

Meet ember, modern, tech-enabled, all-electric intercity bus services

As part of our quick founder questions series - or QFQs - we spoke to Keith Bradbury, cofounder of ember about finding meaning through innovation, transitioning to electric vehicles and the importance of legacy thinking.

Temps de lecture : minute

2 May 2024

What was the catalyst for launching Ember?

We had spent several years in fintech and seen the industry explode so wanted to find something which was personally meaningful and hadn't yet seen an explosion of innovation. It was important for us to go into something which could have a large emissions impact but which could also have a real impact on people's lives. So, the catalyst was seeing how electrification, tech, and social utility could come together to form an idea and become a business which was distinct from anything else out there.

Just imagine you're sitting on a diesel coach and you notice the odometer reads 3,000,000km. You can expect that it probably does around 10mpg. So that means it has probably spent £1-1.5M on diesel over its lifetime. You think "Wow", and take a deep breath - but then cough because the air stinks.

Our starting gambit is solving that problem. Breathe easy and radically reduce fuel costs by using electric vehicles via highly optimised algorithms. But more than that, we want to solve all of the passenger pain

points that are currently associated with bus and coach transport.

Tell me about the business - what it is, what it aims to achieve, who you work with, how you reach customers and so on?

We operate modern, tech-enabled, all-electric intercity bus services.

We want to make it easier and cheaper to take an Ember than taking a car.

We're taking a full stack approach to doing this, which means we do everything from route design analysis to building charging infrastructure to hiring the best drivers. The bundling up of these different areas means we are getting a compound advantage throughout the business. That in turn means we can offer better passenger journeys, more optimally use our charging infrastructure, and lower the cost per km of every vehicle.

We don't really do marketing - the most powerful voice is a positive customer having a great experience. That's what has driven our growth and caused us to have far too many fully booked buses! A nice problem for us to have but thankfully something that will be a thing of the past as we continue to scale properly.

We're looking to launch more routes across Scotland and the UK. There are many well-trafficked transport corridors that could do with a high-frequency, high-quality, zero emissions bus to move people around.

It's obvious to us that electric vehicles have already won the technology race for road transport. The laggards that are holding on to hydrogen aren't going to be around in a decade. Looking at how much innovation is happening in EVs it's obvious this is the technology which will underpin our transport needs.

How has the business evolved since its launch?

We launched with 2 coaches on a single 150kW charger in October 2020 - precisely during the covid lull. Within a month of that the country had gone into more lockdowns and launching a public transport business wasn't looking like the most obvious decision. However, we continued to work on our platform, provided critical transport services for key workers who were still travelling, and focused on the long term.

A lot has changed since then. Our fleet has scaled to become the largest electric coach fleet in the UK and we've rolled out the fastest charging infrastructure in the market, capable of charging a single vehicle at 600kW. For comparison, Tesla superchargers will reach up to 250kW. That's the power of being at the forefront of technology - we're able to work with our suppliers to really make huge strides forward every year.

We've invested heavily in building EmberOS, our tech platform that manages all aspects of the network - from charging to driver assistance to passengers. This is how we've been able to scale services and passenger numbers without the overhead of legacy providers.

Tell us about the working culture at Ember?

We're all passengers first after all, so when we are building new features we're trying to solve problems we have faced. We're constantly questioning how things can be built in a way that gives the best passenger experience, and often that means going back to first principles. From there, we take all our know-how and build scalable, high-quality solutions which our future selves can extend even further. Building the right foundations isn't always sexy, but it's vital.

Efficiency is baked in throughout the organisation but doesn't stop us

from doing things when we know there is a better way of doing it in the future.

We believe that in the long term, we'll win in the end. Focusing on high-quality, legitimate growth is how we'll continue to expand throughout the UK and then further afield. We don't believe in short-term tricks.

Curiosity feeds into everything we do because we don't think everything is figured out. That's why we sometimes spend unreasonable amounts of time to understand a problem in extreme depth. It's also how we come back up with a solution that no one else has thought of.

Detail matters. A lot.

How are you funded?

Like most other startups we've raised a bit of equity along the way, starting from friends and family and then getting our first institutional investor onboard. Pale Blue Dot brought in Contrarian Ventures and now we've been able to welcome Inven Capital, 2150, and AENU into the fold. Just like our working culture, we've tried really hard to find investors who are also first principled thinkers and willing to think longterm. Lots of people say this, very few actually live by it.

Additionally, we've worked closely with Triodos Bank who have provided significant debt to allow us to scale up our vehicle fleet and build more charging infrastructure. Having the backing of institutional debt investors means we can continue to scale up our network and invest in real-world assets which directly contribute to reducing emissions.

What has been your biggest challenge so far

and how have you overcome this?

One of the biggest challenges is the widespread mix of ignorance and legacy thinking. It's particularly strong in the EV segment but it's not isolated.

Before we launched, we were told it wasn't possible to drive an electric vehicle 900km a day, every day of the year. But no one could explain exactly why, starting from some sensible axioms and getting to a conclusion. They all turned out to be wrong. But this is emblematic of a way of thinking which is not first principle-driven.

It's much easier to be naively sceptical than to be deeply informed and we've really tried hard to ensure our internal thinking is always set up to overcome this.

How does Ember answer an unmet need?

Remember that we're passengers first... Passengers are not asking for too much when they want to know exactly where their bus is, or want to change their plans and instantly rearrange their transport, or want to take their bikes with them for a weekend away. But even these basic needs are often unmet for many trip types. We're making it easy to rely on Ember and to trust we'll be there when we say we're going to be there.

What's in store for the future?

Roads go almost everywhere, so for now we're planning on going almost everywhere. Once we've done that then maybe space? EmberX has a nice ring to it.

What one piece of advice would you give other founders or future founders?

Try hard to always hold in your mind the big picture alongside focusing on a micro level. One is not in tension with the other - they are just two sides of an n-dimensional object which fits neatly together if you can maintain that vision.

Also find someone you really trust. Then verify. Then trust again. But keep verifying.

And finally, a more personal question! What's your daily routine and the rules you're living by at the moment?

We're doing our best to be good humans. That means fresh air every day, prioritising high-quality food ingredients and ensuring we've got a good hit of dopamine from some exercise.

Keith Bradbury is the cofounder of [*ember*](#).