OMAR: Hello, my name is Omar Abbosh and I'm the president of industry solutions at Microsoft.

WILL.I.AM: And I am Will.i.am, entrepreneur, philanthropist, musician and producer and my mother's son. And this is Changemakers!

OMAR: There are a lot of people around the world driving change that impacts society. In this series, we'll share stories of transformation directly from the leaders themselves who made the change. We'll talk about their obstacles, their triumphs, their learnings and how technology has accelerated their mission. Hey, Will, have you ever bought a diamond?

WILL.I.AM: Not for me. I'm not like a materialistic kind of person so.. but I bought diamonds for like my mom and my grandma in the past.

OMAR: What if their diamonds were like embedded in super cool jackets and stuff? Would you buy it?

WILL.I.AM: No, definitely not. I'm not going to wear a jacket where diamonds are going to fly off. I'm a little too, uh, cautious of like very expensive, valuable things sitting on top of something that's disposable.

OMAR: Sitting on top of you, and we don't, we don't want that.
So, but when you bought the ones for your mom and your grandma, what did you know about them? Did you know where they were from? Did you trust them? Like you knew they were good diamonds?

**WILL.I.AM:** No, I - There's so much unknown when it comes to diamonds. Especially when you learn about the horrific things that were going on in certain parts of the world, in Africa, and, just blood diamonds and suffering on the other end of diamonds, uh, people's lives and communities just torn to pieces because of, you know, different types of colonization.

So there's a lot of unknowns when it comes to diamonds. So you trust the brand that you're buying the diamonds from - whatever that means.

**OMAR:** And as you said, like, actually even on the other end of the chain, you know, you have armies of young grooms going to shops without any clue about pallor or flaws or anything like that and sometimes they get tricked as well in terms of what they're buying. So I mean, if I told you, - Hey Will, there is a way in which you can document and make available to any person, each step of a diamond's journey so they know exactly what they're getting, where it came from all the way through to the store. What would you think about it?

**WILL.I.AM:** I would believe it, you know, with things like blockchain and the cloud, you know? Yeah. That, that sounds like right now.

**OMAR:** And it sounds like we're on the same wavelength here, Will. Probably there are many industries that are more ripe for transformation than the luxury diamond industry. We've got centuries of well-documented abuses from colonization, mine worker oppression, all the environmental issues that come with mining, right down to the customer deception with product authenticity. So yeah, it's time for disruption. A couple of years ago, 2020, a small startup called HB Antwerp was founded to make diamond trading more human and more equitable, ethical, sustainable, and more transparent and more truthful. We're so pleased to be joined today by Rafael Papismedov, co-founder of HB Antwerp. Rafael - Welcome to Changemakers.
**WILL.I.AM:** What’s up Rafael?

**Rafael:** Thank you. Pleasure to meet you guys.

**WILL.I.AM:** I have a question. I remember when I first bought a diamond necklace for my grandma or a diamond bracelet for my mom. and I remember the feeling that I had, it was a proud feeling. At the same time it was - where did this come from feeling? Because at that point in time, in the early two thousands, you heard about the horrific things that were happening in Sub-Saharan Africa.

How does, um, you know, the work that you guys are doing, give you trust in your purchase for precious items for people that you love.

**Rafael:** Well, it's a great question to start with because obviously it's a mixed feeling when you buy a diamond. In one way, it's a celebration. Usually a diamond is symbolizing a celebration - celebration of love, celebration of happy moments, or even a celebration that we see more and more today, females buying diamonds for themselves as a way of immersing themselves after having a great bonus, having a great month, a year or a day, but at the same time, the question that you ask yourself when you bought it about the impact of this diamond is a question, unfortunately, that until recently not enough people were asking themselves and because not enough people were asking it, the industry was not really motivated to give this information because the industry was flourishing for decades and centuries. So, but then came the challenge of the lab grown diamonds that kind of pushed us, or pushed this industry into a corner where they had to come and start giving this information. So definitely, we're living in a world that nobody takes ‘maybe’ as an answer, nobody takes ‘trust me' as an answer anymore. Everybody wants facts. There is no more argument. Today, you can google everything, you can search it on the internet and immediately find an answer for any debate or any question. So this is a great thing, and that's why HB Antwerp jumped in because we felt the narrative needs to be changed because it's a beautiful story. It is a beautiful story. I mean, for every negative story you will give me about diamonds that you heard about or you saw somewhere, I will give you tons of beautiful stories about how beautiful is this product. But that story has never been told because this industry was spoiled. It was spoiled, it was too easy to make money.
There was not enough motivation to change it. Yes, we jumped into this industry two years ago as Omar said and we are extremely excited to change it and to completely transform it.

**OMAR:** Rafael, tell us a bit more actually about why you jumped in, the background and how you're different from the rest of the players in the industry.

**Rafael:** HB's mission is to empower Africa, HB's mission is to disrupt an industry. It is a beautiful industry, but it has been forgotten somewhere in the previous century. And HB’s mission is to create a one of a kind experience to the consumer that is buying the diamond in order to be immersed into the positive impact this product is having on the mining communities.

So in HB, we took on ourselves to completely change the narrative, to create a quantum shift and to try to completely digitalize and modernize an industry that's flourished for years and years by mystery. We truly believe that technology is the biggest enabler to any revolution, but before you start using the technologies, there should be a narrative. And the narrative was, how do you create a win-win situation that allows you to bring the real information into those technologies? Because before we jumped in what was happening that the only way as a midstream you could buy a diamond was either competing in a tender that the miners were organizing every month or having a long-term supply contract with one of the large miners. But then when you buy a rough diamond, you basically speculate and when you speculate, there is a winner and there is a loser, but there is never a win-win situation. But then we said, why there should be a winner and a loser. So, we approached a miner and we approached the nation and we told them, let's remove speculation, give us the diamonds. We invested tens of millions in building an ecosystem that gives you scientific results. Let us price these diamonds for you, pay it to you, process it completely, sell it to the biggest brands in the world, and then share the difference between what we estimated at the beginning and whatever we achieved as a result, let us pay you back the difference while we always have a fixed fee. So, for the first time we created a mechanism that allowed a true input into the blockchains and into the ledgers of this world, because there was no longer conflict of interest about information.
Now, the technology part is so important because what the technology of Microsoft and of HB that's developing now together is enabling us, it's to collect moments of truth. Every moment is documented and inserted into the Microsoft ledger.

So what we are doing, we are creating a huge lake of data that has contributors and each human or each machine in HB that is contributing to the data lake is being registered on the ledger. And then we can come to the consumer or to our partner retailers and provide them the whole process documented, validated, verified. And this is the most unique thing that we are doing because we don't use third parties, we took ownership of the process from A to Z, because we said once the stone is leaving our hands, we can no longer take responsibility for it. So, we are keeping it in the ecosystem. It took a lot of suffering and pain, but we managed to establish it. And that's why we are so lucky to have partners like Microsoft joining us.

**WILL.I.AM:** When you say you went to the miners and you go to the nations, like, can you give some more context on how do you go to a nation?

**Rafael:** Absolutely. So we were dreaming about this project for five years and then finally started to execute it in 2020. So during those five years, we said, what is the best story for the origin, for the provenance, for the lineage of a diamond. And we have a passion for Africa. And we said, first of all, we wanted to be an African diamond, not a Russian, not a Canadian to start it. And then we said, what can give the best antidote for all the negative stories that are linking diamonds in Africa? And our results showed that Botswana was the most amazing nation that no other nation is as dependent on diamonds as Botswana, where almost 40% of the GDP of Botswana is coming from diamonds.

But at the same time, this is the most peaceful, prosperous, democratic successful nation in Africa. So we said, hey, there is a winning ticket here; there is a story here to show how diamonds can have the best impact in Africa. And then we wanted to identify a miner in Botswana. So we found this amazing Canadian miner - Lucara diamonds that is mining a small mine in Africa, small mine in Botswana, but with the most amazing output.
and they were also disruptors themselves to the industry. So, we teamed up with them, we closed this partnership. We went with this partnership to the government of Botswana. We told them guys, we're going to think out of the box, we're going to change everything. And the president looked at us and he gave us a smile and he said, I have a transformation agenda.

I need to make sure that the future generations will not be depending only on diamonds. If you give me this ecosystem, you guys go ahead. And we started since then a partnership of two years, and we are just looking to grow and grow this partnership and then to mimic it and to copy it to other nations in Africa.

So here we have a success story that is not just talking, it’s proved itself to, to change an industry by starting at the best nation with the best miner. So it was much easier to start with the weaker nation and the weaker miner, because then the impact would have been like an easy walk, but we said, let's take the best and make it even better.

**WILL.I.AM:** And so when you say a Canadian miner in Botswana, what does that mean?

**Rafael:** That’s a great question because you know, the Canadians have a great experience in mining and they have this experience in mining in difficult locations - it's usually in the North where it's icy and it's not accessible. So, a lot of the mining companies in Africa, in all the minerals are foreign companies. Very often there is a quite good joint venture with the government, but it's usually foreign companies bringing foreign investments, bringing foreign technologies and trying to make something better than the others.

So this small Canadian miner, the mine in Botswana is the only asset - they brought the most advanced technology. So basically they took a mine that was owned by the world's largest miner by De Beers that was abandoned because they thought there is not enough output, it's not economical. And by bringing disruptive technologies and using new scanning technology that turned it into a goldmine that is yielding today $200 million a year and made it very profitable. It made it
basically the most desired mine in the world because of the unique output it has in large and beautiful gems.

**WILL.I.AM:** What about the people that live in the vicinity of the mine? Are they getting a minor piece of the proceeds or are their lives enriched by this product that's bought by the rich?

**Rafael:** So this mine, this specific mine had a huge impact on the region because first of all, it has eight employees, almost 2000 people and then 95% of them are local employees and even the managing director, she's a Muslim Botswanian female, and she's the first female ever to manage a mining operation in Africa. So, and the CEO of the company is a lady, the CFO... So it's really a female empowerment company. And then the villages around are enjoying it because A. they’re getting a job that is really fairly paid job. Second of all, there is a lot of philanthropic activity of the miner to create agriculture projects, to invest in schools, to invest in schools centers and then the beauty of this miner, unlike other miners in Africa, there is no compound where the employees are in a gated community, or the employees are only, they have their own private schools and everything. Basically their philosophy was to integrate the employees and anybody that is part of the activity in the local community. So this empowers the community and doesn't create citizen A and citizen B. It just creates a whole community that is fully synergized.

**OMAR:** But you also said that, you know, the traditional diamond mining market people either bought long-term contracts, or they went to some kind of spot market. So those markets have people in them, they're traders, they operate in those markets probably for decades, they benefit from it. What you're proposing is essentially bypassing all of that. So how are you dealing with the vested interests? I mean, what sort of reaction have you got from the industry, the traditional industry here and how do they see the changes that you're bringing affecting them?

**Rafael:** Yeah. You know, in the beginning, when we started it, we have established our processing facility in Antwerp and in a market like the diamond market, when it's a race to the bottom, it's buy cheap, manufactured cheap and sell cheap because if you can not differentiate a product, you can only discount the product.
And that was the market. It was a market of discounts. And now after less than two years where we already sold more than $300 billion. Now when the government gets their proceedings, the 10% royalties, I mean, they're making a lot of money in different ways, but the direct tax on diamonds is 10% of the proceedings before that they used to get the proceedings from the rough diamonds.

When we came in with HB, we started to pay the miner the full amount, and this was paid from polished diamonds, sold to retailers. And for the first time the government started to get their royalties from polished diamond.

**Rafael:** This was about 45 to 60% increase in the royalties. So how we disrupt is that we are showing governments that using technology, is building much better results and building better results, there is no way that our government will look back and say, I would like to go to the old system.

Africans are very smart people and they look at the future in the eyes and they say every opportunity that I have to move forward, I have to grab it immediately because this notion that Africans have to be stuck in a status quo, it's something we cannot accept and the government can no longer accept. So what we did, we’re removing any attempt to corruption, we’re removing any attempt to mislead the governments by open platforms that we are doing together with Microsoft and other partners to share all the information. So not only we are paying more money, more important, we are sharing the data and data today, you must know better than me, Omar - data is the new king.

**WILL.I.AM:** The blockchain technology that you guys are using to give more transparency to diamond mining. Are they just for, for jewelry or are they also for tools?

**Rafael:** So what we are doing today in the current contract, we only take the diamonds that are for jewelry because we can process them and give better results. All the other diamonds, what we are calling the industrial diamonds are diamonds that we currently are not adding any value. So they are continuing the similar path that were doing in the past and they go to companies who are their expertise are to supply those diamonds to the industries that are using it like the car industry, the
medical industry, the space industry that are using those diamonds. So there, we
don't have any direct value, but we have developed now a technology to take those
industrial diamonds and to make very cool, I would say different looking, not
bling, bling jewelry out of it by cutting those diamonds in specific shapes and
creating zippers for bags, for luxury bags to create buttons for curating cufflinks.

So we are doing an amazing experience because we think that even there in the
industrial diamonds, we can add value in the future.

**WILL.I.AM:** How much does the diamond industry make a year?

**Rafael:** So if you take all the diamonds that are mined a year, we are about 14
billion a year - gem and industry quality that we are talking about. If you look at
that in the value chain, once it becomes polished diamonds, we are talking about 18
to 19 billion. And at the end product, the jewelry, diamond jewelry industry is
selling about 85 to $90 billion a year.

**WILL.I.AM:** And most of these diamonds, the precious ones, the ones that we
value the most come up from what region?

**Rafael:** I would say that it's divided between - it's mainly Africa. Now you have to
understand that Russia, Russia by volume is the largest miner in the world by
volume, but not by dollars. Botswana is the largest miner in the world by dollars.
And then you have the Canadians that have joined the game a couple of centuries
ago that are mining about $1.5 billion a year as well.

**WILL.I.AM:** And when it comes to the diamonds that are grown, how does that
affect the mining industry?

**Rafael:** This was a, it's a very good question, Will because first of all, my belief is
that this is a very legitimate industry, the lab grown diamonds. Second of all, I do
have an issue with this industry in the sense of - we are bringing it into a story,
which is not a hundred percent, right - speaking about a better environmental
product, we are speaking about more sustainable product. It's not true. Yeah, you
have to understand that the average age of a rough diamond is 2 to 3 billion years
old. So you're taking something that took to mother nature, 2 to 3 billion years applying huge pressure and you try to mimic it now into the modern time. So it's the amount of energy you're using and the amount of power you're applying to mimic this process is enormous. So the environmental story is already a bit wrong. Now let's talk human values and moral values. For me, this industry operating in the US, in China, in India and now some companies opening in Spain, we're taking a natural resource that is feeding millions of people in Africa, and we know already that they are struggling and we want to take also this away from them to the richer Western world and say, we can do it better. So I think on the moral ethical side, I have a lot of issues with that. We can not take away things that are feeding millions of people in Africa, just because we feel we can make more money ourselves in the Western world. So that's it. But for the rest, it's a legitimate business,

**WILL.I.AM:** I think, in the name of transparency, and that's what this theme is about, it's using technology to identify where something comes from. If you were a consumer and you had a lab grown diamond and a diamond from a mind. And you knew for certain that that diamond from my mind was not only providing jobs in Botswana, but you knew that Botswana owns the mines. So the future of diamonds and the future of mining, I hope it gets to a point where things that come from the land that you, uh, live on should be owned by the nation that, where that stuff's at. I think Africa has played a big role in providing minerals and objects and things of desire that's owned by other people and we know how those things came to be and why other folks own large parts of Africa's richness.

**Rafael:** Absolutely. I mean, too many people enjoyed chaos in Africa and too many people supported chaos in Africa because it was serving economical needs. And we, we always like to say that the decolonization of Africa did not end yet. It moves in a way from colonization of nations to colonizations of corporates. Now why we love Botswana is because the government of Botswana over the last decades was very smart and they understood their importance. And today they own 50% of the two largest mines. So in Botswana, there are three mines, two of them, the large ones are owned 50-50 by the government of Botswana and by De Beers.
And the government of Botswana is taking more and more control over those minds and more and more control about the destiny of this product. It's not perfect yet, but they're definitely going there. These fierces forces that are trying to go against it but I think the leadership is doing a great job and that this is where HB is coming because the future is now that HB promised the government of Botswana that, and we already leased the facilities that we're going to move our manufacturing and our processing plants to Botswana. This has been tried before, but never tried in the model that we are presenting of transparency of selling the product more expensive. So now, the future is that we're going to get more and more production from Botswana, and we're going to process everything over there. We just finished training 30 graduates of technological universities of Botswana. We had them for six months training them into entrepreneurship, into innovation, trying to immerse them into the process and they are now coming to Belgium to be trained by us and they're going to be the seed of our operation over there and we are bringing to Botswana robotics and automatization and everything and we're going to move it from cheap labor work into an educated R and D technology driven facilities that will say diamond should be processed at the origin, not only owned by the government, but also processed for the government at the origin. And there is no reason why the youth of Botswana will not be the ones also branding, marketing, selling, promoting this beautiful gift to mother nature.

This is fully theirs, and we believe that we, just like Microsoft is there to enable us with our technology, we are there to enable the government to, to, to create this process.

**WILL.I.AM:** And what about, um, blockchain skillsets - teaching the kids and preparing them for tomorrow.

**Rafael:** Absolutely. So, uh, in the six months that we trained those engineers, we train them also about blockchain, about Microsoft ledger. And we try to teach them about the advantages that any product gets, not only from the blockchain, but also from creating digital twins. We did NFTs and, you know what's always encouraging is to see how smart is this youth in Africa, how motivated they are about learning more because they feel that they are behind and the only way for them to be immersed into the process is to run faster than the others.
So the HB academy that we have created in Antwerp and now in Botswana is something really, that is mind-blowing. And it's very emotional. The government is very excited about it because this is what Africa needs. They need jobs, but jobs for educated people, no longer job for cheap labor, but job to immerse these youth into the real world economy.

[00:26:39] **WILL.I.AM:** The Western world, the affluent, go to the region for cheap labor. But the moment that, uh, folks in the community are learning blockchain technology, machine learning, AI, new industries will emerge. And it starts with what you guys have initiated and a salute to that. That's awesome.

**Rafael:** Thank you so much, and we are creating now a business, which is a brand of HB, which is called Signum, which is a C2C business - community to community because we thought bringing the government and the miner to the retailer level. That's nice, but that's where it is stops. So with Signum, we're going to put a rough diamond in front of you and tell you Will, let's do it together. And the first thing that's going to happen when you're going to see a rough diamond, you're going to ask me Raph, where is it coming from? Because you see something from the nature - so it will pop more questions and then we want to create experience centers where the African youth will be involved in LA, in New York, around the world to sit there and to co-create with you this rough diamond together. So to create this bespoke customized experience that will remove all these questions. And the idea is we speak a lot about Botswana, but our passion is really all of Africa. But as I said, we chose to start with the best. So we can go to the neighboring nations, to the brothers and sisters of Botswana and tell them, you see what's happening there? If you apply the same governance, the same compliance and you help us to do it, this is coming your way. So for the first time, we create an incentive to take a commodity that the community wants and to create a better democracy, a better ecosystem, to clean up corruption in order to get a better value for this. And we can start with diamonds and then other companies can definitely copy us and do it for other raw materials in Africa.

**OMAR:** So a lot of what you're describing sounds like a social enterprise, but actually you're a for-profit company. So tell us a bit how you think about the balance between, you know, making money and building a more just and more
equitable industry, like how do you see those objectives and how to make them come together?

**Rafael:** We have a very simple methodology. In the B2B business, we are taking 15% of the final price that is sold. So it sounds little, but it's more than enough. We are making amazing money. We grew from 4 employees to 111 employees in less than a year. So the business is booming, we are doing great, we are doing great investments and it only shows that you can do ethical, fair, positive impact business and still make beautiful money.

**WILL.I.AM:** So what's next? What's the next 10 years look like for HB and what's the next 10 years look like for diamonds?

**Rafael:** We believe that the next 10 years will create an effect thanks to HB and Signum, of the diamond price increasing in value significantly every year, we believe that HB 10 years from now will be a very large organization with facilities in six or seven different African nations and with thousands of employees. We believe that we are going to completely create a quantum shift in this and shake the fundamentals that this industry was standing on for so many centuries and for the diamond, we believe that the diamond will become not only a product of celebration, but the diamond will also become a store of value. We believe we cracked now the formula through Signum to create the diamond into a collector's item, there's so many beauties coming out from mother nature that it should become a celebration of value and celebration of happiness for everybody involved in the process, from the mining community to the consumer community.

**OMAR:** It's a brilliant story, really honestly like that was such a great story and I love the way you thought so deeply about how to bring the whole economy and the whole country with you and help them build their future exactly the way Will was just saying. So you know, I mean really kudos to you and your team. I mean, it's an exceptional story, so thank you for being with us.

**WILL.I.AM:** Thank you so much, Rafael

**Rafael:** Thank you so much, thank you it was a pleasure.
OMAR: So Will, actually having listened to Rafael and what they're up to, which I mean is actually pretty bold and radical, you more or less hopeful that this giant industry, what did he say? 85-90 billion diamond industry can be changed?

WILL.I.AM: Yes, the diamond industry can be changed. I'm only going to compare it to what the mirror want to industry was 20 years ago and weed was illegal but now it's being reversed So if weed can change in less than 10 years, well, a legal product, like diamonds can change and in dramatic ways.

OMAR: I mean, I loved actually, several things that came out of that - the really deeply thoughtful approach to how to rethink the economics of the whole value chain to create the right incentives so that the government of Botswana wanted to be with them so that the people of the land in which their mining wanted to be with them, so that they reinvest it back in the economy and reinvested back in the people to create something that would outlast, you know, the short term mining process. So I think there was a lot of goodness in that, that we can learn from what, what do you think, what do you take away is the moral of the story, Will for other leaders when they think about their own supply chain transparency?

WILL.I.AM: Who would've thought that the solution to a lot of suffering and pain was transparency on a ledger. Now we live in a world where people want to know more about the things they consume. People are demanding more information about the things that they're investing in and the blockchain on the ledger - what a great way to look at solving a problem.

OMAR: Maybe that's a great place to wrap. I mean, because as you know, with Microsoft, our strategy is about democratization. And what you've just talked about, there is the democratization of information, democratization of skills and I mean, I can't personally think of something more powerful than using technology, using democratization with technology to terminate corruption, because corruption leeches at the soul of these countries, and and sucks away the opportunities from their kids. And as you said, if we can, you know, get that message out there and use our technology for good and make it harder for bad people to do bad things. Anyhow, Will, tt was great. Great session. Look forward to the next one.
WILL.I.AM: See you next time.