September 1, 2020

Via E-Mail to pubcom@finra.org

Marcia E. Asquith
Office of the Corporate Secretary
FINRA
1735 K Street NW
Washington, DC 20006-1506

Re: Artificial Intelligence (AI) in the Securities Industry

Dear Ms. Asquith:

Eventus Systems and VoxSmart welcome the opportunity to provide a joint comment letter regarding FINRA's June 2020 report "Artificial Intelligence in the Securities Industry." The broader acceptance and use of artificial intelligence ("AI") technologies continues to advance across the financial services industry for many purposes and has become much more accessible to broker-dealers through both internal development and experienced service providers.

Eventus Systems is a global provider of multi-asset class trade surveillance and market risk solutions. VoxSmart is a global provider of communications surveillance technology. Our companies are currently collaborating to build custom solutions for global market participants looking to enhance their ability to surveil and manage risk across the entire order and trade lifecycle, from pre-trade communications to execution and post-trade monitoring.

As such, both Eventus and VoxSmart utilize techniques such as machine learning ("ML") and natural language processing ("NLP"), and we strongly support FINRA's initiatives concerning the adoption of these new technologies into the regulatory framework governing broker-dealers. We thank FINRA for continuing this important dialogue across the industry and believe that the core principles reflected by FINRA are relevant and critical to ensuring a safe operating environment.

Broker-dealers are integral to ensuring well-functioning markets and must serve clients in a transparent, efficient and ethical manner. To this end, broker-dealers are subject to an extensive set of regulatory requirements pertaining to the management and supervision of its staff, clients and activities. Key to operating with maximum integrity and transparency in the US markets is to effectively supervise activity by monitoring staff and client communications, reviewing trading activity for potential market abuse and maintaining appropriate books and records. Broker-dealers must continue to evolve their supervisory processes to ensure supervisory effectiveness and sustainability. During these complex times which feature significantly heightened internal

and external threats, it is critical that supervisors and compliance officers have access to and implement appropriate tools to properly supervise and gain insight over its staff and client behaviors.

New technologies under the AI umbrella are playing an increasingly important role in helping firms scale and meet these challenges and improve surveillance. However, implementing new technologies in surveillance, especially for small and mid-size firms, presents many challenges. Our view is that, with additional FINRA regulatory guidance on selected key topics below, broker-dealers can further engage these new technologies with a more confident and proactive approach. Given the evolving communication and trading behaviors, and an ever-expanding external risk profile, it is clear that firms can no longer rely on the surveillance practices of years ago and they must integrate evolving technology in their surveillance and risk monitoring tools.

Books & Records

In its [2019 Report on Examination Findings](#), FINRA highlighted challenges encountered by firms complying with supervision and recordkeeping requirements for various digital communications tools, technologies and services (collectively, "digital channels"). Importantly, these channels now include extensive voice and video capabilities, which are critical today in an increasingly remote working environment. As firms employ advanced surveillance and monitoring techniques using AI, regulation and guidance relative to books and records requirements should similarly evolve. Here are a few observations FINRA might consider:

1. Aside from tape recording requirements in [Rule 3170](#), should FINRA provide guidance on or expand the umbrella of required voice and video recordings? Due to the complexities of voice/video surveillance, firms might have varying policies and procedures relating to what is stored. This may lead to a tendency for firms to adhere to minimum perceived requirements of capture and storage, and subsequently, surveillance tools across participants will vary greatly in effectiveness. Further, the surveillance of video is extremely limited among broker-dealers.

2. The proliferation of digital channels and communication methods continues to evolve since FINRA's 2017 [Guidance on Social Media and Business Communications](#). Increasingly, these channels co-mingle workflow, text, voice and video in a single application via the internet or a mobile device. Particularly as the number of financial professionals work remotely, the use of productivity tools (e.g., Slack, Microsoft Teams, Google Meet and Zoom) all present challenges relating to storage of multiple points of communication. Perhaps FINRA might provide guidance on its expectations for capture, storage and surveillance of this expanding set of digital channels.

Advancing NLP and ML technologies, offer firms the ability to scale and improve surveillance by covering many accepted digital channels within reasonable time frames. FINRA's continuing

guidance as digital channels and other collaboration technologies evolve is critical to widespread use and efficiency of modern surveillance tools.

Model Explainability and Risk Management Controls

The broker-dealer community and FINRA both appreciate that explaining the native logic, underlying assumptions, and factors that drive NLP or an ML-model can be difficult. Similarly, vendors are pressed to described AI technology under the auspices of vendor due diligence. We applaud FINRA for recognizing this difficulty and that compliance, audit, and risk personnel generally seek to understand AI to ensure that they conform to regulatory and legal requirements. As firms expand use of AI for business applications, surveillance, and monitoring, FINRA's continued guidance will improve supervisory effectiveness and help ensure such models are responsive to regulatory requirements. To that end, we suggest FINRA provide guidance on expected controls governing the environment and processes that use AI technology. Here are a few relevant observations and comments for consideration:

1. Explainability & Controls: As cited by FINRA, the European Commission described the "black box effect" as "opacity, complexity, unpredictability, and partially autonomous behaviour" that makes it hard to comply or enforce rules. As such, we suggest FINRA provide guidance on expected controls for business applications and surveillance tools that may be reasonably calibrated and designed based on the level of "black box effect" for a particular use of AI generally, and ML-models in particular. This will further inform surveillance and monitoring expectations.

2. Risk Management and Testing: FINRA suggests that firms update their model risk management programs, which includes back-testing of surveillance and monitoring tools. FINRA should provide guidance or best practice scenarios in this regard.

The use of ML-models is expanding quickly yet firms continue grappling with explainability. Therefore, as firms design related surveillance and monitoring tools, FINRA's continued guidance on risk assessment and testing will help firms avoid incomplete or ineffective surveillance. Like its guidance for Market Access, FINRA's guidance will allow the industry to converge around best practices and encourage a more thoughtful and proactive approach to leveraging artificial intelligence. Establishing this further guidance will also facilitate the broader accessibility and adoption of leading technologies for small to medium-sized broker-dealers.

Data Governance

FINRA linked the issue of data integrity to FINRA Rule 2010, which requires high standards of commercial honor and just and equitable principles of trade. Linking data integrity to Rule 2010 is critical in this context as data is the lifeblood to leveraging AI technology. While firms

increasingly establish dedicated data governance teams, our experience is that some firms rely on vendors for both expertise and cost-effectiveness.

The data consumed for surveillance tools are both structured and unstructured. For trade (and order) surveillance, data originates from multiple trading systems and in differing data protocols. Analyzing sub-data elements across may products and systems requires advanced analytics to extract and interpret relevant data to drive intelligence and pattern analysis. While analysis drives key decision making and surveillance tools, such analysis is subject to an error rate, which itself is difficult to determine. This is the key benefit of defined compensating controls for business applications (e.g., trading algorithms). For communications, analysis is mainly based on unstructured data, and so surveillance is subject to variations and errors across millions of communications per day, per firm across multiple channels. In the end, the models are only as good as the data and front-office controls may compensate for such surveillance errors.

Therefore, we suggest that the broker-dealer community would benefit from continued practical guidance on data governance, allowing for transparency on FINRA's expectations and enabling firms to move forward progressively and converge towards common standards. First, guidance could include further defining best practices for data governance including standards for back testing, data remediation, process failures, data protocols, compensating controls and expected governance requirements for applications that use ML-models. Second, FINRA might share some of its own experiences solving for testing and data bias. FINRA referenced publicly available outsourcing tools (IBM's AI Fairness 360 and Google's Responsible AI Practices). Based on its own experience with AI and data, FINRA might provide relevant resources, particularly for small and mid-sized broker-dealers, to assist with related testing scenarios and risk assessment checklists. FINRA might also partner with organizations, like OpenAI, that have specific expertise in AI development and deployment to promote and socialize best practices.

Roles & Responsibilities

Broker-dealers operate today in an environment where technology and risks are quickly evolving and getting more complex. Supervisors, compliance officers, and the tools they use must similarly evolve to match the risk. This ever-expanding risk horizon requires relevant stakeholders to keep pace and develop effective tools to prevent and detect adverse behavior. Stakeholders require the know-how and tools to both manage a complex data set and mine this data set for patterns and anomalies. Leveraging AI unlocks the ability to create effective supervisory transparency across many different activities undertaken by stakeholders across the control spectrum, especially front-office supervisors and compliance officers. While firms have taken idiosyncratic views of the level and type of surveillance conducted by either the front-office or compliance, an appropriate level of resources and technological understanding is required to build and operate surveillance tools that utilize AI-models. While FINRA has often provided related guidance via regulatory notices and examination feedback, broker-dealers will certainly welcome continued guidance as it relates to AI-model usage.

<p style="text-align:center">* * *</p>

VoxSmart and Eventus respectfully submit this comment letter, which includes several observations and suggestions to help clarify regulatory requirements and best practices for the adoption of the use of artificial intelligence in business applications and surveillance tools. A rapid, controlled, and uniform adoption of AI for surveillance and monitoring will enable supervisors and compliance officers manage risk in a highly complex, interconnected and evolving environment.

If you have any questions or would like to further discuss these issues, please contact the authors below.

Sincerely,

Joseph Schifano   Larry List
Global Head of Regulatory Affairs   MD, Strategic Advisor, North America
Eventus Systems, Inc.   VoxSmart
823 S. Congress Avenue   Calle Santa Leonor 65, E
Suite 150, Box 1964   28037, Madrid
Austin, TX 78701   ███████████████
████████████████