



# Veros Responses

FINTECH IN HOUSING FINANCE: REQUEST FOR INFORMATION



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## About Veros

Mortgage technology innovators since 2001, [Veros Real Estate Solutions](#) (Veros) is a proven leader in predictive technology for the housing finance industries and a renowned provider of real estate valuations and analytics for the entire mortgage lending value chain, from origination to the capital markets.

Veros is committed to developing products that will help its clients meet the demands of complex industry regulations, as well as quickly and successfully adapt to the evolving mortgage landscape for profitable business results. The company is focused on combining its predictive analytic prowess with its industry expertise to create advanced forms of business intelligence software. These platform solutions enable companies to better predict and control portfolio risk, mortgage fraud, and regulatory compliance all with the streamlined efficiency afforded by industry solution experts.

Veros is the official technology provider for Fannie Mae and Freddie Mac's Uniform Collateral Data Portal®. Veros also built and maintains the Electronic Appraisal Delivery portal for FHA and has partnered with Veterans Affairs to build their Appraisal Management System. Veros currently stores and manages close to 90% of all residential appraisal reports in the country.

## About Valligent

Founded in 2003 and headquartered in Roseville, California [Valligent](#) established itself as a leader in appraisal, alternative valuation, QC and Regulatory Audit solutions. Utilizing a combination experienced appraisal personnel, automation, Artificial Intelligence, powerful functionality and mobile technology, Valligent is dedicated to making the appraisal process simple and efficient for everyone involved. Valligent provides comprehensive valuation technology expertise and services to hundreds of banks, credit unions, mortgage lenders and insurance companies nationally. We have developed a state-of-the-art valuation technology platform, fully integrated with best-in-class data providers, Loan Origination Systems (LOS) and on-demand cloud computing platforms and API providers.

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## A. Fintech & Innovation

### QUESTION A.1

#### **How do primary and secondary mortgage market participants define fintech in the housing finance sector? What key factors should be considered?**

Fintech or “financial technology” is the application of new technologies and data, innovation and digital processes to the production or provision of financial products and services that can lead to lower costs, faster and more consumer-friendly experiences, greater efficiencies, and enhanced risk management processes.

Technology and available data have advanced significantly over the last several decades. For example, in property valuation there have been enormous strides since appraisal forms were introduced, including their last material updates. Computer hardware and processing power grow every year. Better and more precise data sets continue to be cultivated to be structured, more useful, and more readily available. Today’s advanced systems and platforms allow for dynamic and modularized data to be assessable and customized. Other notable advancements include the evolution of MISMO, the continued growth of UAD, digital signature technology, and blockchain as well as major leaps forward in “Big Data” and deep machine learning. These proven advances provide immediate efficiencies and security while complimenting traditional products and services to bring greater integrity to housing finance.

### QUESTION A.2

#### **How could FHFA facilitate adoption of “responsible innovation”?**

Fortunately, most technology and data solutions can be evaluated and effectively tested to determine relative performance, value-add and associated risks. FHFA could leverage the safe use of the full range of valuation options to improve speed and accuracy in the collateral risk determination. For example, automated valuation models (AVMs) have been continuously and thoroughly tested on millions of properties each year to evaluate performance and risk tolerance. In fact, recent technological innovations are much more readily and capable of being tested providing a unique advantage over traditional alternatives.

Utilization of any product or service should be evaluated against appropriate risk thresholds. Appraisal waivers should be used as part of the full spectrum of alternative valuation options available to lenders for low-risk loans or non-complex properties and where there is ample and reliable property data. As the loan risk (e.g., LTV) or property complexity increases, so does the valuation risk. To mitigate any risks of the inappropriate use of appraiser waivers, the process should be monitored, transparent, and based on sound lending practices and performance data. Any waiver should only be used when there is low loan risk and reliable property data to support a reasonable valuation conclusion. In areas where the

amount of data is scarce or when the property characteristics cannot be verified, the use of an exterior appraisal, full appraisal, or appraisal hybrid or alternative may be preferred.

Alternative valuation solutions may further be appropriate in non-complex or conforming markets with reliable property information as well as comparable and related market data. This can allow the licensed appraisal professionals to focus their expertise on the more complex and riskier properties while allowing lower risk, conforming properties to be completed using an alternative solution.

Many alternative valuation solutions are available and may be safely applied. Responsible application of these valuation innovations will provide efficiency, time, and financial savings.

### QUESTION A.3

**What factors currently inhibit the adoption of fintech and innovation in the primary and secondary housing finance sector? Are there specific challenges related to privacy laws, industry standards, or current practices?**

Valuation alternatives have already begun in various pilots and due to necessity in the wake of COVID-19. These efforts should encourage the ongoing expansion of these products in a controlled and monitored fashion as these products continue to be measured and improved over time.

Many of these pilot programs are in the early stages and have yet to be adopted by industry stakeholders including both appraisers and lenders. Unfortunately, there has been a level of misunderstanding and hesitancy with some of these new technological advancements in the industry. As these alternative valuation and risk products become more widely discussed, tested, and accepted, we will begin to see the positive impact of improved loan processing efficiency.

Privacy laws should be evaluated and balanced between appropriate access to necessary stakeholders in housing finance for greater safety and soundness and required operational controls and processes for data use and protection at rest as well as in transit.

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## B. Identifying Fintech Opportunities in the Housing Finance Ecosystem

### QUESTION B.1

**What kind of fintech activities have the greatest potential to positively impact the housing finance sector? Describe several situations in which a product or service has been or could be used, the factors considered in determining importance, and associated impacts.**

There are numerous technological advances that are already proven yet have failed to be appropriately embraced. There are also new and exciting technological advances that will further drive our understanding and management of risk. For example, the appraisal process remains one of the most costly, lengthy, uncertain and unpredictable parts of the loan process. The slow adaptation to change by industry participants over decades has resulted in the mortgage industry being left behind other sectors in its ability to demonstrate effective process improvement.

To address these significant inadequacies of the traditional appraiser-centric process, alternative approaches to data collection and value analysis must be employed. This includes a well-defined and strictly controlled property inspection, in-depth and accurate market trend analytics and a data review/evaluation environment that results in accurate conclusions.

For low-risk transactions in data rich environments a property can prudently be valued with a high confidence Automated Valuation Model (AVM) coupled with a detailed and thoroughly documented inspection of the property to validate the condition, location and amenity assumptions of the AVM. For slightly higher risk transactions in similar environments, it would be appropriate to include an appraiser or other professional oversight review of the data and automated value conclusions from the desktop. Lastly, for more complex and high-risk valuations, a traditional appraisal process should be employed.

While not new, the appraisal waivers FHFA approved during the pandemic were borne out of necessity and appears to have been successful. Rather than revert back to the old strategy of a full appraisal in all circumstances, a more innovative approach would be to use an enhanced AVM + inspection product. However, full mitigation of this risk requires a tightly controlled inspection and desktop/hybrid appraisal environment that results in lower risk than the traditional appraisal, and substantially lowers appraisal cost and turn time.

Regarding new and evolving technologies, computer vision or image analytics will be a major leap in solutions for housing finance. The ability to quickly determine property condition, quality, characteristics, or damage from an automated review of photographs or videos will further drive new insight into all aspects of risk management.

FHFA should embrace an expanding property valuation continuum supported by technological innovation that matches appropriate products and services to the risk of a particular loan. In some cases, this effort may result in the selection of one service instead of another but, in other scenarios, services may be leveraged in concert to identify a particular risk or provide greater certainty. For example, a number of technological advances are already being used to identify valuation bias risk or as additional support for the estimate of value or value range. As another example, separation of the property inspection from the people or systems performing the valuation analysis provides opportunities for greater independence. The industry should avoid a one-size-fits-all approach to property valuation and embrace proven and upcoming technology and data solutions.

## QUESTION B.2

**What are the typical time requirements of each process within the mortgage lifecycle? What are the “critical path” activities that drive the mortgage timeline and borrower expense? How could fintech be applied to improve efficiency, reduce costs, reduce time requirements, or facilitate equitable outcomes for borrowers?**

Regarding collateral, the appraisal is generally considered the long pole in the tent in loan origination in regard to time, cost and reliability. Although the reduction of mortgage volume has reduced appraisal turn times from 3-6 weeks back to the typical 1-2 weeks, the high cost and uncertainty remains the same.

There are fintech solutions to just about every aspect of the loan process, however, the traditional appraisal valuation process is lagging in this area. The technology exists for most data required for an appraisal to be collected and analyzed within a couple of hours at a cost less than half of a traditional appraisal. Adopting these approaches is critical to achieving greater valuation efficiency that dramatically lowers borrower expense and time requirements.

As mentioned earlier, alternative valuation solutions may be appropriate in non-complex or conforming markets with reliable property information as well as comparable and related market data. This can allow the licensed appraisal professionals to focus their expertise on the more complex and riskier properties while allowing lower-risk, conforming properties to be completed using one of many alternative solutions.

## QUESTION B.3

**What are the typical drivers of repetitive requests to borrowers or reevaluation of underwriting information by the lender in the mortgage process, and what opportunities exist to automate processes?**

The greatest inefficiency in the appraisal process that directly impacts borrowers is the coordination and completion of the property inspection. Borrowers should be able to schedule the inspection at a time convenient for them rather than the inspectors time frame. Furthermore, technology exists that enable a thorough and accurate inspection virtually, without the need of the inspector entering the home. Determining collateral value within a few hours is consistent with the time frames fintech has brought to credit and income determination. Finally, more utilization of automated advanced appraisal review tools can quickly detect potentially errors in the appraisal and help underwriters identify and mitigate valuation disputes while minimizing resubmission requests.

Reconsiderations of value (ROV) have risen significantly and add tremendous inefficiencies to the property valuation process. The industry could embrace technology and data to push more data to

service professionals up front at the time of the valuation assignment to mitigate and reduce an already lengthy process.

The current appraisal report that is provided to borrowers is one that is extremely difficult for the average borrower to fully understand. There have been numerous discussions about how the same property valuation data sets could be repackaged in a much more borrower-friendly format with appropriate explanations to help borrowers understand how valuation conclusions were reached and supported.

## QUESTION B.4

### **What are the existing data challenges that most prevent data-driven decision-making in the mortgage lifecycle?**

Data availability, transparency and access are the main challenges for any data-driven decision making.

One of the challenges to data-driven decision-making in the collateral risk area decisions was the lack of available data in certain rural markets or areas where the data was scarce. The good news is that the data in many of these areas has improved. As counties across the country continue to automate their transactions records, previously unavailable county records are now online and are updated on a regular basis. These data gathering improvements along with greater access to nationwide MLS data services has made it easier and faster to collect data in areas of the country that previously were limited or inaccessible.

Data privacy laws and expectations may also lead to unintended consequences if not properly evaluated. See response to question A.3.

## QUESTION B.5

### **What are the existing regulatory and policy barriers to adopting and implementing fintech within the mortgage lifecycle?**

The existing barriers to collateral fintech are primarily driven by investor, guarantor and regulatory policies. Appraisal modernization appears to be focused on adding technology to the legacy appraisal process and structure rather than focusing on collateral risk. The fintech goal of lowering risk, substantially reducing cost, and achieving efficient processing speed is only attainable through transforming into a new paradigm. Existing policies of adherence to historical or traditional requirements is a barrier to implementing and lender adoption of collateral fintech/proptech.

One size does not fit all in collateral valuation of risk. Alternative valuations are safe and should be used in some, but not all, risk decisions. The same is true for full appraisals. Focus and identification of the appropriate valuation approach should be increased and barriers to stop the use of certain alternative valuations, in certain applications, should be removed.



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## C. Equitable Access to Mortgage Credit

### QUESTION C.1

**What new fintech tools and techniques are emerging that could further equitable access to mortgage credit and sustainable homeownership? Which offer the most promise? What risks do the new technologies present?**

The requirements for the valuation of a property in a mortgage transaction outlined in the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) and its amendments have been left untouched for the better part of a quarter-century. During that time, society has witnessed more advances in technology than experienced in the prior 100 years and more. The advent of personal computers and the internet, social media, smartphones, DNA mapping, alternative fuels, electric vehicles, GPS systems, fiber optics, as well as other advances in biotechnology and medicine, energy, transportation, urban planning, and civil engineering are all examples of just how dramatically our world has changed in a very short time.

The vast increases in the availability of data (as well as the integrity of that data) and technologies that leverage this data have been unprecedented and moving at an exponential pace. Most industries have been embracing the application of available data and technology to traditional processes. Similarly, mortgage stakeholders should be encouraged to responsibly apply the full spectrum of alternative valuation solutions where and when these tools can be most effectively used to provide greater access to credit markets, significantly lower risk and potential bias while dramatically shortening the time for a mortgage and at substantially lower costs.

See also response to question B.1.

### QUESTION C.2

**What emerging techniques are available to facilitate or evaluate fintech compliance with fair lending laws? What documentation, archiving, and explain-ability requirements are needed to monitor compliance and to facilitate understanding of algorithmic decision-making?**

Veros support a diversity, inclusion and equal treatment in all levels of the lending spectrum, and Veros believes bias or discrimination should not play any role in the valuation process regardless of the valuation approach employed. As a data and technology company, Veros supports a holistic approach to property valuation utilizing robust quantitative data and research tools can help identify instances where there may be racial disparities and mitigate or eliminate any potential bias. Alternative and traditional appraisal valuation solutions can be cross-checked compared based on quantifiable analytics to help identify potential bias. All valuation approaches, including the analytics tools should also be

evaluated to determine whether and to what extent there is any inherent disparate impact present in the underlying data.

Because algorithmic models like AVMS are blind to race and neighborhood demographics and rely on hundreds or thousands of property data points, we believe AVMs along with other similar tools (e.g. bias words analysis) can be used in conjunction with traditional appraisals to help identify and remediate potential bias in the valuation process.

Many have suggested that various technologies, models and process may be subject to potential bias in the event the data they rely upon is itself inherently biased. Any such potential bias can be identified and measured. For example, automated valuation models (AVMs) can be easily tested to determine the extent to which any bias exists. As an example, please see the Veros research study at [research paper](#). This analysis not only demonstrates that the AVM is unbiased but further underscores its potential in identifying potential bias across the property valuation spectrum.

### QUESTION C.3

**Are there effective ways to identify and reduce the risk of discrimination, whether during development, validation, revision, and/or use fintech models or algorithms? Please provide examples if available.**

As we hear more and more experiences about bias claims and unfair treatment in the property valuation sector, it is more important than ever that the lending industry looks for reliable and equitable ways to minimize or ultimately eliminate bias within the industry.

As an example, there are more property valuation technology solutions available today for home inspections to be completed virtually or by a 3rd party that eliminates the need for the appraiser to personally interact with the borrower, greatly reducing the opportunity for bias during the subject property data collection phase of the appraisal process.

Veros suggests a tightly controlled desktop/hybrid appraisal inspection process that results in a substantially lower cost and turn time than a traditional appraisal that does not increase the collateral risk.

Because algorithmic models like AVMs are blind to the race, age, gender, or lifestyle of the borrower, homeowner, appraiser, or anyone else involved in a housing finance transaction including the neighborhood demographics, this proven tool can be used as an impartial resource to help identify and remediate potential bias in the valuation process. Veros recently completed a thorough research paper to evaluate our AVM product (VeroVALUE) to determine if it undervalued properties disproportionately in predominantly minority communities from around the country. Our study concluded, strictly based on data, there was no empirical evidence showing racial bias based on the percentage of significant undervaluations found in predominantly minority neighborhoods and predominantly white neighborhoods. A copy of our [research paper](#) is in the link below.

[https://go.veros.com/hubfs/Veros\\_White\\_Papers/AVM%20Performance\\_Is%20There%20Evidence%20of%20Racial%20Bias\\_Updated%20Report%20102022.pdf](https://go.veros.com/hubfs/Veros_White_Papers/AVM%20Performance_Is%20There%20Evidence%20of%20Racial%20Bias_Updated%20Report%20102022.pdf)

See also response to questions B.1 and C.2.

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## D. Identifying and Mitigating Fintech Risks

### QUESTION D.1

**What risks do fintech and fintech firms present to the economy and the financial sector? To the housing finance sector? To FHFA-regulated entities? To counterparties of FHFA-regulated entities and other third parties? To mortgage borrowers and consumers?**

The risk in using any solution is related directly to using an improper or inappropriate tool for the risk in question. For example, relying solely on an AVM for a high-end, complex property instead of an experienced, licensed appraiser can lead to higher valuation risks. These types of evaluations should be assigned to licensed and well-trained professional appraisers. The risk in engaging a licensed appraiser to complete a full interior report on either a low-risk property or loan is a utilization and efficiency risk. It is also a supply risk when a licensed appraiser is unavailable for complex assignments that require their expertise due over-utilization on lower risk properties.

### QUESTION D.2

**What risk management practices do industry participants use to address the risks posed by fintech and innovation in housing finance?**

All reputable fintech companies should hold the highest standards of security and monitoring policies. They should be completely transparent and eager to demonstrate their safeguards when asked to do so. Fintech has proven to be reliable and efficient in other sectors of the economy so there's no reason to believe the housing finance sector should be any different.

Appropriate operational controls and best practices can be regularly audited to ensure continuous adherence to expectations, both current and how these requirements evolve over time.

See also responses to questions C.2 and C.3.

### QUESTION D.3

**What particular risks to consumer privacy have been associated with fintech? What practices are being used to manage these risks?**

Most consumer privacy concerns have already been addressed with current electronic data systems currently in place. Fintech solutions must have the information security framework in place to ingest any private consumer data and ensure it is kept in a secure environment.

For collateral property inspection, a virtual inspection without a separate person entering the consumer's home is an added layer of privacy protection. Also, the virtual inspection greatly reduces the opportunity for bias in data collection and property valuation.

See also responses to questions A.3 and B.4.

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## E. RegTech

### QUESTION E.1

**What are the most promising areas for applying technology to regulatory and compliance functions? Please describe opportunities for “regtech” to simplify or improve compliance with FHFA, Enterprise, or FHLBank requirements.**

The regulatory compliance requirements of FHFA, Enterprises, FHLBank and others can almost always be broken down to a series of yes/no or if-then conditional statements. Fintech is exceptionally good at integrating these types of systems into their software to be resolved either automatically or pushed to a user interface as appropriate. Systems of this nature are much more reliable at ensuring regulatory compliance, certainty, and consistency than a purely person-based approach.

Further, increased data access, availability, and transparency along with the systems to manage and present said data can significantly help regulators assess adherence to regulatory expectations.

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## F. Office of Financial Technology Activities and Stakeholder Engagement

### QUESTION F.1

**What forms of stakeholder engagement are most effective in facilitating open, timely, and continuous discussion on the challenges and opportunities presented by the application of fintech to housing finance?**

Veros supports a holistic approach for stakeholder engagement. That should include representatives from a variety of sources. That would include policymakers, lenders, investors & guarantors, technology & data vendors, and consumer advocacy groups all sharing their ideas and experiences leading to an inclusive manner that creates a dynamic process that meets the needs of the public at large.

### QUESTION F.2

**What are some topics for a housing finance-focused “tech sprint” and how could FHFA encourage participation?**

A few possible tech sprint topics include the following: alternative valuation methods, bias and fair-lending tools and industry data sources. To encourage participation, bring together subject matter experts and innovators from various sectors of the lending industry to collaborate and determine the best technology ideas and products that serve the consumer in an equitable and efficient manner.

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