Workforce Foresighting Hub, episode 2 transcript

[00:00:00] Hello. My name is Emily Brennan and I am the communication manager and host for the Workforce Foresighting Hub podcast, a brand new podcast, which will focus on the alignment between future skills and innovation. We will be bringing together coaches, system developers, participants of cycles and conveners from the Catapult Network.

[00:00:29] We will [00:00:30] be discussing how we can work together to address the skills challenge, highlighting our process and looking at some examples of the impact we are already starting to see by proactively foresighting for future change. The Workforce Foresighting Hub is an Innovate UK initiative and it has been set up to provide insights and recommendations which will help identify future skills demands so the UK can start to develop skilled workforce.

[00:00:58] To adopt innovation [00:01:00] and succeed in a global marketplace. Hello and welcome back to the Workforce Foresighting Hub podcast. My name is Emily Brennan and I'm the communications manager and host for this podcast series. Last time we were here, we spoke to John Lanham and Paul Shakespeare about the wider skills challenge, um, touching on the skills value chain and how the workforce foresighting process is the first step of that.

[00:01:25] And today we are joined by John again and Steve Picker to lift the [00:01:30] bonnet and take a closer look at the process, how it works and how people can get involved. So if we could start with some introductions. Um, Steve, could you introduce yourself please? Hi Emily, yeah, so my name is Steve Picker and I'm the technical lead, um, at the Workforce Foresighting Hub.

[00:01:47] Thank you. Okay, and I'm John, John Lanham. I've been working very closely with Steve over the last few years developing tools, systems, workshops and methods. Thank you very much. Thanks guys. Brilliant. So, uh, [00:02:00] last episode we spoke about the wider, um, skills challenge that we're facing and we touched on the workforce foresighting process, but we'd like to go into a bit more detail with you both, um, today.

[00:02:13] Could you tell us how it all comes together in practice, please, Steve? Um, well, essentially our process, um, helps bring together, um, three different groups of people. So firstly, we, we bring together technologists. So

those people who are on that, [00:02:30] that cutting edge of a new technology that may disrupt an industry or in a sector.

[00:02:35] Um, we then bring them together with, um, work, uh, sort of employers typically who are responsible for structuring their workforce to work with these new technologies. And thirdly, we work with, uh, educator groups. So these are the individuals who are developing, uh, new technologies. products and services to train the workforce to deliver against those technologies.

[00:02:57] And our process helps these three different [00:03:00] groups, um, uh, understand the challenge, how their technology adopts as a challenge and the changes we need to make to both workforces and to education provision. Okay, excellent. John, do you have anything to add? Yeah, I think, I think a key point is that we, We've evolved the approach to allow each of the three constituencies, the three groups, participant groups, to bring the insight from their perspective, so they're comfortable [00:03:30] in their areas.

[00:03:31] So we've structured it so that they, they bring what they bring from their perspective, and we can integrate that together. Because from experience, sometimes the technologists are not always the best people. best serve to understand what skills requirements, educators don't necessarily always understand where the leading technologies are developing and so forth.

[00:03:50] So we, we allow some crossover, but principally enable them to draw on their expertise and their insights in a structured way. [00:04:00] And is this common to bring sort of those three parties together like this? Don't think so. I mean, I think we would see, um, At one level, what we're doing is not that radical, because there are examples where people have sat down and you will, you know, no doubt people will find examples, etc.

[00:04:18] But I think what we've done with our approach is systemized it, made it very structured, made it very repeatable.

[00:04:27] Provide the platform, the tools, the [00:04:30] infrastructure, the people to enable those conversations. Because, yeah, people have often sat down with employer groups or provider groups or whatever to try and design things, but you can bring people together, but it's also giving them the tool set and the language and the vocabulary to have that conversation.

[00:04:44] I think that's where we would see what we're doing is a little bit different. I've, I've been involved with projects in the past and, you know, they're typically saying, okay, what new skills do we need? And that's the

starting point, you know, historically, the question, what new skills do we need for the [00:05:00] workforce?

[00:05:00] And I guess where we're coming at it slightly differently is the first thing we ask is what new capabilities do organizations need to adopt technology? And once we understand that, then we can start asking, okay, what are the skills that are going to enable the workforce to work with those technologies?

[00:05:16] I guess that's where we're, you know, I think we're a little bit different. And how does that, how is that a more effective or more impactful way of modeling this? Well, I guess you, you know, by [00:05:30] understanding the requirement in the first place, which is around the organizational capability. So how do, how do organizations need to change?

[00:05:38] What new capabilities do they need to start implementing into their business? That's your starting point. That's your specification. Which you can then model your workforce around and then your education provision to train your workforce. Okay. I think the other, the other area in which it's different is, and we talked about it in the [00:06:00] previous session, about the way the technology now enables us to work in a way that five, ten years ago you couldn't have done.

[00:06:07] Okay. But at least that gives a framework to talk around rather than a blank sheet of paper. And it's also the, The data set and the information we're using reflects best practice. So we've, we've, we've drawn on European data, American data, UK data. So we've got an awful lot of very good information in there to start off with.

[00:06:29] So again, the [00:06:30] tools now make it very easy to access and pull that in. Large language models, give us some keywords. We'll go and look in the box and find some of the matches. You tell us whether or not you think that's suitable or can you adapt that. So I think that's, that's again, back to efficiency.

[00:06:44] We're not starting with a blank sheet of paper, so you're not reinventing the wheel. We're structured in a way that you've got a common vocabulary. So irrespective of the sector, the context, etc. There are some commonalities in there. So again, you're not reinventing. Also enables us to, to, to [00:07:00] lift and shift to borrow from other sectors.

[00:07:02] So a recent one we did around hydrogen. Okay, new to the sector that we're working with, et cetera, but there were capabilities in medical and science programs that could be ported across. And okay, may have needed a little bit of adaptation, but it saves it again. So it's far more efficient and more effective and people have got confidence to adapt something because it's already existing rather than, you know, different opinions and different views.

[00:07:29] What's in the [00:07:30] dataset respects, reflects a broader consensus. So when we're when we're looking at emerging technology, what sort of timescales are we talking about? We focus on what we call horizon two, which typically is probably two to five years, obviously varies from sector to sector. Because if you think about consumer goods, mobile phones, etc.

[00:07:49] A couple of years is a long time you think the nuclear industry, aero industry, it's a slightly longer, but for an awful lot of sectors we're working with, it's that two to four or five year [00:08:00] period where You've got time to act, to develop new programs, qualifications, get supply chains, etc. well enough defined that we know, so take electrification, batteries, cars, et cetera.

[00:08:13] We understand what's going to be happening. Yes, there may be another solution, fuel cells or something may come along in the future. That's a bit more horizon three, too many unknowns. We know batteries and cars are going to be around for a while. Okay. Things may change, might change solid state batteries or whatever, but we've got enough surety about what's [00:08:30] happening that you can begin to gear up and react and respond.

[00:08:33] Okay. But the key there is if some of these changes are two years away. We do need to start acting now so we can redesign that the training provision we can, we can look at our workforce because two years, you know, it flies by. So, yeah, okay. And it's about that preemptive action to shorten that potential lag.

[00:08:57] Absolutely. And [00:09:00] for the people who participate in these workshops, you said you talk to the technologists and the educators and the employers. What does their involvement look like? What, what, what are they practically doing? And how, what's their kind of commitment to the process? So a little bit, so if we wind the clock back, uh, in the good old days, it was, 20 people in a room with a pile of post its stuck on the wall.

[00:09:19] Okay. Pandemic came along. Oh, okay. That caused a few problems. But actually, we're one of those where necessity is the mother of invention. Okay, so we then rapidly, [00:09:30] as everybody did, we had to go online. So

we then rapidly worked out how do we use social media. Tools or could we find tools? So we identified digital whiteboards, databases, and other things like that.

[00:09:41] So now, a session, rather than I need you to come to Coventry, to Bristol, or whatever for the day, I need two hours, three hours of your time, online, on a team, school, okay, using Miro or a survey form. So very short, Quite focused. We structure the sessions led by one [00:10:00] of the coaches, so facilitated, um, lead you through the workshops.

[00:10:05] We're trying to, we use the workshops to extract or raise discussions to get, um, information from people. And then we also do, um, link those up with survey forms where we get individual responses and then feed that back. So we've got a structure of workshop survey, workshop survey through capturing collating and so forth that we bring it together.

[00:10:26] But it breaks down for each of the groups, we're [00:10:30] talking about two or three sessions of a couple of hours is all we're asking for. We recognize people are busy, we try to make it as low impact as possible. But. In order to get the quality, you do need a little bit of time and a little bit of focus and a little bit of effort.

[00:10:45] Therefore, we, we, but we try to make it as light touch as we can for people. Yeah. Brilliant. Okay. And then, so after the workshops have happened and, um, all the, all the systems and clever stuff has happened there in the data cube, [00:11:00] um, what are the outputs of this process? Well, ultimately, um, if you think through the process, um, we've, we've, we've come We've helped define what the future state looks like in terms of what are the capabilities organizations are going to need within a given supply chain.

[00:11:19] Um, so that's part of the insight we provide. Secondly, uh, we help understand how roles need to change and occupations need to change [00:11:30] to deliver those capabilities. Um, and that may be some, some roles needing some upskilling, or it may actually need mean the creation of new roles that don't, don't currently exist.

[00:11:40] And then thirdly, how those role roles are supported by the current education provision. So the insight provided there are based on the current provision. What's fit for purpose? What, what needs to perhaps be adapted to be more aligned to one of these future roles? [00:12:00] Um, or in, in, you know, in, in some cases, what new content needs to be, to be developed, what new apprenticeship standards or new qualifications are needed to support these future facing roles?

[00:12:11] Okay. So, The data cube and the, the insight we provide helps articulate those mm-Hmm. . So if, you know, if you are a, um, again, a small to medium enterprise, you can, you can go into the insight we provide and, and you can see the capabilities you are gonna need in the future. Mm-Hmm. to adopt a new technology.[00:12:30]

[00:12:30] Um, and if you're an educator, you can, you can see the, the. The capabilities we've defined and assigned to a new role, the knowledge, skills and behavior that underpin those capabilities. And if your products and services as an educator are delivering against that role, you can perhaps see how you may need to adapt your provision, you know, to make it more future proof.

[00:12:52] Okay. We've seen that through the cycles we've run, through the projects we've run. Um, the [00:13:00] groups have taken, we did one last year around wind energy, and a group up in the northeast between employers and, and education, colleges and universities, have then taken, We've taken the insight that we generated and changed some of their programs and qualifications to include content that covers the material that we identified.

[00:13:20] Okay. And that's happening already. Yeah. So that's, that's happening. So, so we're able to give people that focus to understand, okay, you're telling us we need to change. We need to respond. [00:13:30] This is the way in which we need to change at the supply chain level, at the workforce level and at the, uh, training material.

[00:13:35] And they can have confidence in that because of the insights you've gleaned from technologists Um, we always caveat, we've got a, an approach that draws in the view from some experts, but we, we align that with global data sets. But out of this comes insight, which again, we can do, we can make recommendations.

[00:13:56] We use large language models to, to, to do the heavy lifting of the [00:14:00] analysis. At the end of the day, you need to apply your subject expertise and your insight and your sector insight to say, okay, do we agree with this? Does it make sense? Okay. we need to adapt to? So if, if our purpose is to try and preempt skill shortages, so new technology has been deployed, and typically what we see is once organizations are trying to adopt that new technology, yeah, that is when they then send this skill demand signal to their, their provision to their training [00:14:30] providers and their education providers.

[00:14:32] And, and to react to that new skill demand, it's generally takes a bit of time for them to rework their products and services, their qualifications, their standards. And what we're trying to do is, is identify that demand signal upfront. Okay. So we can pre warn, you know, uh, the, the organizations are going to be involved with these new tech, uh, capabilities, but the, the, the training providers and education providers, so they can start considering, you know, What changes do we need to make to [00:15:00] our provision so that when that demand signal lands, the better place to respond to it quicker, reducing that lag.

[00:15:07] Brilliant, brilliant. Okay, super. So, um, so we talked about the report and the insights that come out of the process. What needs to happen next? We need people to get involved. Um, you know, if you're, if you're somebody, somebody responsible for helping implement new technology, um, [00:15:30] your technology is only going to get implemented if there's a workforce to implement it for you.

[00:15:35] Um, so get involved, get involved with our workshops, help us understand how organizations need to change in light of the new technology, um, and that will help. Identify the changes needed to the workforce and the provision to help on board your technology. So, yeah, and, and so the workforce foresighting hub, the workforce foresighting process [00:16:00] is the first part of the skills value chain that we talked about in the last episode.

[00:16:04] Um, from there, what is the next sort of. step and who sort of takes that forward. So I think I see, we see a number of different outputs coming out of that. So one, as Steve says, is how does the supply chain have to restructure itself or change itself. There's also then information for, um, qualifications bodies, awarding bodies and providers and things like that.

[00:16:28] So how are qualifications, how are their [00:16:30] training schemes, IFA standards or whatever it may be, how are these going to maybe need to change? So it's giving them insight ahead of that. Um, if this technology is deployed at scale across the workforce, this current set of training programs may not necessarily deliver all of the, uh, knowledge and skills required.

[00:16:48] So they're getting foresight about that change. And we recognize the lead time it often takes in terms of qualification development, program development, and all those sorts of issues. So they're getting early insight around that. [00:17:00] Similarly, then for the workforce, we, as Steve says, we, we propose a number of future occupations based on the insight, some of which are you know, may land well with people.

[00:17:11] Some of them may feel a little bit left field. That's fine. But you need to look at that and understand what the implications of your work for on what the implications on your workforce are. And again, map your current workforce against these future profiles. So what are the training gaps? Are there ways in which certain roles are going to change, [00:17:30] adapt and so forth?

[00:17:30] So it's about giving people insight ahead of the curve. So maybe reinforcing some of those benefits about what this program offers, um, to the participants specifically, um, we've touched on a few there, um, you know, it's a real chance to address future skills, um, and to prepare the UK workforce for future skills.

[00:17:53] If we went through sort of the different participant groups, um, to say, right, what are, what are the real benefits for a [00:18:00] technologist, John? So technologists, I think for me, it's about. Understanding, so you've developed your tech, your technology, whatever it is, um, you know, you put a lot of time and effort into that solution.

[00:18:13] But, you know, it's understanding what the capabilities are required across the supply chain for that technology to be adopted. So it has to move from small scale up to large volume. Yeah, so it's understanding the ways in which the sector and the supply chain you [00:18:30] work with will have to adapt and change in order to maximize the benefits of that technology.

[00:18:35] So you've got an interest, you've put a lot of time and effort into that technology development. Yeah. This is a mechanism to help that get deployed and adopted at scale. Okay, yeah. John, is it fair to say that our process, John, also It helps tease out some of the, some of those capabilities we don't initially think of, you know, such as, you know, what changes need to happen to procurement models.

[00:18:56] Yeah. Yeah. Yeah. It's such a disruptive [00:19:00] technology. Yeah. Procurement models are totally different. Yeah. So, so, you know, good point, Steve, because part of the framework we've created. encourages or requires people to look across the spread of activities within the supply chain. So as you rightly say, yeah, this, this, yeah, you want to go digital, fine, okay.

[00:19:19] That means you've got to look at the cyber security now down the whole supply chain, because your data is being shared and accessed. Who owns the IP? Um, how do you manage that? And all those sorts of issues [00:19:30] around about that, the way in which the whole system has to change. And yes,

our framework provokes you to think in areas you probably wouldn't necessarily initially have thought about.

[00:19:41] Brilliant. And so if we move to employers, what's the main benefit for an employer to be involved in this process? Well, as an employer, first of all, you're getting that early access to new capabilities. So, uh, you know, An employer within an organization, you're seeing [00:20:00] the organizational capabilities you're going to need in the near future.

[00:20:03] Uh, and, and they will mainly be building on the ones you've got, but you will see the new ones you need to consider and how you're going to implement those into your business. And, you know, when it comes to designing your, uh, workforce or, or, uh, looking at how you, you need to change your workforce to deliver some of these capabilities, um, what the.

[00:20:24] Uh, we develop and, and build upon through the process, [00:20:30] you're going to see a list of, um, future occupational profiles, um, or job roles, um, and you'll, you'll recognize many of those. But, uh, what you'll see is some of those roles have, uh, have gotten new capabilities assigned with them. Um, so, you know, uh, you know, a technician, um, in, in current state in the future state may have a whole new range of capabilities.

[00:20:56] They also need to consider, um, you know, ranging from [00:21:00] cyber security or, or, or handling additive manufacturing powder, you know, what, whatever the subject may be. Um, but you're going to get insight into those. You're going to get a list of job roles, uh, that you need, you, you know, you, you may need to consider, are they relevant to your business?

[00:21:15] And if so, how am I going to implement them? How am I going to. cross skill or up skill our current workforce to adapt for those changes. Okay, so you're getting an early insight which, you know, potentially gives you a competitive advantage over people who are not getting that early insight [00:21:30] necessarily.

[00:21:30] Absolutely. Yeah. Okay. Um, and finally, how do the educators? So then I think for the educators, it's a combination of factors. So some about, some of it is about How the current qualifications will need to change, so there is content, so at the moment you don't cover X, you need to bring that in, so we did, um, say, one with the, uh, wind industry up in the northeast last year, um, dynamic floating cabling systems, actually what came in there was a load of issues around, um, Fouling of [00:22:00] cables.

[00:22:00] Okay. So the marine growth that builds up, et cetera, because it's a dynamic system that actually changes the way to the cable over time and other things like that, et cetera. So there's, there's new, new material there. There's also, then it's the way in which. If you take another example, just back to the point Steve made about cyber, so for example, you've got a set of knowledge and skills around cyber security at the moment, quantum computing comes along in the next few years, okay, the, the, the, the [00:22:30] detailed knowledge and skills a university, college, or whatever would be delivering may need to change because, The techniques, the tools, the methods that will be needed will change.

[00:22:43] The capability is the same, maintain a safe, cyber secure platform. The way in which you do that may need to change because now we're talking about quantum. So established tools and methods won't work. And therefore in order to understand that, what new knowledge and skills does someone [00:23:00] need? Maths, computing, physics, whatever it may be.

[00:23:03] So we can, so we can identify how. The qualifications themselves change, but also how the underlying knowledge and skills may need to adapt. What new material may need to come in. And also it's, it's, it's, it's, it's the other thing here, it's the same across a lot of them. What are the things we've got to stop doing?

[00:23:21] Because you can't keep fitting a core into a pipe pot, be a person, a workforce, a program or whatever. So at some point there are things we're going to have to stop [00:23:30] doing as well as pick up new things. So we can also look at the impact. We'll give you some insight about these things in time are going to become less critical, less needed, redundant.

[00:23:40] Brilliant. So it's such valuable insight, um, sort of shaping curriculum, you know, that's based on, you know, facts and, and, you know, And again, with the, the, Whilst we produce overview reports at the end of the process, the ambition is that the dataset will be publicly available, so of course as a [00:24:00] program leader or someone, if I want to go and dig into the detail, I can then interrogate the data.

[00:24:05] And that's again why we're looking for participants to come and work with us, because this is all very new, and we need people to take it for a test drive and break it, and through that we understand how to make it better and more effective. As john said, it's a developmental project. Um, and the more data we acquire, um, we can, we can, we can see the usefulness of it.

[00:24:27] Um, and we'd like to, [00:24:30] uh, we'd like to think we can, we can, as john said, make the data cube. More accessible. So not only if you're involved in the cycle, but even if you're outside of a given workforce foresight in cycle, if you're a technologist, you can access the data cube and for, you know, a given a given challenge that has relatable technologies, you can see the capabilities that have been associated with that challenge and that technology and the and the different supply chain [00:25:00] partners involved with that.

[00:25:01] So that gives you great insight. Um, and you may be accessing the cube as a, as a, as a employer. Okay, I'm looking at adopting a new technology. You know, we can query the cube, cube, and you can then see, ah, they're the capabilities I need to be start, I need to start considering if I'm moving into that, that realm.

[00:25:22] So I think we're looking to try and develop these organizational profiles in, you know, in relating, in relation to [00:25:30] capabilities. Okay. So, um, There's not a lot of it out there, is there, John? No, no, no. From what we've looked. And I think it's that, as the dataset grows Uh, because every time we run a cycle, we add more insight, more information in, it's then how do we start begin to looking at some, you know, some big data type, how do they, what are the meta trends?

[00:25:50] What are the common things? So where people have used this capability, this other set of capabilities have also been linked to, to, to that, that you may want to think about, et cetera. [00:26:00] And then from an educator point of view or a train provision point of view, but there's, there's one thing around. Provide an insight regarding what.

[00:26:09] Standards need to change or what qualification needs to change, but also, um, the, the data provides great insight to understand what sort of short course provision we need to develop, you know, those tactical short courses that that, you know, industry can pick up straight away, the relatively straightforward to develop, um, [00:26:30] yeah, you're going to get insight into those, which, uh, which can be very useful.

[00:26:33] Yeah. And that goes back to the whole point of the skills value chain, that it's about a framework to bring those parties together. So we produce the insight, then you identify changes to programs, you produce training, short, short term training material. Some of that training material, of course, might be aimed at your trainers.

[00:26:51] So you can then train the trainers and then, um, enable the broader, the broader development and adoption of that, um, technology. [00:27:00] Thank you. Okay. So, um, When do people need to act on this? Well, I think we see what we're trying to do is respond to the messages we're getting from industry, from business about we can't get enough workers.

[00:27:16] We, you know, we've done a number of different studies, cycles, projects across a range of different industries from food packaging to, um, uh, therapeutics to wind farms and all the rest of it. [00:27:30] Common message is we know we need to upskill our workforce. We know we need to expand our workforce and so forth.

[00:27:37] So we're trying to respond or we are responding to that message. Um, so I think it's, you know, it's good. Come and work with us, you know, your skills challenges, you know, the things that are keeping you awake at night, you know, the jobs you're struggling to fill, you know, the questions you'll be asked about the impact of this on our workforce, what we are, how will we have to change?

[00:27:57] Where do we invest? Is it equipment? Is it people machines? Where do [00:28:00] we build a new plant? Where do we put our facilities? Okay, we can't answer all of those, but we can give you some of the material and numbers you might want to use to enable you to run scenarios to look at different cost benefit analysis.

[00:28:11] Mm hmm. To make some assumptions and work it through. Okay, brilliant. So finally, how do people get involved? Phone Emily. Okay, yeah, so if people do want to get involved in this process, and sort of there's a wide remit of people to get involved, [00:28:30] um, it's really visit the website in the first instance. Reach out to us via the website, contact, emails, telephone number.

[00:28:36] But yeah, just principally get on the web, find us, and drop us an email, contact email there, and just start to get involved. Thank you for listening to the Workforce Foresighting Hub podcast. If you would like more information, please look at the podcast show notes, or visit our website and follow us on LinkedIn.

[00:28:56] Thank you very [00:29:00] much.