

Shifts & Narratives

#6 | June 2021



Technology trends in Asset Management and Saving Industry



Amundi | Technology

- 1 Making the most of the Technological opportunities
- 2 Building your technological advantages
- 3 Asset Management brave new world: how to make the most of technological opportunities
- 4 Turning Asset Management and Saving challenges into opportunities
- 5 Latest Technology Trends and opportunities in Asset Management and Saving Industry

These are days to be optimistic if you are an Asset Manager. And this is not just because the industry has been doing well and the fundamentals remain strong going forward. The future looks bright because the same technological forces that are being so disruptive, present an equal number of opportunities for those who are prepared to embrace change.

It is clear that Asset Managers have to juggle an increasing number of challenges: on the one hand, as passive funds grow ever more popular, pressure on prices increases thus reducing fees for active funds and ultimately causing a decline of revenue margins. This dynamic is exacerbated by the emergence of new digitally-savvy boutiques. On the other, an increase in the level of sophistication of clients is in play: as they demand more complex and tailored solutions, firms have to invest in people and technologies to keep up with the pace of change. Agile and client-oriented technology is key to support asset manager and saving actors to face multiple investors requirements and continuous growth objective.

To complete an already uncertain picture, asset managers, institutional investors, distributors and wealth managers must also contend with the burden of far more onerous regulations. This is particularly true in Europe, where rules such as MiFID II have augmented the task for firms, both in terms of the amount of human resource that must be deployed to ensure compliance, and the need to make Portfolio Management Systems (PMS) more sophisticated and transparent.

However, while many will blame technology for some - or most - of these ills, technology is in fact part of the solution. It is thanks to digitisation that

players will manage to solve some of these issues and keep up with the latest digital trends that have so deeply transformed the Asset Management Industry over the last decade. And today, we are no longer talking about a rapidly changing environment in which financial institutions evolve, but rather a full paradigm shift, which opens up a whole series of opportunities for those who move swiftly and decisively. As it became apparent during the COVID crisis, companies will need an efficient technological infrastructure, that proves to be scalable, secured, and cost efficient in the first place as well as the agility and capabilities to bring solutions that add value to users and customers quickly.

To do so, they will need to continue fine-tuning the ongoing investment in technology and innovation or partner with a trusted, cost-effective, robust and scalable technology provider so that they can integrate the newest technologies in their offering. This technology wave features prominently:

- Cloud and Open Source Solutions
- Robo Advisor
- Cyber Security
- Machine Learning & Artificial Intelligence
- Natural Language Processing (NLP)

Cloud and Open Source Solutions



Cloud has become a fact of life and an absolute imperative for businesses worldwide. According to Cisco, by 2021 94% of all enterprise workload will see processing through a Cloud Center. And 77% of IT leaders expect to increase use of Open Source according to research by Red Hat in 2020.

This also applies to the asset management industry, where the newest trends require that players have a strong capacity to scale technical infrastructures and adopt an open architecture platform while controlling costs. To manage these three simultaneous challenges, asset managers must develop a cloud platform for their business either by developing it internally or by identifying a partner to benefit from a state of the art, global platform.

A cloud platform enhanced with Application Programming Interface (API) connectivity is clearly the right solution, since it enables scalability, flexibility, and security to accompany customers in their day-to-day activities and support their growth objectives. In fact the Holy Trinity of Cloud, Software as a Service (SaaS) and open API Cloud platforms are now an absolute reference in the industry and players will need to solve this challenge in order to continue adding value to their clients and remain viable in terms of offering.

We can foresee something similar to the impact that Salesforce had in terms of use of Cloud for regular businesses: it will enable users to access data all over the world with the huge added value of generating continuous and real time updates to the software and reduce the need to buy data

centres, since the provider will do this already through its infrastructure.

And in fact, it will be largely thanks to the Cloud that Asset Managers will be able to offer digital dashboards to their end clients - be that retail or institutional - thus enabling them to have a bird's eye view of their investments in real time including ESG analytics, risk ratios, breakdown, etc.

Cloud services are expected to continue expanding at hyper speed over the next 12-24 months, bringing down costs to access thanks to increasing availability of public clouds as well as boosting performances, thanks to solutions such as edge computing (where data is stored closer to users rather than centrally) and multi-cloud access. But by using cloud solution, financial institutions have to ensure data security to protect clients and investors interest. To do so, they need to must carefully choose the type of cloud solution between private and public.

The cloud's symbiotic relationship with Artificial Intelligence and Open Source applications is likely to further lower barriers to entry, while the development of industry specific Cloud systems, including Finance, is likely to improve performances and adaptability to specific needs.

RoboAdvisor



Try to type in Robo Advisor in Google search and you will get close to 27 million results. And that should be no surprise, since RoboAdvisors are literally taking the industry by storm, a trend only accelerated by the COVID pandemic.

This service is booming thanks to its broad applicability: from customer knowledge, to asset management advice, to digital subscriptions and monitoring financial products' trends and performances. The investment behaviour of end customers is constantly evolving and their financial intermediary is now adapting with new tools for more personalised and relevant advice.

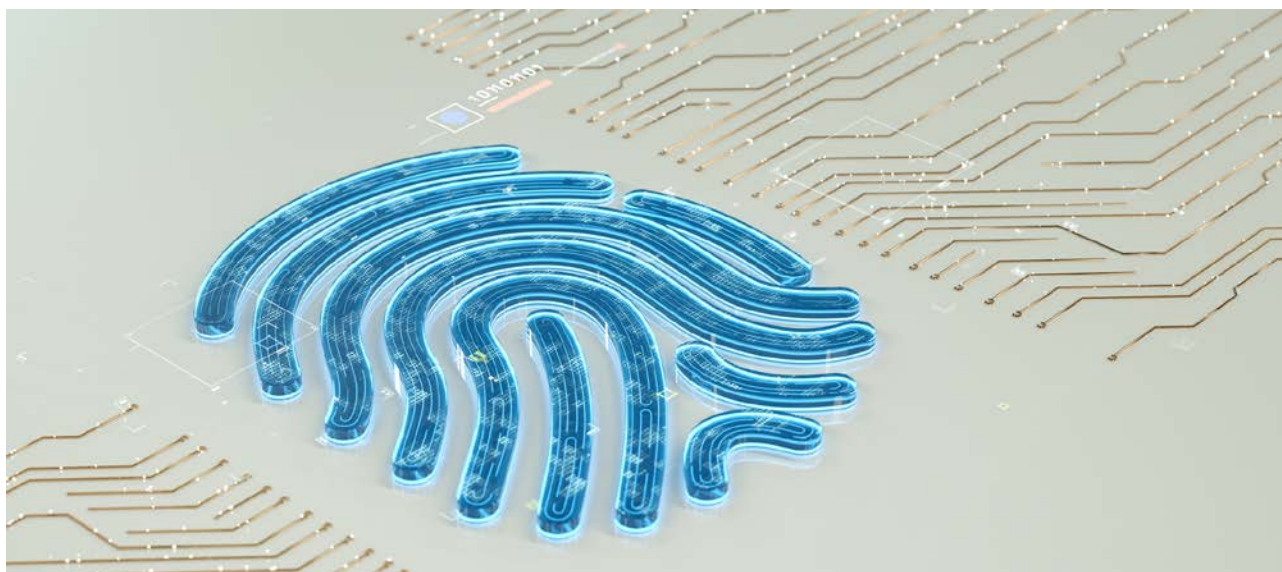
Robo Advisors are digital platforms that provide automated, algorithm-driven financial planning services with little to no human supervision. They collect information from clients about their financial situation, knowledge, investment objectives (e.g. equities, fixed income, emerging market, ESG) and future goals through an online survey and then use the data to offer advice and automatically invest client assets.

Not quite the financial version of Scarlett Johansson's impersonation of a virtual assistant in the groundbreaking movie Her, RoboAdvisors yet predate popular applications such as Siri, as the first advisor (Betterment) was launched in 2008 and is currently still operational with around USD 18 Bn under management.

As a use case, let us look at advisors and individual investors: a Robo Advisor could guide them through thousands and thousand of assets available, based on their risk/reward preferences, their investing history and relative positions. Robo aAdvisors also cost a fraction of human advisors and are of course available 24-7, assuming the customer has internet access.

The era of Robo Advisory is still in its infancy, and new territory is being breached into regularly thanks to big data and artificial intelligence. Data in particular allows for a better understanding of investor behaviour. Robo Advisors are expected to continue growing strongly in the next few years with Mordor Intelligence expecting a CAGR of over 40% between now and 2026 and reach a total of 16 trillion US dollars in AuM.

Cyber Security



Cyberattacks and cybercrime are increasing regularly both in terms of volume and sophistication. The European Council is currently working on a Cybersecurity framework that will allow us to build an open and secure cyberspace and create greater trust in digital tools and services.

The asset management industry does not escape these challenges and need to invest robustly in security measures, with a strong focus on Cyber Resilience geared at protecting clients' interests.

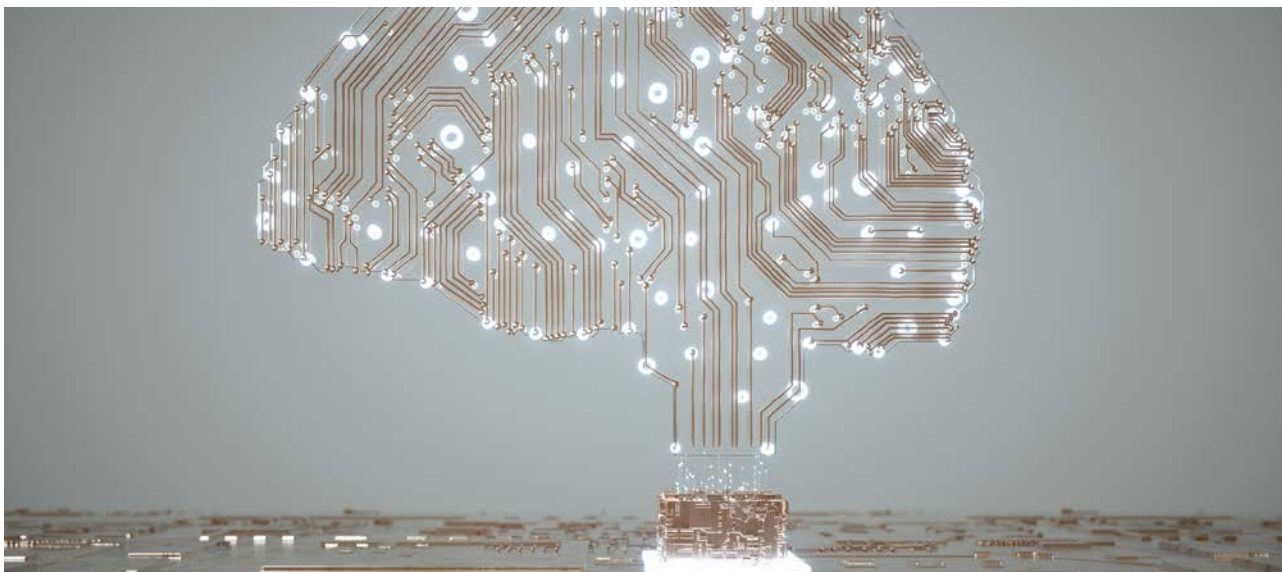
Platform and service security go hand in hand and they are ultimately a set that must feature a strong vision, great IT solutions, plus people and processes working together to protect clients' interests and to ensure business continuity in case of adversity. The 3 main cyber security pillars that firms must invest into in order to protect their clients' interests and data are:

- **Security by design:** Develop and deliver 100% secured platforms to protect clients' data, ensure integrity and block cyber-attacks;
- **Cyber resilience and anticipation:** Ensure continuous functional and security improvement while being vigilant and reactive, despite adverse cyber events;
- **Agility:** Reconcile security and agility to support growth objectives in a secure environment.

Ultimately, the great advantage of using a fully secured platform is to avoid being hit by a cyber crisis. These can be detrimental at best for a business and lethal at worst: nobody wants to appear in the press as a victim of a cyber attack and in the specific case of the asset management industry, a cyber attack could mean a complete and instantaneous haemorrhage of funds.

With an estimated 50 billion devices connected to the net, and the exponential growth of home working (boosted by the pandemic) the routes of access for hackers are multiplying fast. According to the Management Consultancy McKinsey, by 2025 there will be on average 4 IoT devices per person so this trend is only likely to exacerbate, making it imperative to strengthen protection.

Machine Learning and Artificial Intelligence



Alan Turing, who is referred to as the father of computer science, also started officially the conversation around artificial intelligence in 1950 with his seminal work, «Computing Machinery and Intelligence». Here, Turing famously asked: "Can machines think?" and proceeds to offer a test, still known as the «Turing Test», where a human would try to distinguish between a computer and human text response. In other words, Artificial Intelligence is the science that concerns with the simulations of human intelligence in machines that are programmed to think like humans and mimic their actions.

When applied to business, Artificial Intelligence supports both the optimisation of processes, as well as the analysis of massive volumes of non standardised information. For example, Machine Learning, thanks to the ability to churn through staggering amounts of data in no time, combined with python algorithms can be used by portfolios managers to design, construct and optimize portfolios. These advanced coding capabilities are helping fund managers to select investment universe, integrate various optimisation engines and risk models to, at the end, take better decisions faster.

Or think about the dull task of reconciliation between custodians and front office position keeping which thanks to AI will take place in real time and with the added value of eliminating the inevitable human error.

A third artificial intelligence use case is data cleaning. Indeed, AI can be used to correct essential and relevant data by replicating the best experts and market methodologies. These data cleaning functionalities support the entire value chain to facilitate funds management, ESG analysis, portfolios valuation, etc.

While algorithms are constantly improving and applications getting more powerful and sophisticated, the increase in raw processing power - all the way to quantum computing - is what is likely to boost the strength of these powerful applications in the near term.

IDC expects the market for software, hardware and services to grow to USD 554 bn from the current USD 327 bn by 2024. The intersections with Cyber and Internet of Things is likely to make Machine Learning and Artificial Intelligence one of the most critical areas of development in years to come.

Natural Language Processing (NLP)



Going hand in hand with Artificial Intelligence and Machine Learning, Natural Language Processing (NLP) is an exponentially growing technology that deals with how computers interact with human language in whichever form it encounters it.

It is the technology, for example, that allows a computer to analyse written documents and understand their meanings, including nuances, subtleties and ambiguities. NLP helps translate text from one language to another and respond to spoken commands. It is the application you interact with when you talk to Siri or a voice-operated GPS systems.

But NLP also plays a growing role in enterprise solutions that help streamline business operations, increase employee productivity, and simplify mission-critical business processes. Text mining, semantic analysis and neural matching are real vectors of value creation. Accessible and usable data improves decision making and the analysis is critical as nobody can read everything. This technology makes it possible to respond to this need to take into account all the available data by using NLP analysis in particular.

An application in the asset management industry could be related to the need to integrate ESG criteria when evaluating companies. To do so, there is data in digital form that is public and easily analysed, but in addition there is also unstructured data that is just as essential.

The idea is to analyse the relevant information of an organisation's CSR (Corporate Social Responsibility) policy from an available primary text corpus (website, documents, general meeting...) with the objective to combine data mining, information extraction and language processing techniques in order to extract meaning from a text and support ESG analysts. NLP will continue to grow exponentially over the next few years as we interact more and more with computers and Artificial Intelligence applications. As multilingual applications emerge, this will add usability also for businesses.

Some of the greatest expansion will take place in digital social areas, such as prevention of cyber bullying, identification of fake news and social media monitoring.

Conclusion

As we have argued over the last few pages, we support a rosy view of the future for the Asset Management Industry as fundamentals remain strong and technological change profoundly disrupts the landscape for the better.

The road to get to this brave new world is not entirely free of twists and turns, but, during the journey, opportunities will become clear for those who are prepared to embrace change and to do so decisively. In order to win, knowledge and speed will be critical, because digitisation of the industry is happening in real time and joining in will be akin to catching a fast moving train. What will be the future of these technologies? Have you already had experience with any or all of them? Are there others that should be on your radar screen now?

At Amundi and Amundi Technology, we have extensive expertise that we are happy to share with you, so that we can support you along that journey. If you want to know more, please do not hesitate to contact us at amundi.technology@amundi.com and visit our website www.amunditechnology.com.

INTRODUCTION TO AMUNDI TECHNOLOGY

Amundi Technology offers innovative technology and services to support clients reshaping their operating model. The solutions proposed aim to meet the needs of asset management, asset owners, wealth management, distribution and asset servicer in order to provide clients high-performance tools enabling them to focus on their core business.

- **ALTO* Investment:** A flexible and cloud Portfolio Management Platform covering the entire Asset Management value chain offered with operational services for dealing, middle office, data management and reporting.
- **ALTO* Wealth & Distribution:** A modular core-to-digital platform for Discretionary Portfolio Management and Advisory solutions
- **ALTO* Employee Savings & Retirement:** A consolidated management platform for retirement savings
- **Specialized solutions:** A wide range of technology and services leveraging on our experience and know-how: reporting, investment compliance, etc.

*ALTO: Amundi Leading Technology & Operations

Amundi | Technology

Disclaimer

This document is intended exclusively for professional clients and/or eligible counterparties, within the meaning of European Directive No. 2004/39 of 21 April 2004 on the markets in financial instruments ("MiFID"). This document is provided for information purposes only and for the exclusive use of the person who receives it. Under no circumstances does it constitute a purchase offer, investment advice or a solicitation to sell, nor does it form the basis of a contract or commitment of any kind whatsoever. Amundi Asset Management accepts no liability is subject to change without notice. It is deemed whatsoever, whether direct or indirect, that may arise from the use of information contained in this document. Amundi may in no way be held liable for any decision or investment made on the basis of information contained in this document. This information may not be copied, reproduced, modified, translated or distributed without the prior written approval of Amundi AM. This document has not been reviewed by any supervisory authority. The information provided in this document accurate as at 31 December 2020.

Amundi Technology is a service provided by Amundi Asset Management, a French "société par actions simplifiée"- SAS with capital of 1 086 262 605 euros - Portfolio Management Company approved by the AMF under number GP 04000036 - Registered office: 90, boulevard Pasteur - 75015 Paris - France - 437 574 452 RCS Paris.

Design and production: Amundi Technology Marketing Department - 06/2021 - Photo credit: © Getty Images - Setting-up: Art6