The Flow of Urban Life – a podcast by KONE – Transcription
Connected Cities: Inclusive Technology

Sam Hughes 0:00
If you live in a city and you don't have a disability that makes it more difficult to navigate your way around, then you've probably never noticed the small ways a city is designed to help those who do. Curb cuts help wheelchair users move from the sidewalk onto the roadway when crossing the street. While tactile paving helps pedestrians who are blind or visually impaired. Now, as urban populations continue to grow, many cities are turning to technology to create smarter, more livable environments for all.

Sam Hughes 0:40
Welcome to The Flow of Urban Life, a new podcast by KONE that explores how urbanization and digitalization are transforming the way we live, work and commute in cities. I'm kicking off this new podcast with a three part miniseries that examines how connectivity can improve urban living. I'm your host, Sam Hughes, and today we'll be discussing how connectivity could help make our cities more inclusive.

Sam Hughes 1:06
More than 4.2 billion of us live and work in cities every day. Some of us need specific accommodations for disabilities, whether in a digital world or the real one. BlindSquare is the world's most widely used GPS app developed for the blind, deafblind, and partially sighted. It not only helps people move around the city, it uses algorithms to help them explore their interests, and communicate what information is most useful to them, such as popular cafes, post offices, or libraries. I had a chat with Ilkka Pirttimaa from BlindSquare about how their app is changing the way we can navigate urban environments.

Sam Hughes 1:47
Hi, Ilkka. Thanks for joining me today. How are you?

Ilkka Pirttimaa 1:49
Hi. It's great to be here. Thanks for asking me to join. Thanks.

Sam Hughes 1:53
Yeah, it's a pleasure to have you. So before we talk about BlindSquare, what kind of challenges could a blind or partially sighted person encounter in the city?

Ilkka Pirttimaa 2:02
I have heard that many visually impaired people – when they are learning their routes in a city – they count intersections so they don't know even the name of the streets, but they just count the intersection "that is 53 and then I go to the right". You can imagine how far away they are from us of knowing what locations, what you can find from the city, where is the best restaurants, where is the best cafeteria – so you need to get aid from someone to learn something new about the city.

Sam Hughes 2:33
Yeah, it's a whole different world. Now you actually have a sample of BlindSquare for us, don't you?

Ilkka Pirttimaa 2:37
Yeah, I did a recording just walking outside and and listening. BlindSquare is an app that is really simple to use because you just need to launch it and then you start listening to it.

Sam Hughes 2:52
Okay, well let's have a listen.

BlindSquare app 2:56
'Search places within radius of 60 meters. My places, Lidl. 55 meters at four o'clock. VoiceOver on. Search fast food restaurant. Burger King, 125 meters at five o'clock. Destination Burger King: 115 meters at 11 o'clock. You arrived at Lidl: eight meters at one o'clock.

Sam Hughes 3:23
I love that mysterious sound.

BlindSquare app 3:26
Burger King: 16 meters at one o'clock. 14 meters at two o'clock: Supermarket, K-supermarket. 19 meters at 12 o'clock. You arrived at Burger King. Shake your iPhone to check into Burger King.

Sam Hughes 3:46
Wow, nice. That's really, really cool. And I love the different tunes and everything you have to signify where you're going. And, you know, how do you actually use the BlindSquare app? Walk me through this?

Ilkka Pirttimaa 3:57
Yeah, actually, I start from the sounds because when I started to build the application, I used some free voices – free sounds – for the application. But then I got feedback from the users: "please do not use this sound because it means something different in some other application".

Sam Hughes 4:14
Interesting.

Ilkka Pirttimaa 4:15
And then I hired an blind musician from London, Louie, to create sounds for me. So we might have a Skype session where I describe what we need, and he then creates sound on-the-fly using synthesizers. You heard for example, that mysterious sound you described.

Sam Hughes 4:37
Yeah.

Ilkka Pirttimaa 4:38
It means that now you are close to something that you have said you are interested in. And it gives attention: "doo doo doo doo doo".

Sam Hughes 4:48
Yeah.

Ilkka Pirttimaa 4:52
It leaves it there. And if you find that place, it's a resolution, it's a major scale up: "doo doo doo". And if you then miss that place, it is a minor scale down. So those three sounds kind of make sense that you're close to something, you reach it, etc. But the other aspects there; I was tracking Burger King, but I also heard other places. It is describing the environment for the blind user.

Sam Hughes 5:22
That's incredible. We take it for granted that as we go from destination A to B, we are actually looking around us all the time. And we do actually have interest in some things along the way.

Ilkka Pirttimaa 5:32
Exactly. And that is something I wanted to solve. And I'm actually using Foursquare data where people are playing games by checking into places and from there, I know the exact category of the place. So I can say it is a Chinese restaurant, but I also know the popularity. So there are hundreds of places; I can't mention everyone. So from the gaming data, I get the information about which are the most important places around you worth mentioning.

Sam Hughes 6:02
That's cool. And it's funny, you mentioned games, because when I heard those sounds and the musical cues, I was also thinking of video games in terms of like the intrigue, and then you solve it. And then there's the resolution. Were you influenced by video games then?

Ilkka Pirttimaa 6:15

Yeah, yeah, certainly. And I have been playing around different game engines also for audio. So I'm not using it currently. But my goal is to do 3D audio, so you can hear from different directions of where they are located.

Sam Hughes 6:36
So you'll be looking at binaural audio then.

Ilkka Pirttimaa 6:37
Yeah, I have tested it and I also have microphones for that and we have been doing user experience testing with a microphone, where we get the 3D sound – so when our test person is traveling, we hear from the audio where the tram came, where the car came, what she heard when she was traveling.

Sam Hughes 7:02
Wow, that's super cool. So this app can help someone navigate their way around outside. But what about inside – does it work in shopping malls and museums?

Ilkka Pirttimaa 7:09
That's great question. One of my end users, Kaisa, mentioned that she's using BlindSquare all of the time when she's traveling, even in places that she knows. But she said that when he gets inside a shopping mall, she's blind again. I really wanted to solve that also. We rely on GPS and we know that if you go indoors, you really can't get GPS coordinates anymore. So we have implemented hundreds of indoor spaces where we install i-beacons. So an i-beacon is a tiny, tiny little battery-operated device that pings its ID constantly, right. And if you put enough of those BlindSquare can tell you where you are, and then we can use the compass so when you are turning around you will hear that restaurants are that way, etc, etc. The shopping mall is a great example, we have a couple of museums, we have an outdoor zoos implemented in a way that you will get guidance.

Sam Hughes 8:20
Nice. And speaking of shopping malls, they're usually multiple levels and elevators are a useful way to move between floors, obviously. But for a blind or partially sighted person, they can be quite difficult to use. So what are the challenges with this?

Ilkka Pirttimaa 8:33
First of all our challenges starts even from the door. So you might not know where the doors are. You might not know how the doors operate. The next thing usually is to getting onto some other floor. And when the blind person is traveling and meets an elevator, it is hard to know how it operates. Where is the button to order the elevator? That that we could describe, of course, but we do have a better solution with KONE so I'll explained that later. But when you actually get inside the elevator, then where are the buttons – are they on the left? Are they on the right? Which order are they in? There might be braille on the buttons, but if it's full of people, you can imagine that you don't want to touch other people's. Now with COVID, you don't want to touch anything. And then when you arrive to some floor, how do you know that it's your destination floor?

Sam Hughes 9:39
Yeah, of course. And how does the app help with that?

Ilkka Pirttimaa 9:42
Together with KONE we have done something pretty amazing. So KONE is providing APIs so that elevators are connected to cloud, and they provide API that actually call the elevator. So when we get close to an elevator that has been enabled, BlindSquare can notify "now we are close to elevator", and it promise a user interface to select your destination floor. So you might even say "elevator to floor 5", and through the API, BlindSquare can call elevator. Then the elevator starts coming, and through the API, BlindSquare will announce that this is elevator for you – the doors open, you step in, and you don't need to press anything. It's already pressed floor five for you. So you just step in, and when you reach your destination BlindSquare say now "this is your destination". Then you can step out.

Sam Hughes 10:41
That is really is amazing. And to be honest, I'd find that useful as well. So can connectivity make our cities accessible in other ways?

Ilkka Pirttimaa 10:49
As you mentioned, it is also a service that everyone would benefit from. So connectivity – not only elevators – but we can control also doors; we can keep doors closed and when you get close we can open them. We can describe how the door operates. So if you're blind or if you are with a wheelchair, we can guide you to the best route. Also, cities are full of displays; for example, in BlindSquare we have API support for public transportation and train stations. So when you get close enough to the train station, you can listen to what track the train is leaving from etc. Also restaurant menus, for example – those are nowadays digital – it's much easier to use an application the find out which restaurants have best offers around you.

Sam Hughes 11:48
Wow, that really is amazing. It's fantastic where we're headed in the future for our cities. Well, I have to say Ilkka. It's been an absolute pleasure talking to you about BlindSquare today. Thanks for joining me.

Ilkka Pirttimaa 11:59
Thank you. It was nice to be here.

Sam Hughes 12:01
Now Blindsquare isn't the only innovator working towards a more inclusive city. Sozialhelden, a German nonprofit organization created a platform called Wheelmap. It's designed to help people plan their routes more easily. Elevators play a crucial role in helping many of us move around a city. So if an elevator at the train station or subway doesn't work, it can be a problem for people using wheelchairs or walking aids, parents with prams, and even travelers with heavy luggage. Sozialhelden have been working on a set of tools that help wheelchair users navigate our cities. Their story started with Wheelmap – a map designed to help people find and mark wheelchair-accessible places all over the world. Today, there are over 1 million places marked on the map as fully, partially or not wheelchair accessible. This includes cafes, libraries, and other public places – with more added every day. I spoke to Holger Dieterich, from Sozialhelden about what he's doing now, and how it could make our cities more inclusive.

Sam Hughes 13:01
Hi Holger, thanks for joining me today. It's a pleasure to have you.

Holger Dieterich 13:10
Yeah. Thanks for having me.

Sam Hughes 13:11
So you created SozialHelden together with a friend. Can you tell me a bit more about how that got started?

Holger Dieterich 13:17
Yes, SozialHelden is the German word for social heroes, so pun intended. It was started by a buddy of ours, Raul Krauthausen, and we we study together. And so the first big project we did together was Wheelmap.org. It's a map where you can find wheelchair-accessible places. Actually it came about because my friend Raul is using an electric wheelchair. And we had the problem of, you know, finding a coffee shop where we could hang out and you know, have plans and have coffee together. And we were always at the same place in his neighborhood in Berlin – where we were at. And I said, like, "hey, come over to my neighborhood", and it's like, "yeah, rather not". So I said "Why not? That's a nice neighborhood." So he said, "You know what, I don't know where I can get in. Because many buildings in Berlin are really old and have steps at the entrance". So this is actually how we started, Wheelmap.org.

Sam Hughes 14:09
Nice. What kind of challenges could a wheelchair user or someone with a mobility disability encounter in the city?

Holger Dieterich 14:16

Cities have been pretty difficult to navigate for people with mobility impairments. For example, the curb cuts are now more and more widespread, but even a small curb at the corner are really hard sometimes to take for wheelchairs – and there are manual wheelchairs and electric wheelchairs. So for me, having a small children with a pram – it's already a bit difficult. But it's it's still a different level if you have a heavy wheelchair. So that's one thing. The other one is getting to buildings, like the coffee shop I just explained. But also taking public transportation, for example, because these buildings are underground or above ground, and they need elevators. And they don't all have elevators in Berlin. Also buses are another thing. Basically all these things, which usually people take for granted, are often designed for people who are walking.

Sam Hughes 15:11
Yeah, and I think Wheelmap is amazing. Because as you say, we we take a lot of this for granted. When we go around the cities, and most of us don't think about it unless we're in a situation where we need it. And I remember in London on the tube, only certain stops would have disability access or a lift. But the problem is, you can only see that when you're on the tube itself. So then you know what tube to get off at, so this Wheelmap could be really useful.

Holger Dieterich 15:13
Yeah. The London tube is even older than the Berlin one. And imagine like back then elevators weren't even invented – or not a common thing – but they're really, really important. So I think the needs are really aligned between people who are building elevators, and people are using them. So in the beginning it was more that people with disabilities were thought of as the people we should care after, which we should look out for, and sometimes it was a pity that they couldn't take part. This has changed dramatically with the UN Convention of Rights of Persons with Disabilities, which says that "it's not the the problem of the people with a disability to take part in daily life, but it's the problem of the society and the service provider". This shifts everything, because now it's a pity that you cannot enter, but it's the provider, the public transportation organization, for example, who has to provide access. This means retrofitting elevators into old Tube Stations, which is actually happening in Berlin right now. They're all construction sites. It's almost finished, but there's still some stations there. And this hopefully, will change in London as well.

Sam Hughes 16:46
Yeah. And it's so good. Because, as you say, the mentality needed to shift from "oh, that's a shame" to "well, what are we going to do about it?"

Holger Dieterich 16:55
Yeah, and that it's not a matter of including people in terms of you know, "we have also something for you", but what what we like to see is that it's more disability mainstream moments – where everybody can go to the same coffee shop and take the same bus and it's not segregated. Where you say "here are people with disabilities and here are is the rest of society" – we don't want that. We want one place where everybody can go, one public transportation system that everybody can use – because this is what society should be. These systems are a representation of that.

Sam Hughes 17:30
Yeah. Can you explain a bit more how these tools can improve a journey for example?

Holger Dieterich 17:34
Yeah, I will tell you one story which we weren't aware of in the beginning, and this was when my friend Raul, who is using a wheelchair, took the last metro home. It was one o'clock at night and he got off at the station. The train left and he was literally the only person there in the middle of the night. And then he found out that the elevator there was not working; it was out of order. So he was stuck there and nobody was around. So what happened next was that – usually you have firefighters to call and they rescue you – luckily, there were people from security coming downstairs and they gave the elevator a good kick and it worked one last time. This was when we learned that there are places where people can see there are steps at the entrance, but there are also places which are sometimes accessible, and sometimes not accessible; and that's nothing like people can just report and crowdsource – as what we did – but it's things which the machines actually know. The elevator was broken, it had a red sign. We, the people, shouldn't think about this. It should be connected with my journey planning and all the things that I'm doing. I don't want to worry about this. I need to know, in advance whether an elevator is working or not.

Sam Hughes 18:49
Yeah, especially in modern times, you would almost expect that already.

Holger Dieterich 18:53
We we got into the topic of elevators 10 years ago. And it's a really, really deep topic. And what we learned is that elevators already are connected to the internet, like two thirds or 70% of the elevators. So the information of this broken elevator was already there. But it was stuck on some website. In Berlin, we have two different operators of public transportation, so you have to look it up. And it was not integrated into anything. So it was a lot of hassle to figure out. And yeah, and phone numbers to call things like that. And so what we did is say, "Hey, can we liberate this data and motivate the public transportation organization to share this data more easily?" So we went to a hackathon. We scraped this data for a couple of months to just to see how many elevators were broken in Berlin, and at what times, and made a fun project over the weekend to show which operator had more broken elevators – which was fun for us, but really sucked for them.

Sam Hughes 19:54
Yeah. I bet.

Holger Dieterich 19:57
Because, what we learned is elevators will always be broken. Sometimes there's vandalism, things need to be updated – I mean, we totally understand – but it was a great moment for us to draw attention to some people really relying on the information on whether the elevators working or not.

Sam Hughes 20:15
Yeah, I have a couple of friends that need to use wheelchairs and they have the same issue. And my friend who we traveled with on the London tube, we had a lot of issues trying to decide where to get off and how to travel around London. So it would be an amazing tool to use even there as well.

Holger Dieterich 20:31
Yeah, but that should actually be possible with the solution we are building. Because what we learned is that it wasn't only in Berlin, where this data was somewhat available, and but also other places in Germany and around the world. And we help these organizations to publish this data in an open and standard way. And today, we have more than 3000 elevators with live data connected. And also we built our own hardware to retrofit elevators which are not connected yet. As self-representatives of people with disabilities, we don't want to wait for other people to fix this problem. We want to show them what we want – what we need – and so we built a little hardware device, which you can put into an elevator, and it will connect to our backend system and let our system know whether this elevator was moving recently or not.

Sam Hughes 21:26
That is super cool. So is there any other ways that Sozialhelden uses connectivity within elevators to help people plan their route on the subway?

Holger Dieterich 21:33
Well, what we also do is we help standardize the journey planning. We are not the only ones who want this, we learned a lot about public transportation. So for example, if you go to Google Maps or Apple Maps, and you plan your journey – you expect to get from one station to another and know where you need to change – but vertical transportation within the station – that you need to switch using an elevator – is often omitted. It was not in the standard. So we talked to the organizations and to the people who make the standard to include elevators as well. So you now can be rerouted if the elevator is broken at the station.

Sam Hughes 22:17
That's fantastic.

Holger Dieterich 22:18
And that means basically 10 years ago we started with 'you need to plan in advance' – or every day when on your commute to work 'can I go there, can I not go there' – and be flexible, plan early. And today, we are approaching this area where we can actually say like, "yeah, in case there are some

disruptions to the elevator, just wake me up 10 minutes early, and I'll go to the different station" – because my phone and my calendar and the elevator at the station – they will all talk to each other and figure it out without me. This is actually what do we want in a smart city.

Sam Hughes 22:48
Yeah, and as you said earlier, it's not just wheelchair users that might benefit from this if you've injured your leg, or there's something else affecting your journey. I mean, who else might benefit from this?

Holger Dieterich 22:59
Well, people with disabilities are a minority. It's a very large minority, it's between 10% and 15% of the population. Which people often don't see and recognize this. But of course, as you said, it's many more people. And also disability is something people acquire throughout their lifetime. Just 3% of the people are born with a disability and the rest will acquire it. There are different kinds of disabilities, there's permanent disability – like you only have one arm or you cannot walk and since you were born – but it can also be temporarily as like a broken leg, or you just have heavy luggage. That's also disabling your journey, in a way. All these people, all these groups, benefit vastly from easier access to public transportation to buildings.

Sam Hughes 22:48
Yeah. And I even remember an experience that I had when moving, and I thought I can just carry this big heavy thing on the tube to there, it's fine. And then I got off the other end, and there wasn't a lift available. So even in instances like that such a small thing compared to the rest is it's super handy.

Holger Dieterich 24:03
Also what we saw is that what we need in terms of connectivity is to keep the end user in mind. Everybody says, like, "okay, we are building this", and then are the actual people be using these elevators. But when you get down to all this connectivity, and data and complicated programming – and all this stuff – it gets really lost sometimes, but maybe a little bit out of focus. So it's really about having this use case of 'I just want to know in advance whether this elevator is working or not' – so I can have this data feed and can manage my day. This would be a huge help.

Sam Hughes 24:49
And it's also amazing to me in a way, when you think of some of the apps we already have - and some of the things we have in general - not just in the cities, but on our phones and our computers. And then you come across something archaic, like the elevators that don't even tell you when they're broken. It's amazing that we don't have this already. And it's really good and useful tool that's coming.

Holger Dieterich 24:57
To be honest, since we spent 10 years with this topic, it is a complicated topic. Somebody is manufacturing the elevator, somebody is installing it and maintaining it, somebody is owning the building, or the train station, somebody is running the service, and then there are the people actually writing the elevators – and they all need to work together. Because what I do not want is to have to install an app for each elevator I'm using using. I just want this magic moment of full integration. This needs a lot of collaboration between different organizations, which are not yet used to working together so closely.

Sam Hughes 25:34
Yeah. And how would that progress? What is your opinion on how that's moving forward?

Holger Dieterich 25:38
I truly believe that standards help a lot. because you need to fix the issue, you need to define what these things are. With Wheelmap, where it's about places, we are right now describing all accessibility aspects of building – not for us, but from what we saw with our partners. And you know, Wheelmap has 1 million map places from the users, and another 1.2 million places from partners. We saw a lot of different definitions on what does it mean to have an accessible hotel room? What does it mean to have an accessible bathroom of that hotel room? So it goes really, really much in detail. And everybody's a bit overwhelmed about all this accessibility questions. But they don't have to be overwhelmed. If somebody defines standards; this is how we describe a door, this is how we say

when a door is opening automatically, this is what we say when this building is connected with an elevator.

Sam Hughes 26:37
So in your opinion, standards are key in how connectivity can improve urban living and make cities more inclusive?

Holger Dieterich 26:44
Yeah, it sounds really, really boring – but it's really, really important and exciting if you look into this. Because you know what you experience is the standard, but what needs to happen is that different parties need to work together and it's not standardized. It's something which is gives them a common cause – they all want to fix the problem, they all want to help people with disabilities or help anybody move around and go to places. They just want to work on the other person's system, they just need to define "this is where my system starts and ends, and this is where yours start. And this is the moment where I can tell you this elevator is working, and this is how then you can use it for whatever you want to do", for example, for journey planning.

Sam Hughes 27:27
Yeah, so it's all about collaboration and basically releasing data.

Holger Dieterich 27:30
Yeah.

Sam Hughes 27:31
So if you could build a city from scratch, what one thing would you absolutely include? And what would you leave out?

Holger Dieterich 27:38
What one thing?

Sam Hughes 27:29
It's a tricky one.

Holger Dieterich 27:34
I believe you should, you should talk to the people living in the city, and not just assume what they need. And this is a way when we can have a smart, inclusive city. And we see this happening in buildings, in cities, and districts which are remodeling, in terms of traffic and greenery and whatever – that including the people who live there, they actually have solutions and come up with smart solutions. And you just need to listen to them.

Sam Hughes 28:13
Now it's been an absolute pleasure, Holger. But that's all of my questions I have for you today. Thanks for joining me. It's been amazing to learn about Wheelmap.

Holger Dieterich 28:20
Yeah, thanks for having me.

Sam Hughes 28:23
It seems that curious minds and great technology are a recipe for success. But the greatest results come when people from different organizations work toward the same goal. Berlin's subway provider isn't the only partner Sozialhelden and has been working with. We spoke to Mirva Nevalainen, Head of Partner Innovation Operations at KONE, about how they've been working together to make elevators more accessible worldwide.

Sam Hughes 28:50
It's nice to meet you, Mirva. Thanks for joining me today.

Mirva Nevalainen 28:51
Nice to meet you too. And great to be here.

Sam Hughes 28:54
Yeah, it's a pleasure. Now we've been speaking to Holger from Sozialhelden and Illka from BlindSquare, about how technology can make our cities more inclusive. Now KONE has been working together with these companies – but I'm really interested, what was your role on both of these projects?

Mirva Nevalainen 29:29
Yes. So our team role is to collaborate with these partners so that we have a great model to collaborate with our sales teams, with our customers, and with the partners – so that everything is working smoothly and our customers know the value of our partner solutions together with the elevators, and vice versa.

Sam Hughes 29:28
Nice. And how is KONE working with Sozialhelden to make elevators more accessible?

Mirva Nevalainen 29:33
We provide the data, which gives the information about the functioning elevators, like if there's some elevator, which is under maintenance, ot if there are call-outs, so it's not working at all. So then this software is showing to the users that 'okay, you should take another route', because the elevator is not in use at the moment. So if you, for example, need an elevator, then you should take another route.

Sam Hughes 29:57
Awesome. And how about BlindSquare; how is KONE working with them to improve elevators for people who are blind or have a visual impairment?

Mirva Nevalainen 30:04
We can very much help them to use the elevators with the mobile app. And it's generating value for visually impaired people so that they can independently move inside the buildings without anyone guiding them. They don't need to search for the buttons on the elevator walls. It's giving like smooth people flow for them as well. And in COVID times, no need to touch the surfaces – they have only the mobile phone.

Sam Hughes 30:30
Yeah, extra helpful, especially now.

Mirva Nevalainen 30:32
Yes.

Sam Hughes 30:32
And did you learn anything from these new partners along the way?

Mirva Nevalainen 30:36
We always learn things when we are working with partners, which is like one very very good thing when we are working with companies outside of the elevator industry. Always good learnings. For example, these two companies are teaching us a lot about these special needs of these special groups – so it's always great to collaborate with them, they give a lot of very concrete insights to us. And we can of course improve our ways of working and how we should develop our products and services.

Sam Hughes 31:08
Yeah, and it's really cool. There's a lot of factors that people don't generally think of with visually impaired or the blind and how they get around and how people flow works for them.

Mirva Nevalainen 31:17
Exactly, yes, it's very difficult to position ourselves in that kind of world when we can see and we don't have any challenges. So it's very insightful. Also it's great value also for us to be able to take their needs into consideration.

Sam Hughes 31:33

Yeah, definitely. So in your opinion, what's the one key thing that can make our cities more inclusive?

Mirva Nevalainen 31:39
I would say one thing – of course, there are many – but one thing is to think about cities holistically. So we tend to think about buildings and streets and public transportation as small entities by themselves. But if you think about people who need to really move from home, to the office, or to the dentist or wherever. What is really the holistic whole journey? How does it work? What kind of linkage do they need to have to the outside world to be able to function there independently?

Sam Hughes 32:14
Yeah, it's crazy. I love this, because I never really thought before how you approach cities and think about how everyone moves around. It's amazing that someone is looking at that and trying to improve that for everyone.

Mirva Nevalainen 32:25
Yes, I totally agree. It's a great thing that we have those kind of companies are helping people to manage.

Sam Hughes 32:32
Yeah, it's awesome. So I'm really curious now in terms of this approach, and all these companies looking at these sorts of things, what is the sort of end game? What is the ultimate dream for cities?

Mirva Nevalainen 32:43
That is also a very interesting question. Like do you mean if we think sci-fi…

Sam Hughes 32:53
Yeah, I mean, everything's already getting so sci-fi, with apps connecting to elevators and people being able to see what's in use and what isn't? What do you think the future holds for when you really get to this maximum optimization? What kind of things could we see?

Mirva Nevalainen 33:07
I think one thing is that the services will come much more closer to us. We do not need to travel to get something. So there will be much more automation in that sense. And then also, like green values – how can we make this world greener? Also this zero carbon emission cities – that would be amazing. And I think we are approaching there, because many of us have ambition to get there – how we can produce the energy so that we are not wasting our resources? How do we manage the waste, so that we are not wasting anything?

Sam Hughes 33:46
Yeah, because it's funny how people are only now just getting around to the idea that technology is okay. And it's not going to be bad for the environment. Even though we're using a lot of technology, it implies that we're using a lot of power and a lot of energy. But that's not necessarily the case.

Mirva Nevalainen 34:01
Yeah, that's true. If we think about all these devices, what we are consuming – a huge amount of mobile phones, or tablets, or anything – that is something that we should consider how we can like either get a longer lifetime for those devices, or then maybe reduce the amount of devices or even the power consumption.

Sam Hughes 34:23
Well, I have to say, it's been an absolute pleasure having you, Mirva. Thanks for joining me today.

Mirva Nevalainen 34:26
Thank you.

Sam Hughes 34:29
I've been lucky enough to speak to three incredible people all working towards the same goal – making our cities more livable for all. From apps that help you navigate your way around inside a building, to platforms that keep you moving between them – what they all have in common is

connectivity. With technology such as APIs, we can make our elevators, subways, buildings, and cities more accessible today and future-proof them for the innovations of tomorrow.

Sam Hughes 34:58
Hey, everyone. This is Sam. Thanks for listening to The Flow of Urban Life. I hope you enjoyed this episode. It's one in a three-part series that explores how connectivity can improve urban living. Be the first to listen to the next episode in this series, where we'll find out how robots can have a positive impact on our quality of life. Subscribe to The Flow of Urban Life, wherever you listen to your podcasts.