



Global Real Estate Conference: Insights

Smart Buildings & Discussion

Presenters:

Coen van Oostrom, Founder & CEO, EDGE
Kristin Gratacap, Associate Principal, Studios Architecture US
Sarah Schlesinger, CEO, Blackprint Booster Germany
Sander Grunewald, Partner, KPMG Netherlands

Sander Grunewald (SG):

Welcome to this session of this second day of the conference where we have a very valuable panel where we'll focus on smart buildings and the smart future of real estate. Allow me to briefly introduce the panel.

First of all we have Kristin. Kristin is an associate principal for Studios Architecture, one of the world's leading architecture firms, and well, what kept in my mind is, for example, you support the Google headquarters office, which I think is at least a big, smart firm. And you might come back to that later, but great to have you in the panel, Kristen. Sarah, great to have you in the panel as well. You're CEO of blackprint Booster, the first PropTech accelerator in continental Europe. And if I read your resume, you're more or less PropTech in everything you do and you breathe. So great to have you in the panel today. Look forward to have also your view in the panel from a PropTech point of view. And then last, but definitely not least, Coen. Welcome as well. You're Founder and CEO of Edge. Well, a global leader in tech-enabled sustainable and healthy building development. I think most of our listeners know of your developments as you're going global in the last year, with well, in my understanding really great pieces of development. Well, as we go for the intro, you aim to radicalize sustainability through powerful innovations by creating not only green buildings but also digital platforms to make buildings smart and improve the performance of the real estate industry. Well, I think that's a huge ambition which we will touch upon today in the panel as well. And also some listeners might have heard your one-to-one interview this morning as well.

Well, that's for the introduction from my side. So the first question is, smart and sustainable building technology seems to be a significant trend that's all the viewers might definitely recognize, which will accelerate even more over the next years. Could you briefly add on my introduction by giving your view of smart buildings and acceleration over the next years. Coen, may I start with you?

Coen van Oostrom (CVO):

Well, my journey into smart building started over 12 years ago when I met Al Gore and when he convinced me that sustainable buildings would be a lot better for the world than non-sustainable buildings. I noticed that if you want to do sustainability then especially in the beginning nobody really wanted to pay for it. So we had to do it in the most efficient way. And in order to be efficient in sustainability you need a lot of data. You need to really understand how a building works and functions. And so we started to put sensors in buildings. Not so much because we wanted to be a tech company, but really just because we needed more information about how buildings actually behave. And that let do the building of the Edge in Amsterdam, which became a little bit of a metaphor for the first of a new generation of smart office buildings.

And we were overwhelmed by everything that came to us afterwards, and we decided to pivot the company and go from being a real estate developer doing bricks and mortar into being still a real estate developer but much more focused on the digital part of that whole work. It's still a journey and there's so much happening at the moment, but the push at the moment for sustainable and healthy buildings is such that we see a revolution and a tsunami of work coming towards us.

SG:

Thank you. Kristin, from an architecture point of view, kindly introduce yourself by giving your view of the acceleration of smart buildings.

Kristin Gratacap (KG):

Yes, thank you very much Sander. If you were following what Coen said, Studios has been a leader in sustainable design over the last two decades. We find that it's our role to really build sustainable ecosystems and that there's a three stage process. It's about the inception of the building, the construction of it, and then also the operating of it. And for us that's about having, building something

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that's for healthy systems, healthy cities and healthy people. And for us, technology is important, but it's also important to look at things that are passive, that are adaptable, that are reversible, so that we are building less but we're building better. And we're using technology in a way that is targeted and intelligent.

So smart starts with a lot of the work up front. So how do we think about this passivity, this frugality and being locally relevant. And then how do we use targeted technology for modeling, for analysis, and then in construction there's a lot of exciting things happening in that field around AI, AI enabled construction, prefabrication. The best energy strategy is to just not use it. Or the best water strategy is to just not use it. So we try to think of the ways that we can help design those things up front and then we can monitor it and make sure that it's doing what we intended in the operation management phase.

SG:

Thank you Kristin. And now Sarah, you look from a different side, from the PropTech side. So maybe your clients, your people, or your network, look at Edge and the architect's like "Well, how can I be involved?" What's your view on the trend and how are you and your client looking at this?

Sarah Schlesinger (SS):

So we accelerate PropTechs in the past, and sitting at the interface, between PropTech corporate side and the third really important party in this, the venture capitalists. And since some month, and it's not longer, much more questions and (Inaudible) us from the corporate side to find the right solutions for getting smart readiness, and this is mainly due to regulations. So ESG, the investors in the special case, now the investors which are related to the finance market, because they are forced to collect, analyze and use that for transparency reasons. This is the first part, and on the other hand, they need smart readiness for more efficient processes and better carbon (Inaudible) balance. And I think what we see is, it is a total momentum. And it's the first time for decades there's pressure from outside, from market, but also from law, that forces real estate to move forward. So getting future improvement and care and preserving the venue of their portfolios.

I think it's three years ago when Coen was on our big digitalization conference we had here and it was really amazing the reactions. Nothing happened. And now we have this moment in the market that everybody wants to not be the latest follower, but maybe even having the chance not being either in front of the wave but riding it right now, and don't miss this, yes, momentum.

SG:

Thank you Sarah. So to my understanding, the three of you really have the momentum at this stage to bring this to the next level. And that brings me also to my next question. If you really look at smart and sustainable buildings, that's what I call them. But I also hear healthy. If you are at the start of developing, designing a new let's say large office

development, what are the most do's, or the go-to directions for an investor to look at? And this question, I want to start with Kristin as you are at the design start of the building. What's your view?

KG:

Well, as I was alluding to in the first introduction is that really it's about building cities and building buildings that can stand the test of time. We're trying to build for 500 years. We're trying to build for 1000 years. We need to stop building buildings that are focused on an individual use. It needs to be able to change from a residential to an office to a shopping center to a pandemic emergency vaccination center over time. So we need to decouple these things and think about the passive strategies, bring natural light, bright natural ventilation, use honest materials, local materials, and then we add the technology.

We add the technology to then help us navigate, to help us use on demand the services and to be as precise and use the least amount of energy, the least amount of water, and the least amount of carbon, and to also inform people. But smart is also about being sustainable, and it's also about connecting people. It's about you understanding the building and the city that you live in though data. And if we can AI-enable this data, we can get to a point where people can start to connect better, understand their space better, and use space in a more holistic way.

If space is sitting empty, for a time, maybe there was a way to capture that and we can reallocate it to a different use. We can turn the system off(?). So it's about creating really this elasticity in the building, in our real estate, but it starts with passive, it starts with local, and it adds technology and data and AI-enabled, and it's all along the process. So you need those smart technologies while you're doing conception, while you're building, so you don't make an error that could cause you a lifetime of headache because you have an air infiltration and you can't figure out why you're leaking air. But that's because the gasket was installed wrong, or maybe AI-enabled construction management can help you with that.

And then how do we operate these buildings in a really smart way and how do we bring users together? Because I think at the end of the day it's about people, but building spaces for people. It's technology at the service of mankind to make us live in a balanced ecosystem so that we touch lightly on the earth and on the planet.

SG:

Thank you Kristin. If I then move to you Coen. Because the architect comes up with a design for something that in 500 years is still interesting and I always think as the most ... we talk about smart cities, and well they say what is smart? And somebody once told me "Rome is the smartest city, because after hundreds of years it's still one of the most appealing cities of the world." What is your view Coen on the buildings Edge is developing? For how long will they last? What is your must do direction? Must go direction to make sure to reach these objectives as mentioned by Kristin?

CVO:

I totally agree with Kristin that many buildings have been made with a focus on a certain tenant, a certain use, and that holds true for ten or 20 or 30 years, and indeed, in Rome buildings were built that are still useable thousands of years later. I also think that technology in itself must be seen as an enabler and as a tool to get other things done. And when you ask yourself the question what is it then that we want to get done, it's the number one question that we always ask in our company is, what does it do for our tenant, maybe for the owner of the building, but this is the number one question. Maybe some people debate that with me, they say well, there's also a bigger goal, and that is what is it doing for our earth, for our environment? And maybe those two questions then come together. And that for me is a leading part.

And I think in that discussion there's one let's say special part that needs extra attention, and that there's just so much already built in the world that is bad, and we have, as a credo in our company, "the world needs better buildings." That's easy to do in new buildings. So new buildings that we are making we can make carbon neutral in the operation, and we're working very hard to see how far we can push that also in building the buildings. So getting carbon free concrete in there. Look at reuse of steel, etc. But the existing stock, that's where there's a lot of headache. And look at the beautiful city like Paris, or a city like Amsterdam. There's so much there that they're using so much energy, and it should be retrofitted.

And there's a lot of owners that are not so interested. And I think that what is special today is that the technology enables us to do it in an efficient way. And we have green deals coming up, one in Europe, and a big one in North America, in the United States, that will push the market in a certain direction. And then there is a whole bunch of specialists like the people here on the panel that can facilitate that for the owners that don't know exactly how to do that. There's a huge opportunity there.

SG:

Thank you for that. And Sarah, if you look at the PropTech companies in your network, but also the interest of their venture capitalists, is that in line with the direction just mentioned by Kristin and Coen? Or do you see different movements?

SS:

No, not different. But we see a really focus on refurbishment at the moment. So refurbishment means these existing buildings, because it's 98 percent of what we have in Germany and not the new buildings. And we have to solve this problem as quick as re-planning development project in the moment. And this is complicated. There is no transparency. There has not been documentation in the most(?) reasons(?), and mostly it's a paper and the keller(?) and waiting for it, and thinking about this. BIM is totally important to be improved. We see many companies working on this. And not meaning the planning and the construction period, meaning that what's coming after it, because it's the most, the longest period in the life cycle of properties. And there are two points that are working on creating

a better carbon footprint, using sustainable materials. I know this is not on the first hand smart, but in the second it is, because it's needed to get this better(?) carbon footprint, and he second time like Coen told it, it's comfort and health for the users of the building. And if we create (Inaudible) in the buildings then we are also able to do something for our natures, and most important, I think, and this is the smart point, it's not all about technology and sensors. It's about transparency and it's about active control and management of the buildings.

SG:

Thank you. And I think the three of you really have ambition to build an environment to make it a better world. I start with you Coen. In this journey, our audience are mostly institutional investors, or our KPMG partners that support these kind of investors. What is the biggest challenges you come across in realizing this? Because again, you need your clients to support you in the journey. Is it regulation? Is it the technology that's available? Is it skills within the market currently? What are the biggest challenges you experience Coen in living your dream? Living your ambition?

CVO:

I think it's a very good question. And I can tell you, if you are a developer and you develop from New York to Berlin and all the cities in between, that there's a lot of headache. And I think the biggest headache for me is that on top of all these technology challenges and finding out what works, what sensors work, how do you deal with information, with leakage of information, where can a server be in the world, how do you deal with different languages that all these sensors speak to each other? On top of that, I need to have a building permit. And I need to still go to court in Berlin.

I was reading an article this morning by Elon Musk how difficult it is to get a building permit in Berlin. And so every city has its specific things that we need to do. What is interesting, if we learn from the COVID pandemic, we see that there's like a raw(?) footage, and everything is possible suddenly. If you want to have a building permit for a sustainable building, or even a retrofit to make a building more sustainable, there's nothing like that. You just have to go through the old infrastructure of legal procedures, things take months, years.

And so there's a reality where we have the technology, we have the willingness of all the stakeholders to do this. There's the money that is available. But there's an infrastructure that was built for a very different reality. And therefore when I want to re-develop a portfolio ... let's say for Oxya(?) – we have a French guest today in our panel – let's say they have hundreds of buildings in Europe that need to be retrofitted. But if you just look at the reality of how difficult it is to get those building permits, to have an energy law in Germany that's completely different than an energy law in the UK, and you have to find out how to put that in, and what kind of things are allowed to bring in. You can do a deal with a big provider. You can bring in GE or Phillips Lighting or other companies, and suddenly you will find out what is allowed in one country is not allowed in the other country.

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And so there's a lot in a way to scale this. Doing a perfect example, maybe like we have done in Amsterdam, but there are other examples at the moment as well, that's not the most difficult part. But to scale it, to really roll it out in the whole of Europe, and maybe the whole of the world, that is super, super difficult.

SG:

Thank you Coen. Kristin, from your perspective, anything to add to Coen? Do you see same challenges? Do you see different challenges? I think Coen is really talking about regulation very happily, and is that something you come across? Or is it also that clients that have different views?

KG:

I think he's very spot on. We have a lot of difficulty traveling between borders for a number of things. For codes, for regulations, for heating, cooling, for all of those sorts of things. So that does slow down the process of making this worldwide available. And just like we had the solar, it takes time for the products to become well known. It takes time for investors, developers and clients to feel comfortable with new technologies. They don't necessarily want to be sometimes the first, depending on their status as an innovator. Sometimes they want the tried and true tested solution. They know that that will work. And then I think there's also, because we're still dealing with new technologies and things that might not be able to transfer across borders, we don't necessarily have the competence to either design, maintain or install those things. So we need more green jobs, green training for the operation.

And I think when we talk about the data that comes out, there's sort of a final step in how do we analyze this data. And how do we make it actionable so that it actually can get to the right people and it can be used in a way that can better maintain a building, it can improve the user experience. So it's about I think a couple of different things where we're trying to attack things that might have been home grown in Germany, and how do you translate that to the UK or the US or vice versa, and then how to you get the skilled labor up and running and get it to a price, and get it comfortable so that it's readily available to all partners, and not just the most innovative partners who are willing to take those risks and willing to finance them.

SG:

Thank you. Thank you. Sarah, from the venture capital PropTech side, as KPMG we did a research a few years ago which actually concluded that PropTechs develop solutions that are not necessarily needed by the developers or the building owner. So there's at moments a mismatch. Is that something recognized if you hear the direction where Coen and Kristin want to go? Or do you see different challenges for your clients?

SS:

I think as we made some of our money with matching corporate side and PropTech side, so I think there are really good measures. But I think it's mainly up to the willingness and the skills, because you ask for it on the corporate(?) side. It's not so important if they are all the right solutions. I think for the last years, and it's still the case, they are not able to work with. Because the three stages of digitalization, meaning the first, getting all the data together and are able to work with it, this is not what's out there in the investor's companies or in the real estate companies as a whole. And if we're reaching this level, and some already have it, but most are not able. They don't have the skills internally. They don't have the talents in place. They don't enable their people to really work with technology even by having not the right systems, but even by having the really bad old structures and decisions ... structures and main part, like we had in our PropTech study last month.

But I think what's more important (Inaudible) and you asked for what is the biggest challenges, it's the second and the third step of digitalization. So we need the data to getting more efficient, to have better processes. This is so heavily needed in this moment. But most of the corporate(?) side is not able to because they didn't make the house work(?). And the third part, and coming back to the investor's side, because they have a big problem out there with the forced to refurbishment, were forced to invest in their portfolio. There's no business model for return of investment. So we see they need much money to invest, but there won't be this return on investment. So we have a cost of (Inaudible) problem, and technology, meaning also PropTech, but not only PropTech, is the possibility or the basic need to create new building models in the future.

And this is not something that the start-ups have to do. I hope so. Not the business that only Microsoft and Asopy(?) and Google will create this business model and put all the old existing players out of the market. I think this nothing that some of us want to see in the future. But really so as an investor and really have these problems to face, how could I refinance what I have to invest in my buildings not for creating more value, just to take care that the value is nearly the same in some years.

SG:

Thank you, thank you. Panel, we are moving already towards the end. I have a quote I want to have a yes and no from all three of you. And then a final question. Is there a future for pure analog buildings in portfolios of our clients? So please only a yes or a no. Kristin?

KG:

No, I don't believe so. Not in portfolios for real estate and financial agents.

SG:

Sarah.

SS:

No. Clear no.

SG:

Coen?

CVO:

No.

SG:

So a lot of actions to take for our clients then, and that's why a last question and due to the time I'll ask the three of you to try to keep it brief. What advice would you give our clients, so investors in large portfolios, that they have to take over the next, well as of starting tomorrow? Coen?

CVO:

All the big tenants are now signing up for ESG targets that will drive them to carbon zero buildings and also they want those buildings then to be healthy. Some of the investors are lagging behind and are not being able to then deliver that service. If I would be an owner of a lot of real estate and I would be a professional organization, I would really push hard to make that portfolio carbon neutral as soon as possible.

SG:

Thank you. Sarah?

SS:

Totally true what Coen's telling. So I think two points. The first is doing the internal homework, because if you don't have that in place, the people in place, talents, skills and stuff like this, everything else, you could be planning for great refurbishments, then you can't use the data, you can't create value. So the internal (Inaudible) is such now totally important, and having this view in the future, finding new business models, is not possible if you had tried to do this on your own. So please, let this time of working just for yourself, think about cooperations, need the tech side, but also needs your colleagues and needs the other

corporate side, and maybe if you're out of our real estate view, having other periods of the economy, and this would be the future I think. It's all about cooperations.

SG:

Thank you Sarah. Kristin, the last word's for you, advice to our clients.

KG:

Well, I would say that fundamentally, refurbishing existing building stock in major cities is where we need to target. Because that's where people will be living and working and that's how we're going to get to net zero. There's a lot of embodied carbon already in all of the materials that exist in these cities. There's a lot of infrastructure that's already built to make them great communities. There will be a lot of changes to cities, I think, as we move forward, become carless. We become more agricultural in our cities.

And so investing in those areas with intelligent design, construction and operation, using targeted technologies that allow your portfolio to be sustainable, but also resilient over time, meaning that you invest in something that can be a 500-year building. Because the structure can last, but the technology might change every year or two, is very important. How do you decouple all of those things to make sure that your portfolio is truly resilient?

SG:

Thank you Sarah, Kristin, Coen. Thank you very much for this valuable panel discussion. I think a lot of insights. And I wish the three of you a lot of success in continuing your journey. Because to me we need much more people like the three of you supporting our clients and really transforming the industry. Thank you very much, all the best, and normally there would be a big applause now, but in this way of having it virtually I hope you will be there in the next conference where we'll be physical again. Thank you.

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