Kitro Audio Meeting notes-

Kitro is from Switzerland. Benno and one more founder are from hotel industry, worked all over the world hotels. and have seen the challenge of the food waste issue, in the hospitality industry. They realized that one main challenge of food waste is that we don’t have lot of data of how the food gets transformed, mixed up and we don’t know how much of what gets thrown away. If you want to take action, we need measurable data.

We started motivating the chefs to note down what they throw away but this was not an efficient solution so we thought there has to be an automatic solution, or a digital solution. The principle is rather simple, below, it has a weighing scale below the plate, at the back there is a pole which is adjustable, which helps it work on all types of bins, at the top, there is a camera.

Whenever we throw anything in the bin(mixed plates or raw), the scale measures the weight difference and this weight difference triggers the camera to take a picture.

As they knew the hospitality industry anf that people working there do not want to do extra efforts, the system does not have any buttons. Just plug it in, put the bin on it, and it starts working.

After the picture is taken, and AI detects the food being thrown away and how much of it is thrown and the time when it is thrown. They take 3 data points, what, how much and time.

Prof. Jason’s question – what about mixed food

Answer – we do not identify individual ingredients of mixed food. Eg- They just label it as “Curry” to a curry being thrown. Mixed when it was cooked is not identified.

They just don’t give the data to the hotel, they work with them to reduce food waste.

We don’t need any menu data from the property. We have centralized algorithms, algo that wokrs with all properties, there are othere solutions where the systems learns the data from your property and this takes time so we combine data learning from all properties to have plug and play.

When bin fill up, camera focusing issue? We had a issue but we increased the camera quality and we don’t have issue anymore unless we have huge bins

Smallest amount of weight that can be sensed from your camera.– 10 gms to 150 kg. Its from Mettler Toledo, a common company in swiss.

Any event when non food enters the bin?

Dashboard – web-based dashboard, time frames, comparisons etc

1. Filter - Waste type – edible and in-edible, differentiates carrots and carrot peels, filter peels etc and pnly look at food

Recognizes fork knifes, spoons, tissues, papers

After we get the data, we categorize the food into normal food categories (vegetables, fruits etc) and we can go in detail as well. We are able to recognixe over 300 items. How much is thrown away compared to last month anf how

-------------------------------------------------------------------------------------------------------------------------------***Transcription*** –

**Benno** - Most probably, you read from my strange accent. We are from Switzerland. So the two founders, but also myself, we are coming from the hotel industry. So we studied hotel management worked in different hotels all over the world. And we have seen the Yeah, I would say the the huge challenge of food waste, especially in the hospitality, but I would say all that's anomic fields. And what we then realized quite quickly, that one, one main challenge in regards to food waste is that you do not have a lot of data, because of the food gets transformed, it gets mixed up, whatever. And then you do not really know how much of what you throw away. And now too, but if you want to action on something, you need data, you need measurable data, right. And then before there, to kind of motivate the chef's to write down what they throw the throw away, I think it's another really efficient solution. And maybe they're not so motivated to do that. So we thought there needs to be an atom automatic solution or a digital solution. And from a principle, it's, I would say, rather simple. So at the bottom, we have a scale that is below this plate here, then on the back side is a pole that is adjustable in height. So it works with all kinds of mean, you don't need a special bin. So always the same system, even though looks a bit smaller, but it's the same one. And then at the top, there is a camera. And now what we do is every time you throw something away, no matter if it's coming from the kitchen from production process coming back from buffets, or coming back from the plates of the guests, just throw it into the bin as he did before he lands in the beam, the scale will recognize the weight difference and distributes the camera on top. So each time you throw something away, we take a picture. And for us as we knew the hospitality or gastronomic industry quite well, there is no time and people don't like additional work efforts. So the system does not have any buttons. So also the staff training on spot is rather simple. Just plug it in, put the bin on it, that's it, and then it works fully independent. So as you throw something in, it will trigger the camera, and we will get beautiful pictures like this one. So we just make a photo of the inside of the build each time something gets added. And then we have AI in the background that can recognize the different food items that have been thrown away. So so like this, we gain three, I would say three important data points, we know what it is, how much and the exact timing, because also the timing is important then to optimize processes in the in the kitchen or in the property. Good. I will now switch quickly to our dashboard that you see how the data looks like and how we work with it. But do you have from a principle perspective? question already?

**Jason** - Yeah, I noticed here on this slide to just show any you're looking at is able to identify like mixed vegetables.

**Benno** - Maybe I'll show you quickly it goes of course a bit deeper. Because here, it's just this would be the mixed vegetables. So it is already mixed when it was cooked, then it's not always possible to really see each single ingredient. But of course, we can also identify ingredients, but it depends a bit, you know, for example, if you have a curry, which is kind of covered with sauce, yeah, it's hard then for us just from the picture, we will just label it as curry. And I will show you just afterwards, we do not just only give the data to the properties, we work with them together. And then we show them I look you have so much curry and then the property or the chef, he knows what is inside the curry. So of course we could for example, it was also made a strategic decision on our side, because our system is plug and play. So you put it in, you plug it in, put the button on it and it works. We do not need any menu data from the properties because we have a centralized algorithm so the algorithm works with all properties. So it's not one algorithm per property. And there are other solutions around that where you have to learn the algorithm with your dishes etc. But this of course takes time and we said no we want to have a plug and play. We might not say okay in the curry it has this and that but we know already. It's very new Trying to get enough to work.

**Jason** - Okay. Do you have an issue? Okay, so as the bin is, is filling up, do you have an issue with, with the camera focusing on the right level?

**Benno** – Good question. Very good one. So we, so, of course, we developed or we have newer versions around. So that was a main issue in the beginning. But we, I would say we increase the camera quality that we use, because we build also the hardware by ourselves. So we increased this and this is now not an issue anymore. Unless you have really huge pins, then we have to check. But usually it works. I see no.

**Quincy** - So I have a couple of questions Chase. So what are the smallest amount? I'm looking at dishes questions here. And so, what is the smallest amount of weight that can be sensed from your camera?

**Benno**- The scale goes from 10 grams to 150 kilo. So everything in between we can recognize the scale is from Mettler Toledo. It's, it's quite, I would say known scale manufacturing the especially for industry purposes. So, I said from 10 grams, so the granularity is at 10 grands.

**Quincy -** And in the event that a non food item enters the bin, does the camera image that item as well? Or how does the camera differentiate between non food items and food items?

**Benno -** Yeah. So maybe quickly show your dashboard? Because then I can easily show you that question. So and I think it will also answer a lot more. So the dashboard looks like this, this and also, it's a web based dashboard, not something to download so you can access it from everywhere as a customer. And as any dashboard, you can select different timeframes comparison timeframe, I think nothing special. But here may be the first interesting filter. It's called waste type edible and inedible. So first of all, we can differentiate for example, between the carrot and the carrot peel. So we can filter out peels, bone scraps, all that kind of stuff that we really look at the food itself. And then of course, we also recognize like fork knives, paper, tissues, whatever. And yeah, we can tell you how many kilo forks you have thrown away, or how many kilos of spoons even find the mobile phones. Good. And then what we do first, when we when we get the data in, we first categorize the full data. And in the I would say the normal, I would say foods categories. But as said, we can go even a bit deeper. So if you want to know more, why do we have 1345 kilo of vegetables, then we can click on Learn More than it should load. And we see for example, okay, 90 Kilos of Tomatoes, you want to learn more about the tomatoes. So now here we are, this is just specifically for tomatoes. And we have this for around 300 items that we are able to recognize. And we would see now how many tomatoes in general you throw away each day. Now compared to the previous month. Then in in these bars, we differentiate between the different service times. So we would now see that 48% of the tomato waste is happening during morning service, and 20% during lunch and 32 in the evening. And I will pause in a second. But just want to finish that because we can switch also to the source then it changes here. And the red bar now shows 82% of the tomato waste comes from overproduction. Now coming back from the buffet or from from from the kitchen. And 80% is coming from the plates of the guests. So was the leftover on the plate. Nice. So now, this would be a data point to discuss with the chef like okay, you see that nearly 50% happening in the morning. And it's mainly coming from overproduction. So then we would also look at how does the process work for what to use tomatoes in the morning and then we start from there to maybe start to optimize different processes.

**Jason** - That is excellent. Excellent. Thank you.

**Benno** - Maybe the last point then then I really let you ask all the questions, everything just to really get the full picture I have the solution. So as we have effortless solutions of what's critical, it's not an added workload, we do usually work with yearly contracts, things like this, or just long period stuff so that we can measure analyze, then we sit together and say, Hey, with the tomatoes in the morning, we can maybe change that, that that when with the carrots, we do this and with the meat, we do that. And then as they start to change the setup, or maybe they change the buffet, or the amount of pre production, whatever, then we can kind of follow what is happening. And at the end of the period, or within maybe after two months, we sit together again, and look what's happened. And then we can clearly say, okay, these actions we did take, and based on that we saved, I don't know, 50 kilos of carrots, 22 Kilos of Tomatoes, so we also can really show what they saved. And, of course, also what they kind of saved from a money perspective, because they usually they will throw away less, they also have to buy less. And that results in saving. So it has an economical or economical part, but also ecological. Yes, now I'm pulling here for your question.

**Jason** - Yeah, so I noticed your method of analysis is actually has greater detail. Then the last company we spoke to, which was when went up?

**Benno** - We know we know. Yeah, of course. Yeah. And it's one of so they're, I would say they're the three I would say big players in this market is we know, Orbis. And, and we and maybe lean path is also one more. And I think from Yeah, without now bragging or something, I mean, from a technical or from the AI standpoint, and the granularity of data, I think we are ahead. And this is because we because for example, we know we're quite long, we have a manual input that you had to give. And so we from the beginning, we worked fully on AI fully on an automated solution. This is a bit why I would say from a technical or analytical point, we are a bit ahead. Even though they are doing a great job. Of course, that's not not too bad, better than us. But I think from automation side, I think you're quite good.

**Jason** - Yeah, like for example, they cannot detect forks or any objects that are not that they're not edible, for example.

**Benno** - We can really, so when you go up a paper, even coffee grain, your forks spoons, we find we find like everything. Yeah, this is kind of the inventory. Also, the old customers have access to it, where they find all the things that we recognize. And we also kind of set the price for each, each thing. And they can adjust it so that they have a dashboard directly with the kilos and the respective price of it.

**Jason** - Okay. Do you guys also offer the same kind of pricing model as well, the only other person we talked to was winner. And they have it where they do? I believe it was like it is like the initial cost. And then then every month is I forgot the numbers. I think it's like 300 a month to 500 a month, I believe.

**Benno** - Yeah. So in us, that's not not a secret, they can share that. I can also send the presentation, that's a great, nothing nothing. So because I have to think how it is in the monthly subscription fee for us is 530 to $32 per device per month, where but there is everything included. So from support consulting data, no other costs cannot call. Of course, there's a small setup fee in the beginning. But yeah, that's it, then it depends a bit how big your infrastructure is. And if you need more devices, then because this is per device, it depends a bit how you do the setup. We also work for example, big universities where we do measure progress there. Of course, we have more devices in action. But some properties that are also the hotel sometimes they just take one and they rotate it in the building. So cement is one that is a bit different, too. We know our solution is mobile, you can move it around and it's not mountains or something.

**Jason** - Wow. Okay, so that's us. Interesting. So how do you guys analyze your data? Like? Is it done locally on the machine or our code I mentioned, because I saw that you have Wi Fi as well. So our pictures and images sent to a central hub where you do your analysis, or how does that take place?

**Quincy** - And so I'll just add to those questions as well, because there are also some questions about real time feedback, and what type of data science is used and looking at some of these just questions here. So yeah, a lot of questions around how you're managing the data.

**Benno** - Yeah. Okay. And it's a good question, I would say, that's one of the main differences. Also, when comparing to Windows, because our devices are rather, the basic, I would say the one that you get hotspots. So that's also why they don't break, they were very fine for four years. But they, they just take the weight, and the picture, and then they send it to us in the cloud. So the image recognition does not happen on the device. We do this centrally. And he also the main difference is that we have one one algorithm for all properties. Every property works with the same algorithm. And this is why our I would say algorithm is quite advanced, because it knows already, I don't know, 1 million different properties and 1 million different currents and whatever. Because everybody's at the moment, we are more or less in around 200 properties active. And this is why the algorithm is quite advanced, I would say because it's always the same. And then it happens in the cloud. And we take the images go through the algorithm gives feedback and then it goes to the dashboard. But here, I would say a set of advantages, in my opinion, or I'm allowed to say the data quality is quite high, because the algorithm has so many urban ordering works with so many images. In the end, the disadvantage is we have a delay. So it is not real time. And here to say we have to the one thing is decentralized algorithm where we collect all the images that goes through it goes back and algorithm usually, because it's a lot of computing power, it's not running all the time. So, we collect maybe from a day the images then it goes through it. So there is a delay for that plus we have a human in the loop system, that the small portion of the of the images, we do still check manually this to ensure data accuracy, and of course to curate the data, because with each AI they can do mystery, we call him Sherlock our AI he can he can do mistakes. So for example, there is a bread image and image of egg for example, and the bread you recognize and due to whatever reason, he also labeled the egg as bread. And these kinds of things we need to find because otherwise the next time egg comes he will label it as spread again. So this is why in or in our opinion, each good a guy always assuming in the back because they are not as clever as maybe the media would like to tell us. But yet this is also why we have this delay. I said we are it can be seen as a disadvantage. I would say from the mythology how we work for us, it's not a disadvantage shows for our customers not because we really we do not look for who has thrown away today. The two killer of carrots. I think maybe that could be interesting. But what we look for is rather patterns returning beings, what we see, okay, every Monday this happens or with egg every evening service, this happens. And we see rather for this little brandable this pattern. So you look at it from a wider perspective, and not the single out out things that maybe happened due to accidents because they will happen anyway. But if you want to change the process sustainable, you rather look at the big data and this is why we say yeah, the real time is not really needed. It could be cool. If it recognizes that you've thrown away a fork and it's eat or whatever, that would be nice. Maybe we find another song.

**Jason** - Yeah. So what happens when there is a new food item that's introduced that you guys haven't already analyzed? You know, how does that become a part of your system?

**Benno** - Yeah. So, of course, sometimes it's it comes on requests from customers that they say, Hey, we have a new item and can we would like to see how it is performing in the restaurants that we then check a bit, okay? How easy is it is to recognize and nothing special, then we can add a label. So that can be done. If the if there are things that we do not recognize, we usually just classify them. So make an example. If I throw a yogurt and then cram fresh, yeah, we would not see your differentiated on a picture with Chris's white sauce or whatever. So also, the Sherlock does not recognize it. And he would, if he doesn't know something or cannot recognize it, he then just looks at the color and the consistency. And now we would say it's white sauce and in the dashboard. Go to something, we then would find white source. And if it's only, I don't know, 300 gram a month, we would not care that much about it. If it's 10 kilo a month, then we will think okay, what is this white sauce? So we will then go and try to find the white sauce in the in the in here. And then we will see. Okay, on which day? Is it thrown away? Is it thrown away in the morning lunch or evening with you see, okay, it's always on Monday in the morning, then the executive chef will say, ah, the white sauce is the yogurt from the breakfast buffet. So we would then together with the local team, we would recognize it. So that's one point. And I said, if we see that there is the need to add a label then we can do it. But also on the other side. With this centralized algorithm, we have a standardized label set. So we don't do that, I would say individually. That often. But if we see there is an item that comes up a lot, then we can add it and especially when a lot of properties have it, then it's quite fast. And we recognize

**Quincy** - I have another question regarding you know, early on, you mentioned that your company invested a lot of upfront time in AI training, right? What challenges do you see in the industry? With Smart bins? What challenges do manufacturers faced with smart bins? Outside of investing a lot of time upfront and training your AI to create such a wonderful algorithm?

**Benno** - That's a good question. I think we did it in the in the end, we did it on the go. And I would say them. So we got customers that installed device. And with those images we started to work with. But this means in the beginning, we had a lot of manual labeling to be done to kind of start the training, but I wouldn't say we just did it all by ourselves and then started to work with customers. We worked from the beginning with customers, which just I would say that automation rate was rather small. Yes, and we looked at a lot of different teachers. Until it is. So we have seen quite a lot of food waste. That's a challenge. On the other side, I think the industry that we are in is already sorry, is already a challenge. Because of course the openness to invest in new technologies is not always the highest in a small marching industry like the like the customer Nomi. Yeah, I would rather say that the challenges are there to really then get the clients. And luckily, also now regulations are changing, etc. So there's a lot of movement in this regards going on. But I would say as Kasyno me as a really small margin already. The openness to invest in something new is not that high, especially when it's a new technology, even though return on investment is huge for the groups that work with us with

**Quincy** - another question, in fact, but okay, the ROI of it all.

**Benno** - Of course. Yeah, of course, this depends a lot on the properties and how many meals they serve. And the more meals they have the more food waste usually and the higher the saving potential. I think that's an important point to keep in mind. And I have already have some case studies I can also then send them to you and it's no problem. So here we measured at four universities in Oh. Do you still hear me? Yeah, yeah. Maybe my computer's already going to weekend? Oh, sorry for that. Well, no, I've been going back. Yeah, it's a case study from four, four universities that we worked with where we measured food waste. And so on average, they reduced their waste by 32%. And the best performing one, even over 50%. And so, per University, we saved in a year, we save around 14,000 meals. And here we just took the full amount of waste saved or not thrown away, divided by I think, 350 grams or something, but the normal plate would kind of wait. And yeah, they all say, or the average annual cost saving was between 60 and 90,000 Swiss francs. So they will say more or less the same on dollar level. And now if you look at our costs, if you would take two devices, yeah, it's a bit more than 10 12,000 Something per year. So it's still there, twice a year for on the job, several 100%. And we measure Indian, but if you have a certain size, and for us, usually the break even point is if you have more than 120 meals a day that deserve, then you should be able or then we see that you save more than you spend for the process. Okay, smaller restaurants, it still works, they can do something great. They throw away less food, but they might save less than the paper.

**Jason** - Okay, so for the RNA for the ROI. They're so like the 400%. Does that mean like for every dollar they spend on your technology, they get back? $4? Is that the

save? $4? Yeah, wow.

It seems like everyone should just be coming after Yeah.

**Benno** - For me, it's a no brainer to so there's nothing to think of a noise as usual. Gastronomy is a very, I would say, a human business. And this is all data where we rational. And then young guys with AI, evil AI is coming in, tell them how to go and tell their 50 year old executive chef, you're doing something wrong, and we're telling you what you're doing wrong. He will kick you out.

**Jason** - But this is the good side of AI because this is not replacing someone's job. Right? What this does, it opens the door for the need to hire more people now because they're saving money. You know? Yeah, so this is a huge

**Benno** - benefit. Actually, no, no. And we can say that our visa we are happy with how the company evolves, we have also now won some some bigger purpose also globally. So it's going well, and also would say they start recognizing the value behind it. And they've another we have a retention rate from yearly contracts with over 95%. So those are shows a bit okay, when you want to do it, then you see, okay, the huge potential and it pays off from as usual on a sustainability perspective, but also in the pocket in the end, but this unfortunately, still more important for the most people.

**Jason** - So for the the co2 savings property, since the 14th, about about 1410s. How is that calculated? Like? How do you guys determine?

**Benno** - That's, that's a it's just an unknown factor that we use. And this factor comes from a study from Switzerland Department of Statistics. And they think they say one kilo foodways equals 2.5 2.5 kilo co2, so it was it's a total waste and I am not sure now about the exact number but they they created once kind of a calculation that on average, one kilo of weight means its co2 equivalent

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this is this is not based on where the product product come from. It's really an average. Yep, but we are in discussion because there are a lot of young companies around that, that do kind of this calculation with the look at okay, where do you buy your cheese? Where do you buy your meat? Based on that they really calculate it. But yeah, for us, it's, it's just too much. We're too small to do that next to the thing we do. But we usually tell them, yeah, hey, there are other companies if you want to really calculate it really on your ingredients, but there's so much research behind. And here, we just took a nap. Practice.

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Jason - So if so what happens if someone puts up like a plate of food, like they scrape off a plate, and it goes into the bin? I remember before you're talking about Yeah, things are mixed together, like like mixed vegetables, it will identify with mixed vegetables. And one identify the separate things that are in the mix that are in the mix vegetables, right? So is that the same kind of thing that happens for like, a complete?

Benno - No, then we will. So if you have for example, fries, and I don't know carrots, and then you don't need to separate it and throw it away, you just throw it all together. And then this, this scale takes the full weight, of course, but we trained the algorithm that when he recognizes the food items that he can then allocate the weight. So he would understand if we have, for example, a salad leave in the meat bowl, he knows that the salad leaf takes a lot of space on the picture. But the meat was much smaller, but the weight of the meat was much higher. So we can take the ingredients into consideration. And then of course, it's a calculation. But we train this because still in the kitchen, a lot of times they throw single items away. So just one thing. And like this, we trained the algorithm that he knows, okay, leafs usually or salad leafs usually have this weight rise with this size of this weight. Because for us kind of the next step that we want to reach is that we take away the scale that we just with the photo with we can we can recognize the weight. And this is what we kind of already training the algorithm in. And we have the advantage that we have to scale. So we can just take away the weight and ask him, What is it and then we can check if he's right or not. So this is why also we can do this allocation when there are different food items. So unless we recognize it, we can allocate the right way to do it.

Quincy - So that brings up a question regarding data privacy, and what what do you do with your data? Do you what are you reading, you're collecting a lot of data, which is very informative to the entire industry of food measurement, management of food loss and waste at you know, for several different reasons. So what are you doing with like the data? And then what do you do with the actual waste? Are you doing anything with the waste? And yeah, all those questions involved there.

Benno -Yeah. So with the data at the moment, so we do a lot of with it. So we use it a set also for our algorithms train, of course and we support our customers with it at the moment we do not share the data with anyone would be kind of interested, of course chose to share it for example with authorities that they can create more better programs. This did not really happen. Yes. And so for the moment, we do not share it with others. It's 50 hours. But we are open for that. Because I think, of course, we can learn a lot of out of it. And it's super.

Quincy - I'm, I'm, you know, I have a question. As, as a professor who works with students, I have this question about possibly sharing the data with a student who might be interested in a data scientist. Coming data scientists.

Jason - Yeah, that's an important point. Because, so So Disha, who was able to make it she is a data scientist, and she's already funded. So if you guys want to outsource some type of project that you would like her to do, that would be awesome. It really,

Benno - we are working here with a lot of also the eth in Switzerland, maybe. Working with students from there, so that is happening. We are always happy for support. Hi, Disha. Hello, hello, man. I'm really sorry, I joined over

Jason - well, um, so Disha, Quincy, luckily has a copy of your questions. So yeah, she's been asking for you.

Benno - Oh, good. Good. Yeah. So that that could be an opportunity, of course. So usually, we are happy for support. And we have a lot of data to look at. And we have a lot of ideas what else we could train Sherlock or our AI with? So why not? Right. We need to hear. I have to say I'm more from the commercial side. And I said the hospitality background, so not. But we have a lot of really data nerds. For sure, I could tell you more what kind of projects we might could be support. But something you can discuss or I can check with me.

Jason - Yeah, we would love that. Yeah, no, don't be excellent. So, so So did you have additional questions? Or? Let's see, I

Quincy - got through the data questions. There are some questions here about scalability and future enhancements, did we discuss that area as of yet? I think we did.

Benno - A simple because it's one algorithm that works everywhere. So we Curie if there is no protect shortage around for for cheap search CPUs and stats, we could place it everywhere. And we were just like this, just need a block and the Wi Fi. Maybe on our side, we might need some more people to then work with the people that come scalability, there is no issue at all, I said, I think this was our, in my opinion, clever strategic decision in the beginning, that we do not make an algorithm for each property. But we have one that works with everybody. And like this, it's scalable doubt any, any, any, any challenge I will take. And the second part, yeah, future set, one point is to offer us kind of a vision is to make it scale so that we only have the camera. And that we then with the camera we can recognize the weight of because a lot of especially bigger companies or airlines, they work with belt systems, where they do not kind of clean the plates, but it's kind of all on the belt and just runs through like in a factory. And they're of course if you can just do it with the camera would be much easier. And often there's also not much space in kitchens. The whole thing.

Quincy - Just one last question about the waste of it all. You got a lot of organic waste there. Right? So are you guys doing anything?

Benno - Oh, yeah, that was good. Or so we itself we do not do anything with it. So usually we say especially for example, in Switzerland or the countries we working with anyway already mandatory that they need to separate it in the need to do things. I think what we can help or we already held with was that that we then know exactly what they throw away within for example, so or they throw away a lot of banana peels. Then we know another company that uses banana peels to I think when we sponsor the project, they use it for feeding flies that they kind of do, and then they could sell their banana peels to this company. Yes, we then find new streams instead of throwing away and landfill or purposes that they maybe use it for something else, because they really know what they have. And then they know if so many carrots, what can we do with those carrots? Are there is this company that that takes it?

Jason - Or coffee grains for that matter? Yeah, exactly,

Benno - exactly. So we earn, we then just support consult what can be done, but we are not doing it. So then the property they, they still own the waste, we only know own the boat.

Jason - I have question about, about the future of your company, D. Because when you when you said that you're going scale bliss without the weighing scale, that immediately, what it really pops in my mind is other markets that you can then open up to, for example, just the common user who wants to know, here's my plate of food, you know, what is the calorie intake of my food are what is, you know, whatever it is, they take a picture of it with their cell phone, that goes to your, your, your your data have in the cloud, and then eventually they get back,

Benno - I think the possibilities is, so there's just one full type, but also for other other materials. Because when you want to have the AI to add another label, or recognized and maybe copper, aluminium, also things like this, or liquids in chemical stuff, I think that's a small step, I would say. And of course this has to do with that. So I think when we would go scaleless, we would open up much more opportunities, how to use it. And, and here, maybe they loop back to the initial vision to fight food waste. Still, the majority of food waste happens in private households. So but they will never put the escape like this in their in their home. So of course, this will then also open up, for example, for an app that you can use it home. And yeah, I think also you have seen the prices, if he would go scaleless we could also, of course go down with the prices, because the scale is super expensive to have this granularity from 10 grams to 150. kilo is quite expensive is one of them from hardware side, the scale is the most expensive part.

Quincy - Wow, that's interesting.

Benno - You're really interested, we would also get rid of that just to get some margin that

Jason - you're collecting. I clearly see how I'm, you know, that's direction, you know, you can easily go because you're you always have that correlation. You know, the weight is always accompany every image that you guys are having.

Benno - Yes, that's the advantage. So we kind of start from a lot of data. Now we can, at some point, we can leave a way to scale and the data will stay the same kind of

Jason - Yeah, yeah. Yeah, it's great. Okay, well, we're lucky. Yeah. Well, that's all of my questions. And in Quincy, what about you? Do you have any other questions?

Quincy - I don't have any other questions. Disha.

Jason - Well, we'll get he said missed a lot of it. But we can share the answers to the questions that Quincy did ask. Oh, yeah. And, and also,

Quincy - I'm sorry, Disha was talking, honey, just one sec. Disha. Did you have any questions that I did use your list of questions. So I tried to ask as many questions that were on your list, we sort of had a free for all sort of conversation. It really wasn't structured. Are there any questions that perhaps might not be on your list that you came up with? Last or evening?

Disha - Um, no, I think all the questions are pretty much on the list. So

Benno - great. Then I would have a last question. Yeah, go ahead. Go when do we start with measuring foodways that Oregon State?

Jason - Yeah, that would be a good thing. Now. Disha did tell me that in the in the cafeteria. They have some kind of system there is not as advanced as yours. Yours totally beats theirs. Because there's doesn't identify food, right? It was like Disha. Do you? Can you like tell Ben? Oh, about that.

Disha - Yeah, yes. It's, it's like I think are you talking about the leanpath

Benno - Yeah. They are similar. I think they are Complete puppet scalars. And what they do is more that they look at the quantity, how many times something gets thrown away. And then they take, they do learnings about it. So it's I think the methodology is fine, because if you see something always gets thrown away, it already helps to maybe check what is going on there. But the imperfect is known here.

Jason - Well, this is interesting, because I mean, you're racing. I mean, so if it sounds to me that your method is superior than what we do have, and that could mean that there would be an even a better cost savings to Oregon State, if they did adopt your system versus that the other? So I would

Benno - I mean, you know, whatever the way they think, definitely, if you see that, for example, tomatoes come 100 times a day and melons, 20 times a day, you know where to look into it. But we could tell you then, for example, yeah, tomatoes, it's 15 grams per plate that gets thrown away. So you know how much you need to smaller the portion that would say it's just one step or one more data point deeper, that you put, I think the just count how many times can something thrown away already shows you where you might need to look into it? And I think we will, with the really the grams that you have to wait, also, what gets thrown away? It just gives you another action and deeper action fine. But I think the principle is rather similar with just a bit more granularity.

Jason - Yeah. So why don't we connect you to the person at Oregon State to talk to him about that decision. And then you can like, share with them, you know, a lot of things you shared with us and, and it sounds like you did this other company, then you can say, hey, you know, based on the comparisons between the two companies, this is the game that you would achieve by you know, going with, with your system versus, you know, the status quo, what they currently have

Benno - to do, and I think anyway, also now maybe to die soon, I have to catch a train. Oh, good. And so what I will do is for you, or I will send it to the show, and then maybe you can you can you can transfer to Jason and Quincy, I will send the presentation, I also have some more videos that show again, the solution how it works in one minute. So it's really easy to understand then and some testimonials from existing clients from bigger ones. And then feel free of course, to share it with anybody in the world. And also to share my contact details. We are super happy to get a lot of inbound. Yeah, and also the show now when we get maybe data updates from the to others. Yeah, in case of questions that stay on answered, let me know. I'd be happy to happy to answer or jump on another call. That's no problem at all.

Disha - Also, one more thing is that, I think, in OSU, only few cafeterias and dining centers have the lien, but I think most of them don't. In just one or two. them. Yeah. Ben's installed. So

Jason - the new pilot, so So Oh, that'd be excellent. Excellent. Yeah. Oh, yeah. And also, you know, if you have like, no, anyone in your company that that would know, if they would like to outsource any type of task to Tanisha, that would be great to connect us to them. Because, yeah, that's something that we're highly interested in. Okay, yeah.

Benno - For sure. I will ask and we usually, you will often have some small projects that we then also work with with students were great. So I honestly, I don't know what is going on in that moment, but I will ask for sure.

Jason - okay. Yeah. All right. Well, we'll let you go so you can catch your train. Thank you so much. You've been great, great presentation. I'm really glad that you guys are doing what you're doing. Excellent.