Podcast Episode 4: Tech for Good: How technology can address environmental challenges

Intro

The HCLTech Trends and Insights podcast.

Nick 0:07

Hello, everyone. And thank you for tuning in to the HCLTech Trends and Insights weekly podcast, where we'll be discussing the latest key technology stories and events that are impacting and disrupting business and society. I'm Nick Ismail, the Head of Brand Journalism at HCLTech. And today I'm joined by Aoife Walsh, Global Head of Sustainability Marketing and James Treblico, Senior Sustainability Manager and Solutions Architects at HCLTech.

Aoife, James, how are you both?

Aoife 0:39

Very good. Thank you for inviting us today, Nick.

James 0:44

Yeah, absolutely. Happy to be here.

Nick 0:48

Excellent. And thank you both for joining us. So it was recently, World Environment Day, the biggest International Day for the environment, which is led by the United Nations Environment Program. It's celebrated by millions of people across the world, and its theme this year was solutions to plastic pollution. Looking at the environment issue more broadly. Today, we're going to be discussing how technology can be used as a force for good in addressing environmental challenges. So just to start effect, can you explain the significance of events like World Environment Day in raising awareness, and driving change for the world's most pressing climate or environment challenges?

Aoife 1:32

Yes, of course, Nick. And even thank you for the question. Indeed. Because whilst these days, such as World Environment Day or world Earth Day, or World Water Day, punctuate the year, and help us to focus on the various issues, it really is something that we should all be focusing on permanently, we can all see the effects of climate change around us. And indeed, we can see the effects of plastic and plastic pollution all around us. And it is very important that we try most certainly to frequently think about it. And in actual fact, people who work within sustainability, think about these things every single day. So it is good to have these days that punctuate the year, and help us to just focus a little bit. And I think what's also important is that we draw attention to various aspects of environmental issues, in particular, on this world environment, they were looking at plastic pollution. So there's an awful lot of commentary and an awful lot of advice and words out there about climate change. But there's not an awful lot about plastic sometimes. And so it's important to really, really focus on that. And in particular, things like single use plastic, the effect that single use this idea of use it once and then dispose, a lot of that ends up in our oceans, a lot of that ends up in waste. And in actual fact, one of the most startling statistics that

we're finding is the level of microplastics that are actually making their way into the human body. And to be able to emphasize and highlight things like that in a particular day in the year is something that's really important, but we should really be addressing this every day, in every moment of our lives. But that's not always possible. That's my my tuppence worth on it, Nick.

Nick 3:23

Yeah. And you're absolutely right regarding the single use of plastic and according to McKinsey research, only 16% of plastic waste is actually reprocessed to make new plastics. The rest, as you said, goes into oceans landfills and is incinerated. So the recycling industry as a whole is facing numerous challenges including inefficient infrastructure and a lack of investment and inadequate consumer education. And so efforts are needed to revamp the recycling system and promote circular economies and develop innovative recycling technologies. There's also an economic incentive a report from the World Wildlife Fund estimates that environmental and social costs of plastic pollution amounted to $2.2 trillion per year, which is the equivalent GDP of a significant economy. So there are all these different elements coming in, there's plastic pollution, there's greenhouse gas emissions, but there is an ally in this fight. And that's technology. So James, can you kind of bring us up to date on how technology has emerged as a key ally in fighting the climate crisis and how has its use evolved over the years?

James 4:38

Yeah, thanks. It's an interesting it's an interesting thing to think about really, because it's, it's also a little bit about understanding how the climate crisis fits in and all the different aspects of it. It is not just one parts like when we're talking about sustainability. There are a few different ways that we can we can look at This and one of them is to look at a, you can kind of treat the word sustainability almost synonymously with the word efficiency. And this is where technology really can come into its own with regards to increasing that efficiency, and then helping that bring about further and kind of cleaner, quicker, more agile solutions to help us in this in this fight against climate crisis. Now, when we're talking about Tech Tech is motivated and kind of brought about usually by businesses and by the economy driving forward, it's kind of where the money part comes from, to finance all of this. And so this is where the concept of the triple bottom line comes into play. So the triple bottom line is the focus on the people, the planet, and the profit. And it's all of these three things are integral for most businesses. To be profitable, you can't or to be sustainable, sorry, so you can't have just one of them, you can't have just two, you need all three of those things, to be able to continue as a business. And then that Furthermore, leads to the tech that you need to be able to help you with the climate crisis and with the strive for sustainability. So to kind of go into maybe in a little bit more detail into a few of the different technologies that that have come about, as you you know, as you asked a second ago, to go into one, which would be an example of data analytics and monitoring. So in this one, we're looking at how technology really plays a critical role in collecting, analyzing and interpreting vast amounts of data, environmental data, for example, using things like remote sensing technologies, satellite imagery, sensors, providing real time monitoring of ecosystems, climate patterns, and atmospheric conditions, where all of this kind of fits together really, by helping scientists, policymakers, and so on make informed decisions and take proactive measures to address the issue of climate change. So that's just one area when we're looking at data analytics and monitoring. There are a few others. So to mention them would be circular economy solutions into energy efficiency into climate modeling and prediction, renewable energy generation, there's really a plethora of different ways that technologies can fit into

these solutions. I wish we had a bit more time today to go into them. But I think really that's just a given an overview into how it's how technology really is driving towards the fight against climate crisis.

Nick 7:40

Sure, thank you. And as you mentioned, there are there are loads of different technologies, I was reading a report from the World Economic Forum, talking about artificial intelligence of things AI, OT, and how that's really crucial in the challenges associated with carbon management. And it helps with the integration of measurement and reporting. You've also got data analytics, predictive analytics that you mentioned. And even things like blockchain which offers a solution to increase the transparency in the carbon offset market. You mentioned efficiency at the beginning of your answer. And I was just wondering if you had any thoughts on things like sustainable engineering and how important those strategies are in improving efficiency, improving efficiency, you know, things like the development and introduction of energy efficient products, products, optimization, recyclable materials, circular design, sustainable packaging, things like that, is there is there a case that sustainable engineering needs to be more front and center of an organization's strategy?

James 8:47

When talking about efficiency and how all of the material analysis and supply chain will fit together? This is all really developed on the back of the legislations and compliance requirements which are coming out specifically in Europe at the moment, but they are coming out across other geolocation. So in the US and across the APAC region, for example, there are various different compliance and legislation focuses where we need to look into exactly how it is that businesses and companies can become compliant with these new legislations. And that's just an A, looking at how the businesses can do it so that they can continue being businesses from the environmental front. It's absolutely imperative that when we look into the efficiencies of the system, the supply chain has to be entirely connected, so that each different part fits in to minimize the amount of any waste or any carbon or any material throughout its entire chain from it being necessarily either mined or reused before it comes back onto the market. So it's very important that we look into various different systems, for example, the LCA to bring about a specific example. So that it can be, so that we can find out exactly where it is in the lifetime of a product that we can minimize any mal effects onto the environment.

Nick 10:20

That's great, James, thank you. So sustainability, engineering, sustainable engineering, rather, absolutely crucial, and effort looking beyond technology. Can you provide any other examples of Tech for Good when it comes to addressing climate challenges such as social entrepreneurship, impact investing or sustainable innovation?

Aoife 10:44

Yeah, absolutely. And in actual fact, Nick, the to slightly go hand in hand. Because technology can be used most certainly, as we attempt to either adapt to the worst effects of climate change, or indeed attempt to mitigate. So as part of what our HCL Foundation does, which is how we deliver our corporate social responsibility in India, we leverage technology heavily to actually assess many of the problems that exist. So we will leverage technology to look at waterways, for example, and detect the level of pollution for example, so we can begin to build good picture of what the problem is, as we begin to

rejuvenate some of those waterways. And so was much of the the work that's done is very physical work that entails you know, many times draining or dredging or clearing waterways of of horrific debris that we find within them a lot of the measurement of the work we're doing, from start to finish deciphering what the problem is. And then being able to report back on the results, actually leverages heavily, heavily leverages technology. And another example I could give you, as part of our broader sort of sustainability network at HCLTech is our Aquapreneur initiative, whereby we've invited entrepreneurs heavily engaged in the water, the area of water, to come up with solutions that we can then fund and help them to develop. And there's one solution in particular, that can recycle up to 95 percent, of the gray water within a commercial building. So instead of draining off the water, and having that water run off into waste systems, the water is captured within the building, and then recycled through some very, very smart physical technology that the company epic clean tech is working on at the moment. So those are some examples of how tech is also helping, you know, in very specific areas to work with other sorts of physical and sometimes biological technology, Nick.

Nick 13:06

Yeah, and the use case you just mentioned, it's something that the normal person might not even consider in terms of how they can improve their or how an organization can improve their posture when it comes to water or electricity. So it's really interesting. And James, are there any other ways that HCl tech is embracing Tech for Good to address environmental challenges?

James 13:33

Absolutely. I mean, there are, there are very, there are many, many different kinds of aspects that we need to look at. However, to kind of bring a focus into one there's one specifically which is called Twin Analytics, which is a it's a comprehensive solution, really, which, what it does is it brings the physical and digital assets and spaces together. So for example, it could be a factory or any building really. And it enables this single source of truth to be utilized throughout the lifecycle of the building. And at the same time, it's a way that different people in different geolocation. So different colleagues can look through the building to look at a specific part of the building at a specific time in real time, and be able to monitor certain conditions. So for example, we could monitor heat lights, solar power onto its plus other parameters, which I've not got to hand right now. But it can be used, as I said, in real time to monitor what is going on. It's used by having a kind of It works by being a digital twin. So a 3d model that you can walk through and it's interactive, and it's connected to sensors within the building. So that it gets that live feedback. So you have that real time data and it presents it as well as having this 3d and tractor model on a on a dashboard with the rights and kind of relevant metrics that you need to be able to drive what it is you need to do in your plant. So let's say you have an operations manager who is based in the US an engineer who's based somewhere in APAC, or in Europe, they can look at the same parts in real time and be able to assess the parameters and the condition of that work environment. So all in all, it helps with communicating between those teams, as I said, in that real time way. But it also helps with the efficiency of the building, it helps with increasing worker satisfaction and, and kind of having a nice place to work within. It can also help to reduce downtime of equipment. And furthermore, to go back to that legislation and regulation, part that I was talking about in a previous answer, it helps with the reporting of that data so that it shows transparency for that company, so that they can prove that they are doing the right thing or trying to work in the right direction. So that really, I think, is a really key piece of tech that HCL has at the moment, which is helping to address this environmental challenge.

Nick 16:09

Thanks. And is that a mature use case? Or is it something that's going to be rolled out increasingly?

James 16:15

It is something that is ready to go now. So it is something that is it's quite exciting, actually to have this ready to be employed or to be kind of put into to any factory or building right now.

Nick 16:31

That's excellent. And looking ahead. I guess we can ask both of you. But looking ahead, what progress Do you want to see this year when it comes to climate action? At the next and World Environment Day, this time next year? What milestones do you think should be reached when it comes to achieving the climate goals set out by organizations by the UN? What do you think?

Aoife 16:56

Well, I'm definitely going to pick up on much of what James has said around legislation and regulation. I really feel that it is one of the Levers that's being pulled at the moment. But I will also be very, very keen for organizations to just step up themselves. And let me explain a little bit what I mean. So in Europe, we are about to see legislation come into play, where companies will be banned from using they will not be allowed to use words like environmentally friendly without as the guidance goes detailed evidence. So legislation is stepping in and stepping up, and companies will no longer really be able to greenwash and quite frankly, I would hope that over the course of the next 12 months, that companies will begin to realize that it's not a smart idea to greenwash anyway, we've seen many examples of organizations being badly caught out, and fines being imposed on companies around the world. But I think it's time for them to really realize that it's not just legislation, it's their employees, it's their customers, it's their clients that are also looking to organizations to really, you know, stop the greenwashing and actually, real serious action as opposed to just using words. So that's on thing, I guess, that I would hope for. And I would hope for more legislation, I guess, and more focus on governments, like we've seen in the US with the IRA, the infant in inflation Reduction Act, whereby your real investment and sustainability and sustainable technology, things like sustainable aviation fuel, sustainable models for automation, and automobile, the automobile industry, where there is investment and funding being provided to drive that forward, I'd really like to see more of that come into play as well. So not just the legislation, but also the sort of the funding side. And that's certainly something that we heard at COP 27, which we refer to as the finance cop, where, you know, funding was to be put in place for what we call climate justice, for countries that are being impacted, directly impacted by climate change. So I'd like to see some of that move forward. And I eagerly look forward to COP28 in Dubai, this is all from winter, for some, some real change, some real action, and some real push forward on this, Nick.

Nick 19:34

Thank you for that was that was really insightful. And James, do you have any kind of thing you're looking forward to or expect this time next year when it comes to taking action on climate?

Nick 19:47

Yeah, absolutely. I think there's a few facets to this. I'm gonna touch in a little bit on what he was saying as well. So I think part of it is really looking into this acceleration of tech and the combination Shouldn't have many parts of it's actually a point I didn't touch on earlier. But I think is an important part when it comes to blockchain technologies and how all of the different parts fit together to make a system, which is both transparent and efficient, it is absolutely mandatory that this happens at the moment, we're in a bit of a situation where there's a bit of siloing. So maybe even with the best intentions, companies or operators are doing what they think is the best thing to do in their silo. But then when they look upstream and downstream of their activities, it doesn't necessarily fit hand in hand. And so it's very important to get this very large overview to get all of the different parts of the chain working together. Now, this, I think, can be very much pushed by, from legislation and regulations point of view from a governmental point of view. But at the same time, it needs to come from working groups, it needs to come from consortiums of the other companies, when it comes to maybe harmonizing the supply chain, maybe you have different competitors in the market that say actually, what we need to do is instead of be competitive with this, we need to work together and build in the right direction. So that's one way when it kind of comes to efficiency and harmonization's. Coming together with tech. Another way is or another point just to kind of highlight and underline an important part that Ethan was making, which is where it comes to companies stepping up and doing the right thing, because it is the right thing to do. And I mean, there is also the second benefit of it being profitable, but they really have you know, they're in a decision right now and see that they step up and do something positive, and go into the right direction, because it's the right thing to do. And also because it will save them money in the long run. Or they stay where they are. And they resist change. And it's very slow and very exhausting for everybody in the chain. And eventually, as you can see, I mean there was a thing stated recently that we are actually going to hit the 1.5 degree, climate temperature increased sooner than we expected to I think it's been about 2027 Something around this time, which is way sooner than we wanted it to be. And this is something which is very risky for everybody. And if we don't move soon, and we don't all move together, we're in real trouble. So the milestone I would like to see here is harmonization of the supply chain, and harmonization of everybody's way of thinking towards sustainability.

Nick 22:30

Thank you for summing that up. And I think effectively what you're both saying is it's now really time for action, the acceleration of sustainable tech, or legislation, no more greenwashing and as you said, the harmonization of the system to be more transparent and efficient. I would like to thank you both so much for your time. That was a really interesting discussion.

Aoife 22:55

Thank you for having us, Nick.

Nick 22:57

No problem. And just as we close today's podcast, I'd like to do our event round up.

So in May, we attended VECS23, the autonomous and electric vehicle conference here we discussed with leaders about the transition from the internal combustion engine to electric and the key steps needed to realize an autonomous future in transportation. Up next we'll be attending AWS summit in London, covering topics around how the cloud is transforming the insurance industry. We'll also be in

attendance at the Financial Crime summit in London, where we'll hear from leading practitioners who are implementing innovative techniques and practices to reduce financial crime threats. The day will also connect people around topics of mutual interest like AML, KYC, sanctions and fraud.

All of the content from these events, including interviews with some of the leading HCLTech executives, will be available on our HCLTech Trends and Insights page, and you can find a link to this in the description below. a James, thank you once again. And thank you to our audience for tuning in. Goodbye.