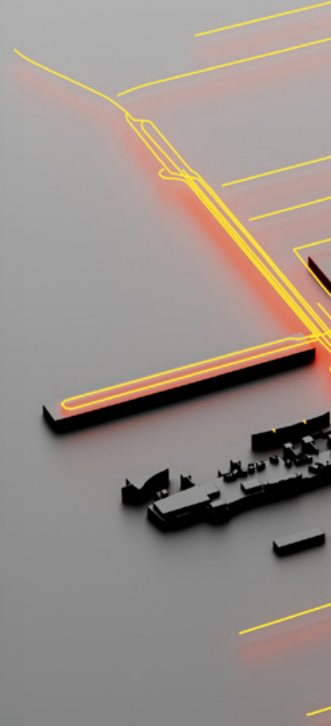


A very modern world

SmartStream, Exactpro and CGI spoke to Klea Neza to outline the strengths and limitations of current AI technologies



It's almost become a moot point that AI has its strengths and weaknesses, particularly as it's an ever-developing technology, still in its infancy. A number of back-office companies have integrated AI into their software stacks to provide efficient services for their clients and to deliver business value. Whereas, machine learning has, for the most part, been adopted to help users and machines better understand data.

Investment into one or both, should in theory, drive automation and cost reduction — for company and client. However, as was seen in the early days of the internet, new-world phenomena nearly always gathers concern, and in its extremities, hysteria. Film classics such as *The Terminator*, *I Robot* and *The Matrix* dramatise this fear.

But in reality, the rapid enhancement of AI is creating reasonable concern that companies are becoming too dependent on it. This has been seen through the increased use of ChatGPT, as an example.

Bearing in mind that asset servicing is such a communication-reliant industry, how much should it really rely on AI — at least for the foreseeable future?

Delivering strategies

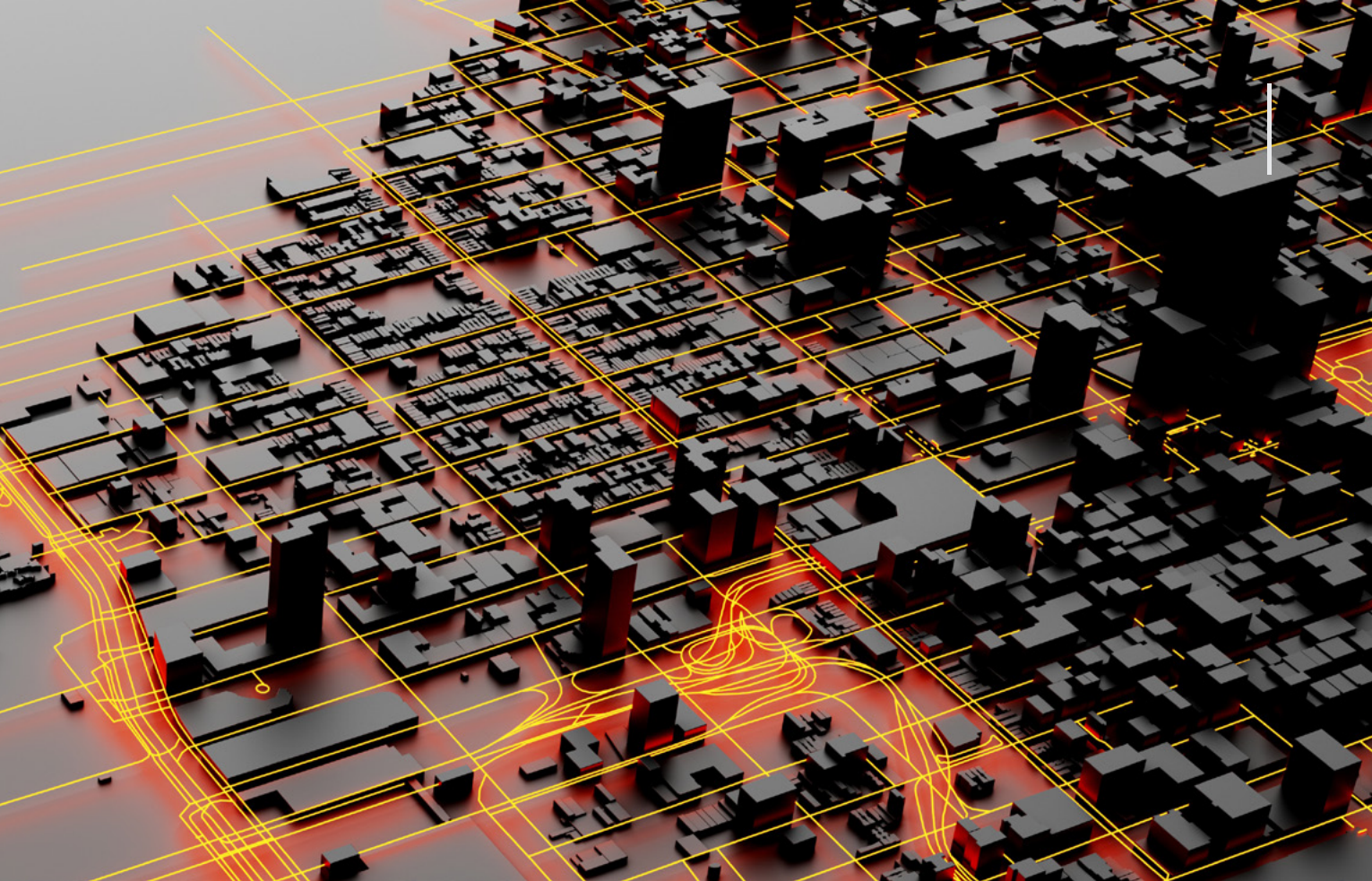
Asset servicers have many differences and functions, but perhaps have one thing in common: the continuous use and development of new technologies. Although they may be employing the models in different ways, each market has its own drive and reasons for integrating AI or machine learning.

This can be seen through CGI's use of "narrow AI," says Andy Schmidt, global lead for banking at CGI.

"CGI is investing CAD\$1 billion to expand its AI capabilities. This is to help clients design and deliver responsible, return on investment-led strategies. We are already in production with our PulseAI offering as a human-assisted intelligence engine."

Elsewhere, ExactPro relies on its own "proprietary models that are at the core of [its] model-based testing approach," says the company's programme manager, Elena Treshcheva.

"We build models to serve as digital twins of systems under test," she says.



“We then use their predictions to check the run-time behaviour of the software under test and explore the system without the need to access its actual source code.”

“Just by combing through more data points, AI models can hit the rare parameter combinations that are crucial for detecting non-trivial issues that would have remained undiscovered by tests created by human testers.”

Chat GPT

The act of generating reports has become as easy as asking ChatGPT to write a report on a particular subject. But Chat GPT has failed some of its tasks.

For example, a factual error from Google’s chatbot Bard, rival to OpenAI’s ChatGPT, cost the technology company approximately US \$100 billion.

In a promotional clip, shared by Google back in February, Bard is asked: “What new discoveries from the James Webb Space Telescope (JWST) can I tell my nine-year-old about?”

Bard answers with several bullet points, one of which reads: “JWST took the very first pictures of a planet outside of our own solar system.”

Astrologists online were quick to point out that this was an error. Subsequently, shares for Google’s parent company Alphabet fell by 7.7 per cent.

Therefore, how dependable can AI be when it lacks something humans certainly do not — emotional intelligence?

As conveyed through the International Journal of Innovative Science and Research Technology Volume 8, Issue 3, March – 2023, “[there is a] need for more emotional intelligence. In human conversation, [AI] may struggle to recognise and respond to emotional cues, such as sarcasm or humour. This can result in ChatGPT’s responses becoming tone-deaf or insensitive, which can be frustrating or off-putting for users.”

The report further stated: “To address this issue, it may be necessary to incorporate additional programming or training data to help ChatGPT better understand and respond to emotional cues.”

However, Chat GPT is a well known example of the widespread use of AI. What technologies are more successfully pushing asset servicing technologies forward?

For reconciliations, SmartStream has its own type of training data — observational learning, built within its AI technology called 'Affinity'.

"[The AI] automatically learns how records correlate to one another and can mimic and learn from actions made by a user," explains René Blaim, head of data science at SmartStream Innovation Lab.

"Affinity assists the user to significantly reduce the time it takes to carry out the matching of complex data sets. The ultra-fast matching results are delivered to the end-user with high-quality results."

Blaim explains that the SmartStream Air solution also "uses the power of AI to autonomously correlate data from multiple sources and identify different match rule behaviour with the data."

The consensus

The industry is constantly developing new technologies to improve its services. However, with a growing dependence on AI comes concern about how much it should be trusted to replace human work. According to the latest EY CEO Outlook Pulse Survey, 63 per cent of financial service bosses in Europe have expressed concerns that "not enough is being done to prepare the sector for the unintended consequences of AI."

In addition, 52 per cent say there should be a "stronger focus on the ethical implications of AI" and, in particular, its possible negative impact on privacy.

CGI's Schmidt says: "Ethical use is an issue for AI banking because of the data that models can ingest, and the outcomes that they can generate. Banks want to enable better, faster and more accurate decisions without causing harm."

He adds: "Data quality is [also important], because you want to use good data to train the model you've built. However, data quality is one of the reasons why it can take weeks to reach 90 per cent accuracy, and up to a lifetime to achieve 100 per cent accuracy."

SmartStream's Blaim comments: "While AI models, especially deep learning models, might achieve high accuracy, their 'black box' nature can make their decisions hard to interpret, posing a challenge in environments that require clear audit trails."

Treshcheva states: "To properly model the system under test, we need various data, ranging from messages and reference data examples to system log files. However, not everything may be available to a third-party services provider due to access restrictions."

AI have come to a decision

AI has undoubtedly advanced asset servicing, but human skill is clearly still needed because of its underlying emotional intelligence, knowledge and general understanding.

"In our case, system modelling and AI-enhanced testing requires exhaustive knowledge of the capital markets business domain, along with advanced technical skills and acquaintance with the newest technology trends," explains Exactpro's Treshcheva.

Highlighting the necessity of the balance between human and machine learning, she adds, that this "drives the need for continuous multi-disciplinary up-skilling of our staff."

According to another EY Outlook Pulse Survey, which outlines CEOs' perspectives, nearly three-quarters (71 per cent) of CEOs say that AI is "embedded in their transaction strategy processes."

The statistic reflects the fact that AI has become a main source that companies depend on to increase their growth and battle competition; the vast majority cannot function without it.

In the modern context of financial services, it is perhaps fair to say that AI is an enabler and improver of human innovation. As CGI's Schmidt says: "AI is often used as a catchall for any type of digitised process that yields a desired outcome."

He adds: "AI will continue to be a catchall term for some. However, the scope of the term will narrow to include the more 'intelligent' forms of automation like predictive analytics, generative AI and future AI models."

Just like the industry it is assisting, AI is consistently developing and therefore in need of constant maintenance. In time, it will also require redefinition. ■