# Using AI to innovate across an interconnected economy in the UAE | Cloud Cultures by Microsoft Azure YouTube Transcript

[00:00] (wind blowing) [Corey] Ambition.

[00:04] (bright music) It's what fuels us, makes us dream bigger, build taller, and refuse to take no for an answer.

[00:14] But ambition only gets you so far.

[00:16] To truly create something remarkable, collaboration is key.

[00:21] And here, along the sand-filled Arabian Peninsula, it takes diverse perspectives to raise a city from the ground up.

[00:32] Once home to nomads and tradesmen, the United Arab Emirates now serves as a melting pot for bold, technological, and cultural achievements, leveraging an interconnected economy to achieve the unthinkable.

[00:46] This is the United Arab Emirates.

[00:49] Here, we'll discover firsthand how technology and tradition combine to form Cloud Cultures.

[01:03] (bright music) At first glance, Dubai looks like it could be out of a "Jetsons" episode: futuristic, awe inspiring, and as bold as the summer sun is hot.

[01:14] But if you went back in time, you would find a crossroads.

[01:18] A hub of trade and exchange that attracted people from all over the world.

[01:23] Now, this metropolitan oasis and the six other Emirates that make up the UAE, serve as an epicenter for sharing ideas, innovations, and emerging technology.

[01:35] And with a majority of the population coming from other places, it's clear the world is taking notice of this Middle Eastern powerhouse.

[01:44] To help me get a better understanding of this, I'm meeting with my friend Sana Bagersh, who's invited me to a traditional market, or souk.

[01:53] (chuckling) I just hope they have air conditioning.

[01:55] Hey Sana, good to see you! - Corey, welcome to the UAE.

- Thank you.

[01:59] I don't think I brought enough shirts, though.

[02:00] It's so hot.

[02:01] You should have been here last month.

[02:03] Oh, well I'm thankful I wasn't.

[02:04] Shall we go walk around the market?

[02:05] - Let's do it.

- All right.

[02:06] (gentle music) The magic of this place is just, it brings people from different countries, you know, come and live here and be part of the fabric of the society here.

[02:16] In my case, I am Yemeni Hadrami.

I was born in Ethiopia.

[02:21] My family are all Emirati, and I'm an American.

[02:24] Came here in 1985, I was a journalist, and I had an amazing experience covering stories, meeting people like Nelson Mandela and Princess Diana.

[02:34] So, I feel like my soul is ingrained in this country, to be honest, you know?

- Wow, I love that.

[02:40] I mean, your experience in journalism and marketing, it should make this co-host experience a walk in the park, or, maybe I should say, a walk in the desert.

[02:48] Ooh! (both laugh) Let's see a little bit more of the market.

[02:52] Sure, yeah, let's walk.

[02:57] Wow, that's beautiful.

Beautiful night.

[03:00] - [Sana] It is.

- Yeah.

[03:01] Speaking of going through the desert, I am making a trip through one to go visit Carlo from Emirates Global Aluminum.

[03:08] They're a world leader in premium aluminum manufacturing.

[03:11] - Incredible.

- [Corey] Yeah.

[03:12] And who are you meeting with?

[03:13] I'm going to be meeting Sky from Pure Harvest, and I'm very excited because of all the hydroponic technology that they use, it's just incredible, so I'm really excited about that.

[03:26] I'm really excited to hear about that.

[03:27] I'm also going to meet with Talal from G42.

[03:29] They have set up an AI hub here in UAE that's both for the country, but also for the world.

[03:34] - It's great.

- Very cool.

[03:35] But you know, one thing, Corey, before you leave, you need to experience Arabian hospitality.

[03:43] Dinner, lunch, something in the desert, and you just experience the food, the energy, and the whole ethos.

- You had me at dinner.

[03:52] - So, I'll be there.

- Let's do it.

[03:55] All right, sounds good! (laughs) (upbeat music) While Sana is headed off to the middle of the desert, I'm trading the energetic atmosphere of the bustling city for someplace a bit more industrial.

[04:08] Just outside of Dubai sits the first facility built by Emirates Global Aluminum, where I'm meeting with their Chief Digital Officer, Carlo Nizam.

[04:18] - Welcome, Corey, to the UAE- - Yeah, good to see you.

[04:20] And welcome to Emirates Global Aluminium.

[04:21] Aluminum.

So I've been saying aluminum.

[04:24] Have I been saying it wrong?

[04:25] You have, unfortunately.

[04:26] (Corey laughs) But don't worry, no one's perfect.

[04:28] [Corey] Thank you, I'm definitely not.

[04:29] Do you want to have a look at the plant?

[04:30] It's a giant facility, huh?

[04:31] [Carlo] We've got a "Honey, I Shrunk the Kids" model over here that helps put things into perspective.

[04:36] [Corey] Wow, look at this.

[04:37] So we were founded in 1975, and we started off as a regional smelter with a capacity of about 135,000 tons.

[04:47] Today, we're a vertically integrated giant with a capacity of 2 point 75 million tons.

[04:52] [Corey] Whoa, that's quite a jump.

[04:54] Do you want to have a look at some of the stuff?

[04:55] [Corey] I would love to see a little bit more, yeah.

[04:57] Well, we've got to put on our safety gear, and from what I hear, we need special safety gear for you.

[05:01] Special training for me, that is true.

[05:02] All right, let's go.

[05:05] - You ready, Corey?

- I think so.

[05:07] Yeah, it looks good on you.

[05:07] Yeah, safety never looked so good.

[05:10] (upbeat music) So welcome to pump line seven.

[05:14] This is where we convert alumina into aluminium in these reduction cells.

[05:20] This makes a lot of soda cans, huh?

[05:22] It's a little bit more than soda cans.

[05:24] We're the largest premium aluminium producer, meaning that we make aluminium to customer specifications, like for automotive or aerospace.

[05:34] Outside of oil and gas, we're the largest exporter in the UAE.

[05:37] Oh my goodness, wow, so a big impact.

[05:40] How did this metal become so ubiquitous?

[05:42] [Carlo] When you think about it, aluminium is a really important metal in the route to sustainability.

[05:48] It's strong.

It's light.

[05:50] But the most amazing thing is that it can be infinitely recyclable.

[05:55] - [Corey] Wow.

- Let's go this way.

[05:59] So, Corey, we're currently in the cast house, and what you can see over here are some of our billets that are getting ready to be shipped.

[06:06] With all this material coming in and then shipping out, what role does the cloud play in helping you deliver on all that?

[06:13] The cloud is really important.

[06:14] Our digital transformation started in 2021, and we're taking a dual-track approach.

[06:20] One of our tracks is about delivering digital use cases every quarter to build results and momentum.

[06:28] And the second track is about putting in place structural foundations to help us scale digital, so things like digital roadmaps for each business area, people upskilling, so they can figure out how to use these new capabilities, the agile operating model to work in a digital way, and, of course, the tech stacks, and that's where hybrid cloud comes in.

[06:50] With all of that and the AI revolution being here, in what ways are you already using AI, and what possibilities do you see for AI?

[06:58] So much.

[06:59] Today, we're using a combination of generative AI and narrow AI.

[07:04] So, generative AI we use in our corporate functions predominantly, but we're also using it in special areas for safety, which is something very unique for us.

[07:14] Narrow AI we use in our industrial areas.

[07:17] So for example, when we make our anodes, we've discovered that the pattern of the anode can be used to predict the quality of the anode, which can then influence the quality of the aluminium.

[07:31] And before, we used to have humans who would inspect, manually, 2% of these anodes.

[07:38] Now, we have cameras that inspect 100% of them all the time.

[07:43] - [Corey] That's unbelievable.

- It's pretty hot out here.

[07:46] Let's head back to the office and cool off.

[07:47] All right.

[07:53] (upbeat music) [Carlo] So great tour, great visit, right?

[07:55] Yeah, thank you so much.

What a great tour, absolutely.

[07:56] I hope you enjoyed it.

[07:57] Absolutely.

Now, you mentioned sustainability.

[08:01] What's next for sustainability for you?

[08:03] Well, I think I may have mentioned that we are the first company to have made, commercially that is, aluminium that's powered by the sun, what we call CelestiAL.

[08:12] And all of our computing is powered by renewables, so technically speaking, our AI is green.

[08:18] You're 100% green on the AI.

[08:19] - Exactly.

- I love it.

[08:20] Well, let's get changed and go.

[08:22] - Let's do that.

- [Corey] Thank you so much.

[08:24] (upbeat music) As the world pushes to decarbonization and energy efficiency, Emirates Global Aluminium is role modeling how an energy-intensive industry can become more sustainable utilizing both human ingenuity and modern cloud technologies.

[08:39] Meanwhile, Sana is arriving at a unique type of desert oasis.

[08:43] No, that's not a mirage.

[08:45] It's an advanced hydroponic growing facility.

[08:48] Here she's meeting with Pure Harvest's CEO, Sky Kurtz, to learn more about how they built a farm in a place where conditions make traditional farming nearly impossible.

[08:58] Sky, thank you so much for inviting us to the farm.

[09:01] Of course.

[09:02] (gentle music) This is actually, honestly, I would never have imagined something like this, you know?

[09:07] Thank you.

[09:07] Tell me about that first investor meeting you had.

[09:10] Well, believe it or not, my first pitch was to my wife's father, trying to convince him how I was going to leave this promising Silicon Valley investment career to go build tomatoes in the desert.

[09:21] And, admittedly, he thought I was crazy.

[09:23] And that carried on to my early investor meetings where I had to convince people that we could use technology to overcome this incredible climate.

[09:30] A lot of people had a lot of doubts whether it could be sustainable, whether it could be economic, and ultimately, we've of course proved them wrong.

[09:37] But it was a tough sell early on.

[09:40] It was a big challenge, But it worked.

This is amazing, absolutely amazing.

[09:43] Why don't I take you inside, and we see how we actually farm this.

[09:45] I'd love that.

[09:48] So this is one of our tomato greenhouses, as you see.

[09:50] We grow small-format tomatoes here, the snackable and small ones, and then larger format tomatoes in the farther end of the greenhouse.

[09:58] So why, why hydroponic farm?

[10:02] I was actually a consumer living in Dubai, and I went to a grocery store and bought a ton of fresh produce, trying to cook a fancy dinner, trying to impress my girlfriend at the time, who's now my wife.

[10:13] And ultimately, the prices were shocking.

[10:16] I thought there had to be a better way to use technology to make it possible to farm here instead of importing everything at incredibly high cost and a huge environmental footprint and impact, and that's what birthed the idea of Pure Harvest.

[10:29] So, what kind of technology did you use to make this come alive?

[10:34] We call it technology-enabled agribusiness, or IoT-enabled ag, so really, it's sensor software control systems.

[10:41] Everything we do is tech enabled.

[10:42] The climate management system and the building itself is controlled with sensors that capture data.

[10:48] So we have monitoring and control systems that's all in the cloud and capturing that data.

[10:54] We also are now developing AI/ML applications that empower our farmers and do things like yield forecasting.

[11:00] So really, we're utilizing the cutting edge of AI, ML, and IoT solutions to make possible farming in really difficult places.

[11:12] So, why the UAE, specifically?

[11:16] It was the perfect proof of concept, the perfect microcosm of the greatest challenges climate change will bring the world.

[11:23] Of also an extremely diverse consumer base, so, identifying consumers' want of this produce across different demographics.

And then also, producing.

[11:32] If you could harness the sun here and produce in this really challenging environment, you could do it anywhere.

[11:37] [Sana] Thank you, Sky, for showing me the future of farming.

[11:40] This has been an amazing journey for me.

[11:42] (upbeat music) [Corey] It's pretty incredible how Pure Harvest has managed to harness technology to build and scale their operation, enabling them to share their vision, and, most importantly, produce within the UAE and with other Middle Eastern neighbors.

[11:58] Of course, not everything is shareable, whether it's because of security, privacy, or availability issues, some data is simply harder to access, which can limit the potential impact of the AI revolution.

[12:11] I'm here in Abu Dhabi, the capital of the UAE, to meet with Talal Al Kaissi and find out how his company, an AI powerhouse called G42, is tackling this issue for the benefit of all.

[12:23] Well, welcome.

[12:24] I thought it would be quite fitting to do this at the Mohamed Bin Zayed University of Artificial Intelligence, that's the, obviously, first post-grad university of AI globally.

[12:32] [Corey] Very impressive.

[12:33] Can I ask you the origin of G42, your name?

[12:37] The 42 actually comes from the science fiction novel, "The Hitchhiker's Guide to the Galaxy," and it's the answer to life, the universe, and everything.

[12:44] And everything, yes.

[12:45] (laughs) And so, that's where we draw our inspiration.

[12:46] We feel strongly that AI augments human ingenuity in between the innermost space where you have molecular biology, to the outermost space when you're looking at things in light years.

[12:57] Why don't I show you a little example of some of the stuff we're doing?

[12:59] I would love that.

[13:00] Yeah, let's take a look, all right.

[13:01] (bright music) So where are we?

[13:03] So we're in the M42 Biogenix Centre of Excellence for Multi-Omics, where we run the Emirati Genome Program, where we're doing genomic sequencing for 1 point 2 million Emiratis and trying to help improve medical outcomes.

[13:16] That's one of the examples of the companies within the G42 family.

- [Corey] Very cool.

[13:21] Shall we head upstairs?

[13:22] I'd love to, I'll follow you.

[13:26] So Talal, AI, it's kind of a catchphrase.

[13:30] Everyone's talking about it.

[13:32] What makes what you're doing with AI different?

[13:34] I think one thing that distinguishes what G42 is doing is the fact that we are taking a significant portion of the value chain and what we address, everything from the datacenter aspect, all the way to applications and delivering value when it comes to the solutions that we provide to help with digital transformation and everything in between.

[13:52] And when you think about the services that you're offering, you enable this across many different industries to offer value that's unique per industry.

[13:59] The most important element in what we do with respect to enablement is around data sovereignty and data residencies.

[14:06] We really try to enable the public sector and regulated industries to be able to comfortably run their workloads without having any concerns that would've led them to deploying things on-prem.

[14:16] So, while in some countries, it might be top secret or secret, we are able to run things in our genomics program that would allow us to extract the value from that data set by inviting others in a kind of trusted compute environment.

[14:32] We try to enable the functionality without the trade-offs that are traditionally and inherently there in a private cloud deployment and add the AI layer and the compute infrastructure to service it.

[14:42] That's awesome.

[14:43] What responsibility do you feel for the impact to the Middle East and then even to the entire world with some of the work you're doing here?

[14:50] Yeah, it is an important consideration for a company like ours to start thinking about how we could bring some of the value that we're trying to contribute, not just to the UAE or to the sector of AI and technology, but really, to the global community and help induce the same types of medical outcomes and energy transformation and everything else we're using here.

[15:13] And the model we built, at least on our level at G42, in terms of transformation of public sector and regulated industries, is something that's easily exportable and replicable.

[15:23] And I think that's where the value lies in terms of the joint proposition.

[15:27] And then can take it out to the world.

[15:28] - Exactly.

- Yeah.

[15:29] When you look to the future, what do you see?

[15:32] I would love to see a world where if you fast forward, we've had a pivotal role in the global community improving outcomes in the variety of different areas that we are participating.

[15:42] So if you think of cancer research, for instance, and in the space sector, where I came from, I'd love to see us be part of how we extend beyond Earth's orbit and into space and trying to harness energy in different parts of the solar system.

[15:58] It's nice to read things like "The Hitchhiker's Guide to the Galaxy" and get inspired by what from science fiction you can turn into science fact.

[16:06] So truly answering questions both here on land but also up in space.

[16:11] And more importantly, asking the right question.

[16:12] That's right, 'cause we know the answer already.

[16:14] - Exactly.

- It's 42.

[16:15] - That's it.

[16:16] (Corey laughs) (birds chirping) [Corey] From healthcare to space exploration and everything between, G42 is constantly re-imagining how technology can improve outcomes and pushing the boundaries of what's possible with AI for the good of the globe.

[16:30] (gentle music) To round out my time here in the UAE, Sana and I are taking a break from technology and headed someplace where signals don't reach, but hospitality certainly does.

[16:44] - Hey, Sana.

- Oh, hi.

No, no shoes.

[16:47] Okay, I'll take them off.

Thanks for telling me.

[16:50] Welcome to the desert.

[16:52] Oh, thank you for having me.

[16:53] - Great to see you again.

- Good to see you again.

[16:55] So let me serve you some coffee.

[16:58] Oh, thank you.

[17:00] What a beautiful way to end such a wonderful trip.

Wow.

[17:03] Representative of Emirati hospitality, just the sitting together like this, the sharing.

[17:09] It's really lovely, thank you so much.

[17:11] Speaking of that hospitality, I had a great visit with Carlo at EGA, and he took me around the plant and showed me how they create aluminium, as he told me to say properly, and how they're delivering that both to the world as a major export, but also to support the locals.

[17:29] Same with me, with the Pure Harvest.

[17:31] I was just inspired by the technology and how they use AI and cloud technologies to transform food tech or agritech, as they call it.

[17:43] And for the UAE, it's very important, the whole food sustenance and security is so important.

[17:49] So what they're doing is just remarkable.

[17:52] And then I had an awesome conversation with Talal from G42, and he explained to me about what G42 does and the focus on AI, and it's just so fascinating, the creation of an AI hub here in UAE supporting the world, but of course, bringing together all these different ideas here locally into the country.

[18:11] Yeah, I mean, when you think about it, the UAE is at the crossroads of three continents.

[18:17] Strategically, it's just positioned for innovation and for growth.

[18:22] I feel it is ingrained in the Emirati identity to preserve the culture.

[18:28] As they move forward, they're still reminding their young, the next generation of what brought them here.

[18:35] And you can see it, you see the innovation, you see the change, but at the same time, you see those anchors, and I think those will remain there, hopefully forever.

[18:47] [Corey] Here in the UAE, I've come to find there is a culture of optimism, a belief in opportunity, and above all, a dedication to international cooperation in the name of immense technological achievements.

[19:01] Through a long-standing tradition of trade, the United Arab Emirates has perfected the art of innovation, ushering in exciting new possibilities through the exchange of ideas that are sure to change the world.

[19:13] For now, I'm taking these lessons home and looking forward to more adventures in innovation, wherever they may be.