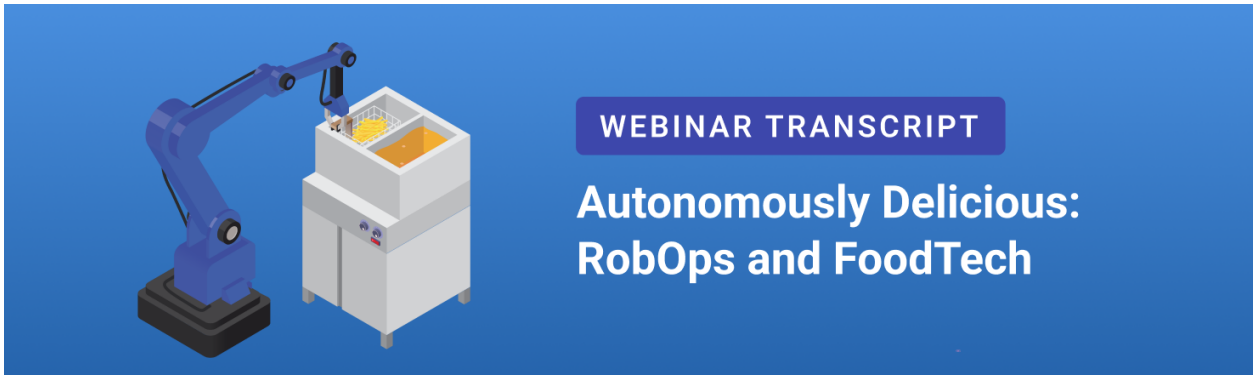
Autonomously Delicious: RobOps and FoodTech transcript



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To watch a free on-demand video recording of this webinar please visit
https://www.inorbit.ai/webinar/foodtech

Note, this webinar transcript has been lightly edited for grammar and clarity
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Geoff:
Welcome. Thank you so much for joining us today. Welcome to today's InOrbit webinar on "Autonomously Delicious: RobOps and FoodTech". Thank you so much for joining us we really appreciate it. I know it's early for some of you. Today we're going to be talking about automation and foodservices. Obviously FoodTech is a very broad category of discussion encompassing everything from AgTech, to supply chain, last-mile delivery, logistics, and a lot more. So focusing in today on the challenges of automation in foodservices in particular.

We have some fantastic guests lined up, so we're really excited for today's conversation. If you're new here and if this your first time joining one of our webinars, thank you so much. InOrbit offers a secure, cloud based, robot-agnostic data management and robot platform. We help robot manufacturers operate, develop, and deploy smart robots at a global scale. Central to what we do is a dedication to effective robot operations, or RobOps as we call it. Certainly a critical element when you're talking about automation, especially as it scales.

So a few minor housekeeping things to mention. My name is Geoff, sorry I forgot to mention that, I'm the emcee here, setting you up here with a few things this morning. I am the Content Marketing Manager here at InOrbit. But today's webinar will be 45

minutes long. We will be recording today's webinar as well, and then sending out a link to you guys after the fact, so if any of your colleagues we're able to attend this morning you can share the webinar with them. And then finally we will be taking your questions at the end of today's webinar. So for the last 10 minutes or so we'll address anything that may come up, or questions that you may have throughout the presentation. Please type them into the chat and we'll circle back to them at the end.

I think that covers everything, So with that, I'd love to introduce today's host for the webinar. Please join me in welcoming InOrbit's CEO and Founder Florian Pestoni. Good morning Florian.

Florian:

Hey geoff, thanks so much.

So today we're super lucky to have two really fantastic guest speakers with us. We're gonna talk about food and technology, and this is a topic that I've been personally really looking forward to for quite some time. Just like my Labrador retriever, Coco, I'm really food motivated and, and not just that, but pizza is my favorite food in the whole world.

So I'm extremely excited to introduce Clayton Wood. He's the CEO of Picnic, the creators of the Picnic Pizza System, which is an automated pizza assembly system, or as I'd like to think of it, it's a robot pizzaiolo. So Clayton has worked across a variety of tech industries from renewable energy, software, robotics now. So I'm thrilled to have you here, Clayton and look forward to geeking out on pizza.

And our other guest is Gennadiy Goldenshteyn, and he's the Founder and Managing Director of Dinemic Ventures, an incubator for technology-driven innovation in food service hospitality, and they have this like special focus on automation. And, in parallel or in addition, he's also a Principal at First Principles, LLC, which is a consulting firm that helps clients break down seemingly complex, strategic and operational problems to their foundational basics. So I think to simplify Gennadiy is an expert on foodservice technology, and he knows how to explain it in simple terms.

So thank you so much for joining me today. Why don't we start with a quick intro from each of you and maybe Clayton, do you want to go first?

Clayton:

Sure. Thanks Florian. It's great to be here, I appreciate it. Good morning, Gennadiy. So, just a little intro on Picnic. Picnic is a five year old startup, based in Seattle. We are the makers of the Picnic Pizza Station. The Picnic Pizza Station assembles pizzas automatically with the assistance of an operator. One way to think of it is we can make, or a single operator can make a hundred pizzas per hour without assistance doing all the jobs, loading ingredients, cutting, boxing. All the jobs and every pizza we make is customized for size, shape, and toppings. So our equipment is useful in any place that makes pizza: branded pizza kitchens, airports, stadiums, food service, college campuses, K-12 campuses, airports, food trucks, ghost kitchens I could go on. And, we're really excited to be here to discuss the challenge of food robotics. Thank you.

Gennadiy:

Guys. glad to be here. Always a pleasure to chat with Florian and Clayton as well. Short introduction to me. I've been part of the foodservice operations equipment technology space for about six and a half, seven years. My background is actually believe it or not in aerospace and automotive. So some of the more advanced or what's been referred to as advanced industries. Sandwiched in a few years with the McKinsey consulting firm, writing their product development practice. So that kind of explains what I'm doing with First Principles. But my entry into the foodservice world was actually also through pizza. That's our common thread. All three of us here sound like big time pizza wonks. I led on Yum brand's global engineering team. Of course, Yum brands is the franchisor of Pizza Hut, KFC and Taco Bell. And that's when we started taking the Yum operations into the connectivity space, into automation space and so on. After that I was asked to join a company called Welbilt, which is one of the major foodservice equipment suppliers. And I've built and ran our advanced systems group, which essentially was the designer and vendor and manufacturer of advanced equipment automation, advanced cooking methods, connectivity, working on such solutions with pretty much any major fast food and fast casual chain you can think of. And a few years ago I also wanted to be an entrepreneur, I guess I got tired of being a corporate entrepreneur. So I left the corporate world, and launched Dinemic Ventures. We are Dinemic Ventures, basically dining in a dynamic way. And our mission is to accelerate the world of food preparation, the world of cooking. We do it in two ways. One is we work with startups and help them navigate the waters of foodservice equipment, foodservice automation, and how to launch things, how to scale things. And the second is we also do some of our own product development. We actually have an engineering center in St. Petersburg, Russia and there, we basically do things that nobody else is trying. So we kind of stay away from pizza because guys like Clayton have it pretty much under lockdown. In my opinion, we stay away from things like bowls. You know, if you, if few folks have that under I think lockdown, we kinda try to play in things where nobody else is playing.

Florian:

So that's fantastic Gennadiy and thanks. Maybe why don't we just follow up on that and, and we start by, you know, defining some of these terms that we hear FoodTech, Foodservice, and you certainly understand the breadth of technologies that are being applied to food. So maybe you can help set the stage for us with like a picture of where we're at right now as an industry and, and also what effect you've seen from COVID-19 on this space.

Gennadiy:

Yeah, no, absolutely. Absolutely. So FoodTech is very, very broad, you know, literally you can go from soil to mouth. So let's concentrate at least for now let's concentrate on the restaurant world, and restaurants. We can divide it into front of house and the back of the house. So front of the house is really anything that the customer interacts with: ordering of food, serving the food, receiving of that food. And then back of the house, which is the actual preparation of food. And typically front of the house has led the way in technology, for a couple of reasons. One, it's easier and two, it's more customer-facing. So you can clearly show that customer the benefit. And that's what we've seen. That's what we've seen over the past 10 years, is significant advances in that front of the house technology.

So ordering food from point-of-sale systems, loyalty programs, all sorts of delivery and pickup solutions, both digital as well as the physical. And what we have seen here is all of these technologies have really been embraced by the customer and have really created a high expectation of customer service. I can order a pizza within probably 30 seconds with a couple of taps on my phone, and I can probably have it delivered pretty fast as well, maybe in a Kiwibot, you know it depends on where I live. So, I have high expectations as a customer that the pizza will be here fast. So now it puts pressure on the back of the house. That pizza also must be prepared fast, and unfortunately, that's not the case right now. So what we see now is the back of the house technologies are playing catch up to meet the needs that the front of the house technologies have created.

And truly actually this is a bit of a golden age for the back of the house technologies. There's lots of venture money that's still available. That's now actually being poured into the space. There's a great amount of talent, technical talent, that now is entering the back of the house technology space. So this truly is a kind of a good time to be here. You have to be a bit of a masochist about it. It's sort of a tough industry, but it's probably the best time to be in it. And there is a bit of a misnomer that back this house technology is sort of outdated. It really isn't. Food is pretty primal. Preparation of food is one of the earliest things that people have done and there's always innovation in it.

So matter of fact, what I consider one of the greatest inventions of the last century, the moving assembly line that revolutionized automotive and a lot of industries, actually came from foodservice. It came from the meat tech and plants in Chicago. And you see elements of back of the house technology, specifically automation in kitchens today. So conveyor pizza oven is a great example of the sort of embedded automation, the clam grill at McDonald's, nobody McDonald's flip burgers, there's jokes about burger flippers, but nobody at McDonald's flips burgers. They have a grill that basically cooks burgers top and bottom. There's no need to flip and a few other elements. Japan is notorious for it. In Japan, you can actually right now have any sorts of machines that make sushi. So there's definitely innovation that enters the kitchen. The question is, does it stick around or not? And the couple of examples I listed are examples that stuck around.

Florian:

Gennadiy I wanted to dig into something that you just touched on. If I may lemme just jump in with a little something, because I think as you pointed out, about automation, and robots. I think people who are here watching this probably agree with the statement in general. But I think there's been machines for tasks from mixing to chopping vegetables that've been around for decades. And then I think we get into this classic discussion, is a dishwasher a robot? It isn't by the way. But you know, maybe I'll just ask Clayton, at least in your own words, what are some of the differences that you're seeing between some of these more traditional technologies that we're touching on and some of the smarter technologies that are coming to market now?

Clayton:

Yeah, thanks Forian. I think it's actually very interesting just how new this space is given how old food is and how old food machines, food technology, and things that deal with food are. To Gennadiy's point the vast majority of investment and technology development over the last 10 years in foodservice has been guest-facing. I think it's really more IT solutions, computers, screens, software. The irony is that even though foodservice is about preparing food very little of the technology to date has actually touched food. And I think that's partly because it's a hard problem to solve. And the technology historically that has touched food has been at an industrial scale for decades. You've had food, manufacturing, packaging, food machines. There are giant machines and big buildings.

And at the restaurant scale, you have appliances, you have food processors, mixers you know, that sort of thing. What you don't have at the restaurant scale is machines and technology that actually prepare a dish. That do multiple jobs, to take the place of a

food service worker or a food service job by actually preparing a meal. And I think that's where that's where the new opportunity is. That's where the bottleneck is in food production. When you think about the new way restaurants are operating with digital orders; where the pace of orders is no longer paced by how many seats are in your dining room, or how many phones you have, or how big is your lobby for a queue. The digital orders are coming in at a very rapid rate and the food still has to be prepared.

To Gennadiy's point, you still have to make that fast pizza and these foods are labor intensive. Some of them don't adapt well to pre-making. It degrades the quality and there's a real bottleneck in food production. If you want high volume, high quality food to be produced, then automation is the obvious answer, but there's very few players out there producing it. So what we see is then new entrants into preparing food back of house. Picnic is one example, and for those of you wondering we have a little video we could show in a few minutes, but you think about the people who have gotten into food preparation, and automation. Gennadiy mentioned flipping burgers. There's a, burger flipping arm, and there are some very advanced systems that aren't really ready for wide release that do all kinds of complex things from stirring and sauteing and adding ingredients and seasoning but those are pretty complicated and it's going to take a long time for those to be widely adopted because it takes so much trouble to set them up so they can make a dish. Even if they can make a thousand dishes, you may have to do a thousand different set-ups to do a thousand different dishes. So if you're doing high volume production of a pizza, or a sandwich, or a salad, or a bowl there's very few players out there.

So in the pizza space, which I know best, there's a number of vending machines, which have been around for a long time and the vending machines typically take a pre-made pizza and warm it up. That's the most typical model for that. There are some that are getting into actually selling pizza. So that's an interesting way to apply automation. It's similar to what Creator did with making burgers, very elaborate, very sophisticated automation system to make a burger. But the business model they chose was to make a restaurant instead of a technology company, and the result is that the industry doesn't really benefit from that. And the growth plan is to open more locations not to actually sell broadly into the market.

Picnic was founded on the idea that we want to help foodservice workers, help food service operators be more productive and more efficient. And so we've built purpose-built automation, no robotic arms, meant to work with workers. And we do a series of jobs. If we only did \ one job like putting sauce on a dough, that's nice, but it's not a job. That's a task. So that doesn't really reduce your workforce. It doesn't really make you that much more productive. And if you look at the systems for you to put sauce on pizzas, it takes a minute to put sauce on a pizza. 'Cause you have to load the dough, put sauce on, take the dough off. So it isn't even speeding things up that much. It

just removes one task from the job. It makes it consistent, but it doesn't really reduce the workload.

So with the Picnic Pizza System we do sauce, cheese, fresh sliced meat, and granular toppings because our system is modular and configurable. You can make the menu as elaborate as you want. And our system is designed to work with the restaurant's ingredients. So we've started from the start by making a system that's meant to help the operator where they are. Not saying, 'buy our pizza', but 'buy our tools and make your pizza with our tools'. You could be much more productive. It's a good time just to show that quick video now, just to show what the Picnic System looks like.

Apologies. There's no audio here, but here we go. So basically the way the system works is the touch pad input, then you say what size and, and ingredients you want on the pizza, you can also customize the amount of each ingredient light, or heavy or omit the ingredient. But you've basically got robotic arms reciprocating elements there. Wow, that video was really choppy. If you go to our website, www.hellopicnic.com, you can see the full video in, in living color and get the whole idea, Basically we're placing the ingredients on, and because we can make the pizza really quickly, we're actually putting cheese on the pizza before we finish putting on the sauce. So it really speeds up the process. It makes one pizza about as fast as a single skilled operator can make it, but by the time that one pizza's made, there's several more in progress and that's really where you get the benefit. And because the pizzas are all customized you're not compromising the way the restaurant wants to operate, or the way the customers want it. And you're digitizing what's been a manual process.

You've got data streams, which is another benefit of automation. You know what ingredients you're using, you know the order pattern, if you have it set up where the customers are doing the ordering on their phone, you know who ordered it, you can tie that to loyalty programs, inventory management, POS, all kinds of secondary benefits. But I think back to the general question, I would say this kind of automation where you're really helping restaurants be who they want to be, they get their own identity, their own recipes. Tools should be made to help them make the food that they wanna make and help them be productive in the kitchen. Because I think that the coming crunch in the transformation of foodservice right now is a production crunch because the labor is not returning to the kitchen and the orders are increasing and there's gonna be an increasing challenge. As it turns out, handling food with automation is a tough job. You don't just jump into the market and suddenly have functional systems. So it's gonna be hard for new interests to get in without some significant R&D.

Florian:

Clayton, you know, I mentioned it but I guess we're all pizza geeks here. You know, let's say you go to Naples, you know, the birthplace of pizza. People there are trained for years to become pizzaiolo and they get to know a lot of things intuitively. They get to know their hotspots and cold spots of their specific ovens and what kind of wood to use. So it's extremely artisanal and hard to acquire that knowledge. Then at the other end, you have production systems, production lines, and factories for let's say frozen pizzas. And those come out by the thousands every day. It sounds like where Picnic fits in is much closer to the Naples idea of that versus the factory but without that need for years of training for the operators as you mentioned.

I think now with the challenges of the labor shortage that you mentioned obviously food prep is super labor intensive. So maybe I'll switch over to Gennadiy for a second. You're a former McKinsey guy, so you probably are tracking all of the market statistics. So what are some of the pain points that you're seeing today in terms of filling these manual jobs?

Gennadiy:

Absolutely, and COVID 19 and everything that it's spawned only exacerbated it. There's two huge pressures, one cost pressure on everything that goes into the restaurant's unit economics: labor cost, food cost, cost of infrastructure, and the second issue is just flat out labor availability. This goes beyond the so called “great resignation” that we're seeing. At the end of the day, we're not that fine dining here, we're not talking about Per Se or Chez Panisse or anything like that. The world of restaurant kitchens is, and I'll be blunt: immigrants and high school kids, or college kids. That labor pool, on both sides, has shrunk significantly. Immigrants, to some of our political pressures and so on. And high school kids, or college kids just no longer want to work at restaurants. They want to write apps, they wanna do gig jobs and so on.

So the dearth of folks who are willing to work in Western kitchens it's significant. The current stat is large operators, McDonald's of the world, are running at about 70% of their optimal labor staffing, and the independent restaurants, you know the corner pizza, is 65% or 60%. And this is a huge, huge, huge labor crunch, right? This is just a huge labor crunch. Clayton said something extremely insightful. You cannot just automate one task. You have to automate a number of tasks, so you can actually have a full impact. You cannot just put sauce in a pizza. You cannot just put cheese in a pizza. You must actually prepare a pizza end-to-end in order to have a meaningful impact. Let's take another example of burgers. This is an actual stat, we've done a study a few years ago with one of the major chains. If I automate a grilling station, I will save 0.6 of an FTE per shift, if I automate a french frying station, I will save 0.4 of an FTE. So if you truly wanna make a meaningful impact, then you must figure out a system. And whether it's one piece of automation, one robot, whether it's two automated appliances in sync that

now have to sort of work together, this is where robots become quite important, you know, the sync between a number of automated subsystems that form a complete system. So if you truly wanna save labor, so you can either re-deploy it somewhere else, or perhaps just, you cannot staff that position, so you need to save the labor. Then you must automate both the frying station and grilling station. So this is quite an important point. You cannot just automate tasks, as Clayton said, you must automate a solution.

Florian:

Gennadiy, maybe I can jump in because at InOrbit, we work with all kinds of automations. Food is probably the one that's closest to my heart or maybe to my belly, but a lot of you know, we're seeing some of the same patterns that you just described in areas as diverse as warehouses, or distribution centers for eCommerce where increasingly you're seeing these point solutions for automation and they do result in productivity improvements, but the overall throughput may not be impacted. So I think what we're starting to see, and one of the areas we focus on is this concept of what we call orchestration.

How do you get all of these various automation solutions to actually work together in a streamlined fashion? How do you respond to issues? Because these things I would say a back of the house at a restaurant, isn't a factory environment where you control every single aspect. It's a much more interactive process, so you need to be flexible. And that's where I think all of the traditional technologies like conveyor belts and so on work at massive scale, but with almost no flexibility. Clayton, you were talking about adjusting toppings, adjusting how much cheese it has. So you have that incredible level of customization and flexibility. In your case you've integrated it all in your modular Picnic System. But what we're seeing is in many cases, the company that makes the burgers may not be making the fries. And if you have, I don't know, tacos in the same place, it's probably something else. So I think we're getting into some of the gory details of the real world of robotics and automation.

Again, both of you, what are some things that work here and what needs to change in the way people think about the back of the house of a restaurant?

Clayton:

Yeah. Thanks Florian. I'll just jump in here. I think you made an excellent point, which I've done and some process improvement work in my background. And one of the truisms of process improvement is don't automate a bad process. Another one is that you can't just drop a piece of automation in the middle of a process and expect the whole process to get better. You really have to look at the end-to-end process of how is the

food being ordered, prepared, fulfilled back to the customer, by whatever means, and how well the automation fits into that sequence. So that the overall process gets better. Just improving one operation in the process probably leads to more variation and more disruption than you would think, and just ‘cause you speed up one piece of it. So I think that's a really important point. How do we integrate these things? And I think it's a symbol of how nascent this industry is. It's very immature. People are struggling just to get functional hardware and software out there into the market. And now the challenge is how do you integrate it effectively into a productive kitchen environment? The kitchen is a hectic place. A friend Chris Young had a favorite quote from a recent podcast where he called a kitchen a horribly inefficient factory, where you've got the chef's vision of what the meal should be, and then you've got a bunch of workers doing their best to produce the product very consistently. And it bears no resemblance to a factory, but that's what they're trying to do. And that is trying to put automation into that, to make it a little bit more factory-like, but it doesn't really adapt itself easily to the factory metaphor.

So I think there's just a lot of work to be done in making that better. And even when you've got multiple forms of technology, you know, several robots that Gennadiy mentioned are really maturing and becoming an element of front of house service but how do you integrate a back of house robot with a server robot? How does that hand-off take over? How do you integrate a delivery robot with a food locker? How does the food get from the robot into the locker? So there's, there's these hand-offs and these integrations are, I think, one of the next frontiers of how automation can become effective.

Gennadiy:

Yeah, absolutely. So it's also infinitely easier to automate a brand new asset. So a brand new ground up restaurant, it's even easier to do a brand new ground up ghost-kitchen because you can truly optimize everything from the end-to-end process, to the layouts, and so on. And not a surprise that's where you see a lot of entrants coming in with a kind of a standalone solution is drop-in container like solutions that you can put into a parking lot or an airport or something like that. Or even a full-on automated line that has been developed to go with ghost-kitchens, commissaries, cloud kitchens - take or pick they all mean pretty much the same thing. It's much harder to put something into an existing restaurant. So it's a matter of scale. We probably see about 100 to 150 ghost-kitchens opening every year, something like that. And it will accelerate, but it still will be hundreds, or low thousands. There are, in the US alone, 700,000 existing restaurants. So if you want to make an impact, if you want to sell something in the thousands and tens of thousands, which I wanna see happen because A: it helps the restaurants and B: it helps the companies to make money, then you can't just consider a Greenside kitchen. You have to consider how you integrate into that existing kitchen with existing constraints. And it's not a nice environment for robots. It's not a nice

environment for cobots. There's people walking around, it's dirty, filthy, just fat everywhere.

So that's the challenge. And one of the things that doesn't work, in my opinion, is solutions that try to replicate human actions and human processes into an existing dumb appliance. That just doesn't work. You're adding something on top of something, which is already cramped and so on. What does seem to work and where we do see scaling it's already sort of getting a big shot in the market and it will scale, is these solutions that are truly built around advantages of an automated machine. So you can go vertical, right? You can go high where a human being cannot reach, but a machine is not limited by, for example. The kind of footprints that are optimized around something like that, that fit an existing space, but take advantage of that automation.

Picnic is actually a perfect example of something like that. It fits into that existing footprint but it takes advantage of what the machine does. It doesn't try to replicate human processes. It actually improves the net. So that does seem to work. If you want to scale, it does seem to work. And the other big part of this industry is: it's not enough to design something, you actually have to get the customers to accept it. And by customers, I don't mean us, the Peter the pizza-eaters. I mean the pizza shop owners and they are a pragmatic bunch. And that's why there were a lot of attempts to automate in the past, but only a few things stuck around, because the restaurant operators, the restaurant owners, they're a pragmatic bunch.If they don't see value in it they will reject it. So there will not be a pool. They will not be a pool for sales, hence there will not be development. And keep in mind, these are the guys that live paycheck to paycheck, right? Every two weeks they have to make payroll.

So what works are those solutions that can really show the value on either cost of food, through reduction of waste, through better use of ingredients through better automated portioning, and cost of labor that we already discussed, and also ability to optimize infrastructure. So machines that can allow you to make more things in the same amount of space, either more menu items, or just frankly speed up production - that works. So you gotta hit where the restaurant owner's interests are, which is in the pocket. So there's a demand for your solution, a demand for your robot, a demand for your automation.

Florian:

Gennadiy, Clayton. I think we want to open it up for questions from the audience in a couple of minutes, but I had maybe one more. Let's go back to yummy pizza for a second. I think one of the things that I thought was really interesting about your

approach, Clayton, is that you don't dictate the dough, the sauce, You can still get that variation from one restaurant to the next, you can still get different experiences. It's not the same wherever you go. So can you talk a little bit more about that and how important you think that that level of adaptability is?

Clayton:

Absolutely. Yeah. earlier you mentioned the Neapolitan pizzaiolos and the people who train, and we hear a lot about the artisan pizza, and the heart of pizza, and the magic of pizza, and the handmade pizza. Here's the way we look at it. We believe that great pizza is really great, and there's some really bad pizza out there, and the great pizza is rooted in how is the dough prepared. How long is it proofed for, what are the specific ingredients of the dough. And we don't do dough handling. We start with a prepared dough. So you can prepare the dough in as exotic and elegant ways as you want, and we can make a pizza with that dough. Second is the cook. How is it cooked? Is it a wood-fired oven? Is it a super hot oven? How do you prepare that pizza? But we don't have an oven. We prepare a ready to cook pizza. So those two elements are totally in your control as the chef. Next is what are the ingredients you want to use? And what's the proportion of those? That's the recipe. Our goal is to use any ingredients, when we dispense it consistently to your recipe. So all our system is really doing is making the pizza consistently to the recipe that you designed with the dough you prepared and cooking it in the oven that you have. So we maintain that we can make as good a pizza as anyone, including a pizzaiolo because we're making their pizza. And in fact, we've started to engage and blind taste tests with customers who are saying, ‘whatever we do, we can't reduce the quality’ we're making so we can make the same pizza.

But there's no reason the quality will change. So it's a misunderstanding we ran into early on. The first video we did, when we launched, was from our first customer, which was T-Mobile park, it's a baseball stadium. We showed a video of the pizza they make in a baseball stadium, which is a really good pizza if you're watching a baseball game. But it's not a gourmet pizza, it's a frozen dough. And people looked at the video and said ‘oh, look at that it's robot pizza. It's terrible.’ And when we did our first live event, at Smart Kitchen Summit we realized we needed to show people we can make any pizza. So we did a hand toss, with especially chosen ingredients. And we made pizza for 500 people in an hour, and with very little effort, and we got rave reviews. So, we can make as good a pizza as you wanna make. The quality of the pizza is on the chef. It's not on the system. We're just building it for you.

Florian:

So Clayton if you need blind testers sign me up. I'm happy to participate. Sure.

Geoff, maybe, maybe I'll send it back to you if you want to introduce any questions from the audience.

Geoff:

Sure thing, Florian. Hey guys. Yeah. Clayton I don't think we touched on this just to bring it back a little bit more specifically. Can you talk a bit about your approach to sanitation? Obviously with food services that's a pretty significant challenge. How do you guys address that? And is there anything that the industry as a whole is missing on that front?

Clayton:

Absolutely. Yeah. So the source for sanitation, if you will, is the National Sanitation Foundation, the NSF. We are about to release our NSF certified version of our system.

NSF focuses on food safety. That's primarily about maintaining food, temperatures of food, safe conditions, and cleaning. You can't have any food contact surfaces where food can be stuck and not cleaned and grow bacteria. So we've built a system from the beginning to be easily cleaned. And we've worked with NSF from the beginning, and we're super excited about that. I think that's a necessity. And one reason this is a necessity is you're going into a kitchen, that's operating under a health permit. Health Inspectors can come in. A lot of times, that's a local official, and they've never seen a food robot before. It's what I call a ‘spaceship in a cornfield’. They have no idea how to think about it. And so their immediate reaction is, ‘how do I think about whether this is okay or not?’ If it's NSF certified that gives them an authority to feel good about. If it's just a manufacturer saying ‘oh, trust me, it's safe.’ That's probably a pretty dicey proposition, and I think anybody trying to put equipment out there that's not certified is going to struggle.

Gennadiy:

Yeah, no major operator will buy and not NSF certified piece equipment. They have a fairly standard playbook of what you need to watch out for.

Geoff:

All right. Well, that makes sense. I have another one here for you Gennadiy, is there any major technological opportunity that you think that the foodservice field is overlooking?

What's the biggest thing being missed right now in terms of the opportunity around automation?

Gennadiy:

Yeah, absolutely. So I'll give you two things. One, flattening of the path from the soil to the mouth. Smart home-based automation that can work with restaurant processes or restaurant automation. So you can flatten out the chain. And this can take the place of a number of things. Things that get prepped in the restaurant and either get cooked on the way to you. There have been a number of tests and some of them are really successful, or things that are prepped somewhere and are finished at your home with automation. Where automation plays the role of essentially consistently replicating the actions and processes of a trained chef, and is an under-looked at area right now. This is the second one: 3D printing. 3D printing of dishes you know, the Star Trek level replicator. There are attempts out there, but I think that's the one other area that could use a lot more attention, a lot more research and automation would play quite a huge part there.

Geoff:

That's fascinating. Yeah. I love it when science fiction becomes a reality. It's great to see. So very cool. I think we have time maybe really quickly, Florian. I had one for you about the approach to data concerns when it comes to a chaotic environment. Missions may be complex or diverted during execution. How does InOrbit deal with that, especially with humans in the equation?

Florian:

Yeah. So, I know we only have maybe a minute left, so anyone who has that question I'm happy to follow up with you. but I think in a nutshell, I think data can drive the process, but it cannot dictate every single aspect of it. There's still very much a human element and we like to talk about something called RobOps. Like maybe your job will be to be a robot boss. So even in the video that we showed, you had the operator clicking a few buttons versus applying sauce by themselves. So I think you have this combination of people who are better fit for dealing with chaos, and then more data driven processes. And what I think is interesting is now you combine the two and you have very detailed data about every aspect. And so that lends itself to optimizing. So now a lot of the links that are used in software, you can now apply to the real world. So this would be a software-defined pizza almost. And I think that that makes it also an area of opportunity.

Geoff:

That's great. Well thank you, everyone. I think we have hit our wall, so we are going to wish you a fond farewell. We really appreciate everyone's time today joining us. As a reminder, we will be sending out the VOD from today's webinar, so you can share it with your friends. We'll look forward to inviting you to our next webinar, whenever that is, we'll invite you back. Just keep an eye on www.inorbit.ai for further details on that. And of course, feel free to reach out to us if you have any questions or would like any follow up or demos of any of our services. Thank you very much again for joining us. And thanks again to our special guests. See you next time.

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