Colliers International builds data warehouse without programming

Colliers International is a publicly traded international real estate consultancy that wants to offer forward-looking advice and maximize the value of real estate for real estate owners, real estate investors and real estate tenants. Their services include valuations, brokerage (purchase and sale, rentals and lettings) and real estate management. The company operates in 68 countries worldwide, with approximately 17,000 employees. In the Netherlands, Colliers International has about 325 employees.

Data for a good deal

Data is extremely important for Colliers International. "The essence of making a good deal is to have more information than the other party," said Tom Kronenburg, Head of IT at Colliers International. "We're talking about things like the number of deals in a particular city or region, the average price per square metre, and about the yield, which is the returns as a percentage of the investment made. Knowing how the market works is vital in our industry."

Unreliable data in silos

Colliers International itself produces a lot of data about the real estate market, for example by recording data about its own transactions and through market research by its Research department. Data is available for purchase, for example at the Land Registry or through commercial suppliers.

The reliability of all this data is a problem, however. "A property may have been sold at a certain price, but an
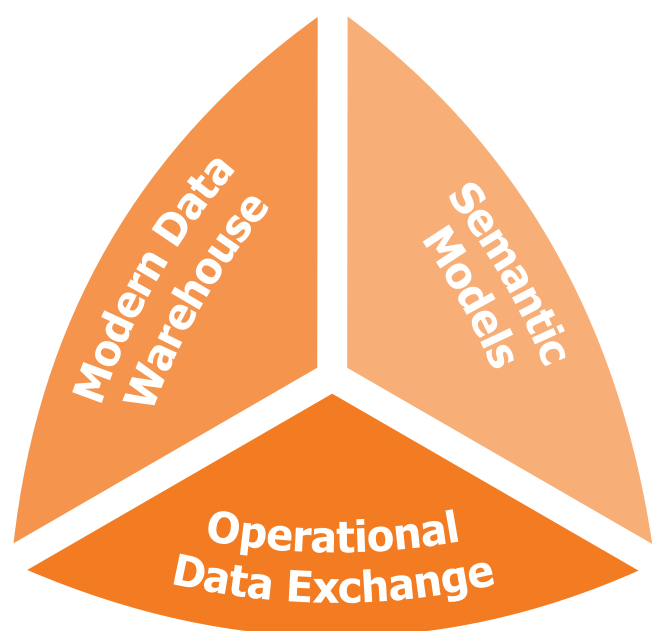
earn-out construction may have been in play at the same time. In that case, the amount of that transaction doesn't mean that much," Kronenburg explains. "All data is therefore notoriously unreliable. To be able to make solid statements, you need to combine data from multiple sources, and with the data that comes from our own processes and the minds of our people."

The data is also lacking in quality. "The data we work with is entered manually by people. Usually in an Excel file, but the data can also be stored in other file formats or on a website. We're not just talking about numbers, we're also talking about text – with all sorts of variations in notation and spelling."

Finally, the data at Colliers International is too siloed, says Kronenburg. "The Research department processed the data into products that were being shared, but the raw data remained at Research. The Valuations department didn't share their data either. And Asset Services has a huge database around managing real estate, but because we act on behalf of the real estate owner, this data cannot be shared just like that. Even though we can't share the data from Valuations or Asset Services with other departments, we do want to be able to share the insights – which can be generated at a slightly higher level of abstraction – within the entire company. After all, more insight into the data means more knowledge. This increases our chances of getting the best deal for our customer(s)."

Data warehouse with cleaned data

To be able to combine all the data and increase its reliability and quality, Colliers International is looking for an ETL specialist. However, ETL specialists appear to be scarce and costly. "We are also looking for IT workers who want to think with us to improve the service provided to our customers. So, people who find real estate interesting too, and want to commit to us for a longer period of time," says Kronenburg. During this search, he came into contact with E-mergo and TimeXtender.

After a number of talks and a 'Proof of Concept' test, Colliers International decided to implement TimeXtender's Data Management Platform. TimeXtender creates a framework for developing and managing the new data warehouse. "The existing silos are brought together in TimeXtender. In this process, the data clean-up is actually 'ingrained' – i.e. it is taken care of in TimeXtender," says Kronenburg. "Then it checks to see any columns have been filled out incorrectly, whether the dates logically sound, and whether the spelling of company names is consistent. This is why we created processes within TimeXtender where, for example, all the spelling variants of a particult financial institution are converted into one and the same spelling. The system puts

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Tom Kronenburg, Head of IT, Colliers International

any deviating data in an overview; The Research department checks that data and then adjusts it manually if necessary. That clean-up is a combination of technical genius and, above all, a lot of domain knowledge."

Future-proof Data Management Platform

The result is a set of data that reflects the 'best, most complete version of the truth', as Kronenburg calls it. "If you would have previously asked the Research department for the number of transactions in a particular region, it was possible to get two different answers. Then you would have to think again and again how to interpret that data. We considered this in the creation of this consolidated database. The system now combines this data, using preset calculations. So, we all work with that same truth, and not with a slightly different version of it each time as a result of differences in interpretation."

Kronenburg indicates that Colliers International wants to make the investment made sustainable. "We want to build a platform which we can continue to work with for years to come, which doesn't need to be completely redesigned every two years. A platform where we can build processes that are fast, easy, inexpensive, and not prone to error-prone, and therefore requires little maintenance. With TimeXtender, we have a future-proof data management platform."

New products and services based on data

Not only have the reliability and quality of the data improved since the use of TimeXtender; there have been some other important positive effects. First of all, the business analysts in the IT department can work with the software themselves; because TimeXtender itself generates the ETL code, there was no longer a need for an ETL specialist. Kronenburg: "IT workers who talk to the organization

and the departments involved have the tools to build with TimeXtender themselves, without the need for a programmer. That results in a IT department that is much closer to the business. A department that isn't involved in IT projects, but where employees are busy realizing value for the business. We take care of process and/or data optimization, so that the business is better served: faster and with better information. Thus we make a direct contribution to improving the services."

A second advantage is speed. "The time span between the moment an information solution has been created and the moment we can offer it to our colleagues – actually combining data sources – is considerably shortened. Now we can make it happen within days, sometimes even hours. Either way, working with TimeXtender saves the business a lot of time."

The Data Management Platform also contributes directly to a better service, because data is easy to share with the client(s). "Take our Asset Services department, which manages a part of the financial process of an investor. They obviously have the right to view their own data. Previously, it was on paper, and later in Excel. With TimeXtender, it's easy to go through a Power BI dashboard, which we can easily tailor to the customer's needs, including any own administrative codes. The same applies to valuations, for example. Each valuation produces a paper report. With TimeXtender, we will create Power BI dashboards in which all valuations we have carried out for a customer are very easy to go through. In addition, the trend is much better to clarify. Working with TimeXtender thus leads to new, better formats of our products and services. We can now offer extra value with our data."

European possibilities

TimeXtender may also be used at other European offices of Colliers International. Kronenburg: "Then you can use data from each other, compare markets, and share market data from Europe with the clients. And for customers who have real estate in several European countries, we can supply the data in the same formats, integrate data, you name it. These are interesting possibilities. Because of this tool, we have started to think about this."

Solution Overview

Organisation
Colliers International

Industry
Real estate

Challenges
• Lots of invalid data that has not been cleaned
• Complex to unlock data from multiple systems
• Working with multiple BI tools which also results in multiple versions of the truth
• No ETL developer within the team and the inablity to recruit one

Solution
• A framework for developing and managing the data warehouse
• A data clean-up tool
• Integration of multiple data sources and different types of data sources
• The ability to generate documentation, data lineage, and complete traceability

Benefits
• The ability to unlock data from multiple sources
• Set up a data warehouse without the need for an ETL developer
• Faster delivery of new information products for the business
• Systematic cleaning of the data
• One single version of the truth
• Additional revenue model because customers can also be provided with dashboards
• TimeXtender enables easy migration to Azure

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About E-mergo

The name E-mergo is derived from the Latin proverb 'Luctor et emergo' (I struggle and emerge). In Zeeland this signifies winning the battle against water. Obviously, we do not battle water, but we do make sure that companies keep their heads above water in the growing stream of data. Working from the motto 'Manage your data, innovate your business' we help you to get the most out of your data.

We do this using software from Qlik, Microsoft, Mendix and TimeXtender, for which we provide software, consultancy and support. Together we will help your company to create new business models and to reduce costs.

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