fraudulent activities such as identity theft and forged documents can undermine the integrity of property titles, exposing both the buyer and the seller to very high risk. Blockchain technology can help reduce it by increasing overall transaction transparency in each step of the purchase.

Startups such as RealT, HouseBit, Brickblock, and Lofty are trying to contribute to this change. With more than 200 tokenized properties in the United States and a strong presence in Detroit, RealT's mission is to democratize access to real estate investment opportunities through technology. As described in RealT (2025), their platform allows investors to buy fractional ownership in real estate and receive dividends through weekly rental payments, as

well as long-term gains in property value. An example is reported in Figure 17.

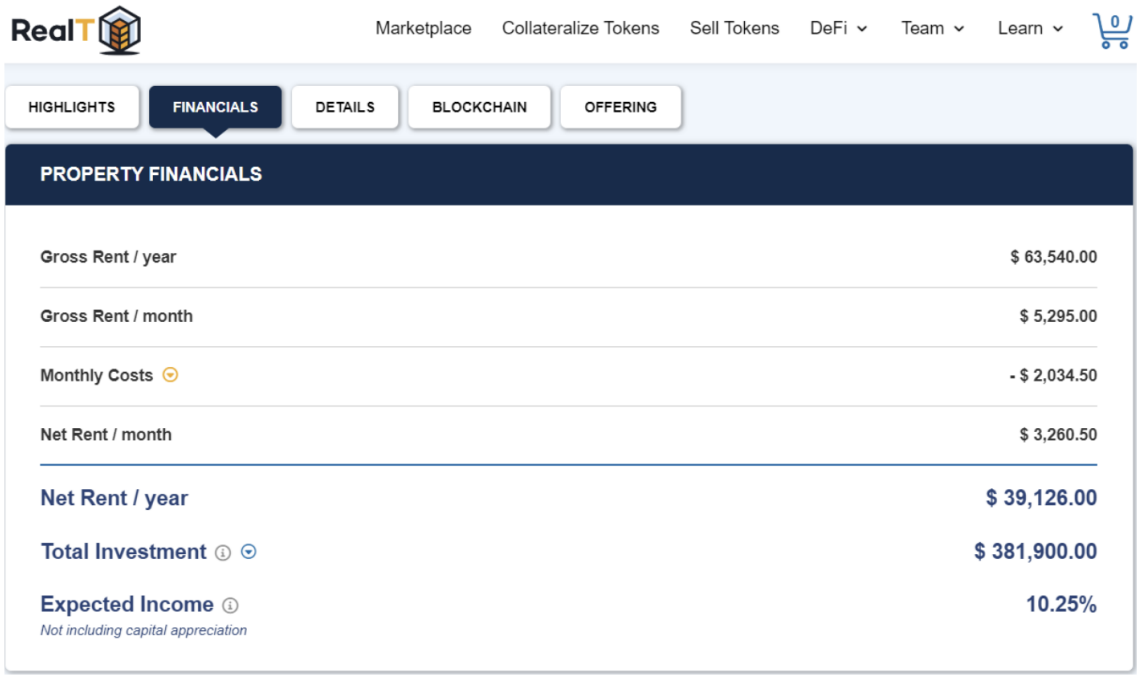

Figure 17: Example of a property expected returns from RealT (2025).

Since RealT was founded in 2019, the company has gained significant traction and generated over 24 million USD in distributed rental income and very attractive returns for their investors. To overcome regulatory hurdles, each RealT property is first placed in a legal entity and then tokenized. Tokens are sold to investors starting from as little as 50 USD. By lowering the minimum investment threshold, RealT allows a broader group of individuals to participate in real estate markets that were previously inaccessible due to high capital requirements and provides investors with liquidity options not typically available in traditional real estate investments. However, while tokenization promises to increase liquidity, complaints of some users on social platforms such as Reddit show that the secondary market for real estate tokens is still developing, and therefore investors' ability to quickly buy or sell tokens might still face structural limitations.

Farberov (2025) also shows that this innovative ownership scheme has substantial hurdles when it comes to day-to-day property management, with multiple RealT tenants reporting issues such as lack of maintenance, difficulty in contacting property owners, and unjustified eviction notices.

RWA Tokenization in real estate is not only used as a mean to dilute ownership of assets, but also to re-shape traditional real estate management. As outlined on their website, Magma (2025) offer a digital twin of buildings composed by its 3D structure and time-based data by recording all architectural, environmental and contractual documents on-chain and minting a Digital Twin Token (DTT) for the property. The environmental data is gathered through the implementation of Internet of Things (IoT) smart sensors. The DTT becomes a dynamic NFT on the Ethereum blockchain containing the Building Information Model (BIM)

and all critical data and digitized paperwork such as ownership titles, architectural plans, compliance certificates, ESG reports, maintenance records, etc. promising a transparent, traceable, immutable and secure record of data. Stakeholders are also provided with a platform to track their properties. While relatively young, Magma gained some market traction which allowed them to raise 1M EUR in 2024, close initial strategic partnerships and sign an Early Adopter agreement with Columbus Asset Management in late 2024. In an interview conducted with Matthieu Merchadou, CEO and Founder of Magma, he elaborated on the company's value proposition in real estate tokenization. While digital twins are already prevalent in construction, Magma differentiates itself by integrating real-time data from various building systems, including Energy Management Systems (EMS), Building Management Systems (BMS), and security infrastructures. This data is securely linked to relevant stakeholders, transforming the digital twin into a tokenized digital file cabinet: the DTT. The more data that is fed into the system, the more utility and value the tokenized asset gains. Regarding market adoption, Matthieu Merchadou shared that Magma is already working with two key real estate value-add investors. One client has tokenized a building in Paris and is working on a commercial center in the city, while the second is exploring a full portfolio digitization. Additionally, Magma is expanding its presence in Miami and Dubai, where it has generated leads with major Smart City projects, including Miami Beta City and the upcoming Miamiverse. The company strategically does not rely on venture capital (VC) funding at this stage, though it remains an option for the future. A key challenge in adoption, according to Magma's CEO, has been educating traditional real estate firms on blockchain technology. Initial clients were unfamiliar with tokenization, requiring significant educational efforts. However, the growing demand for regulatory compliance, particularly regarding environmental and ownership transparency, has helped facilitate adoption. Reflecting on strategic pivots, Matthieu Merchadou noted that Magma initially focused solely on the financial aspect of tokenization, but the market seemed not yet ready for this model at the time. Instead, the company pivoted toward digital twins, which have since gained significant traction. Interestingly, he pointed out, financial tokenization is now emerging as a more viable and attractive opportunity and might find again its space within Magma's portfolio in the near future. Magma's business strategy in the short-term will focus on raising funds locally in these key markets and launching its own token to fuel its ecosystem. Looking ahead, Magma's CEO confirmed that his company will keep focusing on real estate expansion, with plans to establish subsidiaries in Paris, Dubai, and Miami. The interview, while insightful and showing a promising future for Magma, didn't explore the technical feasibility of the IoT real-time information minting, which - at the time of writing this thesis - seems over optimistic.

4.2 Supply Chain: digital product passports

Blockchain technology can potentially have a disruptive effect on global supply chains, improving visibility and efficiency. In particular, Digital Twins can leverage blockchain technology to provide a more transparent and secure history of the RWA, creating a Digital Product Passport (DPP), which enhances transparency throughout the supply chain.

In 2023, as explained by Brothwell (2023), IBM and Gate2Chain joined forces to present

Trace at the London Blockchain Conference. Trace is a tool that uses the BSV blockchain to allow the creation and monitoring of digital twins across the supply chain. Brothwell (2023) discusses the showcase of the tool during an exclusive dining experience in which guests were able to trace the history of each ingredient from the source to the plate. This is just a limited POC, but it shows the potential of the technology and, partially, the extension of the market opportunity. Trace is one of the many projects that aims to digitize physical assets and enable provenance transparency to identify and prevent counterfeit and stolen goods from polluting the market. With a similar concept, in 2018, VeChain (2018) partnered with Direct Imported Goods (DIG) to combat counterfeits of high-end wines imported in China. VeChain creates a Digital Twin for each bottle recorded on the blockchain and enables consumers to securely track the history of the RWA attaching a tag directly to the bottle, as illustrated in Figure 18.

Figure 18: Penfolds 407 with VeChain Tag Attached. Source: VeChain (2019).

At the London Wine Fair 2023 the firm presented the MyStory digital passport, a blockchain-powered DPP for wine producers and consumers. This solution, while technologically very straightforward and easy to understand for a broad customer base, relies on physical tags that need to be installed on the bottles, potentially decreasing their appeal for collectors and creating problems when it comes to branding for wine companies, which often rely heavily on the bottle design to differentiate from other producers and boost sales. It seems a very interesting application for commercial bottles which might be offered in large distribution (e.g. on supermarket shelfs) but it might lack prerequisites, which would make the approach fit for more exclusive or luxury bottles.

One of SmartStamp's sister companies, DynamicElement, operates very successfully in

this space using a similar back-end. Based in Kreuzlingen, Switzerland, they developed and are active on the global market for many years with a technology capable of printing an invisible QR code generated by encoding the unique surface information captured through CV algorithms of a commercial product (e.g. cosmetics, supplements, longevity products, etc.) which is not invasive and hidden in the label. The end buyer can then scan the label, trace and verify the authenticity of the product to make sure it is safe to use or consume and is not a counterfeit.

In general, many companies of various sizes and focus have launched supply chain traceability projects, especially in relation to DPP. In these projects, the blockchain represents the ledger for an immutable audit trail for RWAs and their digital twin. Especially in the luxury sector, companies are pushing for an industry-wide standard for such digital certificates. However, at the time of writing, those solutions seem to be either still in an early stage or fragmented within industries, with no notable global market adoption achieved by any of the global players.

4.3 Art and Collectibles: provenance tracking and fractional ownership

Traditional art and collectible markets have long been characterized by exclusivity and lack of liquidity, with high entry barriers that limit participation to a small circle of wealthy collectors and institutions. As already pointed out throughout this thesis, the emergence of tokenization introduces a new paradigm by allowing artworks to be divided into digital portions, each representing a fraction of ownership. This development enables broader public participation in art and collectibles investment, turning what was once an elite asset class into a much more accessible and tradable form of wealth.

When it comes to researching RWA tokenization in the art and collectibles market, the Swiss startup Splint Invest stands out as a fascinating example. Founded in 2021, as noted in SplintInvest (2025), Splint Invest is creating a platform that lets people invest in a variety of RWAs classes, from rare whisky and fine wine to luxury watches and even some more unconventional collectibles like sneakers, Lego sets, and Pokémon cards, with minimum investments starting at just 50 EUR. They focus on increasing transparency and security, ensuring that every investment is backed by real, tangible assets and assessed by certified experts. Splint Invest not only provides these physical assets through external suppliers but also tokenizes them, allowing users to invest in small, affordable portions that they call “splints”. In an interview for this thesis with Aurelio Perucca, CEO and Co-Founder of Splint Invest, we explored several important aspects of their business model, strategic decisions, and operational hurdles. Aurelio pointed out that the company’s unique selling point is its choice to implement a hybrid infrastructure instead of relying solely on blockchain technology. Investors can choose to hold their tokens either within Splint Invest’s centralized system or on the Tezos blockchain. This flexibility aims to ease concerns about self-custody and the complexities of blockchain, making it easier for those who prefer traditional systems to get involved without having to fully dive into decentralized tech. According to Aurelio, this hybrid approach has been vital in

attracting a wider and more cautious group of investors. From a revenue perspective, Splint Invest has two main income streams: the first is a platform fee of 4–6% that investors pay at the time of purchase, which brings in immediate revenue, the second is a 2% fee that kicks in when an asset or token is resold. Investors have the option to trade their fractional ownership on Splint's internal marketplace or receive dividends when the physical asset is sold. Aurelio explained that the platform has successfully completed 11 asset placements so far, all through private deals and all turning a profit, with net returns ranging from 12% to 64%. When it comes to challenges facing their business model, building trust with potential users emerged as the biggest hurdle. Overcoming skepticism about new financial models, especially those involving blockchain, has proven to be a challenge. To tackle this, Splint Invest chose a strategy of radical transparency, openly communicating through various channels and directly addressing tough questions, such as what happens in the event of company bankruptcy, right on their website. They've also been consistent in publishing financial updates and progress reports, which helps reinforce their legitimacy in the eyes of users. Interestingly, they also faced hurdles in establishing their first banking relationships early on. The first bank they teamed up with cut ties after six months due to worries about potential crypto activities, highlighting how traditional banks are still hesitant about the promise of blockchain in the cryptocurrency space. The situation improved when an investor with connections at a well-established bank helped them forge a new partnership with another financial institution that recognized the strength of their business model and understood that their value proposition isn't tied to crypto market. Aurelio mentions that Splint Invest's journey also included several strategic pivots. Initially, the company envisioned a model similar to an e-commerce, with in-house teams managing various collectible categories. However, this approach quickly proved to be operationally unsustainable due to a lack of expertise in niche segments and scalability issues. Consequently, the team transitioned to a partner-driven model, collaborating with affiliate companies that list their assets on the platform, while Splint Invest focuses on facilitating the investment transactions. When it comes to market segmentation, Aurelio painted a picture of their ideal customer: educated persona aged 45 and above, who have a good amount of disposable income and some experience with investments. Since collectibles can be difficult to liquidate, the platform is aiming for those who are comfortable with a longer-term investment approach. The addition of non-traditional asset categories, such as the one shown in Figure 19, has caught the eye of investors who might have been nudged by younger family members or who started out with more conventional assets such as art and then branched out into alternative collectibles. Although growth is still a hurdle, word-of-mouth and recommendations from peers have proven to be the best ways to bring new users on board. Looking ahead, Splint Invest - says Aurelio - is gearing up for expansion, eyeing markets in the DACH region, the UK, the Netherlands, and France, where they've already seen some early success. Their big goal is to transition from a niche platform to a mainstream investment option that appeals to a much wider range of investors. In this candid chat with the CEO, he acknowledged that a crucial part of this plan is to build a stronger secondary market, which would help boost asset liquidity and draw in users who might be put off by long lock-up periods. Aurelio pointed out that with just a few tweaks to their product offerings, Splint Invest could find the right fit for new investor segments, paving

the way for future growth.

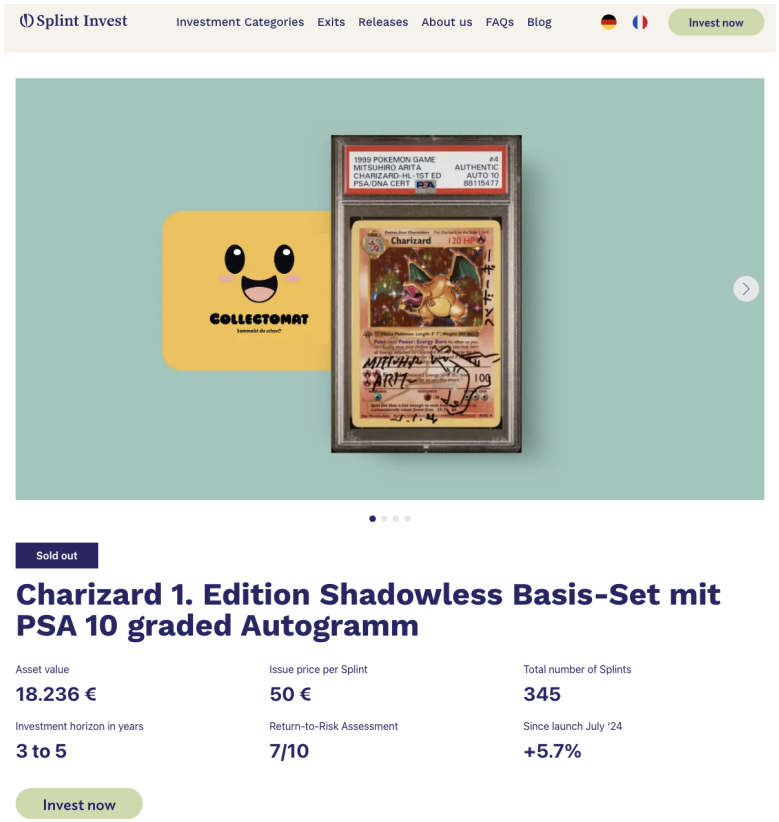

Figure 19: Rare collectible card tokenized and offered to investors on Splint Invest's platform. Source: SplintInvest (2025).

The fine art industry has also seen several platforms emerge that use blockchain technology to create secure digital twins of physical artworks. These platforms provide tamper-proof certificates of authenticity (COA) and transparent provenance tracking. Artory stands out as an interesting example of blockchain applied to art authentication and provenance. Founded in 2016 by Nanne Dekking, Artory built one of the first blockchain art registries focused on improving trust in the art market. As illustrated in AlleyWatch (2018), Artory serves both collectors and art businesses. Collectors can register anonymously and store their artwork records for free on the Artory registry, and art-trade institutions can partner with Artory to verify and upload verified information. Each artwork registered in the Artory database is assigned a unique digital record and a hash of that record is written on the Ethereum blockchain, creating an immutable time-stamped proof of the artwork's information. When a collector sells an artwork that is on Artory, they can transfer the COA to the buyer via the platform for a one-time fee. The COA essentially serves as a digital passport of the physical identity of the artwork: It contains essential identification information and is linked to the blockchain record. Their main USP and revenue generator is their very extensive database containing 36 million transaction records from 1985 to date from auction houses worldwide. As mentioned in Artory (2025), these data are partially accessible to the general public for free, but B2B customers can purchase access to the entire dataset to gather market insight and perform rich reporting on market trends, such as the Art Basel + UBS yearly report on the art market (McAndrew et al. (2025)). In 2022, writes Botzoman (2022), Artory partnered with Winston Art Group to launch a 25 million USD tokenized art investment fund, where Artory's blockchain technology secures the data and provenance of each artwork. Similarly to other authentication solutions in the art industry, Artory's biggest challenge is achieving critical mass adoption in a traditionally conservative environment, and some collectors still prefer old habits such as cash transactions and receipts.

Artory's success is a consequence and demonstration of their valuable business plan and market strategy. In contrast, My Art Registry, an early entrant with a similar solution in the digital art certification space, failed to gain similar traction. Although its goal was to provide digital provenance records, it lacked the strategic partnerships and scalable technology that helped Artory succeed. Rather than leveraging blockchain, it relied on a traditional database, which was met with market skepticism and perceived as less secure. The platform struggled with adoption, and as new blockchain-based competitors emerged, it quickly lost relevance. This shows how critical factors such as technology choices, market trust, and ecosystem collaborations define success or failure in digital art authentication. A visual comparison is shown in Figure 20. From this case study, several key success factors emerge:

1. Innovation is not enough: Without robust and scalable technology and user adoption mechanisms, even early adopters can fall behind.

2. Importance of Partnerships: Collaborations with trusted galleries, auction houses, and industry leaders provide credibility and enhance the adoption of the platform.

3. Timing and technology: entering the market at the right time with blockchain-based

solutions allowed Artory to address real concerns around security and provenance.

4. Education: ensuring that users understand the technology and its benefits is essential to overcoming resistance and encouraging adoption in a traditionally very conservative market.

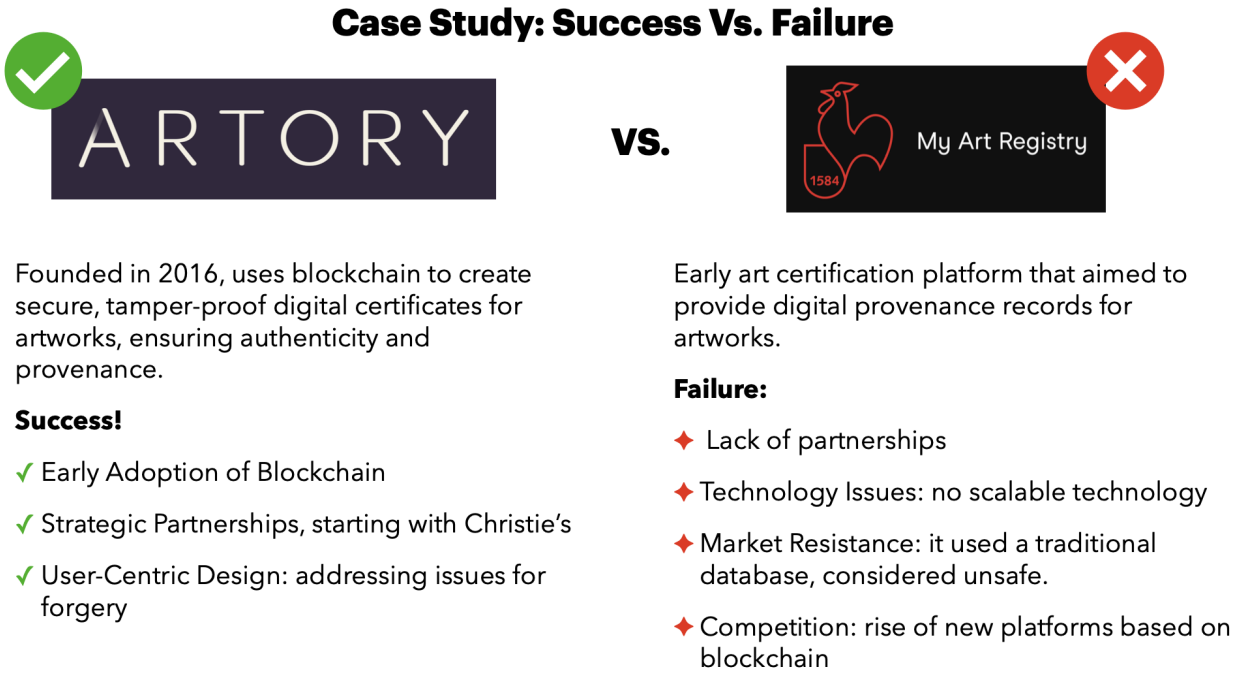

Figure 20: Comparison between Artory and My Art Registry.

5 Insights and Analysis

5.1 Key factors for success

From the interviews, the thesis author's take and desk research, the market opportunity looks significant. In all case studies, several key success factors can be identified.

- Accessibility: lowering barriers to entry for participation is one of the keys to successful tokenization projects. One barrier is the complexity of the user experience. If using a tokenization platform is too technically demanding or alters existing workflows too much, adoption will be slower or fail.
- Solving real problems: tokenization initiatives that show success tend to be those tightly linked with solving real problems for their users, not only interesting technical POCs which do not target a specific user need.
- Network effects and partnerships: extremely important is the ability to achieve network effects. Many of the industry examples explored have the potential to become more valuable as more participants use them.
- Regulatory compliance: Navigating legal and regulatory frameworks and predicting future restrictions is a critical success factor, especially when tokenizing high-value assets.

In summary, success stories in RWA tokenization ventures share an underlying theme: they combine technological innovation with domain-specific solutions that build trust, comply with rules, lower barriers, solve real problems, and can potentially integrate smoothly into the existing ecosystem.

5.1.1 Revenue models

In terms of revenue strategies, we can observe how these vary widely also within the same industry. However, some common patterns emerge: platforms dealing with transactions of high-value assets such as RealT, Arcual, and Splint Invest naturally gravitate to commission-based models, turning them into marketplaces or brokers. Those that offer a technology service like SmartStamp or Verisart, lean towards subscription models to capture recurring value. Hybrid approaches are increasingly common: For instance, Verisart and SmartStamp both use subscriptions plus transaction and licensing fees, gaining value from both everyday usage and one-off transactions. Each model has trade-offs; Table 2 presents a comparison between the major ones identified in the previous chapters.

Adaptability over time is important. The RWA tokenization space is new and relatively unexplored; revenue models often need to pivot as market conditions evolve. For example, the collapse of NFT trading in 2022-2023 guided Verisart and many other players to develop revenue streams beyond NFT minting fees. It seems clear that there is no one-size-fits-all monetization strategy in this field and that the effective models align with the value each platform provides. A key insight is that many successful companies combined initial growth tactics (e.g. free or low-

cost offerings to build a user base and data) with long-term monetization once their platform value was proven. The continued innovation in business models suggests that monetization strategies will continue to evolve together with the market to build, increase, and maintain long-term profitability.

Table 2: Comparison of RWA Tokenization Revenue Models

Model	**Advantages**	**Drawbacks**
Commission-based	Significant revenue per transaction	Needs high transaction value
Subscription models (Tiered)	Predictable revenue and high engagement	Must provide continuous value
Data and Licensing	Monetize accumulated data	Requires achieving scale
One-off service fees	Quick high margin income	Non-recurrent

5.1.2 Innovations and technological differentiators

Figure 21 shows a collection of strategic innovations and technological differentiators to gain competitive advantage. This section examines the most significant differentiators in three key areas: (a) authenticity verification techniques, (b) blockchain utilization and design, and (c) integration and interoperability features, highlighting how each case study leveraged technology strategically.

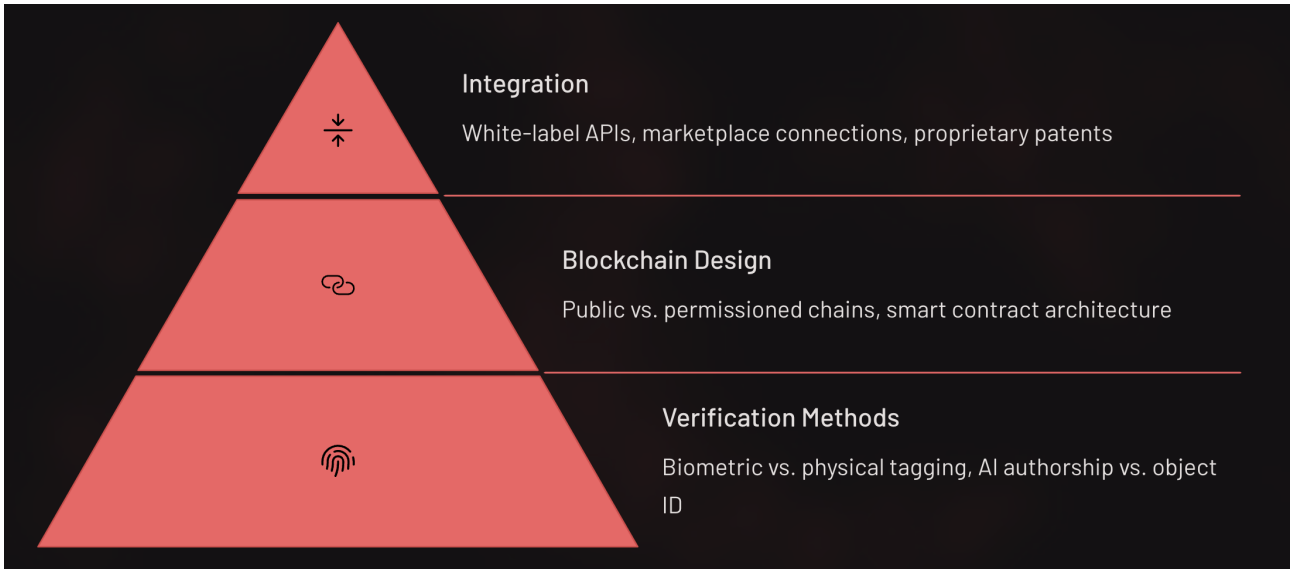

Figure 21: Technology differentiators.

a) Authenticity verification techniques: how companies link the digital token or record to the physical asset. Several approaches have emerged, a few examples are listed below:

- Biometric Fingerprinting vs. Physical Tagging: as already explained, SmartStamp uses biometric fingerprint of the tokenized asset obtained via CV without any physical contact or alteration to the physical asset. However, this is not the only technological possibility, other players use physical tags affixed to the artwork. Once attached, those remain constant as a physical token without undergoing wear and

tear related changes. Both solutions target the same problem, but with different degrees of scalability and different selling points.

- Artificial Intelligence (AI) for Authorship vs. AI for Object ID: Another technological differentiator lies in the use of AI. The strategic choice here for companies is where to apply AI. Art Recognition uses AI to determine autorship. In contrast, SmartStamp's use of AI is instead to ensure the same physical item is being identified as authentic over time, thus doesn't directly compete with connoisseurs as Art Recognition does. Instead, it could complement it by digitizing and storing documents provided by connoisseurs or Art Recognition and linking them to the artwork's digital twin.

b) Blockchain utilization and design: many of the analyzed projects leverage blockchain, but how they use it strategically differs. The type of blockchain (public vs private), what data is put on-chain, and how tokens are structured differ. What exactly is tokenized is a crucial point: RealT issues ERC-20 tokens that behave like securities and represent fractional ownership in an LLC that legally owns a property, while Magma issues what it calls DTTs that aren't supposed to be just static tokens but more like containers of the building's evolving data, but evolving ones, treating the NFT as a continually enriched digital twin rather than a simple title deed. Similarly, Arcual's smart contracts are tailored to art sales: they aren't generic tokens but legal agreements encoded. That is more complex than issuing a generic "art token", but it adds great value by solving a real problem such as royalty enforcement. On the other hand, Verisart and Artory treated tokens more as reference pointers. SmartStamp currently uses blockchain as an anchoring tool and not as a way to issue financial token. This cautious employment of blockchain indicates a market-driven technology strategy: don't push the market faster than it's willing to do.

c) Integration and interoperability features: this covers how these solutions integrate with other systems and fit into the broader ecosystem.

- White-Label and API Strategy: openness to interoperability is a strategic differentiator that can potentially boost adoption especially in the B2B market as infrastructure. This approach replicates successful strategies in the fintech space where companies, like for example Stripe, mainly provide backend services. Being integration-friendly, but not just a white-label backend, SmartStamp could lower the barrier for other institutions to adopt blockchain authentication without sacrificing their own brand. This also aligns with a lesson from previous chapters: the art market is fragmented and no single platform might conquer it outright, so being the common layer across many platforms while still recognizable could be a winning move. The risk associated with this approach is that it requires heavy business development efforts and expenditures and relinquishing some control over the user experience.

- Integration with Marketplaces and CRMs: As can be seen in Verisart (2025), Veris-

art's pivot to integrate with Shopify and print-on-demand services is an interesting innovation in reaching users where they already operate inserting its certification and NFT minting tools there. In a similar way, Arternal and ArtLogic focus on CRM for galleries whose data can be exported or accessed through API, essentially acting as part of the business workflow for art dealers. Also in this case, interoperability proves to be a crucial differentiator.

- Patents and Proprietary Technology: A more traditional differentiator is simply having protected IP. It is known that in fast-moving tech, patents only go so far. However, on-field experience suggests that patents reassure investors and increase their willing to invest in a project. The patented tech assets are more a strategic tool for attracting investment rather than deter possible copycats.

Strategic technological innovation in RWA tokenization is about bridging the physical and digital in a way that is credible, convenient, familiar, and acceptable to users. Each company chose a different bridging method: RealT bridged via legal structuring and a token that interfaces with traditional finance, Magma via building data integration into DTTs, Arcual via custom smart contracts embedding art business logic, Verisart and Artory via user-friendly COAs on public blockchains, Tagsmart via physical tagging, Art Recognition via AI authorship analysis, and SmartStamp is doing that via CV-enabled digital fingerprinting and blockchain records. One consequence, as already identified in previous sections, is that innovation must serve the user and not just be tech for tech's sake. The market already had enough technological POCs, and technology must now directly address real problems. In this sense, the most successful differentiators are those tightly connected with the strategic intent of the business: they must either unlock a new capability or remove a market friction.

This section illustrated how tokenization succeeds or fails under different combinations of market, industry, regulatory constraints, and user trust. It is useful to extract general lessons and a general overview of the application in the market at the surface level. The next section filters the learnings of those cases into more specific and fitting ones for SmartStamp, forming the analytical bridge to the Swiss ArtTech startup's own strategy.

5.2 Transferable strategies for SmartStamp

Having examined the success factors, business models, and innovations of various tokenization ventures, this section will provide strategic recommendations and guidance specifically tailored for SmartStamp.

5.2.1 Education and market engagement

A recurring theme during industry analysis, especially from Magma and Splint Invest, is the importance of educating stakeholders. Magma's CEO mentioned that a key challenge was educating traditional real estate companies about the benefits of blockchain. Similarly, Aurelio, Splint Invest's CEO, pointed out how crucial it is for them to keep their value proposition easy

to absorb for their target users and the importance of educating early investors and customers. In the art world, many collectors, dealers, and institutions still need guidance to understand and trust digital provenance. SmartStamp should invest in clear educational efforts and community building. Arcual's rollout through the Art Basel network shows how introducing innovation in a familiar environment eases adoption. Building general market knowledge and comfort is crucial; as McAndrew et al. (2025) highlighted, a new generation of tech-savvy collectors is emerging, but the broader art market is still quite conservative and moves gradually.

5.2.2 Credibility through partnerships and endorsements

One of the fastest ways to gain trust in the art industry is by association with trusted entities. Arcual's support from Art Basel and LUMA, detailed in Dafoe (2022), gave it instant credibility. Although SmartStamp may currently not have a founding pedigree of this kind, it can search for endorsements from respected experts and institutions. Artory's success in partnering with auction house projects and being the data provider for the Art Basel report shows how such alliances build a reputation and a user base simultaneously. In particular, in the early SmartStamp materials, a high-profile art figure such as Wolfgang Beltracchi was quoted praising the technology. A summary of current partners of SmartStamp is shown in Figure 22. However, it is not enough. SmartStamp should map out key players in the art ecosystem: insurers, large galleries, auction houses, art tech firms such as Arternal and ArtLogic, and actively seek collaborations where SmartStamp's tech meets a clear need.

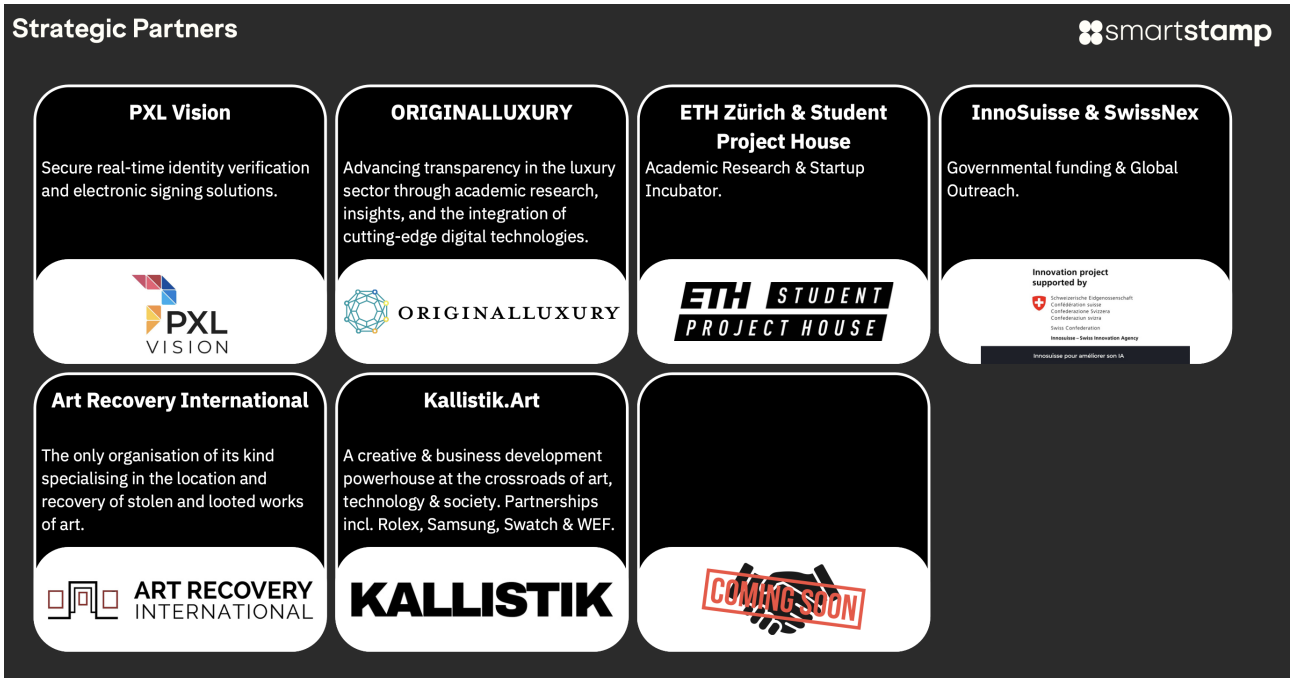

Figure 22: Current partners for SmartStamp.

5.2.3 Balance transparency with privacy and compliance

Lessons from case studies show that participants in the art market want assurance often without exposure. SmartStamp has built-in KYC for AML compliance, aligning with the direction of

regulations and making the platform ready for serious trade. However, it should also recognize the need for privacy: not all users will want their collection details or transactions to be public. SmartStamp must ensure that while the integrity of the records is transparent through blockchain hashes, the content and ownership information can be kept confidential, shared only at the owner's discretion, giving users fine control over data visibility. An interesting market positioning would be to position itself as a transparent, secure, and privacy-respecting solution that combines the strengths of Artory's anonymity option with the trust and transparency of verified identities. This balance will probably make stakeholders, such as family offices or galleries, more comfortable in transitioning to digital records.

5.2.4 Focus on core competency and integrate complementary services

One famous strategic flaw in tech startups is trying to do too much. The case studies suggest that success comes from a clear focus while partnering for other needs. The core competency of SmartStamp is its patented authenticity verification and digital archival system. It should double-up on excelling at this, continually improving the scanning, the user interface, and the robustness of the blockchain record system to maintain a lead in that niche. For other services, it should integrate rather than reinvent itself. In this way, SmartStamp's platform becomes a one-stop hub with plugins rather than trying to be the sole provider of every feature. The competitive analysis in previous chapters shows that some competitor offerings can actually complement SmartStamp and vice versa. Integrations extend the value of SmartStamp without distracting it from its primary mission. The transferable strategy here is collaboration over competition: as seen, Artory feeds data to others, Verisart integrated with Shopify, and Arcual acknowledges predecessors like Fairchain and Verisart in its space, as explained in Dafoe (2022). SmartStamp should lead by connecting rather than isolating. In practice, this means open APIs, data export and import options, and partnership programs, which will enable users to adopt SmartStamp more smoothly and with some degree of flexibility when it comes to integration.

5.2.5 Demonstrate return on investment (ROI)

To drive adoption, SmartStamp must communicate and deliver a clear ROI, inspired by the success factors observed. For collectors, the ROI might be peace of mind and potential insurance savings; for galleries, faster sales, and possibly higher prices due to buyer confidence; for professional artists, protection of their legacy and facilitation of royalties. One transferable insight is from RealT: By lowering investment thresholds, they democratized access and advertised real financial gains from rental yields to users. Although SmartStamp is not an investment platform at its core, it can quantify benefits in a similar way. McAndrew et al. (2025)'s data shows online sales are only about 18% of the art market, partly due to authenticity concerns; this is a figure SmartStamp can aim to improve. If SmartStamp can claim that its users see smoother online transactions, it provides a real incentive for those still in doubt about digitizing their records. In essence, they should continuously gather evidence of their value; this will build a case that using SmartStamp is not just an added cost but a true investment that yields returns in trust, efficiency, and even monetary value.

5.2.6 Phased market entry

A transferable strategy is surely segment-wise rollout. For example, as explained in Dafoe (2022), Arcual started with mid-tier contemporary galleries already in the Art Basel orbit rather than trying to take over big auction houses or ultraconservative collectors at first. SmartStamp might similarly identify an early market segment. One promising segment is very important collectors (VICs), or large collection managers who have great documentation pain points. These users, perhaps the top 5 to 10% of collectors who hold significant art wealth, benefit the most from a solution that secures their collection's provenance and eases management and they are also likely to influence others if they adopt. On the other hand, there is the segment of young tech-savvy collectors contributing to 44% new buyers in 2024 according to McAndrew et al. (2025), and this group could be more open to trying a new app for their art. A two-way approach could be used: premium concierge onboarding for top collectors and self-service freemium app for the new generation building their collections. The key strategic point is to tailor the approach to the needs and adoption drivers of each segment. RealT's example of lowering entry barriers suggests that inclusivity can drive scale, and SmartStamp's freemium option plays that role in attracting the long tail of small collectors. Meanwhile, focusing on high-end clients early provides success stories and revenue. Phasing its market entry, for example, starting in regions more receptive to art technology, like Switzerland, SmartStamp can gradually build momentum, avoid overstretching, and each phase can be validated and leveraged for the next one.

5.2.7 Innovate and incorporate feedback

The landscape is constantly evolving, and what was cutting-edge a few years ago is now becoming expected baseline. Companies like Verisart kept evolving for example moving to Shopify and Artory moved from registry into facilitating actual financial products. SmartStamp should view its current offering not as a static end but as the foundation. With user feedback, it can add features that strengthen its offering. The ability to pivot or extend the model is a strategy in itself. The unfortunate story of "My Art Registry" shows that despite being an early entrant, you can still fail and not achieve critical mass if you are unable to iterate your model in time and stay relevant on a technical level. SmartStamp should avoid stagnation by staying agile, regularly conducting user interviews and market research, and keeping an eye on competitor moves to guide SmartStamp's roadmap.

Having identified where SmartStamp can create, capture, and defend value, the discussion now turns to concrete strategic paths. The next chapter will consider three possible growth scenarios: focus, diversification, and infrastructure, using as sources to make realistic hypotheses the learnings surfaced in the analysis of this chapter.

6 What's next for SmartStamp?

Having established in previous chapters the current position of SmartStamp, in this one scenario-based growth strategy will be mapped out, then it will be decided which would be most beneficial to SmartStamp and the effects of the business strategy in the short, medium and long term will be estimated.

6.1 Strategic growth scenarios

In this section, we theorize and explore three possible strategic scenarios for SmartStamp's growth and future potential diversification, each with a distinct focus:

a) Enhance and expand SmartStamp's existing offerings in the art market and penetration in its core domain.

b) Enter new markets (e.g., collectibles, luxury goods, etc.) by adapting SmartStamp's technology to go beyond fine art.

c) Grow through integrations, white-label services, and decentralized ecosystem positioning, becoming an infrastructure provider within a broader digital art ecosystem.

6.1.1 Scenario A: Focus on the art market

As explored throughout this thesis, the art market, while very traditional, is increasingly more open and gradually embracing digital solutions, especially for cataloging and authenticity. Therefore, it could be a winning strategy for SmartStamp to solidify its role as a standard digital infrastructure for authentication, provenance, and transactions in the art.

Furthermore, as reported by McAndrew et al. (2025), the global art market is characterized by almost 40 million art transactions per year. If SmartStamp manages to capture even a small fraction of this ecosystem, it could mean a very significant business opportunity. Focusing on the art market, SmartStamp can take advantage of its first-mover advantage in biometric CV authentication of paintings and build credibility as a 'gold standard' in art provenance. Scenario A allows for the refinement of the product-market fit and accumulation of high-quality art data, which can enable network effects.

The feasibility of scenario A is high. Technologically, the required advancements are incremental, building on a core patented backend for surface fingerprinting of paintings which is already developed, and existing solutions provided by partner companies. Regulatory feasibility in the art market is generally favorable for an authenticity service; no special licenses are required for offering digital COAs or inventory management tools. In fact, tightening regulations on AML in art trade could even improve the opportunity size for SmartStamp in the art market since its solution follows the trend towards transparency and compliance. Market maturity is a mixed aspect: the art industry is known to be traditional and driven by personal relationships, which can slow tech adoption. However, recent years have shown greater openness to digital

transformation in art, especially accelerated by the COVID-19 pandemic and the NFT boom.

In general, scenario A is the most straightforward and low risk path, and aligns closely with SmartStamp's initial business plan and the competencies of its core team.

6.1.2 Scenario B: Diversification into adjacent markets

This scenario explores entering new markets beyond fine art, such as collectibles and luxury goods, as a path to accelerate growth. The idea is to take advantage of SmartStamp's core technology to authenticate and track other valuable physical assets. These markets share similar pain points with the art world, but are often larger and growing faster than the traditional art market, as reported in Figure 24. These figures indicate a much broader TAM. Diversifying into adjacent asset classes, SmartStamp could position itself as a leader in RWA tokenization across multiple markets and industries, growing into a go-to solution for trusted digital identity of any high-value collectible.

Scenario B presents greater challenges than Scenario A. Technical feasibility is a prime concern, given the need to ensure that the technology can be tailored to different object types, especially when it comes to 3D objects, technical challenges might arise. In some sectors SmartStamp might also need to integrate new technical solutions: for example, authenticating a luxury watch might involve not just surface imaging but also checking serial numbers or movement components; these go beyond pure CV and require a deeper technical analysis. This path would require a lot of R&D cash and plenty of trial runs. Regulatory feasibility will vary by market, but simply providing authenticity certification for collectibles is generally unregulated, and therefore it should not represent a problem. The market readiness for collectibles and luxury seems very favorable; these industries are already challenged by counterfeits and have started to adopt tech solutions to try to solve the issue. The booming online market for sneakers, streetwear, and collectible cards has generated multiple third-party services for verification, and luxury brands themselves are exploring internal blockchain solutions to supply chain provenance of products. Thus, stakeholders in these markets are hungry for a solution that offers trust and traceability. Diversifying into new product lines would create several internal business units within SmartStamp, each potentially needing domain experts, custom tech tweaks, and partner networks; this means that it will require very high investment. This increases execution risk, but adopting a phased approach mitigates it, and success in the first new vertical could boost confidence and funding for the next.

This scenario clearly has a higher upside potential than A, but also a wider uncertainty range; It is an ambitious growth strategy that relies on the scalability of SmartStamp's concept across multiple industries. It carries higher execution complexity and risk, but, if achieved, it could significantly increase SmartStamp's market presence and financial performance, positioning it as a cross-industry solution for authenticity in the landscape of tokenized RWAs.

6.1.3 Scenario C: Becoming an infrastructure backbone

This scenario envisions SmartStamp evolving into a platform infrastructure provider, expanding through deep integrations, white-label services, and positioning itself within a decentralized ecosystem in the art and collectibles space. This scenario emphasizes B2B partnerships and ecosystem adoption, at the expense of its own branding and decision-making power over the user experience. The idea is to make SmartStamp technology a back-end standard for physical asset authentication. This could involve providing SmartStamp's authentication as a white-label API to online marketplaces, auction houses, galleries' inventory systems, insurance companies, or even other blockchain platforms. The idea is that by plugging into existing networks with large user bases, SmartStamp can scale more rapidly and cost-effectively than organic user acquisition. Moreover, aligning with the emerging decentralized ecosystem of art and asset tokenization can future-proof SmartStamp in a world where no single company really controls the authenticity concept. Observing competitors, Arcual made a similar lateral move in 2023 integrating their technology in platforms such as Shopify to act as a plug-in for existing Shopify's users. In a rapidly developing RWA tokenization landscape, being the infrastructure can lead to great influence and a central role.

Scenario C can be highly efficient if it works, but it also faces high uncertainties about dependency and alignment. The technical feasibility is strong on the SmartStamp side, since the building of APIs and white-label modules is well within reach. Ensuring enterprise-grade Authentication as a Service (AaaS) services will require solid engineering, but no fundamental breakthrough. The challenge is to ensure that the partners can integrate it smoothly and that the user experience for those integrating is positive. As said, control over the end user experience is partially lost in this scenario. The feasibility in terms of partner adoption is the bigger question: Will major players be willing to rely on the external tech of SmartStamp? The big institutions in the art market often prefer in-house solutions or are cautious to trust startups. SmartStamp will need to prove its reliability and neutrality.

An approach is to position yourself as a neutral infrastructure rather than a competitor, highlighting that SmartStamp technology can operate quietly in the background. Market maturity for this strategy is arguably trending positive: the proliferation of NFT marketplaces, blockchain provenance startups, and consortia like ArtID, Arcual, etc. suggests that the art world is actively seeking infrastructure solutions.

Scenario C would force SmartStamp to work mainly behind the scenes, providing other firms, and, if all goes well, setting the benchmark for the field. It leverages collaboration and network effects at the highest level, at the cost of giving away control over customer relationships. If successful, SmartStamp can deeply integrate in the infrastructure of art and collectible transactions, producing both financial rewards and strategic positioning. However, this strategy strongly limits the potential for branding and would make SmartStamp much less recognizable to the general public, effectively undermining its potential as a standalone solution.

6.1.4 Recommended strategy

After evaluating the scenarios, the most promising path for SmartStamp appears to be a hybrid approach centered on Scenario A, complemented by a phased progression towards Scenario B into very selective elements of Scenario C. So, SmartStamp should keep its eyes on art first, then branch out slowly and deliberately, and meanwhile exploring only very profitable B2B white-label or co-branded partnership that would not undermine its USPs with respect to competitors.

This strategy offers a balanced growth trajectory that combines the secure base and manageable risk of scenario A with the expansive upside of scenarios B and C. If executed well, over time SmartStamp can evolve from a niche ArtTech startup into a cross-industry standard for RWA tokenization and authenticity, diversifying revenue streams while enjoying a sustainable competitive advantage.

6.2 Strategic timeline

Once the growth scenario has been established, the next step is to evaluate and estimate possible performance over time. To do so, the three horizons of McKinsey's growth framework will be used, as explained in Coley (2009). Each horizon focuses on scaling the adoption and capabilities of the platform in line with the readiness of the market and the expanding competencies of SmartStamp, as summarized in Figure 23. This section outlines the envisioned trajectory for 2025 onward, from consolidating the offering in Switzerland to European and Global expansion and ultimately diversification into new asset classes. Drawing from the previous section, it includes strategic directions that SmartStamp could explore during its growth, with an analysis of what could have the highest impact on the company's success.

Figure 23: Planned strategic timeline.In blue: Horizon 1 (2025–2027), in orange: Horizon 2 (2027–2030) and in green: Horizon 3 (Post-2030)

6.2.1 Horizon 1 (2025–2027): Swiss market penetration and pilot partnerships

In the immediate term, SmartStamp should focus on deepening its roots in the Swiss art market, taking advantage of the local ecosystem. The period from 2025 to 2027 is about proving the concept at home, achieving product-market fit, and building reference cases through high-profile pilot projects. Market penetration in Switzerland will involve the introduction of key galleries, collectors, and institutions to use the SmartStamp platform to authenticate art. By 2025, the company aims to launch a general campaign accompanied by 'blue chip marketing' efforts to attract reputable early users and VICs. For example, partnering with a top-tier Swiss gallery or a reputable institution to certify and digitize part of their collection would send a strong signal and establish trust in the market. These early adopters can be offered incentives in exchange for testimonials and case studies. Launching during Art Basel in Paris is also a strategic move: Art Basel is a gathering of the global art elite, and a panel there could generate buzz among collectors and art professionals. Such outreach aligns with findings from previous chapters that word-of-mouth and peer recommendations are among the best ways to onboard new users to innovative platforms in the art space.

Another short-term initiative is the formation of a kind of "Art Authenticity Association" or community led by SmartStamp in Switzerland, work that has already begun partially, as shown in Figure 14. The goal of such an association would be to bring stakeholders together and build a strong Swiss community to develop standards for blockchain-based art authenticity and "phygital links" in art. Taking a leadership role in these discussions, SmartStamp positions itself as a thought leader and standard-setter in the Swiss market.

During Horizon 1, SmartStamp should be refining its core product features based on pilot feedback. Usability will be the key for adoption, and feedback from Swiss gallery staff, collectors, and VICs can inform improvements to the mobile app user interface (UI), the scanning process, or the digital certificate interface. By 2027, one would expect SmartStamp to have a polished platform with multi–language customer support and robust processes and documentation. The short term can thus be summarized as a phase of solidification and credibility building.

6.2.2 Horizon 2 (2027–2030): Expansion into EU markets and platform integration

During Horizon 2, SmartStamp's focus changes to international expansion throughout Europe and deep integration into the digital infrastructure of the art market. Having proven its value in Switzerland, SmartStamp can leverage its Swiss credentials to enter major art hubs in the EU such as the UK, Germany, France, and Italy, following similarities and opportunities in market size as identified in McAndrew et al. (2025). A priority will be adapting to the evolving regulatory landscape: By 2027, the EU Markets in Crypto-Assets (MiCA) regulation and other digital asset frameworks and AMLs will be in effect, providing clearer rules for tokenized assets. SmartStamp should proactively ensure that its tokenization process is in accordance with EU regulations. In terms of geographical growth, SmartStamp should prioritize expansion within

Europe also because the art market is not only substantial, but also relatively unified by policies. A prudent mid-term approach is to 'prove it in Europe': capture a meaningful share of European galleries and auction transactions using SmartStamp by 2030, which then provides a springboard to tackle the US and Asia after 2030.

A cornerstone of the expansion will be forging partnerships with existing art platforms and service providers in Europe. Rather than trying to attract every user from scratch, SmartStamp can ride on established networks by carefully integrating its technology where art market participants already congregate online, adopting the precautions mentioned in previous sections.

During 2027–2030, SmartStamp is also likely to introduce full transaction capabilities on its platform, at least in selected markets. In Q1 2026, the company's roadmap already suggests introducing art transactions in Switzerland as it moves to a market builder stage. Extending this to EU by 2027 means that SmartStamp could evolve from purely an authentication service to a trading platform for tokenized art assets. Concretely, this could mean that once an artwork has a digital passport on SmartStamp, the owner can transfer or sell it via a secure token transaction on the platform. SmartStamp would then earn small transaction fees for facilitating these sales or transfers, adding a new revenue stream. SmartStamp should position these tokenized transactions as enhancing liquidity in the market, to highlight their disruptive effect in the art industry.

In terms of technical aspect, another point of the mid-term strategy is scaling operations and infrastructure. As user numbers grow, SmartStamp will need to ensure the technical scalability of their offering. This period will likely involve migrating to more robust cloud infrastructures based on microservices, improving AI algorithms with more image and text data, and strengthening cybersecurity. Artory's case demonstrates how valuable a comprehensive database can be: Artory's 36 million auction transaction records became a huge USP that they monetize through B2B data access. SmartStamp could aim to build or integrate a similar data model, at least for the segment of art pieces registered on its platform, providing analytics services for professionals.

If Horizon 2 works out, SmartStamp could become Europe's go-to service to check the authenticity of an artwork.

6.2.3 Horizon 3 (post-2030): Diversification into collectibles and luxury assets

In Horizon 3, the vision for SmartStamp expands from fine art to a wider universe of collectibles and luxury goods. Having improved its technology and credibility in the art world, SmartStamp can leverage its infrastructure to make a lateral move into other asset classes where authenticity and provenance are equally critical. The long-term strategy involves transcending the art market and becoming a platform for trusted tokenization of any valuable RWA. The rationale for this diversification is two-fold: technology transferability and market opportunity. On the technology side, SmartStamp's core USP of creating a unique digital fingerprint of a physical

item can be applied to many objects beyond traditional art. Surely SmartStamp will need to refine its algorithms for different materials, but the fundamental concept remains valid and will even gain more value from natural technological advancements of commercial mobile devices' constantly improving cameras, especially when it comes to macro lenses and optical zoom capabilities. Market-wise, the collectibles and luxury market is enormous. The global collectibles market is projected to grow at a CAGR of 5.5% and reach around 450 USD billion by 2030 according to an estimate by Research (2024) shown in Figure 24, far outpacing the independent art market.

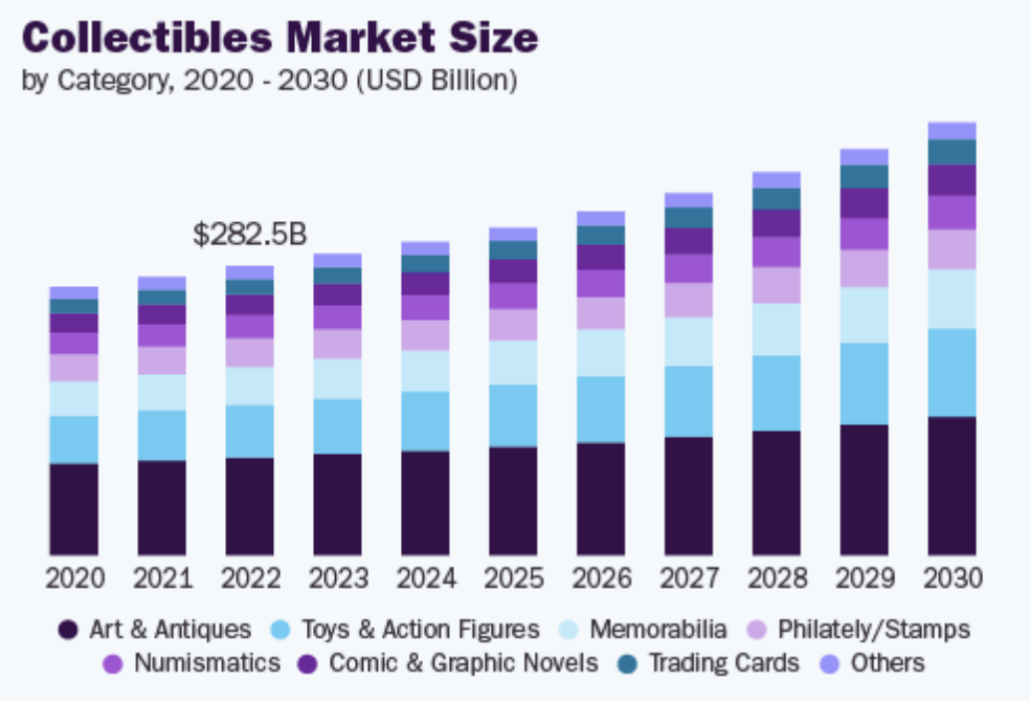

Figure 24: Collectibles Market growth projections from 2020 to 2030. Source: Research (2024).

Entering this market, SmartStamp can address a much broader consumer base that values authenticity and 'phygital' ownership. Many of these consumers are digitally savvy millennials or Gen Z who are already comfortable with concepts like NFTs and digital ownership. However, entering new verticals will require great marketing efforts and new domain expertise. SmartStamp will need to hire or partner with experts in each field to ensure that the tokenization process captures the right attributes and integrates with existing practices.

SmartStamp might start with closely adjacent categories. For example, fine-art photography, limited-edition prints, or collectible cards could be an easier first step beyond traditional art. From there, rare collectibles like valuable comic books or even vintage wines and luxury watches are available. could benefit from SmartStamp's tamper-proof digital certificates. SmartStamp could partner with grading firms or auction houses specializing in these items to pilot the lateral move.

Over time, many more competitors will emerge in the market. Other industries may develop parallel solutions. SmartStamp's first-mover advantage in art and its established platform could give it a jump start, but it will need to continuously innovate to stay ahead of

existing and emerging competitors.

In summary, the post-2030 horizon foresees SmartStamp evolving from an ArtTech scale-up into a global platform for a broad portfolio of authenticated tokenized RWAs.

6.3 Quantitative forecast

Projecting SmartStamp's growth in numbers requires blending its strategic initiatives with industry benchmarks. In this section, reasonable, yet speculative forecasts for user adoption, revenue streams, and market share are resented. These projections are estimates subject to many uncertainties but illustrate a potential trajectory if SmartStamp is executed effectively.

- User Growth: In the early stage (2025-2027), the growth of users will be modest and focused on VICs and high-end collectors or institutions. By the end of 2025, SmartStamp might have a handful of pilot customers (e.g., 5-10 VIPs and a few dozen individual collectors) as it soft-launches in Switzerland, which will sum up to about 350 current early users. Once the public launch and Art Basel Paris promotions occur, growth could accelerate. Assuming that each pilot VIC brings 50–100 artworks onto the platform, SmartStamp could register on the order of 1000 artworks by 2026. As Swiss traction builds and word spreads, the user base could reach a few hundred active users by 2027, including galleries, professional artists, and collectors. In the mid-term scenario, SmartStamp could count on the order of 5000 to 10000 institutional and individual users, which translate to tens of thousands of artworks registered on the platform.

- Revenue Projections: SmartStamp's revenue will come from a mix of SaaS subscriptions, licensing, and transaction fees. In the initial years, subscriptions and licensing will dominate, as transaction volume will be low. In concrete terms, ARR might start very small: perhaps on the order of CHF 50 to 100k in 2025 largely from pilot project fees or consulting-like revenue from custom VIC on-boarding and grow to a few hundred thousand to 1M CHF by 2027 as Swiss clients sign on. The Horizon 2 expansion to Europe vastly increases the pool of customers, and this would translate into much higher expected ARR and volume of transactions. In fact, by 2030, transaction fees may also kick in. If SmartStamp facilitates the sale of tokenized art, it could take a commission per transaction, generating additional revenue. A reasonable mid-term projection could be annual revenue on the order of CHF 5–10 million by 2030, with upside if adoption accelerates above expectations. Horizon 3 offers potential for exponential revenue growth if SmartStamp successfully enters much larger markets such as luxury products and collectibles. In this case, revenue could climb into the tens of millions CHF or even more. However, such prospects are highly speculative. A visualization of this prediction is shown in Figure 25.

- Market Share: It is challenging to define'market share' in this context, as SmartStamp effectively targets a relatively new market niche that overlaps with several existing markets. One way to estimate market share is to become an authenticated artist. Toward

2030, if we assume that SmartStamp has about 50k artworks registered and McAndrew et al. (2025) indicates roughly 700k artworks sold annually across galleries and auctions globally, then SmartStamp might be involved in about 7% of annual transactions in the art market. That would be extremely significant for a single platform operating in a fragmented industry. It is reasonable to target by the late 2020s, becoming one of the main platforms globally for tokenization of art assets, perhaps capturing around 10 to 15% of authenticated art in the blockchain segment. Of course, achieving this vision is far from straightforward and will depend on maintaining a consistent advantage to outperform competitors.

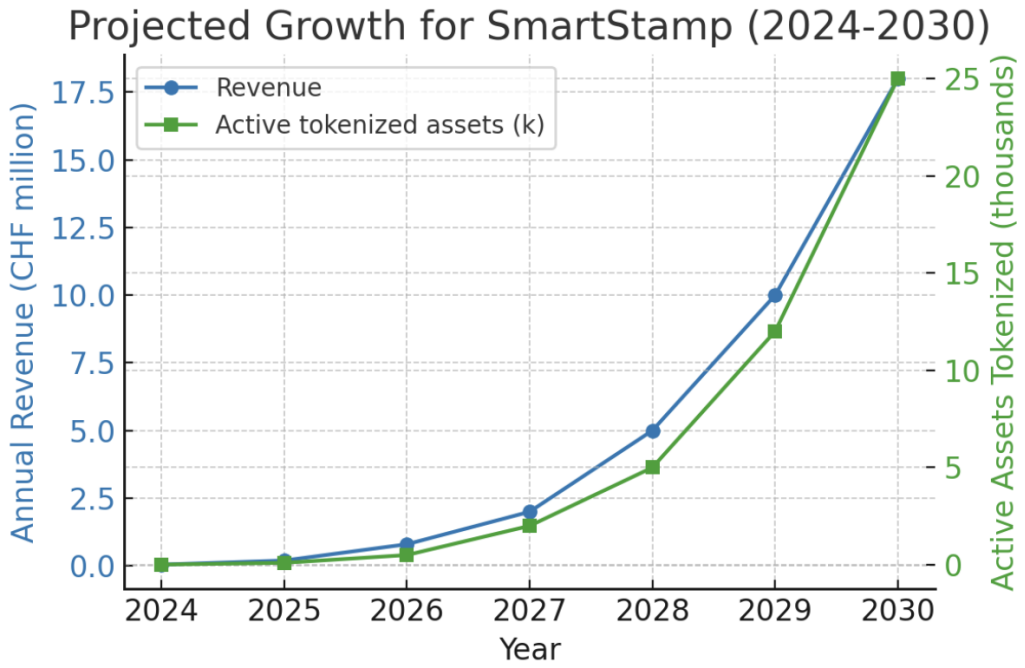

Figure 25: SmartStamp projected growth in ARR (blue) and active tokenized assets (green).

7 Conclusion

This research investigates how tokenization of RWAs, especially in art, could address market pain points and what business models would support its adoption. The findings make clear that tokenization across industries is not just a technological fad, but a viable response to concrete and painful inefficiencies. Considering the art industry alone, this study shows that by providing trusted digital provenance and lowering barriers to entry, tokenization has the potential to make the market much more transparent, inclusive, and resilient.

Reflecting on the broader field of tokenization, the implications of this study extend well beyond SmartStamp or the art market. One major insight is that successful ventures must combine technological innovation with business model innovation. It is not enough to create a secure digital token or a fancy cutting-edge POC; there must be a clear value proposition and revenue logic that encourage stakeholders to participate. This thesis advances the understanding of business model choices in the tokenization space by highlighting how different models, from SaaS platforms to transaction-based marketplaces and white-label services, perform in practice. In the academic literature, discussion has often emphasized technical feasibility or legal considerations, leaving a gap in understanding how companies actually capture value in tokenized asset markets. This case study and cross-industry analysis address this gap and provide a more nuanced picture of what it takes to build a sustainable venture. The comparison of cases illustrated that businesses that integrated with existing market structures and complied with regulatory norms tended to gain more traction overall.

The research underscores that RWA tokenization's transformative potential can only be realized through collaborative efforts in the ecosystem. Stakeholders, such as regulators, industry bodies, and investors, all have roles to play, and business cannot operate as separate islands.

This thesis has contributed to the field of RWA tokenization by demonstrating how an art-focused startup providing this type of services can plan its strategic direction informed by both cross-industry lessons and deep understanding of its home market. As the art market continues to evolve in the digital age, solutions that provide digital provenance, secure authentication, and asset fractionalization will at some point become indispensable. It also expands current knowledge about business model innovation in this field. Traditional frameworks often assume that value derives solely from control over a physical assets or distribution channels for those physical assets, however, the cases analyzed in this thesis suggest that in tokenized markets, competitive advantage increasingly lies on curating metadata standards, enabling and facilitating compliance, and designing platforms that can enhance consumers' trust. The assumption that financial incentives alone drive adoption is challenged: platform credibility, interoperability, and quality partnerships are equally, if not more decisive. Finally, this thesis contributes to the emerging field of digital trust infrastructure by re-imagining provenance in the art world not as a static claim but as a dynamic, evolving, verifiable flow that must be embedded in user experience itself. In doing so, it bridges theoretical work on blockchain

architecture with practical research on platform ecosystems.

For product teams in similar start-ups, the cross-case analysis developed in Chapter 5 can serve as a due diligence checklist: Does the venture offer a solution that incumbent players cannot easily copy? Is pricing accessible enough for risk-averse or new stakeholders to adopt? Early-stage investors can use the same lens to evaluate whether their investment might under-perform in subsequent funding rounds, and entrepreneurs can use this thesis as an emerging playbook, one that imposes innovation in business models alongside technology, to guide their efforts in using blockchain as a tool to solve real issues for RWAs and people. Bridging physical and digital, and aligning innovation with the needs of the market, tokenization can deliver on its promise of bringing greater trust, efficiency, and accessibility to assets of all kinds. Also for policymakers, this thesis can be a useful document, since it shows how this technology does not eliminate the need for regulation but changes its focal point. Self-regulation is insufficient, to avoid this kind of assets replicating existing market inefficiencies (such as opacity of transactions, unreliable traceability of the asset, etc.) under a digital facade, policymakers must define minimum standards for metadata integrity, digital ownership registries, and cross-border interoperability and adopt a digital platform to enable this overview. This could not only reduce risk in the art industry but also accelerate a more broad adoption across adjacent markets like luxury goods, cultural heritage.

Given the early state of technology and the relatively few applications in the market, the exploratory design of the thesis focuses more on depth than breadth. The findings and hypothesis generated from it should be seen for the most part as theoretical propositions based on personal perception, knowledge, and experience rather than undeniable facts. Future work could test the success or failure factors more quantitatively in a larger sample of tokenization ventures or examine the formation of consumer trust through surveys and experiments. The progress of SmartStamp's venture will also further clarify how early decisions shape platforms over time.

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A Appendix

A.1 AI Use Declaration

To ensure transparency and uphold academic integrity, the following table outlines the artificial intelligence (AI) tools utilized during the preparation of this report. This declaration aligns with ETH Zurich's guidelines on the responsible use of AI in scientific writing.

Table 3: AI Use Declaration

AI-Based Tool	Use Case	Scope	Remarks
ChatGPT 4.5 Last access: 05.06.2025	Text and graph generation, re-phrasing	Entire work, Figure 23 and Figure 25,	None
Gamma Last access: 01.05.2025	Figure generation	Figure 21	None
Writefull Last access: 04.07.2025	Re-phrasing and grammar check	Entire work	None

A.2 Ethical Conduct and Interview Documentation

All interviews conducted as part of this research were carried out on a voluntary basis, with the informed consent of the participants. Interviewees were fully briefed on the purpose and scope of the study and were assured that their responses would remain confidential and anonymized. Participation was entirely optional, and individuals were free to decline or withdraw at any point without any consequence. The interviews were conducted remotely via Microsoft Teams in a fair, respectful, and unbiased manner, in accordance with ethical research standards. The interview dates and corresponding question templates are provided below for reference. Transcripts of the interviews have been rephrased for clarity and coherence, where necessary, while ensuring that the original meaning and context remain unchanged. These edited transcripts are included in the thesis to support the analysis.

A.2.1 Interview with Magma

General information and questions:

- Date: 18.03.2025
- Interviewer: Giuseppe Piacenza
- Interviewee: Matthieu Merchadou

a) What is Magma's core value proposition in the real estate tokenization market?

b) What key revenue streams are you leveraging?

c) What adoption barriers have you encountered in convincing traditional real estate firms to use blockchain-based solutions? What have been the most effective strategies for onboarding clients and early adopters?

d) Have there been any unsuccessful strategies or pivots in your journey? What lessons have you learned from other failed tokenization projects?

e) What are your expansion plans beyond your initial market?

A.2.2 Interview with Splint Invest

General information and questions:

- Date: 21.03.2025
- Interviewer: Giuseppe Piacenza
- Interviewee: Aurelio Perucca

a) What is Splint Invest's core value proposition in the collectible tokenization market?

b) What key revenue streams are you leveraging?

c) What adoption barriers have you encountered in convincing traditional real estate firms to use blockchain-based solutions? What have been the most effective strategies for onboarding clients and early adopters?

d) Have there been any unsuccessful strategies or pivots in your journey? What lessons have you learned from other failed tokenization projects?

e) I see on your platform you offer collectibles such as Pokemon Cards or Sneakers. Do those customers understand your 'unusual' investment options?

f) What are your expansion plans beyond your initial market?