



Connecting Researchers to Scientific Content: The Genmab Solution
With
Frank Rebers, Ph.D.

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KENNEALLY: Life science companies face many difficult challenges as they grow. When it comes to relevant scientific content, they can struggle to provide access to researchers that is organized, comprehensive, and copyright-aware. Today we're going to learn how one award-winning biotechnology company is meeting these information challenges for researchers, and doing so in an environment that is about developing life-saving drugs. We'll have an inside look at the challenges an individual and his project management faced as they were going from a small start-up to a leading global biotech company, one that is on the front lines in the fight against cancer. Some of the tips that we will share with you include securing access to relevant journals, navigating copyright, and managing copyright obligations in drug development.

To help us do that, I want to welcome to our program today, our special guest coming to us from Utrecht in the Netherlands. Frank Rebers, welcome to the program.

REBERS: Thank you, Chris, thank you.

KENNEALLY: Frank is head of global project office there for Genmab in Utrecht. He is a biologist by training and holds a Ph.D. from the University of Utrecht. He has more than 15 years of experience in drug development after six years in academia and nonprofit research. Today, as I mentioned, he is currently the head of global project management for Genmab and uses his talents to structure and streamline process and improve performances and outcomes, all of which, of course, are so critical to a company like Genmab, which, as I mentioned, is on the front lines in the worldwide fight against cancer. So tell us a bit more about Genmab, if you would, Frank.

REBERS: We have two products on the market together with Bartness (sp?). We have Arzerra, which is a CD20 antibody against chronic lymphocytic leukemia, partnered with Novartis. And our second product is licensed with Janssen Pharmaceuticals, and it's known as Darzalex, for the treatment of multiple myeloma. This drug went really well last year, and it proved to be a blockbuster with 1.2 billion sales.



Currently we are still developing other drugs. We have quite an extensive pipeline, and, as I said, 275 employees, most of which hold an advanced degree, a Ph.D. medical degree, and most of them are also in research and need access to literature, and I open this webinar to discuss with all of you how we approached securing the access to literature and the challenges that we faced, especially on the copyright front.

KENNEALLY: Right, and again, I just want to underline that point, Frank, that over half of the staff at Genmab, a staff that's based in the Netherlands, in Copenhagen, as well as in the United States near Princeton University, half the staff you say has Ph.Ds., so the kind of information that they're after is going to be very specialized indeed, and they need that information that they need it. They really can't wait for it because it's critical to the development of these drugs.

REBERS: Exactly. Exactly. And many of them, especially in the Utrecht side, where we have the research facility, we have scientists and technicians coming from Academia or even right from their university studies, so they are used to having access to a vast amount of information through their libraries, through the groups where they work. That is different in a company. A company doesn't have unlimited access to information, or only under circumstances where you pay for the copyright.

KENNEALLY: Right, and that's a real challenge for you, Frank, I imagine, is meeting the expectations of people who are coming to you, expecting, maybe even demanding, sometimes, that kind of access. So let's talk about the challenges that you have faced at Genmab where it would have to be clear, there's a real passion for innovation.

REBERS: Definitely, definitely. Throughout the presentation you will see these round circles, and they are actually our core values. We have the core value of passion for innovation. We want everybody to be innovative, to find new information that we can apply in our research and in our processes.

The challenge that we had was, how can we secure the access to relevant journals. And then the second question is, what are the relevant journals? We'll talk about that later in the webinar. But the most important challenge is actually the copyright awareness. As I said, many of the scientists, they are used to having access to all information, especially if they worked in nonprofit groups. The challenge that we have is that scientists and maybe people in general think what we can download from the Internet, it's there for us to grab and to use. Obviously, that is not the case. Someone put it there, they have copyright to it, and the journals, they own the copyright to the papers. So if we want to use that for our commercial purposes,



we need to adhere to certain rules, and that is actually the main challenge that we face, is creating awareness in our employees that it is not just getting a paper and then being able to do what we want. We're now training our people to be more aware, but we also put systems in place that they don't need to think about it. But we will see that later in the webinar what we have chosen there.

KENNEALLY: I know that that's a real priority for you there at Genmab. You potentially want to set and forget, as we say in the United States. You want to give people a solution that they don't have to think about terribly much, moving forward.

REBERS: Exactly, exactly. And I think it is also one of our core values is integrity and do the right thing, so it's not just about let's do it and nobody will find out and we'll be OK. No, we want to do the right thing. We have an obligation, we have our own innovations, our own intellectual property that we also protect from others. We write our patents, we try to protect our own products, so we should also acknowledge that others want to protect their intellectual property. That goes both ways. If we want to have our products protected we should also (inaudible) the protection of others. That's what it is about, to do the right thing when it comes to copyright.

KENNEALLY: And another thing to underscore, Frank, would be the relevance here. As you say in your bullet points, securing access to relevant journals, that's important because the information has to be the right information, but it's also important because there in your work at the project management office, you're thinking about the budget, too.

REBERS: Yes, yes. Basically we want to have our scientists have access to all journals, whatever exotic journal they want to read, it should be open for them. But we secured subscriptions to the main journals and the main publishers that at this point in time are of interest to our scientists. If they want papers from other journals that we are not subscribed to, then we have the system in place to get the journals or the papers on a pay per view basis, or buy one copy and be able to read that. So we don't need to subscribe to all journals and all publishers, but basically we want to have access to whatever information is out there. We like to have our scientists be able to access that.

KENNEALLY: I'm sure those are the kinds of challenges that pretty much everyone in our audience today can recognize no matter where they are and no matter what kind of company they work in, but especially in the life sciences and in drug development.



Let's zero in, then, on the copyright awareness issue. You've already mentioned, Frank, that at Genmab, the IP, the intellectual property you create, you develop, is critical to the company's success, and you do it as what's good for Genmab is good for everybody else. So by protecting it and securing it and developing it, you want to maintain the same kind of respect for other intellectual property, as well.

REBERS: Exactly, exactly. I think it comes with being a responsible company and, as it says here, do the right thing. That comes with challenges. The same holds true for our actual drug development. Obviously there's competitors. They have their own IP on certain products, so there we also do freedom to operate analyses. We see where there's room for us to get a share of the market. We do that in a serious way and we also approached the copyright in a serious way. As it says here, there's different considerations.

When we started on this journey, what struck me was that even myself, now that I learn more about copyright, it's so easy to get something off the Internet and start using it. Even in preparing this presentation between you and I, I had used some pictures, and then, Chris, you asked me, well, do you actually have the right to use these pictures? I said, well, no, I just Googled them and copied them into the presentation. And although that I'm now working for some years on copyright awareness within the company I still was not fully aware that I cannot just take everything off the Internet and share it within the company, let alone with others. (inaudible) is a company where when it comes to journals and reading our literature, our scientists need to be able to talk about it together, to share this literature.

Usually when you download papers, it is for personal use only, so you're not allowed to share it. We have teams spread out through different locations, different countries, and they need to be able to work together. We don't want to acquire the same paper over and over again for everybody that's in that region. So we needed to take care of that. We needed to look at the different types of journals and papers that you have. Obviously, you can subscribe to some, choose not to subscribe to others, and then you need to pay on a paper by paper basis.

But there's also the so-called open access papers, and that was also, again, one of the most difficult parts of this journey, understanding what open access actually means. There we found out that in 90% of the cases, open access means that it is free for use in a non-commercial setting. So for us as Genmab, as a commercial company, this was not free. This is actually one of the questions that I get most from my scientists when they find a paper and they are prompted, through our system, to pay for it. They say, well, it's open access and it's on this website here, why can't I use it? As I said in 90% or even more, when I go and investigate, the terms are that it is open access for non-commercial personal use. Now, once I



explain it to them, they understand. But it's not something that is in their system so that they understand when I explain it. But if it's something that is difficult to arrange and we'll see later on that we've come up with a solution where we give our employees access to all literature that is available and have the system check out if it is available open access for us or not.

But another two things. Being able to share and how to get the journals, how to get the papers in a copyright compliant way, that were the most difficult ones to address.

KENNEALLY: You mentioned two points that I think again are important to underscore. You refer to the open access environment. Most of those licenses are so-called Creative Commons licenses. There are something like five dozen different Creative Commons licenses. So you could see why this gets confusing and complicated very quickly, even in that area. And then further, there is no such thing as international copyright. You have to deal with each country separately and its own laws separately. When you're a company with offices around the world, that just adds to the complication.

REBERS: Exactly, and that is actually why we started with the Copyright Clearance Center to arrange a multinational copyright license so that if we get a paper for one of our employees, this license allows us to share it within the company and to some extent also with externals, when it comes to authorities or partners that we have identified.

(overlapping conversation; inaudible) that that was a big step for us. It made the system much easier and much more transparent. It also controlled the costs to some extents. Obviously we pay for this license agreement, but then when we have multiple people wanting to read the same paper, we don't need to buy it several times. We buy it once and this license allows us to share it between our employees. And that was a great step.

KENNEALLY: So Frank, the next step, and once you start making the office, the company, aware of these issues, becoming more copyright aware, as you like to say, it is all about the relevance of the information. You went through several steps to ensure that you were getting to the right information at the right time.

REBERS: Exactly. Selecting the journals, where to get a subscription to, that was a difficult task because there's so many out there. Where we started, we had interviews with the main stakeholders, so there was from our executive management, our chief development officer was interviewed right down to technicians. We asked everybody to give us their journals, what they thought they would need to be able to do their work. We also had some publishers that were



able to give us already an overview of what we had been reading from them from our previous use with them. So that helped also. And then in the end, we just had a full list that we ran together with the main stakeholders. We grouped them by publisher to see if they were spread over different publishers or if we had several journals at one publisher, and then defined what we spent here, the must-have list of journals that we think is vital.

That was really a starting point to approach the publisher, to approach these journals, to get quotations on what a subscription would cost for the entire company, and what our terms would then be. Because when you get a subscription to a journal, it's not like you can just get all the papers and you're done with it. Each of the journals have their own set of terms of what you can and cannot do with the content that they offer you. So that was a lot of contracts and a lot of negotiation on terms and looking through all the contracts to make sure that if we subscribe to this journal, that we actually can do something with it, and are still free to share and are free to do with this information and with these papers what we wanted to do. It was a huge task.

KENNEALLY: I'm sure it was, Frank, and it occurs to me as I was listening to you now that we have to remind ourselves that Genmab is a fairly new company, a startup, really, as you pointed out earlier, grew out of the University of Utrecht. So these kinds of challenges, just even getting the right journals and doing the deals for the subscriptions and the rest of it, these are things you're coming to, if not for the first time, it's still pretty fresh because the company is so new.

REBERS: Exactly, and it's a new topic for us. We had no experience, had no – I'm a scientist by training, I'm now heading the project management office. I have the scientific background, but I don't have any legal background. I don't have any background in negotiation. I gathered a team with a few scientists, with our scientific communication team, with some people from legal, and really started there to see what we could do and what we can do. We also, as I say, sought outside help. I talked with people from Nutricia Research that are housed here on the university campus, as well, so I went to talk with their librarian or head of the documentation department, and they helped us a lot as well on explaining how they approach this issue.

Basically what we did here was what they explained to us, to talk with as many stakeholders as possible, get your list together, and then just start talking with the publishers. And then talking with publishers is something that we partnered with an external company that is a specialist in that. So we didn't do all the negotiations ourselves. In the end, obviously, we reviewed all the contracts, but we had a third party ask for all the quotes and give our terms, or our framework of terms to the publishers to see how they would be able to meet this.



KENNEALLY: So let's take a look with an illustration here that shows the situation that prevailed at Genmab at those very early days. Just tell us what we're looking at here.

REBERS: Basically on the left side we have the three entities of Genmab. Each entity would get their papers in their own way. The Dutch entity being housed as part of the university campus, we got our literature through the university library. Our Copenhagen entity bought the papers directly from the publishers, and the US entity at that time, it didn't use literature so much. It was basically finance and business development housed in the United States. So this is a situation that is OK. We could work with that. The budget was clear, but there was really no way for us to collaborate. It could be that people in the Netherlands acquired the same paper as people in Copenhagen, and basically we pay for it twice.

So then we took the next step that should be on the next slide. We arranged this multinational copyright license agreement, and this allowed us, as I said earlier, to share copies of papers between colleagues. This was already a huge step forward. Now we could have one way of acquiring the literature. We had very good budget control like this. Within the company we would share the literature.

So this was, again, a big step forward, especially within the company and being able to share. But the downside of this was as you can see here that all the requests went through the Dutch entity, so the scientific communication department here, they were really busy of getting all the papers for the other scientists in other locations, as well. Also it didn't completely cover all flavors of the papers. We discussed earlier about the open access journals. We would acquire those also directly from the publisher and we didn't pay so much attention on doing that in copyright-compliant way. At least at that point in time it wasn't on the forefront of our mind.

So we knew that something needed to change, we needed to improve on this, and that is where we took the big step in getting our own subscriptions, not relying on the Utrecht University. We had our own subscriptions. So then on the right, as you can see, we have this division now between publishers where we do have subscriptions, and publishers where we don't have subscriptions. In the middle, we put a system that's called RightFind, which is a tool that is supplied by RightsDirect. This tool allows us to get all the papers in a copyright-compliant way. Within the tool it is defined where we have subscriptions, where we don't have subscriptions. Open access journals are defined within the tool, and also the open access, if it is open access for companies, which is important for us.



So now when we want to get a paper, we go through the RightFind system to get the PDF delivered and the RightFind system then does the thinking – is this a subscribe journal, then we'll get the PDF from the publisher. If it not subscribe, but someone else has already paid for it, then we'll get it from this other person and share it. If it is an open access, check (inaudible) is it open access for commercial use? If not, then we'll pay for it.

So this is great. We have now one portal where we get the PDFs of articles from, and our scientists don't need to think about it because we don't need to know, do we have subscription to this journal, yes or no? This is all built into the system. We don't need to log into the publishers, so that's really easy for scientists. They're happy with it, it has some added value in annotation and easy sharing and highlighting and tagging and stuff like that. But the main thing for us to implement this tool is that it takes out the copyright awareness out of the equation for the employees to the maximum extent. They are (overlapping conversation; inaudible) and get the journals that they want.

KENNEALLY: And it creates what I think you have called, Frank, a kind of a central literature management system. So imagining that figure in the middle there, it's a kind of a digital library of sorts, back in the day when you had to go to the physical library, this is now the digital library that provides that global access.

REBERS: Yes, exactly. And mostly I view it as a set of rules and a kind of triage of the scientist that finds a interesting paper in the, let's say, (inaudible). They click on the link, and then on the background it is within seconds checked if Genmab has a subscription, where to find a PDF. If we don't have a subscription, how much should we pay for it? This is all done automatically. Then when we pay for it, copyright is cleared and things like that. So all the rules that we need to adhere to are built within this system. That is really the upside that we saw when we were looking at this tool.

KENNEALLY: So that Y shaped figure in the center there that we see reiterated in the Genmab logo is all about turning science into medicine, having a focus on core competency, and building a profitable, successful biotech. So what you've been about, with this challenge around copyright and access to literature is to achieve those particular objectives about turning science into medicine and so forth.

REBERS: Exactly, yes. In securing access to the most important journals, that was really being able to turn science into medicine, to use the scientific information that is out there for our scientists. But knowing that copyright law and rules are not our main focus, we did not want to make it our main focus. We didn't want our lawyer always having to check if we had the rights to share a paper, so we needed to get everything in place to do that. So we focus on our core competence, and our core



competence is finding literature and developing drug, it is not copyright law. So that made us also decide to implement a tool that would do that for us, so we outsourced those decision taking.

When we started out, as I said, we had a list of must-have journals, I think it was around between 50 and 100 journals – 50 journals that were must-have, and up to 100 where we said, would be great if we could get these, too. By the end of the process, it appeared that we now have subscribed over 3,000 journals at 15 different publishers. This was because we approached these publishers with maybe a handful of their journals. Many of them came back with a more favorable offer for us to take their entire suite of journals. This happened with, for instance, Elsevier, where we had a handful of journals that we want to get, and they offered us access to their complete collection of journals at more favorable terms. Obviously that has an upside for the publisher, but it definitely has an upside for us because it means less journals that we are not subscribed to, so less volatility in the budget for one-off payments.

And yet we subscribe to many journals, many more than we had selected, so we greatly expanded on our expectations there. We still managed to stay well within the budget that we had reserved for this, and we're now in the process of continuously look at expanding our collection of journals that we subscribed to. We're analyzing what our scientists read, we are looking which journals that we are not subscribed to. They buy a lot of papers because then it may be more worthwhile to get a subscription to these journals. That's something that we do on a yearly basis to keep our budget in check and to have the most optimal access for our scientists.

KENNEALLY: Well, Frank, one of the things, again, I would want to point out because I imagine it's important to your researchers and to any researchers joining us today is this integration with search engines, such as PubMed Central. So the places that your researchers, your scientists are going to for this information are the kinds of places that the tool is able to get answers for and provide the access that's requested.

REBERS: Yes, yes, it does. We looked at several solutions and in the end we wanted to make it as easy as possible for our scientists. I wanted them to be able to search in any possible way. If they want to use PubMed or Google Scholar or just Google, and type in some terms, if they find information, they need to be able to get it in a copyright-compliant way. I think the key is in the letter. We looked at different solutions. All the publishers where we have subscriptions, they recognize RMVs (sp?) by RP (sp?) recognition, so there people don't need to sign in. But that only works when they are in one of the Genmab offices. If they're working from home or traveling or in a hotel, they are not recognized as Genmab employees, but we



need them to be recognized as Genmab employees, so we needed to have one portal that (inaudible) with the publishers and that could talk with all kinds of search engines.

There are several systems, and we came to select the RightFind tool because it integrates with PubMed, with Google Scholar. It even has a snippet where you can just highlight something that you find in Google or highlight a part of a PDF or of a Word document and you click the button, get with RightFind, and it goes search for it, and it prompts you if you need to have a payment.

This is something, when I train new employees, that they are completely surprised that they can still search in any way that they like. That was the big fear when we implemented this that the scientists say well, we get restricted, and we need to be able to search in any way that we want. They are now surprised that even though we implemented a strict system and a process through which they need to get the PDFs, they actually have more freedom and more possibilities to share the information that they get.

KENNEALLY: Frank Rebers, we want to thank you for joining us today from Utrecht in the Netherlands. Frank Rebers is the head of the global project management office for Genmab. Frank, we really appreciate your joining us today, thank you.

REBERS: Thank you very much for inviting me. (overlapping conversation; inaudible) for joining.

KENNEALLY: For all of us at Copyright Clearance Center and RightsDirect, my name is Chris Kenneally, thank you for joining us, have a great day.

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