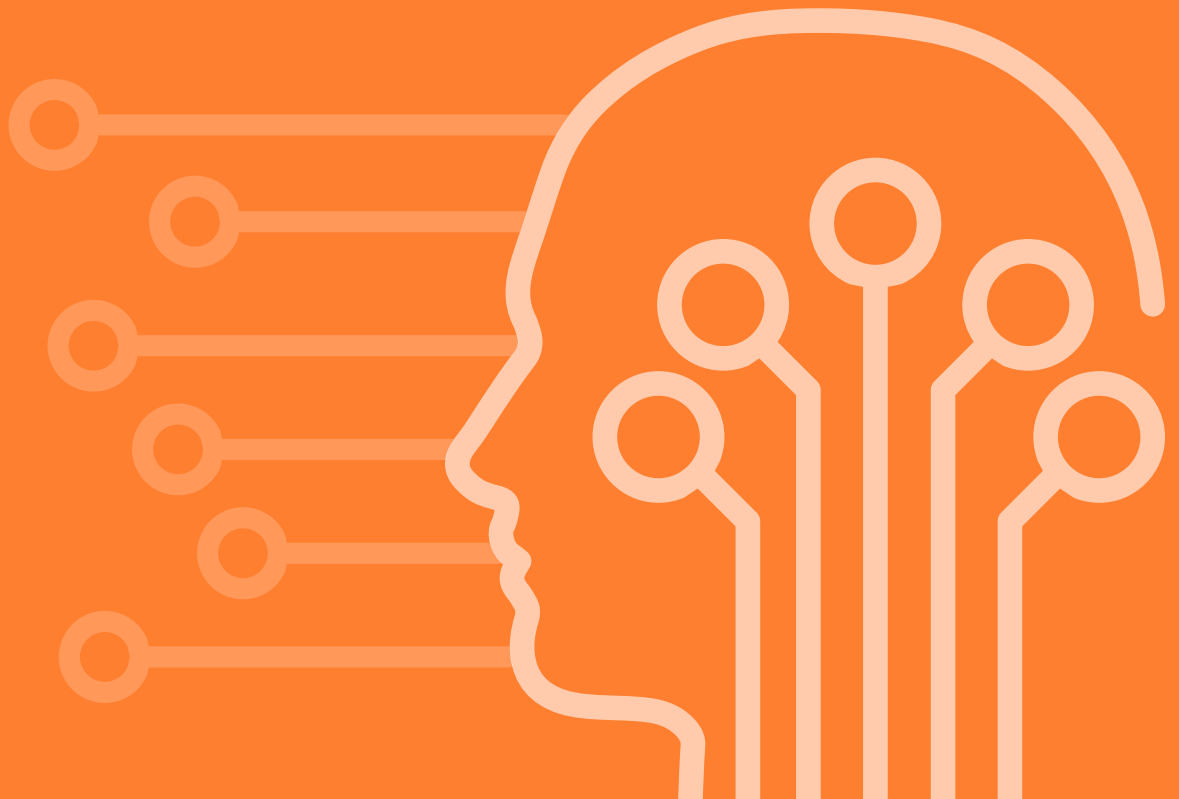# Beyond human limitations:

How AI can transform risk management

Overview

The challenges for risk management professionals in the financial services arena can feel limitless.

The flow of data is escalating to new heights. A recent study by McKinsey suggests that the world creates **five quintillion bytes of data every 48 hours**.[1] When you consider this, along with multiplying data formats and stringent but evolving regulations, risk management duties seem among the toughest to fulfill. Organizations using mostly manual screening processes for risk and compliance tasks can't keep up—primarily because they can't hire enough humans. Even the best reviewers are bound to get cross-eyed at the volumes of data needing evaluation. **Plus, reviewing it all manually would likely lead to excessive errors**.

The bottom line: There are limits to what humans can do. While technology has long supported risk management functions, having the right technology solutions matters more than ever. **Some technology solutions supporting compliance are becoming outdated, too costly, or simply impractical to implement within organizations**. As a result, compliance leaders need to embrace the mindset of a technologist in exploring options to efficiently manage risk in a scalable manner that aligns with their organization's needs.

> The new generation of AI solutions, powered by fine-tuned large language models (LLMs), is one area all compliance leaders should consider exploring.

These models, which are customized to a firm's specific needs, can be a game changer in managing risk in data-driven settings because of their potential to achieve a high degree of accuracy and precision in detecting risk. Consequently, they can empower firms to meaningfully reduce false positives.

For example, we have seen electronic ccommunications monitoring use cases where a 60+% actionable leads rate is achievable with fine-tuned LLMs. This is far greater than the anecdotal 2-5% rate we hear about from users of traditional tools.

On the following pages, we introduce you to fine-tuned LLMs and why compliance leaders should consider leveraging these models' power to effectively and efficiently manage risk. We also showcase several practical applications of fine-tuned LLMs to help you visualize how they can transform your firm's risk management processes.

What's inside

[1] https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/the-data-driven-life.

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An approachable AI opportunity for your organization

If you're getting started with exploring AI solutions for risk management, it's important to have a basic understanding of the power of transformer-based LLMs. These models are the basis for the fine-tuned LLMs that are revolutionizing how organizations manage risk, particularly when language tasks as well as data volumes are extraordinarily large and encompass myriad formats.

AI covers many technologies, from traditional simple pattern matching algorithms to much more sophisticated and powerful transformer-based LLMs, which are considered deep learning models.

Gen AI are deep learning models that can generate new content

- Artificial intelligence
- Machine learning
- Neural networks
- Deep learning
- Generative AI
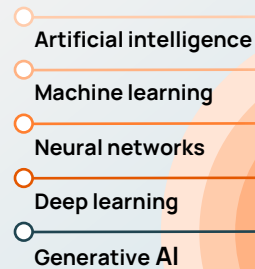
What are transformer-based LLMs?

These are deep learning models that are pre-trained on vast amounts of data to understand contextual relationships between words in a text sequence. This training ultimately empowers these algorithmic models to generate insights and predictions in a way akin to the human brain.
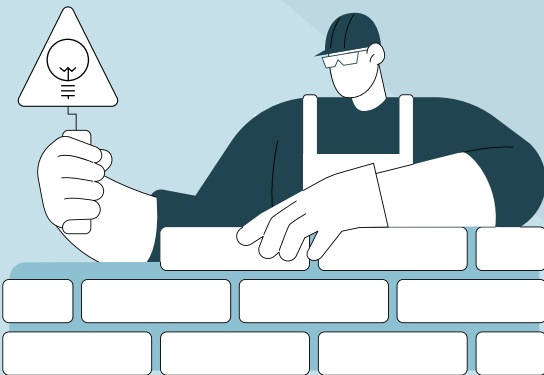
The capabilities of transformer-based LLMs are immense. They're also extremely expensive to run in real time, given the computing power needed to carry out their specific function. Because of this, they're not practical for most organizations to adopt directly into their operational processes.

However, **they've been used by technology firms as the building blocks for an array of more approachable AI solutions to support risk management needs.** Recognizing the power of that foundation illuminates the potential of these new solutions.

Examples of transformer-based LLMs

Generative pre-trained transformer (GPT-3) Released by OpenAI in 2020	**ChatGPT** ⓘ Released by OpenAI in 2022	**Claude 2.1** ⓘ Released by Anthropic in 2023
An LLM that comprises 175 billion parameters, or internal variables, available to generate precise, natural, and readable output.	An LLM-powered chatbot that runs on as many as 4,096 tokens, which are fed into the model during training.	An LLM-powered chatbot that can relay up to 200,000 tokens, translating to roughly 150,000 words or 500 pages of material.

ⓘ Examples of tokens include words, phrases, or even entire sentences, depending on the type of model being trained.

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Transformer-based LLMs 101

Pre-trained on vast amounts of data to understand sequences of words

Can generate predictions and insights in a way akin to the human brain

Act as the foundation of more approachable AI solutions for risk managers

Produce natural and readable output in real time

Fine-tuned LLMs: A game changer for compliance

Thanks to transformer-based LLMs, there are now practical, cost-effective solutions for compliance using fine-tuned LLMs. These models are highly customizable for your organization's needs and trained to understand your specific organization's language. They can even run in real time on large volumes of data to detect and act upon identifiable types of risk within established parameters.

Essentially, these solutions are versions of a pre-trained LLM, retrained on a specific domain of data. This training, combined with the ability to tap into real-time data, **takes risk management to new heights of speed and precision** that traditional algorithms can't begin to compete with. Firms that rely on these solutions experience fewer false positives and substantially higher levels of actionable leads.

Pre-trained LLM

Retrained on specific domain data

Fine-tuned LLM
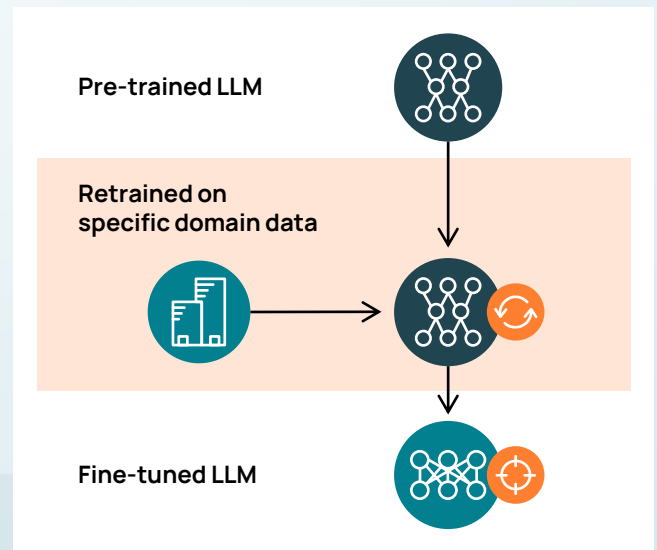
There are benefits to reducing false positives...

✓ Less risk of regulatory penalties due to higher accuracy of results

✓ Savings on costly regulatory fines

✓ More time for your team to focus on higher-value activities instead of tedious false positive investigations

...but don't overlook the benefits of identifying false negatives

Often overlooked by organizations, false negatives occur when detection activities incorrectly indicate a risk isn't present. This inaccuracy results in missed opportunities to identify more real risks.

By embracing solutions that rely on fine-tuned LLMs, organizations can prioritize surfacing these false negatives that are routinely missed because of high volumes and the reliance on older technologies.

How fine-tuned LLMs can enhance your risk management

A practical way to use LLM power **without the cost** of training one from scratch

Readily adaptable to specific business language and needs

Efficiently tackle large and growing amounts of data in real time with **greater accuracy**

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Three applications where fine-tuned LLMs can support risk management

The following three situations are intended to help you imagine how fine-tuned LLMs might address your organization's most pressing risk management challenges with efficiency, scale, and precision.

#1 Compliance review of marketing communications

Content development has become a focal point for firms seeking to build their brand, acquire new customers, and keep existing ones. Yet, the multitude of delivery channels and content mediums available in the digital age presents a double-edged sword.

Many channels are used to deliver marketing material

- Brochures/fact sheets, white papers, and reports
- Social media presence, including regular posts
- Websites, including blogs and microsites for product demonstrations and launches
- Video
- Texts
- Webinar replays
- Audio, including podcasts

The endless opportunities to create and deliver content—a marketer's dream—can upend compliance departments tasked with supporting those volumes of content. What's more, the escalating speed to market in our instant-gratification society adds pressure on compliance teams.

A 2023 Saifr research study of marketing and compliance professionals at US financial institutions[2] validates the challenges these departments face today.
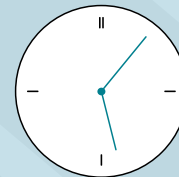
This ever-increasing and complex content can be taxing on your teams[2]:

80% of junior marketing managers **work on content**

**70%** of junior compliance officers **spend time on content approval**

61% of compliance officers **report an increase in reviews**

[2] Saifr 2024 Insights survey, The struggle is real: Overcoming hurdles in content creation and review.

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#1 Compliance review of marketing communications

Given these dynamics, marketing and compliance departments need support to improve the workflow across all mediums of materials. Look for ways to help teams:

✓ Produce compliant content with fewer rounds of revision and review

✓ Get disclosures right the first time as much as possible

✓ Foster positive collaboration among compliance, marketing, and creative teams

✓ Keep up with the demands of speed to market in today's fast-paced digital environment
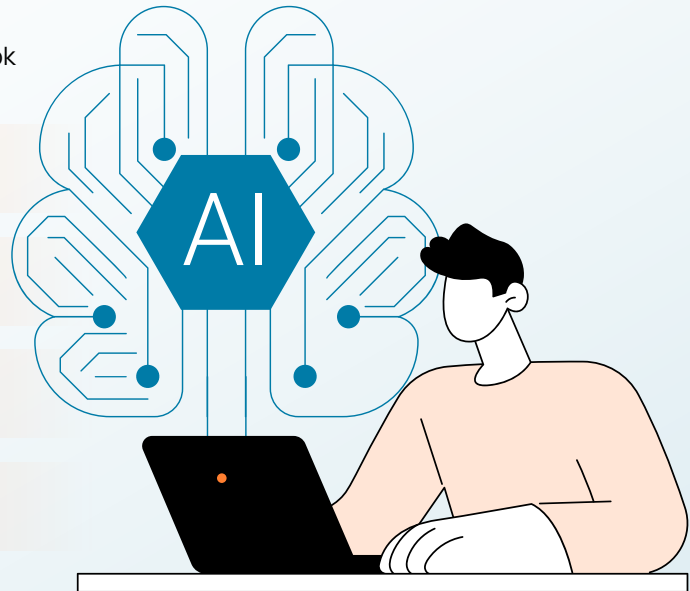
Turning it around with AI: An untapped opportunity

By embracing AI solutions that rely on fine-tuned LLMs, compliance teams can more readily identify and address risks early in the review process. These tools can also reduce compliance pressure by handling routine, repetitive tasks:

| Reviewing text, images, audio, and video, and flagging possible risks | Suggesting more compliant language for risky content | Recommending appropriate disclosures from an established company repository for such language | Simplifying auditing with thorough tracking, reporting, and direct filing with regulators |

Realizing such efficiencies can lead to faster time to market, reduce organizational stress, and enable professionals to refocus on opportunities that deliver greater value.

SAIFR'S FOCUS AREA
Gain back time across your workforce

SaifrReview® and SaifrScan® enable marketing, legal, and compliance teams within FinServ to reduce potential compliance risk in their content creation, approval, and filing processes by:

- "Understanding" content as it is created
- Highlighting potential marketing and compliance risks in text, images, video, and audio
- Explaining why something was flagged
- Proposing alternative language
- Suggesting disclosures

Saifr's AI can flag up to **90%** of what a human would
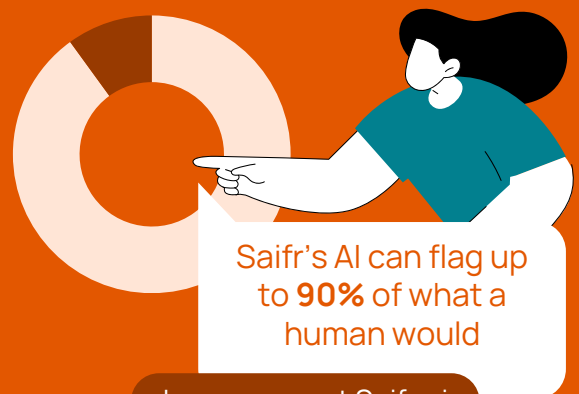
Learn more at Saifr.ai

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#2 AML/KYC adverse media screening and sanctions monitoring

In 2023 alone, a U.S. financial institution was fined $4 billion for anti-money laundering (AML) enforcement actions.[3] If you're a risk management professional dedicated to Know Your Customer (KYC) processes within AML functions, it's no wonder you may feel challenged in optimizing your firm's screening processes to protect your organization, your customers, and yourself.

Traditional core matching technology, which typically relies on word and phrase matching, has fallen short in adverse media screening because it matches to lists of structured data from registries, rather than also scanning the full universe of available data. Today, more than 80% of the world's data is unstructured, including news, social media posts, arrest record aggregators, etc. **These are messy to screen yet are often where a significant amount of information about bad actors or red flags can be found.**

If you're relying on core matching, you're only screening 20% of available data to identify bad actors. The upshot: you likely have significant gaps in your KYC risk management program. What's more, **your team is likely spending extra time on false positives,** which can lead to greater organizational inefficiencies and strained morale.

One of the best ways to tap into unstructured data is to use LLM technology that's fine-tuned to your firm's needs. These solutions provide a way to screen against a larger corpus of data so that you can effectively and efficiently identify more risk in absolute terms. They strengthen your risk and compliance program by scanning frequently updated data from a sea of sources. As a result, these solutions can be among the best ways to discover bad actors early and find more of them.

$4 billion
fine given to a U.S. financial institution for AML enforcement actions

Understanding the world of data:

20% Structured data

80% Unstructured data

	Structured data	Unstructured data
Pool of data	Limited	Abundant
Format	Predefined, fixed formats	Multitude of formats
Ease of use	Easy to store and manage	Messy and complex
Updates	Static, can be dated	Active, in real time
Insights	Incomplete if sole data source	More insights when using LLMs

If you're not including unstructured data, you're likely missing out on:

Catching more bad actors by searching more frequently, in the right places, with a wider pool of data
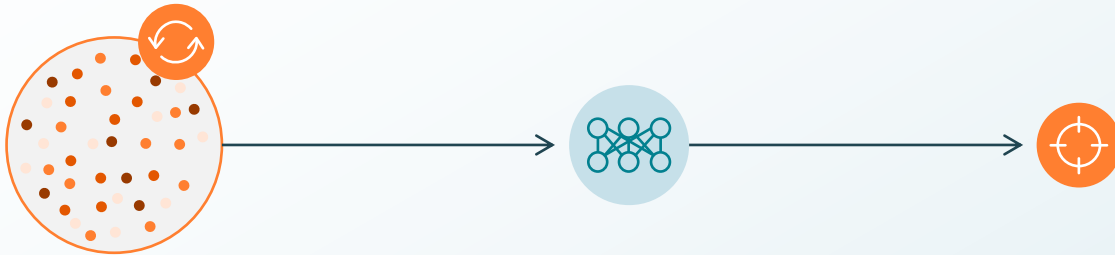
Reducing false positives with greater precision and scale

Adding efficiency and freeing your team to focus on higher-value tasks
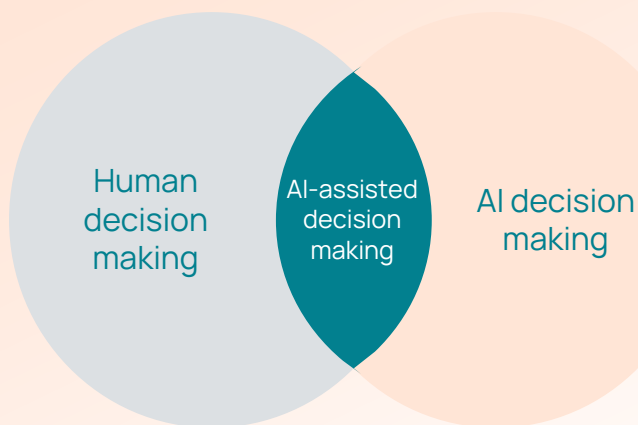
[3] https://www.justice.gov/opa/pr/binance-and-ceo-plead-guilty-federal-charges-4b-resolution

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Turning it around with AI: A comprehensive screening process using unstructured data to fine-tune your LLM and enhance accuracy

Unexpected benefit: How LLMs can enhance the value of your team

Human decision making

AI-assisted decision making

AI decision making

As you think about embracing AI for risk management, it's only natural to consider the impact on your team and their role in your organization going forward. Our view is that an AI solution provides **contextual understanding, greater precision**, and **scale** with the added benefit of enhancing your team's value and overall job satisfaction.

Reviewing marketing materials, investigating bad actors, and overseeing internal electronic communications still require important judgment calls that only a human can make. Technology cannot replace that, but it can automate more cumbersome tasks that are becoming impossible for humans to keep up with. Freeing your team from tedious activities can unlock opportunities to better apply their talents towards higher-value tasks.

SAIFR'S FOCUS AREA
Strengthen your risk management toolkit for AML/KYC with SaifrScreen[SM]

SaifrScreen enables firms to accurately, efficiently, and continuously screen for potential threats in full customer and vendor populations by crawling and indexing over 230K structured and unstructured internet data sources worldwide, 24/7.
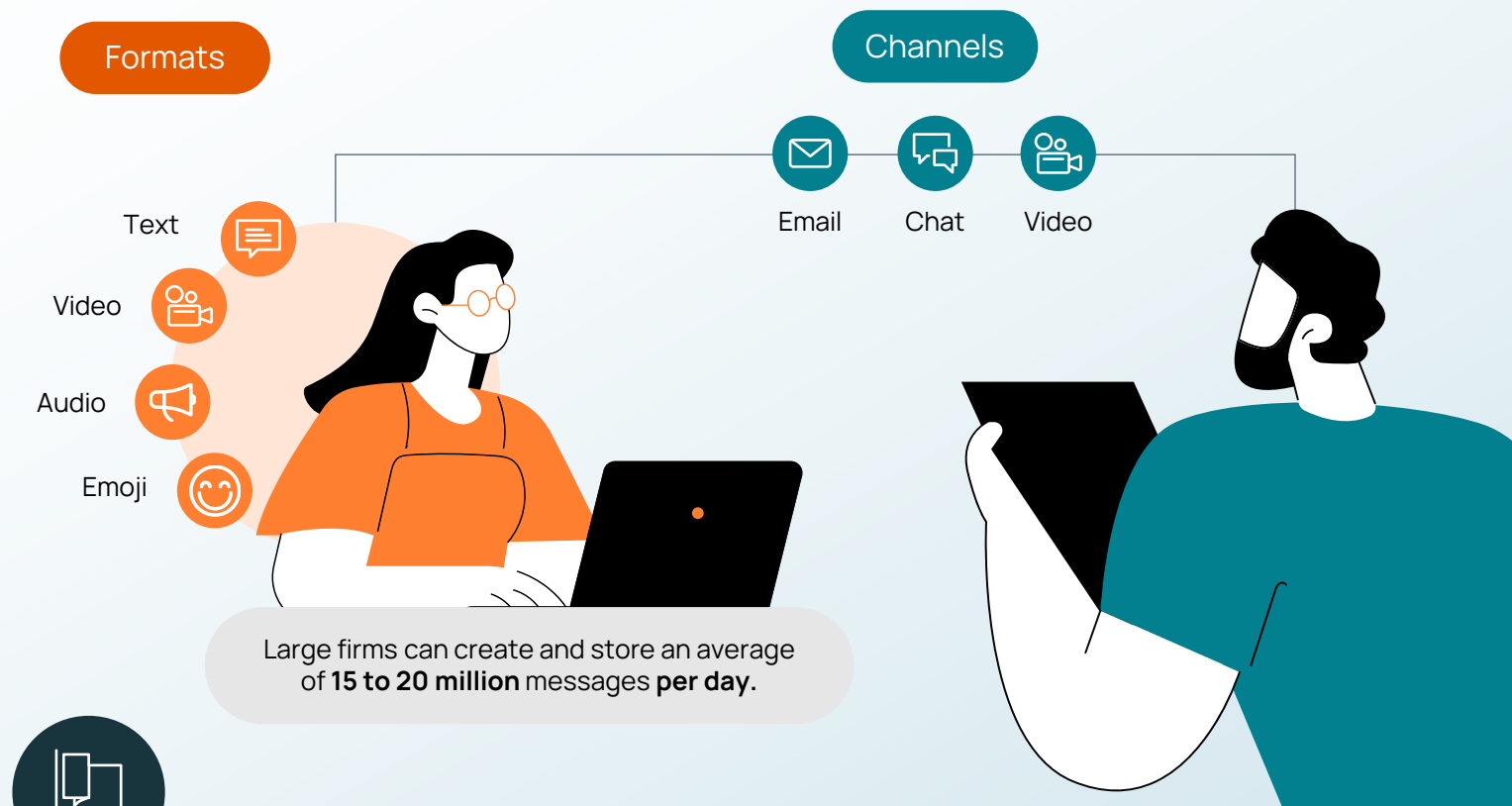
Learn more at Saifr.ai

Saifr uses ML and NLP to detect up to **7x** more bad actors with up to **47%** fewer false positives*

*Based on 2021 assessment with a large financial institution. Client improvement experiences are for representative purposes only. Results may vary based on different factors unique to a financial institution and its customer base.

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#3 Oversight of internal electronic communications

Risk management for internal electronic communications is becoming more and more complex. The broad spectrum of available formats and channels escalates data volumes to review and manage. It also presents the added challenge of integrating different methods of communication into a single narrative to flag legal, regulatory, and organizational improprieties.

Formats

- Text
- Video
- Audio
- Emoji

Channels

- Email
- Chat
- Video

Large firms can create and store an average of **15 to 20 million** messages **per day.**

An eComms surveillance system can identify **a variety of potential risks**, including:

Legal and compliance

- Insider information passed along to others or used for personal gain
- Gifts and entertainment that violate internal policies
- Changes in communication venue to circumvent company tracking
- Political involvement that goes against company policies or does not follow company preclearance procedures
- Bribes or blackmail among employees or between employees and outside parties

Customer relations

- Improper responses to customer complaints from service teams
- Attempts to change the venue of communication to circumvent company tracking
- Guarantees and assurances for purchases that violate company and regulatory body rules

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#3 Oversight of internal electronic communications

Given the dynamics we just described, compliance teams need tools to monitor user-generated content that can:

Analyze the entire volume of a firm's messages for legal, regulatory, and organizational risks

Flag compliance and corporate risks for human follow-up as soon as the communication is archived to avoid time lapses in review

Standardize monitoring and results across channels

Minimize false positives that consume your team's valuable time

Turning it around with AI:
A breakthrough for your risk management

LLMs customized for electronic communications can efficiently and effectively screen for corporate and regulatory risks in bulk volumes of messages because they can be trained to understand and link communications together across channels, formats, and even languages.
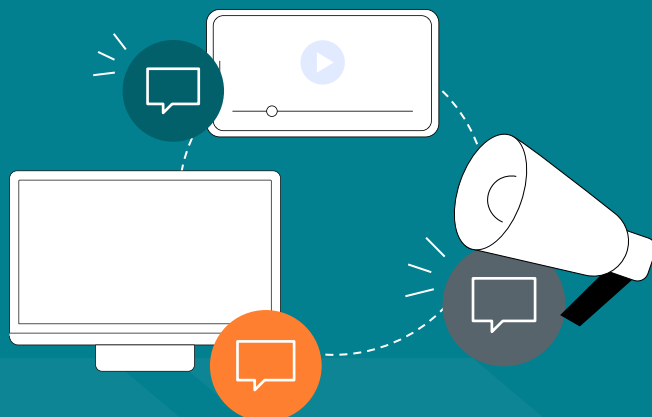
These tools offer capabilities that include:

Analyzing all archived messages in an integrated manner

Keeping pace with growing volumes of data

Consistent screening regardless of text length or data format

Standardizing monitoring and reporting across specific channels

The potential precision and scale of such solutions mean they can identify more risks early on, produce fewer false positives, and provide overall efficiencies in risk management efforts.

SAIFR'S FOCUS AREA
A solution tailored to your organization

Saifr eComms™ allows firms to more precisely monitor electronic communications in bulk for legal and regulatory risks by leveraging powerful LLMs.

Messages from multiple channels and formats can be monitored consistently, as they are archived, for internal and external risks, such as:

- Insider information
- Change of communication channel
- Bribes

- Customer complaints
- Guarantees and assurances
- And more

Saifr eComms can handle growing volumes with more precision and help reduce false positives

Learn more at Saifr.ai

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Ways to get started

Fine-tuned LLMs are a practical, customizable, and cost-effective way to gain greater efficiency, precision, and scale for risk management. They can help enhance risk management by overcoming the limits of what's humanly possible today. To identify the potential best AI solution for your organization, we encourage you to follow a measured and methodical three-step approach.

These steps can help you stay focused on your objectives and move forward with confidence in seeking tangible and meaningful benefits for your organization.

1. Assess and document your pain points

Conduct an internal assessment to identify:

A comprehensive list of challenges your organization seeks to address **+** Challenges sorted by priority

Internal interviews with all levels of professional staff can help uncover challenges and opportunities you may not have been aware of.

2. Imagine the possibilities and benefits

Given the potential for organizational transformation, we encourage firms to establish a desired set of key performance indicators (KPIs) they wish to achieve with the adoption of any new solution. Simultaneously, consider what workflows will change as a result of embracing AI. Be sure to include a plan for retraining staff to perform higher-value tasks when imagining the possibilities for your organization.
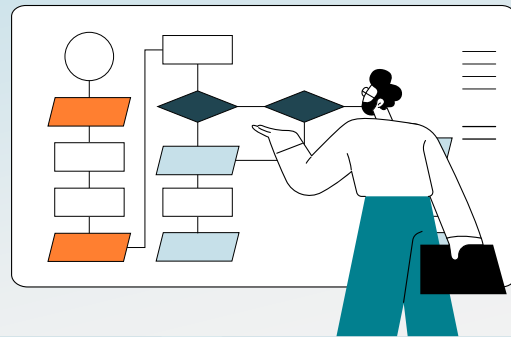
3. Thoughtfully explore the options

With your priorities established and a corresponding vision of what you seek to achieve, it's time to explore specific solutions. Before meeting with vendors, consider these additional steps:

Develop a comprehensive set of questions to ask during discovery so that you can submit a highly effective request for proposal (RFP) focused on your organization's specific needs.

Engage a dedicated team of professionals within your organization to provide candid feedback on the findings from your due diligence.

This white paper discusses industry trends and capabilities that may not be currently available via Saifr solutions.

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About Saifr

Saifr, a RegTech within Fidelity Investments' innovation incubator, Fidelity Labs, is committed to safeguarding organizations from pervasive AI and regulatory risks. Using intelligent technology that efficiently and effectively navigates complex compliance and regulatory requirements, Saifr helps clients save time, reduce costs, and improve accuracy while protecting the firm. Our advanced, AI-powered risk prevention and management solutions include capabilities for marketing compliance review, adverse media screening and monitoring, and eComms surveillance. Learn more at https://saifr.ai.