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## Podcast Episode #59 – Where IoT / AI are heading to - impressions from IoT Tech Expo Europe, with Balint Horvath, Switzerland

### RAW TRANSCRIPT OF INTERVIEW

**Balint:** Hello guys, welcome to the show. Recently, I had the privilege to participate at the IoT tech expo Europe in Amsterdam. It was on the 27 - 28 June so it was quite recent. I got to participate with a gold pass which means I could access some events, presentations, ones I couldn't access otherwise. As for the event, this is one of the biggest ones of its kind in Europe with nearly 9000 attendees this time, this year. By going to this event I wanted to answer and share some questions and topics: what are some interesting presentations in IoT these days in AI that one can learn from and who could I talk to among experts, also one on one discussions, which startups will be there, who I could talk to. In this episode therefore I will give you a quick summary. First you'll hear about some of the talks I attended. Then second topic or section of this episode will be about the booths I visited, startups or established companies I talked, their corresponding technologies. In the third and last section we have a recorded interview which I recorded with the startup there so you can feel like as if you're there with me. We hear a lot these days both about AI and IoT, they are pretty hot topics obviously. These two topics connect very nicely with each other. When we gather more and more data with all the sensors. We as humans can start analyzing that data, learn from it, or we can let the machine analyze and learn from it and perfecting itself, their algorithms, well this is the essence of machine learning which is a part of artificial intelligence. When these topics are so present in the media what happens then? Multiple things: one aspect being is that expectations rise towards the technology and another point is that investments go up at the same time. And what can happen if the expectations rise too high and solutions won't address, won't go hand-in-hand with these expectations? Disappointment starts to emerge. I believe there are very high expectations towards AI. There's a chance that sometime disappointment can come which might be actually not so bad as that can clean a bit the market, so more realistic expectations can come up towards the Technology and towards the startups. What is an example for an unrealistic expectation? Self-driving cars are everywhere, at least in the media, not nearly everywhere on the road yet. Lucky or unlucky. I think it's unrealistic to expect they, the self-driving technology, such cars will replace humans so fast, so the drivers. Whereas Uber and Tesla are following sometimes the fatal path, meaning you can hear about fatalities in connection with their technologies, Google is marching ahead more silently. You don't hear about fatalities in connection with Google. Probably Google doesn't get into risky situations, which can create a bad reputation, affecting also the way we think about AI. This more cautious approach in a way is better. One of the companies that is doing some interesting work, both executing on the technology and following some strategic steps is Aiir, it's written



as one word like Air just with two i A-I-I-R Innovations, which I'll talk about later and which company I interviewed for this episode. Managing expectations was also stressed by Peter Jackson of Southern Water from the UK who's the Chief Data Officer at the company. Going back to the talks I could attend I mentioned that both expectations and investments could rise. With regards to investments, a very lively presentation was given by Fabian Westerhaide, founder and CEO of Asgard, as written as A-s, not with SS, so Asgard and actually A-R-D, I think I'd better spell it a s g a r d, a VC firm from Berlin that is active in AI investments. He even calls for a one Trillion Euro fund from the EU to be established so that the Europe can stay competitive in AI. In his presentation on the global AI landscape he also showed the results of a study they published together with Roland Berger of the consulting company that they published in May this year on the status of AI in the world. You can find the link to their study online in the episode highlights on my website for this episode. He showed stats such as London being the Hub of AI in Europe and 40% of all AI companies in the world being in the US which is not surprising, China is number 2 and Israel is number 3 head-to-head with China. They stressed that one thing they miss is that AI is not deep enough, many follow the chatbot path so trying to find more or less superficial applications, instead of finding ones that have a very strong business case with profound impact on the world. There were also many other talks, such as one by ProgressDataRPM which provides predictive maintenance services for different verticals, different industries. That is quite an exciting field, so predictive maintenance. Also PTC had a similar offer, they had a stand there, just apart from that PTC deals with even more topics such as a working with AR technology or mixed reality together Microsoft hololens to bring efficiency to increase manufacturing and assembly. Another aspect I wanted to talk about this the startups and their emerging technologies which were visible at the event. One startup that is looking at using AI for livestock monitoring is called Serket to determine if one deals with a happy or a depressed pig or other animal. When you hear about it for the first time, it sounds bizarre, but after all if you have happier livestock, animals, you might have better quality meat or other products or in bigger quantities. Another company which I liked is Keepgo. You probably run or run into this issue when traveling globally: wherever you go you want to keep using your phone to stay connected at least to look at navigation like Google Maps which I use but then in case you you don't want to use the expensive roaming option what do we do? We buy a local SIM card, ideally to be inserted into our second phone or a mini router, a pocket router. Keepgo is looking at this issue, addresses this connectivity issue by selling SIM cards that work globally in most countries of the world and you just need to top up the card once a year to make sure you still have credits on the card that they are still valid, active. That was quite fascinating. They're coming out with a new product, so you might want to stay tuned and check out their page. I'll put a link to their page on my website, again in the episode highlights. A startup I also wanted to highlight is Hiper, h-i-p-e-r, which also wants to connect us globally or better to say they want to connect our IoT devices. They are behind this new one-way low transmission-rate communication, in a way similar to LoRa which many of you know probably, just as opposed to LoRa, which has a range of a few tens of kilometers, Hiper can operate anywhere on the planet so the signal is picked up by a group of satellites, which they begin to start launching this fall, this year. Lastly



there was the startup called Aiir which even gave a talk, I visited their booth afterwards and I talked to the founders at few times at this expo. They want to bring AI to the aviation industry with automatized inspection capabilities, done on blades of an engine. I like their approach a lot, how they look at their business, how they are building it. First they want to make it usable to assist the inspector then they want to make the process fully automatized using AI. You can listen to the recording, to the interview with Cassandra Loor next. Since it's a recording from the event it's going to be a little bit noisy, but hope you can still enjoy it.

**Balint:** It's good to talk to you. We're here at the IoT Tech Expo in Amsterdam, and it's a pretty big event, so it has an AI part, blockchain part, but also IoT part and I was wondering if your company, Aiir which part of the IoT conference do you fit, you match? So I actually listened to one of your colleague's talk today and it would be good to learn a lit bit more about what you're doing so maybe you could talk a little bit how you connect with the conference and also about your product, what you do.

**Cassandra:** Alright, thank you. Yes, I'm Cassandra. I'm one of the co-founders of Aiir Innovations, where Aiir stands for Artificial Intelligence in Inspection and Repair so that already tells you that we're here for the AI part of the Expo. In essence we automate visual inspections using computer vision and artificial intelligence techniques or in other words using image recognition, any kind of visual inspection we aim to automate. Currently we focus on the automations of inspections of airplane engines so currently we place a camera inside an engine and then a person rotates it by hand, sometime it uses a small gear box and they check to find big damages, and very very small damages. Finding the big damages is not a big problem, but finding the small damages especially when you work on this in shifts of 8 hours it tends to get tedious and then you start to miss damages. And that's where we come in. So we're building a tool that assists in the first place an inspector in their work but also analyzing the image and trying to find damages in the inside of a jet engine. It returns results that states, oh I think that's a damage, here the inspector can say, you're right, I accept this, put it into the report, or declines it and then based on this information it becmes smarter over time. In essence this is what we do and hopefully in a few years when we've seen enough examples, and it's been corrected enough to perform better than a human being we can fully automate the inspection. Of course we're going about this in the most reponsible manner as possible, that's why we're first building an assistant, we're trying to at least match the human performance or even outperform the humans, then we'll take legal steps.

**Balint:** Since the quality of the interview with Cassandra turned out to be pretty bad, let me just summarize the rest of the interview with her. I asked her a few more questions like how does she see the future, the bigger impact of AI when humans can be replaced so high accuracy can be obtained? How resource intensive is the AI they're using, the algorithms, the machine learning including the teaching part. She said



they're working together with a partner KLM, the airline which gives access to their data that they use for training their machine learning algorithm. They use Cloud Computing Services to train down, but they have now also their computers including laptop like in a bag that they carry. She believes full automation should be obtained in the next five years based on their academic partners they work with. So human capabilities can be matched at least in their application field. that is a fascinating prediction. I'm looking forward, I'm curious how it will happen. We also talked about what other exciting, promising applications she can see for AI. She mentioned a few, such as baggage inspection, in smartphone manufacturing, steel manufacturing. So wherever automated inspection, visual inspection is used. She brought up an example that they work with a company which has cameras to determine the kind of plastic to recycle. Until now they smoked the plastic, so they burned it to find out what kind of plastic it is. Now with the hyperspectral camera they can do it without polluting the environment, so without burning the plastic. What applications of AI are you excited about? What do you think could be a realistic use case to have a meaningful business impact within the next one to two years?