TRANSCRIPT

Online Event
“Pfizer CEO Albert Bourla’s ‘Moonshot: Inside Pfizer’s Nine-Month Race to Make the Impossible Possible’”

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FEATURING
Albert Bourla
Chairman and CEO, Pfizer

CSIS EXPERTS
John J. Hamre
President and CEO, and Langone Chair in American Leadership, CSIS

Transcript By
Superior Transcriptions LLC
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Hello, everyone. My name is John Hamre. I’m the president of CSIS here in Washington, D.C. We have a rare opportunity today to talk with Dr. Albert Bourla. He is the CEO of Pfizer. And he’s just written really a fascinating book called “Moonshot.” And we have the privilege of having a conversation with Dr. Bourla today. I suspect that many – I know many people have read the book, but I suspect that many of our viewers today will not really have had a chance to read it yet. So let me just start with asking you, Dr. Bourla, for a brief snapshot. Why did – why did you write this book? What were you hoping that readers would take from it?

First of all, allow me to thank you, Dr. Hamre. It is a great honor for me to be part of this conversation. As you know, the events of – during the nine months, ten months of the first period of the pandemic, Pfizer became part of history. And I wanted to make sure that I leave behind a record of how things evolved. I wanted to make sure that I leave behind a record of the facts, and the way that we saw things. Because we all know that history many times depends on the point of view, where everyone sits.

The second reason was that I felt a little bit bad that all the lights of publicity fall on me. I became the face of the company. And as a result, everybody was thinking that I did the vaccine. Actually, I was part of a team that did the least. It was so many people that worked to make this happen. And I’m not talking only about the thousands, literally, that worked, but there were 30-40 people who were pivotal because they had to make important decision, they had to make – to use important judgement, scientific or engineering. And I wanted also to leave a record with their names and their contributions into that. So you will see in the book that I refer a lot to everyone that played a role in this miracle of science.

Well, you did that. And I was impressed by that when I read the book, that you were generous in sharing your – you know, the credit to a remarkable team of Pfizer scientists, you know, who took on this challenge. But, you know, the scientists at Pfizer, really they’re marvelous, I know, but they don’t operate in isolation. They’re part of a larger network of research scientists in positions spanning the globe. Can I ask you, what are your thoughts about this larger research network that exists? And how does Pfizer fit in to this large network?

Things are very, very different today than it used to be just 10, 20 years ago. The amount of knowledge that we have right now about biology and the fact that this knowledge can be really propelled through the advances in technology with computational power gives us enormous amount of scientific leads, ways that we can use to attack diseases.
In the past, because this knowledge was really limited, singular bets that one or the other institution could place – scientific bets – could make sense. Most of the innovation was coming out of the big pharma or the big Ivy Leagues. Today, they're coming from an – over a universe, an awesome – thousands of biotechs or scientific institutions. They're small, each one of them, and each one of them is working on a piece of science.

So the only way that we can be effective is if we work – if we become part of this ecosystem. In Pfizer, we call that concept the partner of choice. We want to make sure that everyone – academia, biotech community – feels that in Pfizer they can find the partner that they want to work, that it is the one that they are choosing.

A good example is our collaboration with BioNTech, that together, the big Pfizer and the relatively small biotech at that time – now is big because of this collaboration – we were able to come together and provide the solution to the world that saved, literally, millions of lives. But they're not – and NIH, the government. They partner also together to produce what they did with the vaccine. So it is – we have plenty of examples through the pandemic. But it is very clear that only being part of the ecosystem it is the way to be able to contribute value.

Dr. Hamre: Forgive me for stepping out of my neutral role as a moderator. But I would like to say I sure hope that we Americans realize the enormous value of this large network of international scientists in collaboration. We helped to sponsor that and I hope we keep with that. So but anyway, that was – that's an unfair editorial comment on my part.

Dr. Bourla: But let me add also – let me also add with what you just said. U.S. is the dominant player right now. In fact, the vast majority of the biotech world and the innovation is coming from the U.S. It is the crown jewel of technology right now, and the world is looking here into the U.S. to find solutions to health because of things that drove this big grow of this ecosystem. And sometimes I'm really concerned that instead of trying to grow it even further we don't even try to protect it. We try to undermine it sometimes.

Dr. Hamre: Yeah. Well, we’ll come to that. I do want to ask you about that, Dr. Bourla. Let me – you know, there’s a lot of controversy in Washington these days about whether private companies should benefit financially from government-funded research and development. I want to get into this. But you made a decision early in the vaccine development process not to accept federal funding. Why?

Dr. Bourla: It was for multiple reasons. The first was that I wanted to protect our scientists from the bureaucracy of the government, and when someone gives you money there are always strings attached to that, and, you know, when it
is taxpayers’ money there better be. I think if they are giving taxpayer money they better look where the money are going.

But this, in our case, meant that in the period that we were running against an enemy that was representing darkness – COVID at the time – with no solutions from humanity, we had to have meetings and committees that will discuss every single detail of how we were planning to move just because we take a part of the funding.

I didn’t want that with our scientists. I wanted them that they can just sit among themselves, make a decision, and then take it to me and that’s it. Go ahead. So that played a key role in our ability to move very, very fast. So that was the one.

And the second was that I was so disappointed that it was becoming a political – a very big part of the political debate at the time was COVID, and it became a political statement if you wear a mask. But at the time, if you remember well, the thing was there were a part of the political world that was saying we need to have a vaccine quickly and there was a part that was saying we don’t need to have it quickly. Some were saying do it before the election, some were saying do it after the elections. I didn’t want to be part of that. If you take money of the government, also you are getting involved into this debate. I wanted to try to keep Pfizer out of the politics. I don’t think I was that successful, only by not keeping the money, but anyway, that was the reason.

Dr. Hamre: Thank you. You know, it’s very clear in that you were making a solid business decision at that time, but, you know, Pfizer and other pharmaceutical companies do have a dependence on a very large, ongoing federally funded research base. You know, we have something in the U.S. called Bayh-Dole Act, and I know you’re familiar with it, Dr. Bourla, but let me just, for our audience, Bayh-Dole is the shorthand for legislation introduced by two senators, Birch Bayh and Bob Dole, a Democrat and a Republican, who worked together about 40 years ago to develop a legal framework for commercializing innovative ideas that were developed initially with government funding. The Bayh-Dole Act really allows us government labs and universities to support the private sector to develop products like the Pfizer vaccine, a drug that I personally depend on for my life. This came from government research initially. How has Pfizer benefited from collaboration with these deep research initiatives, and has Bayh-Dole been an important thing for Pfizer?

Dr. Bourla: While we just discussed that we didn’t take governmental money for our research program in the vaccines, I think this law played a significant role in advancing science and innovation in the United States. We were discussing a few moments ago how the crown jewel of the American industry, it is the life
sciences sector, where most of the medical innovations coming from here. And that can only happen if you – if you enforce collaboration – if you encourage collaboration between the parties.

The fact that at a certain point of the early stage of something that is discovered, government also plays a role, I think it is very appropriate, first of all, that the government will receive royalties, and they do. So they take money back because the work that they are doing is not for free, right? When they produce intellectual property that belongs to the government, they take money back because giving it to someone to build on it. But also the most important it is that you will encourage collaboration that will bring scientific solutions for patients, and I think it was a great, great thing that happened and it worked extremely well so far.

Dr. Hamre: Thank you. Let me ask a somewhat controversial question, if I may. Last year the Biden administration shocked me at least but I think shocked a lot of people when it said it would not seek to protect intellectual property of American companies that had invented these new mRNA vaccines. There’s something that’s called the TRIPS waiver. It was a petition by South Africa and India to the World Trade Organization to waive the intellectual property rights protection for COVID vaccines. If the Biden administration did press forward with this, what would it mean for a company like Pfizer?

Dr. Bourla: Look, I mean, you said that you were shocked. I was very, very disappointed as well when I heard that. And I was very disappointed because I had the opportunity to explain to the U.S. trade representative what is at stake and I had the opportunity to explain exactly the situation of what will enable higher production of vaccines so that we have more vaccines available for all at the time. And as you said, it was India and South Africa that were, let’s say, promoting this idea but they were doing that because they were supporting also their own industry. South Africa and India are the two largest generic manufacturers in the world so they would be very happy if they could steal intellectual property of others and then use it to make and sell vaccines to the world.

But I explained that this will not work because the barrier to make more vaccines was not manufacturing capacity so that you can ask others to chime in. It was the lack of raw materials. And for that reason, I explained, that it would be exactly the opposite. If we were right now allowing people to stock raw materials in an effort to see if they can make also vaccines, basically no one would have vaccines because we wouldn’t have the raw materials that we needed to produce vaccine.

But that was at the beginning. Now we are in a very different stage, months later. What we said to the world we would do, what we promised, we did it. We produced more than 3 billion doses in the first year of the pandemic. We
made an agreement with the U.S. government, the same government that our – that this trade represented, who asked for this waiver, to provide them one billion doses at cost. So we don’t make money, but we don’t lose also money. But they, themselves, they give it completely for free. Right now the U.S. has hundreds of millions of doses that they are giving for free, including the logistics to send the product, to all the countries in the world that they are of low income.

And they cannot give it. Right now only 20 percent of Africa has been vaccinated, although there are hundreds of millions of doses available to them for free. So I don’t know why the discussion now, let’s waive the intellectual property so someone else can manufacture it, has any meaning right now.

Dr. Hamre: Yeah, it – I know that the stated purpose was, you know, that we had an obligation to help the rest of the world get vaccinated in the face of this terrible pandemic. But the best solution was buy it from people who are making it. Buy it from you. And that’s what happened. And the issue has somewhat died down, but I’m not sure the ideological fervor has gone away yet. But that’s a different story. Let me – let me just ask, Dr. Bourla, you – I was reading carefully in your book. And I was looking to see where – how much it cost you to do this. You didn’t really put a number – (laughs) – in the book. I can understand that. But can you talk to us about the risk calculus that was involved for Pfizer with this – with this effort? You know, how do you look at things like the risk, the return on investment, you know, the volume of manufacturing it needs for you to be able to afford to undertake something like this?

Dr. Bourla: Look, we should put everything into the context of the days we were living. It was darkness. It was fear. The civilization, the way we knew it, was in danger. So clearly, there was no business as usual. So to answer straight your question, there was no ROI, return on investment, considerations. What we said is that this is not business. This is about saving the world. And we are going all-in. So we went with the fastest possible way. And we had to be very, very, very creative, to do things completely different way. And that cost a lot more than what it would cost if we were going to do it, let’s say, in the normal pace of business, when you de-risk a decision before you spend big amounts of money.

At that time, we knew that it’s going to exceed the $2 billion debt that could give a vaccine or lose it all. Of course, that was for the first months. Now we are already in ’21 and now in ’22. We have spent multiples of that. Just to give you my meter, Pfizer was spending, before the pandemic, around $8 billion. Now we are spending 11 (billion dollars) per year.

Dr. Hamre: Oh research – on research, you mean?
Dr. Bourla: On research. On research. On research. And most of this three-plus billion (dollar) increase is COVID.

Dr. Hamre: Yeah. I would guess that you’re looking ahead on behalf of all of us, because as this virus is evolving, developing new forms, you’re the ones, and other companies, looking ahead to say: What do we need to do to protect us going forward? Are you optimistic about that?

Dr. Bourla: That’s exactly it. Yes, I am optimistic, because I believe in science, and I know that we have good solutions right now. I think we cannot predict the future. We don’t know if another variant that we don’t know yet so far comes and has very different characteristics, or what it is the one that we have seen so far. But so far, we have been able to control very well all except Omicron, and for Omicron quite good. Not as good as with the others, but now we are coming with new solutions that will also protect Omicron very, very well.

So I think, in terms of variability and the adaptation of the vaccines, I think we will be – we are in a good way. Most of our efforts now, it is to try to make vaccines that would last longer, that we don’t have to worry about recommendations every third booster, fourth booster. We want to make an annual vaccine that you give it once during hopefully flu season when most people are getting it and then you are protected against the next year.

Dr. Hamre: So it’ll become like the annual flu vaccine cycle that we have.

Dr. Bourla: Exactly.

Dr. Hamre: Yeah. Yeah.

Dr. Bourla, let me ask you, if I may, about your thoughts about the regulator, the Food and Drug Administration. You know, I think it’s probably common thought among people that the drug companies just really kind of resent the Food and Drug Administration, but I have a – I think I’ve heard very different things from other business executives like you that it’s the Food and Drug Administration that establishes the norms that make, you know, American drugs the gold standard in the world. Could you – could you just share with us a bit your – how do you work with the FDA? And how important is the FDA in the success of your vaccines?

Dr. Bourla: Yeah. I think the FDA was very important in the success of all the vaccines that were registered. To make a vaccine, it is a process that takes years. And a very big part of the delays within these years, it is that there are phases that you need FDA approval and agreement so that you can transition from one phase to another. They need to see the data. They need to provide input. That takes months and eventually years, over eight years.
They did that in days and hours. They put all the emphasis. I knew that sometimes our people will work a whole week and then they will spend a sleepless two days/night to prepare their submission to FDA so that it will go before dawn–before dawn. And then I knew that they will go to bed tired, and then FDA will start a few days of sleepless nights reviewing everything that they received so that they can give us the answer on time. So I think they did very, very well.

In general, I think that the FDA is a renowned institution that is setting a very high standard. I think it is important to have very high standards. Doesn’t mean that we agree always with them, but it means that – but I know that they are having very high integrity and very high scientific expertise.

And at the end of the day, they are the regulators. I prefer to have a regulator that sets standards very high and ensures that everybody’s following them than have a situation that the standards are lower, they’re scarce in the implementation of the rules.

Dr. Hamre: Can you just say a word, though, about the use of emergency use authorization as an expediting technique? I know that that became a controversial dimension politically, you know, and what are your thoughts about that?

Dr. Bourla: Oh, I think it is important to have this part, this flexibility on the regulators. And thank God they had it and they implemented it.

But it is not only FDA, right? Europe approved the same vaccines within one or two weeks later. Japan the same. Israel the same. Canada the same. So all of the countries in the world, one way or another, they used some regulatory framework to be able to provide the approvals in much more expedited time than FDA – than would have done otherwise. That includes FDA, of course.

Dr. Hamre: So, you know, I think we did see it was a real emergency, but it didn’t – it didn’t really compromise the integrity of the regulatory structure that Food and Drug Administration manages.

Dr. Bourla: Oh, no, no, no. It was very clear. The scientific criteria of what needs to be met to make an EUA are set in a way that the benefit that we are getting from the benefit compared to the risk we are taking is disproportional bigger. And they did that with the vaccines. Imagine if they wouldn’t or if they would delay.

Dr. Hamre: We’re coming near the end of my time with you, Dr. Bourla, but let me – let me just ask a more broadly-scaled question. You know, it’s – and it’s the question about the role of government and the private sector in research and
development and how the government tends to involve itself in funding. You know, the Human Genome Project was first conceived by Robert Sinsheimer out at the University of California back in 1985, but the funding – this is surprising to people – the funding actually came from the Department of Energy to do the initial mapping, and then later the National Institutes of Health picked that up. Government funding was just essential at the early work of the Human Genome Project, but governments are terrible at running factories – (laughs) – you know? So what are your thoughts about the relationship of government and the private sector in pharmaceutical innovation?

Dr. Bourla: Oh, it’s essential. I think we need to work and to collaborate like hand in glove in doing things.

Typically, the NIH or other institutions that they are operating with the government funding, like some of the academia – a lot of the academia is using government funding – they are – they are researching way more basic science. They are researching very basic principle, for example the human genome, how to unlock. One thing is to unlock the human genome; the other thing, is it to use this information so that you can make medicines, for example, that can help humans. And I think that there is very little incentive for private investments in basic science before it becomes less incentive.

And I think the government is doing exactly the right thing, like when they are building roads. So they are building roads so that people can carry their goods. If you have a road, then people will carry the goods, and then the economy will flourish, and then people will have jobs. And the same is with if you create some scientific infrastructure that will help the ecosystem, it is very good.

But also, let’s put things into perspective. The amounts of government money and the amount of private money that are invested every year in the whole spectrum of life sciences is disproportionately weighed towards private money. The amount of money invested – that the government invests, although significant, nothing to do compared to what the private sector collectively invests.

Dr. Hamre: You know, I saw a study that was done by a research shop down in Texas – I don’t remember right now – on looking specifically at pharmaceuticals. And it showed that government financing of new drugs amounted to 1 to 3, maybe 4 percent of what it cost to get a product to the market and to make it available for citizens like me. And that the rest of it, the 96, 97, 98 percent is really carried by the private sector. Is that –

Dr. Bourla: That’s my point. That’s my point. I think every single percentage represents an important link to the chain. So it’s good that we have it. But we should put
things in perspective, because some people are thinking that it is the
government money that creates this innovation. And as you said, it is a few
percentage points of what is needed to be done.

Dr. Hamre: Yeah. Yeah. Well, it’s – and forgive me for a little personal, you know,
propaganda here. But that’s why we started our Renewing American
Innovation Project, that Americans, you know, our leading role in the world
in medicine these days is a byproduct of an open science environment that
was created here, and government investment in the areas that the private
sector just isn’t going to do because it’s too unproven yet. So forgive me, a
little advertisement. So I apologize.

One last question, if I may. We’re running out of time. (Laughs.) And that, OK,
so what’s your next moonshot?

Dr. Bourla: Well, unfortunately for the world, there is so much unmet medical needs out
there. There are so many diseases that we were not able to crack the nut yet.
So we’re working on a lot of them. I don’t know if the next nut will be in
cancer, or it will be another vaccine, or it will be on the heart diseases. But I
hope that it will be soon.

Dr. Hamre: Well, my life depends on a product that was developed by the private sector.
And I’m grateful every six months when I have to go in for my infusion that
I’m alive for it. And I’m grateful for you, and for all of the pharmaceutical
industry for doing that. Colleagues, it’s “The Moonshot: Inside Pfizer’s Nine-
Month Race to Make the Impossible Possible.” Dr. Bourla, thank you for
taking the time to be with us. It’s been a very interesting conversation.

Dr. Bourla: Thank you for making the honor to have me.