

The Python Quants GmbH Bringing a new approach to financial analytics with Python

The present day banking industry is data driven. It depends on predictive and prescriptive analytics solutions to gain meaningful insights from the underlying data that paves the path for productivity and development. With the expansion of technology into trading in the recent years, algorithms are responsible for making rapid split-second trading decisions, faster than humans could make. As technologists look to bring a greater exposure of technology to banking, Python and its eco-system of powerful packages emerged as the technology platform of choice in the financial market. The Python Quants Group realized this and developed a business model around Python for Finance & Algorithmic Trading enabling organizations and individuals to do financial and data analytics in real-time and on a highly customized basis as well as to rapidly develop new financial applications and deploy them based on weekly or even daily cycles.

The company was set up to benefit from new open source technologies, the Python ecosystem in particular, as well as new financial methods

and approaches like large scale Monte Carlo simulation in finance. The Python Quants Group is active in the areas of technology, know-how & research, and services & community. It focuses on Python for Financial Data Science, Algorithmic Trading and Computational Finance and also offers consulting, development and training services in all financial capitals, e.g., Frankfurt, London, New York, Singapore. It helps its clients to use Python for Quant Finance to solve specific problems or to conduct ambitious and path-breaking projects.

Providing valuation capabilities based on Monte Carlo Simulation with DEXISION

The first product that the company launched was DEXISION, a Python- and simulation-based financial engineering and derivatives pricing platform with *"Derivatives Analytics On Demand"* being the tag line. It was developed keeping the market needs in view to design, manage and price complex financial derivatives. The company

also added features based on theoretical break-throughs at the time. However, the financial crisis in 2007/2008 led to a consolidation in the derivatives market and its whole approach with DEXISION targeted complex derivatives, which quickly came out of fashion during and after the crisis.

The first project roll out couldn't achieve financial success but it was an exceptional learning experience for the Python, Linux and other open source technologies that are still in use today. *"It proved my hypothesis right that Python allows to build industry standard analytics solutions with really small teams. Back then nobody really believed in Python in this regard"*, said the CEO. *"What we learned in this context could be really well applied in client projects. Instead of licensing revenues we generated income through consulting and development services"*, he added.

Python-based financial analytics library

The Python Quants Group has been engaged in the Python and open source communities from

"Both in terms of technology and community we have build one of the biggest platforms in the Python for Finance field."

Knowing the CEO, Dr. Yves J. Hilpisch

Dr. Yves J. Hilpisch is the **Founder** and **CEO** of The Python Quants, a group focusing on the use of open source technologies for financial data science, algorithmic trading and computational finance.

Yves has a Ph.D. in Mathematical Finance and lectures on computational finance at the CQF Program, on data science at htw saar University of Applied Sciences and is the director of the first online training program leading to a Python for Algorithmic Trading University Certificate awarded by htw saar. Yves has written the financial analytics library DX Analytics and organizes meetups and conferences about Python for quantitative finance in Frankfurt, London and New York. He has given keynote speeches at technology conferences in the United States, Europe and Asia.



Dr. Yves J. Hilpisch, Founder & CEO

the beginning. Like many other companies, they started honoring certain trends in the open source communities. In particular, they replaced their first SaaS offering, DEXISION, by an open source library called DX Analytics. It is a completely modular and object-oriented open source library to model, price and risk manage complex portfolios of multi-risk derivatives with potentially complex correlations structures. It mainly implements what is sometimes called the global valuation of derivatives instruments.

Python arrived late in the financial industry. But since it is used now strategically by many of the biggest financial institutions in the world like Bank of America Merrill Lynch or JP Morgan, the need for professional Python education has been growing steadily. The company reacted to it by offering Python for Finance events like the For Python Quants Bootcamp in London and New York as well as by offering an integrated suite of online training

classes and courses in Python for Finance. Its focus here lies on Financial Data Science, Algorithmic Trading and Computational Finance. In addition, the company has given customized corporate training classes for some of the biggest hedge funds and asset managers in the industry.

Promising a new level of productivity

The two trends that the company focuses on for its growth are the browser as the operating system and the cloud. After turning the SaaS offering DEXISION into the open source library, DX Analytics, they started building the Quant Platform, their PaaS product. It allows for scalable, collaborative financial analytics in the cloud based on tools like Jupyter Notebook and many other proprietary elements that have been added over time. The Quant Platform has close to 10,000 registered users. They use it for general purpose financial analytics tasks or to access codes

from the three books by Yves Hilpisch, namely Python for Finance, Derivatives Analytics with Python and Listed Volatility & Variance Derivatives.

Although it is a small company and located in Germany, it has global reach due to its available technologies. It uses the CRM software, Highrise HQ, to manage all relationships in an integrated manner. All sign-ups for the platform and email lists land there. Probably more than 95% of its platform users have free accounts with the company. It is the first to offer an official University Certificate in Python for Algorithmic Trading in co-operation with the htw saar University of Applied Sciences in Germany. The company has also launched a new training course "*Finance with Python*". This course teaches finance from basic principles and Python from the very beginning.

For more information:
<http://tpq.io>