

## **Podcast Episode**

Season 2, Episode 2: Raphael Scheps, Co-Founder and CEO of Converge (UK) From the ULI's New Real Estate Vanguard

Date: March 25, 2025

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Hello and welcome. 00:00:02 --> 00:00:03: 00:00:03 --> 00:00:06: My name is Robin Marriott of Property EU and I'm delighted to be hosting the second edition of the Urban 00:00:06 --> 00:00:08: 00:00:08 --> 00:00:13: Land Institute's Vanguard podcast series following last year's successful launch. 00:00:13 --> 00:00:16: As many of you know, the UNI brings together real 00:00:16 --> 00:00:18: estate and land use experts from around the world with 00:00:18 --> 00:00:21: a clear mission to shape the world via the built 00:00:21 --> 00:00:25: environment and have a transformative impact on neighborhoods, cities and 00:00:25 --> 00:00:26: communities. 00:00:26 --> 00:00:30: This podcast series focuses on that future and that's transformative 00:00:30 --> 00:00:31: impact. 00:00:32 --> 00:00:36: Now the Uli's Young Leaders Group recently selected 10 outstanding 00:00:36 --> 00:00:40: young professionals already making waves in the industry, calling them 00:00:40 --> 00:00:42: the new real estate vanguard. 00:00:42 --> 00:00:45: And I'm delighted to be SAT opposite one of them, 00:00:46 --> 00:00:49: Rafael Shepps, who is CEO and Co founder of the 00:00:49 --> 00:00:52: UK construction technology company Converge. 00:00:52 --> 00:00:53: Rafael, welcome. 00:00:53 --> 00:00:54: Thank you very much. 00:00:54 --> 00:00:55: Really excited to be here. 00:00:55 --> 00:00:57: So why don't you just start by telling us a 00:00:57 --> 00:00:58: little bit about yourself?

So I'm actually not from a built environment or construction

Absolutely.

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00:01:04> 00:01:05:	I'm a physicist by background.
00:01:05> 00:01:07:	So I grew up in Geneva, Switzerland.
00:01:07> 00:01:10:	I'm Swiss Israeli, so I have family back in Tel
00:01:10> 00:01:13:	Aviv and ended up doing a, an undergrad at Cambridge,
00:01:13> 00:01:16:	which is what really brought me to the UK in
00:01:16> 00:01:18:	physics and then a masters in mathematics.
00:01:19> 00:01:22:	So I knew quite a lot about sensor systems, complex
00:01:22> 00:01:26:	systems and I discovered the world of, of construction shortly
00:01:26> 00:01:29:	after Cambridge when my Co founder and I, so he
00:01:29> 00:01:32:	was a, an astrophysicist from Cambridge as well.
00:01:32> 00:01:35:	We're really looking at the the use of sensors to
00:01:35> 00:01:37:	characterise complex systems in industry.
00:01:38> 00:01:40:	I have to share something with you, first of all,
00:01:40> 00:01:43:	before we delve into this, because I want the listener
00:01:43> 00:01:45:	to understand essentially what your company does.
00:01:45> 00:01:47:	But I just a few years ago, I remember one
00:01:47> 00:01:50:	of my friends from football asked me, Robin, what do
00:01:50> 00:01:50:	you do?
00:01:50> 00:01:52:	I said, oh, I'm an editor of a magazine.
00:01:53> 00:01:54:	And he said, oh, which one?
00:01:55> 00:01:56:	I said, well, you've never heard of it, but it's
00:01:56> 00:01:58:	to do with a property and construction.
00:01:58> 00:02:01:	And he paused for a while and he and he
00:02:01> 00:02:03:	said, oh, so do you write about cement?
00:02:04> 00:02:05:	I was looking, looking down my nose at him and
00:02:06> 00:02:07:	saying, I don't write about cement.
00:02:07> 00:02:09:	I, I write, I write about billion dollar deals, investment
00:02:10> 00:02:11:	deals and so on and so forth.
00:02:11> 00:02:13:	So I guess this is prohetic justice for me.
00:02:14> 00:02:18:	So because your company is actually intrinsically involved in
00 00 40	the
00:02:18> 00:02:19:	cement business.
00:02:19> 00:02:22:	So why don't you tell tell the listeners actually how
00:02:22> 00:02:24:	how that is and and what it does?
00:02:24> 00:02:25:	Yeah, absolutely.
00:02:25> 00:02:26:	And I think I've, I guess I've got a bit
00:02:26> 00:02:27:	of a similar story.
00:02:27> 00:02:29:	I went from looking at the stars and and how
00:02:29> 00:02:32:	physical systems interact across the universe.
00:02:32> 00:02:34:	They're looking at, you know, the built environment on on
00:02:34> 00:02:34:	earth.

**00:01:02 --> 00:01:03:** background originally.

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<b>00:03:37&gt; 00:03:39:</b> go and if the concrete's not hit strength.
00:03:40> 00:03:43: And so the concrete structure sits at the the center
00:03:43> 00:03:44: of the construction process.
<b>00:03:45&gt; 00:03:49:</b> And traditional testing of concrete was very traditional, very time
<b>00:03:49&gt; 00:03:51:</b> consuming and very inefficient.
00:03:52> 00:03:55: And we realized that through sensors and data, you could
00:03:55> 00:03:58: look to massively optimize the productivity of concrete construction by
00:03:58> 00:04:01: essentially generating real time data on on the behavior of
00:04:01> 00:04:01: concrete.
<b>00:04:01&gt; 00:04:03:</b> So, So what does Converge actually do?
00:04:03> 00:04:08: Well, we actually embed sensors well, install sensors on the
00:04:08> 00:04:09: construction site.
00:04:09> 00:04:12: Some of those get embedded in concrete, ultimately gather data

00:04:12> 00:04:15:	about the behaviour of that concrete and use that data
00:04:15> 00:04:18:	to inform the productivity of the construction process as well
00:04:18> 00:04:21:	as the selection of the concrete type as well.
00:04:21> 00:04:24:	And that's where, you know, there's a big angle as
00:04:24> 00:04:26:	well or a big impact on, on the carbon content
00:04:26> 00:04:27:	of that material.
00:04:27> 00:04:30:	And the more we started deepening on the sector, the
00:04:30> 00:04:33:	more we realized that not only it was deeply inefficient,
00:04:33> 00:04:35:	deeply under digitized, but it was also one of the
00:04:35> 00:04:36:	most polluting sectors.
00:04:36> 00:04:40:	And concrete and and cement specifically accounts for 8% of
00:04:40> 00:04:40:	global CO2.
00:04:41> 00:04:43:	That's three times as much as aviation.
00:04:43> 00:04:46:	And there was a huge opportunity to start using, I
00:04:46> 00:04:48:	guess, the data and insights we could gather from all
00:04:48> 00:04:51:	these sensors to also act as a lever on decarbonization
00:04:51> 00:04:52:	of concrete.
00:04:53> 00:04:53:	Thanks, Rafael.
00:04:54> 00:04:56:	So there I was thinking I'd never get into cement
00:04:56> 00:04:58:	as as a journalist, but I've looked around your website
00:04:58> 00:05:00:	and I just want to show you something because I
00:05:00> 00:05:02:	think it's quite informative for the listeners to get.
00:05:03> 00:05:05:	So here we have a case study that you have
00:05:05> 00:05:06:	been working on.
00:05:06> 00:05:09:	It's to do with 40 Leadenhall, which is a a
00:05:09> 00:05:12:	very big office block, isn't it in London?
00:05:12> 00:05:16:	It's been developed by M&G and it's also nicknamed Gotham
00:05:16> 00:05:16:	City.
00:05:17> 00:05:21:	And I'm reading here that this is a 34 Storey
00:05:21> 00:05:22:	tower.
00:05:22> 00:05:26:	And your clients, what they what they've actually been asked
00:05:26> 00:05:29:	to do is to build the concrete cores and then
00:05:29> 00:05:33:	use a sort of a hydraulic self climbing framework that
00:05:33> 00:05:33:	goes up.
00:05:34> 00:05:38:	Now your sensors get embedded into the cement there on
00:05:38> 00:05:39:	upon each pore.
00:05:40> 00:05:43:	And what this does is give the the engineers real
00:05:43> 00:05:47:	time information on how that concrete is setting or curing.
00:05:47> 00:05:50:	I think the jargon is and what that means is
00:05:50> 00:05:53:	that they can be sure scientifically on a database that
00:05:53> 00:05:56:	they know exactly the from the first moment when it
00:05:56> 00:05:59:	is safe to hydraulically lift that level up so they

00:05:59> 00:06:01:	can begin on the next one.
00:06:01> 00:06:03:	Which means that when the workers come to work on
00:06:03> 00:06:05:	the project, say in the morning, there's no fluffing around,
00:06:05> 00:06:07:	there's no messing around.
00:06:07> 00:06:09:	They can get to work on whatever they need to
00:06:09> 00:06:11:	do immediately, thus save living man hours.
00:06:11> 00:06:15:	Now, I'd probably describe that shockingly, but perhaps you can
00:06:15> 00:06:17:	just, yeah, it's perhaps fill in some of the gaps
00:06:17> 00:06:20:	there and explain as sort of a real life scenario
00:06:20> 00:06:20:	for us.
00:06:21> 00:06:22:	Yeah, absolutely.
00:06:22> 00:06:23:	And I think if you take, I mean that's a
00:06:23> 00:06:25:	great example of a typical project for us.
00:06:25> 00:06:28:	I mean high rise construction is, is heavily linear and
00:06:28> 00:06:29:	and constrained.
00:06:29> 00:06:31:	You know, you can't move to the next stage of
00:06:31> 00:06:33:	works until you finish the previous stage of works because
00:06:33> 00:06:35:	you're, you're building up a linear, you know, tower.
00:06:35> 00:06:37:	You can only really go up and you can only
00:06:37> 00:06:38:	go up when you're ready to go.
00:06:39> 00:06:41:	So I think in that, in that particular project, we
00:06:41> 00:06:44:	were actually using our technology in, in the core.
00:06:44> 00:06:46:	So when you'll see a high rise building being built,
00:06:46> 00:06:48:	you'll typically see the, the core, think of it as
00:06:48> 00:06:51:	the, the elevator shaft being built 1st and then the
00:06:51> 00:06:52:	slabs follow after that.
00:06:53> 00:06:55:	It's quite common around London when you start seeing, you
00:06:55> 00:06:57:	know, a lot of these skyscrapers being built.
00:06:57> 00:07:01:	And then ultimately the, you can think of concrete like
00:07:01> 00:07:01:	a cake.
00:07:01> 00:07:03:	You're pouring it into a mold, it starts to heat
00:07:03> 00:07:06:	up, it hardens or cures over time, and then eventually
00:07:06> 00:07:08:	it's ready to go and you can demould it and
00:07:08> 00:07:09:	you can move on.
00:07:10> 00:07:12:	In the context of a core, you often use a
00:07:12> 00:07:14:	system called a, a jump form system.
00:07:14> 00:07:17:	So it's the formwork are the the molds that actually
00:07:17> 00:07:18:	concrete gets poured into.
00:07:19> 00:07:22:	And what's particular about the way you build cores is
00:07:22> 00:07:24:	you, you have formwork systems that allow you to, to
00:07:24> 00:07:27:	build sections and then sort of jump upwards and build
	The state of the s

00:07:27> 00:07:31:	the next section essentially using, using those hydraulic mechanisms that
00:07:31> 00:07:32:	you referenced earlier.
00:07:32> 00:07:36:	And so really the, the value proposition for that particular
00:07:36> 00:07:39:	project was all about being able to cycle through each
00:07:39> 00:07:39:	floor faster.
00:07:40> 00:07:43:	And we're consistently seeing that we can enable construction of
00:07:43> 00:07:46:	concrete structures using concrete DNA.
00:07:46> 00:07:48:	So that's the name of the, the product that we've
00:07:48> 00:07:50:	built that that sort of centers around concrete and concrete
00:07:50> 00:07:51:	insights.
00:07:52> 00:07:53:	30% faster.
00:07:53> 00:07:55:	And depending on the project, it might be 20-30.
00:07:55> 00:07:58:	We've had cases of it being 50% faster as well
00:07:58> 00:08:02:	because fundamentally when concrete sits on the critical path, you
00:08:02> 00:08:05:	really need to get to to grips with how that
00:08:05> 00:08:06:	concrete's behaving.
00:08:06> 00:08:09:	And that's what our technology allows you to do in
00:08:09> 00:08:11:	real time on your phone or or on a on
00:08:11> 00:08:12:	a web platform.
00:08:13> 00:08:13:	Excellent.
00:08:13> 00:08:16:	So just taking you back on perhaps the beginning of
00:08:16> 00:08:17:	the journey.
00:08:17> 00:08:19:	So you end up going to, was it Cambridge, did
00:08:19> 00:08:21:	you say to study maths and physics?
00:08:21> 00:08:22:	Absolutely.
00:08:22> 00:08:24:	Now, can you tell me that you contemplated playing a
00:08:24> 00:08:27:	role in the constructions and property sector as you just
00:08:28> 00:08:29:	described it back then?
00:08:31> 00:08:33:	I think, I think the, the honest answer is probably
00:08:33> 00:08:33:	no.
00:08:34> 00:08:36:	If if you were to talk to you know, me
00:08:36> 00:08:38:	10 years ago and tell me I'd be, I'd be
00:08:38> 00:08:40:	looking at optimizing concrete.
00:08:40> 00:08:43:	I think I'd, I'd certainly wouldn't believe you.
00:08:44> 00:08:47:	I mean, the, the closest I think you get to
00:08:47> 00:08:49:	it is there is a, a video from 20 years
00:08:49> 00:08:52:	ago, I think I was about 8 years old, talking
00:08:52> 00:08:54:	about how housing was a, a massive issue across the
00:08:55> 00:08:57:	planet and, and the affordable housing would be a, a
00:08:58> 00:08:59:	key requirement for us to scale.

00:08:59> 00:09:02:	So I guess there was a bit of inspiration early
00:09:02> 00:09:04:	on, But then I, I did quickly turn to, to
00:09:04> 00:09:07:	actually looking, looking up at the universe before, before making
00:09:07> 00:09:09:	my way back to, to the built environment.
00:09:09> 00:09:12:	And so actually most of my time at Cambridge was
00:09:12> 00:09:16:	focused on cosmology, string theory, astrophysics, So
00.09.12> 00.09.10.	looking at how
00:09:16> 00:09:17:	the universe evolves.
00:09:18> 00:09:21:	But in many regards that's not too different to, I
00:09:21> 00:09:24:	mean, the, the, the skills and, and the, the frameworks
00:09:24> 00:09:26:	you learn to try and explain the universe is actually
00:09:26> 00:09:29:	not too dissimilar to the, the way one might want
00:09:29> 00:09:31:	to explain how a construction site works.
00:09:31> 00:09:34:	So it's a parallel I never thought I would make.
00:09:35> 00:09:37:	But when I discovered the construction sector and how foundational
00:09:37> 00:09:39:	it was and how under digitized it was, both my
00:09:40> 00:09:42:	Co founder and I started realizing we could apply a
00:09:42> 00:09:44:	lot of the skill set that we'd we'd really learned
00:09:44> 00:09:47:	in an entirely different context, which was understanding how the
00:09:47> 00:09:49:	universe works to to the the domain of the the
00:09:49> 00:09:51:	built environment and the built world around us.
00:09:52> 00:09:52:	It's amazing.
00:09:52> 00:09:55:	Now, when you meet strangers, or perhaps you tell friends
00:09:55> 00:09:58:	and family what you do, do you explain to them
00:09:58> 00:10:00:	that you're in construction, in property?
00:10:00> 00:10:03:	Or do you explain to them that you're an entrepreneur?
00:10:03> 00:10:06:	Or do you say that actually you are a tech
00:10:06> 00:10:06:	guy?
00:10:08> 00:10:10:	So, so when I get asked what I do at
00:10:10> 00:10:12:	a, at a bar, it always ends up with a,
00:10:12> 00:10:14:	a small moment of dread as I have to contemplate
00:10:14> 00:10:17:	explaining all sorts of things about concrete construction and how
00:10:17> 00:10:18:	it all works.
00:10:19> 00:10:21:	I tend to keep it short and start with, you
00:10:21> 00:10:24:	know, I, I Co founded a start up that optimizes
00:10:24> 00:10:27:	and decarbonizes construction using data and AI.
00:10:27> 00:10:30:	And then you start to, to scratch, you know, the
00:10:30> 00:10:33:	surface and start going under the surface and, and really
00:10:33> 00:10:35:	looking to, to explain what that means.

00:10:35> 00:10:37:	So typically the first question that ends up being, oh,
00:10:37> 00:10:38:	what, what do you measure?
00:10:39> 00:10:41:	And, and that's when you start going into, well, you
00:10:41> 00:10:43:	know, we look at the materials and concrete is where
00:10:44> 00:10:45:	we started, but we also look at the tools.
00:10:46> 00:10:49:	And if you think of a construction site, it's made-up
00:10:49> 00:10:52:	of people using tools in an environment to move material.
00:10:52> 00:10:55:	So if you can actually start gathering data about the
00:10:55> 00:10:57:	people, the tools, the material and the environment, then you
00:10:57> 00:10:59:	started to build a a complete model of construction.
00:10:59> 00:11:02:	And that's actually the the end goal for Converge is
00:11:02> 00:11:05:	really building out this entire model of the construction process
00:11:05> 00:11:06:	using sensor information.
00:11:06> 00:11:08:	Concrete was actually just just the beginning of a much
00:11:08> 00:11:09:	longer journey for us.
00:11:10> 00:11:12:	And hopefully by the time you finish explaining that the
00:11:12> 00:11:14:	person from the bar hasn't actually started to walk away.
00:11:14> 00:11:15:	Absolutely.
00:11:15> 00:11:18:	Occasionally that happens and I've had a few unique moments
00:11:18> 00:11:21:	where people actually are genuinely interested.
00:11:22> 00:11:23:	We're genuinely interested now.
00:11:23> 00:11:26:	You mentioned decarbonisation a few weeks ago you announced a
00:11:26> 00:11:27:	funding round, didn't you?
00:11:27> 00:11:28:	And I think it was.
00:11:28> 00:11:30:	Perhaps you could tell us a little bit about this
00:11:30> 00:11:31:	because it is relevant.
00:11:31> 00:11:31:	It would.
00:11:31> 00:11:34:	It also instructs us to where this industry can head.
00:11:34> 00:11:37:	What kind of role can a company like yours play?
00:11:38> 00:11:39:	Yeah, absolutely.
00:11:40> 00:11:44:	Super excited to have announced sort of \$20 million investment
00:11:44> 00:11:44:	rounds.
00:11:44> 00:11:47:	It was led by AUS based fund called OGCI climate
00:11:47> 00:11:51:	Investments, OGCI Climate Investments or so OGCI stands for the
00:11:51> 00:11:53:	oil and Gas Climate initiative.
00:11:53> 00:11:57:	It's actually backed by some of the largest energy companies,
00:11:57> 00:12:00:	you know, total BP, Shell, who have essentially created this

00:12:01> 00:12:04:	independent consortium specifically focused on decarbonization.
00:12:05> 00:12:09:	What's really interesting about that is, is you've actually got
00:12:09> 00:12:12:	an incredible team, super scientific in their approach to to
00:12:12> 00:12:16:	decarbonization, looking to deploy over a billion dollars
	across, you
00:12:16> 00:12:19:	know, their first fund and they've got a number of
00:12:19> 00:12:21:	other sort of initiatives as well.
00:12:21> 00:12:23:	So very much a specialist decarbonization investor.
00:12:24> 00:12:27:	We felt very much mission aligned with the team over
00:12:27> 00:12:27:	there.
00:12:28> 00:12:30:	We as a company didn't start as a as an
00:12:30> 00:12:31:	impact company.
00:12:31> 00:12:34:	It was very much about optimizing time efficiency and, and
00:12:34> 00:12:37:	you know, we founded Converge in over seven years ago
00:12:37> 00:12:38:	now.
00:12:38> 00:12:38:	So it's been a while.
00:12:38> 00:12:41:	It was at the, the dawn of construction tech before
00:12:41> 00:12:42:	construction tech was cool.
00:12:43> 00:12:45:	And, and at the time, I think decarbonization was not
00:12:45> 00:12:47:	on the agenda of most construction companies.
00:12:48> 00:12:49:	It was all about how do you hit the bottom
00:12:49> 00:12:50:	line?
00:12:50> 00:12:51:	How do you optimize my construction costs?
00:12:52> 00:12:54:	And so the, the value proposition very much centred around
00:12:54> 00:12:54:	that.
00:12:55> 00:12:57:	Over time, as we've gathered more and more data, in
00:12:57> 00:13:00:	particular about concrete, we started to realize that that data
00:13:00> 00:13:02:	can have an impact on the carbon content of that
00:13:03> 00:13:03:	concrete.
00:13:03> 00:13:07:	You're seeing lots of novel concretes, novel chemistries, you might
00:13:07> 00:13:10:	have seen the likes of carbon cure, which you know,
00:13:10> 00:13:13:	captures carbon into, into concrete or, or solidia on the
00:13:13> 00:13:16:	sort of carbon capture side, but also new concretes like
00:13:16> 00:13:19:	SEM free that are using novel materials that are cement
00:13:19> 00:13:19:	free.
00:13:19> 00:13:21:	And, and as a result, sort of net zero in
00:13:21> 00:13:22:	terms of carbon impact.
00:13:24> 00:13:27:	And, and so we started realizing that that all this
00:13:27> 00:13:30:	data we'd gathered about the behavior of concrete could really
00:13:30> 00:13:32:	impact the carbon content of concrete.

00.40.00	
00:13:33> 00:13:36:	And I think that the biggest sort of realization or
00:13:36> 00:13:38:	impact we can have, I mean, we came to this
00:13:38> 00:13:42:	realization as we were doing a lot of impact modelling
00:13:42> 00:13:45:	alongside OGCI actually was that by by helping influence the
00:13:45> 00:13:47:	cement content of existing chemistries.
00:13:48> 00:13:51:	And you know, we estimate that there's about 10 to
00:13:51> 00:13:53:	15% of excess cement in most concretes.
00:13:54> 00:13:57:	You'd be looking at a global opportunity of about 400
00:13:57> 00:14:00:	million tons of CO2 that could be reduced just attributable
00:14:00> 00:14:03:	to essentially overdosing of cement and concrete.
00:14:03> 00:14:06:	People put a bunch of extra cement into concrete because
00:14:06> 00:14:08:	we don't have good data and and converge can help
00:14:08> 00:14:09:	solve that problem.
00:14:09> 00:14:13:	Well now you mentioned you, you started this was it
00:14:13> 00:14:14:	8 years ago, so 2014, Yeah.
00:14:15> 00:14:17:	Can you just explain when was the moment that you
00:14:17> 00:14:19:	realised, Oh my gosh, I'm actually going to found a
00:14:19> 00:14:19:	company?
00:14:20> 00:14:21:	This is the name.
00:14:21> 00:14:22:	Where did the name come from by the way?
00:14:22> 00:14:25:	And what were your experiences of setting up the company
00:14:25> 00:14:26:	and building out a team?
00:14:27> 00:14:27:	Yeah, absolutely.
00:14:28> 00:14:31:	So we actually joined an incubator called Entrepreneurs First
	that
00:14:31> 00:14:32:	you might have heard of.
00:14:32> 00:14:35:	So it was, it was right at the beginning of
00:14:35> 00:14:35:	EF.
00:14:36> 00:14:40:	These days EF is a pretty, pretty huge sort of
00:14:40> 00:14:41:	tech investor.
00:14:41> 00:14:44:	At the time I think it was 5 or 6
00:14:44> 00:14:47:	people and my Co founder and I had had applied
00:14:47> 00:14:49:	right after Cambridge.
00:14:49> 00:14:52:	Ended up joining sort of what they called Cohort 3
00:14:52> 00:14:55:	with all sorts of ideas about the future.
00:14:56> 00:15:00:	Really what led us to converge was this common fascination
00:15:00> 00:15:02:	for digitizing the physical world.
00:15:03> 00:15:05:	It it was all about sensors and how could sensors
00:15:05> 00:15:06:	help optimize industries?
00:15:07> 00:15:09:	But yeah, I mean, I think EF was a a
00:15:09> 00:15:11:	huge catalyst to then, you know, look at look at
00:15:11> 00:15:13:	building out, building out converge.
	-

00:15:15> 00:15:18:	And from, from there, we discovered the construction industry quite
00:15:18> 00:15:20:	serendipitously when we met Langouroek actually.
00:15:21> 00:15:23:	And Langouek took us onto a construction site and, and
00:15:23> 00:15:25:	really did come to that realization that, that there was
00:15:25> 00:15:26:	so much to do in that sector.
00:15:26> 00:15:28:	And at the time, most people thought we were totally
00:15:28> 00:15:30:	crazy to want to disrupt construction.
00:15:30> 00:15:32:	I mean, I, I remember the, the very first investment
00:15:32> 00:15:34:	round we raised, it was, I guess you could call
00:15:34> 00:15:35:	it a pre precede.
00:15:36> 00:15:38:	It was about four, 100K back at the back end
00:15:38> 00:15:39:	of 2015.
00:15:40> 00:15:42:	And our, our investors explicitly told us we're investing because
00:15:42> 00:15:44:	we like you, but we're pretty sure that within six
00:15:44> 00:15:47:	months you're going to pivot to another industry.
00:15:47> 00:15:50:	And it, it, you know, it's pretty nice 7-8 years
00:15:50> 00:15:52:	later to be able to say, well, actually we, we
00:15:52> 00:15:54:	stuck it out in this sector and, and, and actually
00:15:54> 00:15:55:	the thesis was correct.
00:15:55> 00:15:58:	We were perhaps a few years early to the market,
00:15:58> 00:16:01:	but certainly these last three years COVID had a tremendous
00:15:58> 00:16:01: 00:16:01> 00:16:06:	but certainly these last three years COVID had a tremendous positive impact surprisingly on on the digitization of the construction
	positive impact surprisingly on on the digitization of the
00:16:01> 00:16:06:	positive impact surprisingly on on the digitization of the construction
00:16:01> 00:16:06: 00:16:06> 00:16:09:	positive impact surprisingly on on the digitization of the construction sector and and accelerated the need for digital technologies.
00:16:01> 00:16:06: 00:16:06> 00:16:09: 00:16:09> 00:16:10:	positive impact surprisingly on on the digitization of the construction sector and and accelerated the need for digital technologies. Exactly.
00:16:01> 00:16:06: 00:16:06> 00:16:09: 00:16:09> 00:16:10: 00:16:11> 00:16:13:	positive impact surprisingly on on the digitization of the construction sector and and accelerated the need for digital technologies.  Exactly.  Looking at your website by the way, So listeners, we're
00:16:01> 00:16:06:  00:16:06> 00:16:09:  00:16:09> 00:16:10:  00:16:11> 00:16:13:  00:16:13> 00:16:14:	positive impact surprisingly on on the digitization of the construction sector and and accelerated the need for digital technologies. Exactly.  Looking at your website by the way, So listeners, we're looking at his homepage.
00:16:01> 00:16:06:  00:16:06> 00:16:09:  00:16:09> 00:16:10:  00:16:11> 00:16:13:  00:16:13> 00:16:14:  00:16:14> 00:16:15:	positive impact surprisingly on on the digitization of the construction sector and and accelerated the need for digital technologies. Exactly.  Looking at your website by the way, So listeners, we're looking at his homepage.  Now who who are we?
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00:16:47> 00:16:51:	Ultimately, what was quite remarkable, I remember a few years
00:16:52> 00:16:55:	into the business, we'd grown to, you know, about 1520
00:16:55> 00:16:56:	people.
00:16:56> 00:16:58:	And we very quickly realized we had just as many
00:16:58> 00:16:59:	nationalities across the business.
00:17:00> 00:17:02:	And I think we, we'd grown at some point to
00:17:02> 00:17:05:	about 2530 and realized we had, we had over 18
00:17:05> 00:17:08:	nationalities across that, which was, it was really nice in
00:17:08> 00:17:11:	terms of sort of the diversity of thinking and thought
00:17:11> 00:17:13:	that that brought to the table.
00:17:14> 00:17:17:	We've also wanted to build a, you know, very collaborative
00:17:17> 00:17:20:	culture, but also very scientific one.
00:17:20> 00:17:22:	And that one lands differently with different people.
00:17:22> 00:17:25:	But we very much operate on the basis of the,
00:17:25> 00:17:26:	the scientific method.
00:17:26> 00:17:29:	We we have hypotheses, we look to validate or corroborate
00:17:29> 00:17:31:	or falsify those and then build the business out that
00:17:31> 00:17:32:	way.
00:17:32> 00:17:35:	Yes, it says 8 no 11 languages between you.
00:17:35> 00:17:38:	It also says I really hesitate to ask this question.
00:17:38> 00:17:39:	It says 3 species.
00:17:40> 00:17:42:	Dare I even ask what that means on your your
00:17:42> 00:17:43:	own website there?
00:17:45> 00:17:47:	I'll, I'll let you ask our marketing Director.
00:17:48> 00:17:50:	You'll get back to us on on, on that one.
00:17:51> 00:17:54:	So looking, looking back now on when you started up
00:17:54> 00:17:56:	the company to where you are today, are there are
00:17:57> 00:17:59:	there kind of any things that you wish you had
00:17:59> 00:18:02:	known then that you do know now that would help
00:18:02> 00:18:05:	people that are thinking of, you know, being becoming entrepreneurs,
00:18:05> 00:18:07:	getting or getting into this sector?
00:18:08> 00:18:09:	Yeah, there's probably loads.
00:18:10> 00:18:14:	So the question is, where do I start The yeah,
00:18:14> 00:18:19:	the, the, there's, there's a few, a few areas.
00:18:19> 00:18:22:	I mean, some that are more construction specific or construction
00:18:22> 00:18:25:	tech specific that, that I think are really relevant.
00:18:25> 00:18:27:	And I know those that are, that are maybe a
00:18:28> 00:18:29:	bit a bit more generalized.
00:18:31> 00:18:35:	I think to anybody looking at construction tech, the the
00:18:35> 00:18:38:	one piece of advice that I'd give is is it's,

00:18:38> 00:18:41:	it's a, it's a highly taxonomized industry.
00:18:42> 00:18:47:	So by that I mean towers, bridges, hospital projects, tunnels,
00:18:48> 00:18:51:	they're all very different, right?
00:18:51> 00:18:53:	I mean, and at surface level you might go, OK,
00:18:53> 00:18:57:	well, you've got infrastructure, you've got residential real
	estate, you've
00:18:57> 00:19:00:	got commercial real estate, you've got industrial sort of structures.
00:19:01> 00:19:03:	But for a long time, we, we started off building
00:19:03> 00:19:05:	a product that was geared at at like too broad
00:19:05> 00:19:06:	of a segment.
00:19:07> 00:19:10:	And, and we started realizing that actually we needed to,
00:19:10> 00:19:12:	we needed to taxonomize the construction sector.
00:19:12> 00:19:14:	And in our case that came by by kind of
00:19:14> 00:19:18:	looking at sort of segments, but also types of construction
00:19:18> 00:19:18:	methodologies.
00:19:19> 00:19:21:	So whether you were building a tower using post tension
00:19:21> 00:19:24:	concrete or whether it was a regular reinforced concrete frame
00:19:24> 00:19:26:	was a huge had a huge bearing on whether or
00:19:26> 00:19:29:	not, you know, you were delivering value to the end
00:19:29> 00:19:29:	customer.
00:19:30> 00:19:33:	And then the, the type of elements you might be
00:19:33> 00:19:36:	pouring, whether you were, you were building a foundation
	or,
00:19:36> 00:19:39:	you know, a beam, I mean, all of these parameters
00:19:39> 00:19:42:	started forming part of whether or not we had product
00:19:42> 00:19:43:	markets fit.
00:19:43> 00:19:44:	And, and you know, the, the common piece of advice
00:19:44> 00:19:46:	you'll often get when you start a start up is,
00:19:46> 00:19:47:	you know, the first thing you got to do is
00:19:47> 00:19:48:	get to product market fit.
00:19:49> 00:19:51:	Because once you get to product market fit, then you
00:19:51> 00:19:52:	can start scaling the value proposition.
00:19:53> 00:19:55:	But in construction, you really got to focus on who
00:19:55> 00:19:56:	are you actually selling to?
00:19:56> 00:19:59:	Because it, it's a highly fragmented market.
00:19:59> 00:20:01:	That means there's a ton of opportunity, but it also
00:20:01> 00:20:03:	means you you need to to sort of build the
00:20:03> 00:20:04:	right layers of abstraction.
00:20:04> 00:20:07:	To think about those, those different sub segments and build
00:20:07> 00:20:10:	a product that's as as massively applicable to all of
00:20:10> 00:20:12:	them as possible, but but one step at a time.

00:20:12 --> 00:20:15: So kind of segment by segment and and that's kind 00:20:15 --> 00:20:16: of AI mean. 00:20:16 --> 00:20:18: I you know, I remember a few years ago we 00:20:18 --> 00:20:21: we had sort of feedback coming from our customers. 00:20:21 --> 00:20:23: Some loved the product, some were like, oh, it was 00:20:23 --> 00:20:26: nice, but you know, wasn't necessarily a must have and 00:20:26 --> 00:20:27: super confusing. 00:20:27 --> 00:20:29: And and then the more you start digging in, the 00:20:29 --> 00:20:32: more you realize, Oh, well, actually the the fragmentation of 00:20:32 --> 00:20:34: that market means you really got to start thinking about, 00:20:34 --> 00:20:36: you know, these complex segments individually. 00:20:38 --> 00:20:40: Question now about leadership, if that's OK. 00:20:42 --> 00:20:45: It looks like a a young company you've mentioned I 00:20:45 --> 00:20:48: think working collaboratively. 00:20:48 --> 00:20:52: But just speaking personally, do you have a leadership style? 00:20:52 --> 00:20:55: Have you had one developed or are you still developing? 00:20:55 --> 00:20:58: What kind of sort of Coats founder and Coats CEO 00:20:58 --> 00:21:00: do you see yourself as? 00:21:01 --> 00:21:02: Wow, what a question. 00:21:03 --> 00:21:04: Do I have a leadership style? 00:21:04 --> 00:21:09: I mean, I, I, I think yeah. 00:21:09 --> 00:21:10: I mean, I, I don't know if what I, what 00:21:10 --> 00:21:12: I was saying, what my team would say are are 00:21:12 --> 00:21:12: one and the same. 00:21:13 --> 00:21:14: Well, we we can check. 00:21:15 --> 00:21:15: Absolutely. 00:21:17 --> 00:21:18: Listen, I mean it comes back to the culture across 00:21:18 --> 00:21:19: the organization, right. 00:21:19 --> 00:21:23: So there's, there's kind of four key behaviours that that 00:21:23 --> 00:21:24: we've set out at the company. 00:21:26 --> 00:21:27: Collaborative is, is one of them. 00:21:27 --> 00:21:30: Scientific is another outcome focus is 1/3 and and ultimately 00:21:30 --> 00:21:32: sort of responsible as the 4th. 00:21:32 --> 00:21:34: So it's about building a, a culture where you know, 00:21:34 --> 00:21:36: if a fire is burning and it's not yours, you 00:21:36 --> 00:21:37: don't just let it burn. 00:21:37 --> 00:21:40: That's what we mean by responsible by collaborative. 00:21:40 --> 00:21:43: It's always about assuming best intent on, on the other 00:21:43 --> 00:21:45: side of, of people you're working with. 00:21:46 --> 00:21:49: By scientific, it's about sort of taking a data-driven approach 00:21:49 --> 00:21:52: and and by by outcome focus it, you know, it 00:21:52 --> 00:21:54: really comes down to you've got to focus on what

00:21:54> 00:21:56:	you're outcomes are rather than your tasks.
00:21:56> 00:21:59:	And, you know, I've seen cases of people doing 100
00:21:59> 00:22:02:	tasks to only realize the wrong outcome.
00:22:02> 00:22:05:	And that that's always, you know, heartbreaking because you've got
00:22:05> 00:22:07:	someone dedicated doing a bunch of work, but actually realizing
00:22:07> 00:22:08:	that the wrong thing.
00:22:10> 00:22:12:	Now going back to, you know, what does that mean
00:22:12> 00:22:13:	in terms of my leadership style?
00:22:13> 00:22:16:	I mean, I'd like to, to think we're quite a
00:22:16> 00:22:20:	sort of, you know, bottoms up organization in, in that
00:22:20> 00:22:25:	we're, we're looking to, to really put the, the individual
00:22:25> 00:22:28:	contributors that are at sort of the edge of the
00:22:28> 00:22:32:	organization front and center in, in the decision making.
00:22:32> 00:22:35:	They're ultimately the experts of, of their domains.
00:22:36> 00:22:39:	And so it's about building systems across the organization that
00:22:39> 00:22:41:	allow you to to make the best decision based on
00:22:41> 00:22:43:	based on the experience of those, you know, those stellar
00:22:43> 00:22:46:	individual contributors you're bringing into the team.
00:22:49> 00:22:49:	Thank you.
00:22:49> 00:22:53:	In your mind, we've mentioned that recent funding round that
00:22:53> 00:22:57:	you've, you've the investor that's come in, obviously that's successful,
00:22:57> 00:22:59:	a big milestone for the company.
00:22:59> 00:23:02:	But in your mind where, how big can this thing
00:23:02> 00:23:02:	grow?
00:23:02> 00:23:04:	Are you, what's the ultimate goal?
00:23:04> 00:23:06:	Would it be an IPO for example?
00:23:06> 00:23:08:	In the fullness of time, where do you see this
00:23:08> 00:23:08:	thing going?
00:23:09> 00:23:09:	Yeah.
00:23:09> 00:23:12:	I mean, I think, you know, we, we believe there's
00:23:12> 00:23:15:	a, a multi billion dollar opportunity to fundamentally optimise and
00:23:15> 00:23:18:	decarbonise construction using digital systems.
00:23:19> 00:23:23:	What converged us today is what we optimize concrete.
00:23:24> 00:23:27:	But over time we see that evolving to optimizing materials
00:23:27> 00:23:31:	and then beyond materials, optimizing resources on construction and decarbonizing
00:23:32> 00:23:35:	the, the entire sort of construction sector using digital technologies
00:23:35> 00:23:37:	and digital tools as as enablers.

00:23:38> 00:23:40:	So it's, it's really, I mean, we're really a data
00:23:40> 00:23:43:	company and we're using data to help inform decision
	making
00:23:43> 00:23:46:	within construction groups to allow them to optimize efficiency and
00:23:46> 00:23:47:	sustainability.
00:23:48> 00:23:50:	And, and when you look at the labor productivity gap
00:23:50> 00:23:53:	that exists in construction, I mean, there's a \$1.6 trillion
00:23:53> 00:23:54:	labor productivity gap.
00:23:55> 00:23:58:	And then you look at the carbon emissions, you know,
00:23:58> 00:24:02:	there's, there's essentially gigatons and gigatons of emissions that could
00:24:02> 00:24:06:	be reduced ultimately through, through better visibility on, on, on
00:24:06> 00:24:09:	your actual kind of carbon impact as as an industry.
00:24:09> 00:24:12:	But all that requires a digital enabling layer.
00:24:12> 00:24:14:	And, and that's where we see kind of converge fit
00:24:14> 00:24:17:	in as, as the, the physical intelligence platform.
00:24:17> 00:24:19:	So there's, there's a bunch of platforms out there looking
00:24:19> 00:24:22:	at financial intelligence or they might be looking at design
00:24:22> 00:24:24:	tools that, you know, how do you better design buildings?
00:24:24> 00:24:27:	The, the specific definition of, of where we want to
00:24:27> 00:24:30:	be is a physical intelligence engine, a platform that allows
00:24:30> 00:24:33:	you to, to understand the ground physical truth of what's
00:24:33> 00:24:36:	going on and then feed that insight within the construction
00:24:36> 00:24:37:	organization.
00:24:37> 00:24:39:	We, we see it as an open and interoperable future
00:24:39> 00:24:42:	that that means that we're, we're not the best sensor
00:24:42> 00:24:45:	company, we're not the best dashboarding tool, but you know,
00:24:45> 00:24:48:	we do think we can become the best physical intelligence
00:24:48> 00:24:51:	platform and then feed that intelligence to all the stakeholders
00:24:51> 00:24:54:	that need it within construction companies.
00:24:54> 00:24:57:	And and that's where the multi billion dollar IPO lies
00:24:57> 00:24:58:	in my view.
00:24:58> 00:24:59:	Please stay in touch with me.
00:25:01> 00:25:03:	I will want to know you then when that happens,
00:25:03> 00:25:03:	for sure.
00:25:04> 00:25:04:	Yeah.
00:25:04> 00:25:05:	Physical intelligence.
00:25:05> 00:25:06:	I love that phrase, by the way.
00:25:06> 00:25:08:	Yeah, that that's, that's lovely.

00:25:08> 00:25:08:	That says it all.
00:25:09> 00:25:13:	For those listening that want to become successful, you're
	still
00:25:13> 00:25:14:	a young company.
00:25:14> 00:25:15:	You yourself are still very young.
00:25:16> 00:25:18:	Is there a single piece of advice that you can
00:25:18> 00:25:21:	give listeners that want to want to be successful in
00:25:21> 00:25:23:	there, in this, in this a field like this?
00:25:25> 00:25:28:	There's, there's a few, I think, I think if you're
00:25:28> 00:25:31:	talking construction tech specifically, get out there on the construction
00:25:31> 00:25:34:	site and, and, and listen, I'd say that's, that's, that's
00:25:34> 00:25:37:	probably the, the biggest impact thing you could do.
00:25:37> 00:25:38:	Which is what happened to you, right?
00:25:39> 00:25:39:	Yeah, yeah.
00:25:39> 00:25:41:	And, and I think combined across the organization, we must
00:25:41> 00:25:44:	have spent thousands of hours on construction sites by now.
00:25:44> 00:25:47:	Understanding the pain points, understanding the challenges and and those
00:25:47> 00:25:48:	learnings are invaluable.
00:25:49> 00:25:50:	And anything more generally.
00:25:51> 00:25:54:	Fundamentally, if I think back to our story, right, I
00:25:54> 00:25:56:	mean, our, our investors thought we were crazy early
00:25:56> 00:25:57:	on, right?
00:25:57> 00:25:59:	I mean, the broader investment market didn't think there was
00:25:59> 00:26:00:	a market in, in construction tech.
00:26:02> 00:26:05:	And, and it really probably did come down to sort
00:26:05> 00:26:09:	of a certain irrational conviction in our own views about,
00:26:09> 00:26:10:	about the industry, right?
00:26:10> 00:26:13:	And so if you, if you do believe you've, you've
00:26:13> 00:26:15:	found a market, you found an opportunity, I, I, you
00:26:15> 00:26:18:	know, you want to hold on to that conviction because
00:26:18> 00:26:21:	it, you know, the chances are that you, you've got
00:26:21> 00:26:23:	to a gut feel about a particular sector for a
00:26:23> 00:26:23:	reason.
00:26:24> 00:26:28:	And you've identified an opportunity that's, that's worth, that's worth
00:26:28> 00:26:29:	going after.
00:26:29> 00:26:31:	And I, I guess if you combine that with what
00:26:31> 00:26:33:	I said earlier, which is go, go listen to the
00:26:33> 00:26:36:	customer, then you know, your, your first idea might not
00:26:36> 00:26:37:	be the right one.
00:26:37> 00:26:39:	But so long as you've got, you know, the right

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00:26:39> 00:26:41:	level of conviction and the right amount of customer input,
00:26:41> 00:26:44:	then I think ultimately you'll eventually iterate towards, towards the
00.00.44 > 00.00.44	
00:26:44> 00:26:44:	right product.
00:26:45> 00:26:45:	Yeah.
00:26:45> 00:26:46:	So belief belief.
00:26:47> 00:26:49:	Believe in your products, believe in yourselves essentially.
00:26:50> 00:26:50:	Absolutely.
00:26:51> 00:26:53:	And just finally, is there any, I don't know if
00:26:53> 00:26:55:	you listen to podcasts or you have much time for
00:26:55> 00:26:58:	reading, but is there a particular book or podcast that
00:26:58> 00:27:00:	you can recommend to people that would help them on
00:27:01> 00:27:01:	their journey?
00:27:02> 00:27:06:	Yes, in the construction tech world, certainly the the Construction
00:27:06> 00:27:08:	Physics Substack is a is a really great set of
00:27:08> 00:27:12:	articles on on the dynamics of construction tech and
	opportunities
00:27:12> 00:27:13:	that lie within it.
00:27:15> 00:27:15:	Is that easy?
00:27:15> 00:27:17:	Easy to find by the way.
00:27:17> 00:27:18:	Yeah, yeah, absolutely.
00:27:18> 00:27:21:	Just just Google construction physics and and I think you'll
00:27:21> 00:27:22:	find it in on Google.
00:27:22> 00:27:25:	And any other groups that people can look at to
00:27:25> 00:27:25:	to to join.
00:27:25> 00:27:28:	Yeah, so if if you're the founder of a construction
00:27:28> 00:27:31:	tech startup, there's actually the the C Tech Club, which
00:27:31> 00:27:34:	is a group of over 100 construction tech founders.
00:27:34> 00:27:37:	There's a Slack channel, there's a WhatsApp group, and that's
00:27:37> 00:27:40:	a super valuable resource to talk to other construction tech
00:27:40> 00:27:42:	founders about their journeys and stories.
00:27:44> 00:27:44:	Check it out, listeners.
00:27:44> 00:27:45:	There you go.
00:27:45> 00:27:46:	You heard it from the horse's mouth.
00:27:46> 00:27:48:	Thank you so much, Rafael Scheps.
00:27:49> 00:27:51:	Thank you for joining us on this podcast.
00:27:51> 00:27:52:	It was a pleasure.
00:27:52> 00:27:52:	Thank you very much.
00:27:53> 00:27:55:	We hope you've enjoyed this podcast.
00:27:55> 00:27:58:	To find out more about the other episodes of this
00:27:58> 00:28:00:	series, go to the Young Leaders page on the ULI
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**00:28:00 --> 00:28:01:** Europe website.

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