How AI can support responsible investing

Earlier this spring, **Tell Media Group**, in cooperation with **NN Investment Partners**, invited Nordic selectors and allocators to discuss how AI can support responsible investment efforts. Tell Media Group founder Niklas Tell moderated the roundtable.

By: **Niklas Tell**

The discussion started out with Niklas Tell asking the participants whether the main challenge when it comes to responsible investing is unstructured data or the fact that some data is not available at all.

SEBASTIAAN REINDERS: "I think it's both. Data is often unstructured, or at least it needs some structuring, or it's not available. A lot of the data is also not updated very frequently, which is where you can use different sources, such as news flow type of data as well. Another difficulty is data gaps, which is something we have recently worked on together with our emerging market debt team. They only had a 50 per cent coverage of their investment universe through their ESG data vendors, which isn't good enough. We used a number of sophisticated techniques in order to create neural network estimates to find the missing data. Compared to using industry averages, our estimates are twice as accurate. You, of course, need to differentiate between what's reported or original data and what's estimated data, but if you use it to form an opinion or to prepare yourself for a discussion it's very valuable to be able to address that gap in the data."

NIKLAS TELL: SUSANNE, YOU HAVE BEEN INTEGRATING ESG INTO YOUR MANAGER SELECTION FOR A LONG TIME. WHAT DO YOU SEE AS SOME OF THE CHALLENGES THERE?

SUSANNE BOLIN GÄRTNER: "I like standardisation and I like to be able to get a lot of data but then at the same time, I always want to take a step back and ask whether these are realistic figures and I can rely on them. Because that's the thing with numbers – you tend to believe them although you should be a bit cautious. However, it would, of course, be a benefit to get more real time information, not least when it comes to controversies. What you can access in databases today could be a year old. As I'm no expert on AI, I wonder whether the output differs if it's a person or team constructing the system."

SEBASTIAAN REINDERS: "That's an excellent question and something we've looked into. We have our own proprietary ESG score (ESG Lens) and when we compare our own metric to that of commercial vendors, the correlations tend to be very low on the top-level number. However, there's more alignment if you look beneath that and look at the sub-factors that are driving it. What that means is that there's no uniform agreement on how to roll all of the underlying data into one true number. So yes, it matters who does it. But I think you should always use this as input for discussions and decision-making rather than as the final answer."

NIKLAS TELL: GEORG, HAVE YOU BEEN EXPOSED TO AI YET AND DO YOU HAVE ANY THOUGHTS ON THE GENERAL CHALLENGES WITH ESG INTEGRATION AND DATA?

GEORG SKARE LUND: "We haven't been exposed to artificial intelligence when it comes to ESG, as far as we know. When it comes to challenges, I would like to take a step back and talk about the concept as such. AI, by definition, is about a system that should try to maximise a certain goal and then we must agree on that goal. Is it about improving the 'E', 'S' and 'G' and making the world better or is it about generating alpha? Those are two totally different approaches. If it's the latter, why only limit ourselves to ESG parameters? Why not include everything that could predict future returns? If, on the other hand, it's about making companies greener, then we need to know what we should target. Are carbon emissions more important than pollution or should we focus more on social and governance issues and which weights should we put on the various parts? It really needs a lot of judgement from the person building the model and it's difficult because the puzzle we're trying to solve is not red or green."

SEBASTIAAN REINDERS: "I think you're totally right and it's funny that you come up with this differentiation between alpha on the one hand and efficiency or support on the other. This is actually something we're doing right now. We're in the middle of an internal natural language processing (NLP) inspiration roadshow where we meet with every investment team and share with them what we see happening outside of our firm. When you look at all these examples, what you see is this perfect separation between people. Some are using AI for alpha generation, while others are using it to support their processes. From my role within the responsible investing & innovation team, most of what we do is about supporting our investors in their work. It could, for example, be helping them prepare engagement discussions, or running an analysis for them on how to vote in a shareholder meeting. To prepare for this, you typically go over a lot of text and you're looking for the same thing all the time. We therefore recently used a language model from Google and we retrained it to understand financial language by feeding it a huge number of annual reports. As a result, you get a model with some 160 million parameters that understand what you're talking about. We then went to a data vendor to give us all their news pieces that talk about ESG topics and we used that to train the model to predict what the topic of a new piece of text is about. If you combine that with information on which ESG topics are relevant or material for a specific sector, you can feed a huge document into the algorithm and it gives you back a summary, for example saying that it found 30 paragraphs with ESG content, highlighting the ones that are material for a specific company."

PARTICIPANTS

- **PIA HAAK**
  Head of asset allocation at Swedbank Robur

- **GEORG SKARE LUND**
  Head of manager selection at Storebrand Asset Management

- **SUSANNE BOLIN GÄRTNER**
  Head of product management & selection at Danske Bank

- **SEBASTIAAN REINDERS**
  Head of investment science at NN Investment Partners

PIA HAAK
Swedbank Robur
Head of asset allocation at Swedbank Robur. Before taking on her current role at the asset management arm of Swedbank, she held a number of product management roles at the bank. Between 2005 and 2011, she was head of manager selection and responsible for the fund of funds team at Swedbank Robur.

GEORG SKARE LUND
Storebrand Asset Management
Head of manager selection at Storebrand Asset Management. He joined the company as a management trainee in 1996 and was involved in starting up the unit-linked business of Storebrand. He has held different positions relating to long-term saving and worked in the manager selection unit since it was established.

GEORG SKARE LUND: "AI is, of course, a very broad topic. However, in terms of more advanced solutions, when you try to find a pattern and to make a conclusion or prediction, I'm a bit concerned that such a model can find patterns where there are none. It's also easy to have too much confidence in a very advanced model. You don't know how the recommendation came about but you trust it because it has worked before. What's your approach to avoid overfitting and similar problems?"

SEBASTIAAN REINDERS: "Irrespective of what you intend to do with it, the black box problem is a severe problem. Luckily, there's a lot of progress being made in the whole data science community in coming up with methods to explain the outcomes. I mentioned this tool that gives you the paragraphs and in order to go from a black box to a transparent box algorithm system, we built something that colour codes the text that's responsible for the paragraph showing up. Another example of what we have developed is a screen that tells you which securities look out of the ordinary in your overall universe. Basically, which ones look different from the rest? What it does for an investor on a daily basis is that it shows the securities that look different from the rest given some 2000 characteristics. It then highlights the 10 fields that are most responsible for the security popping up. We try to come up with all these explanation tools to make sure that people understand what they're being suggested by the machines. So far so good but you have to be very careful in how you implement all of these things."

NIKLAS TELL: PIA, YOU'VE STARTED TO HIRE ENGINEERS AND NOT ONLY FINANCE PEOPLE TO THE TEAM. HOW FAR HAVE YOU MOVED INTO THIS SPACE?

PIA HAAK: "With the development in big data and new technology leads to demand for new skills as well. I think we're just in the beginning of that journey. Even if we would outsource parts I still think we need skills inhouse to interpret data etc. Today we're talking about ESG-data specifically, but I think there are several areas within the investment process where we could use technology and AI to become more efficient. From our perspective, we have some labour-intensive parts around collecting and aggregating the data in a good way and especially in markets such as emerging markets and small caps. I think there's a lot to be done to help us get more time to spend on the qualitative discussion. There are, of course, a lot that can't be captured by numbers but what the numbers can capture I would like to be able to do in a more efficient way. I also think we need to increase the skills around it because we shouldn't just take the numbers for granted. We need to understand where it's coming from and to really find out what it means. As I said, it's a journey that we are on with ESG data and we're learning together with the industry. It's not a competition. Standardisation and a common language are in the interest of all of us"

NIKLAS TELL: I ASSUME IT'S NOT EASY FOR EVERYONE TO SET UP AN AI DEPARTMENT. COULD INVESTORS AND SELECTORS OUTSOURCE SOME OF THIS OR DO YOU NEED TO KEEP IT INTERNALLY SINCE, AS DISCUSSED, IT ALSO MATTERS WHO BUILDS IT?

SEBASTIAAN REINDERS: "When it comes to data sourcing, it's often better to buy than to build. However, when it comes to the research and model building that should help in the investment process, you often need a lot of customisation. How you apply data can be unique to each investment team. You really need to engage with the teams to understand their investment challenges. So far we haven't found a partner that could do all of this for us because it requires a lot of organisational context and knowledge of how things work. It remains challenge, which explains why many people are inventing the same thing at the same time at their own firms."

SUSANNE BOLIN GÄRTNER: "We all meet a lot of different fund managers and I fully agree that everyone has some kind of proprietary model, but that the data is sourced externally. But when speaking to many fund managers from China, it seems that there are things to do on the data sourcing as well because many say that some companies don't understand how to answer the questionnaires. So you may end up with a bad score for a company that actually is good. They have just filled out the data in the wrong way. Can this be picked up somehow?"

SEBASTIAAN REINDERS: "I guess you could have some sort of anomaly detection to help you in that process. So if you have a company in this sector in this region, why is the score so much worse than other similar companies? That could be very powerful when you want to have a dialog with the company."

GEORG SKARE LUND: "A typical criticism against the kind of data that we receive today is that it's backward looking but I don't think that's the only challenge. Having more forward-looking data would, of course, be nice but just being able to compare companies based on historical data is something that is difficult today as there is no agreement on how things should be measured. As long as we don't agree on the basic things, such as there is not only one metric for carbon footprint, it's hard to compare things and it's also difficult to track the true development over time."

SEBASTIAAN REINDERS: "What we're doing right now for our green bond team is to help them get quicker insights on impact metrics. So if you invest in a green bond, what carbon emission savings are you going to achieve? What we find is that you can get forward-looking statements from companies, either from the conference call transcripts or from what's actually put in their investor presentations. However, what you get is a very unstructured data set. We're still pretty far off from forward-looking standardised scores."

SUSANNE BOLIN GÄRTNER: "I guess you could also use more soft input, such as what the CEO is saying about the direction of the company."

SEBASTIAAN REINDERS: "Absolutely and many people are using conference call transcripts because that's the most recent information from the CEO or CFO. If you look at annual reports, the information is lagging as it comes some four or five months after the end of the year. But in conference calls, and especially the questions and answers part, the data is up to date. I also think that you can get a lot of information from a simple web scrape where you can find interviews with company representatives etc."

GEORG SKARE LUND: "Have you used AI to identify or predict the risk of controversies? To find what variables could increase the risk of future controversies."

SEBASTIAAN REINDERS: "Very limitedly but we're actually working on a similar exercise in which we train a model to understand news. You could, of course, train a model to understand pieces of text that talk about controversies and then you should be able to do the type of research you suggested. We're not there yet but that would be valuable."

NIKLAS TELL: WE HAVE TALKED ABOUT HANDLING UNSTRUCTURED DATA AND THAT WE AT THE SAME TIME HAVE THE CHALLENGE OF A LACK OF STANDARDISATION. COULD AI HELP THE STANDARDISATION ITSELF OR WILL THE APPLICATION OF AI TO UNSTRUCTURED DATA RENDER STANDARDISATION UNNECESSARY?

SEBASTIAAN REINDERS: "I think regulation is going to help and we see a lot happening right now which is supportive as it will push people to action. There could also be unintended side effects and it's a lot of work. Like everyone else, we're going through that process and you need to decide what data points we should use to measure different things. It's a journey, as Pia said before."

PIA HAAK: "We of course have all this regulation coming in Europe and a lot of companies coming together to agree on a way forward, which, of course, is good but a challenge. With Biden in the office and with the US back on the Paris agenda, maybe we will see the US pointing out a direction that Europe can take part of as well. Transparent and common standard is in all our interests both from a company perspective and investor perspective."

SUSANNE BOLIN GÄRTNER: "I think Europe is ahead of the US when it comes to these questions, so I think it's more likely they will follow us."

PIA HAAK: "Totally agree, that is definitely the case. I was just thinking that US is now onboard the Paris Agenda, I would not be surprised to see US catching up quickly in terms of regulations etc and maybe even take the lead. I am not sure that they will be aligned with European regulations. It might be easier for one government to decide on a path forward compared to 27 countries."

SEBASTIAAN REINDERS: "Earlier this year, ESMA wrote to the European Commission pointing to the need for more standardisation and appropriate regulatory requirements. I think that's coming and it's something that will impact this whole domain over the coming years."

NIKLAS TELL: GEORG, WHAT'S YOUR TAKE ON EXTERNAL ESG RATINGS? I ASSUME YOU USE IT BECAUSE IT'S OUT THERE BUT WHAT ARE THE LIMITATIONS?

GEORG SKARE LUND: "I would say they make our lives more complex as there are so many different approaches and we haven't observed any kind of convergence. EU initiatives, such as the SFDR, could make it even more complicated as we would need to justify why we didn't select an article nine fund if we think another fund is actually

SUSANNE BOLIN GÄRTNER
Danske Bank
Head of manager & fund selection at Danske Bank. She took on the job in January from a position as head of fund selection & ESG for external funds at Folksam. She has previously also worked at Alecta, where she was head of markets and has held different positions at SEB and at Max Matthiessen. Susanne Bolin Gärtner is also the chairman of Swesif, the Swedish Sustainability forum.

SEBASTIAAN REINDERS
NN Investment Partners
Head of investment science at NN Investment Partners. He joined the company in October 2011 as a high yield portfolio manager. In 2019 he was named head of high yield and took on the current role in October last year. Before joining NN Investment Partners he worked at APG Asset Management.

'greener'. So I think it will take some time before we see a standardisation, also because each country's financial authority might interpret EU regulation differently. More data doesn't mean that things will become easier for us."

NIKLAS TELL: WHEN YOU TALK ABOUT SELECTING AN ARTICLE EIGHT FUND INSTEAD OF AN ARTICLE NINE FUND, IS THAT COMPARABLE TO SELECTING A TWO-STAR MORNINGSTAR RATED FUND INSTEAD OF A FIVE-STAR FUND BECAUSE YOU BELIEVE THE TWO-STAR RATED FUND WILL PERFORM BETTER GOING FORWARD?

GEORG SKARE LUND: "Yes, I think that's a good analogy as the star rating is backward looking and what you should do is, of course, is to look at the future. Neither measure is necessarily a good indication of respectively future return or sustainability level. Furthermore, the SFDR classification, depends quite a lot on the fund manager's own interpretation of rather vague description in the regulation as well as ambition rather than indisputable facts."

PIA HAAK: "We use a handful of different providers and then we add our own research as well, bringing in a qualitative as well as a quantitative perspective. Our own research is extremely important not only to look at current numbers but to find potential and future winners. The correlation between different providers is fairly low. Data might be lagging and there are some blank spots for small caps and emerging markets, for instance. I also think it's important to remember that you're not able to capture future ESG winners and companies that are in transition only by using the quantitative data. You need to add a qualitative analysis to find those. Dialogue is extremely important to understand what is going on under the hood. Of course, as Georg mentioned, the lack of standardisation and common agreements makes our lives more complicated."

SUSANNE BOLIN GÄRTNER: "I think this combination of quantitative and qualitative is very important. I think it would be dangerous to say that we don't accept any funds that are below article eight because when you interview a couple of managers of article eight funds, they might be saying totally different things. Then you could find an article six fund that is even more sustainable. I do, however, think that the classification is a step towards standardisation and I do think that we as selectors have an important role to play here in selecting and evaluating these funds. I don't know if we will ever come to a phase where it's black or white because there are so many different views and approaches and the qualitative research will be even more important going forward."
GEORG SKARE LUND: "I totally agree and just going back to what Niklas said about Morningstar. I think it's important to remember that the Morningstar star rating is based on performance and that's a standardised measure. Everyone can measure the performance and rank it. However, when it comes to ESG ratings, Morningstar uses Sustainalytics, which is partly forward looking, and when you have different providers of ESG ratings using different forward-looking measures, it becomes very difficult to compare. Maybe what we need is an ESG rating that is more similar to performance-based ratings, which will give us a simple measure of how good a company or fund is from an ESG perspective today, rather than something that is forward looking."

SEBASTIAAN REINDERS: "You're very right. You can try to predict many things but it's very difficult to know beforehand what the next black swan will be. I think the answer is to have a good handle on your investments and the documentation around it and that's where I think AI can help a lot. I remember a couple of years ago when you had rare earth minerals being the bargaining chip in the tension between China and the US and I was still managing US high yield at the time. Rare earth minerals were the only thing you wanted to keep track of at the time. Historically, you would have shouted over the desk and ask who had a company under their coverage exposed to this. Instead, we created

a big internal search engine for all the documentation for the companies in our universe, such as annual reports and offer memorandums. That meant that I could simply type 'rare earth minerals' get a list of all companies where this was mentioned. That helped me to understand where I needed to focus my research."

NIKLAS TELL: ON THAT NOTE, IT SEEMS THAT THERE ARE NO BIG AI TEAMS IN PLACE AT THE INVESTOR SIDE AT THE MOMENT. WHAT WOULD YOU LIKE TO DO IF YOU DID HAVE ACCESS TO AN INTERNAL AI TEAM?

PIA HAAK: "We've talked about the importance of talking to your managers and looking under the hood in order to understand and find the forward-looking angle before you invest. In that process, it would be helpful to be able to collect and present the ESG-data for different providers in a standardized and comparable way and to broaden the scope to new datapoints that we will need going forward such as PAI."

SUSANNE BOLIN GÄRTNER: "I think it would be interesting to think about how one could use AI to deep dive into all the individual holdings in all the external funds that I'm monitoring – to be able to do more than just screen out 'bad' companies."

GEORG SKARE LUND: "We've been discussing portfolio holdings and how to compare them and how to invest in the best companies in the world. However, maybe the best thing is to invest in semi-good companies and make them better and then we need to focus more on engagement. So one thing on my wish list would be to get better insight on how that is done. We receive a lot of reports and a lot of data but it's hard to follow that over time and find patterns. It would be interesting to understand the results of the engagement that asset managers are doing."
SEBASTIAAN REINDERS: "I agree. Most of what we see is anecdotal evidence that engagement is working but there is no real systematic overview of what works. We're very good at quantifying the negative side of ESG and it would be interesting to quantify the positive side as well – or at least convincingly build a story of how you've helped a company improve."

GEORG SKARE LUND: "Yes, I think a more scientific approach to this where we could verify the outcomes would be very beneficial to the entire industry. As you say, most evidence is anecdotal today."

SEBASTIAAN REINDERS: "One of the things on my research wish list for later this year is to use natural language processing to explore executive compensation packages in order to see if there are ESG metrics connected to how they're incentivised. Then you can map that over time to see if remuneration packages have moved and if they include new or more ESG metrics. That would be a very good starting point to find real evidence that things are changing."

NIKLAS TELL: WHEN IT COMES TO MEASURING ENGAGEMENT, I ASSUME ONE PROBLEM IS THAT A LOT IS DONE IN DIALOGUES BEHIND CLOSED DOORS, SO THERE'S NOT REALLY ANY DATA TO COLLECT AND ANALYSE. IS THERE ANY WAY AROUND THAT?

SEBASTIAAN REINDERS: "We report on that, for example for the annual PRI questionnaire. We also differentiate between engagement and dialog where engagements are a journey with milestones reached while the dialog is what the fund managers do in order to understand the future direction of the ESG policy of a company. Then we have an internal research sharing platform, so that everyone can access each other's notes on each company."
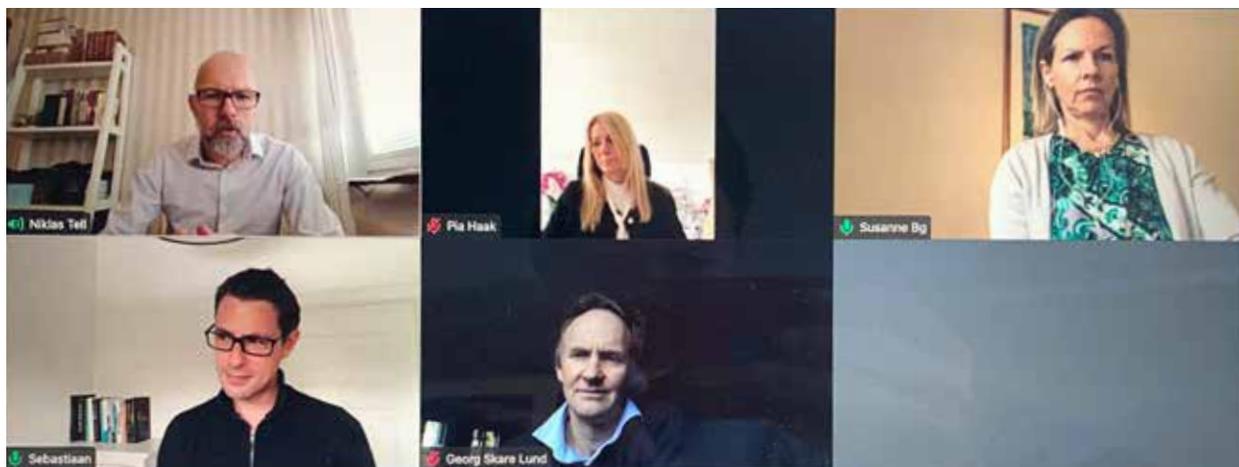
GEORG SKARE LUND: "I also think we need to measure the quality of the dialog and not only the volume. We need some metrics to see if there's true engagement and what kind of efforts are put into it. I don't know how that should be done."

SEBASTIAAN REINDERS: "When you do a search for a new manager and you do your due diligence and you come to the office of the asset manager, I think that's the moment to ask for that. If an asset manager reports that it has done 200 engagements, you should be able to ask for the documentation for any specific company you would like. I think that's the only real way you can figure out the quality of the engagement."

PIA HAAK: "I find fund companies increasingly open to have genuine dialogues on these issues. If we have invested in an external fund and they suddenly own a company that's on our exclusion list, we can have a dialog on that specific company. We learn from each other and get new insights all the time. The final outcome might be a more intense dialogue with the company and changes long term. I think there's a big difference on how open fund companies are compared to some 10 years ago. Sharing and learning from one another has increased."

SEBASTIAAN REINDERS: " I think that's how we should move forward as an industry and I also think that's a sign of the industry maturing because initially, people tried to look good when it comes to ESG without really allocating real resource to it. Today more and more firms have dedicated teams and are therefore also more comfortable in opening up on these issues."

SUSANNE BOLIN GÄRTNER: "I think the challenge is that it requires a lot of work and it's manual. We're still on a learning curve and we don't view all the companies in exactly the same way. What you say, Pia, is that you may have a company on your exclusion list but an asset manager sees it differently, or they might be in some kind of engagement with the company. I think it will be difficult to fully automate this but it would be interesting if we could come further in the process and then possibly have more effective discussions."

GEORG SKARE LUND: "Susanne, you just gave me an idea. If I had an engineer from Sebastian's team, I would have asked them to set up something that lets me see which managers are voting in line with one of my more ESG-friendly and engaging managers. So if you have recognised one good manager, then you can see who are supporting them and if they are not, you could engage with them and ask why didn't you support that good initiative on carbon for example. That would be very helpful for us as selectors."

SEBASTIAAN REINDERS: "That's a good idea and I have written it down. On a related note, we have looked at new advances in natural language processing where you can post questions to a huge volume of text. For example, 'what are your carbon emissions?', and it will give you the answer if it's in the text somewhere. It's not perfect and there are all kinds of restrictions but we're working on it. Hopefully in the near future, we will be able to just push a list of questions, put in a set of documents, and get a lot of brief answers very quickly. That really helps you to focus on where your blind spots are and you will be able to do your research in a more efficient way because you have a more breadth and time to do the qualitative research to find the answers that are not in the reports. We did one project for our multi-asset team where we collected annual outlook reports from some 100 sell side analysts, which are typically fairly extensive reports. We then asked questions to the model, such as; 'when do you think the vaccine will become available?' and 'what will the inflation be?'. It's basically a technique that allows you to crowdsource the answers and I see a lot of potential to do more of that."

NIKLAS TELL: WHAT WOULD YOU SAY ARE SOME OF THE LIMITATIONS HERE, BECAUSE WE'RE TALKING ABOUT GATHERING HUGE AMOUNTS OF DATA FROM DIFFERENT PLACES? WHAT ABOUT FAKE DATA OR FAKE NEWS?

SEBASTIAAN REINDERS: "I haven't really come across any very serious examples of this but if you know how a model works, you can try to game it. There was an academic paper that came out a couple months back called 'How to talk when the machine is listening' and what they found is that CEOs have started to change their tone and the type of words they're using when they speak on conference calls. So they're trying to game you and in essence, it's kind of a rat race of who has the best technique to detect that. I think after the first iteration of this game, most of the harm is gone, so it's fine. But you can see how this applies to greenwashing as well. CEOs know what you want to hear as an investor and they take that into account. I know of firms that train CEOs about the words to use in their conference calls and in their communication with investors. So this is already happening but I don't see serious harm being done at the moment from that angle. I think it's pretty innocent.

PIA HAAK: "It would be interesting to hear what you currently are the most excited about and what you're working on.

SEBASTIAAN REINDERS: "We have a lot of things at the moment that are based on natural language processing because people can easily relate to that. We can all relate to thinking about a text, question it and form an opinion. I just came out of a meeting before this one with our alternative credit team. We're helping them a lot because they have so much manual work related to ESG for their companies. When we asked them what else they need, they came up with a clever idea: instead of their questions only giving a summary of a document, they also would like the machine to learn from their inputs. How that would work is that you get your paragraph on your screen that the machine highlights for you. Then you say whether it's relevant or not relevant. This feedback mechanism means that not only can the model learn what topic this text talks about but it also learns what a specific analyst wants to see at the top of the rankings. Then you don't have to read the full summary but only the relevant results. I think this is a very nice example of man/machine co-operation." ●