Matt Eastland:
Hi everyone, Matt Eastland here with the Food Fight podcast brought to you by EIT Food. A series exploring the greatest challenges facing the food system and the innovators committed to solving them. In a world where consumers have more information at their fingertips than ever before, and are increasingly demanding to know more about the origins of their food, the lack of transparency on our food system is a growing issue. From farm to fork, there are countless steps in our supply chains where information can be lost, misrepresented, or simply never recorded in the first place. This data blind spot not only undermines consumer trust, but also poses significant issues for producers and farmers alike. So, how do we bridge this gap and create a food system that's as transparent as it is resilient? To discuss this all, it brings me great pleasure to welcome two of our very own EIT Food start-up leaders who are at the forefront of this transformation. Our first guest is Chief Business Officer from AgriTask, Ofir Ardon AgriTask provides a platform that helps food and beverage companies manage and optimise their agricultural supply chains. Thanks for joining us, Ofir.

Ofir Ardon:
Hi Matt, thank you for having me here.

Matt Eastland:
Great to have you on. And on the show once again is Maxine Roper, co-founder of Connecting Food. Connecting Food uses blockchain technology to provide real-time traceability and transparency in the food supply chain, allowing consumers and businesses to track the journey of food products from farm to fork. Maxine, welcome back.

Maxine Roper:
Thank you very much. Pleased to be here.

Matt Eastland:
Great to have you both on the show. So since this show started way back, well, I say way back, back in 2020, we're starting to hear more and more about the importance of transparency in supply chains. But for our listeners, could you help them understand what's at stake here? Why is transparency so crucial and especially in the context of food and agriculture? Maxine, maybe I can start with you.

Maxine Roper:
I'm one of the two founders of Connecting Food, the other one is Stefano Volpi, and we both worked for over 20 years in the food and agricultural industry at Mars, Nestle, Sarali or Danone, but also the companies that are supplying all the food coming right from the farm down to putting it on the market. And we really saw the pain points where companies are struggling to get the information on

where food and ingredients are coming from and also to carry out that risk analysis to really know if their company is in trouble. So what's really crucial today for suppliers, retailers or producers, they're facing regulation on deforestation, obviously you need to know where it comes from, or they need to know are the sustainability criteria being respected and also there's social issues on human labour for example and consumers and shareholders are all demanding transparency to buy those products or to invest in those companies so That's where we created Connecting Food. We are a data management platform for consumer goods supply chains, so all kinds of supply chains, and we're helping to assess suppliers and products, to trace products back to the farm, and all that to create transparent, sustainable, compliant supply chains.

Matt Eastland:
It was interesting to kind of hear your backstory, I guess, to connecting food and why you started. And Afir, I'm just wondering, do you agree with what Maxine's saying? Is that need for transparency, especially in the context of food and agriculture, what's your take on it?

Ofir Ardon:
It's going to be a very interesting discussion because you brought me and you brought Maxine, and I think that each one of us is looking at it from two different perspectives that exactly these two different perspectives need to connect. Maxine, as she mentioned, she comes with a lot of knowledge and experience on the food and beverage side. Where Agritask started was more on the farm side, okay? And now today we're both focused on food and beverage companies and all the pain points that are there. But when we first saw the problem was more coming from the farm level, which is probably the largest production floor in the world, which is the last to ever be digitized. When you want transparency, when you want to know something about the farm and you can buy from 40 of them and all the way to millions of them, if it's not digitized, what is transparency? Transparency of what? Of data that does not exist. Now, if you look at the trends that are taking place right now, Maxine started touching upon them and on the more specificities of them. But if you look at it from the widest perspective that you can, there are two things that are happening at the same time and they can affect one another. You have climate change. which is you take a look at what's happening in the market, everything is less predictable. And almost all of the food and beverage companies, I would argue almost all CPG companies and to some extent are relying on the produce that's supposed to come from the farm. Okay. And when it's becoming less predictable and you have more damages or more things that you cannot assess, and the concept of ensuring your supply is becoming more important, okay? So your first KPI as a sourcing manager or as a supply chain to get the raw materials in the right quantity, in the right quality on time, right? That's one perspective and this is climate change. The second piece is coming from consumer pressure. You could argue that it's related to climate

change because people want to save earth eventually and want to somehow prevent the pace of climate change. So you have huge push from consumers and then from regulators and then from, you know, the financial markets for these companies or the CPGs or the food and beverage companies to put much more efforts on the KPIs that are reporting that are outside of their regular economics. These are any type of sustainability KPIs. And we can talk about the issue of the variability here because there is no standard for what is sustainability. But everybody are being pressed to report more on sustainability and to ensure that what they're reporting on sustainability is actually true. Um, let alone the fact of some companies that are being pushed, not just to report on that, but also to affect that. So it's, it's kind of like, it's the perfect storm as a sourcing manager. Now I have to ensure the supply in world of unpredictability. But now it's not only volumes and quality, it's also the sustainability parameters behind them, because if it's not sustainable and it's not meeting my standards, it's kind of like, it's not volume. I cannot use it. So there is another, another element to quality and quantity, which is being added. And this thing is just getting more and more, I don't want to say messy, but more pressing for food and beverage companies. And when you were lacking. the visibility or the basic data or even the basic map of where you're buying what you're buying from. That's almost sounds like an impossible mission. And I think that's where we come in. I believe that this is where Maxine is coming in and a lot of companies in our space are coming in exactly to sell pieces of that agenda.

Matt Eastland:
I mean, I'm listening to you talk and the word that kind of jumps out to me and I think you touched on that affair is complexity. I mean, it sounds like you're both tackling a really, really complex part of the food system, which basically underpins the supply chain. And Afey, you mentioned that the agricultural part of it is the last part of it, which is being digitized. I wonder if you can just explain why that is. Is it because it's just infinitely more complex than other parts, or is there something else going on?

Ofir Ardon:
Let's look at it in a different perspective for a second. When companies buy raw materials, they buy it from other companies. So these other companies are usually factories of whatever industry you're buying from. It's a B. It's not a C. And these usually have ERP systems in place. They have everything that they need in order to store data, which is important for their production. And it's important for their suppliers. It's important for their customers. So if you're a factory like Toyota that is buying pieces of metal, for your cars, you're working with a factory that can give you the data that you need. And if they don't have it, so they can just close the gap of something specific that they don't have. When you look at farmers, It's easy to think that, you know, like the huge, gigantic farms of Brazil or some of the, you know, very business-

oriented farms in the U.S. But the vast majority of farmers are neither. There could be anywhere from mom-and-pop shops, but not even that, all the way to somebody that grows something in his backyard, like in the case of coffee in some places. It's small farmholders. This is the vast majority of your supply. And it's more like a C. Okay? Like a consumer. So, you don't expect a person to be digitized. Same way you cannot expect, well, you can expect some, I can expect my kids to be digitized, but let's put that aside. You cannot expect the farms to be in the same level of digitization that you require from any other supplier in your supply chain. And the fact that the standards that you're trying to put on sustainability or transparency or anything that we can talk about, and you try to put the same perspective on a farmer, that's got nothing to do with reality. And this is the vast majority. So they're not digital because it's not that they never thought about them as business, but it's not run like a gigantic business that is a supplier for Toyota. However, they are supplying to large CPG companies. So to some extent, maybe they're expected too early to have the same level of digitization and they're not. So this world is very, very much behind in terms of the regular digitization concepts that we're looking at when we look at other businesses. It's not. People are going to the field, they put something in the ground like seeds, they pray for rain, they pray for pests to go to their neighbors and not to them. They come at the end of the season, they harvest and that's it. It's not operational excellence and things like that. Maybe for the large farmholders it is, but it's not for the vast majority of farmers. However, they produce the most important, one of the most important ingredients in the world or humankind.

Matt Eastland:
Thank you for painting that picture. I really understand the complexity of that. And I guess on the flip side, Maxine, what Afir is saying is obviously as companies get smaller and smaller and the producers get smaller and smaller, it gets more distributed, more difficult and harder to digitize. Are you having the same problem on your side of the fence? because I know that you're obviously working maybe with more established, bigger companies, but then you're also having to deal with, and we'll get into the tech and et cetera in a second, but you're also having to deal with thousands upon thousands upon thousands of products. So do you see that complexity in a different way in terms of what you're trying to solve?

Maxine Roper:
Connecting Food, what we're actually doing is one, we're doing three jobs. The first thing is automated data integration and standardization, because as I was saying, and I think as Ofir was saying, there is such a disparity in terms of what information, what form of information exists.

Matt Eastland:
Totally unstructured, I imagine.

Maxine Roper:
Totally unstructured. So the integration and the standardization of that information is really important. If you want to be using that to be assessing risk or to be tracing products, it needs to be in a format which will be put together with other companies along the supply chain, obviously. So that's the first thing that we're doing at Connecting Food, so automated data integration and standardization to the industry format, which is GS1. The second thing that we're doing is using assessment tools, digital auditing, to know if that is compliant to certain product specs or certain criteria. We can come back to that later. And the third thing is really the traceability point, because to be able to be doing traceability, you need to be doing the first two beforehand, obviously, to be putting that information together. So really at scale, Data management capabilities is really the underlying layer to be able to assess anything, to be able to assess a risk. So we will be working, for example, with a retailer, they have 15,000 direct suppliers for their own label products. They need to know what is their risk in terms of deforestation. They need to know what is their risk in terms of product recalls. Some of our retail clients, they actually spend 8 million euros a year with the quality department, but they still have a recall every single day, 365 recalls a year. And that's quite a big figure, despite paying all that. And they also know that they are liable to regulation because of, for example, deforestation, you need to know not only where the beef comes from, is that cattle raised in a deforested area, but you also know what that cattle has been eating. Has that cattle been eating soil that comes from a deforested area? So that's another complexity, which is very important. So to be able to assess the risk of a customer which has a lot of actors, just direct actors for a retailer on one end but also maybe 15, 20,000 farmers within a cooperative for a cereal cooperative or a milk cooperative is quite common and those farmers can be large farmers, medium farmers or small farmers. They need to know very quickly as well the products that they're actually harvesting and delivering Are they compliant to the product specifications for which they are going to deliver that product? So a cooperative may be delivering grain to a retailer to be able to be doing bread, which is with flour from a certain area or pesticide free or any other criteria. So that's very important as well to be able to evaluate all of that on a very large scale. So we have customers very big, medium, but also very small farmers as well that send in information, which can be on Excel sheets, any kind of information like that. And we're actually helping them as well, organise their production.

Matt Eastland:
Maxine, very quickly, just staying with you, before we go back to Afir. So my understanding is that your platform uses blockchain, and it's kind of central to what you're doing. Can you try to briefly explain for our listeners exactly how that works?

Maxine Roper:
We have three technologies on the platform. First of all, we have the intelligent algorithms for automated data integration normalization, which I said just now. We have digital twins. We make digital twins out of the products. Out of that information, we link it to the end product batch, which is very important. I'll come back to that later on. And the third point is blockchain. Blockchain is a trust machine for data sharing. Because you can actually share with consent, you can actually decide not to share anymore. There is also ownership because with blockchain you know who shared what at what time, so that's for responsibility, we'll see which also which means that obviously that data is being shared in a more responsible way but also you know who shared the data from an ownership point of view because that data often has value. Data up the top of the supply chain at the farm level has a lot of value because everybody wants to know the origin, they want to know who harvested it, what kind of actions were put on the field that obviously is going to influence the end product, sustainability issues, so all that data has value and that's where the blockchain helps with sharing that data because the actor that is sharing that, he keeps the ownership of that data. That data is not just copied and sent to hundreds of people, it's put on the blockchain and the actor gives access or not to that data. So that data can be shared with clients for example that are paying a higher price and not shared with other clients that are not paying that high price. So it is a means to negotiation, a means to sharing value in the supply chain which is very important. So blockchain creates responsibility and blockchain also makes actors less reticent to share their data and more likely to actually share it because they know that they can actually be making value out of that and they can actually be managing their clients with that. So these three technologies together are really essential for the traceability. So the data collection and the AI for normalizing it. Digital twins to link valuable information to a product. So for example, knowing the origin, linking that to a product, but also knowing the certifications and linking that to a product so you know which actors have produced what and what certifications they have and what's actually happened to that product. All that's in the digital twin of the physical product and the blockchain for that data sharing, consent and responsibility for each one of the actors that are actually sharing that data.

Matt Eastland:
Got it. Thank you very much, Maxine, for very succinctly summarising all of that for us. That's very useful. Alfea, on your side, I'm assuming a lot of what Maxine is saying is you're speaking the same language because I know that AgriTask platform uses AI, machine learning, remote sensing. Could you give our listeners an overview of the platform and how you're integrating those various data sources to provide actionable insights?

Ofir Ardon:

We look at usually technologies as means to an end. What is the end eventually? What we enable our clients to do? And actually, when we see the gap in between the producers or the buyers, the buy side and the production side, which is the farmers, there is this detachment that we are unable to overcome. Okay, so whatever the ERPs or the CRNs are unable to do for connecting the farmers and the buyers at the end, this is where we come in. There are a couple of pieces on that, because we need to be able to cover several challenges that are happening in this space. One is first of all, to generate the map. Who are these farmers? Where are they? What are they? What are they growing? What is the time that they're growing? And of course, all pieces of information that sometimes exist, sometimes don't, sometimes you need to generate. So to produce this basic database, just to start with, so that you can start generating this information. And there are additional pieces of tools that we've developed over the years that are enabling to generate this data. And I'm talking about data generation. And collection, not necessarily just integrations yet, integrations comes next. So to generate this data, and Maxine spoke about identifying if somebody is certified, you have tools to produce these certifications, for example. Okay. So tools to enable the questionnaires, the different, many questionnaires that you have of many different types of. Compliances that you would need, whether these are regulatory or internal and everything that is related because of that to survey fatigue, that you repeat the same question twice, three times, four times. We have tools that enable to sort that out, to manage all these certifications on a single platform. But you know, actually, you have to pick a farm, you have to pick what is the result of this farm should be. And because of that, there are a set of certifications that you need. So our system would know how to direct the right certification and the right questions to the right farmer. and then to enable to store and to report on this information, to answer these questionnaires, to provide the documentation necessary to store it so to generate the case and layers of information on top of each and every form. So kind of like to start from there. Generation of information can come from all kinds of external data sources, satellite images, either just to collect data or to verify that it was reported because you have to make sure that the data that you have is actually correct. It could be data from machinery, like John Deere, for example. Some of this data is being collected already. We just, to connect to it, so we have all types of integrations with, could be sensors, could be machinery, could be, you know, the satellites, as I mentioned. And of course, one of the most important pieces is weather stations, virtual or non-virtual. So there is a lot of pieces of data that we get from these third parties that we're using, that we have already developed over the years on AgriTask. So that every farm that you mapped gets all the layers of information that are required as much as possible, depending on the requirement. But that's just still, these are what we call means. Okay. And there is what for, and the what for that varies. This is how we usually divide our products that are sitting all of them on the same, let's call it database that exists underneath. And each one is serving a bit of a different, could be a persona or a different, uh, uh, goal or objective of the

organization. Because one thing that we learned is that same pieces of data, if you store it once, can be used for several means that are required. Same data that is reported or gathered on, for example, fertilizers, can be used to assess something that is related to the crop and the growth potential. It could be related to a parameter that might be related to sustainability parameter. It can be translated into carbon footprint, etc. So we're trying to use the same database for several solutions that we have. Some of these solutions are purely to communicate between the farm. and the buyer, okay? It could be communicating in order to report or communicating in order to provide some type of an advice, an advice or a requirement. Do A, B, C, don't do D because I need it for my certification or a recommendation to improve something, okay? So, same tools can be used to that. Because over this database, you have many users that we enable to use the platform to connect everybody. So we have tools that farmers can access. We have tools that buyers can access and we have tools that the middle layers in between can access. Each one based on, you know, data privacy only for his data and what he needs, not beyond that. So this is another piece of that. And then if I can divide it into two. Main things that we do, and this is where usually AI also comes into play, could be to provide tools that will enable you to replace reporting, manual reporting, but it could also come for analytics. All right, so two means that we're using our platform to do two main different personas. One for the one who's responsible for supply, meaning I have to ensure quality and quantity. Let's call it a sourcing. So to them, we will enable to see the risks that they have in quality and quantity and timelines. We will use weather information and some other reported information to simply provide alerts. Something happened in area A, B and C. It's going to affect X percent of your portfolio and you're going to have a shortage or a delay or something wrong with your quality. Be aware of that. If you need to, go source somewhere else. Otherwise, you will not have the goods that you wanted or prepare your logistics. Because lacking this information and these alerts usually cost a lot of money. So this is one type of value. The other type of value is for the sustainability part. The tools that we enable them to see at any given time, the status of levels of certifications, whether or not they meet their compliance requirements. An example would be EUDR. EUDR sounds like a whole different topic, but it's related to the same things that we do. It's just another question or query that we ask based on the data that we have. Whether this grower grew in an area which was deforested, yes, no, and some other parameters that you need to report. But if it's on the same platform, part of the data you already have, you will not have to recollect it. So what we enable is the automation of the process. and knowing how much of your produces could result in deforestation and whether or not you should keep continue buying from there or not, that's already our client's decision, not ours. But the level of things that we enable, if somebody already has the platform, whatever regulation is coming into play, it will be easier if you already have this platform in place. If I continue for a second with the example of UDR, because it's a fine example of showing everything, you need to collect the data on the farm, or you need to have it. You need to know that

you're buying from there. You need to connect with some information or some satellite image to know, like years back, to know if it was deforested or not, if there was a forest there or not. You have to automate the process and do it on massive scale because you don't buy from a single farm. You usually, sometimes you don't even know which farm you're buying from, in many cases. So you have to collect everything that you bought from all the potential places that you brought it from and see if there are any risks. Okay? Add some other information that the EUDR regulation is requiring. Attach it to a specific PO, which is something that could be, Maxine mentioned some of the pieces on that. There is a piece to attach it to the specific PO. If something is not negative on this entire chain of events that I just described, you cannot do anything. You will have to do everything manually and it doesn't make sense. So we can bring this where you bought it from, do all this manipulation of information that is required on the layers of data like satellite image and force level, force layer. We can bring it to somebody like Maxine that can attach it to a PO, for example. Okay. And then you've got all this digitized. You don't even need to have an intervention. You just plug in the PO and you already see if it's risky or not. And if you're allowed to bring into Europe or not, that's the ultimate goal eventually.

Matt Eastland:
You know, as I said at the top of the show, I'm really getting a sense of that kind of complexity and what you're both doing is is making something which is previously has been obviously very complex, very manual, very difficult. You know, you're serving up and making a much more kind of simplified and aligned and I guess more accurate process, which is really amazing. Maxine, I know that your platform does a very similar thing and one of your key features is real-time traceability. I guess I'm interested in how this differs from traditional traceability systems and how that's just making everything better for your customers.

Maxine Roper:
Well, traceability is something which is legally obligatory in the food industry since kind of the 90s or the year 2000. So each actor has a form of traceability, obviously, and also a retailer that has a product recall, they have to be able to link all that together. So they need to be able to link their product batches on their own labels or with the direct supplier and they have to link that to their supplier, etc. So today in the case of a product recall, and we saw that really when we were working in the companies, it's extremely painful in terms of manual processes, putting all that together to get that product batch all the way back manually, which requires a huge amount of people to be doing that who are looking in spreadsheets, who are looking in ERP systems, who are trying to work out what was delivered in that factory and what came out from their traceability system is actually linked to what was delivered to the warehouse and what actually happened in that warehouse. So traceability is nothing new, but the whole thing is we're really

living in a real-time world today. I mean, if I wanted to go to the office, I would get out Google Maps, I'd try and work out, you know, what's the best way to get there. We want to know everything in real time. When the train comes along, I know exactly how many people is actually in each one of the carriages, so I know which one to get in, I'm going to go in the middle of the train, on the front, etc. We're living in a real-time world and that's really the difference what Connecting Food is doing. We're connecting the dots We're actually taking information that exists at every level and we are linking it together. So it's being linked. What humans do in a very painful, very slow and very time-intensive and energy-borne way, the computer's doing the same thing. So all those different technologies are doing the same thing. It's just that we can do it on a huge scale because a machine can do huge amounts of work. And we can be doing it very fast and in a very, very efficient way, which means that it is actually adapted from a cost point of view to food and fast moving consumer goods. Because people aren't going to be saying, OK, I'm going to be paying instead of paying two euros for the ham, I'm going to be paying seven euros for the ham. People don't do that. you need to be able to go into that price range. So machines can do that. So what we're doing is we're really enhancing what is already being done and bringing it up to the 22nd century, I'd say, at least up to the 21st century. And the key, as I was saying, is to link all that information between actors. They already have that. It's not always absolutely perfect, but it's a really good base. And we're linking it between those actors. So when there is a product recall, That information is already there. That information is already 95% good. It may only be 80% good, but it's a lot better than 5% to 10%, which is what's happening today, which means all those people have to be doing that work. So I think, really, the real-time traceability side of things is that. It's to bring it up into the real-time world and to make sure that Anybody that's recalling a product whether that's a retailer or a brand but also a cooperative they have to recall products all the time because of there are anomalies also on the farm level and just as a quick anecdote also from the company we were working for before creating connecting food was a very respectable company which is supplying animal products to brands and in the case of for example a product which is pork which is antibiotic free, which has not eaten any, which is GM free, hasn't eaten soya from deforested areas etc. Everything was perfect until one month during the month of August when in the factories that are supplying the feed to those farms there are holidays, there are temporary workers in place and they're still sending really good quality feed to those farms who are feeding that to the pork but it's not antibiotic free it's not GM free for a month which means that the pork which has been raised for like two or three months already which has been eating this very high quality feed and then which has been fed for one month the wrong feed and they work that out before they send it to the slaughterhouse which sends it to the hand brand then they can actually react rather than in today's system what actually happens is they realize it maybe three months afterwards and they will actually be ringing the hand brand it's already in the it's already packaged with GM free etc on the packaging it's being sent to the

stores and they have to recall it and throw it away because you cannot sell it whereas when they realize that and we're doing that every day when they realize that just after it's actually happened they can say okay we can actually send that into a into a standard supply chain so they're not throwing that food away they're not throwing the pork is still going into the Supply chain is perfectly good pork. It's even higher quality than the standard, but they're actually managing that. So each level of supply chain, whether it's a retailer, a brand, or a cooperative, or even a farm, when they realize that they can react in real time, which means less waste, which means more efficiency, and which means obviously less costs for them as well. And we're doing that every day.

Matt Eastland:
Thank you Maxine, and you mentioned an issue which I'd like to come back to is about waste, but let's just pause that for a moment. I mean, stepping back from, I mean, don't get me wrong, I absolutely love the tech and what you're both doing is incredible, but just thinking from the more human side, shall we say. So Maxine, just from your side, how are consumers using your platform or should I say the end product of your platform to their benefit? What are the benefits for consumers? And then Afir, I'd like to talk to you about farmers if I may next.

Maxine Roper:
Of course. Yeah, a very good example is one of our branded clients, which is Barilla on the pesto supply chain. They use Connecting Food to trace from farm and also to check the compliancy with all of their sustainability requirements and also the quality requirements. And then they communicate that to the consumer in 11 different languages, in 11 different countries. It's part of their global marketing strategy. So Connecting Food is a B2B2C company or just a B2B company. We work with actors that are producing and putting on the market. And then we also have a tool which allows them to put a QR code on the pack so the consumer can actually access that information in our systems. So for example, Barilla, part of their global marketing strategy on pesto is to say this pesto is really fresh, we can actually show you where it's coming from. They're actually advertising at the moment in France is an advertising campaign and they're showing the QR code and we're actually seeing that impact on the scans. So what actually happens is The jars are in store, they're being scanned spontaneously, and then the advertising talks about it. And then we see a huge increase, multiplied by nine, the amount of scans that are actually happening. About two weeks after the advertising campaign, which means that they've seen the campaign, they've gone out and they've bought the jars. They've brought them home and then they're scanning them like mad to see where it's produced. And we've got another customer also, a big customer in the UK and in France, which is Green Giant. And they're also interviewing their customers that are saying that they are more loyal to the brand. Because when they have to choose between the different brands, and they see there's one of them

that's showing them where it comes from, who produced it, all the information along the chain on corn, for example. Sweetcorn, then they're actually say, OK, I'm going to I'm going to have a go at that. They don't necessarily scan every time, but they say, I know I can scan because I know that information is there so that it becomes a preferred brand. Then it's being chosen because of transparency.

Matt Eastland:
And you've just answered one of my other follow-up questions, which is going to be, how does this affect brands, their credibility? So I can really see the benefit there. Afir, talking about the more human side, I mean, so it seems like on Maxine's side that consumers are really starting to embrace this. From your side, I mean, I know that Traditionally speaking, farmers, they can be quite, sometimes quite risk averse. They're quite traditional and quite conservative in many ways. Although I know that that's changing a lot these days. Have you found any challenges in terms of getting farmers to adopt this kind of technology? And how, if you have, over the years, how have you overcome that? So how have you got the technology implemented? How has it been embraced? Do farmers share? this information with each other and start saying, wow, look at this amazing technology that I have. What's been your experience with it?

Ofir Ardon:
When you have sufficient experience with farmers, you would see that saying how farmers prosper or something, it's like saying people. It is so diverse to the levels that, well, I guess that, you know, they don't have the same care as us producers. Ask them about, yeah, there is a small portion of them usually living either in Europe or in the, not even in the U.S. that want to support sustainability. You'd see a huge amount of them that this is not their day to day worry. Okay. There is huge variations. If you look at small coffee farmers in Uganda, this is not the same as a cucumber grower in Italy or, I don't know, tomato grower in California. That would be very different. And that's very different from a 200,000 hectares farm in Brazil that grows field crops. We had the luxury of experiencing all of them, either because we worked directly with them or because we worked with them via the supply chains that sometimes supply chains have all of the above that I just mentioned. Okay. So there are several ways that they can gain. We have a lot of experience with a specific user interface of farmers, since we have several tools for them as well. But yeah, they can profit from it as well. I'd like to focus on two perspectives. So there is the Cs or the consumers. We also work with retailers, for example. We have Walmart as a client. So if you look at where they get to or if we want to see what value is generated to consumers, we might enable it. But it depends on our customer. agenda, okay? When we want to measure impact, we will have to see what is the initiative that we're serving of our clients. So if Walmart is interested in surety of supply, how can they ensure that there is sufficient supply and no shortages, and they'll go a huge way to ensure what they can have in terms of fresh produce to their Consumers, so this is something

that we could say yeah, we enable this is one of the side effects of what our what our platform provides The same thing when we look at farmers if you look at a beam dev for example Which is a different type of client and and use or working closely with the farmers for their own initiatives like for their own KPIs and And they have a couple of them which are around impact or impact on farmers. And how do we support them on their way of doing that specifically? We will usually be very dependent on what the big corporates that we work with, what is in their agenda. So this is one thing that we'd have to say. We have to put ourselves where we are. We're a technology company. We might enable very great things to happen on the other end, but we will always first and foremost be dependent on what is the agenda. And in most cases, they take us because part of their agenda is now sustainability. So this is why we're there. But when we look at farmers specifically, there is something that is called the Holy Grail. How do you make a farmer play golf? And there is another podcast right there, Afir. But I can give you examples. One example could be in the area of cost of production. We noticed that farmers that can get access because of the data that they have and they report moving forward to the buyers, some of them look for the first time on a specific aspect of their cost of production versus their peers. Now, they cannot see their peers, but they can see an aggregation of their peers. So we put them against their peers so that they can see where they can improve. That proved to be something very, very interesting for some of them. out of the small farmholders out of them, they weren't financially sophisticated to the level that they counted it in the way that we provided it to them. So there was another value over there to look at themselves for the first time in the mirror in the type of way that they didn't look at themselves before. And we identified what results in higher yields, what results in lower costs, and things like that. And you could really identify what are the pieces that some groups of farmers really had to invest in to get better. The other part is related to whole features that we have that enable the buyer to help the farmer to do something. So for example, huge initiative of one of the companies that we work with to teach the farmers to fertilize better. Huge amount of small farmholders that some of them didn't even use fertilizer, some of them over fertilized, some of them there was no standardization. And that specific company had developed a model for what is the ultimate fertilization approach. And there was a massive amount of data collection of soil samples from these farmers and a massive amount of recommendations, also a lot of money that was poured in to buy the fertilizers for them. And you could generate suddenly 20,000, 30,000 farmers to fertilize in the right way, which you know that the vast majority of them didn't even fertilize at all. the impact of such thing on their yield, on their financial, on their financials, on their well-being is huge. And this is something there's literally no way you can do it without such technology.

Matt Eastland:
Just on that point, I mean, so one of the things that I'm also kind of really getting to grips with is that you're both sat on enormous

data sets, you know, Sophia, yours has allowed you to obviously intimately understand the kind of the challenges and complexities of farmers and solve their problems. I'm just wondering from both sides, with the data that you have, you must be sitting on some incredible insights in terms of how you could move the industry on and how you can improve things. So, I mean, Afir, for example, your data sets cover like a hundred different crops, I think it is, a hundred plus crops. Are you getting interesting insights from your data side that you're learning? Like, you know, the most climate resistant crops, the most disease resistant, I suppose it kind of depends, depending on where you are in the world. But I'm interested to kind of understand, like, are there any like top line headline insights that you're learning from all of that amazing data that can benefit farmers and others?

Ofir Ardon:
Let me divide it into two types of insights. There are the insights that suddenly you realize that you can get in real time and are important. At the level of granularity, yeah, you could have done that before, but the level of granularity in the massive scale, you couldn't do it before without a system. And that goes for one of our major products, which is called the Yield Intelligence. It's the one that you can put all of your farms all over the world in different crops, the crops that are relevant to this product, and track the weather in real time. And literally every time you get via some type of a threshold in the right phenological stage of each and every crop, you can decide what is the level of damage that you're going to have, okay? To do it in massive scale and to tell a company that buys a huge amount of produce, you're going to have a problem with 6% of your produce that you were expecting, and we know it now before everybody else. This is something which is purely based on the ability to not just have this data, but also constantly collect this data and do this analytics in real time. Okay, that's one piece of it. The other piece is what can you do when you collected a huge amount of data and you're already sitting on a huge pile of data? And there are certain things that you see. So yeah, there is like the holy grail of new insights that nobody knew before. This is one piece. I'm putting it aside because what I would rather think here is focus on the data that we don't have yet. Okay. But on the other side, I can give some examples. A lot had to do with the accuracy of data. Okay. This data that is being reported by farmers or we collect, is it right? Is it true? Is it something reliable? And when you have huge amounts of data, one of the interesting things is that you can identify outliers. to the level that you can almost have everybody report and you can fix mistakes that you have in the data that are coming in, which is something amazing that happens. And this is, um, uh, we have some tools that are focusing on that. Some of it you can already prevent from people to report it. So. You know how to tie it to certain parameters which are called like a remote sensing. You know already what is the result on the ground. You know how to translate between the remote sensing piece and what are the implications on the ground of that specific color that you see on the satellite, okay? So all kinds of things that we can now do that

we couldn't do before that suddenly enable us to not need to collect this data anymore. We can just get it from remote sensing. We know how to translate it as if it was reported. That's another example that we can give for specific insights that could be enormous amount of them. We're not going to go into each and every one.

Matt Eastland:
I'm sure there's a lot of IP there as well, but it's interesting just to kind of get the headlines. And Maxine, same question to you. I mean, for whatever you can talk about, of course, you know, in terms of your headline insights and all the data you have, is there anything like super interesting that you've discovered?

Maxine Roper:
Yeah, well we called the company Connecting Food because we're connecting the dots so we have a lot of actors at both ends of the supply chain that's you know retailers with tens of thousands of suppliers or cooperatives with tens of thousands of farmers and all the different suppliers in between and we're really seeing the network effect of having hundreds of thousands of actors on the platform and lots of information digitizing those supply chains. And really, the added value that we're doing already, but we're going to be developing in the future even more, is really to see the impact of changing something in a supply chain. So for example, changing a supplier could have a huge impact on the whole supply chain. Is it more sustainable? Is it less sustainable? Is it more local or is it further away? carbon impact, the resilience of that supply chain. Is it going through a war zone at one stage? So it's really all about predictability, looking at the supply chain today and looking at the impact of changing that supply chain tomorrow and also trying to have a strategy on supply chains. So there may be something where you want it to be more organic but that means that you're going to have to travel further to get those organic suppliers, which is a choice. So it's less local, but it's more organic, or it's less resilient because there's higher risk. So there are so many possibilities, and I think that's really the future of supply chains, is to be able to have that transparency all along the supply chain, to be able to connect those dots and say, OK, if I changed that supply chain and I changed my whole strategy in terms of supply chains, what would be the impact for me as a customer, or for the planet, or for my customers, which may be consumers? And that can be done at each level of the supply chain. A cooperative can do that as well, or a brand manufacturer, or a retailer. At each level, they have that possibility to be doing that with the platform.

Matt Eastland:
Brilliant. And you mentioned two key words in your discussion there was around future and tomorrow. And given that we are now coming to the close of the show, I'd like to just kind of look forward a little bit if we may. So would you mind if I just I'm going to ask you two questions in one if that's okay. So I mean, as always, super

interested in what future trends do you see shaping the food industry, particularly when it comes to transparency? And the second part question to that is in terms of your own futures, you know, what's next for you both? So, you know, how are you looking to scale your technologies and, you know, what are you going to be doing with the tech? So maybe Affir, can I start with you? So where do you see the future trends sort of shaping the traceability and what's next for you and your company?

Ofir Ardon:
If I look at the future, I see two trends. A, sustainability becoming more and more complex to the level that it's not just the large, gigantic food and beverage companies. All food and beverage companies would need to start considering The concept of a platform not just features, a platform that is on top of ERP, on top of CRM, just to manage the supplier. So something that is going to be there in place, that they're going to manage all of the sustainability initiatives, the parameters that they need reporting, the certifications, the questionnaires, carbon data, and all the things that they need for the purpose of sustainability. It will be very, very complex to manage. There will be no way, even today, no way to manage it without a system. This will intensify. intensify to the level that each company will need its own platform. They will need all of this data. They will need to map everything. Eventually, there will be no thing without a trace. Currently, most places in the world, or most produced in the world, is not really traceable because nobody knows which farm exactly came from. Most of the farms in the world are not mapped. So this thing is going to be resolved, period. That's what's going to happen. It's a matter of whether it's going to take two years, five years, 10 years. I'd argue even more than that. But to the level that there will be platforms to manage these things, and we definitely intend to be the one that is sitting there and can connect also with others in order to deliver the best value that we can. That's on one hand. On the other hand, predictability of crop supply is going to get worse for many reasons, but climate change is one of them. The other piece being hectic types of regulatory environments that are affecting sustainability. Now I need less land to grow it. Now I need to use very specific practices. It's going to be a massive effect also on the produce. And in that case, if you want to take that into account, we're going to put a lot of efforts on the predictability. We're going to grow into more crops in terms of the crops that we can identify damages ahead of time and put a lot of focus on that and enable additional players to go into our platform and see the predictability in a better way. The ultimate dream is, well, not dream, but plan in the roadmap is to connect between the two. You don't need to do much. The manual reporting is being decreased and decreased and decreased. Like I said, we can start replacing reporting or manual reporting with our algorithms to identify, you know, SOI cover, to identify crop rotation, to identify even to identify polygons. so that these things can happen automatically. And at the same time, the sourcing managers can take a look at it like a navigation system and basically see where are they standing

in the season and what do they have to do with their supply, whether they need to deviate trades, whether they need to think about alternative sourcing, whether they need to manage their production facilities in terms of capacity or the associated logistics, do they have to manage it differently? So this would be type of like the ultimate dashboard in order to be able to take a look at it. If I have to sum it up, all map is already being generated of the fields that you're buying from. The processes and the data that you need to report in order to verify the processes are already there, automated into your flow of having your certifications ready without you doing much about that. Plus at the same time, being able to see whatever compliant source or whatever compliant produce that you're waiting for is about to arrive or did weather plan something different for you.

Matt Eastland:
I take from that that the future is connected, traceable, but really unpredictable. Maxine, does that kind of tally with your view of the future and where connected food is going?

Maxine Roper:
Yeah, I think also I'm very much aligned. I think having real time information at your fingertips is very important for risk assessment traceability to be able to determine your supply chains and the sourcing strategy for tomorrow. I think that will be done by machines and the humans would be able to spend more time in deciding on the sourcing strategy and applying that and be able to predict scenarios, for example, saying, OK, the strategy of the company is to be in sustainability and also to be reducing risk in terms of risk to be exposed to deforestation or human rights problems, which obviously is happening in a lot of countries when you're sourcing from in terms of clothing, in terms of a lot of other different products. And so the future really is using that data and applying tools which are done by machines to be able to do that prediction and to be able to carry out that strategy and to be able to decide as a consequence.

Matt Eastland:
Lovely. Thank you, Maxine. And freeing up humans to do the great work, by the sounds of it as well, which again seems to be an ongoing theme that we have on the show. A lot of people think that machines will take over, but actually, generally speaking, most people seem to be of the view that actually it's freeing humans up from doing the busy work to allow them to be more strategic and look forward, which is very positive. Both, thank you very much. I mean, it's really nearly time to wrap up, but it would be remiss of me not to ask you both, how can listeners find out more about your companies or get in touch? So, Maxine?

Maxine Roper:

Yeah, contact me on LinkedIn, Maxine Roper, or go to connectingfood.com.

Ofir Ardon:
Lovely, thank you very much. And Ofir? Same here. You can look at my LinkedIn at Ofir Ordon, also to the AgriTask page on LinkedIn or on our website, www.agritask.com.

Matt Eastland:
Fantastic. Thank you both very much for your time today. A fascinating discussion. I've loved the tech. I see the future is bright in terms of traceability, thanks to the likes of people like yourselves. So thank you very much. And that's the end of the show. So thank you everybody for listening in. This has been the Food Fight podcast. If you'd like to find out more, head over to the EIT Food website at www.eitfood.eu. And also please join the conversation via the hashtag EIT Food Fight on our X channel at EIT Food. And of course, if you haven't already, please hit the follow button so you never miss an episode. Thanks again. See you soon.