



IREM® From the Front Lines Podcast

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Multifamily HVAC optimization

Todd:

Welcome to another edition of From the Front Lines, where we discuss both the day-to-day, and one-of-a-kind issues facing real estate managers. In this episode we talked to James Hannah with Parity about remote HVAC Optimization in multifamily, condo, and co-op communities. Welcome to the podcast, James.

James:

Hey Todd, great to be here. Thanks for having me.

Todd:

James, can you first introduce yourself and Parity?

James:

Yeah, yeah, of course. So, yeah. I'm James Hannah. I work for a company called Parity. I run the US business for them. And I've spent pretty much my whole career focused on energy efficiency, clean energy within the real estate sector. So really thinking about how can we deploy technologies, deploy solutions to reduce the environmental impact that the energy consumption the real estate sector has. And for better or for worse, I've really been focused on multifamily, the multifamily sector and some of the unique challenges, opportunities that exist there. And I started with Parity back in 2021. So Parity is HVAC Optimization as a service company. The company got its start up in Toronto. We're now in New York, New England, the Mid-Atlantic. And yeah, we're looking to expand it to some other markets across the country.

Todd:

Can you explain what remote HVAC Optimization is? How does this approach work and what are the benefits?

James:

Yeah, yeah. So I think this is a concept that's been around for a while, but I think there's some newer approaches that are emerging that that are you know, exciting and worth talking about. So HVAC optimization, at least the way that that we think about it at Parity, is about maximizing the performance of your existing systems by keeping them constantly commissioned. So this is a useful thing to do, right, you do this because you want to eliminate energy waste and therefore reduce your utility costs, helps to reduce maintenance costs, streamline staff workflows, you know helping to get the folks in the building maybe out of having to deal with HVAC-related stuff as much and get more focused on front of house issues. And increasingly and I think this is where there's a, you know, a really big opportunity helping buildings interact with the utility grid, the

electric grid in increasingly useful ways. So I think you've really seen a couple of different approaches to this emerge. You have what maybe we can call the more traditional approach to HVAC optimization, which has historically been about collecting a lot of really useful rich data from what's going on in the building. So thinking about temperatures both indoor and outdoor, set points, you know existing operational data, running that through you know some sort of analysis and then coming back with you know recommendations for what sort of control adjustments or other adjustments should be made in the building. But that then still require those adjustments to be made manually by the folks in the building. And there's sort of a new approach to optimization and this is very much the camp that the Parity is in which is really focused on automation. So where you're thinking about being able to remotely operate this equipment to make small micro adjustments to really optimize the way that the equipment is running, both from an energy efficiency point of view, from a thermal and resonant comfort point of view, but then also from a grid interactivity point of view.

Todd:

Now can you talk about optimizing HVAC systems in residential properties in particular? What dynamics are you dealing with and where's the opportunity and value?

James:

Yeah, yeah no it's a good question because I think you know historically a lot of the, you know, I think we we're calling it climate tech now but you know clean tech energy related you know prop tech has been focused on the commercial sector. You know, so thinking about commercial offices and industrial, you know, those types of assets. But when you're thinking about a multifamily property whether it's a condo or co-op, a rental building as well as hospitality, you're dealing with continuously occupied buildings. So you don't have the luxury of being able to, you know, do a big night time set back on your boilers and your chillers and your ventilation systems and all of your HVAC equipment when there's no one in the building, you know, let's say from 7:00 or so at night until you know 7 or so in the morning. And you don't really need sophisticated algorithms to help you understand how to do that. You know, any traditional BMS system should allow you to do that. Whereas in a continuously occupied building, it's not always as clear where the opportunities exist to reduce speed or to reduce runtime of a boiler or to reduce you know the output of a chiller based on what the demand in the building is. You know you might only have a 20 or so minute window to ramp down the speed of a pump let's say before you need to ramp it back up to meet that demand. So you know, multifamily buildings, hotels, these continuously occupied buildings are a really good fit for this type of solution, this type of automation solution where you're not really needing to rely on someone manually understanding that and then having the time you know, let alone the really detailed understanding of the precise control adjustments to make. You can really rely on the automation to, you know, get rid of a lot of that waste and get a really good understanding of where the demand in the building is so that you can work closely follow to that demand curve.

Todd:

What's involved in implementing a solution like Parity's? Are there any requirements for existing systems or buildings? How do you get teams up to speed on using it?

James:

Yeah, Yeah. So, you know, I think you know to answer that question, I'll just take a step back and talk about, you know, a trend that's been happening within the HVAC space. But I think this is also something you're seeing just generally within building systems, which is the move away from proprietary hardware. In this case, the move away from proprietary controls where you now have

the ability for a third party company, a company like Parity in this case to come in and leverage that existing equipment, get read write access in our case to that existing equipment to deploy our software to deploy our optimization. And that's a huge change that has occurred. You know, if we were having this, you know, conversation 10, 15 years ago, it would look very different, right? We would need to put a lot of our own hardware in the building in order to gain the ability to impact this equipment in the way that we want. That's obviously very expensive, right. And I think you know a lot of building owners and operators you know would not get all that excited about having to replace their BMS or their system level controls with something new when maybe they've invested in that equipment more recently. So you know what we are able to do is integrate with those existing systems through open communication protocols which really helps us be able to integrate with and interact with a whole bunch of different building types. So I think that's a really exciting trend that's occurred that has allowed this to happen. And then I think the other piece of this that's really important is that we've really embraced the fact that building systems come on all different states of repair. You know, you can have really exceptional software. You know, you can have the best control algorithms out there on the market, but if the underlying equipment that you're trying to control and impact is not in good working order, you're not really going to be, you know, solving a lot of problems, right? So if that valve you're trying to impact is broken or if the pump you're trying to integrate with has an outdated motor where you're not able to throttle it running at part speed, you're not really going to be doing the building owner a lot of favors. So we've really taken this approach to meet the building where it is, integrate with it, do some light retro commissioning and then deploy our software on the back end to make it more of a holistic solution that's going to generate the maximum result, the maximum impact. I think what we've seen is that when you're trying to do this sort of remote control approach, not just the monitoring and analytics approach, it has to be a combination of the two. You don't really come across a ton of buildings that have a perfectly commissioned set of you know, you know, underlying equipment and perfectly commissioned VMS or control system that you can just plug your software into. So I think you know those are two really key things. And then when you're thinking about getting the, you know, the teams in the building up to speed, you know, which is also a very critical part of this, we really rely on the building operator to help us get up to speed. And I think, you know, there's a level of trust building that needs to occur. And you know, we're not so naive to think that we can't learn from sometimes the decades of experience that those folks have about how these buildings operate. So we go through this process, you know, once we get set up in the building to calibrate our software to just stream data into our platform to, you know, optimize our control logic. And that's not just a software data exchange. That's also based on conversations with the building operator where they can tell us about all the little quirks and nuances that every building inevitably has and vice versa. I think that's a place where we can really you know communicate to them and make sure that they understand that we're taking that all into account and slowly over time build trust with them. So it's not just a technology software thing, it's very much a partnership with the folks that are running these systems day-to-day.

Todd:

What results are your customers seeing with Parity's Optimizer service?

James:

Yeah, so that you know the first and I think the core one that we provide is utility cost savings. So we actually guarantee the savings that we expect to generate and we're able to do that again because we're actually remotely controlling the systems and because we get a really good understanding of what the baseline performance is and then we're able to track in a lot of detail the impact that we're having on an ongoing basis. So that's the key piece, increased revenue by

interacting with the grid. You know we'll talk about that a little bit more in a bit but we've been able to increase the amount of revenue that you can generate through things like demand response and other types of you know programs like that. And then you know we're also able to provide some you know less tangible benefits. You know, by being able to automate a lot of these adjustments, you know, you're able to get the building staff kind of out of having to tinker with these systems manually and get them more focused on higher value things that need to happen in the building. And I think particularly in the multifamily space in the hotel hospitality space the building staff is oftentimes overburdened. You know, they're being asked to do more with the same amount of resources or less. So it's certainly not a case where there's kind of a lack of things to do after we come into the building. It's very much allowing them again to kind of focus more on the front of the house.

Todd:

You mentioned demand response and this level of automation allows properties to participate in those programs. Can you talk about how that works?

James:

Yeah, yeah, absolutely. So you know demand response is part of a larger I think trend that you're seeing in the industry that I think is really exciting and I think this is where you know energy efficiency can play a big role in the larger energy transition that's happening. You know this shift to more of you know renewable energy resources and more kind of dynamic ways in which energy is consumed across the grid. And you know what you're seeing is utilities are increasingly looking out to the market, looking to their customers to be partners in helping them, you know, balance your supply and demand on the grid. So historically, you know, buildings have just consumed energy whenever there's an immediate demand for it. But now utilities, grid operators are increasingly putting incentives out there for building owners and you know, building operators to consume electricity at times that you know help with what's going on the grid. So it's this idea of flexible energy consumption. And with automation, you can really start to do some interesting things because you can shift between being focused on efficiency or being focused on demand response or being focused on load shifting and time of use optimization and really start to do a lot of things that just are I think overly complex and overly burdensome if you're looking at it just more from a manual adjustments point of view, more of a status quo. So we're just at the beginning of that, right. There's this concept of grid-interactive efficient buildings that is just starting to pick up some speed. And I really do think that's the future of where all this is headed. Because if you think about some of these macro trends of intermittent renewable energy being interconnected to the grid at an increasing speed, utilities needing to invest in increased load growth. I mean, you see this sort of big explosion in demand for data centers with the AI revolution that's happening. Buildings are really going to need to interact with the grid in increasingly complex and increasingly useful ways. And you know, automation is going to sit right at the middle of that.

Todd:

How would you recommend property managers approach procuring technology vendors with so many options becoming available?

James:

Yeah, I think this is a really good question because you know, I couldn't help but bringing up AI on this in this interview. And I think you know, there's a lot of different types of technology vendors out there and there's also I think a lot of marketing fluff that's out there as well. So I think the best thing that you can do is really have a clear understanding of what outcomes you're looking for with

the technology that you're looking to procure, but at the same time being open to novel approaches to getting there. And I think, you know, a part of that is making sure that you can quantify and measure the impact that any given solution is going to have. You know, I think it's easy to kind of be seduced by, you know, some of the hype out there. But at the end of the day, you really got to make sure that whatever you're going to invest in and whatever you're going to decide to even pilot or deploy is going to have an impact that you can make sure is really there, is tangible. So that's sometimes easier said than done. But I think the more that the real estate community expects that of the vendors that they work with, I think that that'll help us get to a better place overall.

Todd:

Thanks for joining us, James.

James:

Yeah, thanks again for having me.

Todd:

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