

IEG INDUSTRY INSIGHTS

Digitization in the Art Market
July 2017



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While lagging behind the digitization of other industries based on similar business models, such as plain-vanilla ecommerce, the art market is experiencing a continuous shift towards the online world.

THE HIGH-END MARKET, aiming at HNWIs as well as UHNWIs paying millions of USD for single pieces of art, is responsible for the majority of art revenues and handled by traditional dealers and auction houses who mainly utilize digital channels for marketing initiatives. While it is unlikely that high-end art will be sold through online platforms due to its value, traditional auction houses benefit from technological developments such as blockchain, facilitating transaction security and product authenticity.

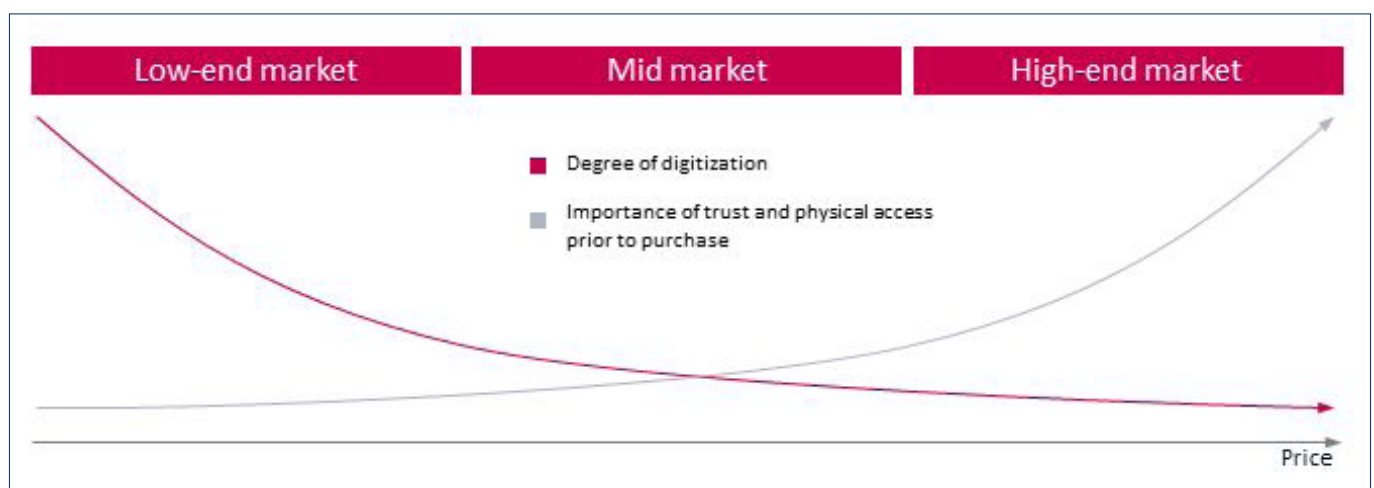
An ever-increasing amount of VC investments into art start-ups aiming at the sale of low and mid-priced pieces of art underlines the increasing level of digitization.

HOWEVER, producers of low-end art and emerging artists targeting the mass market gain significant potential through various platforms and market places giving access to consumers outside the scope of traditional art collectors: a younger generation which has already adapted to making purchase decisions online aiming to acquire lower-priced pieces of art (not as an investment but as means of expressing themselves). An ever-increasing amount of VC investments into art start-ups aiming at the sale of low and mid-priced pieces of art underlines the increasing level of digitization as well as the market potential.

WHILE THE DIGITIZATION of the low-end market has been mostly successful (Dawanda, Amazon, etc.), the mid market struggles with consumer acceptance due to relatively higher prices (compared to low-end market and in relation to disposable income of target customers in the younger, online-focused generation) in combination with lacking authenticity indicators and other physical aspects which negate the digitization in the high-end market.

IT IS TO BE EXPECTED that especially the low-end market will continue to benefit from digitization in the short-term: access to pieces of art from emerging artists will be further facilitated (e.g. through augmented reality), thus increasing consumer spending.

IN THE MID- TO LONG-TERM, the most pressing challenges for the mid market (e.g. authenticity) will be solved through technology while the high-end market is likely to remain offline-focused.



For a long time, the art market has been attributed to the world of the extremely wealthy, well-known for its exclusivity and lack of transparency. Traditionally, art was bought through dealers, galleries, auction houses, and fairs.

THIS OUTDATED PROCESS of buying art has long been hesitant to changes through technology and has, therefore, remained essentially offline while other industries developed alongside the trend of increasing digitization, thus becoming accessible online.

IN RESPONSE TO THIS HESITANCY, many argued that art – unlike other goods – requires a physical examination of the object and, therefore, is fundamentally unable to follow this trend towards online distribution. However, this assumption has been proven wrong as many consumers are already spending a significant amount of money online for luxury products for which a similar argument regarding the necessity of a physical examination could be made, such as cars, furniture and designer clothes.

FOLLOWING OTHER PRODUCT VERTICALS, technology and online media have started to revolutionize almost every aspect of the art market as well and, correspondingly, re-shaped old business models and developed new market opportunities.

AS ONE EXAMPLE, the increasing shift towards going online offers emerging artists various platforms to reach a wider audience of customers while also giving amateur collectors access to a significantly broader supply of art.

FURTHERMORE, technology is applied to address the industry's main problems, such as authenticity and theft issues through disruptive uses of blockchain and other innovative technologies.

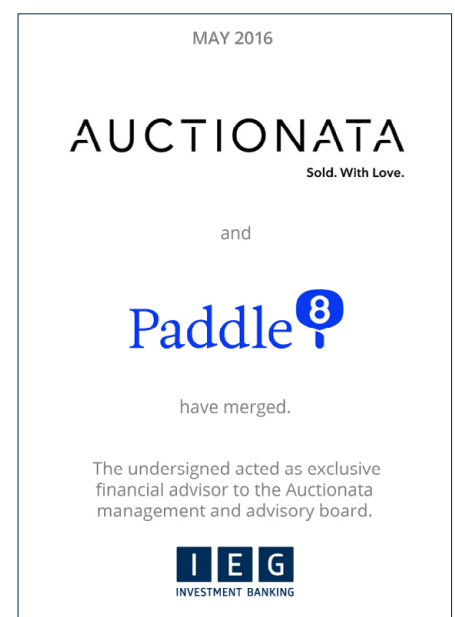
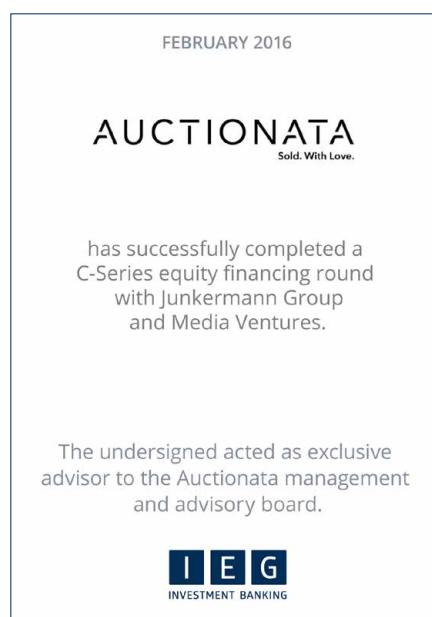
AS A RESULT, the art market is becoming more transparent and open to new categories of buyers. Especially younger consumers, whose purchasing preferences

have rapidly moved online, are demanding access to a wider variety of art. This presents a massive opportunity for new players as well as a threat for established dealers and auction houses who ought to react accordingly. We believe that the art world will continue to advance technologically, further increasing market transparency, accessibility, and efficiency.

WITHIN THE PAST YEAR, IEG – Investment Banking Group has acquired a deep expertise of the art market by advising art start-ups, such as Auctionata (several financing rounds; merger with its US competitor Paddle8).

THEREBY, we have come to the conclusion that the revolution in the art market has already begun, already highlighting the importance of new products and services regarding the future evolution of this industry.

THIS REPORT AIMS TO PROVIDE AN OVERVIEW on how technology has changed the traditional art market and summarize the underlying trends moving forward.



EVOLUTION AND HISTORY

Art has had a great number of different functions throughout its history, making its purpose difficult to abstract or quantify to any single concept. Moreover, the role of art for society has significantly changed in the past.

SINCE ANCIENT TIMES, art has represented a display of wealth or power which was often achieved by using massive scale and expensive materials. Most art was commissioned by rulers or religious establishments with more modest versions only available to the most wealthy in society to be enjoyed as mark of refinement.

THROUGHOUT THE LAST CENTURY, art has – besides its aesthetic and emotional value – been sold for record prices, thus labelling it as a seemingly attractive investment opportunity.

PRICES ARE SET BY THE GALLERIES selling a respective artist's work. Additionally, art can be acquired through private dealers. Since roughly half of the transactions are held in private, thus only involving strictly sellers and buyers, public information is very limited, giving the art market a secretive image.

UP UNTIL TODAY, wealth is the underlying growth factor influencing the art market. Every year a small number of sales, concentrated in the world's major capitals, generates a massive proportion of the total art market's auction turnover. Yet, the high-end market only represents a tiny fraction of total art sold.

CURRENTLY, there are 8,000 to 10,000 collectors worldwide who regularly buy substantially priced works from contemporary galleries as well as from fairs like Art Basel and Frieze. The term "collectors" refers to high- and ultrahigh-net-worth individuals (HNWI and UHNWI, with a minimum of USD 1m in cash at their disposal) who are active buyers of contemporary art and who possess a significant number of works. Typically, HNWI and UHNWI are spending a minimum of USD 50,000 per year on contemporary art.

DESPITE ITS LONG-TIME RESISTANCE against the digital and ecommerce trend, due to the specificity and uniqueness of artworks, the art market is suddenly becoming dematerialized. The online art market is relatively recent and is enjoying strong growth. It is now possible to bid for an object directly from your smartphone – an extreme simplification of the classic auction process, which brings it within reach of millions of potential art owners.

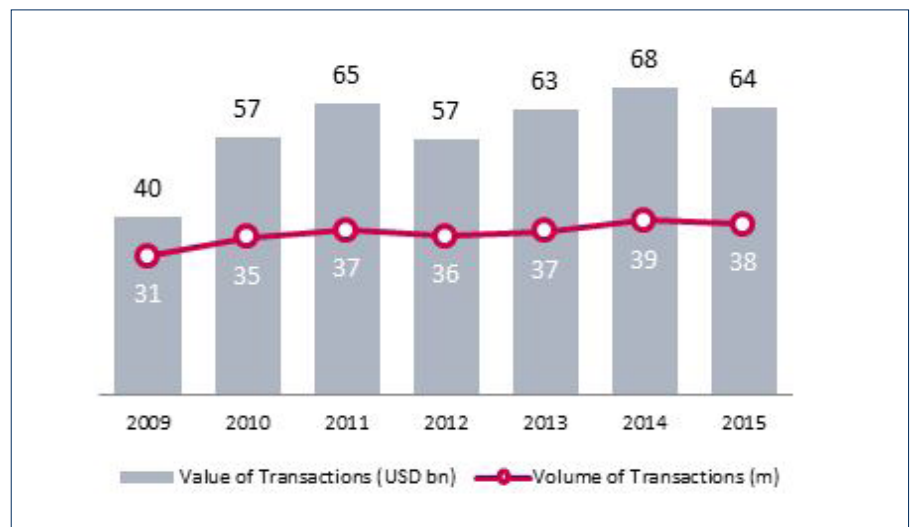
DEVELOPMENT OF THE ART MARKET

IN 2015, THE ART MARKET contracted for the first time since 2011. Although there are significant regional differences, global art sales reached USD 64bn in 2015 (a 7% YoY decrease from the market's record of USD 68bn in 2014).

THIS DECLINE was largely caused by a 23% decrease of sales in the Chinese art market due to a slowdown of the Chinese economy. China is becoming a strong force as the giant from Asia managed to increase its share of the global art market from 0.21% in 2000 to ~30% as of today. As sales reached a much higher level during the last ten years, it has become harder to maintain continuous growth result of ongoing economic fluctuations in the stock market and recent downfall of the oil price. Though some headlines might pretend the art market is crumbling, one would be advised to catch a breath. Cyclical ups and downs are natural or even healthy, for both the global economy and the art market alike.

NEVERTHELESS there is also positive news: The value of masterpieces, which makes up a large amount of

total art sales, remains untouched by economic fluctuations, it even grows. 57% of all auction sales come from works sold for over USD 1m. That is 9% more than the 48% of auction value derived from seven figure-plus works (measured in euro) in 2014, and it represents less than 1% of all transactions. Works over USD 10m represented 28% of the total value generated from sales in 2015. That ultra-high-end segment



of the market was the only value segment to grow in 2015 – it was up 19% – thanks in no small part to several record-breaking sales.

RISKS IN THE ART MARKET

FAKES AND FORGERIES	Reluctance of artist foundations to recognize any new or uncovered artwork as authentic, since successful art forgeries are easier than ever to execute, with wealthy collectors eager to believe
ECONOMIC UNCERTAINTY	Risk of financial crisis, reducing wealth
TAX AND REGULATIONS	Changes in tax regulations heavily and directly affect buyer's disposable income
SCANDALS UNDERMINING CONFIDENCE	Panama Papers releasing information on using art for tax avoidance and evasion
POLITICAL UNCERTAINTY	New president can upend markets and shift buying decisions: i.e. Donald Trump's election win has boosted optimism in the art market

Source: TEFAF Art Market Report 2016

ONLINE ART MARKET OVERVIEW & TRENDS

ONLINE CHANNELS are offering avenues for emerging artists and new buyers to interact with established artists, sellers and buyers. As the global client base for collecting art and luxury goods grows, online is the only practical way to meet the increasing demand, given the physical capacity constraints of travelling exhibitions and salerooms.

THE PRIME TARGET of new online sales platforms is the category of “new buyers”. These younger buyers, often from the Generation Y, are accustomed to digital technology and e-commerce as well as social networks (such as Facebook or Instagram) which online sales platforms rely on.

TRUST IS VITAL in earning the support of clients and is especially critical when involving precious objects. As consumers are gaining confidence and comfort with online marketplaces, it is anticipated that the price point they are willing to spend on click-and-buy art purchases will increase.

EMERGING TECHNOLOGIES will continue to shape the future of the online art market. For example, the blockchain technology, which has enormous potential in the art world as a means of verifying authenticity, allows the enhancement of the traceability of art pieces and improves the security of art market transactions.

ANOTHER DISRUPTIVE TECHNOLOGY with significant potential for the digital art market is augmented reality (AR). It allows buyers to visualize artwork in their own environment, in real-time, and to scale. Buyers can not only see all the details of the artwork but also have a sense of its presence. They can experience how the artwork will look from different angles when walking around the room, providing an interactive digital experience.

ONLINE ART SALES DEVELOPMENT

IN 2015, online art market sales reached USD 3.3bn, representing 24% YoY growth. Despite the slowdown of overall art market sales in 2015 due to economic uncertainty, the online art market, which largely represents the lower end of the market (pieces sold for USD 10,000 or less), is experiencing a significant upturn.

ART PROFESSIONALS and collectors believe that the importance of the online art business will increase over the next five years, as the online art market conveys transparency and accessibility to the masses, for all budgets, and widens a market that has been reserved to a limited few until now.

THE ONLINE ART MARKET'S POTENTIAL is estimated to reach USD ~10bn by 2020.



Source: Deloitte Art & Finance Report (2015); Hiscox Online Art Trade Report (2016)

MOBILE OPPORTUNITIES

WHILE DESKTOPS STILL DOMINATE online purchases, mobile technology is accelerating online art growth. Browsing art with smartphones and tablets will likely see a substantial increase over the next five years, analogous to the development of online art with the general shift towards e-commerce. This creates a massive sales opportunity for the industry while facilitating the buying and selling process.

MOBILE DEVICES offer a better user experience for consumers due to their vertical form factor, simplifying scrolling for image based products.

FURTHERMORE, focus on mobile facilitates on-the-go education and instant research. This also provides an opportunity for museums and other cultural institutions to integrate services via an app for their visitors.

There has been a shift in the way we surf the web.

IN SUMMARY, we can say that there has been a shift in the way we surf the web – just last month, people in the US spent more than a trillion minutes online with mobile devices, close to double the amount of time they spent on desktop computers. This trend is reflected in the Hiscox Online Art report, which demon-

strates a growing reliance on smartphones and other devices to access online art platforms. On average, 40% of visitor traffic and 24% of bids and transactions came through mobile devices, according to data collected from 9 online art sellers.

CASE STUDY

bluethumb

Bluethumb is Australia's leading online art platform for Australian visual artists to display and sell their work. Art collectors connect, browse and buy original artwork direct from artists from across Australia at bluethumb.com.au and on their app.

78%



In the first quarter of 2015, Bluethumb's sales increased by 78% compared to last year.



Over 1 in 5 (22%) of Bluethumb's sales are on their app.

IMPORTANCE OF SOCIAL MEDIA

SOCIAL MEDIA PLATFORMS, such as Facebook, Twitter, and Instagram, present a significant market opportunity for artists and collectors. They not only act as vehicles for the democratization of selling art, making it accessible to the large masses, but also act as career launch pads for emerging artists.

In recent examples, Instagram also showcased its potential as a platform to purchase high-priced items.

IN TERMS OF ART DISCOVERY, Facebook and Instagram remain the most preferred social media plat-

forms over the past two years. Instagram in particular experienced a significant increase in popularity, from 34% to 48% YoY. The same trend was found among younger buyers where 65% (2016) indicated using Instagram most frequently for art-related purposes (2015: 48%).

In recent examples, Instagram also showcased its potential as a platform to purchase high-priced items, thus generating significant revenues and presenting the power of social media.

Source: Hiscox Online Art Trade Report (2016); Bluethumb Media Release (2015)

OPPORTUNITY IN THE MID MARKET SEGMENT

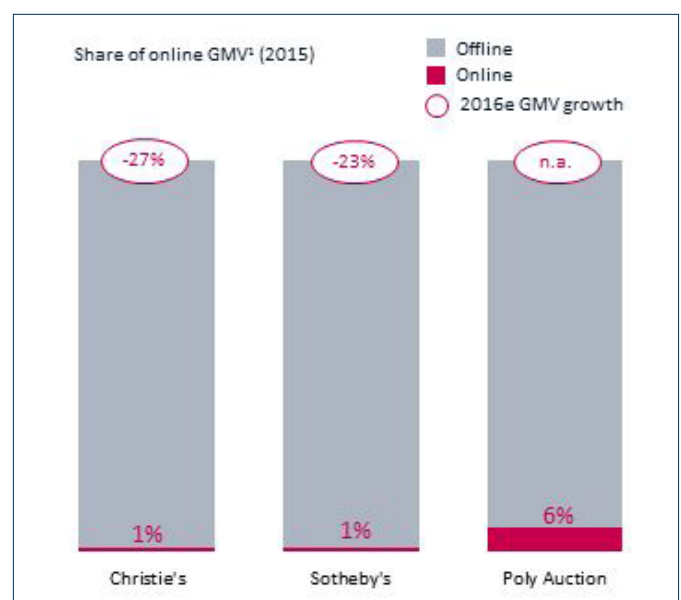
Low-end market	Mid market	High-end market
Average transaction volume (in EURk)		
0 - 1	2 - 100	101 - ∞
Level of digitization		
high	middle	low
Number of transactions		
high	middle	low



LEGACY PLAYERS STRUGGLE TO SWITCH ONLINE

OVERALL, traditional auction houses (Christie's and Sotheby's) will not be able to avoid a decline in GMV in coming decades (-27% and -23%, 2016 vs. 2015), which is why they are investing heavily in developing digital distribution channels. Nevertheless, the two globally leading traditional auction houses and the biggest Chinese player still generate most of their revenues through offline sales.

THE ART MARKET, as one of few markets, manages to strive against digitization in a unique way: Disruptive young companies such as Art.sy or Saatchi Art mostly struggle with the lack of a large suitable community and customer base. On the other side the old fashioned auction houses like Christie's and Sotheby's fail with the execution of online channels. Low standards (e.g. poor description and photos) and poor technologies (e.g. asynchronous bidding mechanism) are upsetting the community of HNWI.



1 GMV = Gross Merchandise Value

ANNUAL VC INVESTMENTS IN ART MARKET START-UPS¹

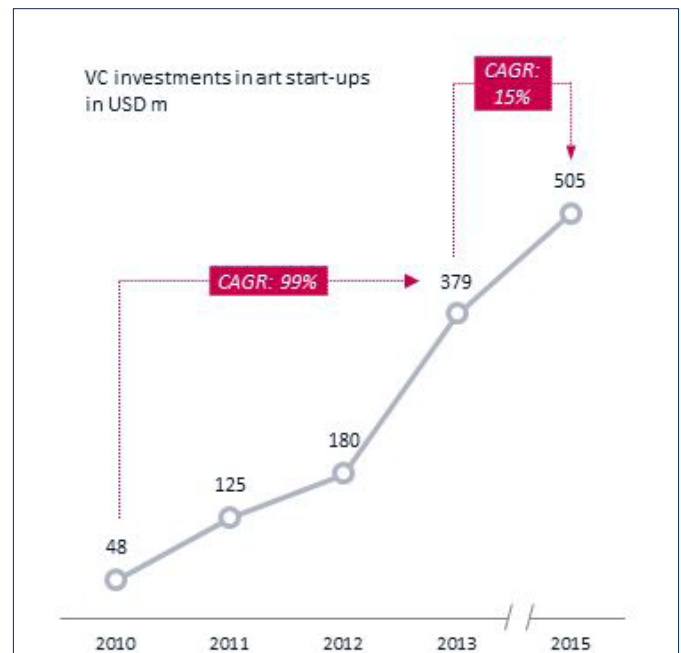
THE ONLINE ART MARKET shows a profound growth profile coupled with increasing investments in art market start-ups.

BESIDES TRADITIONAL VENTURE capital firms, there have been recent investments and accelerator programs created by museums specifically for the digital art space, showing the importance of technological innovation in the traditional environment.

INCREASING INVESTMENTS demonstrate confidence in the online art and technology industry; total VC investments 2010–2015 were around USD 1.2bn.

ALMOST 75% OF FUNDING has gone to art start-ups focused on the mid and high-end art market, serving affluent consumers as opposed to the mass market. Notable investments:

- Auctionata (USD 45m Series C funding in March 2015)
- Paddle 8 (USD 34m Series C funding)
- Artsy (USD 25m Series C funding in March 2015)



SELECTED ACTIVE ART VC INVESTORS



Source: Hiscox Online Art Trade Report (2016); CBInsights // (1): Based on 23 startups

Online auctions

Auction occurs online with users bidding live



Bricks and clicks

Auction occurs both live and digitally (mostly used by traditional auction houses)



Online art shops

Connecting dealers, shops, galleries with individuals



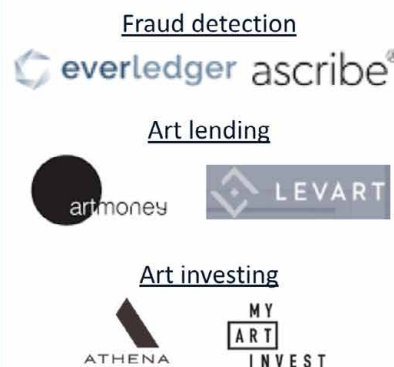
Online galleries

Online version of a traditional art gallery



Art fintech

Companies that utilize technology to enable art transactions and facilitate investments



Online information, networks, research

Provide information and research about the art industry



artnet®

- Founded: 1989
- Founder: Hans Neuendorf
- HQ: Berlin
- Selected Investors: Neuendorf
- Funding: Publicly Listed
- Revenues: EUR 17.3m (2015)
- Focus: Online auctions, price database, gallery network, market news

DESCRIPTION: Founded with the goal of bringing transparency to the art market, artnet offers a variety of resources to art collectors, dealers, and enthusiasts. In 2014, the company launched the 24-hour art market newswire, offering timely articles, opinion pieces, and analysis. As result of a growing readership, online traffic in 2015 doubled and concurrently its ad-revenue.

ARTSY

- Founded: 2009
- Founder: Carter Cleveland
- HQ: New York
- Selected Investors: Dasha Zhukova, IDG Capital Partners, Jack Dorsey, Peter Thiel, LCatterton, Wendi Murdoch
- Funding: USD 50.9m
- Revenues: n.a.
- Focus: Research engine and database for art discovery and the education process

DESCRIPTION: Artsy is an online art resource for learning about specific artists, artworks, and/or collecting art. So far, artsy provides free access to 250,000 images of art and architecture by 40,000 artists and includes the world's largest online database of contemporary art. Furthermore, the company covers major art events, powered by the Art Genome Project which is a classification system that maps the connections between artists and artworks.

SAATCHI ART

- Founded: 2011
- Founder: Charles Saatchi
- HQ: Santa Monica
- Selected Investors: Leaf Group (previously Demand Media; parent company)
- Funding: USD 11.2m
- Revenues: USD 12m (2015)
- Focus: Online gallery offering art advisory service

DESCRIPTION: Saatchi Art is an online art gallery offering free art advisory services that features the world's largest selection of original art and helps people finding the art and artists they are looking for. The gallery offers 500k+ artworks by 60k+ artists from 100 countries, representing USD 1.5bn+ retail value based on list prices. The gross transaction value in 2015 was USD 12m.

1stdibs®

- Founded: 2001
- Founders: Michael Bruno, Laurence Forcione
- HQ: New York
- Selected Investors: Index Ventures, Alibaba Group, Benchmark Capital, Spark Capital, Insight Venture Partners
- Funding: USD 117m
- Revenues: USD 30m (2014)
- Focus: Rare and desirable objects in furniture, fine art, jewelry, and fashion

DESCRIPTION: 1stdibs is an online marketplace, offering rare objects. The website brings together more than 2,000 professional dealers from around the world who are specialized in design, fine art, and collectibles. Through its global network, 1stdibs sells USD 100m+ worth of products online each year and generates 3m+ visitors per month.

SAFFRONART

- Founded: 2000
- Founders: Dinesh Moorjani and Minal Vazirani
- HQ: Mumbai
- Selected Investors: Sequoia Capital, Bear Capital Partners
- Funding: USD 13m
- Revenues: USD 40m (2011)
- Focus: Fine art and collectibles with special focus on the Indian market

DESCRIPTION: SaffronArt started as an online auction platform, focusing on modern and contemporary Indian art, and began to diversify by holding auctions for collectibles. In addition to auctions, the company has organised several curated exhibitions, provides services, such as art advice or private sales. SaffronArt launched Story Ltd. in 2013, an e-commerce and online auction platform, intended to serve a broader base of art and collectibles buyers.

LOFTY

The Trusted Marketplace

- Founded: 2012
- Founder: Mark Lurie
- HQ: New York
- Selected Investors: Founders Fund, TA Venture
- Funding: USD 6m and acquired by auction mobility in 2016
- Revenues: n.a.
- Focus: Online marketplace for valuable fine art, antiques and collectibles

DESCRIPTION: Lofty is an expert-reviewed online marketplace for valuable fine art, antiques, and collectibles. Each item listed is reviewed by one of Lofty's 60+ specialists and granted a five year authenticity-guarantee as well as a 100% money back satisfaction. The company seeks to establish itself as the online market leader for fine art, antiques, and collectibles priced between USD 500 and USD 50,000.

invaluable

- Founded: 1989
- Founder: Adam Kirsch
- HQ: Boston
- Selected Investors: Insight Ventures, Commonwealth Capital Ventures, Ascent Ventures Partners, Asset Management Ventures
- Funding: USD 46.8m
- Revenues: n.a.
- Focus: Fine art, jewelry, collectibles, furniture

DESCRIPTION: Invaluable is an online marketplace for fine art, antiques, and collectibles. Working with more than 4,000 of the world's premier auction houses, dealers, and galleries, Invaluable helps buyers from 200 countries connect with the things they love. The company has one of the best online bidding systems, along with a fixed price retail platform, and provides sellers with e-commerce and marketing solutions as well as auction management software. Invaluable was named as one of the fastest growing companies in North America by Deloitte's Technology Fast 500.



LARRY'S LIST

- Founded: 2013
- Founder: Magnus Resch
- HQ: Hong Kong
- Selected Investors: n.a.
- Funding: n.a.
- Revenues: n.a.
- Focus: Art market knowledge company providing insights, data, and access to contemporary art collectors

DESCRIPTION: Larry's List is a website aiming to elucidate the mysterious global consortium of art collectors. Larry's List database consists of more than 3,000 art collectors from around the world who are profiled with the necessary information to help galleries and art dealers find new customers. Galleries pay between USD 9–19 per profile view depending on the package, while artists can search for collectors for free.

DATE OF ANNOUNCEMENT	TARGET NAME	HQ OF TARGET	TARGET DESCRIPTION	INVESTOR/BUYER NAME
28/10/2016	Shinwa Art Auction	JP	Largest auction house in Japan	Elite Fame Investments
17/10/2016	Kollwitz Internet (Junique)	DE	Online marketplace for art by independent artists	German Startups Group Berlin
13/10/2016	Lofty.com	US	Marketplace for fine arts and antiques	Auction Mobility
12/10/2016	Paddle 8	US	Online auction house	Auctionata
16/09/2016	The Other Art Fair	UK	Art fair for discovering emerging artists	Leaf Group (Demand Media)
18/11/2015	Mumart	FR	Marketplace for contemporary art	Artsper
01/10/2015	ArtNews	PL	Online art magazine	David Khidasheli
25/09/2015	ValueMyStuff	DE	Online art and antique valuation service	Auctionata
13/06/2015	Artfetch	IR	Online platform for emerging artists	RiseArt
02/04/2015	ArtNews	PL	Online art magazine	Redline Capital Management
08/08/2014	Saatchi Online	US	Online art gallery	Leaf Group
20/06/2013	Society6	US	Marketplace for artwork	Leaf Group
02/04/2013	VIP Art	DE	Art-selling website	Artspace



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