

# Amundi empowers portfolio managers with advanced coding capabilities

FUNDS EUROPE TALKS TO AMUNDI'S CTO, EMMANUEL ASFAR, ABOUT THE FUND MANAGER'S PLAN TO PROVIDE PROGRAMMING CAPABILITIES TO PORTFOLIO MANAGERS.

**TODAY, MORE AND MORE** front-office experts, portfolio managers and analysts have coding skills. "We see fewer newspapers but more programming tools on investment desks, as there is an increasing number of engineers and data scientists in front-office teams," says Emmanuel Asfar, chief technology officer at Amundi. "Almost all of our research analysts can code and one in four of our portfolio managers has programming skills, and this will increase in the future."

Each year will bring a new generation of portfolio managers more at ease with coding and with greater expectations of being able to use a wider variety of software tools and programming languages on a daily basis. Therefore, Amundi's strategy is to enhance ALTO (Amundi Leading Technology & Operations), its in-house Portfolio Management System (PMS), with advanced coding capabilities.

"The project, named ALTO\* smart coding, was initiated with multiple business lines at Amundi with contributions from Paris and Dublin teams. Smart beta, equities, fixed income and structured products are among the asset classes that are set to be included in the project," says Asfar. In terms of programming languages, connectivity with MatLab is well underway for risk and portfolio



modelling on multi-asset strategy. Python has just been added in Q2 2019. "There are also plans to include more programming languages, such as R and Julia, in the future," says Asfar.

When Amundi developed ALTO\* 15 years ago, the intention was to cater for all asset classes and portfolio management processes within one internal platform. Given the challenge of providing a system that satisfies all portfolio managers, the technology was made as customisable and configurable

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as possible in order to encourage wide adoption.

Thanks to all of these efforts, ALTO\* modules are now used by more than 1,000 people (portfolio managers, research analysts, middle-officers, traders and risk officers) with multiple investment strategies in more than 20 countries and other external asset managers through Amundi Services. However, technology rarely stands still for long and the traditional portfolio management team is changing. As technology literacy has increased, so has the use of advanced modelling, algorithms and new coding languages.

Consequently, ALTO\* moved from being a configurable system to a programming system, with the idea being that users, be they portfolio managers or research analysts, would key in their algorithms, construct their portfolios and build their models within the system. "We started with smart beta strategy for portfolio design coding capabilities to allow portfolio managers to implement and use their own algorithm using Python language," says Asfar.

These programming capabilities are a business differentiator for Amundi Services as Amundi opens its technologies and services to external asset managers and investors..

## Master bespoke investment process within an industrial platform

As the leading European asset manager in terms of assets under management<sup>1</sup>, Amundi constantly enhances its PMS with new technologies to meet its tier-one clients' expectations. "Large corporations won't expect billions of their assets managed with shadow IT tools. The operational risk is too large. They want assets fully under control. With our programmable platform, all the data, models and algorithms are checked and audited," says Asfar.

"We noticed that it was not enough

to make ALTO\* configurable and customisable," he adds. "Despite the fact that they have powerful, industrialised tools at their disposal within the ALTO\* platform, a growing number of research analysts, portfolio managers and risk managers needed more advanced functionalities to make their models, construct their portfolios or to make their upstream risk allocations." In order to meet clients' and regulators expectations, the

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objective is to enhance the platform's security and auditability and in doing so reduce the operational risk.

The idea of portfolio managers at ease with coding may have seemed incongruous in the past, says Asfar, but it is symptomatic of the changing dynamic within asset management firms and the use of technology.

## Towards machine learning and data science

As stated, technology is constantly changing, as are users' technology habits. Indeed, Machine Learning (ML) and data science have an increasingly large role in the finance industry, particularly in Asset Management. We already use ML for data cleaning and reconciliation but the next stage in Amundi's plan, aside from the addition of new programming languages, is to add greater machine learning capability

for front office. "At the moment, there is no live use of ML in investment process. We are gradually making ML libraries available within ALTO\* to our research and risk teams so they can be trained using ML and this can all be done through the one platform."

Portfolio managers, analysts and IT are working together to meet these technology challenges. And for those portfolio managers that want to learn to code, they will be encouraged to do so through ALTO\*, says Asfar. "We already see greater curiosity from portfolio managers in terms of coding when they see the platform in action. It is a powerful tool. To this end, all IT teams are mobilised to help front office to generate their algorithms or put their asset-allocation formulas into computer code with high-level programming tools."

The first results of the ALTO\* smart coding project are very encouraging and Amundi's portfolio managers are enthusiastic to use programming capacities within the ALTO platform. It is a great challenge and change for everyone in Amundi.

<sup>1</sup> - Source: IPE "Top 400 asset managers" published in June 2018 and based on AuM as of end December 2017.

\* ALTO: Amundi Leading Technology & Operations

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