The Sub-Saharan Africa Advisory Committee convened in Room 1126, 811 Vermont Avenue, NW, Washington, DC, at 9:00 a.m., Daniel Runde, Chair, presiding.

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MATTHEW STEWART
PAUL SULLIVAN*
JOHN WORKS
ALSO PRESENT
JENNIFER BILLINGS, Global Agriculture Development Leader, Corteva Agriscience
ROSS BRANSON, Senior Vice President of Congressional and Intergovernmental Affairs, EXIM
ANNETTE MARESH, Vice President, Global Infrastructure Division, EXIM
FRANK MCCOSKER, Director and Founder, Global Good Net Works Ltd.
JUAN CARLOS NEGRETTE, Director, University of Utah Global Health
REZA NIKFARJAM, Business Development Officer, EXIM
AMY SHINKMAN, Vice President, Export Credit Insurance, EXIM

*Present via teleconference
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CHAIRMAN RUNDE: Okay, we're going to get started. I'm Dan Runde. I'm the chair of the EXIM Sub-Saharan Africa Advisory Committee.

This is a public meeting. We're here today to talk about how the Export-Import Bank of the United States could invest more in ICT, healthcare, and agriculture sectors, all sectors that the United States is competitive in, and to do so in Africa in ways that support U.S. jobs and boost the U.S. economy. That's going to be the reason for our meeting.

I've got a couple of housekeeping things before I turn the floor over. One is that the EXIM Bank annual conference is on April 2-3 here in Washington at the Omni Shoreham Hotel. The theme is Keeping America Strong: Empowering U.S. Businesses and Workers to Compete Globally. So I encourage all of you to come. I think it's going to be a great conference, especially since
the reauthorization of the EXIM Bank.

I would be remiss if I didn't just spend one minute congratulating Chair Reed and Director Pryor and Director Bachus on the enormously successful reauthorization of the EXIM Bank. Can we just have a round of applause for the leadership?

(Appplause.)

CHAIRMAN RUNDE: For too long it was not reauthorized and I think persistence, hard work, listening, and follow-through paid off. And so it couldn't have happened -- I couldn't think of other folks who could have achieved this.

I want to particularly recognize you, Chair Reed, because I think it's an enormous achievement.

CHAIRMAN REED: Thank you. Thank you.

CHAIRMAN RUNDE: Well, anyway, so I don't have many other comments. We've got a very
big agenda to cover today. I'm going to turn the floor over to Chair Reed.

CHAIRMAN REED: Thank you very much, Chair Runde. So, I want to again, on behalf of Directors Bachus and Pryor, thank you for being so prompt in your urging of Congress in your role to support our reauthorization.

The letter you did that went into our annual competitiveness report was front and center in a lot of our conversations on the Hill with our great leg team, and Ross Branson is here with us today.

But it would not have been possible without all of you. It was a team effort and I don't know if you saw in the press, but the President of the United States came out and said give us a $10 billion reauthorization -- I'm sorry, 10-year reauthorization. Typically our reauthorization is three, four, five years at a time. And he came out big, 10 years, and Congress came back with 7 years so it was the
longest reauthorization in our bank's now 86-year history.

So that was just very important for us to give certainty to all the countries of sub-Saharan Africa that they should be focused on buying made in USA instead of other goods and services from around the world because we make the best. And we want to help our workers in our country.

So Dan, thank you for your leadership. And I'd also like to thank all of whom are presenting today. Reza Nikfarjam, business development officer of EXIM, Frank McCosker, director and founder of Global Good Net Works, Ltd., Annette Maresh, EXIM vice president for global infrastructure, Juan Carlos Negrette, director of the University of Utah Global Health, Amy Shinkman, vice president at EXIM for export credit insurance, Jennifer Billings, global agriculture development leader of Corteva Agriscience.
Our topic today, as Dan mentioned, is how EXIM can invest more information and communications technology, healthcare, and agriculture sectors in Africa to help support U.S. jobs and boost the U.S. economy.

Sub-Saharan Africa engagement since this advisory committee meeting on October 21, 2019, we have done a preliminary commitment for a rural electrification project in Senegal which includes $86 million in financing.

An Illinois company selected for the project was selected for the project over a China-backed competition. And 500 U.S. jobs in 14 states will be made possible if we do a final commitment on this preliminary commitment project.

We met with the U.S. Ambassador to Kenya, Kyle McCarter. He is very focused on promoting U.S. investment in Kenya.

We had a meeting with Cote d'Ivoire's Ambassador to the United States. And also we
focused on EXIM's reauthorization in these discussions to compete directly with China around the world because we know that Africa is home to 6 of the 10 fastest growing economies in the world.

China is using debt trap diplomacy in many of these countries to further their Belt and Road Initiative. For example, Djibouti is home to the largest U.S. military base in Africa and stands at the entrance to the Red Sea.

At the end of 2019 Djibouti's debt to China was 71 percent of their GDP. And as part of their Belt and Road Initiative, China built a multipurpose cargo facility at Djibouti's Doraleh container terminal.

Djibouti handed out over a quarter of its stake in the terminal to China Merchant Support Holdings.

We in the United States offer a different path for African countries, one that promotes free, fair and reciprocal trade and
investment.

Today we are discussing three key industries, information and communications technology, healthcare, and agriculture.

EXIM's reauthorization directs us to establish a program on China and transformational exports.

And I don't know if you've taken a moment to read our reauthorization legislation. It's on our website if you look under About Us Charter and Bylaws we have a special placeholder. And if you go to I believe page 444 you will read the part on EXIM's reauthorization asking us to set up this very new program on China and transformational exports.

So essentially now of our $135 billion portfolio 20 percent of it must be focused on taking China head on around the world on China's terms. So we're very active in setting that up as we speak.

And there are call-outs for very
particular transformational exports. And part of those will be our discussion today. But of that 20 percent we need to be focused on artificial intelligence, biotechnology which I include coming from the world of agriculture, food biotechnology, biomedical sciences, emerging financial technologies, high-performance and quantum computing, renewable energy, semiconductor and semiconductor machinery manufacturing, water treatment and sanitation, and wireless communication or 5G.

We at EXIM are committed to supporting Prosper Africa, President Trump's whole of government approach to two-way trade and investment with Africa, as well as our special congressional mandate that you're here supporting focused on sub-Saharan Africa.

From May 9, 2019 when we were confirmed and sworn in to February 5, 2020 EXIM authorized 39 deals to sub-Saharan Africa totaling $5.025 billion.
And since 2009 EXIM has authorized nearly $12.4 billion in support of America's exports to sub-Saharan Africa.

In September, as you know, EXIM authorized the largest deal in EXIM's history, $5 billion to finance U.S. exports to Mozambique for development and construction of an integrated liquefied natural gas project supporting 16,400 jobs in the United States.

We look forward to working with all of you to continue the support and work at home and abroad.

And I want to give a special thank you to our wonderful person who is transcribing this program today. As part of our reform effort I like to have all of the transcripts of our public meetings posted on our website so that those unable to attend can see what we're discussing.

So I ask that we speak slowly, and if we're not speaking slowly enough for you for a great record, let us know. Thank you.
And with that I'd like to turn over our discussion back to Chairman Runde who will introduce our presenters.

CHAIRMAN RUNDE: Thanks very much, Chair Reed. I know that we're going to get a congressional update first from Ross Branson. So Ross, congratulations on quarterbacking this. I know you, along with Luke and Brittany and many other people had to do the heavy lift so congratulations. I'll turn the floor over to you.

MR. BRANSON: Thank you, Chairman Runde. I definitely want to underscore the thank yous to say thank you again to Chairman Reed, Board Members Pryor and Bachus as well as this committee. Thank you to everyone here who -- I know that you all were doing your work to help secure our reauthorization so thank you for everything that you all have done.

So now that we have our historic seven-year reauthorization, we are currently
working internally to implement our various provisions.

So what we have done is created several cross-cutting, cross-divisional working groups that will be assessing each of the new provisions that we've received, and looking at what are the potential needs in the way of resources, interagency interaction, stakeholder outreach such as folks like yourselves, what will be needed in order to implement these different provisions.

I think specifically what's worth calling out which has been certainly mentioned by Chairman Reed and others are the specific provisions that deal with how we should approach China.

And I think this was a clear direction from Congress that we should be competing with China globally, and that it further underscores the nexus between economic security and national security.
With that we're working through our implementation to try to make this as swift and efficient as possible. But right now we're still being thoughtful in how we're assessing the different provisions. And so that's really where we stand right now. And I'd turn it over to Chairman Runde and the committee on if you have any questions.

CHAIRMAN RUNDE: Well, count on us if you want to give us homework assignments for the SAAC as part of the follow-up on that. We stand ready to help you with that.

MR. BRANSON: Absolutely.

CHAIRMAN RUNDE: Okay, good. Okay. So we've got some new business. We published a letter, but we need to get it formally adopted. And the letter for the Sub-Saharan Africa Advisory Committee which was a lot of work and a lot of people did a lot of work to help us with that.

And it had a lot of input from the
SAAC. And then we also got a lot of helpful input from the EXIM Bank.

And it was specifically -- we've been tasked with sort of two big questions since May. And this one is -- we've got an answer for which is how the Export-Import Bank of the United States and other United States government agencies could work more closely together to achieve the vision of President Trump's Power Africa Initiative.

Chair Reed mentioned the Power -- excuse me, the Prosper Africa Initiative. And so we put together a proposed letter which I think has some very strong actionable, practical, non-crazy recommendations for how the EXIM Bank could work in a more joined up way with the U.S. government to achieve the vision of Prosper Africa which is -- we need to be doing more business in Africa. We need to see Africa as a business opportunity. So I'm really proud of the work that we did.
So, the reason I'm raising all this is I'm asking for -- there are several folks on the phone who are members of the SAAC. And then we have members of the SAAC here.

And what I need to do is I've asked for a motion to approve the letter and then a seconding of the motion. And then I'm going to ask for a roll call vote of those, all of those that are here and all of those that are on the phone so that we can get it formally approved.

So, can I ask for a motion from one of the members? Can I ask my friend Eji, would you make a motion?

MEMBER OKPA: I make a motion for the adoption of the letter.

CHAIRMAN RUNDE: Thank you. Second?

MEMBER GOEHRING: Second.

CHAIRMAN RUNDE: Excellent. Thank you. So I think given that we have a motion I'd like to have a roll call vote. Maybe let's start with the four people who are on the telephone.
If you could say your name and whether you vote in the affirmative or not, or vote aye or nay, please.

CHAIRMAN RUNDE: Florie?

MEMBER LISER: This is Florie calling in from Addis Ababa, Ethiopia. Sorry I couldn't be there with you, but definitely wanted to join you.

I certainly support this letter. I just wondered two quick things. One, there's a paragraph in the recommendations, the second paragraph, that was written before the reauthorization.

And I just wonder, since the letter hasn't been formally approved yet, whether we could change the language just a little bit to indicate that -- so for example, it says it is in the interest of the United States that EXIM be reauthorized.

And I thought maybe it should say EXIM's historic seven-year reauthorization was in
the interest of the United States.

It's a small change, but it would make it current rather than the way it was written before we got this critical reauthorization.

And then my only other second thing in the letter is in the first recommendation where it lists out all of the agencies I really think that USTR should be added there. They lead AGOA implementation, FTA negotiations and all of that and are one of the partners in Prosper Africa.

CHAIRMAN RUNDE: So Florie, it's wonderful to hear your voice. Thank you for calling in from Addis Ababa.

This was a little bit of a plumbing issue to get this letter published. And so what I would propose is I think we're going to be continuing to work on these issues. So this is more of a fix as opposed to -- I would suggest -- I hear what you're saying and it's all very reasonable.

But I would argue that for these
purposes I would ask that we not fiddle with the language given that we spent sort of like two hard months putting it together and this is more of a plumbing oversight that we're fixing. This is like an oversight fix as opposed to a language fix.

And so I hear you and I agree with you and it's all reasonable. But I would just gently suggest that this would not be the time to do that.

MEMBER LISER: Okay. I just thought that because we hadn't yet sent it forward that it would sound a little strange to talk about --

CHAIRMAN RUNDE: Yes.

(Simultaneous speaking)

MEMBER LISER: But that's fine. I hear you.

CHAIRMAN RUNDE: Okay.

MEMBER LISER: This is just saying it's a technical thing and we're going to send it forward written as it was before and just approve
it as is.

CHAIRMAN RUNDE: Yes. So do I get an aye or a nay from you, Florie?

MEMBER LISER: You have my aye.

CHAIRMAN RUNDE: Thank you. Others on the phone?


CHAIRMAN RUNDE: Thank you.

MEMBER O'BRIEN: Dan, it's Jim O'Brien, enthusiastically aye.

CHAIRMAN RUNDE: Wonderful.

MEMBER KAVIA: Kusum Kavia, aye.

CHAIRMAN RUNDE: Great. Okay. I think -- is there a commissioner on the line? Is Commissioner Goehring on the line?

MEMBER GOEHRING: I'm actually here present.

DIRECTOR PRYOR: Here's the commissioner right here.

CHAIRMAN RUNDE: Commissioner, good.
There you are. I just couldn't see your name tag. I'm glad you're here in person, in the flesh. Sir, aye, that's great. Thank you, sir. Okay. Thank you. Gary?

MEMBER BLUMENTHAL: Aye.

CHAIRMAN RUNDE: Okay. Matthew?

MEMBER KAVANAGH: Aye.

CHAIRMAN RUNDE: Great. This is going the right way. Okay.

MEMBER OKPA: Aye.

MEMBER WORKS: Aye.

MEMBER STEWART: Aye.

CHAIRMAN RUNDE: Yes, and aye for me. So I guess the ayes have it.

Let me just add an addendum or a note. Could I add an addendum or a note about dating in reference to the letter? I think Florie's point is very well taken. I think we need to date the letter and reference, have a little note that says this was finished before the authorization because I think Florie's point is really well
taken. And I really appreciate you flagging it, Florie. So we will make a fix to the letter at the bottom to put a date on the letter which we did not have. And we'll have a little note in squiggly italics that says this was done before the authorization. So thank you for flagging that. I think it's important.

But I think more importantly, Florie, is I think --

MEMBER LISER: Thank you, Dan. Thank you.

CHAIRMAN RUNDE: Yes. We as a SAAC need to continue to push forward and support the Prosper Africa agenda and seeing Africa as an opportunity.

And so I think we're going to have additional opportunities to do that. And so I appreciate you flagging that. So I think the ayes have it. Sir. Director Bachus?

DIRECTOR BACHUS: The date of this letter will be after reauthorization?
CHAIRMAN RUNDE: So, the date will be before reauthorization, because of the language, because of this point. Yes. Okay.

So that was the new business we needed to do. Thank you, SAAC. I really appreciate it. That's the only new business that we have.

I'm going to ask that we now move onto the ICT and EXIM presentation. We're going to have three separate presentations again around this question that Chair Reed and I have raised which is how the Export-Import Bank of the United States could invest more in ICT, healthcare, and agriculture sectors in Africa to help support U.S. jobs and boost the U.S. economy.

And so we're going to do this in sections by each of the sectors. And so we're going to have an EXIM speaker and we're going to have an outside speaker.

So the first sector is going to be on ICT. And so we have Reza Nikfarjam who is the business development officer at EXIM who's the
ICT person for EXIM. That's not exactly your formal title.

And then Frank McCosker who's the director and founder of Global Good Networks, Ltd. And we're going to be talking about ICT. So I really appreciate both of you.

I also want to again thank Brittany and Luke and the business teams for finding the right speakers for this. It's a lot of work to align everybody's schedules and ask people to come in from long distances to be with us. So I want to thank everybody. So I'm going to turn the floor over to Reza and Frank. Thank you.

MR. NIKFARJAM: Thank you, Chairman Runde, for that kind introduction. Good morning. Thank you all for being here. My name is Reza Nikfarjam. I'm the business development lead for technology sector within EXIM's Project Finance Division.

Sub-Saharan Africa hosts some of the fastest growing economies in the world, but much
of this potential remains untapped.

Support for information and communications technology, or ICT, infrastructure investments in sub-Saharan Africa could unlock region's potential by creating platforms that address some of the basic human needs, those that we in the developed world sometimes take for granted.

Many communities in the region lack reliable access to electricity, clean water, health services, education, or banking services.

Lacking these socioeconomic structures, however, means opportunities for communities in sub-Saharan Africa to start with a clean slate and build efficient, scalable, critical infrastructure run on ICT platforms.

With a large, young and entrepreneurial population, the region's demographics put it on the right track toward prosperity.

Provision of U.S. connectivity
solutions to this next generation of talent in Africa would not only create a positive socioeconomic and developmental impact, but also build a sustainable consumer base for American made goods and services.

U.S. economies are strong global leaders within the ICT sector and have demonstrated a successful track record in providing best in class telecom infrastructure solutions such as satellite systems, submarine cable systems and telecom network equipment.

EXIM is committed to working with these companies to expand their international presence, especially in sub-Saharan Africa.

EXIM's support for exports of U.S. ICT goods and services to sub-Saharan Africa dates back to 1968 when EXIM authorized a $4.25 million credit for the design and construction of the microwave telecom link in Cameroon. That transaction also marked EXIM's very first extension of credit to Cameroon.
Soon after, in 1970, EXIM issued a $4.6 million credit facility to support export of U.S. made satellite ground stations to Congo.

Other noteworthy EXIM financing include a roughly $30 million credit issued to support construction of Gabon's nationwide telecom and TV infrastructure, a credit facility to support exports of U.S. TV transmission equipment to Ghana, and another facility to help Malawi build its digital cellular phone infrastructure using U.S. made goods.

U.S. has also played a role in Africa's submarine cable industry. In the early 2000s, EXIM provided a roughly $28 million facility to construct Mauritius's portion of Africa-Asia undersea cable system which led to the development of Mauritius as a telecom hub and as an offshore banking center.

Over the past 20 years a major driving force behind sub-Saharan Africa's ICT market has been the explosive growth of the mobile telecom
sector.

EXIM has played a role in this segment as well. In mid-2000s EXIM provided a roughly $37 million financing support for exports of mobile communication technology to Nigeria, which brought telephone services to tens of thousands of Nigerians at a time when market penetration of telephone services had only been around 3.25 percent.

Unfortunately over the years EXIM Bank's engagement in sub-Saharan Africa's ICT market declined as U.S. companies began to lose market share to their European and Asian competitors during the 2000s and 2010s.

Some of the factors contributing to U.S. companies' loss of market share include the breakup and bankruptcy of some key U.S. telecom players in the 2000s, drop in U.S. telecom industries' R&D expenditure, absence of the targeted Africa market strategy, dominance of European GSM mobile technology which evolved into
leading global standard over U.S. based CDMA, and aggressive market-making tactics of some Asian telecom companies supported by their governments, policies and funding mechanisms.

More recently, however, U.S. ICT exporters have expressed renewed interest in the sub-Saharan Africa market. Here at EXIM we strive to be at the forefront of the next tech-enabled industrial revolution in sub-Saharan Africa to showcase the quality of American made products backed by our sustainable commercial financing.

We would like to continue to engage with U.S. industry players and advisors to better understand the role EXIM can play in facilitation of U.S. ICT exports to this region.

With that I would like to introduce Mr. Frank McCosker, founder and director of Global Good Network. Frank is an expert in developing innovative ways to make access to finance more affordable for the ICT ecosystem in
African countries.

He spent 20 years at Microsoft in various roles including as general manager of affordable access and smart financing in Microsoft's 4Afrika Initiative and also as global managing director responsible for Microsoft's engagement with multilateral organizations and international financial institutions.

I've had the pleasure of knowing Frank for a few years now and am grateful to him for joining us for this meeting today. As both the ICT sector and Africa subject matter expert Frank in his presentation will be addressing some of the opportunities and challenges in the region as EXIM looks ahead to expand its footprint and presence in the sub-Saharan Africa ICT market. I will now turn it over to him.

MR. MCCOSKER: Thank you, Reza. Thank you, Chair. Thanks for the invite. I'm a recovering Microsoftee so I need to do a presentation.
So I wanted to just set some context around Africa and the investment climate, and the ICT climate. A couple of slides just around things that are going on in Africa that we see. And then some investment opportunities that EXIM and the sub-Saharan Committee might look at.

So, this notion of Africa rising, just some more kind of specific context. Ten of the fastest growing cities in the world are in Africa right now.

The rapid -- the youth. There's 1.3 billion population is 17 percent of the worldwide population.

If we look at the technology adoption it's not really going as fast as other things, but it's doubled or trebled in the last -- since 2011. And we see a massive opportunity for investment here in terms of ICT investments and connectivity investments.

And infrastructure, if you look at infrastructure 64 colocation data centers in 13
countries. That sounds like a lot, but actually that's one big city in the U.S. So there's masses of opportunity around data centers.

So the infrastructure needs building, but the youth are there, and the young Africans are very ICT-hungry. So one of the things that we've looked at here is the future pool of Africans, and specifically in terms of technology and ICT.

There are 1.2 million STEM-D students in Africa today. We have over 1.2 million developers and IT pros in the current pool.

But the exponential growth is just amazing what's going to happen in the next till 2035. There's going to be 910 million Africans in the workforce. The median age today is 19.5.

Nine hundred and ten million in 2035. Nine hundred and ten million, which is more than China, India, Europe and the U.S. combined. More than China, India, Europe and the U.S. combined will be in the workforce in 2035. That's Africa
rising. That is the age demographic.

And so what we're seeing, some interesting trends is we're seeing some big companies invest in Africa's intelligence and future. IBM is doing its data analytics in Nigeria.

MasterCard is running its digital payments and micro loans portfolio out of Kenya. A lot of -- Andela. I don't know if you've heard of Andela. Andela is a company that was founded out of the Y Combinator in Silicon Valley, invested there. And it's a Nigerian talent company.

They develop software developers for the market. And they've had explosive growth. Facebook has invested $20 million in them and several people have invested in them.

They produce talent in the top 2 percent in the world in terms of developer and ICT skills.

The point about this is that this is
the next frontier for talent. This is where it's happening. And a lot of that is focused on the digital economy because that is where they see the opportunity to leapfrog.

If we look at the growing tech system this is a big number. There's 442 active tech hubs across Africa. You see some countries are much bigger and better at it like Nigeria and Kenya and South Africa, but others are rising too. Egypt, Morocco, Cote d'Ivoire. We're seeing a lot happening in Ghana.

If you go across the funded verticals the one that's low is connectivity. It's 2 percent of all the funding in 2017. This is a couple of years old, this data.

But the high ones are fintech. Nigeria is over-investing in fintech. Off-grid technology we've all heard of through Power Africa and other initiatives like that. But there's a lot of investment in off-grid. And e-commerce.
But one to note is educational technology. And that's a leapfrog we see that's happening.

The ability for these countries to leapfrog is very high due to legislation and other factors like M-PESA. There's mobile money. Yes, so M-PESA is a mobile money system, a mobile wallet that was set up on a mobile phone to transfer money phone to phone. So a cashless system where you can cash in and cash out very small amounts, very small cost to transfer. 19.5 million people in Kenya use M-PESA. Something like 20-30 percent of the GDP goes through M-PESA. I mean, it's big. And it's run by telco. So that's an economic change that's happening because of technology.

So technology is enabling so much change and leapfrog, and some of the biggest innovation we see coming out of Africa.

IBM has invested heavily in Kenya. Facebook's invested. Microsoft's invested in
the development centers in both Lagos and Nairobi.

So you see the top ecosystems coming. But the fastest growing ecosystems are things like DRC, Democratic Republic of Congo at 200 percent, Zambia at 200 percent, Cote d'Ivoire at 160.

But Nigeria is still very high at 139 percent growth. That's massive. The speed of development and change going on in Nigeria is amazing. So, with that context there's a lot going on in the technology sphere.

I wanted to sort of just bring in some ideas around investment opportunities across Africa.

We've been looking at how you can accelerate the cloud technology in Africa. And that really is the infrastructure for telecommunications for the internet, and the basic infrastructure for that is undersea cables that connects everybody to data centers.
Then the second big investment is around data centers. And we're beginning to see -- Microsoft has opened two data centers in South Africa. Amazon is about to open theirs. There are some large investments going on in data centers and we expect that to be a very high growth area in terms of investment and technology that's U.S. made.

The other area around communications is satellite initiatives on low-Earth orbit and nanosatellite technology. These are two different technologies. One is called LEO, is OneWeb.

And these are examples. There are other examples. But OneWeb is essentially the cloud requires you to have a fast connection to the internet. And you need a low-Earth orbit. Geostationary orbit is too far away. It's just physics. The signal takes a long time to get there and back so you have a very slow internet experience because it's a 1,000 millisecond round
trip they call it, whereas with OneWeb you'll get that down to about 150 milliseconds.

But with cable you get it down to 5 milliseconds. So the speed of experience is very important. And this is something that the infrastructure is being built out for right now, both on the undersea cables which EXIM has been involved in, data centers which is -- more will be coming, and then OneWeb is that.

And then you have nanotechnology, nanosatellites are this concept of very cheap satellites, $5,000, that go up and create a kind of web, but a very low-Earth, low height, above airplanes, but below stratosphere kind of thing. And then they create a connectivity web.

Swarm Technologies out of Silicon Valley is an example of that. And they're ex-NASA people and they're a very interesting company that it's a potential U.S. export.

Then the next step in infrastructure is building out the cable on the ground. We see
a company called Liquid Telecom, but there's many others, MainOne in Nigeria and others who are building out this network.

And that's a key infrastructure to the internet being enabled and to speed of technology.

And then right at the end we have what we call last mile connectivity initiatives. You've probably heard of some of these, like Loon is the Google balloon technology which they put up. And that connects remote base stations together to connect the network. No, they've changed their objective a little bit. They're connecting telecom towers to create backhaul connectivity. You have a balloon in between two towers that connects the network basically.

And then Facebook has last mile connectivity initiatives around Express Wi-Fi, around Terragraph, and Aquila. Although they've sold off Aquila it's still an active project outside of Facebook.
Microsoft is looking at last mile connectivity around this thing called TV white space. I don't know if you've heard of that technology, but essentially for the older people in the room in the old days when you had a television you'd turn the switch and then you'd click. There would be three empty channels that were fuzzy. They're called TV white spaces.

They were left intentionally free for interference purposes. And they're empty channels. So those are in very good spectrum and they essentially can -- if you put broadband technology to send down that spectrum it can go a long distance. So 14 kilometers.

So if you compare that to Wi-Fi right now it's 100 meters. And so they have been investing in that technology here in the U.S., in the U.S. rural broadband initiative called Airband that's connecting 3 million Americans in rural America.

But they're also exporting that
technology globally and working on several projects in Africa. Yes, it could be considered 5G. The reality, this is a new silicon chip technology that's coming out of the Valley.

And Microsoft has enabled it through putting out open patents. And the patents are there and companies are now developing technology on it.

So, in fact one of the companies that -- so I put together another three slides about some ideas of companies that would be looking for a type of investments.

Adaptrum is -- its name comes from adaptive spectrum. It's essentially the TV white space chip maker, and they're looking at making chips to connect broadband on the last mile.

To give you an idea of this technology it has sort of four key savings. You don't pay for spectrum. This is secondary use like Wi-Fi. You save on the actual base stations are about 10 percent of LTE costs.
They are low power, so they only use 20 watts. So you can run them off grid without electricity source.

And then they go five times the distance of other technology. So you can cover more with less, with less power, less cost.

So if you take those numbers and sort of go high you come out at about 10 to 20 percent of LTE technology in terms of cost base to do a countrywide network. And this is an American made product.

So they're a very interesting company. They're very new. And I think one of the things, comments I would make is one of the difficulties with small companies and investment, looking for investment is navigating all the agencies the U.S. government has.

And a cross-kind of U.S. government agency view would be really helpful to them in terms of how they could leverage best different instruments. We are working with U.S. EXIM with
this company at the moment on a project in South Africa. So we're looking at it. So, they are leveraging this new technology for broadband.

Then we have another company called Varian who are connecting rural households through a solar household kit technology. They currently have 100,000 connected and they are looking for investments, working capital and various other things to expand their delivery in both Ethiopia and India, but across the globe as well. And they're made here in the United States as well.

Very interesting technology using IOT and last mile technology and sort of artificial intelligence and machine learning to maximize the delivery to the clients.

And then last but not least is New Sun Road which is an IOT company that's developed out of UC Berkeley. And they are doing similar but more controlled systems that control power, power distribution to maximize delivery.
So they make the power delivery more efficient to the end user. So they do a lot of diesel replacement. They do a lot of monitoring to basically allow the end user to have the most cost-effective delivery of their power sources which is -- power wastage is a massive problem not only in Africa, but generally. This kind of new AI technology is extremely impressive in how it manages it.

So I mean, sort of finally I would say why invest now? There's a potential right now to drive connectivity capability upscale in the next generation of talent.

And this is a massive consumer base that's coming. It's a massive market. And it is the last emerging market in terms of untapped potential.

And the innovation in Africa is incredible. The tendency to leapfrog entire generations is there and it's happening and we're seeing it every day. Those are my comments and
thank you for the opportunity to speak.

CHAIRMAN RUNDE: Thank you very much. That was perfect. That was exactly what we needed. Thank you very much. Come back often because that was great.

I'm going to make a couple of comments and then I want to make sure that we hear from as many people as possible.

I would argue that it's not going to be -- the 21st century is going to be the African century, not the Asian century. I think to your point about 900 million people in the workforce in 25 years.

There's going to be more Africans than Chinese and Indian people combined in 25 years. There are going to be more Africans than Chinese and Indian people combined in 25 years. So first.

My second point is I'm really encouraged to see all of these technologies. Let me just ask, okay, so if you are the EXIM Bank
and you have the EXIM Bank Board in front of you, so Frank, what would be one or two just simple steps you would ask them to do if you were in front of the EXIM Bank Board asking them to take some specific actions based on this information given us?

MR. MCCOSKER: Thank you. Well, specifically I think there's two areas. One is this concept of cross group cooperation at the U.S. government level.

It's very difficult as an investee to go to multiple agencies, to follow multiple rules, to figure out which is the right agency, the right print for the moment and time that you're in.

What that would also benefit is this idea of kind of blended finance instruments where you're getting the right type of finance at the right time in your development where you might need some grant money at the beginning, you might end up with EXIM at the end helping you export
the products.

So, I think that is something I've dealt with for 25 years and I see could help a lot in terms of kind of one face to the investee.

I think on the sort of affordable finance the thing I would say, the more middle people there are the more expensive the finance becomes. And so what I see with -- I work with many agencies, and a lot of investments go to different people, and then they go to other people, and then they get to a point where they're unaffordable. So the more directness there is the better I think between the company and the agency.

CHAIRMAN RUNDE: Just one last pointed question which is -- is the EXIM Bank doing enough outreach to tech companies, and if not, what kind of outreach would you like to see?

MR. MCCOSKER: Well, I mean, my experience is yes but that's because I'm here. I think there could be more.
I also think the USG could invest more in long-term tech in the Valley. There's a lot of tech there that's not software, that is hardware that needs longer-term investment viewpoint.

CHAIRMAN RUNDE: Great. That's it. Chair Reed?

CHAIRMAN REED: Thank you. Very important topic and you couldn't have laid the groundwork for what we're working hard on to execute our new reauthorization mandates as we speak. It's a huge market.

So I'm going to read to you from our reauthorization language and then I'm going to ask you to comment on how we do this.

The bank or EXIM shall establish a program on China and transformational exports to support the extension of loans, guarantees, and insurance at rates and on terms and other conditions to the extent practicable that are fully competitive with the rates, terms, and
other conditions established by the People's Republic of China, that directly neutralize export subsidies for China. I'm just summarizing here.

How do we identify and make sure that all the countries of Africa are not signing up for debt diplomacy with China, but instead letting us know so that we can bring that victory to Africa, but also to the American worker?

MR. MCCOSKER: So, I think part of them is telling them what you're doing which is amazing. I think that has not been the case in the past.

So, from an investee point of view again I go back to this idea of blended finance instruments. Essentially, to be competitive that's what we need to be doing, where we put grants alongside loans alongside equity to essentially emulate and compete the same way.

I'm not an expert on China and I'm not an expert on their investments, but I see the
difficulty of American companies getting investment in Africa.

And that is -- it's a long way away from America. It is a lot of communications actually. So some local presence would help, I think.

And there's coordination. And make it more affordable. So that's a rate discussion. And that's a de-risking discussion, and that really boils down to more information.

The more data you have the better decisions you can make I think. So I'm happy to follow up offline.

CHAIRMAN RUNDE: Director Bachus?

DIRECTOR BACHUS: I'd like a clarification on one of the things. Daniel mentioned it.

You said, we're talking about the global workforce?

MR. MCCOSKER: Yes.

DIRECTOR BACHUS: The numbers. And I
think the statement was made on one of the slides that the workforce in Africa, the growth, is it the growth of that workforce or is it the total number?

In other words, in 40 years won't the Chinese and India still have a larger workforce than Africa?

MR. MCCOSKER: So, Africa has a faster birth rate.

DIRECTOR BACHUS: It's the growth.

MR. MCCOSKER: It's the growth and the total.

DIRECTOR BACHUS: And the total.

MR. MCCOSKER: Yes. Because you've got a demographic coming in. The median age is 19 and a half right now.

CHAIRMAN RUNDE: And you have an aging China, and even an aging India. So you're going to have people out of the workforce.

MR. MCCOSKER: There's demographic movement that's going on.
DIRECTOR BACHUS: So, the total workforce --

MR. MCCOSKER: The total workforce will be 910 million in 2035. Which is 15 years.

DIRECTOR BACHUS: And that will exceed the workforce --

MR. MCCOSKER: That will exceed the workforce of China, India, Europe and the U.S. combined.

DIRECTOR BACHUS: That's new. I had heard that the workforce --

(Simultaneous speaking)

MR. MCCOSKER: It's a continuum. So 15 years from now, we'll be retired.

DIRECTOR BACHUS: The workforce growth in China is leveling off.

MR. MCCOSKER: Yes.

DIRECTOR BACHUS: And India it's still increasing somewhat. But Europe is fairly flat I think.

MR. MCCOSKER: That's right. Europe
is flat and declining a little bit.

DIRECTOR BACHUS: I had heard that the growth there would be greater in numbers, but I had not heard that the 2035, the workforce itself existing you're saying in Africa will be bigger than the workforce.

MR. MCCOSKER: Yes. The number is between 16 and 64 year olds.

DIRECTOR BACHUS: Yes, I saw that. Okay.

MR. MCCOSKER: Yes.

CHAIRMAN RUNDE: And young people wherever they live, whether they live in Los Angeles, or Central America, or Africa, or the Middle East, they have four options for their energy. Young people have energy.

They can find a job. They can go to school. They can use their energy for something that's less productive like militias, or gangs, or something else. Or they can migrate. Those are the four basic options.
I'm being a little simplistic, but having looked at this for a while. And so there's an enormous opportunity. And if we don't seize the opportunity -- this is the potential for an enormous demographic dividend.

East Asia had a demographic dividend. China has gone through a demographic dividend. With the right policies, and the right investment, and the right growth, and the right education policies Africa is going to have an enormous, enormous demographic dividend and we want to be a part of that, right?

MR. MCCOSKER: Correct. Absolutely right.

CHAIRMAN RUNDE: Commissioner?

MEMBER GOEHRING: Thank you, Chairman Runde. Thank you, Frank, and thank you, Reza, for your presentations this morning. Wonderful information. Fascinating.

I appreciate the feedback with respect to looking at doing some outreach. Also, really
developing the right parameters with grants and loans to kind of synthesize this down.

But I think you hit on a few things that probably will resonate well with us. It's probably something we have to continue to work with others, whether it's every consulate, Amcham presence, Foreign Ag Service, but it's really establishing a presence and creating partnerships I believe is really going to help us move this forward and have an overall presence in Africa.

Because you're right, that's a burgeoning economy. When you've got median age of 19.5, that is amazing. If you look at the Philippines, you look at Vietnam, which are right around 22 and 26, those are economies that are booming, are going to be taking off. This is a great opportunity.

So thank you for that information. I think there's a lot for us to digest.

MR. MCCOSKER: Thank you.

DIRECTOR PRYOR: Good morning. Thank
you so much for that presentation. I'm very
familiar with Microsoft's Airband program. I
listen to that over the dinner conversation every
night. My husband is an employee of Microsoft.

Also, industry and sector near and
dear to my heart after almost 25 years in the
satellite industry. So much is needed.

When we look at countries like Nigeria
that are about to be the third most populous on
the planet to me this not only presents an
opportunity for us to partner with African
countries for their IT, ICT infrastructure, but
also the leapfrog effect that Africa is so good
at. Certainly mobile financing shows us that.

So, thank you for your presentation.
I'm hoping you'll share it with us because
there's some really, really great tidbits in
there that would be useful moving forward.

And just thank you to Reza and the
team for coming in today and talking about ICT.
I think there's much to be done here.
CHAIRMAN RUNDE: We want to put more in your inbox, Reza. So, I know there's a lot of very thoughtful people on the SAAC that I think we want to hear from.

I'm thinking first of the folks on the phone. Florie, are you still on the line? You've been very patient. I really would be remiss if we didn't hear from you.

MEMBER LISER: I am certainly still here, and what an interesting presentation. It confirms I think a lot of what we're hearing from members at TCA in the ICT sector.

We recently re-launched our ICT working group with co-chairing which I find fascinating with Google which we all know who they are and they're a member now with a small Nigerian company called Flutterwave that provides an app that allows people selling their products in one currency to collect it in the other currency on the other end and thereby facilitating trade and transactions.
And so they're small and it's up and coming, sort of partnering with one of the giants. I think to focus on the points that Frank said, that's what we need to be promoting. How can we get more of the kinds of partnerships that are going to support ICT development on the continent and be mutually beneficial for both U.S. and African companies, and for companies that are the big guys as well as the smaller ones where I think Africa, as Frank said, has a lot to bring to the table. Companies like Andela and Flutterwave and many others.

So, I'd be very interested in, as we go forward, learning about how the SAAC can support EXIM Bank and through the Prosper Africa Initiative in driving some of these potential opportunities and deals to the table for potential review and ultimately financing by EXIM. But that's why I think the ICT sector is so critical.

It also supports competitiveness in
other areas, manufacturing, et cetera. So it's a transformational platform. And so we've got to do more. We've got to do more to support those kinds of exports of U.S. goods and services in partnerships with Africans on the other end.

CHAIRMAN RUNDE: Excellent, thank you. Kusum, are you on? I'd welcome your thoughts.

MEMBER KAVIA: Yes, I echo what Florie has said which is really interesting presentation. I for one am from Africa and I know that this is a huge continent full of opportunity. So thank you for giving me the opportunity to listen in.

CHAIRMAN RUNDE: Thank you. Paul, do you want to make a comment?

MEMBER SULLIVAN: Sure. I think a lot of it's echoing what everyone else has said, but I do think we're reaching a tipping point that the U.S.-Africa trade and investment relationship can no longer be viewed as some sort
of elective foray into a move toward high yield. It needs to be considered a core aspect of our economic strategy of the 21st century. The statistics that show those population figures within 25 years exceeding China and India, these are extraordinary numbers.

So for all the folks in the eighties and nineties who were piling into China I think Africa offers an extraordinary opportunity that is no longer elective. It's something that we must pursue as a core part of our strategy economically.

CHAIRMAN RUNDE: All I can say is amen to that. Thank you, Paul. Others? Ejike, would you like to comment?

MEMBER OKPA: Yes. Frank and Reza, thank you for the presentation. I'd like to offer some historic information on telecommunication in Nigeria.

Back in 1976 Nigeria had the largest telecommunication country in the world. ITT,
Ericsson, and BT. And Nigeria was cabled.

But because of land use issues all of those cables were cut. And then fast forward to the nineties, the MTNs and mobile and all of this came up. I think the challenge when you're dealing with telecommunication in Africa is inter-country calls and international calls.

When people speak of Africa, don't forget there are 54 African countries. If I'm in Nigeria making a call to Benin Republic next door, that call is routed to somebody in France who routes it back into. And there's a charge.

So telecommunication is expensive. The cab guy who brought me here today was telling me to make a call on a calling card to Ethiopia he gets 20 minutes on five dollars. But somebody making the same call to Kenya gets 200 minutes. So these are some of the challenges that need to be dealt with.

And then my question to you is how do you deal with the politics of the business of
telecommunication in Africa? Because that's the biggest challenge.

We have silos. We have all these companies. For instance, in Nigeria people carry three mobile phones. Why? Because the various providers don't let calls cross on their network.

So I would suggest or think that in order for this to be effective, Nigerian Communication Commission has to be engaged. Because then -- now they can say hey, every provider has to tie into this platform so that I don't have to carry three or four phones. I just came back from Nigeria. I mean it's one of the biggest expenses for most Nigerian providers, telecommunication. Data.

I mean to even downloads on Google, a lot of them can't do it so they end up on just Hello Hello Hello. And you can't do a lot of business on Hello Hello Hello. You have to process data, manage data.

Most Nigerian investors don't have
data center because they cannot afford to have the individual technology.

So for this to be really effective, the Nigerian Communication, the West African ECOWAS because they have 15 countries, they have to come into some sort of agreement.

CHAIRMAN RUNDE: ECOWAS is the regional West African.

MEMBER OKPA: Fifteen.

(Simultaneous speaking.)

CHAIRMAN RUNDE: Fifteen countries in West Africa.

MEMBER OKPA: It has the largest country pay region in Africa. If you can track and assist -- I can assist you with that, we can it as a directive -- is to propose this original telecommunication infrastructure.

So that if I'm calling anybody in Ghana I don't have to deal with somebody in England getting a benefit on routing the call if I'm calling anybody.
Because France, if you read Warren Christopher's book called Chances of a Lifetime, when he left office as Secretary of State, one of the things he said to France is hands off Africa.

I mean, I went to an African country in Congo and I needed to go to Nigeria. I have to fly Air France to Paris, back into Africa. And this is like. So these are some of the challenges.

For the telecommunication there's a huge opportunity because of the cost factor that Africans have to it. So I don't know where that mixes in but this is very important for Africa.

CHAIRMAN RUNDE: Great. Other members of the SAAC. Comments? Then I'll come back to you, Frank. Other members of the SAAC? Gary?

MEMBER BLUMENTHAL: I would just note that Frank reinforced a key part of what was in our letter which is the problem of the different agencies involved in financing, and our council,
that there be better coordination.

I don't know, Frank, just from a practical standpoint, any recommendation from your standpoint of how the U.S. government could better afford this financing across projects?

CHAIRMAN RUNDE: I'm going to jump in on that and say I think we need to be thinking about for follow-up SAACs getting our interagency friends to come back here. I think we had them the last time, but I think we ought to continue to have them coming through here.

And also there may be an opportunity at our EXIM conference. I'm not putting the agenda together so I don't want to get ahead of my skis, but it seems to me that that would be appropriate to have some of them as speakers and participants.

CHAIRMAN REED: We're going to have a session on tools in the trade toolbox. And so TDA, DFC, MCC, a couple of others.

CHAIRMAN RUNDE: AID.
CHAIRMAN REED: So we're still in process. But yes, we hope you all come.

CHAIRMAN RUNDE: Gary, thank you. Matthew, Matthew?

MEMBER KAVANAGH: Just a quick comment. You know, I think it's an exciting time for ICT in Africa and it has been for some time.

I mean, with the mobile phone technology and the ability to leapfrog at all levels from high end way down to village level and seeing people with cell phones and how they're being used in the applications and the growth to how people are using it to pay for electricity and to send credits to people all over the country. It's really remarkable and still a lot of work to be done in the mobile money area.

I think my comment is it will be interesting to see if that trend continues. And how do we overcome some of the barriers to entry and how do we develop and encourage public-
private partnerships to bring some of these initiatives to scale.

On the power side of things I'm thinking specifically on how do we encourage utility companies to start to adopt some of these technologies, artificial intelligence, predictive analytics, machine learning.

How do we, whether it's through grant financing, or you're talking about Microsoft and Google and others, whether they're willing to put in some philanthropic funds to proof of concept and get some utilities and others to buy into these technologies and then bring it to scale.

CHAIRMAN RUNDE: Matthew, let me just jump in. I think that's a great question. It prompts me to think that we need -- I think the EXIM Bank has a number of roles to play.

But I think we need to be working AID who have boots on the ground in about -- of the 54 sub-Saharan African countries they have boots on the ground in about 40 and trusted
partnerships. Or the State Department.

And also, frankly, our influence through the multilateral development banks in terms of on the policy side of this.

And so I think we need to be thinking about how we take what Frank has said about this enormous opportunity. Some of it's not -- EXIM Bank can help with the money and kind of enabling, I think, these opportunities.

But I think we need to be kind of having a mind meld -- that's a think tank term -- a mind meld with our friends in the interagency process who can do kind of the persuasion stuff as opposed to writing the check stuff to say you really ought to think about this.

And then I also think frankly also with the MDBs, we're the largest shareholder. We have an enormous amount of influence. So I think when we get our interagency friends, my thought would be is I think we ought to get someone influential and senior from the Treasury
Department talking about how are you riding herd on the MDBs to get them to -- because they have enormous outsized influence on this policy dialogue stuff which is like the persuasion stuff you're talking about.

I'm not sure we alone at EXIM Bank wearing my EXIM SAAC hat can do it. We can help. But I think if we collectively do it it's like chocolate and peanut butter with the Reese's, you know. It's like it's synergistic, right. That's my thought. Do you agree with that?

MEMBER KAVANAGH: Yes, I was just thinking about kind of more of the whole of government approach where TDA and others can create the foundation for then EXIM to come in at scale.

CHAIRMAN RUNDE: We need a whole of government approach on this. Okay. Matthew.

MEMBER STEWART: Sure, thank you. And I'm sure there's some strategy behind having Reza and Frank go first today because if you look
at the next two presentations dealing with health, delivery of health and delivery of agricultural solutions to mostly rural areas, the telecommunications space is going to be critical behind delivering efficiently costed solutions in both health and ag.

And for farmers that are out in these rural communities to be able to access the data that they need real-time and be able to get advice during the growing seasons they need that type of connectivity. So thank you.

CHAIRMAN RUNDE: Okay, Reza, so let me put you on the spot. So you think about this all day long at the EXIM Bank. What would you like to see the EXIM Bank do more of given, okay, you know this information, you've heard all this. So what more should the EXIM Bank be doing from your perspective?

MR. NIKFARJAM: The one area that -- resonating what Frank and everyone else is saying -- would be greater collaboration with the
interagency.

So we've been doing this unofficially, right. So my colleagues over at USTDA would call me and ask about an opportunity, whether EXIM would be interested. Sometimes, you know, we do some pipeline sharing, for example, with our colleagues at DFC. But if we could have a more formal setting where we could share.

CHAIRMAN RUNDE: So we're going to put in the recommendation that there be a monthly breakfast, or a monthly lunch, do a Panera, under $20. I know we've got to do under $20, Reza. But under $20 there ought to be some kind of a working group on ICT and sub-Saharan Africa and that the SAAC, that Chair Reed or Director Pryor who's got lead on Africa convene this.

And that it's not a -- and you don't want them to send the delegate of the delegate of the delegate, that we want actual people who can actually do stuff on this because it strikes me this is crazy.
I think the point someone was saying before that this is not an elective. This is not an elective.

This is like Asia in the early '80s. We are crazy if we don't take advantage of this.

Okay. So Frank, you've heard all this. Is there some homework assignment for the EXIM Bank that you're taking away from this?

MR. MCCOSKER: Yes, a couple of comments. There is -- on the regulation side, there is an industry body that's looking at this called the Dynamic Spectrum Alliance which all these companies are members of. And they're consulting with the NCC and the MBC in Nigeria.

And actually Nigeria is the next country that will be looking at this technology in the national broadband plan that they've just launched.

So there is progress through -- but there can be more regulatory support from FCC and
from others in the USG.

CHAIRMAN RUNDE: FCC.

MR. MCCOSKER: Yes.

CHAIRMAN RUNDE: So if we want to do this, you don't just need AID, TDA, the EXIM Bank. You need the FCC. What other interagency agencies would you want at the table on this topic?


CHAIRMAN RUNDE: State?

MR. MCCOSKER: State Department.

CHAIRMAN RUNDE: Commerce?

MR. MCCOSKER: Commerce for trade, yes.

CHAIRMAN RUNDE: Okay. So, okay. So the goal would be to have -- I know there are multiple commissioners on the FCC. The goal would be to have someone at that level, or somebody senior.
MR. MCCOSKER: Also I think Prosper Africa has some of that, right?

CHAIRMAN RUNDE: So we can get the Prosper Africa. But I actually think there's -- for this topic it seems to me you need almost sort of like a specialized working group on ICT if we want to have -- if we actually want to seize the opportunity for the United States.

MR. MCCOSKER: I would agree.

CHAIRMAN RUNDE: For jobs and for American companies.

MR. MCCOSKER: Correct. And I would say that you should think about strategic partnerships with some of these companies.

CHAIRMAN RUNDE: Director Pryor, what do you think about that?

DIRECTOR PRYOR: Yes, I was just going to say I think that we can't lay this all at government's feet, that this has to be a partnership with the private sector.

Those that are, whether
entrepreneurial startups, or entrepreneurial in spirit companies that have been around forever, there's a lot to do. Africa is a very, very large place. Telecom does not work without interconnectivity from one place to the next.

Africans typically don't necessarily connect to the grid as we know, even if it's right at their doorstep. So there's multiple hurdles that need to be overcome. Yes, a lot of stakeholders. Yes.

CHAIRMAN RUNDE: Okay. You get the last comment, Eji.

MEMBER OKPA: I'd like to make a suggestion. You're talking about all these government agencies. I don't know what it would take, for instance, to reach out to an operator like AT&T.

Back in the 90s, AT&T had a project called Africa One. And it was about 33 African countries to sign up for this telecommunication infrastructure. But only 13 were able to show
up. So AT&T pulled out.

So I don't know whether now it would be a time to reach out to them and say hey, would you guys like to -- because they've already done the studies. They needed 33 African countries to sign up on this Africa One. And then nobody did.

So at the end of the day who is going to operate this technology? That's the most important. And AT&T is a brand name. In fact, at the time they had our AT&T Nigeria.

So that study has been done and it's still on somebody's shelf. If they can be -- okay.

CHAIRMAN RUNDE: Okay.

MR. MCCOSKER: One last comment?

CHAIRMAN RUNDE: Last comment.

MR. MCCOSKER: Just feedback. The U.S. government is one of the most business friendly governments. I've worked with multiple governments and I just wanted that to be on
record. Actually these forums don't exist in some other governments. So thank you for the opportunity to be here and to give feedback.

CHAIRMAN RUNDE: You're going to be on our speed dial, Frank.

MR. MCCOSKER: Okay. (Laughter.)

CHAIRMAN RUNDE: Thank you. So let's -- we've got to be on time here. Thank you very much. Thank you, Reza.

Okay, let's -- come on up. The healthcare and EXIM presentation. We're going to hear from Annette Maresh, vice president for Global Infrastructure Division, and then we're going to hear from Juan Carlos Negrette, director of the University of Utah Global Health Program. We've got to do a quick scene change here. I'm going to get in trouble if we don't stay on time.

Hi, good morning. Okay. I think we should just go ahead and start. So, even though I know we're kind of just -- but I think we've
got a quorum. I think we should just go ahead and get started.

Annette, thank you for being here. You're vice president for Global Infrastructure Division. The floor is yours.

MS. MAresh: Hi, good morning. Thank you for the opportunity to discuss how EXIM Bank can help healthcare and maybe how we can help going forward.

I'm the vice president of global infrastructure and that is public sector lending. It's also corporate finance and financial institution support.

High-quality healthcare is needed throughout the world, but most critically in Africa. I'm delighted that Mr. McCosker mentioned the demographics of the continent because a region of 1.3 billion people and a combined GDP of $2.5 trillion should be a clear opportunity for U.S. businesses related to healthcare.
I put U.S. businesses in two camps. Basically the intrepid companies that will spend time and money. I think Paul is on the line from Acrow Bridges.

And then there's the other side which dominates the U.S. business team and that is the companies that put opportunities in the too tough basket. It's too tough. I have to spend time, money.

And EXIM Bank is here as are other U.S. government agencies to help those deals that are perceived as being too tough when maybe they just need a little more structuring.

So, as you know, EXIM offers loans, loan guarantees, and insurance, short-term and long repayment terms. Our interest rate is U.S. dollars this month is 2.52 percent for a five-year repayment period. That sounds low, but right now the world economy is in a negative interest rate cycle. So I think we have to think outside the box.
EXIM Bank can make a loan guarantee to someone who can beat that rate for a five-year repayment.

Improved healthcare is both socially beneficial to the population clearly, but it's also financially beneficial to the host governments.

And by that I mean they don't have to send people outside the country for good healthcare. So if they improve -- if the local governments improve their healthcare providers, they don't have to use scarce hard currency.

EXIM Bank underwrote and funded the modernization of a public healthcare facility in Ghana that was built in the 1920s and I'm sure everybody's read about that transaction. Really raised the quality of healthcare in the metropolitan Akra region.

EXIM supported and made the loan to the Ghanaian government and we've had excellent experience in that phase one.
There was also a financial institution that made a parallel loan that was not done under EXIM Bank terms, but helped the government of Ghana achieve 100 percent financing for that facility.

So, we understand people were feigning illnesses to get into the hospital when it reopened two years ago.

EXIM can also support private sector healthcare clinics, or medical facilities that are not owned by the public sector, by the state.

And in terms of that financing, EXIM usually finances diagnostic equipment, treatment equipment. Those are typically structured as buyer credits and we need good credit in order to make that happen.

There's typically an intermediary lender in those structures. And beyond that I was going to give you a list of all the healthcare -- EXIM does a lot in the healthcare sector even when we were sort of paused at the $10 million
level.

We support a lot of small instruments, blood gas analyzers. All sorts of medical equipment is made in the U.S. and deemed very high quality.

So besides construction, engineering and procurement construction costs we can also finance some of the local cost. If you're building a clinic, or you're installing an MRI machine you may need to build a special bunker to house that piece of equipment. EXIM Bank can also support that. So it affords more financing for our customers.

So again, we do a lot of short-term business in the market. The short-term support for small ticket items is done through our insurance program. And a lot of those exports are done through the small business community in the U.S.

So I'm not one to say we always do it this way. This is the way EXIM's -- we're a
Depression-era agency. We have to think outside the box. -- I like to think outside the box.

So we're always looking for innovators and people with great ideas. And that's how I, I guess, became introduced to Juan Carlos. Although I think your call came in from our general counsel's office which scared me a little bit. But it was okay.

So we started talking about, not in sub-Saharan Africa, but we did discuss a very interesting project in a very high-risk market. But I think Juan Carlos was able to bring an interesting offer to the public sector healthcare in that country.

And we were able to explain and facilitate working with the U.S. Embassy in the country and to bring that to bear. So this led to an innovative partnership I think between University of Utah and EXIM Bank.

And we're always bouncing good ideas on how to collaborate further. So I think that's
-- sometimes what we lack is some of our partners and some of the U.S. healthcare providers and manufacturers perhaps don't know how to mitigate risk and they just put that opportunity in the too tough basket. But we're here to help.

So, it's -- I don't think this agency should rest on our laurels. I think we do need to become a little bit more flexible. That's what I'm hoping for in the next few years with our recent revised charter.

So it's my pleasure to introduce Juan Carlos Negrette who is the director of global health at the University of Utah. He has a few words to say.

MR. NEGRETTE: Thank you, Annette. Good morning. It's a pleasure to be here. So I wanted to thank Chairman Reed and the members of the Board for having me here.

So, a small disclaimer, a short disclaimer. This is a conversation that I've had with a couple of different audiences, some of
them within the academic spectrum, but others also outside.

And what I wanted to add to what Ms. Maresh was saying is that the participation that you see in the American universities in the global health arena is a rather strange phenomenon.

You don't see this level of business type of collaboration between academia and other entities abroad from similar institutions, from let's say Japan or Europe. I think it's an American invention.

And because we're in the middle of it we cannot see it. I think in the future when they look at us they're going to see this idea of mixing universities and enterprise was kind of an interesting one to have.

So, something that -- I was looking at Africa, but then I realized that I had more data from other sources as well. And then I need to build more information about how we're going to
predict this in Africa.

However, what I'm presenting, it is very much related also to Africa. What we found is that what has happened recently in the continent, it is in the healthcare environment, but also even in the larger spectrum of things that my predecessor spoke about has to do with three basic forces that we have identified.

One has to do with demographics. And demographics in two accounts. Not only population growth, but also how the population gets configured in terms of age.

The other has to do with epidemiologies and also with etiology of diseases. And the other has to do with economics.

None of these are particularly my ideas. Some people have referred to in history how epidemics have shaped also the economics that follow.

So one general consideration here is
that for low-level and low-income countries, the type of demographic configuration in terms of the way people age has changed dramatically.

So what we will see is that in the next now 15 years Africa will have a population that roughly 3 percent, 3 percent of the entire population will be above 65 years.

Something that I want you to consider, and it is not here, is that a big game changer has been also the problem of the development corporation that the government of the U.S. have in this.

When I started work in this space, Africa's life expectancy at around -- in the early two thousands or 2005 in many countries was barely below 40. Merely below 40.

Today there is no country under 50. And the PEPFAR program, whether --

CHAIRMAN RUNDE: What is PEPFAR?

MR. NEGRETTE: It's the President's
Initiative for Africa. And that went to fight HIV/AIDS.

CHAIRMAN RUNDE: For 15 years at $6 billion a year the U.S. government has been financing HIV/AIDS combat and bent the curve on HIV/AIDS in Africa, right?

MR. NEGRETTE: That is correct. So, thank you for that. Perhaps you stole my words in that. No, no, no. That's very much -- that is very well said.

So if you analyze this from the DALYs -- DALYs is a measure for the cost of death and disease in a country, or in a society.

If you look at Africa from the DALYs adverted perspective all these additional years now of productive life, they could represent in 20 years close to somewhere between $500 billion into $1 trillion for Africa.

So it is -- our investment in this development corporation program may have these repercussions and economic -- social and economic
implications for Africa.

So, the disease is changing. But also in people that gets older has a different type of healthcare needs. You see an ascendance also in -- seen in Africa of other endocrinological disorders like in diabetes and type 2.

You see of course the biggest killer in Africa is not malaria, is not AIDS, is trauma. In car accidents or infected lungs. And that is -- it's a major killer. It's a major killer. So, and tobacco is going to be a major player as well. So that is the general setting here.

The other general element that I wanted you to look into is that what we see in the U.S. that we spend more than almost -- than any other country in terms of our proportion of our GDP in terms of healthcare, it is actually perhaps a variation of a common trend.

The richer you get, the more money you spend in healthcare. When it comes not just in comparison of GDP, share of the GDP,
healthcare expenditures per capita, a country that is richer than the U.S. per capita like Switzerland spends more in healthcare per capita than the U.S. does.

So it's not -- this is not very exceptional. And you see that also as a historic trend.

I had a case in point here for South Africa. Sorry again, I'm not bringing an African country here, but I will get you there.

So what you see here is that as South Korea was getting richer, South Korea's expenditure in healthcare grew exponentially. Of course linearly in terms of the proportion it took from their GDP, but in total terms it was much higher.

So, we are seeing the same phenomena also in Africa. So of course you know that this is Africa, but this is also Africa. That is the classic comparison.

What we have here is also a change of
the perception that we have seen in Africa from the hopeless continent only 20 years ago to now Africa Rising. And this is pretty much the topic that we're having today. That perception has changed of course in the general public.

So when we were talking about the demographic forces and my predecessor spoke about a figure that got us talking about the 920 million workers that Africa is going to have only in 15 years from now you can see -- and by the way, China will be the biggest loser in terms of population growth in the next generation. So by 2050 the population in China will start declining seriously.

So what you can see in this map is that of course in Africa still you have the biggest population growth. That trend because of the population structure is not going to change soon. So this force will go not only to 2050, will go way into 2100.

So, we have that. We have that the
population is getting lower. We have that the economies in Africa are among the most dynamic. We have this example of Rwanda being one of the most dynamic economies, Senegal and Ethiopia are also among the top five.

But also you see that in general that is not reserved only to these three countries I just mentioned.

When it comes to economic development, Africa represents a very hopeful and dynamic space. So that is -- we're pairing now two of the forces. One is the demographic. We're seeing that the population is growing faster. The population in Africa is now aging as well.

We're seeing that economies are growing larger, but also not just in aggregate terms. Also per individual. So the concept of wealth is also emerging in Africa.

And these are already determinants for the way resources are allocated in healthcare in the different countries.
So in 2001 the Abuja Declaration stated that African countries would allocate 15 percent of their expenditures, of their national budgets into healthcare.

So, frankly, it has not happened at that level, but the level of capital expenditure doubled in the same period in Africa. It doubled.

So it is an important -- this is happening at early levels, at early stages. You will see larger increases in Africa.

So a country like Ghana that Ms. Maresh was referring to is a country that now can boast that they have increased access, not -- access to the population for basic health services.

And they have what you will term close to not universal coverage, but roughly 70 to 80 percent of the population which is not bad. So you're seeing those changes in Africa as well.

Not only that. As we were saying the
etiology of the disease is changing dramatically. This map is a bit scandalous, but the idea is that what you see here is that the change on the etiology of disease in Africa that has migrated mostly from communicable diseases to other type of diseases, non-communicable diseases.

And we were talking about others like diabetes, like trauma, other conditions are becoming the bigger killers in Africa. By the way, at the end you know that all of us in this propensity will die. The later it happens and for other reasons the better.

So, that is reflected in this particular map. So you can see these red signs also as healthcare opportunities, healthcare, not just health, but healthcare opportunities.

Still, Africa is in dire need of infrastructure. Hospital beds in Africa are very much needed. So you will see an explosion of hospital building in Africa.

Still barriers remain and very
important barriers remain. But before I get there, only two years ago, only two years ago can you please tell me who do you think was the country that built the most beds per capita? South Africa?

The point is it's not in that space and it's not in Africa. It was Indonesia. It wasn't China, wasn't India. What I'm saying is these needs of infrastructure suddenly emerge in a country.

Most likely Nigeria will be one, or perhaps it's not Nigeria, but it's going to be Ethiopia because it's in the middle of a health sector reform that is heavily investing in infrastructure. So that is to say that.

This is something that you're already familiar with. The economy of Africa is today estimated at $3.4 trillion. I just mentioned that perhaps PEPFAR is going to save for Africa in opportunity costs $1 trillion.

So the American contribution to the
continent development is not trivial. I don't know why it doesn't get constructed in that way in these conversations, frankly.

CHAIRMAN RUNDE: I think -- I'm in the development business. I think especially in the global health space there's too much of a like, we're doing this because we're do-gooders, and we sometimes don't think about the economic upside to this, or the geoeconomic or geopolitical upside to this.

I mean, I think the reason we actually made those investments was because our intelligence agency said we're going to have millions of AIDS orphans and collapsed states and that actually got us to the table.

So I think we need to do a better job as a country of sort of understanding the full impact of this.

I think we're now at a place where PEPFAR, we've now had 15 years of it where we can actually take stock, not just the health stock,
but these other issues. So I appreciate you flagging it.

MR. NEGRETTE: Thank you. Well, trade which you were recommending about and the exchange not only of telecommunications but also of health professionals, also of knowledge, also of particular health information, Nigeria is becoming the first country in Africa that is developing a genetic databank.

And Nigeria is one of the countries with the highest genetic diversity in the world.

CHAIRMAN RUNDE: What's the genetic databank? What is that?

MR. NEGRETTE: So, thank you. Genetic databanks are places where you collect some information, or genetic information from samples from individuals, either blood, either saliva.

And that information, it gets kept and codified. You have to get to break down what is in it, what is the genome of every one of these
samples. Keeping that information requires the management of what we call now big data. Without the processing capabilities in developing datbanks, developing genomic datbanks would have been completely impossible. And you saw the transition that it cost. Only the first time we wrote the genome it cost us millions of dollars. Now you can get it for $170. So, and it happened only in 20 years now. So it just tells you how quickly the economies of scale can be reached. The African middle class in 15 years is going to be estimated 250 million persons. So, and it happened only in 20 years now. So it just tells you how quickly the economies of scale can be reached. The African middle class in 15 years is going to be estimated 250 million persons. So it's going to be pretty much the size of India's middle class. And also the World Bank has stated that the most ten of the most improved economies at doing business are now in Africa. So the climate, the political climate in Africa that allows for better economic...

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exchanges, better trade are actually happening.

And there are already 400 African companies that take at least $1 billion in annual revenue.

Some of them have -- are related in one way or another to healthcare. None of them are purely healthcare, just to make the point.

So what we saw in opportunities here or what we see in opportunities here for Africa is of course population dynamics.

We have been participating in -- the U.S. has been very actively involved in reproductive health and family planning programs in Africa, has created an infrastructure that would allow or should allow, better said, the U.S. to have a better inroad in other healthcare areas as these activities become more complex.

There are changes in disease patterns that we can take advantage of. All of them -- a big chunk of them are vibrant and expanding economies. So they meet all these criteria that
we refer -- that we have seen in other regions of the world that has also -- that have also progressed greatly in healthcare.

There's a growing investment, a growing aggregate investment in healthcare in the continent. So you see that already. So you're not going to bring anything new. That is already happening. So it's ripe for seeding and blowing later on.

So the continent still has huge infrastructure needs. And now you have the money, you have the population, you have the needs, you have a good primordial soup for this.

And the other thing that I have been forgetting to mention -- now I'm kicking myself -- is that I didn't make a reference to health insurance.

Health insurance in Africa is very underdeveloped. With the exception of South Africa it's in general very underdeveloped.

A country like Nigeria has only 7
percent of their people insured. I mean, the rest -- Nigeria is one of the highest out-of-pocket expenditures in the world.

So I don't say this from the lacking perspective. I'm showing this from the opportunity perspective.

When we were listening to Frank talking about M-PESA and the conversations that are happening about the possibilities of including basic healthcare, private healthcare insurance, using similar vehicles, that is the possibility that can be a reality.

Today we know that paying for basic healthcare service in Africa could cost roughly $100 per individual per year. It's not going to break any bank.

Of course, when you talk to an economy like Ghana, $100 per year is 10 percent of their GDP per capita. However, as these economies grow richer that figure most likely will go down and the capacity of the country to offer health to
its citizens both through private and public mechanisms will just grow.

We have larger and emerging middle class. And the challenges that remain, again, I present insurance from both the challenge perspective and the opportunity perspective.

One element that we have to consider is that universities -- and universities in the U.S. can establish better relationships, long-term relationships with universities in Africa for helping to people stay in an environment where they want to remain.

People do not necessarily want to leave their countries. But almost invariably every African doctor that I have met, one of the reasons she or he mentions she or he left the continent is because they didn't see opportunities for intellectual growth in the milieu they're working in.

And this could be a great opportunity for universities to establish relationships that
help and help in this particular level of African intelligentsia to remain in the continent.

The others, the issues of political instability. Of course, those always get in the way. DRC, the Democratic Republic of Congo should be one of the largest market healthcares in the world and it is not.

And it is not because it's difficult to arrange in geographic space. I wouldn't say even the country. The issue of corruption is true, it's pervasive and it makes difficult to do business.

When there are expectations about how you're going to manage a commercial relationship that is important. There's a huge discussion in Africa about the public versus private engagement or participation. Unfortunately, that is a false dichotomy.

I think like anything else in country, even a fellow institution like this one can work jointly with the private sector to advance and
improve conditions.

Healthcare problems are very complex. Assuming that a public sector or a private sector will fix them is just -- it's perhaps a silly conversation.

The issue of the consistency of the quality of care in Africa is still an issue because of the lack of infrastructure. And still the communicable diseases have not left us behind. So this is what I wanted to share with you.

CHAIRMEN RUNDE: Thank you very much. I'm really glad you're here. There's a couple of points I want to make.

One is that I think we get a steady public -- we get a steady diet -- there was a study done of the New York Times articles in Africa over a 15-year period and something like 80 percent of all the articles in the New York Times were negative about Africa. So we get a steady diet.
And so you're right that there are some -- obviously we don't cover the good news stories enough. I think there's at least 30 of the 54 sub-Saharan African countries have very healthy democracies, or have a lot of political stability. It's the bumpy ones that get all the media attention. And there's about ten or 15 of those.

There was a study done, funded by the Gates Foundation and IFC which is part of the World Bank about 15 years ago that even in a public -- that there's a very large chunk of the ecosystem of healthcare in Africa is still done even in public systems by companies, whether it's testing, or the equipment, and all that kind of stuff is done by -- or pharmaceuticals, it's all done by for-profit companies.

And an increasing amount of healthcare is out-of-pocket buy as you've described. So I think it's really important what you've put on the table.
I think your point about the fact that it's an enormous victory, an enormous success over 20 years of the United States leading, U.S. leadership plugging away on bending the curve on HIV/AIDS and malaria and other issues.

We're kind of on the 15-yard line, to use an American idiom term, I think on HIV in Africa. Maybe we're on the 20-yard line for malaria. I don't know about TB. I defer to you.

The point is we've made a ton of progress and there's a lot of -- there's an economic good news story to it. I just think a lot of the public health community likes to think in public health terms and doesn't like to think about this economic stuff.

And I think we need to link it. So I really appreciate you coming. So I know there's a lot of thoughtful people here. I'm wondering if, Chair Reed, do you want to make any comments?

CHAIRMAN REED: Yes. You made my heart sing just now. So it's amazing how your
experience in life comes together in amazing ways.

So for the past -- my prior role for seven and a half years was focused on non-communicable disease prevention and control. I put together a high-level side event during a UN meeting on non-communicable disease, hosted a global summit. And at this very moment there's an NCD global forum taking place in the UAE.

So as we look at what we're being charged with globally, and now what we are charged with doing here at EXIM in our new reauthorization legislation, we want to help support biomedical sciences in Africa, and around the world, and biotechnology, food biotechnology.

So we're going to get this on the radar with this audience that you speak to regularly. We want to help fund things to get at heart disease, cancer, diabetes, stroke, lung disease in Africa so that we hit that target of reducing NCDs 25 percent by the year 2025.
So we're coming at it now from a business perspective of how we can ensure our exporters of this great equipment that we make and these great services we make get into the arms of those in Africa who are facing huge health challenges.

So what recommendations would you have for us to better be able to do that and help our exporters know and connect with the great market to get our arms around NCDs in Africa?

MR. NEGRETTE: Thank you, Chairman. Tough question, frankly. However, I've been thinking perhaps I can share two areas of concern.

One has to do with assuming that transactions are only in terms of goods. Transactions are also in terms of information and knowledge.

So far I think the U.S. has been one of the greatest contributors in exchanging knowledge about health in Africa. A lot of
information that we have here about the way epidemics behave has to do with the research we have conducted in the continent.

In general, you see that outside of the U.S. and the way we ran our health institutions is highly appreciated. The managerial acumen of how do we run hospitals is appreciated.

So incorporating elements of exchange and equipment also in the knowledge, from consulting, to education, to anything that also fosters closer relationship between the people of the continent and the U.S.

Looking for structured ways for knowledge exchange. The U.S. have done it, but as Mr. Runde was saying, once the development corporation graduates the program we just leave the country and we don't continue providing -- not necessarily providing assistance, but we don't continue a relationship. That is one.

That takes me to the second point.
The conversation that happens in terms of healthcare investment in Africa, it covers from the direct investors and trying to set up a hospital, let's say in Nigeria, but also the inability of American companies to take advantage of what has been already invested in the continent.

The conversation between development corporation and agencies, and data space, or the $10 billion a year that we allocate to global health particularly happens apparently in a completely different space in which we do not bridge it with whatever could be done in these particular institutions, financing institutions.

And therefore it seems that public and diplomacy has been disjointed in that sense. So there's kind of not connections from important dots that we see.

CHAIRMAN REED: Annette, do you have thoughts on that as well? How we might better help our exporters get into the world of Africa
health NCD prevention efforts.

MS. MARESH: Chairman Reed, thank you for the question. I mentioned earlier that I think this agency, we're trade, not aid. But I think the African continent can use maybe a blended government-wide financial structure.

We are working towards that with our participation in the Prosper Africa Initiative. But I think we're still not efficient at that. So by blended financing I mean grants, loans, equity. Well, EXIM doesn't do equity. We provide debt. But I think that's a way.

And I think the agency under your leadership will need to empower staff to think outside the box a little bit.

CHAIRMAN RUNDE: Let me just see if there are folks on the phone first. Florie, are you on? Have you been listening to this?

MEMBER LISER: I have been, I have been. And I just want to say Chairman Reed was talking about sort of the way things come
together.

I was here actually for a round table that we were putting together on combating hepatitis in Africa. And, you know, I'm not an expert in this at all, but we were here.

And I just wanted to mention and link it up to things that Juan Carlos was mentioning which is true for hepatitis and others.

But they were talking about the importance of getting both the technical and financial resources and support that's needed across the whole range. They said it's not just about diagnosing people with communicable diseases and then coming up with treatment. It's also about prevention.

And then there's the issue of non-communicable diseases in Africa as Juan Carlos mentioned are also rising. And people need to be looking at not just treating diabetes and those kinds of NCDs, but also preventing them.

And I guess I'll just end by saying
that I was convinced with companies that were here and talking about the various things that they're doing that there's a huge role that U.S. companies are playing and could play to help African nations put in place the kind of universal healthcare system and the kind of soup to nuts, I don't know, there's a better term I'm sure, soup to nuts approaches to some of the health challenges that they face.

So again I'm ready to see kind of what EXIM can do to support companies who are prepared to provide both the products as well as the services that Africa needs in this area.

CHAIRMAN RUNDE: Kusum?

MEMBER LISER: Thank you. And if I could just say, I'm going to have to jump off now, but this has been excellent and I look forward to getting the readout of the rest of the meeting. Thank you so much.

CHAIRMAN RUNDE: Thanks, Florie. Kusum? Paul?
MEMBER KAVIA: Daniel, no comment from me. And I too need to jump off too. Thank you.

CHAIRMAN RUNDE: Okay. Paul?

MEMBER SULLIVAN: Sure. You know, I think as everyone knows I represent Acrow Bridge and I think when I listen to discussions about healthcare or ICT we're in the infrastructure space. I think it's important that sometimes these organizing principles of defining sectors is important.

However, it's really in many ways impossible to operate in silos because from what we've understood in our experience, our direct experience, is that without infrastructure a lot of the other things can't happen.

So agribusiness depends on smooth transport from rural roads to main arteries of transport to get to market. ICT, healthcare. There's a lot of things that are interrelated.

So as we consider more refined
strategies for specific sectors, I do think it's always important to maintain the forest for the trees mentality, that we can see how these are interrelated and help in that continuum of sustainable economic development.

CHAIRMAN RUNDE: Director Pryor?

DIRECTOR PRYOR: Thanks, Dan. Sorry. I was just looking back, and I'm sitting here listening to this and I'm thinking what can EXIM do, what can EXIM do.

And, you know, it just reminded me of a couple of projects that we did back in the day when I was at OPIC. Things like mobile health clinics in Ghana and equipment related. CT scanners. It always comes back to that.

But then listening to this presentation it's daunting because equipment means money and purchases. And if there's only seven percent of a population even covered by healthcare in any particular state it's a bigger issue.
So again, I think back to EXIM. I mean, what can we do in our small role, and then how can we encourage the rest of government going back to our whole of government approach to do what they can that makes what we can do that much more special or important.

CHAIRMAN RUNDE: I think that's a great question. Let me just suggest and maybe our colleagues have a view on this also.

I actually think it would be quite useful to have somebody senior from PEPFAR, somebody senior from Global Health Bureau, somebody from CDC, a couple of the big implementers that actually get chunks of this money and kind of dole it out.

For example, there's a billion dollar healthcare contract to move meds around. We're spending -- we spend about $9 billion here in foreign aid in Africa every year and we have been doing so for about 20 years.

It's an enormous lost opportunity.
We've made a lot of progress because of that money, and for people to say foreign aid doesn't work, well, I think Mr. Negrette's comments I think speak to over 20 years you can actually make progress.

But we've been a great partner to Africa. Are we going to be okay with having been such a great partner that now that they're in a better place that they're going to go off with the Chinese? I think that's an existential question for the United States.

So I think one of the things we ought to be thinking about, thinking about how EXIM Bank can play is let's get all the check writers and the keepers of the global health stuff interagency and have a conversation with them like this in a public session, maybe a private session to kind of push them a little bit. Because it seems to me we might hear from them and see how they think about this.

DIRECTOR PRYOR: Could I just add just
another component might be including U.S. manufacturers of equipment on ways that they can make some of this less level four hospital structure friendly and more mobility friendly. Because I think that's a big part of it.

MS. MARESH: I just want to say we do have a small business that does the mobile clinics. Sometimes in certain markets it's difficult because of the size of the road. But they are -- we do have companies in the U.S. that will take a trailer or container and you can get all the best healthcare.

I just think there's probably other companies that might be able to do that same. So we need outreach definitely. Thank you.

CHAIRMAN RUNDE: Eji?

MEMBER OKPA: I've got a question for you. You had mentioned about university collaboration, a partnership or pairing. And I think if there's an opportunity to identify capable U.S. companies or hospitals, equipment
manufacturers, that will say we are interested in doing this in Africa.

And then each time an African country wants to do something say look at the list of all this. These are teaching hospitals. And see if you can create a relationship with them.

And then with that, that will give a capacity for the loan or anything to be made. Because Africa is about brand, and American brand is what they want. No other country in the world has trained more healthcare professionals in Africa other than U.S. And so you have resident native Africans in this country who are running major hospitals, very sophisticated in their field.

They would love to either take -- for instance, my brother-in-law is a faculty member at UT Southwest in cardiology. He goes to Nigeria all the time.

If there's an opportunity for UT Southwest to partner, for instance, with
University of Nigeria teaching hospital, and then University of Nigeria said I want some equipment, well, with this partnership it will facilitate.

The other thing is most people under-weigh what Africans have. My sister just came here and had a surgery. When she paid cash for it the hospital freaked out. She's like no, we don't do this. She's like what. And there's a lot of medical tourism out of Africa to India, to all these other places. These people can afford it.

But the way the data is reported on Africa, you know, you say they're poor. They're not because they don't report their income. But when it comes to their health, and I think -- so that is an untapped opportunity where American companies can step in and create a partnership. And they will pay. Because some of this treatment can be done in-continent or in-country until the sophisticated part of it needs informing. By then through telemedicine they
will have established some relationship and comfort with their doctor.

There are some other -- for instance, ExxonMobil Foundation, Chevron Foundation in the oil because they do business would also want to step in, because, for instance, Nigerian NMPC has a hospital dedicated in India just for their staff to go for treatment. So we can reverse that if American institutions, operators of hospitals want to do that partnership.

So the pairing would be significant in helping EXIM identify who to make -- and they will pay. They will pay. Thank you.

MEMBER GOEHRING: Thank you, Chairman Runde. Thank you, Juan and Annette, for the presentation, the information. My wheels are turning. I'm thinking about so many wonderful opportunities and it may not directly be for EXIM Bank, but along those lines I think you really triggered a thought about universities making connections and for all of us to develop those
relationships, stay engaged.

I think it's a real opportunity to grow growth in Africa, and that means we're going to have to be there. We're going to have to be engaged.

But that sharing of information, one of the things you have up there in persistent diseases. I think about TB and how we're trying to manage that in developing countries.

And we're starting to have a resurgence in developed countries because of a lack of understanding, engagement, and the sharing of information. I think that's just another place the universities and the healthcare profession can work together to talk about prevention, talk about treatment.

So I very much appreciated all you had to share. And I think when you think about corruption and political instability that exist, I think identifying those three, four, five countries where you have some political stability
are good places to put in practice and develop by example and illustration.

And maybe it will foster some more activity in surrounding countries. Because it really is by seeing. But thank you.

CHAIRMAN RUNDE: Director Bachus?

DIRECTOR BACHUS: I'll just pick up on what the commissioner said. And you said political instability.

One thing that a lot of people that aren't familiar with EXIM's insurance product is it covers commercial risk as private insurance. Matthew, you know this.

But often specialized insurance brokers like Matthew will come to EXIM because private insurance doesn't cover political risk.

Our product covers that. So we don't preempt the private market, but a lot of the insurance that we supply is because of political uncertainties, even appropriation of changing governments, terrorism.
We actually cover the risk of terrorism, of terrorists. So it's an important distinction and on the other hand it doesn't cover transportation losses. And that's been a problem once or twice when people didn't have casualty insurance which most people do have.

But it does -- it even covers currency fluctuations. So.

CHAIRMAN RUNDE: Thank you. Other Committee members?

MEMBER BLUMENTHAL: I was struck by your relationship between income and healthcare spending. We see the same thing in food. The quality of the diet goes up with income.

But also I wonder how much the differences between our system and Africa informs what the bank finances.

So for example, most of our healthcare spending is end of life care, but when you have an average age of 19 and a half we might look at different healthcare products, wouldn't we?
Just a thought.

MR. NEGRETTE: Because of etiology of disease what you find for instance, malaria being highly prevalent, you find a lot of people from a very early age start to rely on pharmaceuticals for them to manage their condition.

So it is reflected differently of course, but it's a different form of care. So they have to -- and pharmacies in Africa are the first point of contact with a provider. In the formal sector, sorry.


MEMBER WORKS: I'd like to know if there's anything more we could explore in terms of private sector engagement in the process. Because when I think of my project finance background, for example, I think of contracted cash flows.

What can we do in terms of lending that we can feel comfortable that, A, we can
engage the private sector, but also cover principal and interest, even if it is concessionary in terms of being low-interest and long-term finance.

So I mean, leveraging the private sector would be interesting if you have any comments on that.

MR. NEGRETTE: Perhaps a couple. One is that it's very difficult to turn some of these relationships already well-established that could have an economic opportunity into an actual economic opportunity because there is not necessarily easy space in which you get that financing.

Let me give you an example. Setting up a center for trauma training in which the U.S. could export both talent, by that I mean knowledge, faculty, what have you, and equipment to set up something like that.

That is a conversation that would happen between let's say two universities, a
university in the U.S., a university in Rwanda. And moving that conversation from that space to a space in which financing could exist is very difficult because development corporation programs do not have a door open for those relationships or activities to be funded differently because it is outside their portfolio. It's understood why they do it, but it's not a space for that.

So creating an actual space to turn these multiple relationships that are already going on, these multiple investments that is already going on.

I did a cost-opportunity analysis for how much the University of Utah paid in global health collaborations, paid the university, global health collaborations was an outflow of $8 million a year for the university.

You multiply that by 100 universities that are pretty much the same in the U.S., you have a sizable amount.
So -- and those relationships are not brought back into the regular economic transactions. So that is an example.

This type of conversation has been incredibly elucidating for me. The previous presenter is just giving more opportunities.

So, what you were talking about, mobile units, or having smaller clinics connected via telehealth and you not having to have a very well trained doctor in every one of them because you could actually provide support to that, that is a possibility.

It's not yet a reality, but it's a possibility. We have it here in the U.S. and it works pretty okay in the U.S. in the Intermountain West.

And we don't think that it's going to be very difficult to translate that into another setting. Africa has already invested in healthcare in different accounts. And Mr. Runde referred to the way healthcare service is getting
And Nigeria alone spends $500 million or $1 billion depending who you ask in importing health services. By that I mean sending people abroad to have health services provided.

The East African community imports from India every year $100 million in health services. And they still don't build the facilities they need. So anyway.

CHAIRMAN RUNDE: So we need to see global health as a business opportunity, not just a public health issue. Right? Okay.

Okay, I think that's it. We're going to have a 15-minute break and we're going to reconvene promptly at 11:30.

(Whereupon, the above-entitled matter went off the record at 11:12 a.m. and resumed at 11:30 a.m.)

CHAIRMAN RUNDE: Okay, I'm going to ask -- we're going to be asking Amy Shinkman who's the vice president of export credit insurance at
EXIM Bank and Jennifer Billings, global agriculture development leader for Corteva Agriscience to help us look at the issue of agriculture in the context of agriculture in Africa and EXIM Bank. So Amy, I'm going to turn the floor over to you. Thanks for being here.

MS. SHINKMAN: Good morning, Chairman Reed, Chairman Runde, and the rest of the members of the Sub-Saharan Africa Advisory Committee.

Thank you very much for the opportunity to present to you this morning a little bit about my division at EXIM, how we're supporting agriculture and how we support sub-Saharan Africa.

So, my position at EXIM Bank, I'm the vice president of the Export Credit Insurance Division. In my division we are in the Office of Small Business and we underwrite all of the short-term insurance policies issued by EXIM Bank.

So we have about 2,000 customers.
They can be either exporters or banks. And we're always insuring any export that's sold on credit terms of less than one year.

So actually the vast majority of our policies are probably covering credit terms of maybe 60, 90 days, something like that. So a lot of short-term revolving credit supporting a lot of the sort of bread and butter of the economy.

So it includes a lot of agriculture, also manufactured goods, spare parts, other foods, anything that you would typically expect your foreign buyer to be able to pay for in a short period of time. So not a big project or big capital equipment.

There are three main reasons that our customers come to us for export credit insurance.

So, the first one is that especially a small business and especially in Africa might not feel comfortable offering credit terms to their foreign buyers just because it's simply too risky. So they can come to us and we can cover
that non-payment risk.

Another reason is a lot of exporters need to be able to offer credit terms, and particularly U.S. companies may feel uncomfortable offering credit to their customers without some sort of insurance. A lot of them prefer to deal on letter of credit terms, or cash in advance terms, and our insurance can allow them to extend credit to their foreign buyers.

And then finally a lot of small business exporters come to us because they need help getting financing for their export sales. And a lot of times banks will require that the receivables are insured before they are able to finance them. So those are kind of the three main reasons that people come to us.

In my division, we do support a fair amount of agriculture exports. It's one of our bigger sectors. So about a third of our shipments that we supported last year were shipments in the agriculture sector.
And this is anything from -- could be commodities, you know, soybeans, wheat, that type of thing, all the way up to wine or other more produced agriculture goods.

So about $635 million of our about $2.5 billion in exports supported by my division were agriculture last year.

Also, in the context of agriculture we do offer slightly better terms on our insurance policies than in other products. So if someone is exporting an agricultural commodity that's a bulk commodity we do allow them to offer extended payment terms of up to one year, and we offer a higher percentage of cover than we do for other goods. And this is really just to support our farmers and growers here in the U.S.

And then I'll talk a little bit about what we do in Africa. It is a small -- smallest really of all the regions that we insure in my team.

We're insuring a wide variety of
exporters all over the country. And so when you look at our shipment volume it's approximately 25 percent to Asia, 25 percent to Europe, 25 percent to Latin America and the rest is sort of everything else. And sub-Saharan Africa would be probably a pretty smaller portion of that last 25 percent.

But I wanted to just highlight for you because I thought it might be of interest to the committee one particular transaction that we've been supporting for some years in a more difficult sub-Saharan Africa market.

I'll also talk a little bit about an initiative that we've had to increase the number of countries that were open for cover in the region.

So, I'm sure many of you are familiar with our Country Limitation Schedule. And you'll see that many of the markets in sub-Saharan Africa have a lot of X's.

CHAIRMAN RUNDE: Can you explain what
that is for Earth people?

MS. SHINKMAN: Sure. Yes. So our Country Limitation Schedule is available on our website. It's really showing our cover policy all over the world.

So it's based on the country ratings done by the interagency process as well as by the OECD. All cover policy changes are approved by the Board of Directors.

CHAIRMAN RUNDE: Sorry, but if I want to export seeds to Burkina Faso is there a limit to how much you can provide to Burkina Faso? Is that what you're trying to say?

MS. SHINKMAN: No. The Country Limitation Schedule isn't going to give you a number. It's going to tell you what countries were open and for what tenor.

So you would have to look at Burkina Faso which I don't know off the top of my head, I admit, if we're open or not.

CHAIRMAN RUNDE: A Trivial Pursuit
question. Of the 54 sub-Saharan African countries are most of them open, or are some of them closed?

MS. SHINKMAN: So, I would say many of them are closed. There's different categories of those markets. I think for many years we've been open in South Africa, in Nigeria, and some of the bigger markets.

In many of the more difficult countries -- yes?

DIRECTOR PRYOR: I think we're open in 48 of 54 countries.

MS. SHINKMAN: Oh, perfect.

DIRECTOR PRYOR: But the terms are not universal across those 48 countries.

MS. SHINKMAN: Right. So I think one initiative I was going to talk about -- it's a good segue into that -- is back in 1998 our board of directors introduced a short-term sub-Saharan Africa initiative. And that initiative was really a way to try to offer short-term cover in
sub-Saharan Africa markets that we would otherwise have been closed in.

So basically where the markets had a rating which was low enough that we wouldn't normally be able to offer even short-term cover in those markets.

Since 1998 we have under certain circumstances been able to offer only short-term cover, so only in my division up to one-year cover in certain of the more difficult countries in the region.

So one example of that that I just wanted to briefly talk about now is a case that we have in Liberia so since 2014.

This is under a letter of credit policy. So we have a U.S. bank has come to us and said we want to support export of -- let me get the commodity -- hard red winter wheat from a large trader in the U.S. And they are supplying I think pretty much the only, or the largest flour mill in Liberia. And they're doing
so with the support of a letter of credit issued by a Liberian bank.

So we're able to underwrite the risk of the Liberian bank and support the U.S. bank and U.S. exporter. And since 2014 we have supported about $40 million in exports of wheat to Liberia. So that's a success story we've had in what can sometimes can be a very difficult region, difficult country.

CHAIRMAN RUNDE: So, thank you, Amy. Thank you very much. Jennifer, please.

MS. BILLINGS: Thank you so much for having me here with you all today. And I'm excited to share more with you about Corteva Agriscience as well as our presence specifically in Africa and our partnership efforts that we have to date and how we're looking forward to partnering with EXIM as well.

So Corteva Agriscience for those of you who don't know is the combination of the two legacy companies of Dow and DuPont. Corteva spun
off in June of this past year. We officially launched as our own company.

We are a $14 billion company with 22,000 employees and presence in 140 countries. So a very large, truly global company.

About 50 percent of our sales happen in the U.S. and Canada. And the other 50 percent of our sales happen in other countries around the globe.

In Africa we have over 1,000 permanent employees and thousands of seasonal employees that work on sales of our products.

And I should back up to say that our main product areas are seeds, crop protection, and digital tools for agriculture.

And our purpose is to enrich the lives of those who produce and those who consume. So as a new company we're truly looking at our role within the food system and how we can -- how our products are sort of the beginning of a lot of food value chains, and how that reaches all the
way down to consumers and along the way impacts a lot of lives and communities.

In Africa like I said about 1,000 permanent employees. We also have 16 million smallholder farmer customers. And I think as most people are already aware smallholder farmers are critical to improving food security and reducing rural poverty.

Last year, for the third year in a row, global food insecurity increased. So global food security decreased for the third year in a row. This is according to FAO.

We are back to 2010 levels of global hunger. And Africa in particular is afflicted the most. About 20 percent of the population in Africa is malnourished.

One of the latest World Bank studies also said that for every dollar spent in the agriculture sector you get four times as big an impact on reducing poverty than a dollar spent in any other sector.
If you think about where the most poor, vulnerable, and food-insecure people live it's in rural farming areas. And that's where I'm very proud that Corteva comes in with our technologies that are technologies that are developed and researched in Africa.

We have I think about 14 research stations there including the largest insect research station on the whole continent. And we are developing local solutions for local challenges.

Our seeds not only increase productivity for farmers. In fact, drastically increase. We're seeing yield increases of about 300 percent on average in places like Ethiopia and Tanzania just from a farmer switching from a different variety to our hybrid seed variety.

And I should clarify as well that obviously we work within the regulatory frameworks of all of the governments within Africa. So at the moment all of the seeds that
we market in Africa are hybrid seeds, not GMO seeds. Although we would like to see farmers have all the tools in the toolbox in the future.

We also market products that maybe people don't traditionally think of as really having a huge impact on lives. I'll give you an example in the crop protection space, actually two examples.

One is herbicides that reduce the need for hand weeding from four times a cropping season to zero. So you can imagine a place like Zambia or Tanzania. Women and children are the ones out in the cornfields hand weeding. And it's a very back-breaking, terrible labor.

And this product eliminates the need for that so that they can devote their time and resources to much more socioeconomic productive activities.

We also have some amazing products that are EPA Green Chemistry Award-winning for pests including fall armyworm which has been a
huge pest in Africa and caused a lot of devastating crop loss, particularly for corn across Africa.

And now with the locusts that are also afflicting Kenya in particular and other parts of Africa we have products for those pests as well.

On digital we are at the moment really just offering digital products in the U.S., but we are working to partner with organizations or companies like Safaricom that's a part of Vodafone to plug into existing digital platforms.

Because there is this large proliferation of new platforms across places like Africa and Asia that, at the moment there's not a business case for us to develop a digital tool that's solely dedicated towards a smallholder farmer customer segment.

We are also working quite extensively in partnership with other organizations, including the U.S. government. So we have partnerships with USAID, USDA, the Foreign Ag
Service, State Department through the embassies. I'll give you a few examples of those.

In Tanzania right now we're working with USAID on the flagship Feed the Future project called Nafaka where we will be reaching 400,000 smallholder farmers.

We've already been in this partnership for about a year and a half and it has about another two years to go. And like I mentioned before we're seeing those very drastic yield increases and the improvements to labor reductions.

I should also mention with weeds they're very -- well, all of our products have a climate angle as well. So you can imagine that when weeds compete with plants, they suck 30 percent more water out of the ground.

And so if you could eliminate those weeds you eliminate 30 percent of the need for water on average.

And our seeds are designed to be
climate adaptive. So for example, in Tanzania where farmers are facing long, heavy rainfalls our seeds are designed so that the corncob develops later in the season so it's not full of moisture by the time it's ready for harvest. Moisture causes fungus which leads to aflatoxins which lead to cancer and stunting. So not only the climate adaptive part, but the health impact as well.

I am particularly proud to work for Corteva because it is the largest U.S. agriculture company. And we are innovating every day. We spend $4 million a day on research and development.

Technology -- I've worked my whole career in global food security. I used to work for USAID before I joined Corteva. And I firmly believe that technology is the key to achieving global food security and reducing global poverty.

Farmers in Iowa and Indiana and Nebraska didn't achieve huge increases in yield
and improved soil health and better resistance to pests through more dedication to their farming.

A farmer in Iowa or Indiana is just as dedicated as a farmer in Kenya or Tanzania. The land might be marginally different, but really the huge point where there's change is around the use of technologies.

One of my favorite anecdotes that I've been sharing recently in venues like this is something that I heard from Ambassador Kip Tom who's our U.S. Ambassador to the UN food agencies in Rome.

He told a story at a dinner a few months ago that he keeps a hand plow in his foyer at his residence in Rome. And that hand plow was built in the late 1800s and used by his grandfather on his family farm in Indiana up until the 1930s.

His grandfather is in his 90s. Still alive. And when he wants to get out of the house and be engaged in the farm he goes out and sits
on the front porch with his iPad to check on the fully automated tractor that's sending back satellite data, precision data, and giving him all this information that he could never have ever obviously possibly achieved from a hand plow.

So just in a relatively very short amount of time, the U.S. has advanced in agriculture technologically. And those same advances are and can be delivered more to emerging economies such as those in Africa.

So we're excited to -- and the last thing is that I asked my colleagues and it turns out we're exporting over $1.5 billion of seed and crop protection products from the U.S. each year.

CHAIRMAN RUNDE: To Africa?

MS. BILLINGS: Not to Africa alone, no. That's globally. To Africa, I think that's about 20 percent of those exports.

CHAIRMAN RUNDE: Three hundred million dollars.
MS. BILLINGS: I'll trust your math better than mine.

CHAIRMAN RUNDE: Jennifer, thank you very much. So, you were at AID before this and thanks for your -- you have a really distinguished career in agriculture and agribusiness and food security.

If I think about places like Uganda or even Congo if it could get its act together, a place like Pakistan. Like we're going to need a series of kind of new American heartlands. We're going to need to create sort of a series of new breadbaskets to meet the challenge of feeding 9 billion people. And Africa I think can be a part of that.

So, and the U.S. government spends about $1 billion a year on Feed the Future and food security stuff at AID. So you were at AID.

So, how do we get -- how do we translate all of that spend into leveraging sort of the great technological breakthroughs of
fabulous companies like yours, and how does EXIM Bank play in that? What's our homework assignment here at EXIM Bank given all of this?

MS. BILLINGS: Absolutely. So I think first of all the whole methodology behind Feed the Future was genius, that it was -- from the get-go the designers of Feed the Future wanted it to be private sector led, market-driven.

Development is an imperfect science. Is it always -- do they always do it right? No. But for the most part Feed the Future, value chain programs I think are designed very well to engage the private sector.

And through things like working with village-based advisors. So small rural agridealers that are carrying a variety of products.

And at Corteva we want farmers to have choice. So we don't want that rural agridealer to only carry Corteva products. We want them to
carry a range of products.

And I think that USAID is doing a very good job at engaging companies like ours as well as local seed companies and other competitor seed companies of ours as well to make sure that we're working hand in hand in those programs so that when the program ends the interventions and the presence of the private sector in those communities doesn't just evaporate. And I think that there's a lot to be said for that.

I think with EXIM, I'm really excited to look at how we can increase the trade of our products. Because with volume comes reduction in price. With economies of scale we can reduce the price that then is passed on to those farmers.

So I would love to see where we can work together to reduce risk, to -- in emerging markets where we are absolutely present and working and operating and marketing products, and where we can reduce the cost that then is passed on to farmers as well to make those products even
more available.

CHAIRMAN RUNDE: Commissioner?

MEMBER GOEHRING: Thank you, Mr. Chairman. Thank you, Jennifer, thank you, Amy, for the information and the presentation this morning.

I do have to share with you, Jennifer, that I do actually utilize one of your apps to make better decisions on my farm.

MS. BILLINGS: Excellent.

MEMBER GOEHRING: It helps with varieties and genetics, and it certainly helps mitigate a lot of different issues out there.

And I do believe that looking at digital tools too often people think about, well, it's much like you had described with the gentleman that sits out with his iPad on the porch and collects information about seeds, variable rate technology that's being applied for not only seeding, but fertility and adapts and looks at different soils.
But it's other things. And it goes back to that app that helps you make better decisions given the microclimate you're in, the soils you're dealing with, their ability to start looking at better crop protection tools.

When you look at the U.S. I think we've got a great story to tell that the rest of the world really wants.

When you think about from 1996, and if anybody knows what happened in 1996 the revolution of biotechnology. We began through different practices, systems, conservation tillage of now saving 100 billion tons of topsoil every year from wind and water erosion in the United States. And that's since 1996 every year. That's just amazing.

Think of what we can do to develop a better system in other countries by helping them as we advance forward in feeding the world together. I think there are many wonderful opportunities.
And although it shouldn't be a threat to many of our farmers sometimes it's perceived that way. But as we help others get a better foothold on being a little more self-reliant they do end up being better trading partners as we go forward. We all produce different things and we all have a responsibility to our community, our country, and the world.

So I applaud many things that Corteva, many of our companies do to help our farmers here in the United States, but also in North America, South America, and the rest of the world. So appreciate it.

MS. BILLINGS: Thank you.

CHAIRMAN REED: Thank you for joining us. In my prior life not only did I work on non-communicable disease, but also on the topic of food and agriculture. And that's been a priority. And I really want to thank Amy and the Small Business Division at EXIM, even in my confirmation hearings noted that ag was very
important.

We're going to go from a population today, increase it by 2 billion, from 7.8 to 9.8 billion between now and 2050. And we have got to substantially increase our food production to be able to feed the planet.

Also, we have a lot of great food and resources in our country. We are blessed with a lot of land. And we want to help our U.S. exporters and U.S. companies including small businesses to be able to export more.

And of course transportation is key around the world. And we make some great transportation including refrigeration. It's very important.

So, I think you were here earlier today when I talked about we have this new mandate to take China head on on China's terms.

And biotechnology is one of our call-outs that we need to do as we focus on 20 percent of $135 billion. Do you have any views on what
China is doing in Africa when it comes to competing with Corteva and other U.S. companies and how we might get a handle so that African nations buy our great products instead?

MS. BILLINGS: Absolutely. Thank you so much for that question. I think you're probably all aware that Syngenta was purchased by the Chinese government I think about a year and a half ago.

Syngenta is very active in Africa. Very active. Also, a lot of the infrastructure work that the Chinese government is involved in in the loan-to-own type agreements is related to agriculture.

If you think about roads, and ports, and things that connect markets, there absolutely are linkages to agriculture.

I think that there's also a sentiment that I hear from my colleagues that there is a preference for customers and governments to work with U.S. companies.
They realize that U.S. companies come with a certain set of values and ethics, and that preference still exists today in Africa.

If it's not a level playing field, I fear that at some point that preference might shift because of cost considerations, or other things.

I also think that there's a huge influence of counterfeit agriculture products in Africa that are of Chinese origin. That's a huge concern for us and other companies, and obviously for the farmers who are expecting one thing and get something completely different, including counterfeit products that copy our branding as Corteva which is very unsettling.

That's where tools like EXIM I feel are so critical. Because anything that the U.S. government can do to help level the playing field for U.S. companies and to help reduce some of the risk that we see in emerging markets so that we can grow in those markets and in partnership with
other U.S. agencies as well I think is a very good thing because absolutely agriculture is something that I have seen that the Chinese government is interested in in Africa and I don't think that's going to go away anytime soon.

CHAIRMAN RUNDE: I think China sees Africa as its granary.

MS. BILLINGS: And not just China. I've seen Middle Eastern countries who are interested in purchasing large swaths of land so that they can grow food on them and immediately export it.

And from my perspective that -- given how food-insecure Africa is, that's pretty unacceptable. I mean there's a component of it's good to export and all that stuff too, but I feel like there's a lot to be said for working on ensuring domestic agriculture in African countries as well as fair export arrangements for them.

CHAIRMAN RUNDE: Director Pryor, do
you want to make a comment? Others?

MEMBER OKPA: Hi, Jennifer. Thank you for your presentation. My question really comes to food in Africa. There's a lot of waste because of lack of storage facility that addresses with ice cold storage or the dry part of it. And then you also have transportation, moving from farm to market.

So what do you think would be a way for U.S. companies to assist in that? The food wastage in Africa is huge. You travel by the road, you see fresh produce being sold by the market and after a few hours, it's thrown out.

So that is a significant opportunity that the African Import Export Bank has been expressing. A U.S. company that can come in and do maybe a co-op of storage facilities where these farmers can go in small leased spaces and put up their products so that they can sell it.

And then is there any value-add? Because it's not just the raw part of the food.
How about the processing to be able to -- I know the Prosper Africa, what can come back into U.S. processed and be able to make it to the U.S. market? Do you have any thoughts on those?

MS. BILLINGS: Yeah, sure. So first of all, in terms of the food storage us as Corteva, we are very much an inputs technology company. But that's why we love partnerships because when we partner, we can bring in the strengths that other organizations bring for other components of the whole market system.

So access to credit. We're not a bank. And so by bringing in bank partners and other agencies, it can really help with that.

On post-harvest storage and handling absolutely. It's a huge component. There's no point in our farmers growing much more with our products if they can't get it to market properly and receive increases in income from their sales.

Also, on transport and market linkages, all very important. And that's where
we try to bring in lots of different partners, mechanization. We work very closely with John Deere. In Kenya we work with Land O'Lakes as their subsidiary has a feed company that a lot of our grain is used for animal feed. I could give a zillion examples of how we're linked into the whole food chain and working and leveraging the work of other partners.

But I did want to also mention what I've seen in my experience previous to Corteva in terms of storage is some -- the need for innovation in all areas of agriculture.

So, innovation in storage is just as critical as innovation in seeds. Take for example the PICS bags that were developed by Purdue University, the double-walled hermetically sealed bags that can store grain without letting the pests in and the moisture in. And that was developed through a USAID grant to Purdue University here in the U.S.

I've seen a company that also received
a USAID grant that was able to retrofit an air conditioner to any space to turn it into cold storage. It's a small business Colorado company called Store It Cold and they're doing this cold storage across Guatemala to store green beans that you're probably buying in Trader Joe's this weekend.

So it's pretty amazing that these small companies can come in with innovative solutions. And I think it takes training and that's again where we love to partner with USAID and others because that kind of training about post-harvest storage is not going to come from Corteva. It's got to come from those other partners.

Then the last question -- oh, food companies. We are also part of a platform called Partners in Food Solutions that's a consortium of DSM and Buhler and General Mills and others that provides capacity-building for African food companies.
Because a lot of it is demand-driven for market linkages. So if we can build the capacity of African food companies to process and value-add foods into the local market or for export, it's beneficial to our farmers as well because it creates a market for their products.

And we are partnered with food companies, say for example, in Nigeria we have a joint venture with Flour Mills Nigeria which is the largest Nigerian food company.

We work with lots of other food companies as well where our products are inputs -- what our farmers grow are inputs for their food products.

MEMBER BLUMENTHAL: I don't know if you see this, Amy, but from what I hear from the trade, one of the reasons why they prefer EXIM over GSM-102 is that you all --

CHAIRMAN RUNDE: What's GSM-102?

MEMBER BLUMENTHAL: Oh, sorry. That's USDA's export credit guarantee program.
Is that EXIM is willing to do more of the due
diligence on the foreign banks whereas USDA
pushes that on these small transactions that
isn't cost-effective to do that kind of work.

And Jennifer, you raised sort of the
issue that I always have with development
specialists in that smallholders are the solution
to food security.

And I always argue it's actually the
opposite because agriculture is subject to the
economies of scale just like any other industry.
And food insecurity correlates with the size of
farms in countries. And so does everything else,
education and health and everything.

And that involves -- so smallholders
are actually a social/political problem to deal
with in these countries. It's very hard to get
them to be able to afford technology as
smallholders I would say would be one thing.

In terms of Africa, by the way, we had
$41.5 million worth of seed sales to sub-Saharan
Africa last year. And that was up 14 percent.

We predominantly export wheat and poultry. We would probably export more except for the trade barriers that we encounter and that's why I think the President's initiative to do a free trade agreement with Kenya could very much help with our commodity exports.

But overall sub-Saharan Africa is a pretty good market for us from this standpoint. Last year when our export sales were down due to the trade war and everything, our exports to sub-Saharan Africa were up 21 percent. And they were up 18.4 percent in the first quarter of this fiscal year.

So it is a growing market for us. I think Chairman Reed focused on biotech and Corteva's into the input side, and I really think that's where the opportunity is.

Particularly we have our input suppliers like AGCO and Deere and everything. They're kind of sucking wind right now. And they
do have what is needed.

One thought I would give just from looking at the region. If we look at Brazil, Brazilian agriculture has been booming. And if you go back to when the Earth was Pangaea, one giant continent, Brazil was basically tucked up as part of West Africa. And so the soil types are very similar.

The difference is that West Africa doesn't get the consistent moisture. And the biggest under-investment in the region is irrigation. That could be said for other parts of Africa as well.

These are just thoughts. I don't think we can solve the problem of land rights and governance, but just in terms of what the region could use and what we could supply I'd probably look at the input side.

MS. BILLINGS: And just to clarify that for smallholder farmers, we don't work with subsistence farmers. We work with -- we define
smallholder farmers as 10 hectares or less. But really we are mostly working in the 5 to 10 hectare range with smallholder farmers.

And I agree with you, economies of scale absolutely. But the reality of today is that the vast majority of farmers in Africa are smallholder farmers.

So in order to graduate them to be larger farmers, they need technologies. And they need improved practices. And that's the only way you're going to get that graduation scale to where you want to see those economies of scale.

Also just to clarify that as Corteva we absolutely work with all levels of farmers. And we engage partners with all levels of farmers.

In fact, we are currently designing a partnership in Zambia with USAID that's related to what we call emergent farmers. So farmers that are more on the 30 to 50 hectare scale that I think you would consider to be more of those
economies of scale because we do see that as a huge driver of food security and poverty reduction as well, absolutely.

And in places like South Africa we almost exclusively work with larger farmers because that's the market at the moment.

And on the biotech side I completely agree. We actually -- I know I've mentioned USAID's name a lot, but we have recently been included on many proposals for a $70 million USAID project.

That's a biotech project that I think was a very important political statement if nothing else to say that USAID wants farmers to have all the tools in the toolbox and they're going to support the regulatory enabling environment and the development of new technologies that might drive us in that direction.

MEMBER BLUMENTHAL: Thank you. And if I could add, we are getting much closer to
biotech approval in other countries, Uganda, Kenya, whatnot. So we're getting closer.

CHAIRMAN REED: So I actually have a question for Gary and also to inform our staff. So, Gary used to be chief of staff at USDA in a prior administration and so you know the workings of USDA and their programs.

And so we are working with USDA right now trying to get our arms around how we might better cooperate together. I saw Secretary Perdue yesterday at the White House and I'm aiming to get him to our annual conference so we can really share our commitment across a whole of government.

And great groups like what Commissioner Goehring is now chairman of, National Association of State Directors of Agriculture. We look forward to presenting at your meeting in a couple of weeks. But it's very important, the whole of government, state and federal and local.
But what advice, since you know USDA so well, you would have for our EXIM staff and for USDA staff to be able to be helpful to our country's exporters? And I don't mean to put you on the spot.

MEMBER BLUMENTHAL: No, that's good. And by the way, I want to say that as I talk to the ag community, this agency has done more outreach to them than I've ever seen before.

I hear that EXIM has spoken to the industry like I've never heard before. So you're already doing more than most.

It's hard to say. If you look at Foreign Ag Service I think they're in five countries in sub-Saharan Africa. That's it. There's no footprint there because there really hasn't been the commercial interest.

And in many respects, it's helping USDA inform the industry about everything that we've heard here today. I mean, this has been great from putting the region in perspective
about how -- it reminds me, Brazil was always the land of the future and it always will be, was the joke.

And it's always been Africa is going to happen, but when. But we know now from the data that it is, and that message I don't think has gotten out yet. And we just need more communication work. And that's probably where USDA could do some work.

Certainly the interest in diversifying away from a single market, China, should increase the interest in the African region.

DIRECTOR BACHUS: The Chairman mentioned USAID. Hyder, is it Syed? Do you know our contact with USAID? Do you know? Do you know him?

CHAIRMAN RUNDE: The liaison with the EXIM Bank?

DIRECTOR BACHUS: Yes. It's Hyder, H-Y-D --
CHAIRMAN RUNDE: Someone in the legislative and public affairs probably.

DIRECTOR BACHUS: I didn't know if you all knew him.

CHAIRMAN RUNDE: Jennifer just came from AID so she knows AID very well.

MS. BILLINGS: Almost two and a half years ago.

DIRECTOR BACHUS: I don't know -- his last name is S-Y-E-D. Anyway, he attends all our Board meetings. It would probably be, I think, advantageous for USAID and for us if we notified him about our Advisory Committee meetings.

CHAIRMAN RUNDE: Director Bachus, I think it's a good point. I think there's a larger issue around agriculture. As I'm thinking about each of these it seems to me we ought to have the State Department Feed the Future person in the room, the AID point person for Feed the Future in the room.

I think Ambassador Green who leads AID
is really -- sees with agriculture. Let's get the right USDA person, Foreign Agriculture Service. Let's get them all in a room and talk about agriculture in Africa.

The theme across the day has been interagency. EXIM Bank is an enormous checkbook. You guys have just gotten a Ferrari so let's take it out for a drive.

And it seems to me that -- but we're going to need to kind of bring our friends at TDA and others to the table to kind of take full advantage of the Ferrari.

So I think, Director Bachus, I think your point about how can we work across the interagency including AID is a good one.

DIRECTOR BACHUS: And the other thing, and this is just because I attended the U.S. Latin American Chamber in Atlanta yesterday. And we had six or seven of the ambassadors from the Latin American companies that actually came to Atlanta for that meeting.
And I'm sure you worked very closely with them when you were assigned to Latin America.

MS. BILLINGS: Yes.

DIRECTOR BACHUS: There were several businessmen there yesterday who knew almost nothing about EXIM. So after the meeting they were coming up and seeing.

But the contacts there, with each country there is a person with the Chamber in that country that's with like Oracle and others-

(Simultaneous speaking)

DIRECTOR BACHUS: -- another which we could network with them. And maybe even invite -- see if the U.S.-African Chamber would like to attend some of our meetings.

CHAIRMAN RUNDE: That's great. No, I mean we're very fortunate that Florie Liser who's on the SAAC runs the Corporate Counsel on Africa.

But I also think we could of course
invite to the public meeting the U.S. Chamber and the Africa Bureau. Thanks, Director Bachus, thanks so much.

DIRECTOR BACHUS: But I want to say this. If you hadn't read Jennifer's bio, it's very impressive. I'm just amazed.

MS. BILLINGS: Thank you.

DIRECTOR BACHUS: And could I -- where did you serve in the Army? Were you in Afghanistan there?

MS. BILLINGS: I was, yes, sir.

DIRECTOR BACHUS: I suspected that.

MS. BILLINGS: Yes.

DIRECTOR BACHUS: When were you in Afghanistan?

MS. BILLINGS: I was in Herat for six months, and then ISAF, the Italians came and took over our base and I moved to a FOB in Mitarlam over on the Pakistan border. So I went from the Iranian border to the Pakistan border.

DIRECTOR BACHUS: Thank you for your
service. You know, we're under a special mandate with veteran-owned companies too.

CHAIRMAN RUNDE: Thank you for your service. Jennifer, thank you. Amy, thank you. We're now -- we need to go to the public statements. This is a public meeting so many of you have been patiently waiting to make a public statement. So I want to give this open mic night now. So if you want to make a statement the microphone is there. And so I give you an opportunity to do that.

Okay, don't all rush up at once. This is great, this is good. Okay. Well, I'm going to kind of go going once, going twice, going three times. That's great because I'm hungry. So that's good.

So, can I ask Director Pryor, you've been tasked to be the point person for the EXIM Board on Africa. I just think it would be so important to hear from you, Director Pryor, after this day of very useful commentary and insights.
DIRECTOR PRYOR: Thank you, Dan. And I probably could say that, like many of you in this room, I share a passion for Africa and all of the opportunities that it holds for both America and the continent.

So thank you to all of our presenters, Chair Runde. I think we took an important step today in adopting a letter to Chairman Reed on how EXIM can integrate with other U.S. government agencies to fulfill the vision on Prosper Africa.

I hope I speak for my colleagues on the Board when I say we look forward to reviewing this letter and working closely with our interagency colleagues to open markets for American businesses first and foremost, which in turn helps grow Africa's middle class, and improve the business climate which in turn can provide economic stimulus and opportunities for currently underemployed individuals across the continent.

And as Frank mentioned earlier that
number is fairly daunting when you look at it on a PowerPoint presentation.

Congress has given EXIM explicit direction to focus on supporting American exports to sub-Saharan Africa. And more recently directed this agency to lean in on industries including biotech, biomedical, and renewable energy.

Our presenters today shared important information about their areas of expertise. ICT, healthcare, agriculture, all provide tremendous growth opportunities in sub-Saharan Africa, indeed on the whole continent. And they're also areas of American leadership.

So to recap, as Chairman Reed mentioned at the beginning of our meeting, sub-Saharan Africa is home to 6 of the 10 fastest growing economies in the world with over 1 billion consumers.

And it's poised today to play a pivotal role in the global economy. So won't we
make one of the best partners for Africa?

Access to high-quality hardware including satellites, health clinics, medical equipment, agriculture goods and services will play key roles in ensuring Africans are able to grow their economies, fight poverty, improve the health and well-being of their communities.

We heard from Mr. McCosker about the importance of connectivity and the possibilities for U.S. businesses, everything from last-mile to undersea cable to better use of spectrum. It's an exciting time for ICT. Indeed it's probably one of those foundational elements that every conversation can stem from.

Whether they're new entrepreneurial startups or established entities with entrepreneurial spirit, a whole of government approach is critical for a U.S.-Africa ICT partnership to bloom.

Juan Carlos Negrette, Mr. Negrette highlighted how challenging healthcare is on the
continent, how much progress we've made anyway with initiatives like PEPFAR, and how EXIM can play a role moving forward.

We just need to identify what those opportunities are for American industry. Healthcare is a global opportunity, not just a concern.

And finally, we heard from Ms. Billings. And I'm sorry that I coughed through half your presentation and left the room, so I know I missed some valuable information. I hope we can catch up later.

But it just seems that what I did catch and what I kept hearing most was that employing technology can be a game-changer. So thank you for your comments also on Chinese versus American products.

I think to use the phrase you're preaching to the choir. We hear this day in and day out. It's something that we think a lot about. It's something that Congress has now
mandated we take a closer look at, as Chairman Reed described earlier.

And I loved your comments also that American industry, American business provides value, high quality, and we're transparent throughout the process. And really, we do need that level playing field and that's where EXIM can play an important role.

So in conclusion, sub-Saharan African countries are important partners to the U.S. and represent a market that Congress has explicitly directed EXIM to focus on and for good reason with the workforce population growing to 910 million by 2035.

Clearly economic security is tied to national security, and indeed, global security. I look forward to hearing from the committee about how we can support economic growth through the financing of American goods and services needed to support sustainable economic development on the continent.
And not only support U.S. jobs, but increase opportunities for those that are coming of age on the continent and will need jobs.

So I think that's how I'll conclude. I'll turn it back to Chairman Runde and say that I am excited about the next conversation we're going to have with the subcommittee.

And thank you again all of you for participating today. This was incredible information. And including our audience members, thank you for listening. The more that we talk about these issues the greater opportunity we expose and the more we can work together to see Africa succeed and U.S. businesses take advantage of this opportunity. So thank you very much.

CHAIRMAN RUNDE: Thank you, Director Pryor. Thank you, Chair Reed and Director Bachus and all of you for staying. This was a lot.

This is not an elective for us. Africa is not an elective. We need to see it as
an opportunity. EXIM Bank is going to be a key part of it.

We need to have a different kind of a relationship with the interagency to take advantage of it. But we also need the American private sector to see Africa as a business opportunity and we have to work on that collectively.

But I think that the SAAC has our work cut out for us. We'll be putting together some recommendations based on this conversation as well as the conversation we're going to be having in the subcommittee later today. And we know that it's something the Congress wants us to be doing is to help the EXIM Bank in making sure that it's a very active and even more active partner in Africa.

So I know there's lunch going to be served back there, I think, in the other room. So, thank you all for being here and please join me in thanking all the speakers.
(Whereupon, the above-entitled matter went off the record at 12:23 p.m.)