Supporter of your life

Data science at AG Insurance

For better speed, efficiency, and client focus

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What is this white paper about?

Data is everywhere, and the insurance sector is certainly no exception. AG, Belgium's leading insurer, knows this only too well: with over 2.7 million customers and more than 8 million active policies, new data is coming in every day. This is the ideal playing field for our data scientists. Whether in the Employee Benefits/Health Care (EB/HC), Non-Life or Life business units, or at a cross-functional level, the impact of data is undeniable. Customers get faster and more tailored assistance, and employees can work more efficiently. The future is certainly promising, especially if you take into account the latest developments in Artificial Intelligence and the Internet of Things. These factors are playing an increasing role in the data landscape. This is the ideal opportunity to delve deeper into focussing on efficiency, speed and, above all, customer centricity.

In this white paper, four data scientists across different business units at AG, share their thoughts.

Matthias Meul

- Head of CHRSO Solutions: Data Insights at a cross-functional level
- Economic studies, specialisation in marketing
- After juggling with data at other organisations, Matthias joined AG in 2018

Jens Vande Cavey

- Data Scientist at Employee Benefits/Health Care Channel
- Civil engineering studies, engineering mathematics, plus a supplementary year in economics
- Jens has a 10-year background in Business Development Support. Then AG encouraged him to work part-time in data science. He became a full-time data scientist in 2023

Pauline Derue

- Manager Data Intelligence - Analytics and Solutions at Broker Channel & Non-Life Insurance Development
- Mathematics studies
- Starting at AG as part of the IT Young Pro programme, she moved to the business side in 2018. At Non-Life, she formed part of a fast-growing team of data scientists

Hélène Maris

- Head of Commercial & Operational Reporting at Bank Channel & Life Insurance Development
- Mathematics studies
- She started coding and preparing reports in Non-Life no less than 20 years ago. Now, she leads an excellent team of six, all with varying skillsets

Data science at AG

In a nutshell, what is the aim of data science? To use data to generate solutions and information valuable for the business. This applies across all business units: Employee Benefits/Health Care (EB/HC), Non-Life, Life, as well as across the board. In conjunction with the various units, the teams concerned design projects to speed up processes and be more efficient. Customers, employees, and distribution partners get support, information and inspiration out of this. The focus at AG is to keep making more and more use of data.

Four data science teams

AG has four data science teams in house: one for each business unit, and a cross-functional one. They all have the expertise needed to design algorithms and generate valuable information from existing data. For example, developing classification models to predict future events or to be quicker in detecting fraud and irregularities.

What is the main difference between the data scientists dedicated to business units and those who work at a cross-functional level? The former focus on more granular data within the business unit itself, with the emphasis on its customers, employees, products and services. At a cross-functional level, the idea is to have a helicopter view and an overarching picture of the customer base. What is the average age of our customers? What reasons do they tend to have for leaving AG? Who should a particular campaign be aimed at to gain the optimum results?

Employee Benefits/Health Care case with data scientist Jens

Jens, currently the sole EB/HC data scientist, has launched a data project in conjunction with the sales and underwriting departments. The aim is to develop a predictive model to estimate the chances of AG closing a deal. The customer characteristics and the data from previous cases serve as the basis for this model.

"There is currently a test phase underway within our teams", explains Jens. "When a new request comes in, the underwriters (who set the prices) start by applying the model. This provides added value because it allows us to determine the effort to put in for each offer".

It is important to note that even in this day and age, the expertise, knowledge and intuition of our salespeople are fundamental. Jens: "they're experts and know their craft. Data scientists like me are there to support them in their work and try to fine-tune the model based on their expertise. This is all done with ongoing dialogue at every stage of the project".

"Data is everywhere and the possibilities are endless."

Matthias Meul

Added value for customers and employees

For customers

2.7 million customers. And 8 million of active policies. This makes it impossible to talk to every person individually. To really get to know your customers, data is key. AG uses data science to translate customer data into specific information in order to get a more complete picture. What insurance is the most suitable in this situation? What exactly do these customers expect when they have a claim? In the end, customer satisfaction wins because AG has a better understanding of its customers, and of their motivations and behaviour, and can therefore offer them a more tailored service.

Matthias says:

"At AG, data analysis has nothing to do with data science as such. The goals are efficiency, customer-centricity and satisfaction.
We want our customers to experience correct, simple and accessible services. For them to get a fast and accurate response, with smooth communication.
All supported by machine learning and data science".

For employees

The information that comes from data opens the door to new opportunities and possibilities. Including for employees, whether in sales, operations or management. They are the ones who submit their issues to the data scientists, from the perspective of the business. What is the best target audience for this campaign? Is it possible to automatically analyse the claims received? In cooperation with the data science team, they decide whether a new data project can offer a solution. The ultimate aim is to have quicker and more efficient processes.
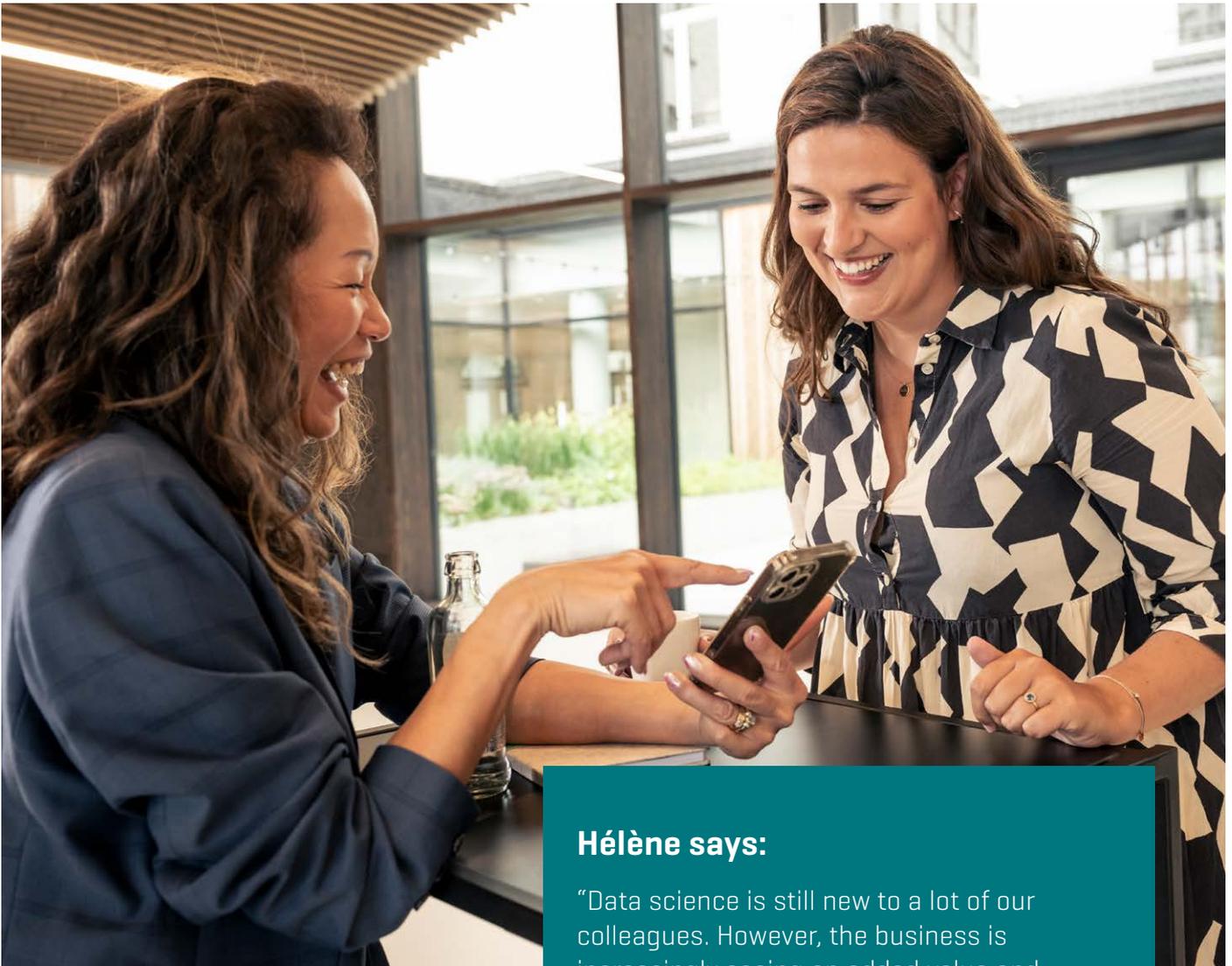
Hélène says:

"Data science is still new to a lot of our colleagues. However, the business is increasingly seeing an added value and reaching out to us for help. And rightly so, because together, we can make both them and their processes progress."

Data science, a multidisciplinary team effort

A team effort between data science and business

To launch and successfully complete a data project, a technical team of data scientists is not enough. AG also regularly involves business owners with identifying and defining the problem. As for the data owners, they manage data at a company level and ensure that each party uses it consciously and appropriately. However, internal customers (marketing, fraud detection or operations) are also making their contribution. Their knowledge and expertise add to the technical part.

Practical interpretation of data

Being a data scientist also comes down to translating a technical matter into practical content that can be used for the business. Because raw data, such as contractual information like age and location, only tell you part of the story. The other part is interpreting the results: why does the model show that this specific age group will respond to these marketing topics? How does the model know that car insurance is generally the first product a certain group of customers takes out.

AG gets the answers to this either through market research or the business owners. Because of the latter's experience, they often correctly assess customer behaviour and motivation. The data and interpretations therefore greatly complement each other. This is important because it is these responses and explanations that create a basis for the business throughout the organisation, and that enable proper conclusions to be drawn and subsequently the appropriate measures to be taken by the business units.

"If the model's result does not match the intuition of the business, we look for an explanation together."

Matthias Meul

"Close cooperation within the team as well as with the various business departments is a great asset to a project. They have knowledge that the data scientists don't."

Hélène Maris

The community of data scientists

Data scientists keep in touch with each other. For example, AG organises a quarterly meeting of the Data Science Community and invites external speakers too. The different units also share their experiences and case studies. Data scientists and data governance managers also attend general meetings daily to align processes, or, for example, to talk about the latest innovative trends in AI. This is an excellent opportunity to draw inspiration from each other, broaden their expertise and deepen their knowledge of this fascinating field together.
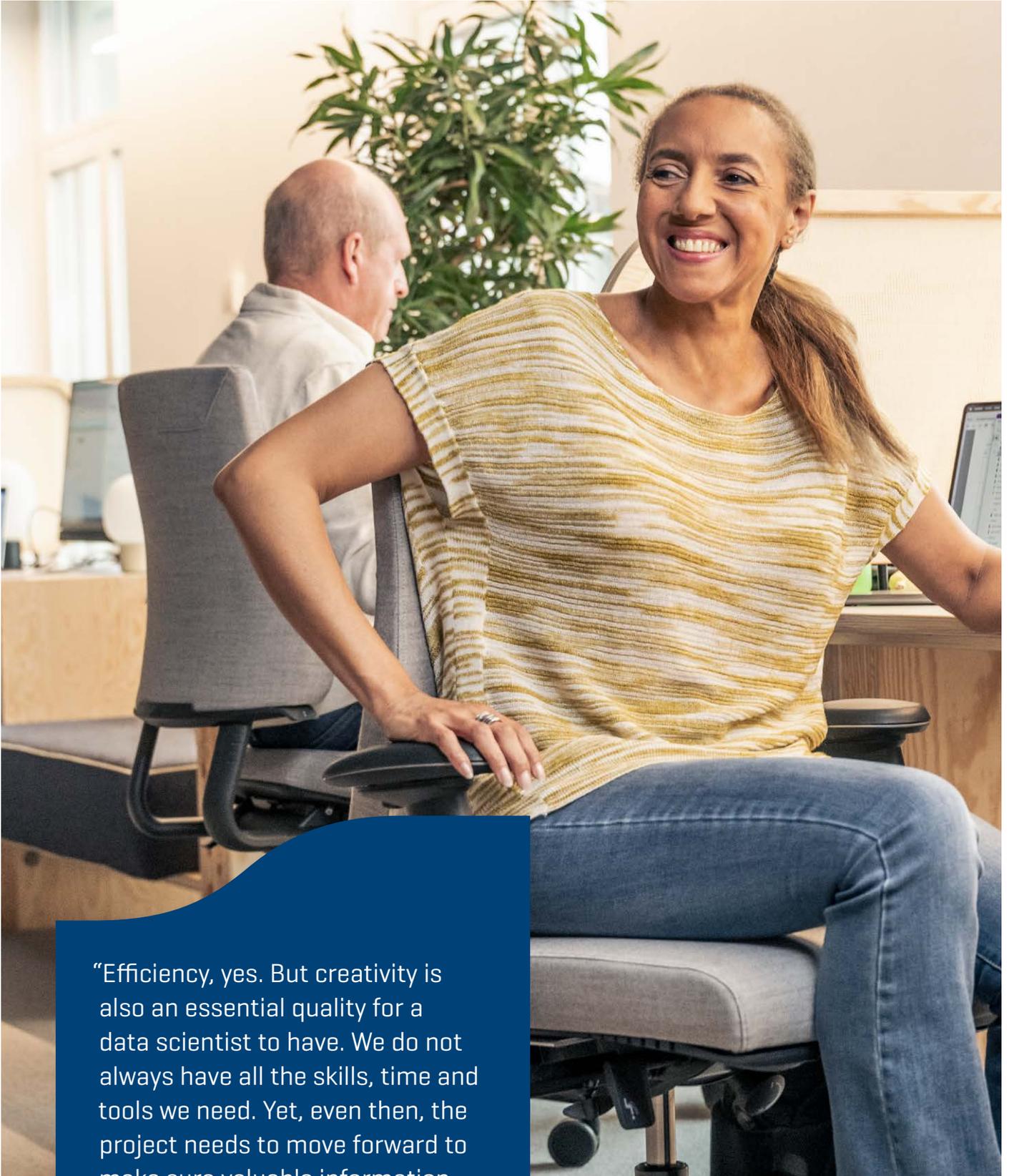
"Efficiency, yes. But creativity is also an essential quality for a data scientist to have. We do not always have all the skills, time and tools we need. Yet, even then, the project needs to move forward to make sure valuable information is gathered on time."

Pauline Derue

Precise conclusions from a wealth of data

The amount of data available to AG is almost infinite. No fewer than 2.7 million customers entrust their data to Belgium's leading insurer, and they've been doing that for years. The data therefore varies a lot. For example demographic data about the age, place of residence, gender, distribution channels, or links with other products. Or data on car and fire insurance that can point preventive measures in the right direction. And this is just the tip of the iceberg of the initiatives related to products. What is the benefit of this huge quantity and variety of data? More reliable and precise conclusions on customers, for employees.

"Data science in the insurance sector is still in its infancy.

At AG, we are at the hub of a data revolution, so we can help make a difference."

Jens Vande Cavey

The 2021 floods - Non-Life case study with Pauline, data scientist

When the floods hit Belgium in July 2021, it was all hands on deck for the insurance sector. Especially in Pauline's department, Non-Life, responsible for fire insurance. "To help our operations colleagues and our customers move forward, we gathered data at breakneck speed. The aim was to develop a solid model in order to better understand the reality. How many claims were we yet to receive? For what sort of damage? What amount would AG have to pay out? Were other customers also affected by this terrible tragedy? The model is the result of close cooperation between the teams and within them". For this, Pauline and her teams worked with those on the field, the actuaries, IT departments and others. Even the government got involved. "We were all driven by the same goal: finding a way to help our colleagues and customers move forward in the quickest and most efficient way possible in this terrible and complex situation".

Innovative trends in the insurance sector

Data science is a fascinating field. No doubt about that. But it is growing at lightning speed. It's as if megatrends were happening one after the other. But what are the most influential trends in innovation? For the time being, they are Artificial Intelligence and the Internet of Things (IoT). The sector is getting ready.

Artificial intelligence

The world of AI is improving, accelerating and fine-tuning data scientists' work, as well as that of other employees. The system efficiently detects code errors, or ChatGPT speeds up processes by generating the initial Python code. AG is also developing its own data science models to, for example, detect fraud and anomalies, and is experimenting with chatbots. The more streamlined tasks and administrative processes are automated, allowing employees to devote more time, quality, and productivity to other, more relevant, tasks.

It is important to note, though, that AG remains cautious. The insurance industry is characterised by risks. The data with which AG works are critical, sometimes sensitive or even confidential. Albeit whilst continuing to explore the field of AI, AG particularly focuses attention on customer protection, guidelines and privacy.

"The world is changing. So is the insurance sector. This is reflected in the data. Our job is to adapt our products and services to this context."

Pauline Derue

"Thanks to partnerships with insurtech companies and universities, AG can keep its finger on the pulse of all current innovation. Their research and techniques are of great value."

Matthias Meul

Opportunities from trends

Apart from efficiency, these megatrends could transform the insurance sector long-term. Especially because the quantity of data generated and saved all over the world continues to grow. Just think about all the possibilities for automation that smart devices and the Internet of Things (IoT) create. Devices or systems that interact through internet connections to share data. These are certainly opportunities. It is up to the sector to seize them, experiment, determine the potential and ascertain the accuracy of the data. If a trend proves its worth, AG will use it to capitalise on data, including in the existing systems. This is, however, always done with a critical eye so that the data can be carefully verified and the legislation correctly applied. *Let's take every opportunity.*

Working for AG,
adventure guaranteed

An employer that proactively offers you career development opportunities?
Who fully believes in a future where data science plays a leading role?
Whilst promoting a good work-life balance?

You have come to the right place with AG, Top Employer of 4,400 people for 12 years.
These people include twenty-odd data scientists. At AG, you are immersed in a
warm and friendly atmosphere, where we believe not only in the opportunities
and possibilities of applying data science, but your personal development too.
As an employee and a person.

Working for AG, adventure guaranteed

Data science at AG: interested? Do you have any questions?
We are here to help you.

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