Swell AI Transcript: FoodFight_WiliotEpisode_Version1.mp3

SPEAKER_01:
 When we think about food waste, we often picture our fruit and veg slowly going off in our fridges, or the leftovers we throw out after a big meal.

SPEAKER_01:
But actually, a lot of the food we grow is wasted long before it makes it to our shelves, lost along the way in our complicated food supply chain.

SPEAKER_01:
 And this waste, it's a massive issue.

SPEAKER_01:
Over a third of the food we produce never makes it to our plates.

SPEAKER_01:
To put that in context, annually we produce about 4 billion metric tons of food, so more than 1 billion tons of that food goes uneaten around the world each year.

SPEAKER_01:
So what can we do to ensure the food we grow arrives on our plates both efficiently and safely with minimal wastage?

SPEAKER_01:
 In today's show, we're looking at a new technology addressing our big waste problem through advances in traceability.

SPEAKER_01:
I'm Matt Eastland and welcome to the Food Fight podcast from EIT Food, exploring the greatest challenges facing the food system and the innovations and entrepreneurs looking to solve them.

SPEAKER_01:
Co-hosting the show for the first time is my good colleague from EIT Food, Lucy Wallace.

SPEAKER_01:
Hi, Lucy.

SPEAKER_01:
Hi, Matt.

SPEAKER_01:
 Lovely to have you on the show.

SPEAKER_01:
It's lovely to be here.

SPEAKER_01:
So without the ability to properly track our food, so food

transportation, storage, distribution, these are all the hidden weak
spots in our food waste epidemic, aren't they?

SPEAKER_00:
 Yeah, completely, Matt.

SPEAKER_00:
I mean, if we don't know where the food waste is happening, or the
food loss is happening as well, because food loss is what happens at
the farm.

SPEAKER_00:
And then once it gets to the supermarket and our homes, then we call
that food waste.

SPEAKER_00:
But before that point in time, we do call it food loss.

SPEAKER_00:
 And if we don't know where that is happening and to what extent
it's happening, then we actually can't really do anything about the
problem.

SPEAKER_00:
So actually traceability is super important.

SPEAKER_00:
And to that end, I'm absolutely delighted to welcome Antony
Yousefian today, who's the Vice President of Climate and Circularity
at Williott.

SPEAKER_00:
And Williott are a company on the cutting edge of traceability
technology.

SPEAKER_00:
Welcome, Antony.

SPEAKER_02:
Hi, Lucy.

SPEAKER_02:
Hi, Matt.

SPEAKER_02:
Thanks very much for having me.

SPEAKER_01:
 So before we get into like all the super exciting tech, Antony, we
wanted to take just a minute to dive a little bit deeper into the
problem that your company is actually looking to address.

SPEAKER_01:
So why do we waste so much of the food we produce?

SPEAKER_01:
And what do you think are the obvious flaws in our supply chain?

SPEAKER_02:
 I think you mentioned it there, it's traceability, it's visibility in our food system and we still actually have a very much an analogue food system in terms of understanding where things are.

SPEAKER_02:
Don't get me wrong, it's actually become a very efficient system in that we've been optimising the supply chain for availability of food.

SPEAKER_02:
In that pursuit,

SPEAKER_02:
 we haven't considered the quality of that food or what's its status.

SPEAKER_02:
And that's where digital technology can come and really help.

SPEAKER_02:
So it's digital visibility, or certainly visibility is one of the biggest flaws, one of the missing infrastructures in the food system, because food is complicated.

SPEAKER_02:
It is growing uniquely in every single different location around the world or every farm.

SPEAKER_02:
And even within a farm, within a field, there will be variation.

SPEAKER_02:
 but that is just nature, that is just the natural system, that's what happens.

SPEAKER_00:
You've just sort of explained it's really sort of part of the issue is that variability in food and how we produce it, how we transport it, how we process it, how we use it.

SPEAKER_00:
So how can technology really help us to understand more about the problem there and the challenges Anthony?

SPEAKER_02:
 Some of the key problems is, as we mentioned, their visibility is visibility of demand.

SPEAKER_02:

We definitely over order in the system.

SPEAKER_02:
It's called a supply chain.

SPEAKER_02:
So, you know, it's a supply brings forward and then we just try and find the demand to kind of to sell it.

SPEAKER_02:
I think quoting one of the largest supermarkets in the US, their old business model was just get it into our supply chain and we will find a place to sell it.

SPEAKER_02:
And I think this has been very much the business model for many businesses around this time.

SPEAKER_02:
And we haven't really accounted for

SPEAKER_02:
 the externality costs of that.

SPEAKER_02:
And now we've realized actually, supply chains are, you know, not abundant, they are resources are in decline, the planet's in decline.

SPEAKER_02:
And I think we're starting to waking up to that.

SPEAKER_02:
So if we can actually understand where demand really is, and when someone really needs that item, or needs that food item, when they finish consumption, then we can move to a demand change, we kind of say.

SPEAKER_02:
 And we can have a just-in-time supply of that food, you know, optimize it for its freshness, optimize it for, you know, bringing it to the right place at the right time.

SPEAKER_02:
And so going back to your point is I think technologies can

SPEAKER_02:
 help on both sides of the equation.

SPEAKER_02:
They can understand human behaviour to kind of create precision.

SPEAKER_02:
And then also on the supply side, as I mentioned a minute ago, is

understanding exactly what items are.

SPEAKER_02:
Are they in the cold store?

SPEAKER_02:
Are they in that truck?

SPEAKER_02:
Is any of this fruit or veg available locally?

SPEAKER_02:
It probably isn't.

SPEAKER_02:
Okay, then relay that back to the consumer as well or the demand.

SPEAKER_02:
I think today we always tell

SPEAKER_02:
 the consumer, we can get that to you anywhere and everywhere in the
world.

SPEAKER_02:
So don't worry, we'll bring it to you.

SPEAKER_02:
And there's this kind of false illusion that everything's abundant
and should be cheap and available.

SPEAKER_02:
So again, it's visibility on both sides.

SPEAKER_02:
And it's transparency, educating to the consumer as well, you know,
that these things aren't always available.

SPEAKER_02:
And we've seen this recently, right?

SPEAKER_02:
It's actually here in the UK, we've had empty shelves.

SPEAKER_02:
And I think people are starting to wake up to that understanding.

SPEAKER_02:
Obviously, COVID brought that as well.

SPEAKER_01:
 And do you, so you mentioned that, which I love this.

SPEAKER_01:

So you've said that we're going from like a supply chain to a demand chain.

SPEAKER_01:
Is this something that kind of Willow really set out to solve from the start?

SPEAKER_01:
Is that, is that where this all started?

SPEAKER_02:
 It's amazing three founders who founded Williard.

SPEAKER_02:
This is actually their third startup.

SPEAKER_02:
Their last startup, essentially, was very much key technology to, let's just say, turn 4G to 5G, and it's embedded in our Wi-Fi systems.

SPEAKER_02:
And I think there was a lot of hope in the telecoms industry that 5G would be this massive enabler of IoT or Internet of Things.

SPEAKER_02:
And I think, generally, the three founders were quite disappointed by that.

SPEAKER_02:
And it hasn't resulted in that.

SPEAKER_02:
And I think this is them saying, OK, I think

SPEAKER_02:
 Look, if we could build this capability of a small device or very small, you know, cost pennies to go on anything and everything and connect everything or every item to the cloud or to the internet.

SPEAKER_02:
 then maybe we can truly enable internet of everything.

SPEAKER_02:
That's supposed to be the concept.

SPEAKER_02:
And so, yes, you know, I think they've always had impact on their mind of like, they really wanted just to kind of change how we consume and change everything.

SPEAKER_02:
But I think they didn't really realise that the sustainability impact, the true like enablement of the circular economy could be

possible.

SPEAKER_02:
Amazing.

SPEAKER_01:
Love that.

SPEAKER_00:
 And so you just mentioned the technology there.

SPEAKER_00:
And I've seen this.

SPEAKER_00:
I mean, you showed it to me over breakfast in New York a few weeks ago.

SPEAKER_00:
And it's pretty cool.

SPEAKER_00:
Could you kind of explain it to us, really, what it is, what we're talking about with this small technology and how that works?

SPEAKER_02:
 So what Williams has developed is, I don't know if obviously we're on audio, I don't know if there'll be a video version, but I'm pointing to the camera, a postage size stamp compute device.

SPEAKER_02:
And I say compute device, it's the size of a postage stamp and it's got a tiny chip in it.

SPEAKER_02:
So we've gone from mobile phones, arguably as a computer, to now the size of a postage stamp computer.

SPEAKER_02:
And there's no battery.

SPEAKER_02:
And that's a key thing here, it's battery-less and the chip powers itself through

SPEAKER_02:
 harvesting radio wave energy that's around us.

SPEAKER_02:
There's a lot of it now with Wi-Fi, our phones, everything else, and there's enough energy there to power this computer.

SPEAKER_01:
That's amazing.

SPEAKER_01:
I was just saying to you before we started, I didn't even realise, is that there was enough energy around us that someone could just harvest that energy and it's absolutely amazing.

SPEAKER_02:
Well, part of the circular story as well, obviously we're recycling available energy there, but

SPEAKER_02:
 We're talking real tiny pieces of energy.

SPEAKER_02:
But the point is, you just need enough to power this tiny sticker.

SPEAKER_02:
And it's cheap enough as well.

SPEAKER_02:
So these things are now basically we sell them.

SPEAKER_02:
Well, it doesn't sell them, our partners sell them.

SPEAKER_02:
For example, the label makers like Indentive and Avery Dennison, for example, and it costs in the cents or the pennies.

SPEAKER_02:
But the value that it generates, because obviously the technology then powers up this chip, which then can tell you it talks back on Bluetooth.

SPEAKER_02:
 to the nearest Wi-Fi point or gateway or mobile phone and communicates back its location, its unique identifier.

SPEAKER_02:
And I say, this is the exciting thing going back to my point about monitoring the environment.

SPEAKER_02:
Williots has developed algorithms to understand the physical environment.

SPEAKER_02:
So Williots understands the physical environment through radio waves or radio frequency.

SPEAKER_02:
So when the temperature in this room increases, the radio frequency will change, for example.

SPEAKER_02:
 So Williard has developed algorithms to understand that the temperature has increased in this room or gone down.

SPEAKER_02:
So with this tag, we can see the physical world, which is for pennies.

SPEAKER_02:
So this is truly what everyone talks about ambient computing, the internet of everything.

SPEAKER_02:
And, you know, when I saw it, I was just like,

SPEAKER_02:
 If that is true, then I think we've got a game changing technology that can really have a huge impact on the food industry.

SPEAKER_01:
And can you tell us where do these chips actually go?

SPEAKER_01:
I mean, are we talking like on pallets?

SPEAKER_01:
Are we talking on trucks?

SPEAKER_01:
Are we talking on individual food items?

SPEAKER_01:
How does it work?

SPEAKER_02:
Yeah, I mean, in theory, you can put it on anything.

SPEAKER_02:
You can go on a pallet, but this can go down to item level.

SPEAKER_02:
And so customers are now starting to put this

SPEAKER_02:
 on packaging, on delivery packaging, or actually on the individual items.

SPEAKER_02:
So we've got actually, there's a pharmaceutical use cases, but actually put it on the individual item to know when it's on shelf or when it's not on shelf.

SPEAKER_02:
And again, it's about enabling that visibility of where things are.

SPEAKER_02:
So, I mean, we could probably talk for hours about the use cases of this technology, but that's just one example.

SPEAKER_02:
There's a couple of examples in food anyway.

SPEAKER_01:
Love it.

SPEAKER_00:
 And so, I mean, I think one of the really cool things about it is that it doesn't use a battery.

SPEAKER_00:
And so the technology in itself is actually, you know, very sort of low environmental impact to produce and very, very cheap.

SPEAKER_00:
 which means that it's not just something that is available for premium products, it's something that you could be using across the entire food system, you know, potentially across the world.

SPEAKER_00:
And that's, you know, those are the sorts of technologies obviously that we need.

SPEAKER_00:
What sort of countries at the moment are you looking at this technology in?

SPEAKER_02:
I think for Willia it's about having maximum impact as fast as possible.

SPEAKER_02:
And so naturally you're going to be pulling in towards the biggest customers in the world.

SPEAKER_02:
 And as I say to you, they're working with three of those biggest e-commerce and retailers in the US.

SPEAKER_02:
They have our first customers, for example, in the UK.

SPEAKER_02:
And everyone is looking for almost the same sort of use case, which is just they wanted to make their products smart.

SPEAKER_02:
They want to understand their consumers better.

SPEAKER_02:
And with this tag, you can do that.

SPEAKER_02:
You know, this can go all the way to the home, right?

SPEAKER_02:
You can understand when it was used and when that product wasn't used.

SPEAKER_02:
 people might think, oh, that's scary, but you've got a mobile phone in your hand anyways.

SPEAKER_02:
If you're worried about that kind of insight, then turn off your mobile phone.

SPEAKER_02:
But yeah, in terms of countries around the world, don't get me wrong, connectivity is important for this.

SPEAKER_02:
So you're going to need to have available connectivity.

SPEAKER_02:
So this talks on Bluetooth and Bluetooth is becoming almost everywhere now.

SPEAKER_02:
It's in your cars, you know, it's in your mobile phones.

SPEAKER_02:
And so you can communicate to mobile phones now.

SPEAKER_02:
 What's going to happen in 5G and 6G, and Williott is very much in these discussions with these telcos, is 5G Plus is coming, or 6G, whatever they want to call it, and it's going to, the telcos are going to enable these kind of devices, not just Williott tags, but other ambient IoT devices to communicate freely onto a network.

SPEAKER_02:
So you'll be able to just kind of get this data for free, low cost, all the way to the cloud, and you can see where it is.

SPEAKER_02:
 Maybe for your listeners and maybe for yourselves, if you've ever got an AirTag, if you've got those Apple AirTags, this is the best way to think about it.

SPEAKER_02:
That costs £50, this is costing five cents if you want to think of it like that.

SPEAKER_02:
But we can do temperature, humidity and lights and touch, you know, it's a real bridge between the physical and digital world, you know.

SPEAKER_01:
 And you were just saying, so the things that this tag measures, so it's temperature, light, obviously where it is in the food supply chain, what else is it doing and how is Williott then kind of processing that data to kind of make something meaningful?

SPEAKER_02:
 So that information from this tag gets sent to the Willit cloud.

SPEAKER_02:
It's encrypted, most importantly, so it comes with 128-bit encryption.

SPEAKER_02:
So you can't really hack this, essentially.

SPEAKER_02:
But then the encryption is done in the cloud and then Willit processes that information and turns it into events.

SPEAKER_02:
So events might be location, where it is, then also temperature event.

SPEAKER_02:
Willit has now rolled out humidity.

SPEAKER_02:
Again, we can get back to food.

SPEAKER_02:
 You know, temperature is one thing, but you can be cold temperature.

SPEAKER_02:
But if it's really dry, then your fruit would kind of, let's just say shrivel up.

SPEAKER_02:
So you have freshness, you need temp and humidity for food.

SPEAKER_02:
So that's crucial.

SPEAKER_02:
 And yes, light is coming.

SPEAKER_02:
So Williott is developing a generation three tag where they can pick

up light as well.

SPEAKER_02:
It's just about translating the signals.

SPEAKER_02:
In other words, there's something there which is changing the radio frequency so we can make an assumption that that is happening.

SPEAKER_02:
So Williott can build dedicated algorithms per product.

SPEAKER_02:
So just the best use case is a COVID file.

SPEAKER_02:
One of the big pharmaceutical companies a few years ago came to Williott and said,

SPEAKER_02:
 can you measure our COVID vial because it's temperature sensitive, we need to need the viscosity or the liquid level understanding there, you know, it's makeup, because if it's not right, if we administer it to a human, it might not perform as well or not good.

SPEAKER_02:
And Williott won that mandate to kind of every single COVID vial sticker would have the Williott technology and to make sure that it's administered with zero risk to the human.

SPEAKER_02:
 So Williet sells event data, or sells but works with the customer saying what event is holding back your business?

SPEAKER_02:
Right.

SPEAKER_02:
And commonly it's in the supply chain where things are.

SPEAKER_02:
Did it go on the wrong truck or not?

SPEAKER_02:
Things like that.

SPEAKER_00:
 And so we've been talking about this in terms of food waste but I think there's also the important food safety angle as well.

SPEAKER_00:
You just mentioned with regards to COVID and if you're looking at it from the pharmaceutical perspective, well actually from a food safety perspective that's also very important.

SPEAKER_00:
Could this technology then help to be able to identify if batches of food were more at risk for instance from contamination?

SPEAKER_02:
 100% obviously one is from a food safety is understanding those environmental parameters, has that food expired or not.

SPEAKER_02:
So 100% temperature, humidity, you can get that generate that high definition picture of what is experienced.

SPEAKER_02:
And also where has it been?

SPEAKER_02:
I think that's been half part of the issue on food safety is when there is an outbreak, I think it's always been very slow to react.

SPEAKER_02:
 but in theory now with that digital visibility from end to end, you can trace that back in seconds.

SPEAKER_02:
And it's food safety for us as humans, but also for the livelihoods of those farmers and businesses in the supply chain, because previously I think in food safety incidents, it's just blanket, lettuce, bad, right?

SPEAKER_02:
And that's not good, right?

SPEAKER_02:
You just destroyed almost less demand and

SPEAKER_02:
 livelihoods for many, many, many farmers.

SPEAKER_02:
And then we already know they're on a knife edge of profitability.

SPEAKER_02:
So again, you can really isolate where the problem is and react fast.

SPEAKER_02:
And again, going back to COVID, if we had that traceability technology there on tracking and tracing, maybe we might have been better, quicker and reduce the impact on the economy and as well as health.

SPEAKER_01:
 And it sounds like this tech has the potential to solve an awful

lot of like food system problems, which is amazing.

SPEAKER_01:
But bringing it back to food waste, and I'm just trying to, if we
can kind of unpack this for our listeners.

SPEAKER_01:
So imagine you produce a lettuce on the farm and it's tagged,
whether individually or on a pallet.

SPEAKER_01:
So if you then go through that food supply chain, how does it then
prevent the food waste?

SPEAKER_01:
So it's measuring all of these things.

SPEAKER_01:
So how is this then preventing food waste and loss throughout that
process?

SPEAKER_02:
 Yeah, I think the food system has very much been a commodity.

SPEAKER_02:
It's been commodities.

SPEAKER_02:
Everything's a commodity.

SPEAKER_02:
It's all the same, right?

SPEAKER_02:
It's like that lettuce is the same.

SPEAKER_02:
Of course, there is some recording on there.

SPEAKER_02:
But people aren't optimising their supply chain on the quality of
that lettuce, for example, when it was harvested, and how many hours
of temperature above the threshold is it experiencing?

SPEAKER_02:
Is it decaying now or not?

SPEAKER_02:
And it's been very much ad hoc, you know, checking, we assume
everyone's keeping it within that temperature.

SPEAKER_02:
 And I can tell you now, and I think many people in the food system
will tell you, like I know from greenhouses, from in stores, there's

massive variability of conditions in those environments.

SPEAKER_02:
You know, in my room I'm sitting right now, it will not be completely perfect conditions.

SPEAKER_02:
So I see it also inside trucks with Williots technology, like for example, like you see pallets that just

SPEAKER_02:
 completely different temperature, you know, up top to the bottom of the truck, completely different temperature.

SPEAKER_02:
So you're going to have a different freshness.

SPEAKER_02:
Right.

SPEAKER_02:
And as soon as you harvest that product, effectively, it's a ticking time clock of, you know, got to get it to the human's mouth as soon as possible, because it's freshness means nutrients or quality, you know, we're decaying the available nutrients available to us.

SPEAKER_02:
So it's actually imperative that we get it as soon as possible into our mouths, right?

SPEAKER_02:
 The best example is if you grow your own plants at home, I always reference this, like tomatoes.

SPEAKER_02:
You go pick one of your own tomatoes, it just tastes completely different, doesn't it?

SPEAKER_02:
It just tastes better, doesn't it?

SPEAKER_01:
You are talking to two people who every year grow their own stuff, so yes, absolutely does taste completely different.

SPEAKER_02:
Of course there's some bias in that, I get that.

SPEAKER_02:
Of course, because you've made it yourself.

SPEAKER_02:
But that is the favonoids.

SPEAKER_02:
 that is the nutrients that is the guess what it's called evolution but we've learned that as soon as you pick it off and eat it we get this kind of sensation like oh do that again right it's your body saying you do reward you do that event again do that thing again and those flavonoids decline the longer you leave it so again

SPEAKER_02:
 getting visibility of when it's harvested and, well, how it was growing and when it was harvested.

SPEAKER_02:
These are two massive data points.

SPEAKER_02:
If we can augment that visibility to end demand or optimize around our supply chain, around those metrics, so it's no longer first lettuce in, first out, it's which one's going to go off first or which one's got the, you know... Right.

SPEAKER_01:
Optimizing everything for freshness.

SPEAKER_01:
So no matter what things come in, it's like, that one's the freshest, get that out first.

SPEAKER_02:
 Exactly.

SPEAKER_02:
And we just we can't do that today because we haven't had the systems or the digital visibility or the visibility of that data point.

SPEAKER_01:
Got it.

SPEAKER_01:
Thank you.

SPEAKER_01:
That's super clear.

SPEAKER_01:
And is this technology being embraced by farmers?

SPEAKER_01:
And what what other kind of actors in the food system organisations are already starting to deploy this now?

SPEAKER_02:
The answer is yes, farmers would have embraced it.

SPEAKER_02:
I would say

SPEAKER_02:
 we're not willing to at this point in time, we're not focusing there.

SPEAKER_02:
Because let's be clear, like, I think a lot of technologies at the moment try and sell or sell their solutions into farmers right now.

SPEAKER_02:
And let's just say, they've had enough risk on their hands as it is.

SPEAKER_02:
 There are new generation tags being developed where this cost will go even cheaper and cheaper and capability further.

SPEAKER_02:
Maybe that's when we start to see this, let's just say, tagging individual trees to tagging livestock.

SPEAKER_02:
Maybe that could be something in the future.

SPEAKER_02:
But the true value this, I think, for farmers it can bring is it can finally

SPEAKER_02:
 tell the story of how this thing was grown, how it's moved, and communicate that direct to individual consumers and shine that light on what's going on.

SPEAKER_02:
And that will have seismic impact because consumers will start to really understand where their food comes from and how it was grown.

SPEAKER_02:
 and they will vote with their feet or they'll vote with their pocket.

SPEAKER_01:
Yeah and this is exactly the point every time I go into a supermarket I mean it's a lot about branding and marketing and it's you know saying this you know this piece of beef whatever it is comes from this farm and as a consumer you always have to be a little bit skeptical about you know they put the pictures of the cows on or whatever and it's like yeah but how can you tell

SPEAKER_01:
 right and if you can finally have a technology which actually says we can tell it was this this cow on this farm in this place and we've tracked it all the way across the the you know the food supply

chain I think that is when you finally get that real kind of trust from consumers because they can see the transparency right they know where it comes from and they've got that proof that data proof

SPEAKER_01:
 that you know and I love all this stuff this kind of idea of sort of digital twins but I've never seen it on this kind of scale and at this price point that you're talking about so really excited by that.

SPEAKER_00:
 Just on that point, I mean obviously because trust is a really big issue, trust in data, trust between different stakeholders in the food system, and this is something we've spoken about quite a bit Anthony, is it feels very ideal that everybody's going to trust each other throughout the food value chain to deal with each other's data, to share data, to be happy with that and happy with sort of

SPEAKER_00:
 maybe giving up the ownership of that data so that the next stakeholder in the value chain can use it and use it sort of along and along and along.

SPEAKER_00:
How can you build a system that really builds that trust between stakeholders to make sure, you know, that people don't say, well, this is great, but I don't want to share the data that I've got about the apple that's been grown that I've tagged with the next stakeholder along.

SPEAKER_02:
I think it's one of the biggest issues in the whole food system anyway, which you mentioned there is

SPEAKER_02:
 is this data sharing part.

SPEAKER_02:
Really, it is not a silver bullet.

SPEAKER_02:
No solution ever will be.

SPEAKER_02:
But the point there is there is a wide space, I think, for still an actor or multiple actors to come together in some sort of unified business model which allows everyone to share their data into it, into an entity.

SPEAKER_02:
There needs to be someone to set some data standards.

SPEAKER_02:
I think it would be really helpful for the industry

SPEAKER_02:
 and then that kind of central body or person or entity can then also maybe become the trusted partner to deposit this information.

SPEAKER_02:
You know we've talked about before maybe the possibilities of some sort of blockchain technology could act as that because it's decentralized arguably in itself it can be set up that it's not owned by anyone right but it could be owned by the community and those who contribute to it for example.

SPEAKER_02:
So I think it needs solving it's not something I think really it can answer for but

SPEAKER_02:
 I think, Lucy, you've talked to me about this many times.

SPEAKER_02:
We need to work on a solution that works for everyone.

SPEAKER_02:
We need to stop the infighting between brands and farmers.

SPEAKER_02:
Don't get me wrong, there's probably unfair allocation, but I think the food system as a whole, we need to come together and fight a different competitor.

SPEAKER_02:
I like that.

SPEAKER_00:
Maybe healthcare.

SPEAKER_00:
Find a common enemy.

SPEAKER_00:
But yeah, I mean, inclusive rather than exclusive, I think.

SPEAKER_00:
Yeah, definitely.

SPEAKER_01:
 And Anthony, can I ask you about your sort of future vision for Williot?

SPEAKER_01:
I mean, you know, what's your dream about how this is going to change the food system?

SPEAKER_01:

Can you give us a view of like, Williot in five years time or something like that?

SPEAKER_02:
This is dangerous.

SPEAKER_02:
Yeah, I think the world will look very different in five years time for sure.

SPEAKER_02:
Because, okay, let's remember where the first computer was and where we are today, right?

SPEAKER_02:
And the argument is since the first computer, this is what Neri Oxman says, I'm not the smart one here.

SPEAKER_02:
I'm always hiving off other people's intelligence.

SPEAKER_02:
 But we now have over 1 trillion times more computational power since the first computer.

SPEAKER_02:
We have 26.5 trillion apparently increased bandwidth of that in the network and 11.5 quintillion the memory since the first computer, right?

SPEAKER_02:
So when we talk about dealing with complexity,

SPEAKER_02:
 of nature anything else i think we have the power to understand it now and build that complexity back in right so you know let's use all this advancement in the world of bits we've all got very excited about going from atoms to bits and in the end we built twitter

SPEAKER_02:
 Oh, sorry.

SPEAKER_02:
X, X, X. But the point is, yeah, the point I'm just trying to say is like AI in five years time is going to change how businesses are done, how things are handled.

SPEAKER_02:
But I'm very excited for it.

SPEAKER_02:
I think we'll start to really understand how systems interact with one another and we can optimize around it.

SPEAKER_02:
So today, again, we have a lot of talent moving adverts around a screen to get people's attention.

SPEAKER_02:
You know, that's been very much the Googles and no disrespect to them.

SPEAKER_02:
 the TikToks, everyone's business model, get attention, get content, get you and I using our fingertips to interact with that content and get information about you and I. Well, in a world where Ambient IoT, where Willit is deployed, I don't need to pay Google for ads.

SPEAKER_02:
I don't need to pay for Amazon to be top of their marketplace.

SPEAKER_02:
The CPGs and the retailers can just get more intelligence on you and I of what we need and then ensure that we're not wasteful as well.

SPEAKER_02:
So I think the products will be smart.

SPEAKER_02:
 What does that really look like?

SPEAKER_02:
I think the circular economy is really going to advance in the next five years.

SPEAKER_02:
So again, we are having conversations right now already with a passion of sports companies that they will know, you've already seen it, right?

SPEAKER_02:
You will know how many times you've been wearing that top or this hoodie I'm wearing today, right?

SPEAKER_02:
Anthony, you only wear it once a month.

SPEAKER_02:
Yeah, because I'm only on this podcast, I'm wearing a Williott hoodie, right?

SPEAKER_02:
But no, I wear it all the time.

SPEAKER_02:
Of course, of course.

SPEAKER_02:

But hey, you're not using it, but someone else wants this hoodie.

SPEAKER_02:
Can we resell it to the person down the street?

SPEAKER_02:
They want it and they don't want to buy a brand new one.

SPEAKER_02:
They'd rather buy a used one.

SPEAKER_02:
And we've seen that re-wear economy essentially kind of really kick off.

SPEAKER_02:
It's like, yeah, okay, buy it back.

SPEAKER_02:
I paid 50 for it.

SPEAKER_02:
Buy it back off me for 30.

SPEAKER_02:
Yeah, fine.

SPEAKER_02:
Here's 30.

SPEAKER_02:
They're selling the same item multiple times.

SPEAKER_02:
 And that's what we need to do to make the planet sustainable.

SPEAKER_02:
We've got twice as much demand in theory, according to research versus the supply of materials.

SPEAKER_02:
So we need to increase the utility of things, use them multiple times.

SPEAKER_02:
And I think fashion will lead the way on that, for example.

SPEAKER_02:
And we'll have this real circular reuse economy.

SPEAKER_02:
So what I'm trying to say is we'll be very much part of understanding how things are used and how demand is happening, and then matching that.

SPEAKER_02:
 with the nearest available supply and the priority should be where
governments can help, the priority should be reusing and then it's
recycling and repairing and then only then if that's all exhausted
then okay bring new materials into the system.

SPEAKER_02:
So I think I'm very excited for the circular economy being enabled
by this kind of computing power and you know sensing technology.

SPEAKER_01:
 So a truly smart circular economy is the vision.

SPEAKER_00:
Yeah, the tech's there.

SPEAKER_00:
But what you're actually talking about is you're talking about
systems change.

SPEAKER_00:
And, you know, that's what we're all about.

SPEAKER_00:
I mean, it's not about, you know, one solution, you know, one
innovation.

SPEAKER_00:
It's about actually how we use that within the system and how we use
it to change the system.

SPEAKER_00:
And that's obviously what we need for food systems.

SPEAKER_00:
Food systems transformation needs systems change. 100%.

SPEAKER_01:
 Yeah, so something maybe to finish off.

SPEAKER_01:
So if you had unlimited funding, I mean, magic wand, what technology
other than the amazing Williot technology, what technology would you
invent right now to help, you know, the food industry and and why?

SPEAKER_02:
The visibility, for example, of nutrient density of our food.

SPEAKER_02:
Yeah.

SPEAKER_02:
And I've seen firsthand

SPEAKER_02:
 Let's just say I used to help try and help farmers, you know, increase yield, feed the world narrative, right?

SPEAKER_02:
Feed the world.

SPEAKER_02:
And they're always trying to increase their yield.

SPEAKER_02:
But then I found this set of growers who were, let's just say, growing in soil, not indoors.

SPEAKER_02:
And these other growers were all indoors, greenhouse.

SPEAKER_02:
 know, call it vertical farming, whatever it may be, maximizing volume production.

SPEAKER_02:
And I found these set of growers who are growing for the for the medical industry, okay, it was it was cannabis, let's just be clear, right.

SPEAKER_02:
But they're growing for medical reasons, and they were growing in soil.

SPEAKER_02:
And they were growing in polytunnel in soil, and they were achieving higher yields than my best growers indoors,

SPEAKER_02:
 higher biomass yields and higher quality yields in terms of nutrient density, the THC levels and the CBD levels.

SPEAKER_02:
And I was like, why don't we grow like, hold on, how are you achieving this?

SPEAKER_02:
It's called, oh, it's regenerative agriculture, it's healthy soil.

SPEAKER_02:
And I was like, so why don't we do this in the food system?

SPEAKER_02:
Like, yeah, you should, Anthony, you should.

SPEAKER_02:
I was like, why aren't you doing it?

SPEAKER_02:
He said, there's no incentive.

SPEAKER_02:
There's no incentive to grow for nutritional density in the food
system.

SPEAKER_02:
 So now that's kind of my lightbulb moment, is that there's a way of
growing which is more efficient, less inputs, is more energy
efficient, and just was just working with nature.

SPEAKER_02:
It's like, how can we get the food system to go that way?

SPEAKER_02:
So go back to Lucy's point earlier, this is about technologies for
systems change.

SPEAKER_02:
And I think if we can augment that metric of what is the nutrient
density of food, and then match that to obviously humans' needs.

SPEAKER_02:
But yeah, if food companies start

SPEAKER_02:
 branding themselves of my product can make you more healthy, or you
can work harder, play harder, because you're eating our product or
drinking our product, that will be game changing for the industry.

SPEAKER_02:
Because then actually, the result of that is that those brands
optimize their supply chain for regenerative food or regenerative
agriculture is the only way to achieve that nutrient density level
I've seen that is the most cheapest way.

SPEAKER_02:
So that's where I would pile a lot of money into is augmenting that

SPEAKER_02:
 that visibility of nutrient density of food so that's measuring on
farm like measure it in the plant all the way to you and i can just
measure it in store our new meta glasses with ray ban which just
came out to be able to just check the food for nutrient density and
thanks very much i'll order that right

SPEAKER_01:
 So it's, it's almost like going back to your original point about
switching it from supply chain to demand, right?

SPEAKER_01:
The demand chain, it's like humans have certain health needs and,

you know, different populations have different health needs.

SPEAKER_01:
And what you're effectively saying is, can you then get the farmers
and the producers to grow for the foods with the nutrient density to
match those particular needs?

SPEAKER_01:
So it's actually matching consumer needs to producer needs really,
really precisely.

SPEAKER_01:
And then you've got the data to back it up.

SPEAKER_02:
 It's an energy efficiency thing.

SPEAKER_02:
In the end, plants are just energy.

SPEAKER_02:
We eat plants for energy.

SPEAKER_02:
And I think we're just operating very inefficiently in the world,
right, with our atoms.

SPEAKER_02:
So we're eating badly, and we're then very unhealthy and very
inefficient.

SPEAKER_02:
Do you know what I mean?

SPEAKER_02:
And we're creating a lot of tax for ourselves over there, right?

SPEAKER_02:
So yeah, you have explained it really well.

SPEAKER_02:
So I think if that happened, it would drive huge efficiencies in the
world.

SPEAKER_02:
 if human health was better.

SPEAKER_02:
I believe if you actually optimize your human health, you'll have a
better planet.

SPEAKER_02:
 Because the data will be just so apparent.

SPEAKER_02:
And I'm seeing this data appear a lot in the many other solutions in the food system.

SPEAKER_02:
Epigenomics is another exciting area, which I would pile a lot of money in.

SPEAKER_02:
What I mean by that is the expression of genes when genes turn on and off.

SPEAKER_02:
So if Lucy and I had the same genetic profile, but we experienced different things in life, we would look and be completely different.

SPEAKER_02:
And that's the expression of genes.

SPEAKER_02:
And that explains 70% of

SPEAKER_02:
 or 80% of performance or results.

SPEAKER_02:
And we don't really understand that.

SPEAKER_02:
For now, we have the technology to do that, but I'm seeing that again, being applied into plants, into livestock, and there's a lot of answers there.

SPEAKER_02:
And funny, guess what?

SPEAKER_02:
The answers are, eat better.

SPEAKER_02:
Eat from healthy soils.

SPEAKER_02:
You get better outcomes.

SPEAKER_01:
Amazing.

SPEAKER_01:
What a fabulous place to finish.

SPEAKER_01:
Anthony, thank you so much.

SPEAKER_01:
This has been an amazing conversation.

SPEAKER_01:
I have learned a ton.

SPEAKER_01:
So thank you.

SPEAKER_02:
 No, thank you.

SPEAKER_02:
I always enjoy talking about it and every time I spend time with EIT Food as well, I continue to learn myself.

SPEAKER_02:
There's so much to learn in this space.

SPEAKER_02:
Yeah, there really is.

SPEAKER_00:
Sharing the love.

SPEAKER_00:
I love it.

SPEAKER_01:
Of course, we have to give you your kind of time in the sun.

SPEAKER_01:
So where can listeners go to find out more information about yourself and Willy Hot and what you do?

SPEAKER_02:
Visit our website, contact us through there or just contact me directly through LinkedIn.

SPEAKER_02:
No problem.

SPEAKER_01:
Perfect.

SPEAKER_01:
 So that was William talking about their incredible transparency tech aiming to reduce the huge problem of global food waste.

SPEAKER_01:
So what I really loved about this conversation, there was a few things he said.

SPEAKER_01:

So Anthony said right at the start, he was saying that actually we need to go from a supply chain to a demand chain, which I've not heard anybody say before.

SPEAKER_01:
And I think what he meant by that, Lucy, you and I were talking about is this just in time approach, which has been very, very difficult to do in the food system.

SPEAKER_01:
Right.

SPEAKER_00:
 Yeah and I mean it's something that's used you know in other sectors but for the food sector we don't do that.

SPEAKER_00:
When we've looked at data and when we've looked at data about food it's been very much stuff that's been recorded on a pen and paper and then handed over

SPEAKER_00:
 done by people, not by computers, handed over to the next person on the supply chain.

SPEAKER_00:
And so I think, you know, one of the things that we were talking about was around the fact that we can do this, you know, so it's real time.

SPEAKER_00:
So we've got the capabilities now to have data in real time, to share the data in real time and to make decisions in real time.

SPEAKER_00:
And that's amazingly useful.

SPEAKER_00:
That can really sort of change the tide.

SPEAKER_00:
That can really mean a big difference.

SPEAKER_00:
 because it means that we know exactly what's happening to that piece of food, that food that's been harvested right from the field, till it gets to somebody's house.

SPEAKER_01:
 Yeah and you mentioned as well about the speed of that.

SPEAKER_00:
The speed is, I mean it's inconceivable really how quickly this can be done and those decisions can be made and you can then say well

actually this lettuce, and I think Anthony used lettuce as an example, this lettuce was maybe harvested before another lettuce that you've got in store

SPEAKER_00:
 but the one that's been harvested later might have sat around for a bit and it might have started to sort of decay a little bit faster because the ambient temperature has been higher.

SPEAKER_00:
So you might want to get that on shelf sooner because that's going to go off and not be as nutritious for the consumer and not be as healthy for the eater, the person who's purchasing that and eating it.

SPEAKER_00:
So that's a really sort of important thing and that's something that's going to really help with food waste, but it's also going to really help with nutrition of food as well.

SPEAKER_01:
 Yeah, really fascinating conversation.

SPEAKER_01:
Really love that.

SPEAKER_01:
So thank you everybody for listening in.

SPEAKER_01:
As I'm sure you're aware, this has been the Food Fight podcast.

SPEAKER_01:
And as ever, if you'd like to find out more about what we do, head over to the EIT Food website at www.eitfood.eu.

SPEAKER_01:
Please also join the conversation via the hashtag EIT Food Fight on our X channel at EIT Food.

SPEAKER_01:
And if you haven't already, please hit the subscribe button so you never miss an episode.

SPEAKER_01:
 That's it for now.

SPEAKER_01:
See you all next time.

SPEAKER_00:
Thanks for listening.