

Nick Chim:

We think that in an inclusive home ownership community are the most sustainable communities because you have now people from all different walks of lives, living together, trying to improve a neighborhood and benefiting from those improvements, so its inclusive growth. When you're renting, you don't participate in the growth. In fact, more likely you get priced out when growth and prosperity comes. And so, we think that these two concepts together allows to do something very different and sort of improve our cities.

Matt Slepín:

Hi, this is Matt Slepín and welcome to Leading Voices in Real Estate. Today's episode is a conversation with the founders of a new company called Nabr, N-A-B-R. It's building a business platform to create at scale, well-designed, sustainably-built, attainably-priced apartment units on a home ownership model. My emphasis is on the terms business platform and of scale since Nabr has been inspired in their words by consumer product companies like Lego, Tesla, and Apple much more than any traditional real estate developer. Our interview recorded on April 22nd is with the three founders of Nabr, Roni Bahar, who came to this via his leadership role at WeWork, Nick Chim, who came via the technology route at Sidewalk Labs and Google, and Bjarke Ingels, one of the world's leading architects and the founder of BIG, the Bjarke Ingels Group architectural firm.

Nabr is building its first three projects in downtown San Jose as the proving ground for its business, but it's truly looking to create a scalable business platform and one that, if successful, would make a dent in our housing supply crisis. This was a fun and I think eye-opening conversation about a very different approach to building a real estate company. We had some fun, although it was also a bit raw and close to home for both Roni and Bjarke talking about the recent TV series, WeCrashed, a dramatization of the WeWork story. Although there's certainly fiction exaggeration and characterization in that series, my takeaway is that the headline abuses in both WeCrashed and the Super Pumped series on Uber are real, but also sit alongside true innovation, breakthroughs and disruption in industries really ripe for change.

As our listeners know, one of the themes of Leading Voices has been hearing real estate leaders talk about their building this kind of scalable business platform. Although that's long been one of my mantras about the direction of the business, it's always been the opposite of what I promise as a search professional, which has been all about bespoke consulting. Well, I can now practice what I preached through the Terra Search Partners merger with ZRG Partners. ZRG is a global talent advisory firm indeed built to scale where my work can now leverage the tools that a strong business platform provides and concurrently more strongly deliver that bespoke intensive consulting, which is still the essence of executive search. Thank you, Terra ZRG for sponsoring Leading Voices.

As always, I invite your feedback and ideas on the show. You can reach me at my email at matt@terraresearchpartners.com. Please do share these episodes with your friends in the business. If you've not already, please follow or subscribe to the show. If you have a few minutes, please rate us on one of your favorite podcast apps. I hope that you enjoy the conversation with Bjarke, Roni and Nick.

First of all, Roni, Nick and Bjarke, thank you so much for being with me. We're recording now from across the country. I think we have west coast. I think we have east coast. I think we have Copenhagen. We're doing a lot of work here over the wires and we're going to talk about your new company, Nabr, that you're building together. It's a business platform. I really want to focus on what business platform means, although we're going to make it real by talking about your first projects in San Jose. That's the conversation today and to get started since we have three of your voices, and I'm going

to point to each of you so that you don't just figure out who's talking, but let's hear each of your voices so our listeners can know who you are, and Roni, let's start with your unique accent.

Roni Bahar:

My unique accent.

Matt Slepín:

You got it.

Roni Bahar:

I say that I was born in Israel, I grew up in Texas. That's the voice you're going to get. Roni Bahar, co-founder, CEO of Nabr. Super excited to be here. We've been working together for almost 10 years now between all three of us on and off, and we have an incredible team that's taking its collective experience and trying to figure out what can we do to change the trajectory of housing in cities.

Matt Slepín:

Great conversation for us, because we love the housing issue to discuss on Leading Voices, which is a critical one and a passion of mine and passion of the podcast. Nick?

Nick Chim:

Hi, I'm Nick Chim. I'm glad to be here with you guys. My focus is really on how to use technology to scale the production of housing, and so, everything from how we plan projects, how we sell individual units to consumers, and how we deliver the buildings as quickly as possible.

Matt Slepín:

Cool, thank you. Bjarke?

Bjarke Ingels:

Bjarke Ingels, Danish accent, and the architect and sort of in charge of the sort of design of the product of Nabr, which essentially is to try to bring the powers of productization to the built environment and to see if we can, just like all other productized products, make the places we live of a greater and greater and greater quality at a more and more attainable cost.

Matt Slepín:

Cool. Let's jump into it. Talk about productization and talk about housing and talk about how you guys came together and you came together out of after WeWork. Roni, you were one of the leaders at WeWork. Bjarke, I saw you in the movie the other day, have to tell you, or someone doubling as you, but let's talk about kind of how this came together out of that crucible and what the goal is.

Roni Bahar:

Bjarke and I started working together about six, seven years ago within the concept, the world of WeWork. I think that our relationship was worth because we come with such different angles into what we do. For me it was how do you productize things, and for Bjarke, I think he was fascinated with that

process where he was with BIG and type of projects that we're doing. We weren't there on where we are today on housing, but that's how the relationship really started.

Six years later, we worked on multiple projects together and post WeWork, where Nick and I also worked together and Bjarke worked together with Nick 10 years ago when Nick was working at Google X on a new product to replace people like Bjarke's architectural approach with the AI and machine learning and so on, I was looking to continue to do the type of work I was doing at WeWork and spending time with Bjarke in Copenhagen.

As we started to have these conversations, we were like, housing for us has always been the thing that we're very passionate about. Commercial office, I think is fairly straightforward today. We spent about a year or so just studying what is going on, understanding the data, understanding the issues we see as process and kind of formulating this thing called Nabr from so many different angles, but we like to say that it was this squirrely path that every time we got stuck, we had to start over again, and then eventually we got to a formula that we felt really strong about, we believe can deliver on this idea of higher quality, sustainability and attainable product in cities.

Matt Slepín:

Talk about kind of the combination of what's the problem that you're trying to solve and then think about productization in a minute, but what part of the housing shortage is this globally? Is this in the states? What's the issue you're addressing and at what income levels of the issue are you talking?

Nick Chim:

I think the problem we're trying to solve is how to create more supply. The reason why prices are high, generally, is because there's more demand than there is supply. I think in this industry, there's a magical property, which is, as the prices go up, the cost of construction magically goes up too. And so, it's odd. I think there's a relationship. I haven't quite figured it out yet.

Then I think on the development side, really understanding what are the drivers of cost and I think our foil to that is scale. And so, if you start thinking about process development not as a single building, but as a pipeline of buildings, then you start looking for solutions in different ways. And so, even in our first project, we're entitling three buildings at the same time. This gives us scale economies in terms of how we design the building, how we work with our suppliers, how we recruit our customers and whatever surplus that we generate as a result of this effort, we just put into the fourth building, the fifth building, and the sixth building.

And so, the way that projects are capitalized today, they're effectively special vehicle, I'm sorry, special purpose vehicles that represent the interest in stakeholders of a single building. And so, everything has to happen within that scope. All the profits and losses happen within that scope. In fact, it's a bad idea to ever mix them because now you have conflicts of interests.

By rethinking how we do development and the scale which we do development, I think we have a chance to break through this. Then just to tie that back in together with what Bjarke said about productization, productization enables the scale of the delivery production and delivery of these buildings. And so, that's not to say that every building will be the same, but there should be enough commonality that enables greater supply chain efficiency. Then ultimately, that will help drive cost down. I think there isn't one thing that we're doing, we're just studying this problem, trying to debug where the blockers are and then try to gracefully step over them.

Matt Slepín:

In the production of housing world, in single family residential, they do productize it, but not in multi-family. Multi-family winds up being, let's get this one done, let's get this one done, let's get this one done. Unfortunately, even the upskilled builders have that as a challenge.

Nick Chim:

That's correct.

Matt Slepín:

What's the density of your product because that would differentiate from single family?

Bjarke Ingels:

The first product offering we're bringing to the market in downtown San Jose is a kind of 20-story loft-like typology. In many ways, we've been inspired by the qualities and the characteristics of the Soho Loft. Ironically, the loft is a typology that sort of evolved 100, 150 years ago for manufacturing and it basically divorced the architecture of the plan layout from the structure. You have long spans, tall columns, you maximize the openings towards the outside because daylight is for free. Within that, you had the maximum freedom to manufacture whatever needed manufacturing and it just turned out that 100 years later, it's still one of the most desirable ways of living.

One of the aspects it has is that a typical loft building in Brooklyn, you find a student living next to a billionaire. The only sort of difference is really that the billionaire has slightly more column base and maybe some more expensive finishes. We love this kind of democratizing power of productization that when you look at another productized product, the smartphone, the billionaire and the student have the same phone.

In a way, what we're trying to deliver is in this case, the most sustainable and the most enjoyable form of living and the way we do it is first of all, this idea of creating, you use the term platform for the business and for the technology, but even the building type is a kind of platform onto which you can bring a whole variety of different interior architectures. We even imagine that already with the first buildings, there will be interiors designed by my architectural practice BIG. There'll be in-house designs by Nabr and there'll also be third-party designs by other sort of up and coming and brilliant interior designers that in a way we can give a stage to bring their craft and designs to a bigger market.

Then also on the outside, it sets us free within this kind of modular building system, it is elastic so it can expand and contract, it can step up and down to take advantage of different available building sites, but also the exterior we have in incredibly generous outdoor spaces that allows the residents to almost get an outdoor room, if you're living in California, the outdoor spaces is a lot more enjoyable than the one you would find in Denmark and in Denmark, by law, every single building has a balcony. In a way, we are bringing this kind of series of generous qualities to the market in a kind of very systematic and adaptable way.

Matt Slepín:

I want to think about the different legs of the stool of what this business looks like and how you're doing this. One of them is design and we can drill down on that. The other is the ownership vehicle. The other is marketing, technology, sustainability. Take these in some order and I'll lob this up to maybe Roni.

Roni Bahar:

I want to start with the ownership side, because it also touches back what you talked about from an inventory perspective. When we were doing our research, we realized that less than 2% of all new housing starts are apartments for ownership. The ramifications of that are beyond the real estate industry. It's everything that has to do where our cities are functioning, our civic involvement in our cities, our socioeconomic gap. I mean, it touches all of that in one place, and our sustainability, densification, utilize the resources together is the only path really that we can... If our cities are sustainable, then everything else works because that's where is the biggest impact.

We looked at this, we were like, wow, such a big opportunity. Why is no one doing this? Why are condo projects so limited to just a few markets and have not gotten any traction? What is the user experience that it's not there if I need to choose a single family home versus an apartment? What features do I need to have to , offset this idea of having a small lot with a 1,500, 1,800 square foot home that you have today in San Jose versus having an apartment that's equal in size. It had to do with the field, the apartment, the sizing, the outdoor access. It has to do with the operation cost, your own experience.

This for us is alone, such a huge opportunity. Then when you talk about the entire risk process and you realize developers don't want to develop the condos because of all the risk that comes with it. The beginning for us of starting this process, we're going to build apartments for ownership as a product that's scalable. What is the offering that needs to come to the consumers both from a product experience, buying experience, transaction? That is the biggest opportunity.

As we launched in December, consumers were starting to communicate with us and we learned one of the key important stats is that almost 45% of people who signed up for our product are moving from a single family home, which is a huge factor for us to see. Wow, okay, there is an opportunity to really mobilize people back to the city. This is not just us thinking that people want to own in cities and it really validated that. Then, everything that happens in terms of product, opportunities, financial structure is a ripple effect of that mindset, of that ownership.

Matt Slepín:

Let me ask a couple questions about that. First one is people are nervous about condos because of builder liability.

Roni Bahar:

Of course.

Matt Slepín:

That's the issue. Maybe there's a business platform behind this, but that's why there aren't tons of production condo builders. There's probably other reasons, but talk about that-

Roni Bahar:

There's a lot of reasons.

Matt Slepín:

I have three or four I want to ask you about. Talk about that first.

Roni Bahar:

The first one from a liability perspective, yes, it is a risky because of, especially in states like California, by having a systems approach and having repetition, you can have a really high quality infrastructure to avoid that. Is it avoidable completely at this stage of the company? No, but if you tackle that head on with this kind of repetition, investing in R and D and really delivering a high quality product, and this is all... the issue is not the refrigerator warranty. The issue is much bigger that's structural fundamental issues with the building, you can actually reduce that risk substantially.

Matt Slepín:

Are you able to, as a business platform, have some kind of insurance or backdrop for that?

Roni Bahar:

We're following the regular path today of... there are condo being developed today. It's not like there's zero being developed today in California. We're following the regular path, but we will see tremendous improvement from building to building that we can actually de-risk that process. Then, when you think about it transcends also to the financial model, the majority of condo projects only make money because of appreciation of the market.

Going in to the project is usually not that promising. Then, developers take a big risk. They're going into it. Then that's why they release inventory in phases. That's why the pricing keeps going up because there's no availability and they have to do that way to make it pensile. With us, again, partnering early with the consumer in the process, which we do at pre-sales, understanding what consumers are looking for, where they want to live and what kind of price point they're looking for, we can create product that match that demand, so really de-risking the financials uncertainty that happens with a project as well.

Matt Slepín:

Let me drill down on another point that you made, because you talked about 45% are moving from a single family home. That's actually less solving the housing crisis because people are moving and it's an affordability issue, which is people are coming in with the down payment. This is middle, upper middle class buyers in terms of an economic strata. At least if it's 45% in California coming from a single family home, moving downtown, there'll be different models and different drivers in different markets. Talk about that part. Talk about price point. Talk about affordability issues. And you probably also have some requirements in your properties. Let's talk about the dumbbell.

Roni Bahar:

Let's talk about the dumbbell, Nick.

Nick Chim:

Our goal is to create as inclusive as communities as possible. Income inclusion is really hard because, in fact, how we segregate ourselves in society largely has to do with the price of housing. People move into certain neighborhoods that have to support certain home prices. Then that becomes kind of your social sphere. In the city, if you have a lot of rentals, then those then become your communities. I think the question is, is there a business model? Is there a desire to create more inclusive housing or living communities?

If you look at today's inclusionary housing policies, you basically have a market based subsidy where market rate units are subsidizing deed restricted affordable units. We did a calculation that in San

Jose, each unit that's market rate subsidizes at a rate of between \$40,000 to \$50,000 per unit for an inclusionary unit, but the income requirements for inclusionary unit is anywhere between 80 to 120% AMI for condos, so what they call moderate income. Then market rate is 180 to 200% AMI. And so, what you end up with is dumbbell shaped, barbell shaped sort of income curve.

The question is there a way or an opportunity for us to create a more normal distribution of income? How do we fill in that middle? There's a lot of talk in policy circles around missing middle. Generally, they talk about it as a housing typology, meaning duplexes and town homes, but we're trying to accomplish this within a sort of mid-rise, high-rise typology. The way that our idea to smooth that out is to create more flexible financing programs. And so, we've created this program, which we call LEAP, which provides every resident a path to home ownership.

It's too early to tell what the uptake and conversion rates are going to be, but we're trying to construct a system where everyone who moves into a Nabr home who's not buying upfront will have an option to purchase their home at a fixed price or a known price in the future. The challenge of buying a home today is that as you're saving for down payment, the prices keep on going up. And so, your rate of savings has to exceed the rate of inflation for the home.

And so, our lead program allows us to lock in that price for the consumer. We have a special deal with our capital partners to enable this program to work so that they know exactly what their savings target need to be in order to convert to home ownership. We think that in an inclusive home ownership community are the most sustainable communities because you have now people from all different walks of lives living together, trying to improve a neighborhood and benefiting from those improvements. It's inclusive growth, and when you're renting, you don't participate in the growth. In fact, more likely, you get priced out when growth and prosperity comes. And so, we think that these two concepts together allows to do something very different and sort of improve our cities.

Matt Slepín:

It's interesting. It's back to what Bjarke said a few minutes ago. If you look at our traditional cities and neighborhoods, you have mixed incomes of all varieties in a single condo building or co-op building in New York City or wherever it is, that's what we have lived with for generations. What we've been building has been kind of single income strata properties. If you're enabling that, that is what kind of a traditional neighborhood gets to feel like even within one building.

Nick Chim:

I do have to add, these are our aspirations.

Matt Slepín:

Of course.

Nick Chim:

We're not going to get there day one, but everyone on the team is committed to that goal and I think that our goal is to build enough of a margin in our business that allows us to basically realize these aspirations.

Matt Slepín:

Well, the question is twofold. One is, you're talking about a margin within your business, but the other is a financing vehicle, that's basically a rent-to-own financing vehicle in the condos that you're developing.

That combination, there's some internal subsidy, but you have a financing vehicle that kind of addresses different income strata.

Nick Chim:

We believe that there is a source of capital out there that we were supportive of this. And so, in a way, no one ever made this offer. And so, that capital pool doesn't exist, but we've had many, many conversations with different sources of capital that are really interested in how to use capital for good and how to still have returns, but more modest returns, but make sure that the capital is deployed so that it makes our societies more equitable. We don't need a lot of money to do this. And so, we can find some of these pockets. I think we can create this program that's really, really consumer-friendly.

Matt Slepín:

That part of the product, to focus again, but let's move on after this is really to get to the financing of those units. It's not product project financing for you necessarily, it's a financing structure for the rent-to-own units for people who can't really afford the down payment.

Nick Chim:

That's such a really good point. This is one of the benefits for doing condos because you can't run this program on a rental because rental by definition is a single owner. By converting every unit into its own asset, we're able to match capital specifically to those units. And so, we have a tiered capital structure that allows us to address affordability at every income tier and on unit by unit level. This allows us to do this work. If you think about your monthly rent check, 60%, maybe even higher of that goes to pay capital for the cost of borrowing and the required profits. If you have more friendly capital, your monthly payments go down dramatically. And so, I think to me, that's where the opportunity is to figure out how to match capital with consumers. If we can do that, we can dramatically increase affordability.

Matt Slepín:

Cool. Let's come back to... One day, we'll talk about friendly capital and matching capital with consumers, because those are a bunch of things to unpack, but I want to move on to a different subject, which is thinking about your buildings and how you construct them, constructability, sustainability, environmentalism in how you're building these. Then also, are you able to bring down the cost per unit, and thinking of that both for your first projects, but then since you are creating a business platform, on a replicable basis, are you able to bring this down to some percentage less than average in the world?

Roni Bahar:

I can start it. I'm sure Bjarke will have great input on the product side, but I'll tell you this. When we started the first version of the project and we went out to price it out, we didn't get that big of a sticker shock, but then we started our business right when COVID started. Now, fast forward, you're 12 months into this and the world completely changed with supply chain and all those issues that we see happening. We're not unique to us. I think that process really put a lot of pressure on us to really refine our approach with the supply chain, with the constructability of the project and our partners.

We are not coming into the market actually in a cheaper than market product. We're specifically working in a market that has so much pressure in it that we can come in at the highest quality product at the top of the market to start with, but everything we're specifying at all the major components, we

have mapped a path that will help us reduce cost within that market. The cost reduction obviously has to do with all the benefits of productization and scale.

If it's the automating part of the processes as much as we can, if it's de-risking cost, because capital cost has to do with that as well, if it's how we work with the supply chain, where today a supplier has to wait the year, bid for a project, get into the project, there's all this guessing game, all this risk, well, we're going to be here for a long time, so what can we do to really help you maintain a healthy margin, but improve the flow of product that will reduce cost for our consumers and share that between the supply chain, capital and consumers where we're the middle person. That's an entire optimization.

It's not one single thing, but it's a product building constructability strategy, a relationship with the supply chain strategy and then all the little incremental things that we can capture along the way, reduce that cost with a target that's really to be about 10 to 15% below the market for that product market fit that we're launching at that time. It is not this idea that you could be 50, 70% cheaper, very quickly is unrealistic. We also have to remember, there's a gap. The market goes up and if you get efficiencies, eventually that gap is going to grow somewhat, but your costs are not going to go down.

Matt Slepín:

In San Jose, which is your first product, you're at the highest quality at the highest price point in the market. Eventually, as you scale, you'll get to 10 to 15% below, which is good.

Roni Bahar:

For that specific market category. If it's a mid-rise product, that unit size, if this finished choices, so you have different levers within your product range, but the target is to be 15% below that market for that specific audience.

Matt Slepín:

Which you won't be able to achieve at the first time that you're coming out, which makes total sense, but also you're pricing in very sustainable stuff. You're pricing in cutting edge stuff that will, over time, also pay for itself, but that over time paying for itself may come in at a higher price point, but a lower operational cost. Comments on those parts of the building structure that you're doing. Bjarke, this may be yours.

Bjarke Ingels:

Yes. I mean, I think one of the things we've done is that we have tried to gauge the entire market offering as it stands today and carefully curate what we believe are the best in class in terms of building materials for the structure, ways of assembling the facade, ways of creating the outdoor space, and also, just basic technical installations, heat pumps, affordable checks, the building envelope. That's on one hand. Then also, of course, I have two decades of experience working with multifamily housing in the kind of mid-market segment in Scandinavia. Because of the equality of the Scandinavian society, salaries are very high and our weather is as far as from Californian weather as you can get. It's a very fast and efficient way of building with a lot of prefabrication and a very quick assembly onsite.

We are taking a lot of those best practices and bringing them to California. Then we have selected for the first buildings that they're going to be entirely made out of mass timber, essentially cross-laminated timber, which has a lot of benefits. It's incredibly light, which means that it reduces the amount of energy for the transportation. You can source it quite locally, because you have available forestry all around North California and the adjacent states. Then, it's the simplest and most blatant way

to lower the embodied carbon of the building because the trees essentially suck carbon out of the atmosphere when they grow. Then they sequester that carbon in the bones of the building.

It's also very easy to eventually recycle if a century down the road, the Nabr buildings haven't gotten listed and there should be a reason to, but then also I think that brings in another aspect, and again, back to the inspiration of the loft. The loft type, they're built with a kind of quality in the bones of the building. You have cast iron columns or you have wooden columns, you have exposed wooden beams. Sometimes, they're concrete, but essentially, that bones of the building come with attribute. The same is going to be true here that the raw building, the columns are mass timber, the beams, the undersides of the ceiling.

Already, the raw loft without any applied finish has the warmth and texture and quality-

Matt Slepín:

Good.

Bjarke Ingels:

Exactly... of mass timber. That means that we don't have to spend money or energy or resources on making a shitty base building nice. It's actually already incredibly nice as it is. Those are the things like how can you make a building have everlasting attribute similar to the lofts that 100 years after their construction, actually feels warm and friendly and with quality to us today, even if they were built for manufacturing back then. That's sort of the mindset. Can we find things that are performing better ecologically and economically, but also aesthetically? Then we have a triple win.

Matt Slepín:

I want to talk about a couple things. One is I want to talk about San Jose and then I want to talk about the growth of this business and the platform and the scale and what that means, because we never get to talk about that. But first, just a little bit more to make San Jose real and talk about kind of location, price point, place in the market, and where San Jose's going because I know there's a lot happening there.

Roni Bahar:

San Jose Downtown SoFA District is where we're starting. It's a lively neighborhood, everything from food and beverages, our district on its own, very walkable and there's so much going on around it. I mean, we did the quick math, there's almost \$30 billion of development coming out of the ground within a few mile radius of us. San Jose does not have, other than one project, any real condo projects coming on the market, but between all the activity of office and other resi, we see it as there's such a huge opportunity to create a neighborhood there that the foundation is there.

If you live in New York and you talked about Brooklyn, 10, 12 years ago, Brooklyn was cool. Brooklyn became cooler than anywhere else in New York 10 years later and I think a lot of that applies to Silicon Valley because there's nowhere to go back up. If you want to live in Silicon Valley, you want to be able to commute to work within 30 minutes or take public transportation. That's the market you want to be in.

Matt Slepín:

It's set differently there's-

Roni Bahar:

We're very excited.

Matt Slepín:

There's no downtown in Silicon Valley.

Roni Bahar:

No downtown.

Matt Slepín:

San Jose's going to become, fingers crossed, that downtown.

Roni Bahar:

I mean, with all this investment, we're a tiny little fraction in all of that, but between all the major tech companies that are coming in big developers, this is us catching the wave at the right time. I think it'll create tremendous value for consumers who buy in our buildings.

Matt Slepín:

You have three properties there that are being constructed. What's the timing, what's the current status of each of those, because that will be the template that people are going to look at to say, okay, these guys are real?

Roni Bahar:

Absolutely. First building first before the other two, the goal is to open sales for consumers to really start signing up with deposits, configure their units and so on by the end of Q3, early Q4 of this year and start construction immediately parallel to that. It's one of three. All three buildings are a little bit different in many ways and we'll take learnings from one to two to three as we go through that. This give us a concentrated effort both from the innovation on the product and the deployment of it to work in one place rather than get scattered all over different sites and so on.

After that, we plan to continue to grow in that area. It's a big opportunity for us to continue to be vertical and based on these three projects, we'll make decisions, what size and where in the area will be the next projects.

Matt Slepín:

Let's talk about the future because this is interesting on those three projects, but if you're talking about productization, you've talked a lot about building the Tesla model or the iPhone model of real estate. To take advantage of business platform, this has to grow a lot and probably grow with and through others.

Roni Bahar:

Yes, absolutely. You can't, as a carriage in a horse kind of thing, right? The first thing is you want to get a product out and you're starting it with the consumers where usually you get the product built and then you get the consumers brought in. We're starting early with the consumers, building based on that input, our first building and around it, what the team and leveraging tremendously the work that Nick does, start to unitize everything.

Unitization of the process, of the components, of the transaction enables us to leverage technology to automate every part of the process where we can do so. It's really exciting that we can see the results of that starting as early as we are right now already, and then post the first building, we can really show that these results can produce over time real access to scalability. That doesn't mean that we'll be developing every project that Nabr wants to do, but if we can package it right, we can work with different partners via the other developers, landowners, municipalities, and corporations, and communities at large that want to build more in their area.

Matt Slepín:

I assume that that packaging of this to be used by others and with others is the essential part of your growth strategy or else you're back to being a builder just a little bit more. Let's come back to that question in a minute. Nick, is there anything about the technology side of this, which we haven't talked about and maybe some direct to consumer stuff, which we don't see in real estate. We see it in single family, but maybe not in the condo world, but talk about that.

Nick Chim:

I think we've kind of talked about how important it is to standardize in order to enable automation. And so, I think in general, every time we choose a building system like CLT or look at other types of prefabricated methodologies, we try to understand how these systems will scale over time with improvements in technology and also how it scales with volume.

And so, CLT is strictly more expensive today, but we believe that over time, CLT will be cost competitive with site build, with conventional materials. Now, that's a big belief because that gap is pretty significant, but we know that labor doesn't scale. Anything that's overly dependent on labor is going to have a really difficult time scaling, even though it might be a lower cost today.

And so, this kind of rigorous assessment of every part of the process, choosing systems that with some R and D will allow us to break the cost curve or shift the cost curve and then in combination, and then ultimately driving scale across our entire supply chain, all that work needs to be complimented by scaling our customer acquisition. We're able to excite our suppliers because we've shown we can generate consumer demand. And so, in a way, that's the process that gets the flywheel started.

There's also a really interesting catch, it's not obvious. The reason why developers end up developing unique buildings is because they feel a constant need to differentiate their selves from other developers. And so, they create a lot of what I call unnecessary variations in their product and that unnecessary variation creates a lot of complexities and irregularities and inefficiencies in the way these projects are delivered.

Matt Slepín:

Hang on. I want to push on that one because that's true except go to China and you see about 50,000 buildings all-

Nick Chim:

Exactly, but that's why they're able to deliver that many units that quickly. Now, we want to do better than that.

Matt Slepín:

You're going to be [inaudible 00:40:14].

Nick Chim:

But we could use technology to add more variations in too. As long as it's within the rule set that we've created, those variations are cost manageable. I think that would be the key distinction.

Matt Slepín:

Talk about direct to consumer.

Bjarke Ingels:

Maybe also, I just wanted to maybe belabor that point because of course this is where my expertise falls in is that the irony is that today, the process of developing a multi-family project may be a very bespoke one and somehow starts with architects and engineers and developers and clients and sort of as if it was the first time we were doing this building and we're doing it from scratch, but because the process rubs against the same market forces and the same forces of the industry, they ironically end up practically in the same place.

Despite the fact that every multi-family building is designed and built from scratch, it ends up looking the same as all of the other ones and it ends up containing the same, whereas I think what we are proposing is to take advantage of a systematic approach where we create almost this kind of platform type that would enable almost infinite variability on the inside and infinite variability on the outside so you don't end up with the kind of housing projects of the kind of post-war expansion into satellite cities in Europe and US like the projects.

And you don't end up with endless fields of identical high-rises as you see in China, but you end up with a systems approach where the module and the system allows incredible variety in a way like just metaphorically, that the way that Lego, by being faithful to a system of the clutch grip and a kind of modularity with very few elements, you can create any imaginable building or landscape or whatever in a way the power of Lego is the compatibility of the bricks and the kind of counterintuitive effect that by adhering to a system and a systems approach, you liberate imagination and variability.

Matt Slepín:

Understood. Is this therefore something that as you scale, I'll ask two different questions. One, do you joint venture with say a multi-family builder who knows how to build at scale, so Mill Creek, Wood Partners, whoever these companies are, are you able to do that and be their partner to bring this to them because they want to build, but they could build with you?

Second question is, does this have to be home ownership? I'm thinking more of affordable housing is can you deliver everything you just described, it's not on an ownership model, but you're bringing the package in so that could be used for production housing, which often states as tax credit stuff. Two different questions, but they're both related to how you grow this.

Roni Bahar:

To start first, we want to build right now that the Nabr brand is for ownership direct to consumers. This is how we're establishing ourselves in the market to start with. Can we build rental, affordable rental and under this brand and other brands? Of course, we can, but that is not where we're focused on and because we want to get to focus on this first. That opens up other opportunities.

Since we call ourselves a people first housing company, for the reason when we say people, it's not only the consumers, it's the right supply chain partners, the right development partners. We want to

do this responsibly so we can optimize for the highest quality product at the best price point that is sustainable. That is not necessarily where everybody wants to optimize for. Any partner that is looking to achieve that is a good partner for us. Any partner that cares about doing that at scale is the best partner for us. That's what we look for, but as a Nabr direct delivery at this stage, we're doing it under the Nabr brand for ownership on their housing.

Matt Slepín:

Right, licensing out. As you license it out, it may be different, but as you build it yourself, it's going to be this at least for now.

Roni Bahar:

I agree with you, but the same way, a hotel company's license out to align brands and they have brand standards and it's more than just, "Hey, you could do whatever you want with it." If you want to maintain that brand value, which the ultimate measurement for consumers is that they have a beautiful place to live, but also increase in value for them. You have to have these brand standards and that comes across the board of how you deal with supply chain, how you innovate, what's the quality you're going to deliver and so on.

Nick Chim:

The reason why housing is expensive is because they're not in a sufficient supply. And so, it's very expensive to build new housing for extremely low income. I think there's been lots of studies in Oakland and San Francisco and other places. Affordable housing's actually more expensive than market rate housing to produce at a rate of \$700,000 to \$1 million per unit.

And so, our perspective is that if we can increase the supply on the home ownership side, we can basically enable the filtering effect of housing to work again, because historically, it's what filtering allows for greater affordability in the way that New York is great because it has such a diversity of housing stock. We don't have that in many of the markets across the US.

And so, I think from an economic system perspective, what we should do is people who want to own in the middle income area should have an opportunity to do that, but with different housing types, home types, that will then free up the rental stock and then hopefully that will release the pressure on the rental market. I think there's many ways to address affordability. Then in many cases, we should address the root cause of this problem, which is filtering is not working and we should increase supply, but increase supply in the middle income and high income segment in order to release the stress on the low income side.

Matt Slepín:

That's a good point when you have a housing supply and demand issue that essentially drives the marketplace, particularly if you're able to get to middle income people in your typology, then this can work. If you're just creating more luxury housing, that's tougher to make that argument, but if you're addressing the missing middle and it's attainable there, then you could do it.

Nick Chim:

Yep. That's right.

Matt Slepín:

We're going to have to wrap up in a few minutes, but I can't not have this conversation without talking about this TV show I'm watching. I've been watching the WeCrashed TV show. I've been watching the Uber TV show. I've been watching Billions. I've been watching Succession. I'm obsessed with these tough stories. One thing I'm finding in WeCrashed is I'm both inspired as heck by there was some magic there that was really deep and at the same time that magic was out of control. I want to just ask you guys a question, particularly Roni and Bjarke who were there in the room what the lessons learned from that were both on the positive side and the negative side and how that affects how you're approaching this new business.

Bjarke Ingels:

I mean, first of all, having been given the dubious honor of being portrayed as this kind of cliché of kind of nebulous rambling sort of architect that talks about clouds of Burmese Teak.

Matt Slepín:

Sorry about that.

Bjarke Ingels:

I think they really burn off my Danish accent. But apart from that, then it's also almost comical that the ultimate sign that things are going downhill is when they hire me to design a school. I think WeCrashed it is clearly a work of fiction and a pretty enjoyable one. I think Nabr as a company is kind of profoundly and fundamentally different is that despite, it saddens me to say so like myself, Nick and Roni, we are all quite seasoned. We can't really claim to be young entrepreneurs. We're probably as late stage in our life as any entrepreneur is these days.

I spent two decades really understanding the built environment and how buildings get designed, conceived, permanent and executed. I have a tremendous amount of learnings from both Europe, America, and also Asia. Nick has done the same in the space of algorithms and artificial intelligence and parametrics and actually, with most of his career, focusing on the built environment including creating an urban simulator replica and the work that we were doing together 10 years ago. Similarly, Roni is a founder of a company that actually delivers glass partition walls. That's how he ended up working with WeWork. He knows everything about rolling out built environment at scale.

I think in that sense, we are as sparingly experienced as you can possibly be. Therefore, also, I believe that between the three of us and our respective organizations and the rest of the team we've built for Nabr, we have also a much more long view and let's say maybe a more patient mindset because we actually know what it takes and the amount of effort it takes to operate in this space. In that sense, in many ways, I think Nabr couldn't be more different as a company than some of the companies you mentioned.

Matt Slepín:

Of course. Roni, you've lived this. I know this is an emotional question, but got to ask.

Roni Bahar:

I would say first is that my WeWork experience was amazing in every way possible. I get to work with the most amazing people, try new things every day, and the first five years were just an unbelievable ride because this is a world before the concept of what is PropTech and how the real environment, technology and experience come together. And so, everything was new every single day. Seeing people

come from all different industries into one industry and focusing on one thing and for us, we never saw it as a space, we always thought about it as community. It was about people.

I think it was a driving force of the company and that's why it got so much attention. That's why people loved the company. People loved working in the company and consumers, tenants loved coming to the office. That transformation was an unbelievable experience to be part of. Then, you look at the other side of it that comes with the world of venture, it's growth. Growth at all costs.

The built environment does not function like software. There's absorption, there's time, there's stabilization, there's all these things that need to happen. They're counter to growth in many ways. For me, I'm just grateful to have that experience and know that as Bjarke stated, our goal is we want to move very, very fast. We have two goals and say, we start with building one now and 10 years later, we want to be at 100,000 units a year. Somehow, we need to deploy 100,000 units a year. What's the roadmap together? The first part of that 10 year is very, very slow to get that right. Then you really start to pick up speed towards the end.

The last thing is that with over \$52 billion invested in venture, in the PropTech in the last 24 months, last I saw the calculation, everything is changing. All this innovation between parts, deployment, finance is all changing. We believe that that's going to empower the industry to change direction and we want to be in the forefront of it and harness that and pass that to consumers in the overall industry to improve our cities. Everything is about timing when you start a business more than anything, that's the most supportive part that you have success.

When we started, it's in COVID, it didn't look like it was the right time, but when you look at all the activity, this is the right time to start this business. Maybe 10 years from now, when we have this conversation, we will see the same changes that we saw post World War II, so very grateful to have an opportunity to go on this journey with this amazing team, our collective team, and the kind of support that we've had between investors, consumers and other partners.

Matt Slepín:

Totally true. Bjarke, question for you, and we're going to get you back on the podcast, I hope, and we'll have a whole conversation about this stuff. You are one of the biggest thinkers on the planet about issues relating to the built environment and climate change, I think.

Bjarke Ingels:

Thank you.

Matt Slepín:

I will say you are and I will say that is a subject where I wake up on the wrong side of the bed every day. I'm just like, there's no way, there's no frigging way we're going to get our hands around this stuff. We can't pull it together as a global community and a specific community. When I hear you talk, it's either your energy, your intelligence, or the lilt of your voice, maybe that's all it is, but you feel optimistic about those things. Talk about that.

Bjarke Ingels:

I mean, I think optimism is not a question of naivety. It's actually, I think, the empirical evidence supports optimism that we are actually consistently doing better and better. Of course, we always have to address challenges but we are incredibly adaptable. I mean, I believe so much in Darwin and the theory of evolution through adaptation that I called my son Darwin.

Matt Slepín:

There you go.

Bjarke Ingels:

There is that. Then I would also say, for example, one of the things that have been concerning many for good reasons, and thankfully, is of course climate change. I think maybe a few things to say about this, you can say, I really see Nabr as being one way that we can, in a more sort of systematic way, approach environmental performance in the built environment by not just being designers who try to make what we are asked to as good as possible, but also really get on the other side of the table and really sort of establish hard demands for ourselves and by continuing to do so to be able to leverage partnerships and scale to really deliver on not just the economic performance, but also on the environmental performance.

That's one thing, but then actually sort of around the time of the pandemic, actually, what happened when the pandemic started was that, of course, we all had to go home and work remote. Then as a result, our model workshop was empty. Then we realized and we use a lot of 3D printers, we realized that we could actually convert our model shops to manufacturing face shields and ventilator tubes. We ended up making 25,000 face shields in the first six weeks until the normal supply chain caught up. Suddenly, we actually had within our office a skillset, in this case our model workshop, that could address the most urgent issue on the planet right then.

It made us think that maybe we had other skill sets that we could, in a way, what is the most urgent or important challenge we can apply our skillset to, and we thought, we're good at designing buildings and making plans for neighborhoods or even entire towns or cities, that take decades to realize. Then we realized, 2050 is only 28 years away now. That's when all of earth should become carbon neutral or all of humanity on earth should become carbon neutral if we want to live up to the Paris Agreement.

We thought, what if we actually apply this kind of architectural capacity to design, and so to take in a lot of complex data, a lot of complex input and synthesize it into a coherent holistic master plan and apply that not to a city block or a neighborhood or a city, but to the entire earth. We thought, what if we consider all of earth a 510-square kilometer large site that happens to be 71% ocean and 9% glaciers and mountains, and the remaining habitable land is half nature and half pretty much agriculture with a tiny bit of city.

Then started to think how can we take all of the existing available technologies and address the issue, because also one of the things that often the discussion around sustainability becomes very confused because, of course, it is shaped by ideology and preconceptions. We thought, what if we look at it without ideology and without having already concluded what is the right political approach, but really say, can we be 10 billion people as we will be in 2050 with the same high quality of life as we have, for instance, in Denmark or Singapore. They have roughly the same life expectancy and access to healthcare and energy consumption. Is that possible? A lot of people say it's not. The earth can't sustain that many people living that well.

Then we started breaking it down to saying, "Okay, if we are 10 billion people, what is each earthling's share of earth just as a surface?" The answer is 238 by 238 meters. That's roughly 750 by 750 feet. That's your slice of earth, but two thirds of it is ocean. Then we start breaking that down. Then we see how much energy, what is your 10 billionth share of the total energy consumption and could we supply that with wind energy and solar, maybe half and half. If we make twice as much as we need with renewable energy, we can store it on batteries or with hydrogen.

Then going through just taking all of these available, we ended up building a lot of confidence that actually, it's very possible. We're just doing it very ineffectively and inefficiency right now. It's not like we have to wait until someone invents cold fusion or space age polymers that don't exist yet. We can actually, with current knowledge and technology, we can already become completely sustainable and carbon neutral.

Of course, it's going to require a huge effort and a huge investment, but it will actually, there will be a return of investment. O there'll be a return on that investment. Yes, we have to sort of do a lot of effort and deploy lot of resources towards it, but we will get it back with dividend both economically, but also socially and ecologically.

It's in a way sometimes, and we came up with the term, I love oxymorons. Essentially, concepts that consists of seemingly opposing or mutually exclusive ideas. One of them is hedonistic sustainability that when we designed the Copenhagen Harbour Bath, the first building we ever did that extends the life of the city into the port of Copenhagen, we saw the joy of people suddenly jumping in the port in the middle of the city and we thought maybe there is something here. Maybe it means that the clean port is not only nice for the fish or the sustainable city or building is not only nice for the environment, it's also incredible for the people living in it.

The other oxymoron is this idea of pragmatic utopia. Normally, you would see pragmatism and utopia as being opposite ends of the spectrum, but if you deal with this idea of making the world a better or practically perfect place, utopia means no place because it's the idea of a place so perfect that it couldn't exist in reality and you then try to deal with the practical, pragmatic realities of life or of society, or in this case, of earth, pragmatic utopia actually becomes possible.

Then once you've done that, and the reason we've done this, we call it a master plan for the planet or master planet is that we thought we needed to understand ourselves, is it hopeless? Is it impossible to accommodate 10 billion people in a sustainable way? Do we have to somehow accept to downgrade our quality of life, which no one really wants, even the environmentalists really don't want to give up their car or their iPhones? We have to somehow be able to address the reality of what we are facing while also accepting that all the energy that we have found over the last 200 years by discovering coal and oil and gas has actually massively increased wellbeing. It has lowered the amount of people in absolute numbers that live in extreme poverty. It has created all kinds of equality and lower infant mortality, increased life expectancy, et cetera.

So much good came out of those energy sources and we don't want to give that up. We also have to remember, we just have to find other energy sources and they're abundant. In fact, the sun, as an energy source, vastly dwarfs, anything else we have in the world. I like to remind people that the only things in the world that don't consume energy are dead things. All living things harvest energy from the environment either from the sun or from plants or from other animals, or we managed to harness the energy of livestock and dead plants in the form of fossil fuels, and now, we have access to renewables. There's so many abundant resources. Because of the journey we've been through the last 200 years powered by fossil fuels, we have so much inside knowledge and technology that it's going to be easy-peasy for us to make it happen if we only focus on it.

Matt Slepín:

Well, so it's interesting because you think of the optimism question that I asked you, I have a feeling if you had your group in a room with a whiteboard and you came up with your master plan for the planet, I bet 10 different groups could come up with alternative master plans of stabilization at 2050. And so, I

now feel optimistic that there is a model that works the sustainable model. Now, getting from here to there, oh, my God.

Bjarke Ingels:

No, I know.

Matt Slepín:

It's any there.

Bjarke Ingels:

Exactly, and also the purpose of a master plan, anyone who's been involved in an urban development knows that you make a master plan where you try to do everything as good as you can with the available information. Then you show it to the stakeholders and they have a bazillion critique points. Then you show it to the community, the various user groups and they'll have all kinds of objections. Then, you go back and then you do it again and you incorporate this feedback.

The purpose of the master plan is not to say this is what we're doing, it's just that it's much better to have a plan than have no plan at all. Once you have a plan, it can actually attract criticism. And criticism is essentially feedback that allows you to make it better. You can go through a series of revolutions to really get better and better and better, but it's clear that if we don't have a plan now, we are not going to get anywhere in 2050.

I had this kind epiphany when, during the pandemic, I went to spend two months living in the house of a friend in a nature reserve in Yucatan. Because of it was in the pandemic, there was no one there, but there was also no maintenance staff working in the park. Because there were no humans, every day, tons of plastic would wash onto the shore. It just made clear that our way of life is already having an impact at a planetary scale even if we haven't been so megalomaniac that we think we can plan for the entire world.

Our absence of plan is actually having catastrophic consequences. The only way to actually preserve nature today is to really sort of plan for it. I think in that sense, you can say it's not a question of whether or not we should make a plan for the whole earth, there is one already, and it's one of neglect and the fact that we don't give a shit. Even the most sort of feeble attempt is going to be a step in a better direction than the kind of, let's say, fair, that's happening right now.

Matt Slepín:

Fair deal. A plan scares the hell out of people. Again, we'll get there somehow. There's a last question always on Leading Voices is your advice to a young person playing a career in the real estate business. Roni, I'll start with you.

Roni Bahar:

Biggest opportunity ever. Everything is changing around every single part of the process. We're seeing it by the kind of talent we're attracting. This is the time because now, you can really have impact. You're not falling in an existing system.

Matt Slepín:

Fair deal. Bjarke?

Bjarke Ingels:

I would say maybe that the Danish word for design is formgiving, which means form-giving, which is because to design something is to give form to that which has not yet been given form. In other words, to give form to the future. Specifically, it means that as a form giver, you have the power to give form to the world that you would like to find yourself living in in the future. I think that's an incredible power and an incredible responsibility, but in this notion of giving, often, we ask ourselves when we are designing something, giving forms or something, we remind ourselves that giving is about giving a gift.

Not only do you have the power to answer what you're being asked to do to accommodate what you're being asked to accommodate, but in that moment, you actually have an opportunity to give the world something it doesn't have, something that it didn't know that it wanted or needed or could enjoy. I think that's essentially the power you have in real estate in design and architecture is that when you design something for someone, you can actually give the world a gift that it didn't know already that it needed or wanted, but once you've put it forward, you couldn't imagine the world without it. That really makes the makes form-giving a true sort of human superpower.

Matt Slepín:

It's wonderful. It's interesting and let's tie that to what you just talked about in terms of having a plan and the work that we have to do over these next 30 years to get to carbon neutral, that's going to affect the built environment and the people making that happen are going to have just an outsized impact on the world. Hey guys, thank you very much.

Roni Bahar:

Thank you for having us.

Bjarke Ingels:

Thank you.

Roni Bahar:

Really appreciate it. Thank you for listening in to Leading Voices. I hope that you enjoyed today's episode. I have a request, if you enjoyed the episode and found it to be valuable, please share it with a friend or two. If they're podcast-wary, take their smartphone in your hand and subscribe for them and teach them to listen. You'll change their life. Seriously, thanks for listening and keep in touch. You know you could reach me at matt@terraresearchpartners.com. See you next time.